

Orthography Testing in Patep

Linda Lauck Vissering

0. Introduction

Patep¹ is an Austronesian language in the Buang language family in the Morobe Province of Papua New Guinea. It has a complex phonological system, for which various analyses are possible. A tentative orthography was proposed in Adams and Lauck (1975) and was used with some success. However, there are several symbols in the orthography that are somewhat problematic. In early 1985 reading testing was carried out to see if the orthography in use could be modified to make it more acceptable to the Pateps and to make reading easier. This paper presents the results of that reading testing.

1. Symbols Tested

The most significant item in the alphabet to be tested was whether or not schwa [ə] should be written, since its occurrence is predictable. It occurs only in initial unstressed syllables and is the only vowel that occurs in that position. The present orthography symbolizes [ə] as $\frac{1}{2}$.

If [ə] is not written, it affects the way several other symbols must be written, especially labialization, palatalization, and vowel sequences. The reason that not writing [ə] affects labialization and palatalization is that there are occurrences of both [C^v] and [Cə^v], and also occurrences of both [C^w] and [Cə^w]. If [Cə^v] is written Cy,

¹ Karen Adams Wilson and Linda Lauck Vissering did research in Patep between 1972 and 1986 under the auspices of the Summer Institute of Linguistics.

then [CY] could be written **Ci** to distinguish it from [Cəy]. The two options can be compared as follows.

	[nəyuu]	[nʲuu]
[ə] as ɨ	nɨyuu	nyuu
no [ə]	nyuu	niuu

Not writing [ə] also affects how vowel sequences are written, since there are minimal pairs such as [mʲa] 'mouth' and [mɨa] 'water'. If [CYV] is written **CiV**, then [CIV] could be written **CiyV**. The two options can again be compared as follows.

	[mʲa]	[mɨa]
[ə] as ɨ	mya	mia
no [ə]	mia	miya

Strictly speaking, if [ə] is not written, [ŋ] should not be written with a digraph **ng**, because any orthographic sequence of consonants written at the beginning of a word should be pronounced [CaC]. However, since there are no occurrences of [nəŋ] and we did not want to use ŋ as a symbol, **ng** is used for [ŋ] in both options.

The following chart summarizes the differences between the two basic orthographies outlined above.

1	2
[ə] = ɨ	[ə] not symbolized

Labialization

bw	bu
mw	mu
pw	pu
kw	ku
gw	gu

ngw

ngu

Palatalization

by

bi

my

mi

ny

ni

py

pi

ty

ti

vy

vi

Vowel Sequences

ia

iya

êa

êya

ea

eya

ua

uwa

oa

owa

Option 2 was further divided into two options. In option 2a the frequent conjunctions [mə] 'and' and [də] 'and' are written separately from the following word even though they are a single letter, i.e. [mə lɑ] → **m la**, while in option 2b they are prefixed to the following word, i.e. [mə lɑ] → **mla**.²

2. Testing Methodology

Three short passages were chosen to test the three orthographies - one legend and two familiar narrative passages from the New Testament. Each passage was written in each of the three alternative orthographies. Twenty different Pateps read each of the three passages. Ten read one passage in orthography

² In option 1 these conjunctions would be written as separately from the following word, i.e. [mə lɑ] → **ml la**.

1 and two passages in orthography 2a or 2b; the other ten read two passages in orthography 1 and the one passage in orthography 2a or 2b. Various people read various combinations of the passages and orthographies.³

Each person first read a short passage in Tok Pisin to see how fluently they could read that and to relax them. Then they read the three passages in Patep. All of the passages were timed as they were read.

The original plans were to test both people who were familiar with the present orthography and people who weren't. However, without some teaching and practice in reading Patep, people were not able to read it regardless of the orthography. So all those tested have had at least some exposure to the present orthography.

3. Test Results

The amount of time it took to read the passages was compared. Chart I shows the average time in seconds it took to read the three passages (PA, PB, PC) and the average of all three combined (PA11) in each of the three orthographies and the average of 2a and 2b.

³ ED: For more details on experimental design, see the Editor's Postscript.

Chart I

	PA	PB	PC	PAll
1	172	164	132	157
2a	190	166	157	170
2b	170	202	128	164
2a/b	182	177	147	168

Chart I shows it took slightly longer to read either orthography 2a or 2b than to read orthography 1. This is not surprising since the readers were more familiar with orthography 1. The difference is slight, however, indicating orthographies 2a and 2b do not seem to be significantly harder or easier for Pateps to read than the current orthography.

After the readers finished reading, it was explained to them what was being tested for. The reactions were of two kinds. Those used to reading the present orthography usually wanted to keep the current orthography (orthography 1). Those less used to reading generally expressed no strong preferences, but wanted to leave the choice of orthographies to us.

