

REMARKS ON  
THE STRUCTURE OF THE KHMER SYLLABLE AND WORD\*

Heinz-Jürgen PINNOW  
Freie Universität, Berlin

The present study is a direct sequel to my earlier paper entitled "Sprachgeschichtliche Erwägungen zum Phonemsystem des Khmer."<sup>1</sup>

The structure of the Khmer syllable is typically  $00\hat{V}0$ , in which  $V$  represents a simple (long or short) vowel or diphthong ( $ae, av, ao, iv, uv, uy$ ) while  $0$  represents a consonant including zero. In addition to these segmental elements the syllable comprises one or two registers ( $'$  or  $`$ , together  $\wedge$ ). For the structure  $KKK\hat{V}0$  ( $K$  stands for a consonant excluding zero), see below under II.

The following patterns occur:

I. Monosyllables of the shape  $00\hat{V}0$ , including:

- a. Those with a simple initial consonant ( $0\hat{V}0$ ):  
 $c\check{a}$  ( $cam$ ) 'to await, keep watch'.<sup>2</sup>
- b. Those with an initial cluster ( $KK\hat{V}0$ ):  $kpal$  ( $kba:l$ ) 'head';  $kh\check{n}\check{u}$  ( $khnom$ ) 'I';  $l\check{o}ham$  ( $l\check{o}ha:m$ ) 'to weep bitterly'. The cluster may generate an inorganic  $[h]$  or  $[\text{ə}]$  junc-

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\*Translation of "Bemerkungen zur Silben- und Wortstruktur des Khmer," in *ZfPh*, 11 (1958): 176-9.

<sup>1</sup>In *ZfPh*, 10 (1957).4: 378-91. The transcription and abbreviations used here are as in the previous discussion.

<sup>2</sup>My examples are taken from Eugénie J.A. Henderson, "The Main Features of Cambodian Pronunciation," in *BSOAS*, XIV (1952).1: 149-74. Her transcriptions are given between parentheses.

ture between its two members; these are written h and ə by Henderson. Martini's examples show a somewhat different treatment; for instance,  $kp = [kə'b]$ , and other notations with  $KK$ ,  $KhK$  and  $K\textcircled{K}$ .<sup>3</sup>

II. Expanded monosyllables of the shape  $KKK\hat{V}O$ , including:

a. Those with an initial cluster comprising a stop + a stop + a sonorant ( $KvKK\hat{V}O$ ):  $b\textcircled{b}r\textcircled{t}$  ( $p\textcircled{ə}pr\textcircled{u}t$ ) 'to behave';  $k\textcircled{c}khv\textcircled{c}k$  ( $k\textcircled{ə}khv\textcircled{c}k$ ) 'dirty'.

b. Those with an initial cluster comprising a stop + a sonorant + a consonant ( $KKvK\hat{V}O$ ):  $pr\textcircled{c}\textcircled{a}$  ( $pr\textcircled{ə}c\textcircled{a}m$ ) 'to watch one another';  $pr\textcircled{c}\textcircled{u}c$  ( $pr\textcircled{ə}d\textcircled{o}c$ ) 'to compare';  $kr\textcircled{m}u\textcircled{o}n$  ( $kr\textcircled{ə}m\textcircled{u}ən$ ) 'wax'.

The lower-case  $v$  in the above canonical forms indicates junctural  $[ə]$ , expressed orthographically by  $\textcircled{v}$ . This vowel has no register. Strictly speaking, forms in which it occurs are dissyllabic, and are generally so interpreted. Henderson, however, reckons them as monosyllables (with "three-place initial sequences") since in her analysis every syllable must have its own register. If register is not taken as phonologically relevant,<sup>4</sup> they may without difficulty be interpreted as dissyllables, in which case the first syllable is always unstressed. But treating these forms as monosyllabic is not necessarily to be rejected, for the  $\textcircled{v}$  vowel may be regarded as inorganic as in I.b. above. If this is done, the examples just given would be represented phonologically as  $/ppr\textcircled{u}t/$ ,  $/kkw\textcircled{c}k/$ ,  $/prc\textcircled{a}m/$  and  $/prdoc/$ . In such cases a species of sonorant  $r$  emerges. In any case, forms such as these clearly occupy an intermediate posi-

<sup>3</sup>F. Martini, "Aperçu phonologique du cambodgien," in *BSLP*, XLII (1942-1945).1: 112-31.

<sup>4</sup>Vid. Pinnow, *op.cit.*, 384.

tion, and for this reason are best characterized as expanded monosyllables.

