THE VOCALISM OF PROTO-MON-KHMER

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It is unnecessary here to labour the point that, while no one seriously doubts the relationship of the Mon-Khmer (MK) languages as propounded by Schmidt and later writers, no one has yet succeeded in systematizing the highly diverse vowel correspondences apparent in the published material or in establishing a convincing reconstruction of the proto-Mon-Khmer (PMK) vowel system.¹ The vocalism, indeed, is the crux of the problem of reconstructing PMK. The new approach I propose here depends on the assumption that a number of types of vowel variation or gradation existed in the proto-language.² Before setting out the data, it is desirable to examine the consequences of this assumption.

The basic vowel system will be reflected in a set of "regular" correspondences from which those due to variants have to be distinguished. Given that the incidence of vowel variation is limited, and that variant forms are distributed more or less randomly in the modern dialects, it follows that the wider the extension of a cognate set the greater the chance of its including one or more vowel-variant forms. A comparison which embraces the largest possible number of languages will elicit a very large number of overlapping, partly similar correspondences. On the other hand, in a comparison restricted to two languages we
ould expect a relatively high number of regularly lated cognates and a smaller number of "irregular" es attributable to variation.

These again will be likely to show the following ures. Doublets will occur at least occasionally each language; variations, being randomly distri- ted, will generate multiple correspondences, say in Language 1 versus *aa in Language 2, and *aa Language 1 versus *a in Language 2. The corre- ondences so generated will be numerous but indi- dually relatively infrequent. These expectations e borne out in the material presented below.

For my initial restricted comparison I take the o languages Mon and Khmer (Khm.), chosen because amount of lexical material available guarantees maximum number of cognate pairs, and because their lationship is distant enough to provide a useful e line when the comparison is extended to other alects. I should emphasize, however, that the construction is intended to be of PMK and not of a bgroup "Mon + Khmer," the existence of which I do t posit. At certain points, therefore, I shall ote forms from other languages to which the compar- on has been extended (though not presented here) to stify distinctions not apparent from these two nguages alone.

For Mon, Old Mon (OM) is taken as a standard of erence, and inscriptional forms are cited wherever ssible alongside the modern ones. 3 For Khm., I am cessarily dependent on the lexica, mainly Tandart's, nd cite the modern forms, in Mrs. Jacob's transcrip- on, omitting the inscriptional ones sparsely ailable to me. The systematic extension of the heme to Old Khmer is an obvious desideratum. 4
One or two items quoted in transliteration only I have been unable to verify as still current.

To keep this paper to manageable length the material I have collected is presented illustratively rather than exhaustively, a course which I am aware limits its impact. But in view of the relevance of the statistical aspect I give in brackets following the citation(s) for each rhyme the number of instances collected. I have noted altogether 600 basic and variant correspondences representing 527 roots. Of these 527, 449 (85.2%) exhibit basic or "regular" correspondences, 122 (23.1%) variant or "irregular" ones, so that 8.3% exhibit both kinds of correspondence.

I shall set out the regular correspondences first, leaving to the end of this section those with "laryngeal" final (*?, *h), which pose more complex problems. The variant sets will then be briefly discussed.

The vowel system reconstructed for PMK comprised seven simple vowels, for all of which length is distinctive, and three diphthongs: \( i \ i i \ e \ ee \ a \ aa \ e \ e e \ o \ o o \ u \ uu; \ i e \ u e \ a i. \)

The principal types of variation postulated are:

(i) between short and long vowel: \( i \sim i i, \) etc.;
(ii) between simple vowel and diphthong: \( i i \sim i e, \ u u \sim u e, \) occasionally \( a a \sim a i; \) (iii) between diphthong and \( e: \ i e \sim e, \ u e \sim e. \) They may occur in combination, e.g. \( i \sim i i \sim i e \sim e. \) Less frequent are variation between \( a(a) \) and \( e(e), \) between \( i e \) and \( a i, \) and between front and back vowel.

Mon. Though the graphic representation of the
system is not fully systematic, it may be phonologically interpreted in its maximal extension before velars as /i e a φ o u w a i/. Of these nine terms, /i/ occurs only before velars and /w/ only before velars and laryngeals; /e/ do not occur before /y/, /u/ do not occur before /w/.

The main steps in the subsequent evolution were as follows.

(i) In Middle Mon (MM) /φ/ > /i/ while / > /u/ following a nasal and following medial / < /n?/. The disappearance through merger of final /c n/ added a further diphthong to the system before velars, which was and is not distinguished in writing from /e/, but survives in spoken Mon (SM) as /i/.

(ii) At a later stage /ɔ/ > /o/ before final finals following /n m/. Then /o/ disappeared before laryngeals as a result of /o?/ > /w?/, /oh/ > /h/. /w/ and /φ/ merged as a central vowel.

(iii) The emergence of a register distinction, probably towards the end of the sixteenth century, set in train the complex series of splits, lifts, and mergers which produced the modern stem. These last changes were conditioned partly by register, partly by the nature of the preceding sonant, and partly by that of the final one. They are reflected in the orthography only in so far rhyme mergers have led to historically misleading phonetic" spellings of particular words.

Khmer. The Khmer system is most conveniently laid out in terms of its orthography, which similarly tedates splits which have followed the development register. In its maximal extension, in closed
syllables before most finals, the written system is
(not in syllabary order) i ~ w, T i e e e a a c c o
u u u e y w w e. In the contexts in question these
symbols are pronounced, according to register,
/ν ~ %i, i:, i:e ~ i:e, e: ~ ɛ:, a e ~ ɛe, a:
~ ˈi, c ~ əe ~ ə, c: ~ ɔ:, a,o ~ ə:, o ~ ə,
o: ~ ə:, u:e ~ ə:e, aγ ~ ɣ:; ɣ: ~ ʒ:, w:e ~ ʒ:ə/.
Before palatals, before ḥ, and in open syllables
restricted systems operate.