No detailed analysis was conducted of the type of reading errors which were made, but we noted particular words that people had trouble reading. Generally the difference in orthographies had little effect on reading difficulties. The good readers could read any of the orthographies with little trouble, while less fluent readers had trouble with labialization and palatalization regardless of which orthography was being read. A few words gave trouble with the [ə] not written e.g. **pping** [pəpɪŋ]. Some people found it hard to read orthography 2b with the conjunctions prefixed to the following word, particularly if the following word also had a

[ə], e.g. [də kəpʲax] written **dkpɪax**. In many cases, the difficulty of reading was not so much determined by the orthography used as it was by how predictable the particular word was in a given context. If there was a high degree of predictability, it could be read regardless of how it was written.

4. Conclusion

This testing was carried out in an attempt to see if changing the orthography would make reading easier and be more acceptable to the Pateps. Our conclusion is that not representing [ə] does not result in an orthography that is significantly harder or easier than the current orthography. At the same time, there are a significant number of people who are used to the present orthography and who would resist a change at this point. Therefore we conclude that the present orthography should continue to be used.

Editor's Postscript

Determining the implications of different orthographies for reading is difficult to do. This paper represents one type of testing which may help evaluate such implications. In this postscript, comments will be made concerning three areas: the mechanics of assigning texts to readers, analysis of reading errors, and conclusions to be drawn from the analysis.

Concerning the assignment of texts to readers, it is important that any differences which are found between readings of the various orthographies are due to the differences between the orthographies and not to the experimental technique. For example, suppose two texts are prepared, text A in orthography

1 and text B in orthography 2, with readers each reading both texts. Even if readers perform significantly better on one text than the other there is no way to determine how much of the difference is due to the orthographies as opposed to the intrinsic difficulty of the texts.

The best way to avoid this problem would be to have only one text, A, prepared in each orthography. Half the readers would first read A1, then A2; the other half would read the two passages in the reverse order. Changing the order would help filter out the natural effects of readers performing better the second time through. If readers perform significantly better on one text, it is likely that the difference is related to the orthography. A potential problem with this approach, however, is that readers may become bored reading the same passage twice.

The technique followed in this study avoids this problem of boredom by using multiple texts prepared in each of the orthographies under consideration. For example, to compare two orthographies, two texts (A, B) would be prepared in each of the two orthographies (1, 2), resulting in four test passages (A1, A2, B1, B2). Each reader would read one of the following four pairs of passages: A1, B2; A2, B1; B1, A2; B2, A1. Having each reader read both passages helps filter out the effects of the passages differing in difficulty. Having the pairs read in different orders filters out the effects of the order of presentation. Finally, the readers do not have to read the same passage twice. A real problem with this approach, though, is that it is difficult to simultaneously control for differences in difficulty between texts as well as differences in the reading fluency of the test subjects.

The second point mentioned above concerns the analysis of reading errors. As was mentioned in section 3, reading errors were analysed subjectively, not objectively, in this study. The advantage of this type of analysis is the relative ease with

which it can be carried out. A main disadvantage is that it does not allow finer distinctions to be made between the orthographies being tested. A second disadvantage is that it can be influenced by the investigators' built-in prejudice in favour of the orthographic system they prefer.

Goodman (1972) presents an introduction to a more objective analysis of reading errors. Each of the readings to be analysed in this way must be recorded so that errors can be noted and classified carefully later. Proper classification is essential since, as Goodman points out, reading errors may be both positive and negative, and positive errors actually show the reader is a good reader (or, in our context, that one orthography is better). An objective analysis of speech errors, then, is time consuming. A possible compromise between the two systems would be a subjective analysis of all the passages read coupled with an objective analysis of a few passages.

The final consideration to be discussed here is the conclusions to be drawn from the analysis. Even if it takes readers significantly less time to read or they make significantly less errors with orthography 1 than with orthography 2, this does not mean orthography 1 is necessarily better, as there are probably other factors to consider. In section 3, for example, the author comments that the fact that readers did slightly better with orthography 1 was to be expected since they were used to it. In fact, it may be significant that a greater difference was not found. In general, it is very difficult to 'prove' that the orthography people are used to is better than the alternative, especially if there are significant differences between the two systems. On the other hand, if readers perform better with the alternative orthography this is a very strong indication it is superior.

As a consequence of the built in bias against the alternative orthography, all other things being equal, it would

probably be good for the literacy worker to experiment more extensively with the alternative orthography unless the current orthography is significantly easier to read. All things are seldom equal, however, and there will probably be other factors to consider. In the case reported here the researchers had to consider the acceptability of the alternative orthographic system, and in this area they encountered opposition. If they had further time it would have been good to produce further literature in the alternative orthography to give people more time to become accustomed to it. Without having this extra time, however, acceptability became a major factor in continuing to use the current orthography.

Bibliography

- Adams, K. and L. Lauck. 1975. A tentative phonemic statement of Patep. *Workpapers in Papua New Guinea Languages* 13:71-128.
- Goodman, Yetta. 1972. Qualitative reading miscue analysis for teacher training. *Language and Learning to Read: What Teachers should Know about Language*. ed. by R.E. Hodges and E.H. Rudorf. pp. 160-65. Boston: Houghton Mifflin Co.