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AFFIXATION IN MODERN KHMER

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN LINGUISTICS

JANUARY 1969

By

Philip Norman Jenner

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ABSTRACT

Khmer (Cambodian), spoken by over six million people in and around the Kingdom of Cambodia, is classed with the Mon-Khmer group of the Austronesian family of languages. It is a language with a literary tradition going back at least to the early 7th century. Other Mon-Khmer languages are spoken by the Mon of Burma and Thailand and by peoples in Cambodia itself, in adjacent parts of Central Vietnam and Laos, and in a discontinuous highland belt running from Upper Laos northwest to Assam.

The present study is best viewed as a response to the dictum of Pater Wilhelm Schmidt to the effect that comparison of the members of the Mon-Khmer group presupposes isolation of word bases from all formative elements with which they may be found. Description of affixation in Mon-Khmer being one aspect of Mon-Khmer comparative studies, the present work is intended to contribute to both the narrower and the larger of these fields by investigating affixation in one stage of one Mon-Khmer language. Modern Khmer was chosen for this purpose because the role of affixation has constituted a gap in Khmer studies to date and because the data required for such a study are probably more accessible in modern Khmer than elsewhere.

Affixation in Khmer is derivational. Scholars working on such better-known languages as Greek and Sanskrit have found that derivational systems pose problems of description that inflectional systems do not, and that the definition of derivational morphemes can be fraught with difficulty. The present study was undertaken with the knowledge that most if not all of the affixes identifiable in modern Khmer are no longer productive and with the expectation that work could be carried only up to a
certain point beyond which a synchronic treatment would leave many ques-
tions unanswered.

The approach taken is descriptive, historical and comparative data
being invoked only as exposition of the problem has seemed to warrant.
Wherever applicable, the item-and-arrangement model has been used. The
bulk of the work is concerned with the isolation of recurrent partials,
their structural classification, their distribution, and the categoriza-
tion of their functions. It has stopped short of morpheme identification
so as not to prejudice future Mon-Khmer studies, which must now be car-
ried forward on a comparative and historical basis.

Chapter I furnishes background information on Khmer, the status of
Khmer studies, and the aims and methods of the work undertaken. Chapter
II describes the phonology of modern Standard Khmer. Chapter III gives
general information on Khmer derivation and discusses types of word
bases and problems which they raise. Chapter IV covers prefixation of
simple consonantal elements to word bases. Chapter V is concerned with
syllabic prefixes containing postinitial /r/. Chapter VI describes the
infixation of simple consonantal elements into bases, while Chapter VII
describes the single syllabic infix. Suffixation, vestigial in all known
stages of Khmer and not amenable to the synchronic approach, is not
treated.
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<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>[,]</td>
<td>phonetic half-length.</td>
</tr>
<tr>
<td>C</td>
<td>any initial consonant.</td>
</tr>
<tr>
<td>CR</td>
<td>Close (High, Second) Register.</td>
</tr>
<tr>
<td>F</td>
<td>any final consonant.</td>
</tr>
<tr>
<td>N</td>
<td>nasal resonant.</td>
</tr>
<tr>
<td>OK</td>
<td>Old Khmer.</td>
</tr>
<tr>
<td>OR</td>
<td>Open (Low, First) Register.</td>
</tr>
<tr>
<td>P</td>
<td>Pāli.</td>
</tr>
<tr>
<td>Skt</td>
<td>Sanskrit.</td>
</tr>
<tr>
<td>Skt/P</td>
<td>Sanskrit and/or Pāli.</td>
</tr>
<tr>
<td>V</td>
<td>syllable nucleus.</td>
</tr>
<tr>
<td>VB</td>
<td>variant base.</td>
</tr>
<tr>
<td>VK</td>
<td>Vacanānukrama khmēra (1962).</td>
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CHAPTER I

INTRODUCTION

1. Background. Khmer (Cambodian) is the national language of the Khmer people, the official language of the Kingdom of Cambodia,¹ and the common language of all areas of Khmer settlement. In this last sense, it is widely spoken in the Mekong Delta region of South Vietnam, in the Thai provinces abutting on Cambodia's northern and western borders, and in Lower Laos.² The Khmer language community totals about 6.2 millions.³

Khmer belongs to the Mon-Khmer group of languages. The few modern scholars who have concerned themselves with the classification of this group have not reached unanimity either on its composition or on its relationships within a greater Austroasiatic family of languages.⁴ There nevertheless appears to be no reason to question the validity in principle of a Cambodian subgroup of Mon-Khmer which includes, besides Khmer, at least Chong, Kui (Soai), Pear, Samré, Angrak, and Saoch, if not also Biat and Stieng.⁵ All of these are spoken within Cambodia or on its periphery. In another group is Mon, spoken in Lower Burma and Thailand.

In the absence of epigraphical or other remains of languages which may have preceded Khmer in Cambodia, it has not been possible to demonstrate that Khmer was the common language of Funan, the Indianized maritime state which occupied the Mekong Delta before the pre-Angkorian period (roughly, 550 A.D. to 802). It is hence scarcely surprising to find that rival hypotheses on this question have arisen. Coëtès (1964: 30) remarks that Khmer is found in present Cambodian territory "as soon as the earliest vernacular inscriptions appear,"⁶ and further observes that "the absence of vernacular texts dating from the Funan period unfortunately
leaves us in ignorance of what language the inhabitants spoke, and hence also of what ethnolinguistic group they belonged to" (1962: 65; 1966: 62).

One of the forementioned hypotheses favors postulation of a non-Khmer population in Fu-nan. Dupont (1943: 43, note 1) reports that "the three words presently known from Fu-nan are bnam 'mountain', dalmak 'one who throws a lasso', and kuruñ 'chief, king'. The first two are from common Mon-Khmer roots while the third may be a Mon-Khmer loan from common Indonesian or some dialect of that family. All three are attested later in Old Khmer. Kurûñ is also found in Old Cham, Old Javanese, and Mon." It should be observed that Dupont does not go so far as to represent any of the three as unequivocally non-Khmer. However, his feeling is that archeology, epigraphy, and folklore all suggest that the forebears of the pre-Angkorian Khmer first descended into the Tonlé Sap basin in the 6th century from an earlier center in Lower Laos; he proposes that "the present Cambodian language" came into being in the territory around the confluence of the Mae Nam Mun with the Mekong (1943: 43). Giteau (1958: 366) observes that "... at present we have no knowledge of the common language of Fu-nan aside from a very small number of words. All books and official texts must have been couched in Sanskrit." Other scholars, perhaps using Dupont's thesis as a point of departure, have argued more openly that the Funanese were of Indonesian ethnic stock and probably spoke an Austronesian language; the chief American exponent of this view is Cady.7

The other hypothesis favors cautious identification of the language and people of Fu-nan with the later Khmer. Cañés's infatuation with the proposed reconstruction of the name Fu-nan (Chinese 扶南, fú-nán) as Old Khmer (kuruñ) bnam '(king of) the mountain', first voiced in the late
1920's and frequently reiterated (Cœ̂des 1964: 74), seems to have tipped the scale toward this view. Briggs (1951: 15b) asserts that around the time of their absorption into pre-Angkorian Cambodia the Funanese "must have spoken Khmer or a language closely related" to it. Hall (1955: 23) says of Fu-nan that "its people were Indonesians who were in the tribal state at the dawn of history. They spoke a pre-Khmer Austro-Asiatic language, though at the end of the Funan period they seem to have exchanged this for Old Khmer." Reference to language was avoided in the second edition of the same work (Hall 1964: 25). Cœ̂des himself is on record as considering it "highly likely that the nucleus of the Funanese people belonged to the Mon-Khmer family" (1962: 65-6; 1966: 62), while in the new edition of Les États hindouisés (1964: 33) he does not even concede the possibility of non-Khmer precursors of the Khmer in the Mekong Delta and Tonlé Sap basin at the opening of the Indianization period.

The historical periods of Khmer recognized by Jacob (1960: 351; 1965: 143) are three in number: Old Khmer, which includes a pre-Angkorian stage extending from the 7th century A.D. to roughly 802 and a distinct Angkorian stage from 802 to the 12th century; Middle Khmer, from the 12th to the 17th century; and Modern Khmer, from the 17th century on. The dialectal affiliation of these three stages is still unclear. For the most part, the territorial distribution of the language seems to have followed the changing fortunes of the old empire. Dupont, seeing Khmer as introduced into the Tonlé Sap basin from Lower Laos, takes it for granted that its expansion "followed exactly the route taken" by the conquerors of Funan (Dupont 1943: 43), a view now regarded as established by Cœ̂des (1962: 66; 1966: 62). There is ample reason to assume that between the 7th and 13th centuries Khmer was the common language of the Tonlé Sap basin and
the valley of the Lower and Middle Mekong. During the same period it was
probably the administrative idiom of the Mae Nam Chao Phraya valley, and
must have extended for considerable distances into the Malay Peninsula on
the south, north to the confines of Nan-chao in what is now Yunnan, and
east to the zone of Cham control on the coast of present Central Vietnam.
It began to recede before Thai at least by the middle of the 14th century,
before Vietnamese from about the middle of the 17th century. As has been
seen, it has not been entirely displaced beyond Cambodia's modern fron­
tiers by either of these languages.

2. The Status of Khmer Studies. Although Khmer has been known to
the Western world at least since the establishment of the French Protec­
torate over Cambodia in 1863, it was slow in attracting the notice of lin­
guists. French missionaries, scholars, and administrators certainly
studied and described Khmer and made practical use of it, particularly
after the creation of the Ecole Française d'Extrême-Orient began to at­
tract increasing numbers of Orientalists to French Indochina. Throughout
the colonial period, however, the number of those who did significant
work in investigating the language for its own sake was curiously small.
Not only was their term of individual activity more or less brief, but
their collective legacy of grammars, dictionaries, and texts does not bear
comparison with what either the British or the Dutch produced during the
same era on any of the major languages of India or Indonesia. The Ecole
Française, for its part, was manifestly concerned with Khmer only as a
tool for research on the archeology, art, and history of Cambodia.

By no means confined to French scholars, this neglect of Khmer can
be seen in retrospect to have been only a local aspect of the delayed im­
petus behind Southeast Asian studies generally. Down to 1945 virtually
everything which had appeared in print on the language was the work of men who (however competent in other respects) can only be described as untrained in the linguistic science of their day. Since 1945 Khmer studies outside France have been slow in gathering momentum. The eight existing indexes to Language, covering the forty years from 1925 to 1964, contain only a single reference to Khmer, and this to a mere naming of it in an article by Fang-kuei Li in 1954. The twenty volumes of the UNESCO Linguistic Bibliography, embracing the twenty-six years from 1939 to 1965, report only twenty-two titles on modern Khmer. Shorto and Jacob (1963: 15-8, 37), whose work does not purport to be exhaustive but which takes in all important publications from the 18th century, give a mere sixty-six titles on Khmer as a whole; four of these are on historical or comparative subjects, ten have to do with writing systems, and the remaining fifty-two (including several duplications and reissues of previously cited works) comprise a mixed bag of wordlists, phrasebooks, dictionaries, and grammars on the modern language together with a few linguistic papers.

Of these last the phonological sketch by Martini (1945) is at once the earliest work by a modern linguist and the first publication on Khmer to appear after World War II. Shorto and Jacob (1963: 17-8, 37) mention only sixteen titles after it; seven of these duplicate earlier entries, are of a popular nature, or deal with the writing system and epigraphy. As recently as 1966 hardly more than twenty-one linguistic titles on the modern language had been published over the same number of years. In Great Britain, Khmer studies date from Henderson (1951; 1952), in the United States from the 1957 first edition of Noss and Phan (1959).

It is to be inferred from the foregoing that a balanced linguistic
description of modern Khmer lies some years ahead. The phonological descriptions of Martini (1945), Henderson (1952), Pinnow (1957), and Jelovkov and Andrejev (1961) are accurate enough but apply only to the Standard and cannot be taken as definitive for that. Aside from the works of Maspero (1915) and Schmidt (1916), the only morphological descriptions are those of Henderson (1951; 1952), Martini (1954), Pinnow (1958), Gorgonijev (1961; 1966), Nacaskul (1962), and Huffman (1967) on the Standard and that of Jacob (1960) on Old Khmer. Excellent within their limits, these are also nondefinitive. The grammatical descriptions of Maspero (1915), Gorgonijev (1961; 1966), Huffman (1967), and Jacob (1968b) are as full and accurate as the present state of research permits but will be amplified and refined as work continues. Specific problem areas, mostly in syntax, have been treated by most of these authorities; a good many other matters requiring clarification have not yet been touched.

In historical studies Jacob (1960; 1963; 1965) has thus far stood virtually alone. In comparative studies the older work of Schmidt (1901; 1905; 1906; 1916) has been followed by that of Pinnow (1959; 1960; 1963), but the preoccupation of both scholars with the Austroasiatic language family has tended to limit the relevance of their work as far as Khmer and its closest congeners are concerned.

Much remains to be done in dialectology. Gorgonijev (1966: 11-13) and Huffman (1967: 240-9) have provided the only published information on dialect geography. The latter postulates four principal dialectal territories: (a) the Phnom-Penh area, limited to the national capital and its immediate environs in Kandal province; (b) a Colloquial Standard Cambodian area encircling the capital region in Kompong Speu, Kompong Chhnang,
Kompong Thom, Kompong Cham, and Prey Veng provinces; (c) a northwestern dialect area covering the provinces bordering Thailand, namely Battambang, Siem Reap, Oddar Meanchey, and Preah Vihear; and (d) a southwestern dialect area comprising Takeo and Kampot provinces. Purtle (1961: 3-4), on the other hand, recognizes only three dialectal territories, "... the Western (spoken in the provinces bordering Thailand), the Central (spoken in and around Phnom Penh), and the Eastern (spoken in the provinces bordering on Vietnam and in Vietnam itself)." He thus omits Huffman's Colloquial Standard Cambodian area or combines it with the Central. Moreover, while Huffman (1967: 240) regards Colloquial Standard Cambodian as the main source of the quasi-artificial Standard language, Purtle (1961: 4) holds that the latter is based primarily on the Western and secondarily on the Eastern dialect.

The only other published material on the dialects of Khmer are Noss (1966), concerned with the Standard and Phnom-Penh dialect for the most part but to some extent also with the Battambang dialect; and Noss and Im Proum (1966), which contains abundant instructional matter for the Phnom-Penh dialect as well as for the Standard.

The Standard language is a cultivated dialect which seems to have developed around the royal court but independently of the Phnom-Penh dialect. Far from having replaced the regional dialects, it may be thought of as a Received Pronunciation; as the medium of the classroom, the podium, radio and television, stage and screen, courts of law, and the ministries of government; or as a Hochsprache employed typically in situations in which speech is premeditated, if not actually read or recited. It is this Standard language that educated Cambodians like to think they use in all but the most informal circumstances, and it is in the Standard that
educated Cambodian informants are most likely to give citation forms. The conditions under which the Standard developed are mentioned briefly in Chapter III, section 2.4.

3. **Purpose and Background.** The present study was undertaken primarily as a contribution to comparative research on the languages of the Mon-Khmer group and secondarily as a means of throwing more light on the structure of Khmer. It is concerned with an aspect of Mon-Khmer morphology which has hitherto been treated only summarily, namely word-formation by affixation of bound forms to word bases. The field of investigation was restricted to modern Standard Khmer in order to provide a description in depth of affixation in one stage of one Mon-Khmer language and both because the role of affixation has constituted a gap in Khmer studies to date and because the data required for such a study are probably more accessible in modern Khmer than elsewhere.

The formations resulting from affixation in Khmer are known collectively hereafter as derivation. Their analysis and description raise a number of problems which limit the results to be expected from such a study. Ideally, the minimum objectives of the latter would be (a) to isolate affixes and word bases, (b) to define the distribution of each affix with respect to word bases, (c) to describe the types of derivation manifested and/or to define the function of each affix, and (d) to set up affix morphemes. It is clear that derivation in modern Khmer is almost entirely unproductive and that delineation of an integrated affixational system presupposes historical and comparative data which are to be excluded from a synchronic description. Consequently, while the first two of the above objectives are feasible, the third is inherently fraught with difficulty and the working out of allomorphic relationships, depending as
it does on an understanding of affix functions, is held to be premature.

The situation encountered in modern Khmer is reminiscent of derivational affixation in Indo-European. Of Sanskrit Burrow (1955: 118) says:

Between the original simple suffixes, ... no discernible distinction of meaning or function can be found. In some ways they have no meaning. ... Of course when several words derived from the same root with different suffixes appear side by side, differences of meaning between these words usually develop, but this is a matter of idiom and [has] nothing to do with the ultimate nature of the suffixes as such. What applies to the simple suffixes applies equally to the compound suffixes. ... In the course of time specialisation of usage in the case of various suffixes has developed in all languages, but this is secondary and it is possible in some cases to show how it has come about.

In discussing Greek compound verbs, Atkinson (1952: 157) observes:

These consisted of the simple verb stem preceded by a preposition in its older function as adverb and joined to the verb to form in combination a single word. In meaning these compound verbs originally combined the sense of the simple verb with a particular intensive or other force added to it by the preposition, and such remained the sense of many of them in historical times. Others, however, and these often those most frequently used, wandered away in meaning from the simple verb owing to the fact that the combination came normally to be regarded as a unit to such an extent that its connection with the simple verb might be forgotten.

Atkinson comments further (159-60) on the rationale of this development:
The compound verbs supplied to a large extent the lack of abstract terms that would otherwise have hampered the prose-writers, notably the philosophers. The resources of the Greek instinct for expression were lavished upon the compound verbs, and we find them employed as the vehicle of subtle grades of thought. They lent themselves to differences of meaning which appeared as the context dictated or in proportion to the placing of emphasis upon the basic sense of the verb or of the preposition. In many cases also ... the meaning developed till its connection with the etymological sense was scarcely recognizable. The employment of such compounds avoided the superabundant use of adverbs and may be said to have given to the language a proportion that carried with it dignity and strength.

