

# VERNACULAR ORTHOGRAPHIES IN PAPUA NEW GUINEA<sup>1</sup>

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With the increased interest in vernacular literacy in Papua New Guinea, attention is turning to the need for vernacular primers and reading books. But to produce satisfactory literacy materials in any language it is highly desirable that there be a good orthography - an alphabet that is suited to the sounds of that language plus a set of spelling rules that are soundly based on the pronunciation of the speakers of that language.

There are between 700 and 750 different languages in Papua New Guinea. Of these approximately 200 languages representing 80% of the population already have an orthography. Many of these orthographies are satisfactory, but quite a few are still only experimental. In addition, there are still about 150 medium-sized languages (1,000-10,000 speakers) that do not yet have an orthography. A recent orthography and literacy survey of over 100 Papua New Guinea languages<sup>2</sup> has identified the current practice and the main difficulties in preparing orthographies in this country. However, as we face the future we can benefit from experience in other countries as well.

One of the questions that has been raised several times in the past year or two is the possibility of standardization of orthographies. In this country with so many languages we urgently need a set of orthography principles and a set of recommended and alternative

symbols that are accepted and used on a national scale. With this in mind I would like to make the following six recommendations.

1. Directory of Existing Orthographies

It is recommended that the University of Papua New Guinea and the Summer Institute of Linguistics cooperate to prepare a directory of all existing orthographies in the country. This should record all of the symbols (including digraphs) in use, details of pronunciations that are unusual (e.g. markedly different from standard Pidgin), and notes on any former orthography, on current problems, and on which dialects can and cannot use the present orthography. At the same time this register could also record the existence, size, and quality of primers and reading books in each vernacular. If there is sufficient interest in this directory it could be printed and distributed to those bodies and persons who need to use it.

2. Principles of Orthography Design

It is recommended that the following principles should be employed by those who design or revise orthographies in Papua New Guinea.<sup>3</sup>

- (a) A careful phonemic analysis should be made of the sounds of the language. This analysis should include two or more alternative analyses wherever they are plausible.
- (b) Ideally, each phoneme should be represented by a single symbol in all its occurrences, and that symbol should be different from the symbol for each other phoneme.
- (c) As far as possible, the symbols used in the vernacular orthography should be selected from those of the national language, and they should be used for sounds that are the closest to those of the national language.

- (d) When there are not enough simple symbols in the national language for all the phonemes of a vernacular language, then the use of digraphs should be investigated. If these prove to be unsatisfactory or insufficient, diacritic marks may be used with the symbols already chosen.
- (e) When there is a shortage of suitable symbols in the national language one is often tempted to use the same symbol for two different vernacular phonemes instead of using a digraph or symbol with diacritic for one of them. This should only be done if the phonemic contrast has a low functional load<sup>4</sup> and if literates indicate strongly that they prefer an orthography that looks more like the national language, even though it may fail to distinguish certain phonemic contrasts.
- (f) When two distinct sounds of the national language are allophones in the vernacular, one is often tempted to use both of the national language symbols in the hope of making it easier for people to transfer their reading skill from one language to the other. This use of two symbolizations for one phoneme should only be adopted if there is strong pressure from the literates to do so.
- (g) Digraphs should be avoided, if possible, for a language which has clusters of phonemes of the same type. This especially true for vowels. In a language with vowel clusters, any attempt to use a digraph for a sixth vowel is likely to be unsuccessful because people will constantly try to pronounce the digraph as a sequence of two vowels.
- (h) Contrastive long vowels or consonants should normally be symbolized by doubling the symbol for that sound.
- (i) Diacritics should be used sparingly. Because they are small additions to larger symbols, diacritic marks have three disadvantages. Firstly, they are somewhat inconvenient to type or print. Secondly, some people experience difficulty in learning to read symbols with diacritics. (The same is true of digraphs.) Thirdly, many people leave off all diacritics when they write, even when the diacritic has a high functional load.

(j) Strange-looking symbols should be avoided. Symbols formed by modifying ordinary letters in some way (e.g. η β φ † Λ ) are usually difficult to type or print. In most cases such modified symbols, mathematical symbols, numerals, and letters of the Greek alphabet will all eventually be rejected by bilingual literates because of their strange appearance.

(k) The appearance of vernacular typing and printing should be as similar to that of the national language as is reasonably possible. Bilingual literates have a big influence on the ultimate acceptance or rejection of an orthography, and they often, but not always, object to anything that looks too different from the national language, whether it is a special modified symbol, a diacritic, or even an ordinary letter or digraph.

(l) If there is a choice between two equally good symbolizations, that one should be preferred which is more uniform with the usage of the neighbouring language which has the greatest contact, influence, and prestige in the local area.

(m) Before large quantities of literature are printed in a new orthography, it should be evaluated in both reading and writing tests using people who became literate through education in the national language. If possible, the orthography should be further evaluated by teaching several illiterate people to read and write it.

(n) If a long-used orthography is being revised, it is very important to involve representatives of all sections of the literate population in the decision making and in reorienting the rest of the community to the changes. Tolerance and understanding must precede acceptance.