The sixteen terms of the maximal system include
four pairs which are functionally distinguished by
length, or appear to have been when the orthography
was established: ɨT (or w w; but these symbols are
of relatively recent introduction), a ə, ɔ ɔ, u u.
w e seems to occur only in loans from Thai, while w
has a very restricted distribution in native words
and is then probably environmentally conditioned.
T does not occur in head-register words; oppositions
of e and ɛ are relatively infrequent and show at
least a partial correlation with register.

In the material cited transliterated forms are
given in linguistic type without underlining,
phonological formulae and transcriptions of modern
pronunciation given in the same type between strokes
/. Reconstructions are preceded by the symbol *.
The consonantal part of them may require revision;
I have not always been scrupulous in indicating by
square brackets that a reconstruction is provisional.

THE REGULAR VOWEL CORRESPONDENCES

(a) before non-laryngeal final

1. *a. OM /a/ before velar, otherwise /ɔ/ (both a
except a ~ e before c, ń; ey = /ɔy/; ow = /ɔw/);
normally /ɛ ɛə/ before velar, otherwise /ɔ ɔ/ except /oa ɔa/ < OM /ɔy/, /ao ɛa/ < OM /ɔw/. Khmer (hm.) usually a = /a/ ~ /ɛə/ before velar, otherwise ə; but /am əem/ = əm; /ay ɛy/ = aî, /av ɛu/ = au.

*dak*: OM dak 'to bind, harness', SM /tɛ̃ak/ o tie, tether'; Khm. /tɛ̃ak/ 'to trap' -- *d-n-ak: m. /thnɛ̃k/ 'lure' -- *d-[r]n-ak: SM /hɛnɛ̃k/ oose, snare, jess for poultry' -- *[d-]n-dak: Khm. ntɛ̃k/ 'trap, snare'. (6)

*cran*: OM cran, SM /sɛŋ/ 'bank'; Khm. /cran/ steep (streak) bank'. (10)

*sac*: OM sac 'fruit', SM /sɔt/ 'areca nut', in mpounds 'fruit'; Khm. /sac/ 'flesh, meat'. (For mantics cf. Malaccan forms in Skeat and Blagden, gan races of the Malay Peninsula, no. F 170(a).) (1)

*pan*: OM pañ, SM /pɔn/ 'to shoot'; Khm. /bɔn/. r *pan[c] in view of Vietnamese bàn. (3)

*bat*: MM bat 'to secure, bind on', SM /pɔt/ in ɔn pɔt/ 'to be firm, fast'; Khm. /pɔt/ 'to tie und, to spin [web, cocoon]'. (5)

*tlan*: SM /klɔn/ 'python'; Khm. /thian/. ronfirmed by Vietnamese trãn, Khasi thlen in spite evidence for *-lo- also > Khm. /la/. (3)

*[b]cap*: OM cap, SM /cɔp/ 'to adhere'; Khm. ɔep/. (10)

*kam*: OM kam 'arrow, projectile', SM /kɔm/ ullet'; Khm. /kam/ 'projectile'. (3)

*?bay*: SM /boa/ 'bean, pea, 1/16 tical'; Khm.

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*Editor's note: Typographical limitations havequired the substitution of ?b and ?d for the author's symbols for preglottalized consonants.
/péri/ 'obsolete small coin'. (2) --For cases where *-ay, *-aw might be reconstructed but are not seen below, *-i?, *-uu?. For my two instances of *-ay there are variants in *-aay; it is possible that the vowel was normally lengthened before *y, *w in both languages, leading to some fallacious reconstructions of the long vowel.

*gtar: Khm. */təɘ/, whence by secondary formation /tətəɘ/ 'to shiver, tremble' -- *g-ne-tar: SM /həto/ id. (Indonesian loan? Khm. usually has vowel lengthening following loss of -r. Cf. Malay gē(n)tar etc. alongside kētar etc.; Dempwolff reconstructs PH *kə(n)ʈə[.] (1)

*pas: SM /pəh/ 'to be displaced'; Khm. /bəh/ pas, pəh 'to teeter'. (Or *pah?) (1)


*caak: OM cāk 'to be parted'; Khm. /ca:k/ 'to leave'. (5)

*jaŋ: SM /cəŋ/ 'to fish with a scoop-net' -- *j-n-aaŋ: SM /hnəŋ/ 'scoop-net'; Khm. /chnəŋ/. (6)

*saac: SM /sat/ 'to bale'; Khm. /sa:c/ 'id., to throw from bucket'. (2)

*taŋ: SM /tan/ 'to plait, twill' -- *t-p-aaŋ (properly nominal formation): Khm. /tbaːŋ/ 'to weave, plait' -- *t-mp-aaŋ: SM /kəman/ 'plaited work'; Khm. /tombaːŋ/ = /tbaːŋ/. (3)

*kdaat: SM /kətət/ 'kind of yam'; Khm. /kdaːt/ 'Arum indicum'. (7)
*[d]baan: OM dān 'to assault, march against', M 'to assault, to climb', SM /kwān/ 'to climb'; Khm. ̀nān/ 'to climb, to march against'. (8)

*[c]daap: SM /dap/ 'to dab on, sponge', Khm. ̀dāp/ 'to touch, feel, stroke, grope for'. (3)

*ktaam: Khm. /kda:m/ 'crab' -- *k-n-taam: SM metam/ id. (For nasal of infix cf., e.g., Central kai kanton.) (5)

*draay: OM dāy, SM /krāi/ 'Axis porcinus deer'; M. /triay/ 'stag'. (15) -- Cf. *-ay above for possibility that PMK *-ay underlies some of these, e. that we should write *dra[a]y etc.

*tmaar: SM /hēpa/ 'flat surface, back [of hand etc.]'; Khm. /tomba:/ 'flat surface'. (4)

*waal: SM /wēa/ 'open ground, pasture'; Khm. ̀wēl/ 'plain'. (6)

*raaw: SM /rēa/ 'openwork basket'; Khm. /riēv/ basket for crockery, fish, etc.' (5)

*thaas: MM thāh 'large metal dish', SM /thah/ brass tray, salver'; Khm. /tha:h/ thās 'metal tray'.