In this light, defining the function of each Khmer affix on the basis of purely synchronic data entails the risk of confusing affix functions with the independently evolved meanings of derivatives; until more is known of affixation in Mon-Khmer generally, it is also reasonable to believe that the function of certain Khmer affixes, such as the prefixes /k-/ and /s-/, has been extended or restricted by occurring in derivatives having a common, but originally fortuitous, nuance.

Critical examination of almost any modern Khmer text shows that free forms in Khmer comprise, in addition to a fairly high proportion of Sanskrit, Pāli, and other loans, a native vocabulary having a limited range of structural variability. Assuming a sufficiency of data, it can be seen that this native vocabulary consists predominantly of apparent monosyllables and disyllables which fall under the heads of (1) unanalyzable forms such as /nēek/ 'person' and /cīlōŋ/ 'to sing', (2) derivatives such as /sōmarā/ 'rice-growing, agriculture' (< sraś 'ricefield') and /trācāp/ 'to
catch' (≠ cap 'to seize'), and (3) compounds or syntactic phrases such as /qôw pük/ 'father' (≠ /qôw/ 'father' + /pük/ 'father') and /smâlèak bumpēok/ 'clothes' (≠ /smâlèak/ 'lower garments' + /bumpēok/ 'upper garments'). Closer examination shows that bound forms in Khmer include prefixes, infixes, and apparent vestiges of suffixes. 16

Some of the more transparent of these affixes have long been recognized, but others have not. Well before the turn of the present century the predecessors of Schmidt had pronounced prefixation and infixation two of the distinguishing features of the Mon-Khmer languages. 17 Review of this premodern literature shows clearly, however, that the problem of affixation in Mon-Khmer was only dimly appreciated. Schmidt himself may well have given the matter the intensive investigation it merited, since he held that "comparison must be made on the basis of the word root, which must consequently first be isolated from all formative elements (prefixes, infixes, suffixes)" (Schmidt 1906: 71). Throughout his writings, however, Schmidt's references to Khmer affixation are guarded, suggesting that he felt himself to be on unsafe ground. His only published study on Khmer affixes is his short paper of 1916, and this is concerned only with two infixes which he interprets as allomorphs. His main contribution to the subject at hand is limited to widely scattered references to Khmer affixes, while the value of these references is impaired by their casual nature or by their subordination to questions concerning the Mon-Khmer group or the whole Austroasiatic family of languages. The grandiose range of his studies led all too frequently to simplistic interpretations of the Khmer affixes, as is seen for example in Schmidt (1901: 566-75).

No closer examination of affixation in Khmer was published until the appearance of Maspero's grammar of 1915. Maspero's approach to the
matter, not inadequate for the methods of his day, consisted essentially of an enumeration of most of the affixes recognized here (1915: 194-221) together with an appendix listing 646 word bases and 925 derivatives from them (227-79). His treatment was more cavalier than otherwise, being marked by rigidity rather than rigor, and was colored by his prescriptive approach to the language as a whole. His insight into the affixational system was blurred by an exclusive concern with the language as it was written. Not surprisingly, his material on affixes contains a number of misconceptions. At the same time, both from the forms cited and from their glosses, one suspects that his work owes much to that of Schmidt and in particular to the painstaking researches of Father Guesdon, not published until fifteen years later (Guesdon 1930) but evidently begun sometime before 1910. Maspero's chief contribution, which was an important one, was to systematize information previously existing only in fragmentary form and thereby provide an integrated view of the system. For the most part, his work has a bearing only on the isolation of affixes, however, inasmuch as he generally gave wide berth to function.

Since Maspero's grammar and Guesdon's dictionary the only further works to appear are Jacob's sketch of affixation in Old Mon, Old Khmer, and modern Khmer (Jacob 1963) and the fuller but still generalized descriptions provided by Gorgonijev (1966: 52-61), Huffman (1967: 66-106), and Jacob (1968b: 177-9, 183-4). To the best of my knowledge, these four are the sole works on Khmer affixation which follow a modern linguistic approach. Unfortunately, the relevance of Mrs Jacob's first paper to the present study is limited by its brevity (nine pages, including two tables) and its comparative emphasis, but all four works will be taken into
4. Methods and Approach. Research for the study is divisible into six phases which, while overlapping, may be ordered as follows.

Initially, an existing corpus of over 6,000 random items elicited by myself from native informants over a period of years was screened with a view to building up a new corpus of affixes and derivatives.

This new corpus was then progressively refined and expanded with the help of informants, dictionaries, and texts. A very limited number of forms encountered in dictionaries, probably less than a hundred, was culled to illustrate specific features of affixation. These were integrated into the corpus only after verification by the informants.

Attention was next focused on developing the semantic range of each derivative and base as fully as possible. This phase again involved consultation of dictionaries and informants. For all glosses given hereafter I alone am responsible, however.

More or less simultaneously with the foregoing, analysis of the new corpus was carried forward, emphasis being placed on the separation of recurrent partials from word bases. These last two phases together resulted in further amplification of the corpus as new bases were identified and as informants suggested new derivatives.

The fifth phase concerned the postulation of derivational relationships, the attribution of derivatives to specific bases and affixes, as refinement of the data permitted.

In the sixth phase the corpus was restudied in the light of affix function. Supported by examination of affixation in other Mon-Khmer languages, this step led inevitably to the renunciation of certain findings.
until then considered tenable and to a general tightening up of attributions which passed closer inspection. It also raised a large number of questions of detail, gave an improved perspective of the probable role of many of the affixes, and injected a mood of caution into the final description. As a result of this final screening, the working corpus was trimmed down to a little less than 1,100 derivatives, a good part of which is cited in the chapters to follow.

The approach followed has been descriptive; historical and comparative data are invoked only as exposition of the overall problem has appeared to dictate. Wherever applicable, the item and arrangement model has been used. The bulk of the work is concerned with the isolation of recurrent partials, their structural classification, their distribution, and the categorization of their functions.

While the foregoing work was being carried out, attention was given the question of the productivity of the various prefixes and infixes encountered. No trustworthy technique was developed for testing productivity. The views of my informants on the matter was vague and often in conflict; nor was it possible to identify neologisms in the corpus or to elicit others. My feeling at the moment, which I am reluctant to proffer as a conclusion, is that the full original affixational system is long dead and that modern educated speakers of Khmer are sensitive at most only to prefixes /R-, p-, bVN-, prV-, m-/ and to infixes /-n-, -Vmn- ~ -VN-/ . It is possible that further work will show that these too are no longer productive.

As has been suggested, the study was undertaken with the expectation that it could be carried only up to a point beyond which a purely synchronic treatment would leave many questions unanswered. The main question
of method was, in fact, that of deciding where to halt. It was eventually recognized that this point must be arbitrary. Apart from the constant risk of making false attributions, the two chief problems encountered were (1) that of establishing any unifying lexical range or grammatical functions for most of the affixes and (2) that posed by variant bases. As the work advanced it was found that a more precise determination of affix functions should be deferred so as not to prejudice future Mon-Khmer studies, which must now be carried forward on a comparative and historical basis. In this sense, the necessity of stopping short of morpheme identification is imputable to the status of affixation in the modern language. Similarly, the question of variant bases, discussed in Chapter III, has by no means been systematized or resolved and merits much fuller treatment than could be given it here. Because of the limited objectives of this study, it is considered sufficient that the concept of the variant base be stated and illustrated in the data furnished.
CHAPTER II
PHONOLOGICAL SUMMARY

1. General. Modern Khmer has an uncomplicated consonant system but a remarkably rich vowel system; both are best understood in the light of historical development.

In her analysis of the Old Khmer writing system, Jacob (1960: 352) infers 19 consonant units, including /p, b, t, d, c, j, k, g/; presumably the language also had a series of preglottalized consonants not reflected in writing. As for the vowels, internal reconstruction indicates 9 phonemes, /i, e, ê, y, ø, a, u, o, o/, which combined with /ə/ and each other.

The two main historical changes which brought the modern system into being were a devoicing of the voiced stops and the development of contrasts in the vowels according as these followed old voiced or old voiceless stops. These changes are still imperfectly understood, and cannot be dated with exactitude. Tentatively, it may be assumed that the loss of contrast between the voiced and voiceless stops was compensated by new contrasts in the nuclei following them. After the old voiced stops and other consonants nuclei remained largely unchanged, while those following original voiceless stops and other consonants underwent a common increase of openness through generation of low onglides, through lowering by major intervals of openness, and through lowering by minor intervals of openness. An exception to the general direction of change occurred in the case of /a, ə/, already low, which developed high onglides after old voiced stops and other consonants. Thus the modern Standard, which has undergone later changes, shows two reflexes of each premodern nucleus.
2. **Consonants.** Standard Khmer has 17 consonant phonemes, shown in Table I. All of these occur prevocally in the syllable-initial position; in the syllable-final position all occur except /b/, /d/, /r/, and /s/.


/b/, /d/ are voiced preglottalized stops, implosive, respectively bilabial and dental: /baːl/ [baːl] 'stroke', /baː/ [baː] 'if', /dæk/

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<tr>
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**Table I: Consonant Phonemes.**
[ŋə.ŋ] 'to lie down', /dəc/ [də.ŋ] '(to be) like'.


/r/ is a voiced apical flap (occasionally a trill) with alveolar contact: /rɛh/ [rɛh] 'to pick', /rəɛl/ [rəɛl] 'each, every'.

/l/ is a voiced postalveolar lateral resonant: /læŋ/ [laːŋ] 'to rise', /luk/ [lu.ʊk] 'to lay hands on', /mɛl/ [mɛːl] 'to look', /skɔæl/ [skɔːl] 'to know'.

/s/ is a voiceless dental spirant: /saj/ [sɛːj] 'skirt', /səp/ [səp] 'all'.


/w/ is a voiced bilabial (sometimes labiodental) semivowel; when initial it has weak friction and slight liprounding; when final it is bilabial only, frictionless, and slightly rounded: /wɛl/ [uiːl] 'wide, open space', /wɔeθ/ [uɾəθ] 'to measure', /wəθ/ [uiːθ] 'lean meat', /kwaw/ [kʰmaw] '(to be) black'.

/j/ is a voiced palatal semivowel; when initial it occasionally has audible friction (after a pause, a faint occlusive onset may be heard);
when final it is without friction: /jūal/ [jUV.əl] 'to understand', /jok/ [jo.k] 'to take', /jän/ [dʒjən] 'we, us', /baj/ [bAJ.ə] 'three', /daj/ [dəj] 'hand/arm'.

Consonant clusters, which stand only at the syllable head, are normally binary. All 17 consonants occur as postinitials. In the initial position /w, j, h/ are never found while /b, d, n, q/ are rare, with the result that the effective list of cluster initials consists of 8 consonants: /p, t, c, k, m, r, l/. Cooccurrence of initials and postinitials is shown in Table II.

Cluster initials are exemplified by /pdal/ 'to be) close, flush', /bbal/ '(to be) plentiful', /mnəsh/ 'pineapple', /tnəm/ 'regalia', /dbət/ 'because', /nhaej/ '(that's) enough', /ckəs/ 'dog', /mnəu/ 'hammer', /kda/ 'plank', /ŋʒul/ '(to be) dark', /qmat/ 'great hawk, falcon', /rŋə/ '(to be) cold', /lhaok/ '(to be) pierced, open', /skət/ 'to intersect'.

Ternary clusters, apart from loans such as /sthan/ 'stance, station' and /lkhaon/ 'drama', are found in a small number of derivatives. These consist of bases with binary initials (of which the latter member is /q, w, r, l, h/) to which is joined one of the simple prefixes /m-, l-, r-/. /mkhan/ 'one side', /rφiæ/ 'ignominy', /ppək/ 'to gasp', /kkwək/ '(to be) dirty', /ttrəm/ 'to flop, collapse', /pplət/ 'to give a start', /ppəæh/ '(to be) grey'. Formations of this type are hereafter (section 5) referred to as augmented subdissyllables.

On the subphonemic level, transition from the initial to the postinitial of binary clusters is in some cases direct and in other cases is effected by three types of bridge sound which carry forms with such clusters progressively away from monosyllabicism and toward dissyllabicism.
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**TABLE II: CONSONANT CLUSTERS**

*In addition to the combinations shown, geminate /bb, dd, nn, nn, qn, qq, qq, ww/ and one case each of /db, nh/ also occur.*
Direct transition is usual when the initial is /s/ or when the postinitial is /r, h/: /spien/ [spi:en] 'bridge', /krush/ [krush] 'disaster', /chesh/ [chesh] 'to burn'. Bridge sounds are (a) a short voiceless vowel, here represented by raised [ʰ], (b) a short voiced vowel, represented by [ə], and (c) a less short, more rounded, lower vowel represented [a] and [ɔ].

Bridge [ʰ] is usual when an initial stop is followed by a nasal, semivowel or /l/: /cnæc/ [cnæc] 'crystal', /twæs/ [twæs] 'door', /kjæl/ [kjæl] 'wind', /plæs/ [plæs] 'twins'.

Bridge [ə] is usual when the prior member is /l/ or when the latter member is /b, d, q/ following another stop: /lpuat/ [lpuat] '(to be) smooth', /tbæl/ [tbæl] 'mortar (for rice)', /pdæs/ [pdæs] 'to fell', /pqæp/ [pqæp] 'to tinkle'.

Bridge [ɔ] is usual when the prior member is /r/, frequent when it is /m/; [ɔ] or [a] is usual after prefix /R-/: 22 /rbam/ [rbam] 'dance', /rnæm/ [rnæm] 'inundated forest', /mcuł/ [mcuł] 'needle', /mjaŋ/ [mjaŋ] 'one kind', /ddæl/ [ddæl] '(to be) the same', /ŋæt/ [ŋæt] '(to be) dark, gloomy'.

In ternary clusters transition between the first and second members is usually effected by [ɔ] or [a], with direct transition between the second and third members: /mphoj/ [mphoj] 'twenty', /lkhet/ [lkhet] '(to be) written', /pqoŋk/ [pqoŋk] 'to gasp', /kkwoŋ/ [kkwoŋ] '(to be) stunted', /ppriəl/ [ppriəl] 'to sparkle', /ttlæs/ [ttlæs] '(to be) uncouth', /kkhɔp/ [kkhɔp] '(to be) hooked'.

3. Vowels. The maximum vowel inventory comprises 14 simple phonemes which combine with /~/ and each other to yield 31 syllable nuclei:
<table>
<thead>
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<th>Front Unrounded</th>
<th>Nonfront Unrounded</th>
<th>Back Rounded</th>
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<td>ý</td>
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<td>ý</td>
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<tr>
<td>Low</td>
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</tbody>
</table>

TABLE III: SYLLABLE NUCLEI.

As is noted hereafter, /i, ý, ý, ùe, è, õ/ are somewhat higher than their placement in the Table suggests, but are clearly lower than the next higher level; /e, ô/ are closer than higher mid but not ordinarily so close as lower high.

The 14 simple nuclei are /i, é, è, e, a; ý, ý, ù, ô; u, ô, õ, æ, a/. These are phonemically long (quantitatively normal). Phonetically, the 5 front and 5 back nuclei tend to be markedly long in open syllables, moderately long in syllables closed by voiced finals, half-long in syllables closed by voiceless finals. In syllables closed by voiceless finals the normally long nuclei /ý, ý, é, õ/ may be either half-long or short. The writing system provides for short counterparts of /i, ý, ý, õ/ but their
realizations in the Standard are environmentally determined and contrast with the long allophones is not demonstrable; the short allophones of /i/, moreover, are typically centralized and blend into /i/.

As is shown in the examples given hereafter, final /h/ has the effect of phonetically shortening all of the nuclei and at the same time operates, as it were, to compress them either upward toward greater closure or downward toward greater openness, depending on their register.²³

The fine distinctions of tongue height in the articulation of all nuclei are an essential feature of the vowel system and the only stable manifestation of register apart from the nuclear shape itself. Metaphorically, the intervals of openness from high to higher mid, from higher mid to lower mid, and from lower mid to low may be thought of as intervals of one "tone" each; those from high to lower high, lower high to higher mid, and so on, may hence be termed intervals of one "semitone" each. In the same sense intervals smaller than the semitone can be considered "microtones," represented here by [\ἠ] and [\thetic]. Microtonic contrasts of openness are distinctive of the maximal system described in this chapter, but are for the most part lost in the more common style of utterance. Below the phonemic level, there is a tendency for the nuclei of open syllables to be perceptibly closer, by about one microtone, than the same nuclei in closed syllables; at the same time, shortened nuclei tend to be more open, by about one semitone, than their long counterparts.

/\i/ [i:] is front, unrounded, high, tense, and long: /pi/ [pi:] 'two', /riŋ/ [riŋ] '(to be) dried up', /cik/ [ci.ŋ] 'to dig'.

/\a/ [e:] is front, unrounded, tense and long, and is more or less intermediate between lower high and higher mid: /tə/ [te:], [tː] '(emphatic particle)', /krapən/ [krape'ən] 'tree yielding a henna-like
/e/ [eː] is front, unrounded, tense and long, and more or less intermediate between higher mid and mean mid: /ðe/ [deː] 'to sew', /cɛp/ [ceːp] 'to go out', /dɛk/ [deːk] 'to lie down', /cɛh/ [ceː] 'to know'.

/ɛ/ [ɛː] is front, unrounded, lower mid, tense, and long: /kɛ/ [kɛː] 'crop, wattle', /wɛː/ [wɛː] 'to be long', /rɛk/ [rɛːk] 'to carry (on a balance-pole)'.


