

## ORTHOGRAPHY PROBLEMS IN CENTRAL BUANG

Bruce A. Hooley  
Summer Institute of Linguistics

### 0. Introduction

Design of an orthography for a language does not come under linguistic science so much as linguistic engineering. It has many similarities to engineering design since it is usually a compromise of various factors made in order to produce a workable result. The engineer faced with a given problem has to take into account the properties of the various construction materials available to him, costs, tolerances, as well as political, legal, geographic and other limitations.

Similarly the linguist designing an orthography for a new language starts with the basic properties of the sound system of the language but has to take many other factors into consideration also. These other factors may be political, geographical, or historical, and they exert varying degrees of pressure on the designer. The result is less than an ideal solution but is hopefully a reasonable compromise which will permit the language to be written in an intelligible way.

The minimal basic information needed before a valid orthography can be designed for a given language is a phonemic analysis of the language. Without this nothing satisfactory can be produced. Although the purist may claim that this is all that is necessary, nevertheless in practice we do not automatically have an orthography once we have discovered the phonemic system. The symbols chosen to represent the language must depend also on government regulations, national language, popular attitudes and preferences, and interference from other languages. Rarely can all these factors be integrated without tensions and disagreements.

This paper discusses some of the problems which arose in developing an orthography for Central Buang. It is not claimed here that the right decision was necessarily made in every case. Indeed hindsight now suggests some alternatives which may well have proved

preferable to the present solution. Having reached a certain stage in the development of an orthography, however, it is better to accept the problems and try and live with them rather than to introduce further confusion by changing again.

## 1. Historical and Geographical

Central Buang refers to the language spoken in ten villages situated midway along the Snake River 30 miles south west of Lae in the Mumeng Sub-District, Morobe District, Papua New Guinea. These ten villages represent a total population of more than 4000 people. Details of the languages and dialects in the area may be found in "Austronesian Languages of the Morobe District" (Hooley 1972).

The Snake valley was one of the routes to the gold fields of Bulolo and Wau in earlier days. Contact with Europeans has been maintained since the days of the German Administration. New Guinea Pidgin is widely known and many people can both read and write it. The Lutheran Mission sent evangelists into the area soon after the First World War and up until the last two or three years the Jabêm language has been taught in the village schools. Most of these schools, however, have now switched to Pidgin. Jabêm is widely known and has exercised considerable influence over the occasional efforts of the people to write their own language.

## 2. Design Factors

The factors which must be taken into account in designing an orthography for Buang include the following:

2.1 The Buang Phonological System. Speaking in traditional terms it is possible to demonstrate a system of 39 contrasting phonemes (see Chart I). This is considerably more than has been found in most New Guinea languages and in itself presents a serious design problem if we are to restrict ourselves to the Roman alphabet as a source for symbols. A detailed discussion of the phonology may be found in Hooley (1970).

2.2 Government Attitudes Towards Vernacular Languages. Until recently the official attitude has been that vernaculars are at best a nuisance, at worst a hindrance to the development of the country. Everything has been geared toward the teaching of English. Indigenes have been given the impression that their languages are ineffective vehicles of

communication and that the sooner they are forgotten the better. Their expressive and colourful syntax and idiom have been ridiculed. It is only within the last few years that the value of the local vernaculars has received official recognition to any marked degree. Today a much saner attitude is beginning to prevail and the teaching of vernaculars is being encouraged in government schools.

**2.3 Influence of Other New Guinea Languages.** The only written languages with which most Buangs are familiar are Jabêm and Pidgin and to a lesser extent English. They constitute the only background a Buang has for judging how his own language should be written, and naturally he tends to stick to the familiar forms he has learned in school. Aside from the increased memory load, he is suspicious of changes.

Jabêm is the best known language and exerts the most influence as, until recently, it was the language taught in village schools. Most people picked up the ability to read Pidgin without formal schooling in it.

English, as the prestige language, is also important. Anything which looks too unlike English is not likely to be popular. Whether this attitude will persist in the future remains to be seen.

Because of the great differences in phonological structure between Jabêm, Buang, and English, their knowledge of these other languages does not give them an adequate basis on which to found an opinion of what an orthography for their own language should be like. The only opinion they can have therefore is an emotional one. It took over a year for my best informant to begin to understand what was really involved in writing his own language, even though he could read and write it well. Eventually when he began to see why we had done things the way we had, he offered comments and suggestions, and asked why we had neglected to write some contrasts.