*i. OM /o/ i ~ u ~ a etc.; SM usually /a à/ fore velar, otherwise /ə ɔ ɔ̃/ except /ɔik /ɔik/ < /ɔc/, /ɔŋ ɔŋ/ < OM /ɔŋ/, /oi/ < OM /oŋ/; but following MM post-nasal split (p. 3 above) as OM /< *i/. Khm. i ~ w /y ə/ except before palatal; ~ ec /ec èc/; wñ /yŋ/ ~ iŋ ~ ŋŋ /ęŋ/.

*grwik: SM /hewàk/ 'to wave, wag, shake, rry'; Khm. /krëvùk/ 'to shake, disturb'. Or *wik: m. /vùk/ 'to shake up, mix up' -- *gr-wik. (3)

*pīŋ: SM /paŋ/ 'reservoir fish-trap of
permanent type'; Khm. /bωγ/ 'lake, pool, marsh'; (3)

*mr[i]c: MM mrek, SM /pəɾəïk/ 'pepper'; Khm. /mɾəc/. (Hence Sanskrit-marica. Vocalism provisi-
nional, since my differentia for *i, *ə before palatals are tentative.) (3)

*kɔdiŋ: SM /dɔiŋ/ 'bamboo-joint used to hold li-
quids' -- *k-n-ŋ?diŋ: MM ganʤiŋ /gəniŋ/, SM /hənoiŋ
'bell'; Khm. /kɔndŋ/. (*i likely since this then
fits a front/back variation series, cf. *k?dəŋ: SM
/daŋ/ 'bamboo tube'. Mon shows post-nasal split.
Semantics: bamboo-joint cowbell presumably preserved
as prototypical form.) (2)

*ʔit: Khm. /xɨ/ 'brick' -- *l-ʔit: OM la'at
/ʔəl/, SM /dɔt/ id. (3)

*ŋɛm: OM 'cim, 'iɲɛm /ŋcəm/ 'to feed'; Khm.
/ŋɛcm/ (alongside secondary /ɔŋɛcm/). (OM vocalis-
confirmed by secondary formations, e.g. SM /phyəm/
'to feed with premasticated food' < *p-cui̯m.) (1)

*[m]?bɬ: MM ɓuiw, SM /b3/ 'salt'; Khm. /ɔmbɬ/
(Or *bɛl if the Khm. form contains an affix.) (2)

*ris: SM /ɾəhi/ 'root'; Khm. /ɾəwh/ ris. (1)

4. *ii. OM /i/ T ~ i; SM /oi ði/ before velar,
otherwise /ɛ i ɹ/ in closed syllables, /œ i ɹ/
following loss of final /ɾ ɹ w/. Khm. in chest-
register words T /i:/, in head-register words as *i
(but see note at end of this section).

*jɨk: OM jik, SM /cəi k/ 'to harrow, break up
for planting, to cultivate'; Khm. /cɨ:k/ 'to dig,
dig over'. (1)

*Kdiŋ: Khm. /khtɨŋ/ 'wild ox' -- K-n-diŋ: SM
/kəloŋ/ 'gaur'. (3)
*siic: SM /sɛt/ 'to be worn, abraded'; Khm. 
ec/ 'worn' (alongside /svk/, reborrowed from Thai 
ũk/). (1)

*ciin?: MM cin, SM /cin/ 'to be cooked'; Khm. 
h?yn/. (For final cf. Vietnamese chín. Khm. has 
mimilar metathesis in /daːs/ 'to stretch [skin etc.]
*l?aa < *laʔ-s, ad /l̥iə/ 'to unfold, spread' <
a?.) (1)

*rliiw: SM /l̥i/ in /kənũh l̥i/ 'to be lazy, 
le'; Khm. /rəliːv/ 'drowsy'. (1)

*liə. Khm. iə /iːə ˈiːə/. OM in most contexts /e/
than SM /ea ɛa/ before velar, otherwise /e ɛ/;
fore *l, w OM unknown, LM ey, SM /ea ɛa/; following 
sonant cluster before /s/ OM /ɔ/ a, SM /ɔ ɔ/. 

*[C]riək: Khm. /cɾiək/ 'to split (v.t.)' --
*]-n-riək: SM /kəreak/ 'to split, slit open'; Khm. 
rəɾiːək/ 'to split (into slats etc.).' (1)

*wiəŋ: OM weŋ 'to avoid, to turn aside', SM 
əŋ/ 'to avoid'; Khm. /ˌvəŋ/ 'way round, bend'. (6)

*lət: OM let, SM /lɛt/ 'to smear on'; Khm. 
ət/ in /l̥iːət bɔt/ 'to plaster'. (4)

*wien: SM /wɛn/ 'to be crooked, deformed'; Khm. 
ən/ 'rolled up, spiral' -- *k-wiən: Khm.
*k-r-wiən: SM /kəwən/ 'to be curly'; Khm. /kəwən/ 'to roll up, curl up (v.i.)'. (1)

*trιep: SM /krep/ 'to be interposed between two surfaces, jammed, cramped'; Khm. /tri:ep/ 'packed close together'. (3)

*kriəl: SM /krea/, Khm. /kri:əl/ 'sarus crane' (1)

*ksiəw: Khm. /ksiəv/ in /ksıp ksiəv/ 'to whisper' -- *k-[p]-siəw: SM /kəsea/ id. (For *-p- cf. Khasi pasiaw.) (1)

*rngiəs: LM Ʉnəh 'to be lost in thought'; Khm. /rʌŋkɪəs/ 'offence taken'. (For semantics cf. the synonyms LM Ʉnəp Ʉnəh, Khm. rɔŋgiəl ~ rɔŋgiəɛr, < *rngaə[l].) (2)

6. *u. OM /w/ u ~ ū ~ o before velar, otherwise /ʊ/ (as < *i) except before /y/, where secondary lengthening yields /u/ as from *uu (cf. remarks under *-ay above); SM /ɔe ui ʊi/ < *uy; elsewhere /w/ and /φ/ merge, so as *i; but following post-nasal split as OM /u/ < *uu. Khm. u /o ʊ/, before *r with compensatory lengthening -ʊr /o: ʊ:/. --In spoken Khm. *u merges with *ə, *ɔ in chest-register words before labial, though usually kept distinct in the orthography.