/y/ [mː] is fairly back, unrounded, high, tense, and ranges from long to short: /kɬy/ [kəːm] '(it, that) is', /khym/ [kʰmːm] 'harp', /kɛːl/ [kʰɛːl, kʰɛːl] '(to be) lazy', /tʰy/ [tʰɛ, tʰɛ] 'direction'.

/ʊ/ [ʊː] is fairly back, unrounded, tense, more or less intermediate between high and lower high, and ranges from long to short: /qʊ/ [qʊː] 'yes, uh-huh', /khʊː/ [khʊː] 'to get angry', /slɪk/ [sɬɪːk] 'leaf'.

/e/ [eː] ranges from back to central, is unrounded, tense, and long, and is intermediate between higher mid and mean mid: /chɛ/ [chɛː] 'wood', /cɛː/ [cɛː] 'foot/leg', /tɛp/ [tɛːp] 'recently', /lɛː/ [lɛː] 'to exceed'.


/u/ [uː] is back, rounded, high, tense, and long: /pu/ [puː] 'uncle', /mul/ [muːl] '(to be) round', /tuk/ [tuːk] 'boat', /chuh/ [chuh] 'to smooth, plane'.

/ɪː/ [yː] is front, unrounded, tense and long, and more or less intermediate between higher mid and mean mid: /ðɪː/ [deː] 'to sew', /cɛp/ [ceːp] 'to go out', /dɛk/ [deːk] 'to lie down', /cɛh/ [ceː] 'to know'.

/ɛː/ is front, unrounded, lower mid, tense, and long: /kɛː/ 'crop, wattle', /wɛː/ 'to be long', /rɛk/ 'to carry (on a balance-pole)'.

/aː/ is fairly front, unrounded, low, tense, and long: /taː/ 'old man', /dæːl/ 'to spread', /kæp/ 'poem', /kmah/ 'shame'.

/yː/ is fairly back, unrounded, high, tense, and ranges from long to short: /kɬyː/ '(it, that) is', /khymː/ 'harp', /kɛːlː/ '(to be) lazy', /tʰyː/ 'direction'.

/ʊː/ is fairly back, unrounded, tense, more or less intermediate between high and lower high, and ranges from long to short: /qʊː/ 'yes, uh-huh', /khʊː/ 'to get angry', /slɪkː/ 'leaf'.

/eː/ ranges from back to central, is unrounded, tense, and long, and is intermediate between higher mid and mean mid: /chɛː/ 'wood', /cɛːː/ 'foot/leg', /tɛpː/ 'recently', /lɛːː/ 'to exceed'.

/əː/ ranges from back to central and from long to short, and is unrounded, lower mid, and tense: /pədɛːjː/ 'husband', /səːlː/ 'morality', /cɛtː/ 'heart/mind', /səhː/ 'pupil'.

/uː/ is back, rounded, high, tense, and long: /puː/ 'uncle', /mulː/ '(to be) round', /tukː/ 'boat', /chuhː/ 'to smooth, plane'.

dye', /pɛp/ [pɛːp] 'to grow', /rtɛh/ [r̩tɛh] 'cart'.

/ɛ/ [eː] is front, unrounded, tense and long, and more or less intermediate between higher mid and mean mid: /ðɛ/ [deː] 'to sew', /cɛp/ [ceːp] 'to go out', /dɛk/ [deːk] 'to lie down', /cɛh/ [ceː] 'to know'.

/ɛː/ is front, unrounded, lower mid, tense, and long: /kɛː/ 'crop, wattle', /wɛː/ 'to be long', /rɛk/ 'to carry (on a balance-pole)'.

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/uː/ is back, rounded, high, tense, and long: /puː/ 'uncle', /mulː/ '(to be) round', /tukː/ 'boat', /chuhː/ 'to smooth, plane'.
/o/ [ɔː:] is back, rounded, tense, and long, and is more or less intermediate between lower high and higher mid: /rɔ/ [ɾoː], /tɔː] 'to sound, bellow', /rɔŋ/ [ɾoːŋ], /tɔːŋ] 'hall, atelier', /pɔt/ [po.t] 'corn (maize)', /tɔh/ [tɔh] 'sin, fault'.

/ɔ/ [ɔː:] is back, rounded, tense, and long, and is more or less intermediate between higher mid and mean mid: /sɔ/ [soː] 'sound, voice', /sɔm/ [soːm] 'to beg', /sɔk/ [soːk] 'to bribe', /croqɔh/ [croʔh] '(to be) listless'.

/ɔ/ [ɔː] is back, fairly rounded, lower mid, tense, and long: /lo/ [loː:] 'to try, test', /por/ [poː] 'egg', /mak/ [mak] 'to come'.


The quantitatively normal phonemes combine with /t/ in four cases to yield the shortened simple nuclei /a, ʊ, ə, ʌ/. Found only in closed syllables, these are markedly short before voiceless finals; before voiced finals they tend to be drawn out to about half-length.

/ɑ/ [ɑː] is qualitatively the same as /a/ but short: /cåp/ [çap] 'to seize', /båŋ/ [baŋ] 'to fire, shoot', /kwåŋ/ [kwåŋ] 'to be lacking'.

/ʊ/ [ʊ] is back, fairly rounded, lower high, lax, and short: /mʊk/ [mʊk] 'face, front', /pʊŋ/ [puŋ] 'tube, gut', /kʊŋ/ [kʊŋ] 'to be tall, high'.


/æ/ [æ] is qualitatively the same as /a/ but short: /kæp/ [kap] 'to
bury', /cōm/ [ca.m] '(to be) exact, direct', /rbūh/ [Rōəh] 'object, thing'.

The simple and shortened simple nuclei alike enter into the composition of 13 clustered nuclei. All of these are falling diphthongs, that is to say sequences of vocoids having their peak of sonority on the prior member. Long clustered nuclei have approximately the same impressionistic length as the simple nuclei while shortened clustered nuclei show the same impressionistic length as shortened simple nuclei. The length of both types is affected by voiced and voiceless finals in the same way as the simple nuclei.

That these are unitary nuclei is clearly indicated by the meters employed in versification, where clustered nuclei are interchangeable with simple and shortened simple nuclei. For example, the common brahmagīti meter is based on two verses (pada) each consisting of four phrases (ghālā), each verse having a syllable count of 5 + 6 + 5 + 6, as follows:

```
kamnāst nēek phyk sra / kōm ĕst tha qatŋ nyō ngiān
phyk haē j srwōyng ngiān / klwēn kāt té ĕst tha miēn25
```

Clustered nuclei fall into two structural types justifiable on historical grounds: (1) complex, /æi, ae, ao/, and (2) broken, /iə, iə, əə, ēə, əə, əə, əə, əə/.

The three complex nuclei consist of long allophones of /a/ followed by short allophones of /ə, ē, ə/, of which they are morphophonemic alternants (see Table 4 and section 5). The prior member of /æi/ is well fronted, that of /ai/ is central, and that of /ao/ likewise central rather than backed. Phonetically, the /a/ element of all three nuclei is lost before
/æː/ [æːː] is a falling diphthong consisting of (a) a low, front, unrounded, tense, long vowel followed by (b) a glide up to a vowel which is lower mid (or mean mid), fairly front, unrounded, lax, and short: /tæː/ [teːː] 'only', /caːŋ/ [caːŋ] 'to order, arrange', /baːp/ [baːp] 'model', /praːh/ [praːh] 'to venture, risk'.

/aaː/ [aːː] is a falling diphthong consisting of (a) a low, central, unrounded, tense, long vowel followed by (b) a glide up to a vowel which is mean mid, central, unrounded, lax, and short: /pʰaːː/ [pʰaːː] 'to send', /daːm/ [daːm] 'origin', /kaːt/ [kaːt] 'to be born', /caŋkaːh/ [caŋkaːh] 'chopsticks'.

/aoː/ [aːo] is a falling diphthong consisting of (a) a low, central, unrounded, tense, long vowel followed by (b) a glide up to a vowel which is higher mid (or mean mid), back, rounded, lax, and short: /kaːːo/ [kaːːo] 'to shave', /caːl/ [caːl] 'to throw out', /daːt/ [daːt] 'to skewer, impale', /kaː/ [kaː] 'island'.

The ten broken nuclei have in common a short offglide which manifests a number of environmentally conditioned allophones but which is most often phonetic [ə]. The latter member of /iə, ɪə/ is commonly fronted, that of /ʊə, ʊə/ commonly backed, that of /ɛə, ɛə/ commonly lowered as well as being fronted and backed respectively. Before palatal finals the offglide is realized regularly as higher mid [ə] followed by a palatal glide onto the final. Before final /j/ the length and stress of /iə, ɪə/ and sometimes of /ɛə/ are usually displaced, yielding [ieːj] and [meːj]: /wɪəj/ [wɪəj] 'to beat', /nɪəj/ [nɪəj] 'to be) tired'.

Of the seven long broken nuclei, three are built upon the long, high
simple nuclei /i, ɨ, u/: /iə, ɬə, ux/. These are matched by three others built upon lowered varieties of the same simple vowels: /ɪæ, ɬə, ʊə/. In terms of the system these latter are represented as lower high in Table III. All six of these diphthongs occur in open and closed syllables, though /ɬə/ and, even more so, /ɬə/ are uncommon and occur in restricted environments. In addition to these six, a rare /oə/ nucleus built upon higher mid [ɔ:] is found only in open syllables.

/ɪə/ [iːə] is a falling diphthong consisting of (a) a high, front, unrounded, tense, long vowel followed by (b) a glide to a vowel which is typically mean mid, central, unrounded, lax, and short: /tɪə/ [tiːə] 'duck', /plɪəŋ/ [pʰlɪːəŋ] 'rain', /piːk/ [pi.ək] 'word', /ciːəh/ [ciːəh] 'to avoid'.

/ɪə/ [iːə] is a falling diphthong consisting of (a) a lowered variety of the same long /i/ followed by (b) a glide of the same type: /tɪa/ [tiːa] 'cowrie', /dɪəl/ [d-iːəl] 'to blame', /kɪəp/ [kɪ.əp] 'to squeeze', /bANCɪəh/ [bAncîəh] 'to insinuate'.

/ɬə/ [uːə] is a falling diphthong consisting of (a) a high, back, unrounded, tense, long vowel followed by (b) a glide of the same type: /kɾyə/ [kɾmːə] 'part, implement', /nɨək/ [nɯ.ək] 'trepang'.

/ɬə/ [uːə] is a falling diphthong consisting of (a) a lowered variety of the same long /ɬ/ followed by (b) a glide of the same type: /cɬə/ [cɬmːə] 'chrysalis', /kʰɬəŋ/ [kʰɬmːəŋ] 'tile'.

/ʊə/ [uːə] is a falling diphthong consisting of (a) a high, back, fairly rounded, tense, long vowel followed by (b) a glide of the same type: /kʊæ/ [kʊə] 'to be suitable', /tuːæŋ/ [tuːəŋ] 'to beat, sound',
/pùːə/ [pʊːə] 'pot', /lûːə/ [lʊːə] 'to trim, clip'.

/ùə/ [uːə] is a falling diphthong consisting of (a) a lowered variety of the same long /u/ followed by (b) a glide of the same type: /sùə/ [sʊːə] 'to inquire', /kluːən/ [kˈluːən] 'body, self', /cχuːət/ [cχuːət] '(to be) mad', /hùəh/ [hʊəh] 'to pass, cross'.

/oə/ [oːə] is a falling diphthong consisting of (a) a higher mid, back, fairly rounded, tense, long vowel followed by (b) a glide of the same type: /coə/ [coːə] 'gum, sap', /pəə/ [pəə] 'to quake', /ktoə/ [kʰtəə] 'to kick, recoil', /tʊməoə/ [tʊmpməə] 'page'.

The three short broken nuclei are /əə, ûə, ùə/. Like the shortened simple nuclei, these occur only in closed syllables, where they are markedly short before voiceless finals, somewhat less short before voiced finals. The prior members of /əə, ûə/ center on mean mid but travel between the lower mid and higher mid levels. Displacement of the peak of sonority is fairly common in rapid speech, and may carry these prior members still higher. The first element of /ûə/ is lower high, and the same displacement of sonority sometimes results in loss of contrast with /əə/. The offglide of all three nuclei is [ə] in deliberate speech but in rapid speech is liable to be fronted and lowered in /əə/ [Eə], backed and lowered in /ûə/ [uə] and /ûə/ [uə].

/əə/ [Eə] is a falling diphthong consisting of (a) a mean mid, front, unrounded, lax, short vowel followed by (b) a glide to a short neutral vowel: /təək/ [tEək] 'to snare', /rəəŋ/ [rE.əŋ] 'to stop, check', /ləəh/ [lEəh] 'to abandon'.

/ûə/ [uə] is a falling diphthong consisting of (a) a lower high, back, fairly rounded, lax, short vowel followed by (b) a glide to a short

/ʊə/ [ʊə] is a falling diphthong consisting of (a) a mean mid, back, fairly rounded, lax, short vowel followed by (b) a glide to a short neutral vowel: /mʊət/ [mʊət] 'mouth', /pʊəəl/ [pʊəəl] 'to bet', /lʊəh/ [lʊəh] 'to sprout, grow'.

4. Suprasegmentals. For the purposes of this study the only suprasegmental phonemes that need be mentioned are stress and register.

Forms uttered in isolation show three degrees of stress, none of which is marked outside this present section: primary or strong, [\']; secondary or moderate, ['']; and tertiary or weak (unmarked).


Dissyllables uttered in isolation take primary stress on their latter syllable, secondary (or optionally, tertiary) stress on their prior syllable: /rʊntəəh/ ['rʊntəəh] 'lightning', /suəəl/ ['suəəl] 'ease', /qʊəpʊk/ ['qʊəpʊk] 'father'.

Polysyllables take primary stress on their last syllable, secondary stress usually on their first syllable: /tʊəsəp/ ['tʊəsəp] 'telephone', /trəˈʃkərəˌjɛn/ ['trəˈʃkərəˌjɛn] 'pedicab'.

The 31 syllable nuclei set out in Table III fall into two interlocking and interdependent registers, here known as the Close Register (CR) and the Open Register (OR). These match up in such a way as to form 17 registral pairs:
First applied to Khmer by Henderson (1951: 146), the term register has been taken over from music and used of the above series of nuclei to emphasize their differentiation by features analogous to musical compass and resonance. Briefly, the CR is a range of 16 nuclei associated with greater closure (/'/) in relation to the OR, by pharyngeal resonance, and by lowered pitch. The OR is a range of 15 nuclei associated with greater openness ("/) in relation to the CR, by normal oral resonance, and by normal (higher) pitch.

<table>
<thead>
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<th>Front Unrounded</th>
<th>Nonfront Unrounded</th>
<th>Back Rounded</th>
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<tbody>
<tr>
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<td>OR</td>
<td>CR</td>
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<td>ə(j)26</td>
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<td>ñe</td>
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</table>

**TABLE IV: REGISTRAL PAIRS.**

* The five asterisked pairs are ordered according to their OR members.
The essential distinction between the two registers is that, while their members are in correspondence as shown in Table IV, the OR has a generally lower (more open) compass than the CR, which shows little overall change of aperture from the putative nuclei of Old Khmer. Resonance and pitch contrasts are elusive and often absent. On the other hand, distinctions of openness are for the most part obligatory; when these are lost, registral contrast is neutralized. 27

The two registers are interlocking in the sense that the members of each pair are reflexes of a single Old Khmer nucleus and show morphophonemic alternation in the Standard (section 6). They are interdependent in the sense that the phonemic inventory is incomplete without both.

Registral contrasts based on intervals of less than one tone (section 3) are seven in number: /ə/ [ʃ:] and /a/ [ʌ:] are a little over a semitone apart; /ɛ/ [ے:] and /e/ [ɛ:] as well as /ɔ/ [ɔ:] and /o/ [ɔ:] are roughly a semitone apart; /ɛ : ɛ/, /ʌ : ʌ/, /o : o/, and /æ : ə/ are about one microtone apart. These minute differences of aperture are the only stable feature distinguishing the members of these pairs. It is in these seven cases that register is most often lost (the loss of register in presyllables is mentioned in the next section). Experiments carried out over a period of years show that native perception of contrast in this area is proportionate to the intervals of openness involved: /ə : ə/ can be distinguished with nearly 100 percent accuracy; /ɛ : ɛ/ and /ɔ : ɔ/ with about 70 percent accuracy; the four remaining pairs with only about 55 percent accuracy. However, these figures are inconclusive and much more work remains to be done.

5. Structure of the Word. Native free forms have in the past
been interpreted as either monosyllabic or dissyllabic. The distinction between these two structural types is, however, blurred by an intermediate type subsuming a portion of the lexicon large enough to make a twofold division inadequate. This study accepts three models of word structure, known hereafter as the monosyllable, the subdissyllable, and the dissyllable. In a count of 6,428 random items these represented 38 percent, 30 percent, and 32 percent of the total, respectively.

Simplest of all free forms are monosyllables. These have the shape CVF, in which C represents an obligatory consonant initial, V an obligatory syllable nucleus, and F a nonobligatory consonant final. When F is present the nucleus may be long or short (CVF); when F is absent it is obligatorily long (CV). Examples of monosyllables are /pi/'from', /liw/'alone, single', /miə̱j/'(to be) strewn', /miŋ/'aunt', /cuiə̱l/'to hire', /cāp/'to seize'.