III. Dissyllables of the shape  $00\hat{V}0 + 00\hat{V}0$ , including:

a. Restricted dissyllables of the shape  $0\hat{V}K + 00\hat{V}0$ , in which the unstressed first syllable carries register. These fall into three groups:

1) Forms in which each syllable has its own independent register:  $k\grave{o}n\grave{t}ac$  ( $k\grave{o}n\grave{d}a:c$ ) 'a large ant';  $b\grave{o}n\grave{l}ok$  ( $p\grave{w}\grave{e}n\grave{l}\grave{o}:k$ ) 'shoots';  $p\grave{o}n\grave{h}\grave{o}r$  ( $b\grave{o}n\grave{c}h\grave{o}$ ) 'to raise'.

2) Forms in which both syllables preserve the register of the monosyllable from which the dissyllable is derived:  $crut$  ( $cro:t$ ) 'to reap' →  $cr\ddot{u}t$  (for  $c\ddot{o}rut$ ) ( $c\grave{o}mro:t$ ) 'harvest';  $kh\grave{i}\eta$  ( $kh\eta\eta$ ) 'to be angry' →  $k\ddot{s}h\grave{i}\eta$  ( $k\grave{o}m\eta\eta$ ) 'anger';  $\grave{r}un$  ( $c\grave{u}:n$ ) 'to give' →  $\grave{r}\ddot{o}nun$  ( $c\grave{u}mnu:n$ ) 'gift';  $bhlw$  ( $phl\grave{u}$ ) 'light' →  $b\grave{o}n\grave{l}w$  ( $p\grave{w}\grave{e}n\grave{l}\grave{u}$ ) 'light (n.)'. In all of these cases it is a question of wordbases + infix.

3) Forms in which the register of the second syllable assimilates to the first — which, however, hardly ever happens:  $v\grave{i}l$  ( $v\grave{u}l$ ) 'to turn' →  $p\grave{o}n\grave{v}\grave{i}l$  ( $b\grave{o}n\grave{v}\grave{i}l$ ) 'to stir'.

In these cases the  $\hat{v}$  of the canonical form represents a vowel ( $\text{ɔ}$  or  $\text{ɔ̃}$  in the orthography) pronounced  $\text{ɔ̃}$  (Henderson's  $\text{ɔ̃}$ ) on First Register and, on Second Register,  $\text{ũ}$  (Henderson's  $\text{ũ}$ ) before  $m$ ,  $\eta$ ,  $\text{ũ}$  [ $\text{ʊə}$ ] (Henderson's  $\text{w}\grave{e}$ ) before  $n$ ,  $\eta$ . In slow speech  $\text{ɔ̃}$  is replaced by  $\text{ɔ}$  [ $\text{ɔ:}$ ]. The final of the first syllable is always a nasal.

b. Unrestricted dissyllables of the shape  $00\hat{V}0 + 00\hat{V}0$ :  $p\grave{u}nt\epsilon$  ( $p\grave{o}ntae$ ) 'however';  $s\grave{o}n\grave{p}a$  ( $s\grave{o}n\grave{p}a$ ) 'to resolve';  $bipak$  ( $p\grave{i}ba:k$ ) 'difficult'. Here both syllables are stressed, and each carries its own register. Most forms of this class are compounds.

IV. Trisyllables and polysyllables. This group comprises loanwords, mostly from Sanskrit and Pāli. Here we encounter short vowels in open syllables, often in free variation with short vowels + ʔ, as in p̄rohīt (baʔraohyt, bāraohyt) 'family priest' (Sanskrit *purohita*).<sup>5</sup>

On the phonetic level, therefore, the initial syllable may include any of the following vowels:

1. ə, with neither stress nor register (groups I.b. and II).
2. ũ, ǔ [ʊə], ǝ, also unstressed but with register (group III.a.); and
3. any stressed vowel with register (group III.b.).

To some extent, therefore, stress is phonemic — unlike the registers, where vowel openness is best regarded as the contrastive feature: ǝ for First Register, ũ, ǔ for Second Register. Forms belonging with group II may also be contrasted by differences in the articulation of their vowels. Here, however, it is a question not of openness but of labiality: ũ, ǔ, ǝ are labial while ə is not. Hence simple ʋ may be set up for ə. This done, the system for unstressed syllables turns out to be

ũ  
 ʋ  
 ǝ

Note that all three of these are short. ũ and ǔ are in complementary distribution, ǔ [ʊə] occurring before n, ŋ. In this environment ǝ is not [ɔə] but simple [ɔ], in slow speech even developing into [ɔ:].

True contrasts of the type KVK'KVK : 'KVK'KVK do not occur, and instances of initial stress (as 'KVKKVK) are not reported.

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<sup>5</sup>Cf. Henderson, *op.cit.*, 174.