*duk: OM ɖuk, SM /dak/ 'to mount, ride (on, in)'; Khm. /tʊk/ 'to place, put, leave, keep' -- *p-duk: OM ɖ̐uk 'to embark (v.t.)', SM /dak/ also 'to load'; Khm. /phtʊk/ 'to load'. (7)

*dʊŋ: SM /tæŋ/ 'kinds of bird including stork and pelican'; Khm. /tʊŋ/ 'pelican'. (5)

*phut: LM phuit 'to cease, to sever'; Khm.
hot/ 'end, to cease, end, exceed, come up to'. (1)

*tum: OM tum in sum tum 'all', LM tuim 'to be merous'; Khm. /dom/ 'group, lump, wad, block', domo/ 'in a crowd, in a heap' -- *k-tum: Khm. dom/ 'gathered together'. (5)

*ruy: SM /rûi/ 'fly'; Khm. /rûy/. (4)

*[t]kur: Khm. /ko:/ 'to stir' -- *[t-n]-kur: /hêko/ id. (1)

*Kbu[l]: Khm. /kh₃u/ khbur! 'to rinse the uth' -- *K-n-bu[l]: SM /kempt/ 'ejected residue of tel chew'. (Post-nasal split does not operate since nasal secondary, < MM *kambuiw.) (1)

*uu. OM /u/ ŭ ~ u; SM /ɔ ɔ/ before velar, other-

se /ɔ u ŭ/ in closed syllables, /ao u ŭ/ following

ss of final /r l/. Khm. ŭ /o: ŭ:/ (but see note at

d end of this section).

*luuk: SM /l3k/ 'to touch, come in contact

th'; Khm. /lû:k/ 'to put one's hand into'. (1)

*sliuŋ: OM *-lūn, SM /h1 ŋ/ 'to be high' --

-r-luuŋ: OM sirluŋ 'height', Khm. /srelô:ŋ/ 'very

ep'. (We should expect Khm. post-dental /ao/, see

low. /o:/ conceivably by affective lengthening of

o/, from a variant *s-r- luŋ.) (1)

*de?duuc: SM /hêduit/ 'to tease'; Khm. /tetù:ç/

o molest, importune, insist'. (1)

*buut: SM /pût/ 'to operate rotary machine,

ind'; Khm. /pût/: 'to wring out, to roll, shape'.

)[rm]ruun: SM /pəruŋ/ 'intestinal worm'; Khm.

-û:n/. (1)

*[d]kuuy: Khm. *gûy, whence by secondary
formation poŋgu (besides poŋguy /poŋku:ə/) 'Calotes lizard' -- *[d]-n-kuuy: SM /həkuil/ 'Calotes versicolor'. (2)

*muur: Khm. /mü:/ 'to roll, roll up' -- *[m-r]-muur: Khm. /remü:/ 'roll' -- *s[r]-muu[r]: SM /həmao/ 'to roll, roll together, roll up' -- *s[n]-muu[r]: SM /həmao/ 'roll, roller'. (Mon form less probably assigned to *muu[1], for which cf. Khm. /mü:/'round'; /remü:/ 'roll'.) (2)

*krkuul: OM kirkūl, SM /həkaol/ 'family, lineage race'; Khm. /təkoːl/. (Not connected with Sanskrit Pali kula, which would give OM */kəl/. Khm. dissimilation normal.) (1)

**Note:** In eleven instances Khm. shows opening to /aː oː/ following a dental (/t d n r l/) and in one also following /m/; there are some cases where the expected opening is not found. Cf., e.g., *ruuy: Khm. /rə:y/ 'to sprinkle, scatter, to winnow by letting fall from a height' -- *[t]-ruuy: SM /krəe/ 'to sprinkle, scatter'; *armuul: SM /həmao/ in /p3o həmao/ 'butterfly soul, fetch in form of butterfly'; Khm. /srəmaol/ 'shadow, image in mirror' (in /srəmaol həmao/) ghost'.


*buek: MM b(w)ok 'sect', SM /pək/ 'company, group, sect'; Khm. /pə:ək/ 'company, group'. (1)

*p-r-gueŋ: SM /həkəŋ/ 'bulb, corm' -- *p-n-gu Khm. poŋgəŋ, poŋkueŋ 'bulb of feather'. (2)

*buec: SM /pət/ 'small pot'; Khm. /pə:əc/ 'small jar'. (6)
*duēn: SM /tɔn/ 'to scold, chide, complain, humble'; Khm. /tɔːɛn/ 'to lament' -- *d-mn-üɛn: SM ənɔn/ 'chiding'; Khm. /tɔmnɔːɛn/ 'lamentation'. (2)

*[j]-puɛt: SM /pot/ 'to rub, stroke'; Khm. ɛt/ 'to rub hard, massage'. (Analysed as complex view of vowel-variant forms with other prefixes.)

*duēn: LM don 'lance, pike'; Khm. /tɔːɛn/ 'kind spear'. (1)

*ruɛm: LM ɾo̞m 'company, companion, (in ɾo̞m cha) accord, pair'; Khm. /rɔːɛm/ 'union, to join together (v.i.t.)' -- *[kn]-ruɛm: SM /kərom/ 'in company with'.

*məəy: OM moy, SM /mɔː/ 'one'; Khm. /müɛy/. (1)

*guɛr: OM gor 'to be meet, fitting, good', SM o in /kɔp kɔ/ 'ought'; Khm. /kʉə/ 'worthy,fitable'. (3)

*[p]-ruɛs: LM proh, SM /pruːh/ 'to squirt from mouth or trunk'; Khm. /pruɛs/ 'to squirt from mouth'.

