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ORTHOGRAPHIC REFORM IN KOPE

John M. Clifton

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1 Introduction

Language planners trying to formulate a workable orthography in countries like Papua New Guinea often find at least a core of speakers who have strong feelings about how their language should look on paper. Although some of these feelings may well come from intuitive, language-internal sources, many come from sociological sources such as early attempts by foreign missionaries to write the language, or through knowledge of written trade or national languages.

These feelings often lead to inadequate or, when they arise from different sources, conflicting orthographies. Even within a single orthographic 'tradition' there are generally inconsistencies between writers in spelling and word breaks. Further problems frequently arise from dialect differences or complex morphophonemic systems.

These problems make orthographic reform desirable in many extant systems. Any such reform effort will, however, probably encounter resistance due to the sociological pressures. In some areas of Papua New Guinea the current orthographic tradition has been in place for 100 or more years. Although the practical considerations are not as great as, for example, in European languages, those literate in the current orthography as well as churches or other institutions with literature in the previous orthography have a vested interest in maintaining the status quo.

In the light of these problems, some language workers have decided it is futile to attempt orthographic reform regardless of what problems may exist due to a mismatch between the orthography and phonological system. Others

simply ask people how they would like to write particular words, and take the majority opinion at face value. A third approach is to base the orthographic decisions on the phonological analysis and insist on this as the 'scientific' system.

It is my contention that while reform may be difficult and time-consuming, most people are open to reform if they can see the advantages from such a change outweigh the disadvantages in reorienting current literates and possibly reprinting certain books (although it is probably likely the two systems could coexist with regard to previously published literature). The first option noted above does not even raise this as a possibility.

While it is necessary to involve the local people in the decision making, always following majority decisions may well lead to problems, as those responding will probably not recognize the full range of options available to them or the implications of various decisions. It seems the role of the language planner must include explaining such issues to those making orthographic decisions.

Finally, in addition to the sociological factors ignored by an approach basing orthographic decisions solely on the phonological analysis, it does not allow the analyst to take advantage of insights into the phonological system which might be afforded by reactions to orthographic decisions. In many cases such reactions indicate problems in the phonological analysis.

In this paper, we will examine how local attitudes played a role in orthographic reform in Kope. In section 2 the previous orthographic tradition is outlined. Then in sections 3 and 4 we examine areas of apparent concern where local feelings pointed to new understanding of the phonological system and no change was made. Finally, in sections 5 and 6 we examine areas in which a genuine case for reform could be made and changes resulted.

2 Previous orthographic tradition

Kope, Urama, Gibaio, Maipu'a, and Arigibi are the five dialects that make up the easternmost language in the Kiwai language family.¹ Missionaries from the London Missionary Society (LMS) began work in two Kiwaian languages, Southern Kiwai and Kerewo, in the late 1800's and early 1900's, respectively. They also worked in several unrelated languages to the east of Kope.

The only materials published in Kope or related dialects were a number of choruses in Kope and Urama included in a hymn book (Gido Buka), and a Kope translation of Luke 2:1-20. Much more vernacular literacy work was attempted by the LMS in Kerewo, however. Gido Buka includes a larger number of Kerewo choruses and translated hymns, and a Kerewo translation of the Gospels and Acts was published. The LMS also set up schools taught in Kerewo. As Kope and Kerewo are very closely related linguistically and socially, Kope speakers attended Kerewo schools and learned to read Kerewo. Thus, in spite of the lack of published Kope literature, many Kope speakers wrote letters and posted 'public service' announcements in Kope.

The consonant system throughout the Kiwaian languages is very similar and, with the exception of the glottal stop, does not make use of nonEnglish contrasts. In Kope, the following English consonants were used: **p t k b d g h v n r**². Glottal stop was symbolized by ' in all the languages in which the LMS worked. In addition, **s** was often used in loan words with this sound.³

The vowel system used the five vowels, **a e i o u**, with the values [a e i o u]. No semivowels were used; instead, vowel clusters were written whether or not there was a syllable break. Examples are given in (1-2).