Strictly speaking, lexical items belonging to group III.b. are compounds and should be treated as KVK + KVK from the outset. Hence the part played by stress is negligible,<sup>6</sup> as is that of pitch (register), which has functional relevance within the phonological system only in the case of the diphthongs *iv*, *uv* and *uy*.<sup>7</sup>

The preponderant monosyllabism of Khmer words is for the most part a secondary development. This is best appreciated by examination of the testimony of the old inscriptions. Compare the following:

<i>inscriptions</i>	<i>modern</i>	<i>pronunciation</i>	<i>meaning</i>
<i>kuruṅ</i>	<i>kruṅ</i>	[kra <sup>u</sup> ŋ]	city
<i>pōdōḥ</i>	<i>phdōḥ</i>	[phtəh]	house
<i>kōrol</i>	<i>krol</i>	[kra <sup>o</sup> l]	cattle pen
<i>gōrop</i>	<i>grōp</i>	[krōp]	lid <sup>8</sup>

These changes are directly related to the matter of stress. The vowels of weakly stressed syllables disappeared and the consonants moved together, being not seldom modified as they did so. In this way *pōdōḥ* \*[pō'dōḥ] became *phdōḥ*.

The role of expiratory stress must have once been far more important in Khmer than now. On the other hand, the existence of pitch contrasts is a secondary development the origin of which may reasonably be looked for in the neighboring Sino-Tibetan languages, where pitch is characteristically dependent upon the voicing and aspiration of initial consonants.<sup>9</sup> Pitch

<sup>6</sup>Cf. Gaston Cambefort, *Introduction au cambodgien* (Paris: G.P. Maisonneuve, 1950), 17.

<sup>7</sup>Pinnow, *op.cit.*, 384.

<sup>8</sup>My examples are from François Martini, "De la réduction des mots sanskrits passés en cambodgien," in *BSLP*, 50 (1954). 1: 250.

<sup>9</sup>Cf. *Les langues du monde* (Paris: CNRS, 1952), 531 sq, 573 sq, 591.

contrasts originally were entirely alien to Austroasiatic. Research carried out to date indicates that of the modern languages of this stock only Mon, Khmer, Srê,<sup>10</sup> Chau-ma,<sup>11</sup> Riang,<sup>12</sup> and Lamet<sup>13</sup> (the last two belonging to the Palaung-Wa group) show pitch differences. In Khmer the functional load of pitch contrast was eventually reduced considerably by the alteration of the vowels, following the development of register. Low pitch was at first nonphonemic, being realized as a by-product of the voiced nonimplosive initials. Later, after the loss of voicing had taken place, this same low pitch, hitherto nonphonemic, emerged as a compensating contrastive feature. Out of the erstwhile contrast *kɔ* : *gɔ* and the like there arose contrasts such as *kó* : *k̀*. Yet precisely because of the modification of the vowels (changes of openness, diphthongization) attendant upon the development of register, it came about that pitch once more became nonphonemic. For a new type of contrast had appeared: that of *ka* : *kɔ*, &c. Compare the following:

<i>period</i>	<i>phonetic</i>	<i>phonemic</i>
Old	$\bar{k}\text{ɔ}, \text{g}\text{ɔ}, \text{r}\text{ɔ}^{14}$	<i>kɔ, gɔ, rɔ</i>
Middle	$\bar{k}\text{ɔ}, \text{̣k}\text{ɔ}, \text{r}\text{ɔ}$	$\bar{k}\text{ɔ}, k\text{ɔ}, r\text{ɔ}$
Modern	$\bar{k}\text{a}, \text{̣k}\text{ɔ}, \text{r}\text{ɔ}$	<i>ka, kɔ, rɔ</i>

Similar contrasts occur in Mon, but in this language pitch carries a greater functional load than it does in Khmer. In Riang, which also underwent a loss of voicing but not the subsequent

<sup>10</sup>Vid. William A. Smalley, "Sre Phonemes and Syllables," in *JAOS*, 74 (1954): 217-22.

<sup>11</sup>M. Goupillon, *Essai de vocabulaire chau-ma* (Saigon, 1929).

<sup>12</sup>Cf. Robert Shafer, "Etudes sur l'austroasien," in *BSLP*, 48 (1952): 111 sq.

<sup>13</sup>K.G. Izikowitz, *Lamet Hill Peasants in French Indochina*. *Etnologiska Studier*, 17 (Göteborg, 1951), 13.

<sup>14</sup>- = First Register (´), ̣ = Second Register (`).

vowel modifications of Mon and Khmer, pitch is still distinctive. Compare for example Riang ˩kǎʔ 'fish' (Palaung ka:) but Riang ˩ka:ŋ 'house' (Palaung ga:ŋ).<sup>15</sup> Quite different is the situation in Srê and Chau-ma, where pitch is conditioned not by voicing but by vowel quality. Regrettably, historical investigation of this feature has yet to be made.<sup>16</sup>

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<sup>15</sup>Instead of high pitch, Riang has mid-level pitch; instead of low it has low-falling pitch. These are marked ˩ and ˨, respectively.

<sup>16</sup>Vid. Smalley, *op.cit.*, 218.