*ɔ. OM /ɔ/ ɔ (before velar) ~ a; SM /ɔ o/. Khm. usually /ɔ/ ~ /ʉ/ before labial, otherwise /uɛ/; ɔ in /ɔm ʊm/ = ʊm; and see note at end of section.

*kŋɔk: SM /ŋɔk/ 'to be bent, crooked'; Khm. kŋɔk/ 'hook-shaped'. (5)

*goŋ: OM goŋ, SM /kɔŋ/ 'to be brave'; Khm. əŋ/ 'invulnerable'. (2)

*ŋŋɔt: MM lagŋat /ləŋɔt/, SM /təŋɔt/ 'to dy'; Khm. /rʊŋkʊɛt/ 'to explore, go to and fro, cross-cross'. (2)
khôh: SM /khôh/ 'liquid to be muddy, dirty, viscous, thick'; Khm. /khôh/ 'to congeal, become viscous, to crystallize'. (1)

*[c]mrêp: SM /hêrp/ in /chi hêrp/ 'to tremble'; Khm. /cômrêp/. (SM initial obscure; perhaps *-rêp with different prefixes.) (1)

*rôm: SM /rôm/ 'to respect'; Khm. /rûm/ 'worth appropriate'. (2)

dôl: OM dal 'to bar the way', SM / tô/ 'to close, block'; Khm. /tûél/ 'to hold back, prevent'. (2)

*[c][c]: SM /kêh/ 'to throw, throw at, away'
*c-r-1[c]: Khm. /creîh/ creîš 'to throw'. (Or *-es, in the absence of determining cognates.) (2)

Note: In two instances Khm. has /a/ following /l/ in head-register words. Cf., e.g.,

*klôk: MM tlâk /klôk/ 'tinder-box', SM /kîlôk/ in /klôk pôn/ 'lime-casket'; Khm. /khîlôk/ 'small cylindrical box'.

10. *cc. OM etc. as *c. Khm. ɔh /ɔ: :/. *croôck: OM crok, SM /sôk/ 'to plant upright, stick in'; Khm. /cro:k/ 'to put in, fill, load'. (7)

*tôôg: MM tân 'to bring away, rescue', SM /tôg/ 'to pull, draw [water inter alia], lead'; Khm. /dô: / 'to draw [water]'. (7)

*ktôôt: SM /kêtôt/ 'to cluck, cackle'; Khm. /khtô:t/ 'clucking'. (3)

*cntôôn: LM datan, patan in datan etc. cult 'tranquillity'; Khm. contôn 'inert'. (1)

*[k]rêp: SM /krêp/ 'to be near' -- *[k]-p-rêp: SM /kêrp/ 'vicinity, near'; Khm. /pô:p/ 'near'. (
plówm: SM /plóm/ 'to stalk'; Khm. /phlō:m/ 'slip in, sneak in'. (2)

kɔ[ɔ]r: SM /kɔ/ 'to carry hanging loosely over one's shoulder'; Khm. /kɔ:/: in /bɔŋ kɔ:/ 'to throw [tar] over shoulder'. --Since compensatory lengthening is to be expected in Khm., there are no differentia for *-ɔ and *-ɔr. (6)

e. OM /φ/ as < *l. Khm. ɔ etc. as < *c, except ɔr > Khm. -ɔr /ɔːː/:; see also note at end of section.

pak: MM puık 'to blow', SM /pak/ also 'to fan'; n. /bɔk/. (3)

then: SM /θan/ 'bag'; Khm. /θan/. (4)

pent: SM /penti/ 'to be astringent in taste'; n. /κiːt/ 'sour, tart'. (6)

cʔen: Khm. /cfʔen/ 'surfeited, disgusted' --κ[ŋ]-ʔen: SM /heʔen/ 'to be nauseated through anxiety'. (2)

dep: Khm. /t dép/ 'to block, stop up' --κ[ŋ]-dep: Khm. /kht dép/ 'id., to close' --κ[ŋ]-l]-dep: SM /hąd dép/ 'to fold over, close'. (5)

kellom: OM rlim, r lamb in rłam etc. rλak 'to be ruins', SM /ləm/ 'to be damaged, destroyed'; Khm. lùm/ 'to fall, fall down, crumble away'. (For nasalism cf. Sre koldöp 'to cover, stop up'.) (5)

[dp]ger: SM /hekтика/ 'thunder'; Khm. /phkɔː/: r initial cf. Riang-Lang tekər, from a variant *-ɵr.) (3)
*dəl: MM duiw, SM /tə/ 'as far as'; Khm. /tùə/ 'to reach as far as' -- *[k]-dəl: Khm. /dəl/ 'to arrive, reach; as far as'. (6)

Note: In five instances Khm. has /a ə̈ə/ following /l/ or a nasal or nasal cluster. Cf., e.g.:
*kləŋ: MM kləŋ, SM /kləŋ/ 'oil, fat'; Khm. /kləŋ/.
*səets: SM /hət/ 'to be quiet'; Khm. /səet/ 'silent, quiet, deserted, solitary'.

12. *əə. OM etc. as *ə (but *-əəy > OM /uy/ as < *-u(u)y). Khm. ə /ə/.

*lweək: Khm. /lvə:k/ 'undulating movement, to undulate' -- *l-b-wək: LM lawūk 'to wave (v.t.)' -- *l-r-wək: Khm. /rəvə:k/ 'wriggling movement'. (2)

*təən: OM tin, SM /tən/ 'to go up, come up' -- *[k]-təən: Khm. /tən/ (royal language) 'to wake, get up'. (1)

*səəm: Khm. /səəm/ 'damp, moist' -- *[s]-n-seə SM /kəsəm/ 'rainy season'; Khm. /sənsəm/, /sənsəm/ 'dew, damp'. (1)

*jləəy: OM jlūy, SM /klǔi/ 'prisoner of war'; Khm. /chlǔi/ id., 'booty'. -- Perhaps *-ə[ə]y, allowing for compensatory lengthening; no distinct *-əy has been found and this correspondence is unexpectedly frequent. (4)

*rngeəl: SM /təŋə/ in /təŋətəŋə/ 'to amaze, shock'; Khm. rəngəl 'offence taken'. (1)

13. *e. OM /e/ e; SM /ea ə̈a/ before velar, otherwise /e ə/. Khm. in head-register words ə /aə/, with doublet in e /e:/ before v; in chest-register words e /e:/, before palatals /ə/. -- *e and *ee are
differentiated by the Mon reflexes; the assignment of these correspondences to *e assumes that the raising of a long mid vowel in Mon (*ee > /i/) is more likely than that of a short one.