### **3. Design Principles**

In setting up an orthography for Buang, the following were some of the more important principles we sought to follow :

1. Symbols should be those available on standard typewriters, or at least easily obtainable non-English symbols.

2. The language should be phonemically written. That is, all contrasts should be represented by contrasting symbols if possible, and non-phonemic distinctions should not be represented by contrasting symbols.
3. Familiar symbols should not be used in ways which conflict with patterns already established from knowledge of other languages.
4. Since English is the language of higher education and the official language of the country, at least at present, the orthography should wherever possible conform to it.

Obviously these principles conflict in many cases, and in resolving the tensions a compromise had to be reached. It now appears that this compromise was not always the best one. For example, if more weight had been given to the third principle, some of the problems which arose for literates and semiliterates might not have been so acute.

The fourth principle is also difficult to apply because there are at least three ways in which a vernacular orthography may conform to that of a national language, and it is not always clear which of these is the most important. There can be visual conformity, which requires that symbols used be only those of the national language and that the sequences should look as nearly as possible like those of the national language. There can be phonetic conformity, which requires that symbols should have as nearly as possible the same pronunciation in both languages. And there can be loan conformity, in which loan words are represented as much as possible by the same symbols in both languages. This last becomes of crucial importance when dealing with names, both personal and geographical.

#### 4. Buang Orthography

The phonemes of Buang appear in Chart I. The differences from English will be obvious. The differences from Jabem, which has only 22 phonemes, are just as great.

CHART I. BUANG PHONEMES

p	t	tʃ	k	k <sup>w</sup>	ḳ	i	ị	u	ụ
b	d	dʒ	g	g <sup>w</sup>	g̣	e	ẹ	o	ọ
ɸ	l	ɻ	ɣ	w	ɣ̣	ɛ	ɛ̣	ɔ	ɔ̣
m	n	n <sup>y</sup>	ŋ	ŋ <sup>w</sup>	ŋ̣		a	ạ	
	y								

In addition there is a non-phonemic transitional schwa occurring between words and in unstressed syllables unless the vowel is a. The original orthography which was proposed may be seen in Chart 2.

CHART 2. INITIAL BUANG ORTHOGRAPHY

p	t	s	k	kw	kh	i	ii	u	uu
b	d	j	g	gw	gh	ë	ëë	o	oo
v	l	r	x	w	h	e	ee	ö	öö
m	n	ny	ng	ngw	ng		a	aa	
		y							

In this orthography the contrast between the velar and uvular nasals was not written since it carries a very low functional load. As far as we have been able to tell this has caused no problems, although my chief informant has now noticed that it exists.

Schwa was also written within words, however, and the symbol used was e, although any of the vowels other than a could have served as well. The decision to write schwa was made for the following reasons: It was desired to call attention to the fact that consonant clusters such as we have in English do not occur, but rather each consonant is the margin of a syllable. Also we wished to avoid confusion between syllables and digraphs which would have arisen if the schwa were omitted from the orthography. Finally the omission of schwa would have given very un-English looking words with complicated sequences of consonants initially and finally.

When this orthography was tried, a very common reaction was that it was too hard. This reaction was an emotional one arising from the general appearance of the material. It was the Buangs' own language, but the new symbols and the unfamiliar usage of old ones made it difficult for them to read without some training, and so they felt it was hard. There were just so many more contrasts in Buang than they were used to in Jabêm.

After some further trials we decided that although some changes might be a retrograde step in theory, they might help psychologically and improve the local reaction.

The present orthography is as shown in Chart 3. Schwa is still written and represented as e.

CHART 3. PRESENT BUANG ORTHOGRAPHY

p	t	s	k	kw	k	i	ii	u	uu
b	d	j	g	gw	g	ë	ëë	o	oo
v	l	r	gg	w	h	e	ee	ö	öö
m	n	ny	ng	ngw	ng		a	aa	
		y							

This orthography is of course not ideal. Nevertheless literate Buangs of average intelligence adjust to it quickly with a few hours of guidance and supervised practice. They soon learn to read with fluency, although problems of writing are much more difficult to overcome. Once they understand that one orthography is not adequate for every language and that their language is not necessarily written incorrectly just because it does not conform to Jabêm or English, then they have overcome the major hurdle.

## 5. Some Specific Problems

5.1 Prenasalization. A feature of voiced stops in Buang is that the velic is not closed until after voicing begins. The result is a non-phonemic prenasalization of all voiced stops. There are three possible ways of handling this in the orthography.

- (a) Write the forms as mb, nd, ... everywhere.
- (b) Write the forms as b, d, ... initially and as mb, nd, ... medially and finally.
- (c) Write the forms as b, d, ... everywhere.

Although the second solution is the one adopted in Pidgin, we rejected it because it lacked consistency. The third possibility was chosen to reduce the number of digraphs and the overall complexity and length of words. It was also felt to be somehow a "truer" representation of Buang.