Between the monosyllable as just defined and the dissyllable as defined below lies the subdissyllable, a structural type exhibiting certain features of both. This intermediate type differs from the monosyllable only in having the shape CCVF, in which CC represents an obligatory binary consonant initial. It has already been seen (section 1) that consonant clusters are for the most part not solidly fused. Forms of this class consequently have the distinction of being monosyllabic on the phonemic or prosodic level but frequently dissyllabic on the phonetic level. Examples of subdissyllables are /präk/[pɾæk]'money', /snok/[sno.ˈk] 'tortoise shell', /cniə̱ŋ/[cʰniə̱.ŋ] '(to be) good-tasting', /pɾə̱ʃek/[pʰɾə̱ʃə̱k] 'to awake', /cbə̱k/[cə̱bə̱k] 'to be) clear', /pqə̱m/[pʰə̱m] 'younger sibling', /rhaek/[ɾʰə̱ek] '(to be) cracked', /pprə̱c/[pʰpɾə̱c] 'to blink'. What have been denominated augmented subdissyllables have already been
mentioned in section 1. Here it is sufficient to note that these constitute a derivational type directly referable to the subdissyllable, even though some of them have been found to be unanalyzable.

Dissyllabic forms of native origin are either compounds of monosyllables and/or subdissyllables or are derivatives by affixation. Compounds, not within the purview of this study, are exemplified by /músaj múṣaj/ 'one at a time, slowly' (< /músaj/ 'one'), /präm pýl/ 'seven' (< /präm/ 'five' + /-pýl ~ pi/ 'two'), /cǎh tǔm/ 'elders, grown-ups' (< /cǎh/ 'to be) old' + /tǔm/ 'to be) ripe, mature'), and /kmen̂ kmaŋ/ 'children' (< /kmen̂/ 'child' + */kmaŋ/). A few polysyllabic compounds also occur, such as the /samli̱ek bampês/ already mentioned in Chapter I, section 3. Derivatives consist of a main syllable, monosyllabic (89 percent) or subdissyllabic (11 percent), following either of two types of presyllable. The latter have the canonical forms CVN- and CrV-, with C in both cases representing any consonant initial except a nasal, a semivowel, or /h/. V represents a vowel showing minimal registral contrast, phonemically short (/ǔ (ǔa) ~ ǔ/) in the case of CVN-, phonemically-long (/o ~ o/) in the case of CrV-; phonetically it is often no more than [ə]. N represents /m, n, n̊/; functional contrast between [n] and [ŋ] is lost in this position, both realizations being here interpreted as /n/.

It may be remarked that the nuclei of CrV- presyllables are interpreted as long (normal) both because of the absence of syllable closure (F) and also because lexical forms with Cr presyllables consistently fail to show /ǔ/, which is the short counterpart of /o/ in the Standard language. CVN- presyllables are considered phonemically short because they do show this /ǔ/.29

Examples of CVN- dissyllables are /bampəŋ/ 'to swell', /pǔnl̃ỹ/
'light', /dampük/ 'hook for fruit', /tünkäc/ 'to collide', /caṇwaj/
'skein', /cünkēh/ 'bar, bolt', /kampriṅ/ '(to be) gaunt', /kämpūṅ/ 'to jut', /qampīə/ 'prey', /qantēk/ 'snare', /sancūēj/ 'to shake', /sankūēt/
'to whet', /rūmliṅ/ 'to clean', /rūqwēh/ 'slit', /lūnlym/ '(to be) far away', /lūnwēk/ 'interval'.

Examples of CrV- dissyllables are /prɔlỳm/ 'dawn', /prakəm/ 'cable for elephants', /trojān/ 'to festoon', /tralāp/ 'to return', /krolük/
'to dip', /crɔwēt/ 'to crisscross', /krolūsc/ '(to be) sharp', /krəwəŋ/
'to spin', /srəpyl/ '(to be) indistinct', /srəkūt/ '(to be) wise'.

6. Morphophonemics. Morphophonemic features include (a) the partial assimilation of the nasal finals of CVN- presyllables, (b) registral alternations, and (c) the patterning of labial and dental stops.

6.1. Nasal Finals of Presyllables. The boundary between the presyllable and the main syllable of dissyllabic forms is the locus of a type of imperfect assimilation: the nasal finals of CVN- presyllables may or may not assimilate to the main-syllable initial, as is shown in Table V. In the Table the numbers in parentheses after presyllable finals represent percentages of occurrence before the various main-syllable initials. The exclusive occurrence of /m-/ before /-n/ is explained by the fact that all such forms contain the nonassimilating infix /-Vm-/. On the other hand, /m-/ before /-n, -ŋ, -j/ is attested by only 4, 9, and 1 items respectively. The high percentage of /m-/ before /-d/ (the occurrence of /m-/ before /-b/ is 100 percent in my data) may be linked with the unexpectedly high percentage of /m-/ before /-q/.

While dialect mixture may have disrupted a pattern now lost, it appears more likely that /m-/ represents the unassimilated form of all presyllables and that the /-Vm-/ element of presyllables is to be identified
with the infix /-VN-/; the latter in turn is possibly to be identified, formally if not also functionally, with the prefix /m-~ qaN-/. Quite apart from the circumstance that numerous main syllables with labial initials admit no presyllables except /CVm-/ in my data, such an assumption seems to be borne out by the unexpectedly high percentages registered by /CVm-/ before /-q, -r, -l, -s, -h/ and even by the less common occurrence of /CVm-/ before /-t, -d, -c, -k/.

However this may be, that we have here a case of inconstant assimilation is clearly shown by numerous pairs of alternants such as /bamřəp ~ baŋřəp/ 'to level', /damḥāt ~ dəŋhāt/ 'to pant', /camhaj ~ caŋhaj/ 'steam', /kamrən ~ kəntrən/ (the latter containing epenthetic /t/) 'to harden', /qamqəel ~ qəŋqəel/ 'to stroke', /rʊnqəəj ~ rəŋqəəj/ 'jolt', /lūmtəm ~ ləŋtəm/ 'to sag', and /samr̥əm ~ saŋr̥əm/ '(to be) combined'.

6.2. Registral Alternations. It has been noted that members of each registral pair of syllable nuclei (Table IV) are reflexes of a single Old Khmer nucleus and that under certain conditions they may alternate. The conditions in question are (1) the presence of an affix and (2) the registral effect of the affix in relation to the initial of the word base. Examples of registral alternations, which should be viewed in the light of Table IV, are:

OR > OR: /müəl/ 'to twist' > /sµuəl/ 'spiral'; /t̪yn̥/ 'to balance' > /t̪lyn̥/ 'to weigh';³⁰ /wəj̥/ 'to beat, whip' > /cwaj̥/ 'to wind, wrap, plait'; /r̥əp̥/ 'to count' > /pr̥p̥/ 'to tell'.

OR > CR: /præ/ 'to change' > /bəmət/ 'change'; /kwæʒ̥/ 'to cross' > /kəwŋəʒ̥/ 'athwart'; /kwəl̥/ '(to be) distracted' > /kəŋw̥əl̥/ 'distraction'; /hùət̥/ '(to be) dry' > /sɑŋw̥ət̥/ 'drought'.
### TABLE V: PRESYLLABLE FINALS.

<table>
<thead>
<tr>
<th>Presyllable Final</th>
<th>Main Syllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>-m</td>
<td>p-, b-, m-</td>
</tr>
<tr>
<td>-m (11)</td>
<td>-n (89) t-</td>
</tr>
<tr>
<td>-m (26)</td>
<td>-n (74) d-</td>
</tr>
<tr>
<td>-m</td>
<td>-n (16) n-</td>
</tr>
<tr>
<td>-m (16)</td>
<td>-n (84) c-</td>
</tr>
<tr>
<td>-m</td>
<td>-n (21) p-</td>
</tr>
<tr>
<td>-m (21)</td>
<td>-η (79) k-</td>
</tr>
<tr>
<td>-m</td>
<td>-η (61) η-</td>
</tr>
<tr>
<td>-m (61)</td>
<td>-η (39) q-</td>
</tr>
<tr>
<td>-m</td>
<td>-η (83) n-</td>
</tr>
<tr>
<td>-m (83)</td>
<td>-η (17) r-</td>
</tr>
<tr>
<td>-m (35)</td>
<td>-η (45) l-</td>
</tr>
<tr>
<td>-m (35)</td>
<td>-η (50) s-</td>
</tr>
<tr>
<td>-m (43)</td>
<td>-η (15) h-</td>
</tr>
<tr>
<td>-m (43)</td>
<td>-η (57)</td>
</tr>
</tbody>
</table>
The register of a given nucleus is a lexical fact which cannot be accounted for in a purely synchronic description of the modern language. It can nevertheless to a considerable extent be recognized or predicted from the nuclear shape itself, from the syllable initial, or from these two indices together.

As can be seen in Table IV, the 9 nuclei /i, e, ëe, u, ū, ūe, o, oe, ëe/ fall exclusively under the CR while the 8 nuclei /æ, a, ä, æ, ë, ao, a, ë/ fall exclusively under the OR. Ambivalence in the vowels is therefore limited to the 8 simple phonemes /é, è, ỹ, ỹ, ọ, ọ, õ, ū/ and the 6 broken nuclei /iə, la, ëa, ëa, õə, õə/.

Among the consonants, initial /m, n, q, w, j, r/ pattern with CR nuclei, initial /b, d, q, s, h/ with OR nuclei. Ambivalence is here confined to /p, t, k, k/ as well as to /n, l/. However, /p/ is ambivalent only as the prior member of an initial cluster; before a vowel, either as a simple initial or as the postinitial of a cluster, it patterns with the OR. The /n, l/ which pattern with OR nuclei enter into only a few anomalous clusters, though both are not uncommon as simple initials; as postinals they pattern with the CR.

One of the working hypotheses of this study, stated in other terms in Chapter III, section 2.1, is that all initial clusters contain either a prefix or an infix. Certain affixes regularly pattern with the CR, others regularly pattern with the OR, and still others are ambivalent. If both members of a cluster pattern with nuclei of the same register, as in the case of /mnìer/ 'royal concubine' and /rjùl/ 'scarecrow' (both CR) or /sblìer/ 'food' and /sqak/ 'tomorrow' (both OR), there can be no question of what the natural register is or should be. But when one member of the cluster patterns with the CR and the other with the OR a conflict arises
inasmuch as only one member can determine the register of the following nucleus. The system of dominances that operates in this case, visible enough through the written form, is beclouded by the forementioned ambivalence of /p, t, c, k/ and must be stated in quasi-historical terms:

1. If both members of the cluster are stops but pattern individually with nuclei of different registers, the postinitial determines the register. In my data the postinitial always corresponds to an originally voiced stop and the nucleus is CR.

2. Otherwise, originally voiced stops are dominant over spirants, both of which (/s, h/) are voiceless; originally voiceless stops are dominant over liquids, semivowels, and nasals, all of which are voiced; spirants are likewise dominant over liquids, semivowels, and nasals.

Illustrating the cooccurrence of two stops are thbeka /tpɛʔ/ 'to be bald' (not */tpaʔ/) and phgara /pko/ 'thunder' (not */pka/); of stops and spirants, sgəlɛ /skəl/ 'to know' (not */skəl/) and bhaba /phiɛp/ 'state, condition' (not */phiɛp/); of stops and liquids, tranə /tran/ 'to filter' (not */tran/) and chloya /claɛj/ 'to answer' (not */claɛj/); of spirants and liquids, semivowels, and nasals, srɛ /srɛɛ/ 'ricefield' (not */srɛ/), svoya /swaɛj/ 'to eat' (not */swɔj/), smæ /smæɛ/ '(to be) alike' (not */smæ/), lhɛ /lhaɛ/ 'leisure' (not */lhɛ/), rasopa /rsaʊŋ/ 'to touch' (not */rsɔŋ/), and mhupa /mhɔp/ 'food' (not */mhup/).

In derivation both the nonsyllabic prefixes and, to a lesser extent, the syllabic prefixes lean heavily toward CR nuclei; this includes those nonsyllabic prefixes which consist of one of the ambivalent consonants: /raɪɛp/ '(to be) flat' > /krap/ 'to prostrate oneself' > /kumrap/ 'to
subdue'. Prefixes /m-, L-/ and infixes /-m-, -n-, -r-/ pattern with CR nuclei; prefix /s-/ and infix /-b-/ pattern with OR nuclei: /baoh/ 'to crush, roll' > /naoh/ 'cane crusher', /cûl/ 'to stitch, net' > /cnûl/ 'netting needle', /lûp/ 'to cover, hide' > /slûp/ 'to cover over', /rûac/ 'to come to an end or point' > /srûac/ '(to be) sharp'.

CrV- presyllables fall under three heads: (a) those showing progressive assimilation, especially when the word base has a nasal initial: pramûla /pramûl/ 'to amass', tramûla /tramûl/ '(to be) oval', crâmûh /crâmûh/ 'nose', kramûm /kramûm/ 'maiden'; (b) those showing regressive assimilation: bramûya /bramûj/ 'indifference', drayâna /trojên/ 'to festoon', jralâna /croloj/ 'channel', gralwca /krolûc/ '(to be) shrill'; and (c) those showing no assimilation at all: pragâpa /prakîp/ 'fork, crotch', tragâka /trakîk/ 'pelvis', crabâna /crobûn/ '(to be) bulging', krâvila /krâvûl/ 'ring, loop'.

In dissyllabic derivatives by infixation the urge to preserve the nuclear shape of the word base (compare /krap/ > /kamrap/ above) may override the tendency for each syllable to have its own register. Usually in such cases the new presyllable shows regressive assimilation to the register of the new main syllable: /co/ '(straight) line' > /cho/ 'to stand upright' > /cûmho/ 'stance, stature'.

Unnatural register is not uncommon and in the writing system is often, though not consistently, marked by diacritics. Most monosyllables with unnatural register can be accounted for in terms of preserving the nuclear shape of loanwords: /kawsu/ 'rubber' (French caoutchouc), /si/ 'to eat' (Old Khmer sî). In dissyllables, however, a propensity for registral assimilation (/rû/ 'to employ' > /bûmrae/ 'servant', /wîhîe/ 'sanctuary' (Skt vihagara) conflicts with a tendency for each syllable
6.3. Labial and Dental Stops. Table II shows that the preglottalized stops /b, d/ occur freely before vowels but only rarely before consonants. Word bases with these initials hence retain them in derivatives formed either by prefixation or by the syllabic infix /-VN-/. Examples of derivatives by prefixation are /bɒt/ 'to press', /sbɒt/ 'to rub together', /dɒb/ 'to huddle', and /dɛn/ 'to hunt, force from cover' > /cdɛn/ 'clitoris', /lʊmɛn/ '(to be) dogged', /prɛn/ 'to pursue'. Examples of derivatives by syllabic infixation are /bɒk/ 'to break (up)' > /bɒmɛk/ 'piece, fragment', /cbɛn/ 'to fight' > /cbɛn/ 'fighting, combat', and /dɛk/ 'to lie down' > /damɛk/ 'sleeping place'.

The nonsyllabic infixes, on the other hand, place base-initial /b, d/ in the preconsonantal position, where they are replaced by /p, t/ respectively: /bɛŋ/ 'to shoot, fire' > /pmɛŋ/ 'bowman, rifleman', /bʊɔŋ/ 'to tie up' > /pʊmɛŋ/ 'chignon', /baʊŋ/ 'to plant' > /praʊŋ/ 'to sow broadcast', /daʊŋ/ 'to go on foot' > /tmaʊŋ/ 'wayfarer, foot-soldier', /dɔŋ/ 'to reach, get to' > /tращ/ 'access, way', /dɔm/ 'to plant, set into' > /tращ/ 'to set (in water): soak, pickle'.

It has been explained in section 6.2 that /b, d/ pattern with syllable nuclei of the OR and that while /p, t/ are ambivalent prevocalic /p/ patterns with the CR. It has also been suggested, in the same section, that nonsyllabic and syllabic prefixes alike lean heavily toward the OR. This tendency is often manifested in secondary derivatives containing infix /-VN-/, where ambivalent nonsyllabic /p, t, c, k/ prefixes are amplified to syllabic /baN-, daN-, caN-, kaN-/, as in /pɔːl/ 'to
chasten, correct' > /bancal/ 'repentance', /plæ/ 'edible plant part, fruit' > /banlaë/ 'vegetables', /tboŋ/ '(human) head' > /dambon/ 'head, van, outset', /tkat/ 'to ail, languish' > /damkat/ '(long) illness'.

In one environment the ambivalence of /t/ is diminished. This is when the initial /t/ of an OR base becomes postconsonantal following a simple prefix or a CVN- prefix, in which case it is usually replaced by /d/: /tYɔŋ/ '(to be) stretched, tight, stiff' > /kdYɔŋ/ '(to be) obstinate', /sdYɔŋ/ '(to be) elongated', /taŋ/ 'to hang on to, pull' > /sandaŋ/ 'to tug, tow'. The regularity of this replacement is reflected in the writing system, where the conjunct (postconsonantal) allograph of /d/ has been almost entirely replaced by the conjunct allograph of t, the syllabic (nonconjunct) form of which is read /t/: thus tA'pa /tAp/ 'forcemeat' but stA'pa /sAp/ 'to hear', tAma /tAm/ 'to follow' but kTama /kdam/ 'crab'. This convention requires that derivatives containing post-consonantal /d/ be spelled differently from their bases: /daŋ/ (tA'na) '(recurring) time' > /mdaŋ/ (mTana) 'one time', /daŋ/ (tA'ra) 'to go (on foot)' > /bandaŋ/ (pAntera) 'to lead, take'.