*šen: LM šen in šen lah 'to enjoy'; Khm. /šèn/ 'play, sport, divert oneself'. (3)

*b[ē]c: SM /plèt/ 'to miss, miss the mark, be wrong'; Khm. /phèlc/ 'to forget'. (Conceivably variant pair involving *blèc, but no other instances of *ie before palatal have been noted.) (2)

*d-ñ-d[e]n: Khm. /tùntèn/ 'to recite, repeat'
*p-ð[e]n: MM ðen, SM /den/ 'to memorize'.

remark on *b[ē]c.) (1)

*trée: LM tre(w) 'to abide'; Khm. drer 'to t'. (1)

*srielw: SM /hele/ 'to be oblique, (in /mòt e/) to squint'; Khm. /srele:v/, /srełæv/ 'squint-'. (*-iæw > SM /ea/, so not *srielw -- *srialw.)

*c?e[s]: Khm. /ch?eh/ ch'èh 'stinking, stink' --
[n]-?e[s]: SM /heeh/ 'to stink' -- *c-m-?e[s]:
. /cówæh/ còm'ës, /có?eh/ còm'èh 'smell of wild mal, of urine'. (2)

*ee. 0M /i/ as < *iì. Khm. as *e.

*?eèn: LM 'iì 'oneself'; Khm. /æn/. (2)

*peen: SM /pin/ 'to thresh'; Khm. /baen/. (3)

*heel: SM /hi/ 'to drift'; Khm. /hæl/ 'to m'. (2)

*ο. 0M /w/ ~ /φ/ as < *u. Khm. o /ao ô/. (1)

*t-n-ð[o]k: SM /hen3k/ 'slit-drum, (in
cowbell' -- *t-r-ʔd[ o]k: Khm. /tʰʃədək/, /tədək/, /dədək/ id. (Or *-uuk, with Khm. post-dental opening?) (2)

*koŋ: SM /kaŋ/ 'ribs of boat, to be arched, bent', Khm. /kaŋ/ 'bend, arch, to be bent, arched' (alongside /koŋ/ 'bend, to be bent', < *kuŋ) --

*ŋoŋ: LM pakuin 'to bend (v.t.)'; Khm. /bɔŋkəŋ/ (Both *koŋ and *kuŋ are found elsewhere in MK.) (1)

*tkot: SM /təkət/ 'to take fright, be fright, ened, dismayed, to startle, dismay'; Khm. /kaot/ 'to honour, respect; (in /kaot khlaːc/) awe'. (?) (1)

*gəm: SM /kʰm/ 'hot-air balloon'; Khm. /kʰːm/ 'lantern, balloon'. (2)

*kmpor: MM gapuiw, SM /heŋɔ/ 'lime'; Khm. /kɔmbəw/. (Perhaps loans from Malay kapur or other Indonesian form.)

16. *o. OM /o/ as < *uə. Khm. as *o.

*pəŋ: SM /pəŋ/ 'to swell up' -- *[k]-pəŋ: Khm. /paŋə/ 'to swell'. (3)

*cʔbooc: SM /bot/ 'to draw out, unsheathe'; Khm. /baoc/ 'to pull up'. (For initial c cf. PAN *k'abut.) (1)

*koom: OM kom 'to associate', SM /kom/ 'to assemble, come together' -- *k-r-koom: MM grakwom, SM /heköm/ 'association, company, assembly'; Khm. təŋəm: 'in a group, together' -- *cn-koom: Khm. /kʊŋkəʊm/ 'bunch'. (1)

*boor: SM /pɔː/ 'to be plentiful'; Khm. /pɔː/: 'about to overflow'. (1)

17. *ai. OM /ai/ ~ /a/ as < *aa. Khm. e /æː/.. --Rare, in MK generally, except before velar; there
variants in *aa in a quarter of the cases; but there is some supporting evidence outside Mon and ..., including the presumed alternance *ai ~ *ie.

*caik: SM /caik/ 'to be torn, to tear' -- caik: SM /phyaik/ 'to split up, punctuate [text]'; /caek/ 'to divide up'. (Variant of *caak 'to be separated', above.) (8)

*kmbaiŋ: OM kumbeŋ, SM /kemaiŋ/ 'wall, city'; Khm. /kompẹ:ŋ/ (alongside /komphaŋ/, rebor- ed from Thai /kampheŋ/). (7)

*pēpail: SM /hɛpa/ in /kaʔ hɛpa/ 'skate, ray'; /pəbael/. (1)

(b) before laryngeal final

The problems involved in establishing the alism before final *ʔ, *h derive, firstly, from general tendency to shorten a long vowel before these finals, compounded in Khm. by a further triction of the system before /h/ and by compen- satory lengthening of the vowel following the loss final *ʔ; and, second, from what I take to be a thongization of a long close vowel, with loss of final, before *ʔ in both languages. The overall system may be considered to be adequately established by section (a) above. Pre-laryngeal onstructions entail fitting correspondences to and are in places ad hoc; my solution, summarily out, is open to discussion and adjustment. I will with final *h first.