- | | | | |
|-----|---------------------------------------|------------------|--------------|
| (1) | [ma ^u .a] ⁴ | maua | 'sibling' |
| | [me ⁱ ve ⁱ] | meimei | 'pineapple' |
| | [miha ^e] | mihae | 'rain' |
| | [ⁱ amaga ^u ri] | iamagauri | 'to jump' |
| (2) | [me.a] | mea | 'good' |
| | [idi.o] | idio | 'to drink' |
| | [to.ε] | toe | 'frightened' |

3 Nasal / fricative variation

One orthographic problem involved near-allophonic variation between [m] and [v]⁵, and [n] and [r]. In most Kiwaian languages these are separate phonemes, but in Kope and related dialects they have almost completely collapsed with the nasals occurring word initially and the fricatives⁶ occurring intervocally. Examples are given in (3-4).

- | | | | |
|-----|-----------|----------------|--------------------|
| (3) | [mahoroo] | mahoroo | 'bandicoot' |
| | [meveraa] | meneraa | 'flying marsupial' |
| | [mεviho] | memiho | 'bad' |
| | [εvapua] | emapua | 'in-law' |

(4)	[naara]	naara	'things'
	[nehebo]	nehebo	'tree sp'
	[mario]	mario	'bird sp'

This variation at the two points of articulation appears to be parallel and would thus theoretically be the result of a single rule. This further implies they should be treated the same orthographically, preferably writing only one allophone in each case. Common orthographic practice as seen in (3-4), however, treated them differently. While **m** was generally used in all positions, **n** was restricted to initial position while **r** was used intervocalically.

Closer phonological examination shows that in fact the two are not totally parallel. When most words containing intervocalic /m/ are pronounced carefully, they exhibit [m], not [v]. Many speakers emphatically deny any of the words in (3) are ever pronounced with [v], although the fricative is clear to nonKopes. On the other hand, no words are ever pronounced with intervocalic [n], even in the most careful speech. Although speakers can be made aware that [n] never occurs intervocalically and that [r] seldom occurs word initially and so no confusion results from writing both as **n**, they insist [n] and [r] are distinct.

Another difference between the two points of articulation is reflected in exceptions. The three words in (5) are always pronounced with an intervocalic [v].

(5)	[hivio]	hivio	'sun'
	[ove]	ove	'moon'
	[orovidio]	orovidio	'to hear'

The exceptionality of these forms is not that they have the wrong allophone, but that they are not pronounced with [m] even in the most careful speech.

The exceptions to the alveolar variation are given in (6)

(6)	[rautu]	rautu	'with'
	[rio]	rio	'desire'
	[ro]	ro	'you (sg)'

These forms apparently violate the allophonic distribution, since they have word initial [r]. It is interesting, though, that while all three forms in (5) are nouns, none of the forms in (6) are. This may account for the [r] in [rautu], as it is a postposition and would generally be unstressed.

[rio] also tends to be subordinate to the preceding noun or pronoun as in (7).

- (7) ['mo rioka 'duu]
 1sg desire food
 'My desire is food.'

A similar analysis cannot be provided for [ro], however, especially as the pronouns [nu] '3sg', [niʔo] '2pl', and [nii] '3pl' all begin with [n].

Although no explanation has been found yet to account for these differences in behavior between the bilabial and alveolar points of articulation, the differences are clear. At an orthography conference called primarily to discuss long vowels (see Sect. 4), the participants decided to follow the prevailing convention of writing all instances of [m] or [v] as **m** except for the three forms in (5), but to differentiate between [n] and [r], writing **r** intervocally and initially in the forms in (6) and **n** initially in all other forms.