CHAPTER III

DERIVATION AND WORD BASES

1. Derivation. Syntactical word classes in Khmer are not marked by formal distinctions and are defined in terms of privileges of occurrence. By far the largest classes are verbals and nominals. Verbals, all of which may be negated, include operative verbs falling into various subclasses and stative-attributive verbs comparable to English adjectives. Nominals include nouns, pronouns and demonstratives, numerals and quantifiers, and numeral classifiers; most of these also fall into various subclasses. Other word classes are adverbials, or attributes of entire predications; relators, equivalent to prepositions and conjunctions; isolatives, which include interjections and responsive}; and auxiliaries, or verb modifiers. For details the reader is referred to Huffman (1967: 141-97). The position of this study, which distinguishes it from most of the work of my predecessors, is that the affixes of Khmer play no part in expressing syntactical functions or relationships.

Affixation in Khmer is derivational, which is to say that the various prefixes and infixes serve to create new lexical forms (derivatives) out of existing word bases. Examples of derivatives by prefixation are /dûel/ 'to fall' > /pduel/ 'to fell', /kûn/ 'to head toward' > /tkûn/ 'to betake oneself', /kûp/ 'to join, meet' > /ckûp/ 'to cling', /caj/ 'to distribute' > /kcaj/ 'to strew', /kak/ 'to harden' > /skak/ 'to wither'. Examples of derivatives by infixation are /lyen/ '(to be) swift' > /lbyen/ 'speed', /rût/ 'to run (away)' > /rmût/ 'fugitive', /caot/ 'to draw lots' > /cnaot/ 'raffle, lottery', /pûet/ 'to encircle' > /prûet/ 'thong'.

Prefixes and infixes, then, carry no implication of particular word
classes, and the circumstance that a majority of derivatives by infixa-
tion are nominal while a majority of those by prefixation appear to be
basically verbal is incidental to the function of the affixes. The latter
add an essentially aspectual nuance to the meaning of the word base. That
many of the aspectual categories so far identified are represented by
more than a single recurrent partial may be characteristic of the system
or may reflect weaknesses in the analysis.

In any case, the concept of aspect in Khmer must be given a fairly
broad interpretation. As the term is used here, it includes agentival and
instrumental derivatives, nearly all of which have nominal meanings, and
an important group of derivatives connoting directionality, such as out-
ward or upward motion and locative or proximal placement. Most of these
directional nuances appear to be imputable to a reaction of certain
groups of bases upon some of the affixes, and are suggestive of the situ-
atation found in Greek by Atkinson (1952: 157-9). These directional deriva-
tives are both verbal and nominal. Most of the other aspectual categories
noted express mood or modality, and are tagged causative, factive, fre-
quentative, negative, perfective, processive, qualificative, and so forth.
The derivatives manifesting these categories fall largely into the verbal
and nominal word classes.

2. Word Bases. Unlike the derived forms just mentioned, the vast
majority of native monosyllables have verbal meaning; those with exclu-
sively nominal meaning total no more than 1 percent of my data. These are
exemplified by /piŋ/ 'spider', /bbk/ 'hump (of an ox)', /tʃk/ 'water',
/duŋ/ 'handle, shaft', /cœŋ/ 'end, tip', /kak/ 'dregs', /ŋia/ 'duty, of-
face', /qœh/ 'firewood', /rʃk/ 'drainage, discharge', /lœk/ 'part', and
/sa/ 'time'. A good many monosyllables nevertheless show nominal as well
as verbal meanings; however, nearly all of the cases of this type which have been noted are best interpreted as originally verbal monosyllables which have developed nominal meanings: /bɔŋ/ '(to be) older > older sibling', /cūm/ 'to go around > orbit, circuit', /k três/ 'to twist > eddy', /qʰ/ 'to flow, run > watercourse, creek', /məl/ '(to be) broad and flat > plain, valley'. No cases of originally nominal monosyllables which have clearly developed verbal meanings have been found.

2.1. Structural Types. It is convenient to recognize two models of base structure: (a) the primary base of monosyllabic (CVF) pattern and (b) the secondary base of subdissyllabic (CCVF) pattern.

Primary bases are held to be devoid of all separable elements and hence irreducible. Primary bases yield primary derivatives, which contain one affix but may be either subdissyllabic or dissyllabic.

Secondary bases are held to contain one nonsyllabic affix and therefore to be primary derivatives; these yield secondary derivatives containing two affixes. Of all subdissyllables in my corpus all but 9 percent have been analyzed into primary bases with nonsyllabic affixes. Ultimate derivational bases in the corpus include 86 percent primary bases and 14 percent secondary bases (unanalyzable subdissyllables). A certain number of these appear to be reflexes of Old Khmer dissyllables and contain no recognizable affixes: /kraom/ 'underside' < OK karon, /ckae/ 'dog' < OK cake.32 Others are loans: /khős/ '(to be) furious' < Skt/P ghora 'violent, dreadful' (> /knős/ 'fury'), /sbast/ 'to vow' < P sapatha 'oath' (> /sembat/ 'oath'). Still others are as yet unanalyzed but appear to have Mon-Khmer cognates which may eventually yield to analysis: with /pka/ 'flower' compare Mon (p)kau /kao/ (Shorto 1962: 54) and with /rmis/ 'rhinoceros' compare Bahnar rmain (Guilleminet et
Alberty 1963: 770b).

For purposes of analysis any monosyllable is a potential primary base, any subdissyllable a potential secondary base. In a number of cases an insufficiency of data precludes acceptance of possible derivatives of subdissyllables which are almost certainly of native origin. Thus the form /knōŋ/ 'interior' appears to have as its sole derivative the form /kamlōŋ/ 'interior'; however, the connection between the two is suspect inasmuch as the replacement of /ŋ/ by /l/ is attested in only two or three other cases. Similarly, the unanalyzable subdissyllable /plāŋ/ 'fire' may be a secondary base yielding the derivative /kamplōŋ/ 'rifle', or the latter may be a colloquial alteration of the more acceptable /kam plōŋ/, a compound of which the first member means 'streak, stroke' and which may have originally referred to the flintlock musket.

Typical primary bases are /pīə/ 'to prey upon' (> /qampīə/ 'prey'), /baw/ 'to suck (a breast)' (> /bambaw/ 'to nurse (a child)'), /tē/ 'not' (> /ttē/ 'to be) alone, free'), /dāŋ/ 'to make a hole' (> /damnāŋ/ 'mortise, slot'), /ciŋ/ 'to dig' (> /cronik/...d digging tool'), /kaŋŋ/ 'to pick up in the hand' (> /knaŋŋ/ 'to pick, collect').

Table VI shows the distribution of primary bases in my corpus according to their consonant initial and according to the register of their syllable nuclei. The total number of OR items balances out with the total number of OR items to an unexpected degree, considering that none of these items was chosen by any plan. Attention is called to the low frequency of bases with initial nasals and /j/.

The term secondary base should be understood as both a convenient structural tag and as a methodological conception. It is intended to suggest in the first place that all such bases have a subdissyllabic form and
<table>
<thead>
<tr>
<th></th>
<th>p</th>
<th>b</th>
<th>m</th>
<th>t</th>
<th>d</th>
<th>n</th>
<th>c</th>
<th>n</th>
<th>k</th>
<th>q</th>
<th>w</th>
<th>j</th>
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<th>l</th>
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<td>7</td>
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<td>-</td>
<td>3</td>
<td>9</td>
<td>-</td>
<td>38 27</td>
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<td>1</td>
<td>11</td>
<td>10</td>
<td>7</td>
<td>6 100</td>
</tr>
</tbody>
</table>

**TABLE VI: DISTRIBUTION OF PRIMARY BASES.**
in the second place that one of the members of the complex initial is a potential affix. Apart from subdissyllabic loan bases, the resolution of all secondary bases into primary bases plus affix is one of the goals of analysis. Such resolution is not presently feasible in all cases without fuller data, especially data of a historical or comparative kind. For the time being, therefore, some secondary bases are not attributable to any known primary bases.

Examples of reducible secondary bases are /ptēsh/ 'to bar, bolt' (< /tēsh/ 'to stop, block') > /buntēsh/ 'bar, bolt', /tpēc/ 'to card (cotton)' (< /pēc/ 'to remove') > /dampēc/ 'card', /ckēsh/ 'to scrape out' (< /kiēsh/ 'to scrape, pick') > /cunckēsh/ 'toothpick, ear-spoon', /klaoc/ '(to be) charred, overcooked' (< /löc/ 'to burn, char') > /kumlaoc/ 'anything charred or overcooked'.

Examples of irreducible secondary bases are /trōj/ 'to mark, stake out' > /damrōj/ 'stake, beacon', /claej/ 'to answer' > /cumlæaj/ 'answer', /slēq/ 'to look at' > /swamlēq/ 'to watch, study'.

Table VII shows the range of complex initials found with irreducible secondary bases in my data. As can be seen, the prior members of these initials are limited to /p, t, c, k, s/, all of which may serve as prefixes. All of the 11 latter members except /p, k, s/ may possibly serve as infixes; it is reasonable to hypothesize that the 4 items with these three postinitials are derivatives by prefixation. Another possible clue to analysis is the low frequency of primary bases with nasal initials, shown in Table VI. Providing my corpus is representative of the language, it may be expected that the 7 items with postinitial /n, ŋ/ (for example, /cnēsh/ 'to win' and /tŋēsh/ '(to be) heavy') are derivatives by infixation.
### TABLE VII: INITIALS OF IRREDUCIBLE SECONDARY BASES.

<table>
<thead>
<tr>
<th>Initials →</th>
<th>p-</th>
<th>t-</th>
<th>c-</th>
<th>k-</th>
<th>s-</th>
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<tbody>
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<td>Postinitials</td>
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<td>17</td>
<td>36</td>
<td>18</td>
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2.2. Loan Bases. The question of word bases which may be of non-Mon-Khmer provenance does not appear to be directly relevant to the object of this study. It may nevertheless be of interest to consider them briefly in order to illustrate their conformity with Khmer patterns and to refer to some of the problems they involve.

In addition to a small number of bases suspected of being loans (for example, /daw ~ taw/ 'to burn; fire, heat', possibly < Skt tapati 'to burn, be hot' or tapas 'heat'), my data include 29 bases the alien origin of which is certain: 24 of these are referable to common Skt/P, 3 to Skt alone, one (/tūk/ 'grief') to P alone, and one (/kah/ 'coin, sapèque') either to Tamil or to Chinese. This small group includes 22 monosyllables such as /tōn/ 'sin, fault' (< Skt dōga and/or P dōga), 6 subdissyllables such as /phōj/ 'fear; to fear' (< Skt/P bhaya), and the single dissyllabic form /m̥'kal/ 'royal capital, realm' (< Skt/P nagara). This last loan has yielded, through * [n̥ko:] and *[ŋko:], the metathesized form /qaŋko/ 'royal capital', which conforms to a native dissyllabic derivative by prefixation of /qaN-/.

The practical value of accepting any monosyllable or subdissyllable as a potential derivational base is shown by ambiguities encountered in analyzing derivatives of suspected loans. One good illustration of this is the form /kūmr̥u/ 'model, sample, specimen', which Maspero (1915: 437) attributes to /kru/ 'mentor, preceptor' (< Skt/P guru) but which Guesdon (1930: 323a) assigns to the native base /ku/ 'to draw, sketch, design'. Maspero's derivation is morphologically reasonable but semantically questionable while Guesdon's, just the reverse, presupposes an unattested intermediate form */kru/ 'sample, example'. Another case is a form which Maspero (h61) represents as brāka /prisk/, glosses as 'commère', 33 and
attributes to /píśk/ 'word, speech' (<Skt/P vākyā). This corresponds to the form which Guesdon (1258b) represents as brā'ka/prēek/, likewise glosses as 'commère', but refers to /rēek/, a substandard variant of /rīsk/ 'attachment, affection, desire' (<Skt/P rāga). Thus Maspero accepted the semantic link between 'gossip' and 'speech' while Guesdon accepted that between 'crony' and 'affection'. The question, unresolved, is complicated by the existence of a third form, mrā'ka/mrēek/ 'crony, close friend' (Guesdon 1930: 1393a); this is the only form recognized by the VK (1962: 876a), which marks it as archaic and implies that it is of native origin.

While considering loan bases it is well to note that an important number of loanwords in modern Khmer occur with the Indic prefixes /pra-/ and /sam ∼ san ∼ saṃ-/ . These are exemplified by /praman/ 'to estimate' (<Skt pramāṇa) and /sāṅkriś/ 'battle, war' (<Skt saṅgrāha). It is clear that these are liable to be confused with the Khmer prefixes of the same shape. It has been seen that Maspero (1915: 463) analyzed Khmer /prajūt/ 'combat' as /jūt/ 'lutte' + Khmer /pra-/, even though Skt has prayuddha; he did the same thing with /pratīṣṭ/ 'gift' (<Skt pradāna), /pratēh/ 'land, country' (<Skt pradeśa), and /praka/ 'way, manner' (<Skt prakāra) (453, 455, 431). Other cases are not so clear, however. For example, /pratūk/ 'to afflict' < /tūk/ 'grief' (<P dukkha) and /pracāt/ 'concern, anxiety' < /cāt/ 'heart/mind' (<Skt/P citta) are both unattested in Skt and P, and yet appear to contain Skt /pra-/ rather than Khmer /pra-/; nothing in the meaning of either derivative suggests the combination of loan bases with a native prefix. In these as well as a number of other cases it seems likely that Indic affixes and bases have been combined on the model of other derivatives to create neologisms. Thus /samcao/ 'accomplice', though not found in Skt or P so far as I know, can be clearly
construed as neo-Indic *samcora 'fellow-thief, -scoundrel' < Skt/P cora
'thief' + Skt/P /sum-/ . Ambiguity of this kind is limited, fortunately,
and does not pose a serious problem in analysis. The overwhelming majority
of loan bases have affixes of native origin.

Yet here too the form of the resulting derivatives may simulate In-
dic derivatives: /sambēt/ 'oath', despite the appearance of the presylla-
ble, is from /sēt/ 'to vow' (< Skt śapatha and/or P sapatha) and the in-
fix /-VN-/ while /sāmnōk/ 'grief', despite the presyllable, is from /sāk/
'to grieve' (< Skt soka and/or P soka) and the infix /-Vmn-/.

Examples of loan bases with other native affixes are /bāntōh/ 'to
blame' (< /tōh/ 'sin, fault'), /tūmūk/ and /tronūk/ 'sorrow' (< /tūk/
'grief'), /sraoc/ '(to be) prominent' and /sraolūc/ 'to protrude' (< /rōc/
'splendor, eminence' < Skt roca(na)), /cūnlōp/ 'avid or insistent demand'
and /lōp/ '(to be) voracious' (< /lōp/ '(to be) greedy' < Skt/P lobha),
and /bāmphūt/ 'imposture' and /kūmphūt/ 'to deceive' (< /phūt/ 'phantom,
ilusion' < Skt/P bhūta).

2.3. Reconstructed Bases. All too often the apparent word base re-
curring in a set of derivatives is not referable to any known free form.
For example, the series /prānāṅ/ 'joust, match, contest', /cēpāṅ/ 'to fight,
battle', and /cambēṅ/ 'fighting, warfare' seems to point to a base */bēṅ/
'to fight'. The series /plāṅ/ 'to replace', /būnlāṅ/ 'replacement, spare
part', /būmnāṅ/ 'to piece (a garment)', /būnlāṅ/ 'to change, alternate',
as well as the anomalous /pāṅ/3h 'to mend, patch' seems to point to */bāṅ/
'to fix, repair'. The series /cūncūjāj/ 'to shake, unsettle', /crūjāj/ 'to
stir up', /qūncūjāj/ 'to shake, stagger', /rūmcūjāj/ '(to be) shaken up',
/sūncūjāj/ '(to be) shaken', and /sūncūjāj/ 'to agitate' presupposes */cūjāj/
'to shake'. Other series of the same degree of reliability are */lac/ 'to
fear' > /bamlac/ 'to frighten', /klac/ 'fear', /baŋklac/ 'to strike fear into', /komlac/ 'to be afraid' and */ham/ 'to flow' > the anomalous /hiam/ 'to flow, gush, spurt', /chiem/ 'blood', /rham/ 'to flow, run', /lham/ 'to bleed, sweat'.

Other cases are not so convincing. While possibly only a nominalization of /ptēh/ 'to bar, bolt', the /ptēh/ which is the common word for 'house' may be assignable to the pair /tmēh/ 'watch tower' and /tnēh/ 'hunter's shack', all three from a */tēh/ 'to raise, erect', a variant form of which is possibly to be seen in /qantēa/ and /riintēa/, both meaning 'scaffold'. The set /mēp/ 'to harass', /qamnēp/ 'grief, sorrow', and /krēp/ 'disaffection, resentment' may be built on */nēp/ 'to afflict, annoy'. A base */haj/ 'steam' is apparently to be seen in /camhaj/ '(warm) exhalation, emanation', /kamhaj/ 'vapor, heat', and /krhaj/ '(to be) hot, scalding'.

In still other cases a paucity of evidence seems to be outweighed by plausibility. Thus /qaŋkūj/ 'to sit' and /skuj/ 'to roost' appear to warrant postulating */kūj ~ kuj/ 'to sit, perch'; /samlāp/ 'affection' and /srulāp/ '(to be) beloved' alone warrant */lāp/ '(to be) fond of'; /msaw/ 'powder, flour', /qamsaw/ 'meal', and /rūmsēw/ 'gunpowder' warrant */saw ~ sēw/ 'powder, dust'; /r̩ae/ 'rest, repose' and /r̩ūm̩ae/ 'idleness, vacation' point convincingly to */hæ/ '(to be) calm, inactive'.