*ah (read *ah or *aah; no differentia): OM /ah/h), SM /ah ɛh/; Khm. ɬh /ah ɛɬh/. *jah: OM ɬh, SM /hnɛh/ 'to be victorious (over)'; Khm.

nɛɛh/ -- *j-m-nah: LM jamnaŋ 'victor'; Khm.
\(\text{cùmn\text{"e\text{"e}}}\) 'victory'. (9)

*ih (doubtful; no differentia for *iuh): SM /\text{"e}h/; Khm. i\text{"e}h. *grih: SM /\text{kr\text{"e}}h/ 'to be resolute, unyielding, harsh, heartless, inhumane' -- *g-n-rih
SM /\text{her\text{"e}}h/ 'ferocity'; Khm. g\text{\text{"a}}ndrih 'harsh, bad'. (9)

*uh: OM /\text{w\text{"e}}h/ òh etc., SM /\text{nh} \text{\text{"e}}h/, following
post-nasal split as *uuh; Khm. u\text{"e}h /\text{oh} ùh/. *c-ruh:
MM croh '[rain] to fall on'; Khm. /\text{cr\text{"e}}h/ '[leaves, fruit] to fall, [hair] to come out' -- *c-b-ruh:
OM -curoh 'to shed, scatter', SM /\text{k\text{"e}r\text{"e}}h/ 'to pour
out, let fall'; Khm. /\text{c\text{"u}mr\text{"e}}h/ 'to cause to fall'. (9)

*uuh: OM /\text{uh}/ ðh etc., SM /\text{aoh} uh ùh/; Khm. as
*uh. *tuuh: SM /\text{taoh}/ 'to rub, scrub, scour'; Khm
/dooh/ 'to rub, polish'. (2)

*oh (no differentia for *ooh): OM /\text{o}h/ òh etc.,
SM /\text{oh} ðh/; Khm. òh /\text{oh} ùeh/. On other evidence
these are also the reflexes of *eh, so some recon-
structions assigned here are provisional. *t\text{\text{"a}}h:
OM t\text{\text{"a}}h, SM /\text{t\text{"a}}h/ 'breast, mamma'; Khm. /\text{d\text{"o}}h/.
(For vocalism cf., e.g., Sre toh.) (5)

*eh (no differentia for *eeh): OM /\text{e}h/ eh etc.,
SM /\text{eh} ðh/; Khm. eh /\text{eh} ëh/. *e-seh: Khm. /\text{seh}/
'horse' -- *k-seh: OM k\text{\text{"e}}h etc., SM /\text{cheh}/ id.
(For Khm. reconstruction cf. Old Khm. aseh.) (2)

*oh: OM etc. as *uh; Khm. as *oh. *loh: MM
loh 'to uncoil (v.t.)', SM /\text{l\text{"e}}h/ 'to come unwound';
Khm. /\text{l\text{"u}eh}/ 'to redeem, ransom' -- *p-loh: OM pl\text{\text{"o}}h etc. 'to attain Buddhahood', SM /p\text{\text{"o}}h/ 'to come
unwound, to unwind' -- *pr-loh: LM paloh, paluh i
bodhi paloh etc. 'attainment of Buddhahood', Khm.
/pre\text{\text{"o}}h/ 'space, interval'. (Not *luh -- *luuh,
since post-dental opening does not operate before
/h/.) (1)
* pooh: OM poh, SM /puh/ 'to shoot with pellet-bow'; Khm. /boh/ 'to throw, to gin [cotton]'
*p-n-ooh: SM /nuh/ 'pellet-bow'; Khm. /phnoh/ w for beating cotton'. (1)

there are no demonstrated examples of *aa? in this serial, but cf., e.g., *swaa?: Khm. /sva:/, Riang-
-lg-wa? 'monkey'. *ta?: OM ta, SM /ta?/ 'father';
* /ta:/ 'grandfather'; Riang-Lang -ta? 'master,
band, grandfather'. (13)

*i?: OM /i?/ i('), SM /œ? i? i?/ (not central-
d as before other finals!); Khm. T /gy i?:.
?ː OM ti('), SM /œʔ/ 'earth'; Khm. /dyʔ/.

*iʔ?: OM /oy/ ey, SM /oa òa/; Khm. ai /ay ēy/;
aung /i/, Riang-Lang, Khmu' iʔ. Not reconstructed
* -ay (above) in view of the northern reflexes and
likelihood that *-ay was normally lengthened to
ay; cf. the parallel case of *uuʔ. *tiʔ?: OM
, SM /toa/ 'hand, arm'; Khm. /daw/; Riang-Lang
ʔ. (8)

*uʔ?: OM /wuʔ/ o' ~ u('), SM /oʔ òʔ/; Khm. ûv
o:v/. (2)

*uuʔ?: OM /cw/ ow, SM /ao ëa/; Khm. au /av ūv/;
aung /u/, Riang-Lang uʔ; paralleling *iʔ?. *cuuʔ:
cow, SM /cao/ 'grandchild'; Khm. /cav/; Palaung
/. (6)

?q?: OM koʔ', SM /koʔ/ 'neck'; Khm. /koː/.
(3)

*ccʔ?: OM etc. as *cʔ; Khm. as *uʔ.
A speculative identification, perhaps to be interchanged with the preceding. *skōʔ?: Khm. /sko:v/ 'white [hair]' -- *s-n-koʔ?: OM siŋko' 'grey hair' -- *s-n-koʔ? v.: SM /hekoʔ/ 'to be grey-haired, white-haired' (and Old Khm. saŋkū = /sko:v/). (1)

*eeʔ?: OM */ɛʔ*/, SM /ɛʔ?? ʔʔ?/; Khm. ɣ /av? ʔ/.
*deeʔ?: MM dül', SM /t̥ɛʔ!/ 'to stop, halt'; Khm. /t̥ə/ 'to put, put down, to land on'. (1)

(Onomatopoeia probably accounts for Khm. vocalism in /pəpèʔʔ/ 'goat': OM baʔe', SM /hebeʔʔ/; otherwise vowel-length variation.) (3)

*eeʔ?: OM etc. as *iʔ?; Khm. e /æʔʔ/ (so in chest register differing from reflex of *ee in other contexts). *nreeʔ?: SM /ɾìʔʔ/ 'pestle'; Khm. /ŋrèʔʔ/.