The use of both **n** and **r** did raise problems for the representation of the verb prefix indicating first person involvement in the sentence. Examples are given in (8). (S = 1st person involvement, T = tense)

- (8) a. [mo n-o'u-baka do'ou]
 1sg S-come-T today
 'I came today.'
- b. [mo pi-r-o'u goroi purai]
 1pl T-S-come before week
 'I came last week.'

In (8a) the prefix is word initial and so takes the form [n], while in (8b) it is intervocalic and so takes the form [-r-]. The decision made at the orthography meeting in this case was to maintain morpheme identity by writing **r** in all cases.⁷

4 Vowel clusters vs. semivowels

A second apparent orthographic problem was the lack of the semivowels **w** and **y**. It seemed this lack would make it difficult for readers to identify syllables and would thus limit the use of syllables in literacy. Second, there appeared to be minimal pairs which the current system could not differentiate. One such pair is given in (9).

- (9) a. [u.ɛ] **ue** 'sugar cane'
 b. [uɛ] **ue** 'arrow type'

There was general resistance, however, to the idea of including **w** and **y** in the orthographic inventory.

Some of this resistance was due to the fact that initial /m/ in Kope is cognate with /w/ in the Gibaio dialect, as seen in (10).

- | | | | |
|------|--------|--------|------------------|
| (10) | Kope | Gibaio | |
| | /made/ | /wade/ | 'word, language' |
| | /mapo/ | /wapo/ | 'tail' |

Thus, to write initial **w** in Kope made it 'look like Gibaio'. In addition, it became apparent listening to people read Kope that while the vowel clusters might be problematic for us, they did not seem to be problematic for native speakers.

Further analysis indicated a phonological basis for this resistance to distinguishing [u] and [w], and [i] and [y] orthographically. In most instances, the syllabification of a vowel cluster as one or two syllables is predictable from the following principle.

Syllabification of Vowel Clusters (SVC)

- a. If a given vowel is articulatorily lower than the following vowel, they are syllabified as one syllable, with the higher vowel becoming nonsyllabic.
- b. A word initial high vowel becomes nonsyllabic before another vowel, with the two vowels being syllabified as a single syllable.
- c. Otherwise, consecutive vowels are syllabified as separate syllables.

SVC accounts for all the forms in (1-2) above, repeated here as (11-12).

- | | | | |
|---------|---------------------------------------|------------------|-------------|
| (11) a. | [mɑ ^u .ɑ] | maua | 'sibling' |
| b. | [me ⁱ ve ⁱ] | meimei | 'pineapple' |
| c. | [mihɑ ^e] | mihae | 'rain' |
| d. | [ⁱ ɑmɑgɑ ^u ri] | ianagauri | 'to jump' |
-
- | | | | |
|---------|---------|-------------|--------------|
| (12) a. | [me.ɑ] | mea | 'good' |
| b. | [idi.o] | idio | 'to drink' |
| c. | [to.ɛ] | toe | 'frightened' |

In the case of (11a) SVC(a) predicts **u** will syllabify with the preceding **a**, and SVC(c) predicts there will be a

syllable break between it and the following **a**. The desyllabification of the initial **i** in (11d) follows from SVC(b). The other cases of desyllabification in (11) follow from SVC(a).

SVC(b) also accounts for the desyllabification of the initial **u** in (9b). It does not, however, account for the contrast in (9). This problem will be resolved in section 5. In the meantime, it is significant that SVC accounts for the vast majority of syllable breaks.

5 Long vowels and glottal stop

Undoubtedly the most difficult orthographic problem area was that of long vowels. Kope clearly distinguishes vowel length and/or stress or tone. Representative contrasts are given in (13-16).

(13)	['abea] [a'beea]	abea abea	'father' 'sago squeezing bag'
(14)	['niivo] [ni'vo]	nimo nimo	'we' 'lice'
(15)	['oobo] [o'bo]	obo obo	'woman' 'water'
(16)	[tu'tuu] ['tutu]	tutu tutu	'long' 'handle'

While a few Kope speakers describe the contrasts in the above words in terms of the 'melody' (stress and tone seem tied together), most describe it in terms of 'stretch'. As indicated in (13-16), the difference was not indicated in the orthography, however, so readers had to rely on context to differentiate minimal pairs.