Such reconstructed bases are isolated from the affixes with which they are found and used as additional tools of analysis. These differ from variant bases (section 2.4) in that the latter are altered counterparts of surviving free forms. However, reconstructed bases may also exhibit variants. Side by side with a */cōh/ 'to burn' manifested in /clōh/ 'to (give) light', /canlōh/ 'torch', and /chōh/ 'to ignite, blaze' stands a
*/cēh/ 'to burn' manifested in /cēh/ 'to flame, blaze', /banchēh/ 'to set fire to', and /pruchēh/ 'wick, tinder'. Compare also the forms */kūj ~ kuj/ 'to sit' and */saw ~ sēw/ 'powder' directly above. It is expected that historical and comparative studies will confirm some if not many of these reconstructed bases and their variants.

Only a small number of secondary bases have been reconstructed. One such is */plīm/ 'to be) bright, brilliant', manifested in /pplīm/ 'to gleam, glitter' (< /liam/ 'to flash').

In most cases what at first glance appears to be a reconstructable secondary base is more plausibly accounted for on the basis of epenthesis. Thus /kamprīn/ 'to be) gaunt, emaciated' is best explained as */kamprīn/, < /rīn/ 'to be) dry, dried up' with development of a /p/ bridge between the /kVN-/ prefix and the base. In the same way /kantīn/ 'to stiffen, harden' does not call for setting up a secondary */trīn/ but only for seeing the /t/ as a bridge between the prefix and the primary base /rīn/ 'to be) hard'.

A limited number of derivatives, finally, appear to be built upon bases which may be reconstructed in more than one way. Such moot bases represent an impasse which only further work can open. They fall into two types. In one type the modern lexicon furnishes no clues to isolation of the base; in the other, the lexicon furnishes more than one clue, that is to say indices to more than one manner of isolation. An instance of the first type is the secondary base /plī/ 'to shine, be bright' (> /omplī/ 'to light, illuminate' and /pūnīlī/ 'light'). Both members of the complex initial of /plī/ may serve as affixes and the modern lexicon contains no such primary bases as */pī/, */bī/ or */lī/ to which it might be referred. On the basis of present knowledge, one of these possibilities is as good
as the others; analysis must therefore be held in abeyance for want of data. The second type of moot base is exemplified by /rbôt/ 'to slip, give way, cave in, break up'. This may contain either an /r-/ prefix or a /-b-/ infix. It has been attributed with equal plausibility to /bôt/ 'to slide' (Guesdon 1930: 1453a) and to /rut/ 'to glide, slide' (Maspero 1915: 165a and note). Again analysis must be deferred, though this time not for want of possibilities. The cases of /kûmrû/ and /prîk, prëk/ cited in section 2.2 are further examples. It should be emphasized in this connection that derivatives by prefixation may have the same overt form as derivatives by infixation: /lbaëk/ 'opening' < /baëk/ 'to open' + /l-/
and /lbaëk/ 'elevation' < /lék/ 'to lift' + /-b-/

2.4. Variant Bases. Different derivatives from the same base may show variations which are not explainable in terms of the morphophonemic alternations mentioned in Chapter II, section 5.2. In this study registral change of syllable nuclei under the influence of affixes is considered a regular possibility calling for no further comment, whereas change of other kinds is held to be random variation meriting special treatment. In my data about 15 percent of all primary bases show some kind of variability which cannot be accounted for as morphophonemic. For example, the common /a - e/ variation already seen in the reconstructed base */saw ~ sèw/ 'powder, dust' is manifested in one direction in /dâc/ '(to be) ultimate, absolute' > /dèc/ (formerly also /sdâc/) 'chief, king' and in the other direction in /rèc/ '(to be) worn' > /srâc/ '(to be) ended, done'. Most such variation is imputable to the conditions preceding and accompanying the development of the Standard language.

A priori, variation of this kind can be put down in the first place to dialect mixture. Phnom-Penh, founded in 1434,35 has for five centuries
attracted speakers of most of the Khmer dialects by reason of its role as royal capital. To the lure of the Court has been added that of the focus of government and administration, ecclesiastical authority, education and, in recent years, military advancement and economic opportunity. Moreover, the coexistence of different dialects in the capital region was favored by the poor state of communications including a high rate of illiteracy which obtained down to about 1945; by the presence in the capital of large Vietnamese and Chinese minorities, which today represent 30 percent and 28 percent respectively of the city's population; by the prestige of the Battambang dialect; and by the absence until 1950 or thereabouts of national-level standardizing controls and a system of compulsory education.

A certain amount of random variation may be put down, in the second place, to ambiguities arising from the phenomenon of register. /e, o/ are easily mistaken for /ɛ, o/. Loss of registral contrast in the seven pairs of ambivalent nuclei has been mentioned in Chapter II, sections 3 and 5.2; in the latter section the question of registral assimilation in dissyllables has also been noted.

In the third place, other variations can be ascribed to scholarly or monkish reinterpretation of orthographic forms.37 Still others have probably come about as a result of intervals of space or time between the creation of derivatives from the same base. The incorporation into the Standard of derivatives formed independently in the outer dialects appears quite likely. A loss of consciousness of the etymological link between derivatives of the same base, as noted in Greek by Atkinson (1952: 157), has probably isolated such derivatives from one another and favored divergence.

However, variation is not necessarily limited to derivational bases. Comparison of free monosyllables yields a fairly high number of pairs or
sets which are for the most part lexically distinct but seem to show a more than fortuitous similarity of form and meaning. Typical of these are:

| /pén/ 'to coil' | : /pén/ 'to sit with the legs crossed under the body' |
| /bōh/ 'to prick, stab' | : /bāh/ 'to drive (into the ground), plant' |
| /mūl/ '(to be) round' | : /mūal/ 'to twist' |
| /tēēh/ 'to oppose' | : /tēh/ 'obstacle' |
| /tēn/ 'to excite' | : /taen/ 'to awaken' |
| /cōk/ 'pain' | : /cōk/ 'internal pain' |
| /kīsh/ 'to rake, scrape' | : /kāsh/ 'to scrape out' |
| /kōsh/ 'to clear (ground)' | : /kāsh/ 'to scrape, smooth' |
| /rūt/ 'to run (away)' | : /rut/ 'to slide, glide' |
| /rūq/ '(to be) brilliant' | : /rūq/ '(to be) bright, splendid' |
| /lūp/ 'to cover, mask' | : /lāp/ '(to be) turgid' |
| /hō/ 'to flow' | : /hū/ 'to blow' |

The frequency of such sets warrants the assumption that we are concerned with deviant reflexes of common proto-forms and with dialect mixture. While both members of a pair may have the same or nearly the same meaning (for example, /sūŋ/ 'to erect' : /sāŋ/ 'to erect'), more often than not they show specialization. It is tempting to regard the putative relationship between the members of such pairs as having only historical relevance and to consider each as a separate lexeme; this in effect is the position taken here. That this position is not without disadvantages, however, is seen as soon as examination of free forms is expanded to take in bases as they appear in derivation.
Hindering elegant treatment of affixation in modern Khmer is the circumstance that many variant bases appear only in derivatives. Here the base may show quantitative or qualitative variations (or both) in the syllable nucleus, variations in the final, and occasionally variations in the initial. Because of these variations, the formal and semantic link between such bases and known free forms is easily forgotten and not easily retraced.

Quantitative variations include the lengthening of the nuclei of short bases and the shortening of long bases. Since there are only 7 shortened nuclei (/ā, ū, ō, ʊ; ə, ūə, ʊə/), variations of this type are limited. They may be formulated according to the two registers as /ɪə ~ əə, ɪə ~ ʊə, ɔ ~ ʊ (ʊə), ɔ ~ ūə/ and as /a ~ ā, ɔ ~ ō, a ~ ʊ/. Of these /a ~ ā/ and /a ~ ū/ are by far the most common. Lengthening of short nuclei is exemplified by /bat/ 'to bend' > /prabat/ 'curve, bend, bay' and /qan/ 'to diminish, fall away' > /lqan/ 'to slope'. Shortening of long nuclei is exemplified by /dap/ '(to be) close' > /kdap/ 'to close, clench' and /rəp/ 'to prepare' > /srəp/ '(to be) ready'.

Qualitative variations involve changes either in the openness or in the advancement of syllable nuclei, or both. Increased closure is seen in /dak/ 'to draw out' > /sdbk/ '(to be) extended' and /rɛ/ 'to turn' > /rɛɛ/ '(to be) bending, winding'. Increased openness is seen in /rɛɛ/ 'to pierce' > /rɛɛɛɛ/ 'to think through' and /lɛŋ/ 'to play' > /bəlɛŋ/ 'diversion'. Backing is seen in /pɛn/ 'to coil' > /tpɛn/ 'to intertwine' and /lɛh/ 'more' > /clɛh/ 'to exceed'. Fronting is seen in /dɛŋ/ 'to know' > /sdɛŋ/ '(to be) well-known' and /wəl/ 'to turn, change direction' > /kruwəl/ 'to move aimlessly'.

Simultaneous quantitative and qualitative variations are illustrated
by the following:

Lengthening and raising: /rət/ 'to scatter' > /priət/ 'to radiate'
and /lēk/ 'to cover, hide' > /slēk/ 'to don or wear a lower garment'.

Lengthening and lowering: /dōt/ 'to burn' > /sandak/ '(to be) burnt, hardened by fire' and /kūm/ 'clump' > /cxəkəm/ 'clump, cluster'.

Shortening and raising: /loŋ/ 'to cross' > /proloŋ/ 'expanse' and /haok/ 'to perforate' > /cxəhök/ 'hole, pit'.

Shortening and lowering: /baoh/ 'to gin' > /qambāh/ 'spun cotton' and /līp/ 'to coat, smear' > /lbāp/ 'mud'.

Despite what has been said regarding the tendency of free variants to develop specialized meanings, variant bases in derivatives may or may not follow the same semantic line as the free forms to which they seem to correspond. In a set of derivatives containing variants of the same base the lines of meaning assignable to each derivational base may cross. Thus the form /prəlaeh/ 'to separate or pick off one by one' contains variant base /-laeh/ which, by reason of the frontness of its nucleus, is assumed to stand close to /lēah/ 'to cut in two, divide'. This /lēah/ also has a back variant, /-laoh/, which has developed the specialized meaning of 'to separate, come off or out'. The meaning of /prəlaeh/ makes it referable to this /-laoh/ rather than to /lēah/. With it are to be compared /prəlaoh ~ prəlūoh/ '(to be) separated', /canlaoh ~ canlōh ~ canlāh ~ cruləh/ 'separation, gap', /bxnlaoh/ 'to separate, remove', and /təlaoh/ 'to burgeon'.

On the other hand, the form /klaoh/ 'to pierce the septum of (a bull or buffalo)' appears much closer in meaning to /lēah/, the distinctive value of which is seen in /plēəh/ 'to cut in two, dissect', /bxnlaəh/ 'to cut up',
/klāh/ 'to be in pieces, in (several) parts', and /kanlāh/ 'part, half'. But the form /lwāh/ again shows crossing of the semantic lines and means both 'division, strophe, paragraph' (/lēsh/) and 'young plant, shoot' (/lāch/).

A similar case is /pon/ 'to swell, be distented or open', which is also the common term for 'egg, tumor; to lay'. This yields /bumpon/ 'to inflate' and /qumpon/ 'tube, pipe'. A free variant of /pon/ seems to be /paq/ '(to swell with desire) to hope, wish', which exhibits the variant /paq/ in the derivative /bumpaq/ 'desire, will'. A third free variant is /pūn/ 'to be swollen', with bound variants /pūq, -paq, -bāq/ seen in /kūmpūn/ 'to protrude, be convex', /lūmpūn, lūmpūq/ 'bud, shoot', /sūmpūq/ '(to be) puffed, full, baggy', /kūmpaq/ 'to be bloated, fat', and /sbaq/ 'sack, bag'.

A special problem is posed by bases in which initial /q/ appears to alternate with /h/ or zero. Preservation of base-initial /q/ is seen in numerous cases such as /qel/ 'to close, squeeze' > /qel/ 'to screw up (the eyes or lips)' and /qac/ 'to be) bold, able' > /qamac/ 'power, ability'. Possible examples of its loss or replacement are /qel/ 'to close, squeeze' : /kel/ 'to nip, grip (as with tongs)', /qel/ 'to grip, enclose' : /kel/ 'to grip, hold (under the arm)', /qap/ 'connection' : /kap/ '(to be) connected, related', /qak/ 'to stuff, cram' : /cak ~ cūk/ 'to stop, plug up', and /qāk/ 'to vex, pain' : /cūk/ 'internal pain'.

Of particular interest is the set /qat/ 'to tend, clean' > /sqat/ '(to be) clean, neat' > /sumqat ~ summat/ '(act of) cleaning, (state of) being clean', which has numerous parallels. The form /sumqat/ is a regular derivative of /sqat/ by infixation of /-V/-, which is restricted to sub-dissyllabic bases. The form /summat/, on the other hand, appears to be a
regular derivative of */sat/ by infixation of */Vmn-/, which is restricted to monosyllabic bases. Not enough data have been collected to decide whether this */sat/ and */qat/ as well as the foregoing */qìnep/ and */kêp/ and the other pairs are dialectal variants or whether they involve replacement of base-initial */q/ by a prefix and the transitional forms */sqat/, */qìq/®, */kêq/, */cqak/, and */cqak/. The nonexistence of */sat/ argues in favor of dialectal influence, as does the semantic specialization of the other pairs.

Yet the possibility of a relationship between */ríaj ~ líaj/ and */píaj/, both meaning 'to scatter, disperse; to divide, distribute', illustrates great interest of the problem. Base */ríaj ~ líaj/ is manifested in */tlíaj/ 'to breach, to stave in', */traj/ 'to prune, trim, clear a trail', */damraj/ 'débris cut with a machete', */kliaj/ 'to scatter', */rríaj/ 'to lie pell-mell', */rùmliaj/ 'to scatter, sow', */sraj/ 'to undo, explain', */samraj/ 'to release, solution'. Base */píaj/ is manifested in */qampíaj/ 'to be scattered (here and there)', */rpíaj/ '(to be) lying helter-skelter', */spíaj/ 'to wear or carry crosswise over the shoulder', */sampíaj/ 'burden carried crosswise over the shoulder', */phíaj/ 'to spill over, spring up; to blow, exhale' and its registral doublet */phaj/ 'to spurt, go at a gallop', */rùmphíaj/ '(to be) refreshing (of wind)'. A dilemma of the type mentioned in section 2.3 is created by other derivatives with initial */p, pl/, since initial */p/ may be a prefix while post-initial */r, l/ may be infixes. Moot derivatives include */príaj/ 'to scatter, spark, flash', */ppríaj/ 'to scatter, radiate', */praj/ 'to disperse, separate, crack', and */plíaj/ 'to diffuse, glow'. Rather than postulating an additional */qìaj/ from which both */ríaj ~ líaj/ and */píaj/ derive, it seems preferable for the time being to accept two separate bases which
are probably ultimately related but whose relationship cannot be demonstrated until more is known of the behavior of base-initial /q/.

Alternation between initial /q/ and /h/ is presumably to be seen in /qòl/ 'to flow, run; watercourse, creek' and /hòl/ 'to run, flow, drain'; in /qòl/ '(to be) full, sated' and /hòl/ 'to bulge, swell'; and in /qòl/ 'to stifle, smother' and /chòl/ 'to suffocate, asphyxiate'. The validity of these comparisons seems to receive support from the substitution seen in the possible derivation /hùat/ '(to be) dry' > /samqùat/ 'drought', which calls to mind /samqat ~ samnat/, mentioned above.
CHAPTER IV

SIMPLE PREFIXATION

1. General. The prefixational subsystem of modern Khmer is divisible into two series, namely the simple prefixes and the rhotacized prefixes. Between these series a certain relationship is discernible. At the same time, each series has a sufficient number of characteristic functions to make it seem inadvisable for the present to emphasize their similarities. It would be equally premature to attempt to draw any sharp distinctions between them. The total number of derivatives by prefixation on which this and the next chapter are based is shown in Table VIII.

Eight simple prefixes have been identified: \( R-, p-, t-, c-, k-, s-, l-, m- \). The symbol \( R-/ \) stands for the reduplication of base initials, while \( L-/ \) represents \( r- \) \( -l-/ \); in addition, \( m-/ \) includes the important allomorph \( qaN-/ \), which has the shape of a CVN- presyllable.\(^{38}\)

The functions of some of the prefixes are fairly plain; those of others are still in doubt. The four stop prefixes other than \( R-/ \) in particular show functional duplication which is carried over into the rhotacized prefixes.\(^{39}\)

2. Prefix \( R-/ \). Manifested as the reduplication (gemination) of the initial consonant of primary and secondary word bases, prefix \( R-/ \) has allomorphs corresponding to all of the consonant inventory but \( /j, h/ \). The unanalyzed form \( /qqat/ 'great hawk' \), which is the only case of geminate \( /q/ \) in my data, may require a further qualification of this statement. Because infix \( */-q-/ \) is treated here as an unproved possibility and since there is no prefix \( */q-/ \) other than \( R-/ \), this item is provisionally accepted as a frequentative of onomatopoeic type comparable
<table>
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<tbody>
<tr>
<td>R-</td>
<td>128</td>
<td>-</td>
</tr>
<tr>
<td>p-</td>
<td>128</td>
<td>prV- 111</td>
</tr>
<tr>
<td>t-</td>
<td>52</td>
<td>trV- 17</td>
</tr>
<tr>
<td>c-</td>
<td>59</td>
<td>crV- 16</td>
</tr>
<tr>
<td>k-</td>
<td>71</td>
<td>krV- 19</td>
</tr>
<tr>
<td>s-</td>
<td>74</td>
<td>srV- 24</td>
</tr>
<tr>
<td>m-</td>
<td>101</td>
<td>-</td>
</tr>
<tr>
<td>L-</td>
<td>125</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>738</td>
<td>187</td>
</tr>
<tr>
<td>Grand total:</td>
<td>925</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE VIII: TOTAL DERIVATIVES BY PREFIXATION.**
with /ppe/ 'goat', /mmi/ 'seventh year of the duodenary cycle: the Horse',
/mmz/ 'eighth year of the duodenary cycle: the Goat (Sheep)', 40 and /ccāk/
'small house gecko'.