*oʔ?: OM etc. as *uʔ?; Khm. o /ao ᵀ̥:/.
*roʔ?: SM /kerˈʔʔʔ/ 'to cry, weep, shriek, make plaintive noise'; Khm. /rəʔʔ/: 'hollow sound, to low, bay, rumble'. (2)

*ooʔ?: OM /uʔʔ/ u('), SM /aoʔ? uʔ? ʔʔʔʔ?/; Khm. as *oʔ. Closing in Mon in this context (note that *ee is closed in all contexts) follows diphthongization of *uuʔ. *pooʔ?: SM /paoʔʔ/ 'to swell'; Khm. /bao/ 'to warp, swell'. (1)

VOWEL VARIATION

I shall give only a few illustrations here.

Length variation. In principle this may affect any vowel, but it cannot be demonstrated from Mon and Khm. forms alone where the long and short terms of a pair are merged in either language. I have
and 5 instances of *i(i) (partly merged in Khm.),
possible ones of *e(e) (merged in Khm. except
only before *?), 17 of *a(a), 22 of *u(u).

Cf., e.g., *craŋ 'bank': OM crah, SM /səŋ/,
/craŋ/ (above) ~ *craŋ: MM crah 'bun/or of?'
't', SM /sain/ 'dam, reservoir, moat' (note
tiles); *j?bat: SM /bot/ in /com bot/ 'to feel,
bate' ~ *j?baa: Khm. bāt 'to rub [ointment] on';
sam: Khm. /chnam/ 'year' ~ *cnaam: OM cnām, SM
sam/ id. (note double correspondence); *suk: Khm.
suk 'placenta' ~ *suk: SM /sɔk/ id.

Simple vowel/diphthong. I have noted 12
instances of *i(i) ~ *ie, 30 of *u(u) ~ *ue, 5 of
a) ~ *ai. Cf., e.g., *nciñ: MM lacin, SM
cin/ 'ring' ~ *nciñ: Khm. /ɔnciñ/ (and second-
ly ɔnciñ: id.; *kuuk: Khm. /ko:k/ 'to call
ko' ~ *kuok: OM kok, SM /kok/ 'to call'; *caak
be parted' (above) ~ *caik 'to be torn, divided'
ove); *lan laŋ > *l-n-laŋ: SM /kənanggan/ 'kite
lar') ~ *k-lain: Khm. /khlaŋ/ id.

Diphthong/e. I have noted 3 instances of *ie
~ *e, 18 of *ue etc. ~ *e. Cf., e.g., *weŋ
go round, detour' (above; and simple-vowel
plants not quoted) ~ *weŋ: OM wîŋ, SM /wâŋ/
be bent round, circular, to go round', Khm.
ŋ/ 'sphere, circle, disc' ~ *k-ŋ: Khm.
ŋ/ 'bent round'; *suok: OM sok, SM /sok/
'r' ~ *sek: Khm. /soŋ/ id.

Minor variations. I have noted 23 instances of
a) ~ *e(e), or of *a appearing where *e is
ected (from the previous type of variation); some
point to deficiencies in my reconstruction. I
also noted 2 instances of *ie ~ *ai, 8 of
*l/*l/*l/*ẉ/*u etc., and 1 of *e/*o.

*Cf., e.g., *yaam: OM yām, SM /yēm/ 'to weep' -- *y-p-aam: SM /i?wēm/ 'weeping' ~ *yēm: Khm. /yūm/ ~ *y-p-ōm: Khm. /yōbom/; *wiōl: Khm. /viōl/ 'to dig round, cut round, to enlarge [hole] (and variants, e.g. *tr-wil: OM tirwīl) 'to surround, attend on', SM /kōwi/ in /kōwi kewag/ 'to be surrounded by, attended by') ~ (e.g.) *kr-waiw: Khm. /kræwəl/ 'to go back and forth, to explore, to circle round'; *suc: Khm. /soc/ 'small kind of mosquito' (originally 'to sting', cf., e.g., Sre souc, Riang-Lang -huc, < *suxu) -- *s-rm-uuc: Khm. /srwmauc/ 'ant, with post-nasal opening ~ *s-[r]m-ai; SM /hėmot/ id. (LM tamat; with post-nasal closing) *s-[r]m-iiic: SM /hėmit/ 'mosquito' (not *srwec, which would give */hėmoik/).

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entalia eddit Soc. Or. Fennica, XXX, 5),
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orischen Lautlehre der Kharia-Sprache, Wiesbaden,
and now, from a rather different standpoint,
ny F. Blood, A reconstruction of proto-Mnong,
L., Univ. of North Dakota, 1968.
2 It may be added that the published reconstructions of Munda and Austronesian are by no means
ical to such an assumption.
3 See H. L. Shorto, A dictionary of the Mon
scriptions from the sixth to the sixteenth cen-
tes (London Or. Ser., 24), London, 1971, (DMI);
contains a full listing of relevant cognate sets, iterally without reconstructions.
4 See S. Tandart, Dictionnaire cambodgien-
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torical phonology see now besides the studies of
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ra, yā de khmer ancien", Tonan Ajia Kenkyu, VII,
70; "Sur quelques voyelles de khmer ancien",
teful to my colleague Mrs. J. M. Jacob and to
Lewitz for criticism of the Khm. material drawn
in this paper, and for the provision of Old Khm.
ates which have helped me to clarify the prob-
als, albeit not quoted on this occasion. They are, course, not responsible for errors which may
ain.
5 See DMI, pp. xvi-xix; H. L. Shorto, "The
eteparation of archaic writing systems", *Lingua*,
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6 The SM system is described synchronically in
:to, "Mon vowel systems...", in C. E. Bazell
l. (eds.), In memory of J. R. Firth, London,
, pp. 398-409.
7 *K (as, mutatis mutandis, *C, *T, *P) provi-
ually codifies a correspondence of which the Mon
appears to imply *k and the Khmer one *g; of
h I am hopeful that explanations will in due
se be found.
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