From the beginning we encountered resistance in our attempts to indicate vowel length by the commonly used convention of geminate vowels. Some of the verbalized resistance was based on a dislike of the looks of so many geminate vowels and a feeling that there were few potential ambiguities. A further problem with the symbolization of long vowels as geminates relates to the representation of glottal stop. As was mentioned above, glottal stop was written as '. This ' was frequently omitted when writing, however, especially when the two vowels were identical. Typical spellings are given in (17-18).

(17) a.	[o?u]	o'u	'to come'
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- b. [ɛvɛʔio] **eme'io** 'to burn garden area'
 c. [oruʔo] **oru'o** 'to wash oneself'
- (18) a. [goʔota] **goota** 'coconut'
 b. [ɛvaʔai] **emaai^s** 'to give'

The widespread use of ' in (17) where the vowels are dissimilar is due to the fact that both vowels in a sequence of dissimilar vowels are generally written. Thus, (17c) would be identical with (19) if ' were omitted.

- (19) [oruo] **oruo** 'to climb down'

It is obvious that [oo] and [oʔo], for example, could not both be spelled **oo**. If geminates were used for long vowels, ' would have to be written between identical as well as dissimilar vowels. The forms in (18) would then be spelled **go'ota** and **ema'ai**, respectively. This was, indeed, how some people spelled these words. Although most people did not object to writing ' between identical vowels, they still felt that the habit of reading geminate vowels as separated by a glottal stop was too strong to overcome, and that spelling [oobo] 'woman' as **oobo** would likely lead to a pronunciation of [oʔobo].

While the actual representation of long vowels was problematic, work on the lexicon turned up an increasing number of minimal pairs contrasting in vowel length. Three options for indicating long vowels without using geminates were: a macron over the vowel (**ōbo**), a hyphen after the vowel (**o-bo**), or a colon after the vowel (**o:bo**). When these possibilities were presented to two Kopes involved in Bible translation, both disliked the colon as this would involve 'punctuation in the middle of a word'. After some discussion, they decided to try a macron, based on their familiarity with the dictionary. This option was rejected, however, when they came to realize this meant both backspacing and rolling the platen down and up when using a standard typewriter.⁹

Later, participants in two separate literature production workshops decided to try the hyphen to indicate long vowels. (The colon was once again rejected as being punctuation.) This also proved problematic because the writers frequently broke words between lines due to their length. This led to confusion as to whether a hyphen at the end of a line represented the continuation of a word or a long vowel.

As a result of these practical considerations, we were tempted to underdifferentiate and continue writing both long and short vowels as single vowels. This seemed reasonable, in spite of the apparently high semantic load carried by length differences in isolation forms, as there were very few minimal pairs which could not be disambiguated by context. In spite of the contextual clues, however, one of the Kope translators noticed that when people read his translation to check for naturalness, they consistently had problems with certain words containing long vowels. When he indicated the long vowels with geminates these problems were almost completely eliminated.

At this point a general meeting of a number of Kope speaking pastors, teachers, medical orderlies, village counselors, and translators was called to discuss orthography matters. The main issue was the representation of long vowels. As we discussed the various options available the general concensus to try writing long vowels with geminates and then see if older pastors could read the new orthography without major problems. The use of geminates in the recent publication of Christmas story seems to have been well accepted.

The decision to indicate vowel length has also helped distinguish between (9a) and (9b), repeated here as (20a-b).

- (20) a. [u.ε] **ue** 'sugar cane'
 b. [uε] **ue** 'arrow type'

In discussing these forms with various people we found that most felt this distinction was one of length. Once length is represented, 'sugar cane' is **uue** as opposed to 'arrow type' which is still **ue**. This gives further evidence for the need to differentiate long and short vowels in the orthography.