/R-/ is presented first in this study in consideration of the fact
that it is capable of assuming the same form as all of the other simple
prefixes. Insofar as my analysis indicates, this formal duplication is not
great: I have only 2 cases of prefix /p-/ before labials, and only a few
cases of /L-/ before liquids. Elsewhere the first element of geminate /tt,
cc, kk, ss, mm/ is interpreted as /R-/. 

/R-/ is one of the two most common simple prefixes in my data and,
as has been said, occurs with primary and secondary bases alike: /qūk/
'to shake' > /qūqūk/ 'to wag, rattle', /prōn/ 'to beam, glow' > /pprōn/ 'to
gleam, sparkle'.

Essentially, the function of /R-/ is to form derivatives having a
frequentative aspect. These develop a number of nuances, some of which de­
part from the pure frequentative idea and occasionally seem to cross into
the domain of other affixes.

Maspero (1915: 224) separates reduplication from prefixation but
notes the formation of frequentative derivatives from secondary as well as
primary bases. Viewing the language through the writing system as he did,
he excluded geminate /ww, jj, rr/ and the so-called aspirated initials. I
have no case of /jj/, as has been stated, but such forms as /wwēk/ 'to
teeter', /rrūsh/ '(to be) quick', and /pphō/ '(to be) velvety' are not
uncommon in my data. Gehr (1951: 77), who closely follows Maspero, also
separated reduplication from prefixation and made similar restrictions
based on the writing system. Jacob (1963: 64-5) speaks of the "reduplica­
tive prefix" and recognizes geminate /p, b, m, t, d, c, p, k, q, s, r, l/
but not geminate /n, q, w, j/. Examples of /qq, wq/ in my analysis have been given; for /nn/ I have the sole case of /nna/ 'who?' Huffman (1967: 72-5) recognizes geminate /p, b, m, t, d, n, c, j, q, s, r, l/ but not /w, j/. In the Takéo dialect he describes, however, /q, r, l/ are said to occur only before base-initial /l/. 16 The prefix functions Huffman recognizes are those of indicating repetitive or continuous action, intensification, repetition with intensification, and attribution. He observes, moreover, that "some lexemes have repetitive or distributive meaning, but their underlying forms never occur without a reduplicative prefix" (73). Jacob (1968: 178-9) notes and exemplifies reduplication, and states that it "adds the idea of repetition or intensification to the meaning of the partner word."

2.1. Frequentative /R-. In the following cases reduplication yields derivatives which share the notion of relatively rapid repetitive movement:

/\p\u0131h/ 'to boil'
/\baoh/ 'to stroke'
/\bk/ 'to scrape'
/taw ∼ daw/ 'to burn'
/cək/ 'to bite, peck'
/j\u0131\u0107ek/ 'to move, shake'
/pol/ 'to move, shake'
/kaj/ 'to scrape, dig'
/q\u0131k/ 'to toss, shake'
/sɐp/ 'to spread'
/\p\u0131h/ 'to seethe, foam, froth'.
/\bbaoh/ 'to rub rapidly and lightly, shine, polish'.
/\bbk/ 'to stir up, rcil'.
/\ttaw/ 'to blaze, flame'.
/\ccək/ 'to peck or pick at'.
/\j\u0131\u0107ək/ 'to shiver, shudder'.
/\jno/ 'to tremble, quake'.
/\k\u0131j/ 'to scratch, scrape out'.
/\q\u0131k/ 'to rattle, wag'.
/\səp/ 'to ravel (tease) out'.
I satl /to pick, pluck (a bird)/.
I ssöl /to fluff up, raise the
nap of/.

2.2. Repetitive /R-/. In the following cases reduplication yields
derivatives which share the notion of steady repetitive, alternating or
sequential movement:

/pśek/ 'to rest on top of'
/ppśek/ 'to place one on top of
the other, stack'.
/pun/ 'to heap'
/ppun/ 'to heap up (repeatedly),
amass'.
/prīaj/ 'to scatter, beam'
/pprīaj/ 'to diffuse, glow'.
/prīst/ 'to spread'
/pprīst/ 'to shine, gleam'.
/prīel/ 'to shine'
/pprīel/ 'to sparkle, glitter'.
/prèc/ 'to blink'
/pprèc/ 'to twinkle, flicker'.
/prön/ 'to shine'
/pprön/ 'to gleam, glisten'.
/plým/ '(to be) dim, vague'
/pplým/ '(to be) hard to see'.
/bāoh/ 'to stroke, sweep'
/bbāoh/ 'to sweep, brush; to pat,
pet'.
/bāt/ 'to turn, bend'
/bbāt/ '(to be) sinuous'.
/bak/ 'to scrape'
/bbak/ 'to skim, stroke, caress'.
/tul/ 'to hold to the head'
/ttüstl/ 'to receive, accept'.

(VB /-tul/)
/tläj/ 'price, cost'
/ttläj/ 'to bargain, haggle'.
/cstäk/ 'to divide up, take
sides' (VB /-cstäk/)
/ccstäk/ 'to oppose, protest, dis­
pute'.
/cäk/ 'to prick'
/ccäk/ 'to goad, drive, provoke'.

2.3. Intensive /R-/.

In the following cases reduplication yields derivatives which share the notion of figurative repetition as connoting intensity or deliberate, laborious or energetic movement:

*/-plîm/ 'to gleam' /pplîm/ 'to be dazzling'.

/phô/ 'to be smooth' /pphô/ 'to be sleek, velvety'.

/mul/ 'to be round, full, solid' (VB /-mîs/) /mmûs/ 'to be physically compact, stocky'.

/tîsp/ 'to be low, short' /ttîsp/ 'to fall away, sink, sag, droop'.

/té/ 'negation marker' /tté/ 'to be free, bare, void'.

/tûk/ 'water, liquid' /ttûk/ 'to be wet, soaked'.

/tûh/ 'obstacle' /ttûh/ 'to block, thwart'.

/ddaêl/ 'to be constant, similar' /ddaêl/ 'to be the same'.

/ddap/ 'to go deeply into'.

(VB /-dêp/)

/ddâk/ 'to seat firmly'.

/dûk/ 'to put down, place' /ddûk/ 'to seat firmly'.

/ddûk/ 'to seat firmly'.
2.4. **Habitual /R-/**. In the following cases reduplication yields derivatives which share the notion of repetition as a manifestation of habitual or characteristic action or manner:

- `/príaj/ 'to scatter, beam' /ppríaj/ 'to beam, smile'.
- `/príf/ 'to be) strict, severe' /ppríf/ 'strict conduct, propriety'.
- `/prím/ 'to be) attractive' /pprím/ 'to be) charming, gracious'.

...
/phaʃ/ 'ashes' /pphaʃ/ 'to be grey'.
/mu/ 'to roll up, envelop' /mmu/ 'to be doubled up (under a burden)'.
/truːh/ 'to spoil, mar, ruin' /truːh/ 'to be cantankerous'.
(VB /-truːh/)
/tlæ/ 'to be rash, crude' /tlæ/ 'to be dissolve'.
/cɔt/ 'heart/mind, will' /cɔt/ 'to be minded'.
/piaj/ 'to be constant' /piaj/ 'to be unremitting'.
/pεp/ 'to grit the teeth, make a face'
/paj/ 'to vie, compete' /paj/ 'to be competitive'.
/pɪm/ 'smile' /pɪm/ 'to smile, laugh'.
/kwɔn/ 'to be bent, crippled' /kwɔn/ 'to be dwarfed, stunted'.
/khɔc/ 'to corrupt' /kɔc/ 'to be wicked, depraved'.
/lıem/ 'to flame' /lıem/ 'to be daring; rogue'.
/læ/ 'to rave, be foolish' /læ/ 'to make an uproar, be reckless, carefree'.
/lɔp/ 'to lurk, spy' /lɔp/ 'to be furtive'.

2.5. Distributive /R-/.

In the following cases reduplication yields derivatives which share the notion of spatial distribution:

/praj/ 'forest' /ppraj/ 'to scour the forest (for game), hunt'.
/praj/ 'to be scattered (VB /-pliəj/)
/VB /-pliəj/)
/caək/ 'to divide up' (VB /caək/ 'to take opposing sides'.
(VB /-caək/)
/crêh/ 'to pick, cull' /côrêh/ 'to go here and there picking or gathering'.

/γt/ 'to be) dark' /γt/ 'to be) dark; shadows, darkness'.

/ríej/ 'to (be) scattered' /rríej/ 'to (be) pell-mell'.

/ríet/ 'to (be) scattered' /rríet/ 'to lie at random, in disorder'.

(VB /-ríet/) /rūt/ 'to run (away)' /rrūt/ 'to flee in confusion, stampede'.

/léŋ/ 'to play' /lléŋ/ 'to frolic, gambol'.

/lūsk/ 'to sell' /llūsk/ 'to peddle; itinerant trade'.

/lót/ 'to jump' /llót/ 'to jump (hop) about'.

2.6. Diminutive /R-. In the following cases reduplication yields derivatives which share the notion of repetition as suggestive of rapidity, lightness or slightness, or caution. In some cases the repetitive idea is weakened or lost altogether; in others, the notion of stealth blends into that of menace. In two cases (/kūt/ and /γíej/) diminution appears to be employed euphemistically.

/píe/ 'to prey upon, attack' /ppíe/ 'to stalk, creep up on'.

/pūl/ 'poison' /ppūl/ '(to be) poisonous'.

*/-präh/ 'to skim, graze' /ppräh/ 'to skim over lightly'.

/präm/ 'to drift, float' /ppräm/ 'to bob (up and down), float along'.

/prēc/ 'to blink' /pprēc/ 'to wink, wince'.

/plaot/ 'to jump, bound' /pplaot/ 'to leap back, give a start'.

/* indicates a reduplicated form used in only a few cases.
/blət/ 'to come near'
/bblət/ 'to brush, graze; to edge forward (cautiously)'

*/-mɪəj/ 'illusion, delusion'
/mmɪəj/ 'nightmare; mental anguish'.

/mu/ 'to roll up, envelop'
/mumu/ 'to crouch, walk furtively'.

/trõm/ 'to drop, sink'
/trtrəm/ 'to flop, collapse'.

/cāp/ 'to seize'
/ccāp/ 'to catch, snatch'.

/cāk/ 'to prick'
/ccāk/ 'to prick, goad, spur'.

/cōh/ 'to descend'
/ccōh/ 'to jump (drop) down from'.

/caom/ 'to surround'
/ccaoom/ 'to encircle swiftly'.

/crok/ 'to cower'
/ccrok/ 'to skulk'.

/ccrək/ 'to insinuate oneself, meddle, interfere'.

(VB /-cρək/)

/chāk/ 'to carry off (by force)'
/cchāk/ 'to sweep down upon and carry off'.

/kāsh/ 'to move'
/kkāsh/ 'to bump slightly, touch'.

/kūt/ 'private parts'
/kkūt/ 'buttocks'.

/khōp/ '(to be) curved, hooked'
/kkhuhōp ~ kkhōp/ '(to be) bent back sharply, have a tight crook'.

(VB /-khōp/)

/qiəj/ 'mucus'
/qqiəj/ 'mucous matter'.

/lōt/ 'to jump'
/llōt/ 'to jump suddenly, spring'.

/loφ/ 'to lurk, spy'
/lloφ/ 'to (go here and there and) spy'.

/sla ~ səa/ 'to walk a log (or other narrow surface)'
/sslə ~ ssəa/ 'to walk cautiously, ease forward; to sneak'.

/slət/ 'to creep'
/sslət/ 'to move with quick, light movements'.
/saaj/ 'to raise, roll, tuck up'
/sok/ 'to insert' (VB /-sak/) /ssok ~ ssak/ 'to force one's way into, penetrate abruptly'.

2.7. **Residue.** The following appear to be /R-/ derivatives by origin but cannot be analyzed from data available in the modern language:

/ppe/ 'lips'.
/ppiep/ 'to lie prone'.
/ppu/ 'brazier'.
/ppok/ 'cloud'.
/ppok/ 'to pant'.
/bboq/ 'to tingle'.
/mmih/ 'body hair'.
/monq/ 'midge, gnat'.

/ppi/ 'lips'.
/ttie/ 'shudder'.
/mmiel/ 'to wallow'.
/pieq/ '(to be) glum'.
/peye/ 'hammer'.
/peyew/ '(to be) over-bearing'.
/prupal/ 'rheumatism'.
/kkriw/ 'noise, ruckus'.

3. **Prefix /p-/.** As a simple prefix, /p-/ forms a consonant cluster with the initial of the word bases with which it occurs and does not alternate with other allomorphs (Chapter II, section 5.3, and Table II). It is one of the two most common simple prefixes in my data (Table VIII). It occurs only with primary bases, and stands before all base-initials except the labial stops, the semivowels, and /n/.

The main functions of prefix /p-/ are to mark the causative aspect and a factive aspect; the latter includes what may be called a simulative aspect. These three functions appear to blend into one another and are not always clearly separable. Minor functions are to form resultative, agential, and instrumental derivatives.
Maspero (1915: 201, 220-1) recognizes prefix /p-/ as representing its function as "general" on the one hand, and on the other sees in it a tendency to form the causative. Gehr (1951: 69) simply identifies it as a causative prefix. Jacob (1963: 69) includes it among several prefixes expressing the causative. Huffman (1967: 69-70) specifies its functions as causation, specialization, verbalization, nominalization, and the deriving of adjectives from prepositions. Jacob (1968b: 179) again identifies it as marking the causative.

3.1. **Factive /p-/**. In the following cases /p-/ yields derivatives which share the notion of a conscious, deliberate or emphatic accomplishment of the base idea by a subject. In the sentence /mdaj pبوت kën/ the /p-/ prefix indicates that the subject (/mdaj/ 'mother') initiates accomplishment of the base (/qut/ 'to bathe, take a bath') by the object (/kën/ 'child'). The idea conveyed is that 'the mother causes the child to bathe' in any of three senses: (a) the mother herself may bathe the child, (b) the mother may have someone else bathe the child, or (c) the mother may have the child bathe itself. This is a typical causative construction. The factive /p-/ in question here also involves causation but only in the sense of realizing the notion of the base: /לט/ 'to jump, leap' > /לטט/ 'to make a leaping movement', i.e. 'to spring, pounce'. This factive force is most apparent when the base has nominal meaning: /תו/ 'rap, sharp blow' > /תו/ 'to give a rap'. When the base has verbal meaning the derivative often has simulative overtones: /רעל/ 'to run' > /רעל/ 'to move as if running', i.e. '(to be) fast, quick'.

/tש/ 'opposition' /ptש/ 'to oppose, resist'.
/tע/ 'to close, block' /ptע/ 'to block, as it were: to hold up, sustain'.
| /tük/  | 'to keep'          | /ptük/  | 'to place in keeping: to deposit, load'. |
| /tōet/ | 'rap, sharp blow' | /ptōet/ | 'to give a rap, tap, slap'. |
| /tōen/ | 'to reach, hit'   | /ptōen/ | 'to hit (assail) on moral or other grounds: to reproach'. |
| /dām/  | 'to plant'        | /pdām/  | 'to implant, inculcate'. |
| /dāk/  | 'to set, lay'     | /pdāk/  | 'to give a setting to: to place, locate'. |
| /daem/ | 'beginning'       | /pdaem/ | 'to make a beginning: to begin'. |
| /dō/   | 'to trade, barter'| /pdo/   | 'to make a trade, as it were: to change, switch, replace'. |
| /dōm/  | 'cake, lump, block'| /pdoʊm/ | 'to make into a block: to lump, mass, group'. |
| /daoh/ | 'to free'         | /pdaoh/ | 'to free, as it were: to ease, relieve, unburden'. |
| /cip/  | 'to pinch'        | /pcip/  | 'to make a pinching movement: to purse, pucker'. |
| /cō/   | 'to scold'        | /pčō/   | 'to scold, in effect: to blame, censure'. |
| /cēt/  | 'heart/mind'      | /pčēt/  | 'to put one's heart into: to care for, take care of'. |
| /cūm/  | 'to encompass'    | /pcūm/  | 'to encompass figuratively: to take in, group, unite'. |
| /cūsə/ | 'line, row, furrow'| /pčūsə/ | 'to make a row or furrow: to plow'. |
| /cōŋ/  | 'end, tip'        | /pčōŋ/  | 'to put an end to: to end'. |
/c⁷ɛn/ 'recurrer ent) time' /pcoɛn/ 'to frequent, visit often'.
/cɔn/ 'concern, solicitude' /pcɔn/ 'to have concern for, be anxious about'.
/ŋek/ 'start, jerk' /pŋek/ 'to give (awake with) a start: to awake'.
/kap/ 'to strike down, fell' /pkap/ 'to act as if striking down: to overturn, invert'.
/kat/ 'to cut, slice' /pkat/ 'to make cutting, slicing movements: to fight (with bladed weapons)'.
/ku/ 'coup le, pair' /pku/ 'to form a pair: to pair (up, off), match, mate, couple'.
/kum/ 'cluster, group' /pkum/ 'to form a cluster or group: to group, gather, assemble'.
/kuep/ 'to join, unite' /pkuep/ 'to form a union: to connect, link, match'.
/ko/ 'to heap up' /pko/ 'to go through the motions of heaping up: to stack, amass'.
/ɲe/ 'duty, office' /pnja/ 'to take responsibility, be responsible, for'.
/ɲum/ 'warmth' /pnum/ 'to warm up, keep warm'.
/ɾiŋp/ '(to be) flat, level' /prlip/ 'to equate: to liken, compare'.
/ɾoŋt/ 'to scatter' (VB /-ɾiʃt/) /pɾist/ 'to disperse, radiate'.
/ɾiʃŋ/ 'to scatter' /pɾiʃŋ/ 'to shoot, spurt'.