It could be argued that the first solution would have been the best for those learning English. Certainly it would have highlighted a very serious problem encountered by

Buang learning English, namely the contrast between b and mb, d and nd, etc. Nevertheless we decided that simplicity was more important because of the already heavy learning load. Buangs who have learned to write Pidgin and English first have been trained to hear the prenasalization. They have been told it is wrong and they tend to adopt solution (b) until they understand that it is automatic and there is no contrast in Buang. Prenasalization is not one of the major problems. It is no problem in reading, and is soon mastered in writing.

5.2 Laterals and Vibrants. For most Buangs who have learned to read and write another language first, this is the most serious problem. Both l and r are frequent phonemes and there are many minimal pairs.

The phoneme we have written l is a dental lateral continuant tending to fricative articulation. That written r is a flapped vibrant fluctuating with a lateral.

Jabêm has only one phoneme in this area which is written l, and is reproduced by Buangs as a flap, i.e. it corresponds to the phoneme we have written r. Pidgin follows English and writes both l and r, but Buangs reproduce both symbols as a flap. That is, they correspond to Buang r and they make no contrast between the two symbols.

In designing the Buang alphabet we tried to approximate English and gave too much weight to the fact that one was a lateral and the other usually a vibrant and chose the symbols accordingly. The result has been severe difficulties, especially in writing, for most people. If we had given more weight to the danger of changing the significance of a familiar symbol, and had realized the problems people have who have not been taught to read by a phonic method, we might have made a different decision. It might have been better to have used l in the way familiar to them from Jabêm, and introduced ll for the lateral continuant.

5.3 The Palatals. Buang has a contrast between a semivowel and a prenasalized voiced palatal. In order to approximate English these were written y and j. This has also given trouble because Jabêm did not have this contrast and the Jabêm semivowel was written j, following German. As we see it now, a better solution may have been to write the Buang phonemes as y and z. This would again have avoided changing the value of a symbol with which they were already familiar.

5.4 Bilabial Fricative and Semivowel. The same argument applies to v and w. Jabêm only has the fricative and, following German, writes it w. In this case, however, it is difficult to see what other solution we could have adopted so long as we are seeking to approximate English norms.

5.5 The Uvular Stops. Although the uvular stops were originally written kh and gh, this contrast was later dropped to try to give the impression of simplification. It was thought at first that this would create problems, but context nearly always makes it clear which phoneme it is. This change has created very few problems. Besides simplifying the appearance of many words, it also helped overcome the problem that different villages do not always agree with respect to which words have front or back sounds. However, now that my informant understands the problem he has expressed a desire to see the contrast restored.

5.6 Schwa. The reasons for writing schwa have already been mentioned. The result is little problem in reading, but some in writing. The two most common alternatives adopted by the people are either to leave it out altogether or to write the same vowel as occurs in the stressed syllable. Sometimes a palatalized consonant will lead people to write i, or a labial consonant will produce u or o. Since the feature is not phonemic and all vowels other than a are neutralized in the unstressed syllable, these reactions are not surprising. The same thing happens in Pidgin with the transitional vowel introduced between the members of consonant clusters.

No very satisfactory solution to the problem of schwa has yet suggested itself, and it would appear merely to be a matter of establishing some convention and adhering to it.

## 6. Conclusion

Although a linguist is free to analyze a language according to any theoretical model that appeals to him, and to present his conclusions however he pleases, it is rare indeed that a linguistic engineer is able to produce what he considers to be an ideal orthography. There are too many uncontrollable variables affecting his choices, and these uncontrollable variables often depend on the emotions of people with strong convictions but little linguistic knowledge. The linguist who tries to design an orthography for another language is himself affected by prejudices arising from his own cultural background and



experience so that he finds it difficult to approach the problem completely objectively.

Fortunately people who really want to read and write their own language can do so quite effectively even if the orthography is seriously defective. The best example of this is English. Present plans are to retain the current orthography for Buang. Experiments with both children and adults show that we have every reason to hope that it will prove satisfactory.

#### BIBLIOGRAPHY

- Hooley, Bruce A. 1970 Mapos Buang - Territory New Guinea.  
Ph.D. Dissertation submitted to the University of  
Pennsylvania. University Microfilms.
- 1971 "Austronesian Languages of the Morobe District -  
Papua New Guinea". Oceanic Linguistics  
X (2): 79-151.
- Hooley, Joyce D. 1970 Kisim Save Long Tok Buang. S.I.L. Ukarumpa.
- 1971 Buang Ayej (The Buang Language). S.I.L.  
Ukarumpa.