6 Word Breaks

A final orthographic problem was the inconsistent indication of word breaks. Three sets of forms provided most of the problems. The first two were reduplicated forms, illustrated in (21), and verbal inflections, illustrated in (22).

- (21) a. **himia himia** or **himiahimia** 'different'
 b. **hiiro hiiro** or **hiirohiiro** 'plenty'
 c. **ha'ima ha'ima** or **ha'imaha'ima** 'very tired'
 d. **ora ora** or **ora'ora** 'red'
 e. **otohiti otohiti** or
 otohiti'otohiti 'wrapped repeatedly'

- (22) a. **odau kaida** or **odaukaida** 'they (2) are going'
 b. **emidio kaumo** or **emidiokaumo** 'they are staying'

Phonologically, all these examples are single words. Thus, writing them as two words led to problems in reading with normal intonation. Writing them as one word, on the other hand, resulted in long words many readers found difficult to decode. There was also a problem as to whether to write the glottal stop in reduplicated forms when the base form began with a vowel as in (21d-e). The glottal stop is predictable in careful speech in this environment although it is frequently omitted in fast speech.

Once the decision was made not to use the hyphen for long vowels, the group mentioned above decided to use it here. This decision was made on the basis of the use of the hyphen in English to join closely related words. The group felt forms like 'close-up' and 'half-baked' especially paralleled reduplicated forms in Kope. This use of the hyphen in **himia-himia**, **otohiti-otohiti**, and **odau-kaido** resulted in single words which could be more easily decoded. In addition, it eliminated the need to indicate glottal stop in reduplicated forms.

The other problematic forms involved the ergative marker **-ro** which is attached to the final word in the noun phrase. This suffix was generally written separately from proper nouns, but attached to other words. Examples are given in (23).

- (23) Ga'ia ro peidai.
 Ga'ia SBJ took
 'Ga'ia took it.'
- Niuro nai pihoumo.
 3pl-SBJ fish ate
 'They ate fish.'
- Nu ekeiro omihia.
 3sg branch-SBJ hit
 'The branch hit him.'
- Bomo gemairo piho.
 pig big-SBJ ate
 'The big pig ate it.'

These conventions were not universally followed, however. The decision to use hyphens in (21) and (22) was therefore

extended to apply to the ergative, resulting in **Ga'ia-ro**, **nii-ro**, **ekei-ro** and **gemai-ro**.

7 Conclusion

Orthographic reform is a complex issue. While many of the problems arise from sociological factors, others arise from the interaction of the phonological analysis and the proposed reforms. On the one hand, resistance to such reform may well point up problems in the underlying phonological analysis. On the other hand, a good analysis will often provide the basis on which people can make informed decisions regarding orthography.

Notes

1. Wurm (1973) calls this language Northeast Kiwai, since there is no local name for the overall language. He includes four dialects in Northeast Kiwai, Gope (Kope), Gibaio, Urama, and Baravi (Maipu'a). I include Arigibi, which Wurm lists as a separate language, as a fifth dialect.
2. Bold face type is used for orthographic representations.
3. Kope /h/ is cognate with /s/ in neighboring languages and so **s** is present in these nearby orthographies.
4. This could also be broken as [mq.ʉq]. The rationale for breaking it as above will be outlined in section 5.
5. [v] fluctuates with [b] and even [β] in some speakers.
6. [r] is the usual alveolar fricative in most Papuan languages.
7. The decision to use **r** instead of **n** was made on the basis that while [r] sometimes occurs initially, [n] never occurs intervocally.
8. People often write the forms in (18) with only single vowels, but this is generally considered to be incorrect.
9. This would not be a problem on a typewriter with a macron on a dead key. There are a number of standard typewriters scattered throughout the language group, however, which would be used regularly.

References

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