A Note on the Phonemic Status of [ə] in Biao Min Yao

David B. Solnit
Cornell University

In Solnit 1985 I presented the rhyme system of Biao Min as:

\[
\begin{array}{cccc}
  a & ai & au & an & aŋ \\
  e & ei & ou & an & in \\
  o & ui & un & un \\
\end{array}
\]

There is also a sequence [-iu] which is analyzed as medial plus simple vowel: /-yui/.

It is evident that the phonetic rhymes [ai au] could be phonemic /ei ou/. Mao, Meng & Zheng (M2) make this choice for [ai] = /ei/, as shown by the cited forms (p.67-9) mei¹ 'vine'; hjwei⁷ 'child', bei⁵ 'hat', and mei² 'you'. The only instance in M2 of the corresponding rhyme with back vowel element is liâu⁴ 'successful, complete action' (Mandarin le). Finally M2 have a sequence -wei in ko⁴ dwei³ 'tail', but this may be a misprint: I have ko⁴ dwai³ for this word (the choice of o vs. u is unimportant).

Of the remaining rhymes with a, -an can be assimilated to the vowel a: /ən*/[ən]. The unrounding before -n has a parallel with u after labials; /un*/[ən] / [*[labial]-

Thus all except the simple -a can be assimilated to rhymes with e and o (while we are at it, we could also write these /e o/, there being no contrast e/e or o/o). Examining the distribution of -a brings out several interesting points.

1. the rhyme -a occurs after
   - w, initial and medial
   - l, medial only
   - m
   - n
   and not after simple (non-cluster) dentals, prepalalts, or velars.

2. the rhyme -c occurs with all simple initials except p, b and m. So we seem to have complementary distribution, with o following aspirates, a following 'plain' stop and nasal, and neither occurring with voiced stop:

   \[
   \begin{array}{ccccccc}
   p & ph & b & m & h m \\
   a & pa & - & - & ma & - \\
   o & - & pho & - & - & hmm \\
   \end{array}
   \]

3. However, both -a and -c occur with medial -l-, e.g.

   klə¹ rainbow  bia² chest
   klə¹ horn     bia³ thin (not thick)
4. /ou/ (formerly -au) does not occur with medial -l-. This makes it possible to eliminate a as a phoneme altogether:

\[
\begin{align*}
[p\alpha] &= /p\alpha/ \\
/\text{pho}/ &= [\text{pho}] \\
[\text{ma}] &= /\text{mo}/ \\
/\text{hmo}/ &= [\text{mo}] \\
/\text{plou}/ &= [\text{pla}]
\end{align*}
\]

In other words, phonetic [-a] after labials is really /-o/, and after medial /l/ it is really /-ou/.

This reanalysis has some historical backing. BM [-a] generally corresponds to Yu Mien (YM) back rounded vowels followed by ŋ:

\[
\begin{align*}
\text{fly (n.)} & \quad \text{ma}^4 & \quad \text{muŋ}^4 \\
\text{rain} & \quad \text{bla}^4 & \quad \text{byuŋ}^6 \\
\text{rainbow} & \quad \text{kla}^1 & \quad \text{cunŋ}^1 \\
\text{pig} & \quad \text{twa}^4 & \quad \text{tunŋ}^4 \\
\text{deaf} & \quad \text{dwa}^1 & \quad \text{dunŋ}^1 \\
\text{room} & \quad \text{pa}^2 & \quad \text{punŋ}^2 \\
\text{towards} & \quad \text{hwa}^5 & \quad \text{huŋ}^5 \\
\text{thick (liquids)} & \quad \text{nwa}^2 & \quad \text{nonŋ}^2 \\
\text{forehead} & \quad \text{pl}{\text{a}-} & \quad \text{pyuŋ}^2
\end{align*}
\]

(‘forehead’ is the first syllable of a compound, pl-a-tau², and so occurs only in the sandhi tone, phonetically equal to tone 7)

Comparative data also shows that the factor conditioning the allophone [ɔ] was originally not aspiration, but final stops, a less unusual feature:

\[
\begin{align*}
\text{tree} & \quad \text{hmo}^4 & \quad - \\
\text{hail} & \quad \text{pho}^4 & \quad \text{poŋ}^8 \\
\text{six} & \quad \text{klo}^7 & \quad \text{cunŋ}^7 \\
\text{finger} & \quad \text{dlo}^7 & \quad \text{dunŋ}^7 \\
\text{few} & \quad \text{tsho}^4 & \quad \text{tunŋ}^8
\end{align*}
\]

Thus the general development after labial initials and medial is "ŋ > a, "uk > ɔ. The final stop also causes aspiration of "voiced initials, then disappears, leaving the aspiration as the apparent factor conditioning the complementary variant [ɔ]. Actually the aspiration and the vowel distribution are both effects of a vanished cause.
References