### 3. Recommended and Alternative Symbols

It is recommended that those who design orthographies in Papua New Guinea should use the recommended symbols listed below for the sounds indicated if at all practicable. When the recommended symbol is not available or its use would lead to serious problems, one of the alternative symbols (listed in order of preference) should be used. The choice of an alternative will depend on its availability and on the structure of the language (see (g) above).<sup>5</sup>

Phoneme or cluster	Recommended symbol	Alternative symbols in order of preference
/ʔ/	q	c '
/k̥/	q	kh
/x/	h	k kh g
/g/	g	h gh ġ
/ŋ/	ng	ŋ
/ng/ cluster	n-g	ng
/ŋg/ cluster	ngg	ŋg ng
/ŋg/	g	g & ng
/ <sup>n</sup> d/	d	d & nd
/ <sup>m</sup> b/	b	b & mb
/ <sup>g</sup> l/	l	ll gl †
/l̥/	l	r lt ll
/p <sup>h</sup> /	p	ph p'
/t <sup>h</sup> /	t	th t'
/k <sup>h</sup> /	k	kh k'
/ŋ̃/	ny	ny & yn ñ
/w/	w	u
/y/	y	i

Phoneme or cluster	Preferred symbol	Alternative symbols in order of preference
/i/	i	ii iy $\hat{i}$
/ɪ/	i	
/e/	e	ei · ë
/ɛ/	e	
/æ/	a	e ae ä
/a/	a	aa
/ʌ/	a	ä
/ə/	ä	ë é $\hat{i}$ †
/ɜ̄/	ë	é $\hat{i}$ †
/ɔ/	o	ao
/o/	o	ou ö
/ʊ/	u	
/u/	u	uu uw ü
labialized /k/	kw	ku
palatalized /k/	ky	kɪ
long /a/ or /k/	aa kk	
stress on /a/	á	
pitch on /a/	á	$\hat{a}$ ā ǎ
nasalized /a/	an	ä na :a

#### 4. Orthography Trends in Other Developing Countries

It is recommended that information be collected from Micronesia, the Solomon Islands, the Philippines, and the several English-speaking countries of east and west Africa concerning the trends in vernacular orthographies there. Special attention

should be given to how vowels in excess of five are symbolized and how /ʔ/ and /ŋ/ are symbolized. The University of Papua New Guinea is perhaps best equipped to undertake this research.

5. Training Papua New Guineans to Design Orthographies

It is recommended that the Summer Institute of Linguistics and the University of Papua New Guinea continue to cooperate with the teacher's colleges, government departments and agencies, and other bodies to train Papua New Guineans in phonemic analysis and orthography design.

6. Orthography Advisory Committee

It is recommended that the Department of Education, the University of Papua New Guinea, and the Summer Institute of Linguistics form a joint Orthography Advisory Committee,

- (a) to solicit the opinions of a wide sampling of Papua New Guineans who are literate in their own vernaculars about the best way to write their more problematic sounds;
- (b) to consult with and advise those who are designing new orthographies when requested; and
- (c) to arbitrate or advise when a compromise is being sought between two or more existing orthographies.

The members of the committee should be widely representative; all of them should be trained in phonemic analysis and orthography design; as many of them as possible should be literate in their mother tongue; and several (or perhaps a majority) of them should speak mother tongues which have sounds difficult to symbolize.

## NOTES

1. This paper is a revised version of one read at the eighth annual congress of the Linguistic Society of Papua New Guinea, held at Ukarumpa, 26-29 September 1974. The opinions expressed in it are the author's own, and do not necessarily reflect the official policy of the Summer Institute of Linguistics, with whom he has worked as a linguistic consultant in this country since 1958. The help of Karl Franklin, Joan Hainsworth, Barry Irwin, Dorothy Price, and Harry Weimer in commenting on the earlier version of this paper is gratefully acknowledged.
2. The survey was conducted jointly by Graeme Kemelfield of the Education Research Unit of the University of Papua New Guinea, and Joice Franklin and Alan Healey of the Summer Institute of Linguistics. The detailed findings of this survey are presented in Healey and Taylor 1976 for orthography and in Franklin 1976 for literacy.
3. These principles have been developed and tested over the past forty years by a large number of people working in many different languages around the world. Some of the published summary articles are Berry 1968, Fishman forthcoming, Gudschinsky (1973:116-35), Nida (1954), Pike (1947:208-23), Powlison (1968), and Smalley (1964). Articles published about the orthographies of Papua New Guinea include Clark (1976), Griffin (1975), Hainsworth (1975), Healey and Taylor (1976), Henderson (1974), Hooley (1974), Hurd (1975), Lawton (1976), Lithgow (1974), Lithgow (1975), Phillips (1973), Scott (1967), and Wurm (1976).



4. A phonemic contrast which is exploited very little is said to have low functional load. Some common instances of low functional load are:
  - (a) if one of the two contrasting phonemes is very rare;
  - (b) if there are very few minimal pairs for the particular contrast;
  - (c) if there are a modest number of minimal pairs in the lexicon, but potential ambiguities due to not distinguishing these minimal pairs are very rare in text materials (because most pairs involve two words of different word classes or involve rarely used words).
  
5. These recommendations are in many instances based on current orthography practice in Papua New Guinea as revealed by the survey mentioned in note 2. The phoneme symbols have been taken from Pike (1947:5,7). The symbol  $\underset{\checkmark}{l}$  represents an alveolar lateral flap and  $\underset{\checkmark}{l}$  represents a velar lateral (found in several Highland languages).

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