/rek/ 'to carry (on a balance-pole), divide up (a burden)'

/rōp/ 'to count, number'

/raj/ 'line of separation, part'

/rōm/ 'to desire ardently'

(VB /-rim/)

/rō/ 'to call (to, upon)'

/rūm/ 'to join, meet'

/rūt/ 'to pile, stack'

/rūp/ 'to contract'

/rūh/ 'vigor, life' (VB /-rōh/)

/rūst/ 'to scatter'

/rūt/ 'to run, speed'

/lōt/ 'to jump, dance' (VB /-līt/)

/lēsh/ 'to separate'

/lōt/ 'to jump, dance' (VB /-līt/)

/prēk/ '(to be) divided, split, branching'.

/prēp/ 'to tell, recount'.

/praj/ 'to come apart, give way'.

/prēm/ 'to move as if to join: to grow closer, smaller, narrower'.

/prūt/ 'to pile up, as it were: to accumulate, gather'.

/prūp/ 'to move as if contracting: to curl, cockle, shrivel'.

/prach/ 'to inject vigor into: to feel strongly, have keen interest'.

/prōt/ 'to scatter, as it were: to separate'.

/prat/ 'to move as if running: (to be) fast, quick'.

/plēt/ 'to move as if dancing: to flutter, quiver'.

/plēsh/ 'to divide up, dismember'.

/plat/ 'to make a bounding motion:
<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/-list/</td>
<td>to bounce, rebound'.</td>
</tr>
<tr>
<td>/lēp/</td>
<td>'to lay waste'</td>
</tr>
<tr>
<td>/laj/</td>
<td>'(to be) prolonged'</td>
</tr>
<tr>
<td>/lāk/</td>
<td>'to lift'</td>
</tr>
<tr>
<td>*/-lūk/</td>
<td>'to try, test'</td>
</tr>
<tr>
<td>/lōt/</td>
<td>'to jump'</td>
</tr>
<tr>
<td>/lōep/</td>
<td>'to recur, repeat'</td>
</tr>
<tr>
<td>/lōt/</td>
<td>'to jump, dance' (VB /-lōet/)</td>
</tr>
<tr>
<td>/lop/</td>
<td>'(to be) furtive'</td>
</tr>
<tr>
<td>/lōm/</td>
<td>'to mix, muddle, confuse'</td>
</tr>
<tr>
<td>/sa/</td>
<td>'(to be) in heat'</td>
</tr>
<tr>
<td>/san/</td>
<td>'peace, happiness'</td>
</tr>
<tr>
<td>/saj/</td>
<td>'to scatter'</td>
</tr>
<tr>
<td>/sām/</td>
<td>'(right) time, season,</td>
</tr>
</tbody>
</table>

/plan/  'to ravage, maltreat'.
/plāj/  '(to be) as if prolonged:
(plāj/  '(to be) in excess'.
/plāk/  'to make a lifting movement: to walk with a buoyant, springy step'.
/plūsk/ 'to try, test, sample'.
/plēt/  'to make a leaping movement: to spring, pounce'.
/plēep/ 'to move repetitively or spasmodically'.
/plēt/  'to give a jumping or dancing movement: to slip, glide, elude'.
/plēp/  'to assume a furtive posture: to crouch, cower, huddle'.
/plām/  (a) 'to meddle, interfere;
(b) 'to muddle one's identity: to disguise oneself'.
/psa/  '(to be) as if in heat: to have a (burning) desire'.
/psan/  'to enjoy peace or happiness'.
/psaj/  'to move as if scattering: to spill, overrun'.
/psām/  'to act in good time: to
due course' | be) leisurely, opportune'.
/sèk/ 'to wear down, use' | /psèk/ 'to subject to wearing action: to break in, temper'.
/sæŋ/ 'to raise, erect' | /psæŋ/ 'to raise oneself, as it were: to rise (in the air)'.
(VB /-sæŋ/) | (VB /-sæŋ/)
/hael/ 'to swim' | /phael/ 'to move as if swimming: to surge, sweep, rush'.
/haem/ '(to be) swollen' | /phaem/ '(to be) as if swollen: (to be) pregnant'.
/hōj/ 'to rise' | /phōj/ 'to make a rising movement: to rise'.
/hōp/ 'to pant' | /phōp/ 'to act as if out of breath: to throb, palpitate'.

3.2. Causative /p-/: In the following cases /p-/ yields derivatives which share the notion of initiation by the subject of accomplishment of the base by the object: /bæmræ ptō tōq/ 'the servant causes the table to tilt', i.e. 'the servant tilts the table'.

/mul/ '(to be) grouped, massed, all together' | /pmobl/ 'to bring together, assemble, unite, muster'.
/tē/ '(to be) sloping' | /ptē/ 'to tilt, cant'.
/tym/ '(to be) abreast, in line' | /ptym/ 'to yoke, align'.
/tē/ 'to lie on (top of)' | /ptē/ 'to lay down, deposit'.
/tul/ 'to hold up (as a wall)' | /ptul/ 'to prop (a post) up against (a wall)'.
/tōmp/ '(to be) up against, close to' | /ptōmp/ 'to drive back against, hold at bay'.


/tɔal/ 'to be) held, blocked' /ptɔel/ 'to hold, block'.
/dək/ 'to lie down' /pdək/ 'to lay to rest, put to bed'.
/dɔc/ 'to be) final, ultimate' /pdɔc/ 'to finish, end'.
/du/ 'to know' /pdЮ/ 'to inform of'.
/det/ 'to stick, cling' /pdet/ 'to join, attach'.
/duəc/ 'to be) touching' /pduəc/ 'to bring into contact'.
/dual/ 'to fall' /pdual/ 'to fell'.
/döh/ 'to sprout, grow' /pdöh/ 'to plant, transplant'.
/dal/ 'to go to, reach' /pdal/ 'to take or lead to'.
/caŋ/ 'to be) defeated' /pcəŋ/ 'to defeat'.
/cal/ 'to repent, mend one's ways'
/ks/ 'to be) near' /pks/ 'to bring nearer'.
/cul/ 'to clash, battle' /pcul/ 'to incite (animals) to fight'.
/cəŋ/ 'to cling' /pçəŋ/ 'to stick, fasten, join'.
/psh/ 'to be) hatched, open' /ppəh/ 'to hatch'.
/kut/ 'to be) right, true' /pkkut/ 'to true up, adjust'.
/kəŋ/ 'to be) suited, fit' /pkkəŋ/ 'to adapt, fit'.
/kəŋ/ 'to be) fixed, located' /pkkəŋ/ 'to fix, locate'.
/qü/ 'to droop, sag' /pqü/ 'to nod (the head)'.
/qut/ 'to bathe oneself' /pqut/ 'to have (someone) bathe'.
/qük/ 'to shake, vibrate' /pqök/ 'to agitate, brandish'.
/qlem/ 'to slope, be sloping' /pqlem/ 'to tilt, incline'.
/qäm/ 'to be) sweet' /pqäm/ 'to sweeten'.
/risp/ 'to be) flat, level' /prisp/ 'to flatten, level'.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/réen/</td>
<td>'to learn, study'</td>
</tr>
<tr>
<td>/réal/</td>
<td>'to spread'</td>
</tr>
<tr>
<td>/rc/</td>
<td>'to turn or change into'</td>
</tr>
<tr>
<td>/ráj/</td>
<td>'to scatter'</td>
</tr>
<tr>
<td>/raj/</td>
<td>'(to be) sharp'</td>
</tr>
<tr>
<td>/rísp/</td>
<td>'(to be) flat, level'</td>
</tr>
<tr>
<td>/rýn/</td>
<td>'(to be) hard'</td>
</tr>
<tr>
<td>/rún/</td>
<td>'(to be) bright' (VB)</td>
</tr>
<tr>
<td>/-rýn/</td>
<td></td>
</tr>
<tr>
<td>/rúsh/</td>
<td>'(to be) alive'</td>
</tr>
<tr>
<td>/líc/</td>
<td>'to sink' (VB /-léc/)</td>
</tr>
<tr>
<td>/lén/</td>
<td>'to leave, depart'</td>
</tr>
<tr>
<td>/lým/</td>
<td>'(to be) dim, shadowy'</td>
</tr>
<tr>
<td>/lýc/</td>
<td>'to sink' (VB /-lic/)</td>
</tr>
<tr>
<td>/lóh/</td>
<td>'to go over, be more'</td>
</tr>
<tr>
<td>/súh/</td>
<td>'to heal, mend'</td>
</tr>
<tr>
<td>/sök/</td>
<td>'to retire (from orders)'</td>
</tr>
<tr>
<td>/saém/</td>
<td>'(to be) damp, wet'</td>
</tr>
<tr>
<td>/säm/</td>
<td>'to fit, be fitting'</td>
</tr>
</tbody>
</table>

**3.3. Resultative /p-/.** A small number of /p-/ derivatives with nominal meanings in my corpus appear to denote the result of accomplishment of verbal bases:
3.4. Agentival-Instrumental /p-/.

An even smaller number of /p-/ derivatives with nominal meanings in my corpus appear to denote the agent or instrument which accomplishes the verbal base:

/reŋ/ 'to sift' /praŋ/ 'sifter, sieve'.
/riəj/ 'to spread' (VB Ḥəya /raj/ > ra /raj/) /prüj/ 'that which stretches out:
/rūm/ 'to envelop' /prūm/ 'the enveloper: border'.
/lēŋ/ 'to play (on an instrument' /plēŋ/ 'musical instrument'.
/lōt/ 'to jump, dance' (VB /plēt/ 'that which leaps or dances:
/-lit/)

fan, punkah'.

/amu/ 'to roll up'

*/-tēəh/ 'to raise (above ground level), erect'

/cūl/ 'to stitch'

/pāŋ/ 'to open wide'

/kōəm/ 'to hold together'

/rēŋ/ '(to be) continuous, contiguous'

/rūt/ '(to be) tight'

/rūəj/ '(to be) weary, numb'

/lēŋ/ 'to play (on an instrument'

/prēŋ/ 'vicinity, environs'.

/prĭt/ 'tension, rigor, severity'.

/prūəj/ weariness, dejection'.

/plēŋ/ 'music'.

/prāj/ 'to sift'

/rāj/ > ra /raj/)

/rūm/ 'to envelop'

/lēŋ/ 'to play (on an instrument'

/lōt/ 'to jump, dance' (VB

/-lit/)

/ptēəh/ 'house, dwelling'.

/pōəl/ 'stitched matting'.

/ptēəp/ 'the open mouth, maw'.

/pkōəm/ 'that which is held together (on a string): strand of beads'.

/prēŋ/ 'vicinity, environs'.

/prūm/ 'the enveloper: border'.

/plēŋ/ 'musical instrument'.

/plēt/ 'that which leaps or dances:

fan, punkah'.

/ptēəh/ 'house, dwelling'.

/prōj/ 'that which stretches out:

forest'.

/prūm/ 'the enveloper: border'.

/plēŋ/ 'musical instrument'.

/plēt/ 'that which leaps or dances:

fan, punkah'.
4. Prefix /t-/.

As a simple prefix, /t-/ forms a consonant cluster with the initial of the word bases with which it occurs and does not alternate with other allomorphs (Chapter II, section 5.3, and Table II). It is the least common of the simple prefixes in my data (Table VIII). It occurs only with primary bases, and stands before base-initial /p, b, k, η, q, w, r, l, h/ but not before dentals, palatals, or /m, j, s/.

The essential function of prefix /t-/ is to add an intensive aspect to the predication of the word base. Sometimes this function simply increases the force or emphasis of the base, introduces a purposive nuance, or connotes a certain specialization of meaning. At other times the prefix seems to acquire directional overtones from the base, in these cases intensification or specialization usually remain but purposive associations are weakened or lost. Some alternation with prefixes /k-/ and /s-/ is to be noted.

Maspero (1915: 201, 221) recognizes /t-/ but specifies that it occurs only before base-initial /k, r, h/ and suggests that it has a tendency to form substantives. Gehr (1951: 69, 73), following Maspero, states that it is used in forming nouns, though he gives examples of verbal /t-/ derivatives; he also reports occasional alternation with /k-/.

Jacob (1963: 65, 68-9) recognizes a /t-/ prefix distinct from the /t-/ allomorph of /R-/ but does not specify its function. Gorgonijev (1966: 55) states that /t-/ is found "primarily in the formation of verbs," and gives a few examples.

Huffman (1967: 72) finds that /t-/ marks causation and attribution, and gives one example of each. Jacob (1968b) does not appear to mention it at all.

4.1. Intensive /t-/.

In the following cases /t-/ yields derivatives
which share the notion of increased force or emphasis emanating from the base itself or from the manner in which the base idea is accomplished; in some cases intensification narrows the meaning of the base.

/píst/ 'to hit, strike' /tpíst/ 'to strike, attack'.
/pénc/ 'to take away, remove' /tpéc/ 'to card (cotton)'.
/pén/ 'to wind, twist, fold' /tpýn/ 'to entwine, cross or fold over'.

/put/ 'to press, squeeze, wring' /tput/ 'to twist, wring'.

/pénc/ 'to encircle, gird' /tpúñ/ 'to gird oneself with; to encircle one's head with'.

/klep/ 'to grip, pinch' /tklep/ 'to hold or pick up (with tongs, chopsticks)'.

/kát/ 'to cut' /tkát/ '(physical) pain'.

/kán/ 'to head (bear) toward' /tkán/ 'to betake oneself to'.

/wíst/ 'to desire, crave' /twat/ '(to be) eager, anxious, in a hurry'. Compare /swat/ 'to strive, endeavor'.

/wía/ 'to beat, strike' /twáj/ 'to invoke a deity or spirit by clapping: to worship, make an offering'.

/ríep/ '(to be) flat, level' /tríep/ 'to bring down (prey), capture by pouncing upon, fell'.

/ríep/ 'to arrange, order' /tríep/ '(to be) packed, dense'.

/-rét/ 'to slope' /trét/ '(to be) sloping, inclined'.

/réh/ 'to think, reflect' /træsh/ 'to think out, reflect upon'.

/ría/ 'to spread, cut open' /traj/ 'to cut, prune; to clear a
trail (with a machete)'.

/tlep - rep/ 'to plunder' /trlep/ 'to suck (flowers), gather honey'. Compare /krep/, same meaning.

/rým/ 'edge, side' (VB /-rim/) /trêm/ '(to be) flush, abreast'.

/réh/ 'to pick, choose' /tréh/ '(to be) willful, capricious'.

/rūh/ 'to wreck, demolish' /trūh/ 'to spoil, damage, ruin'.

/rów/ '(to be) good, well' /trów/ '(to be) good, right, proper, accurate'.

/ríaj/ 'to scatter, break up' /tlíaj/ 'to break (up, down, in, through, open, off)'.

(VB /-líaj/) Compare /klóh/ 'to pierce the septum of (a bull or buffalo)'.

/lūh/ 'to pass through' /tlūh/ 'to pierce, perforate'.

Compare /klóh/ 'to pierce the septum of (a bull or buffalo)'.

/lão/ 'to bluster' /tlão/ '(to be) blustering, rowdy, uncouth'. Compare /klao/, same meaning.

/løep/ 'to repeat' /tløep/ 'to accustom, familiarize, get used to'.

/lůn/ 'to choke, drowned' /tlůn/ 'to have the ears choked: (to be) deaf'.

/høp/ 'to pant, be out of breath' /thøp/ 'to choke, stifle, smother'.

4.2. Directional /t-/. In the following cases /t-/ yields derivatives which, without suffering any loss of emphasis or specialization,
manifest their intensive force as directionality acquired from the base:

**DIRECTION OUTWARD**

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>*/-qֹפ/</td>
<td>'to groan'</td>
</tr>
<tr>
<td>*/טַח/</td>
<td>'to turn'</td>
</tr>
<tr>
<td>*/לָט/</td>
<td>'to let go, release'</td>
</tr>
<tr>
<td>*/לָת/</td>
<td>'to jump, leap'</td>
</tr>
<tr>
<td>*/לֹז/</td>
<td>'to sprout' (VB /-לֹז/ <em>50</em>)</td>
</tr>
<tr>
<td>*/פּוּק/</td>
<td>'hook'</td>
</tr>
<tr>
<td>*/קַש/</td>
<td>'(to be) showy, pretentious, genteel'</td>
</tr>
<tr>
<td>*/קָט/</td>
<td>'to lift'</td>
</tr>
<tr>
<td>*/קָח/</td>
<td>'to hold up'</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'to wind or roll'</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'to pile, stack'</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'to come to an end'</td>
</tr>
<tr>
<td>*/לָצ/</td>
<td>'to mix'</td>
</tr>
</tbody>
</table>

**DIRECTION UPWARD**

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>*/טָפ/</td>
<td>'to wail, complain'</td>
</tr>
<tr>
<td>*/טָש/</td>
<td>'to turn aside, go off course; (to be) crooked'. Compare /סָט/ '(to be) misled'.</td>
</tr>
<tr>
<td>*/לָט/</td>
<td>'to give off, emit'</td>
</tr>
<tr>
<td>*/לֹת/</td>
<td>'to jut, project'. Compare /קָל/ 'same meaning'.</td>
</tr>
<tr>
<td>*/לֹז/</td>
<td>'to swell, grow, be vigorous'. Compare /קָל/ '(to be) young, vigorous'.</td>
</tr>
<tr>
<td>*/פּוּק/</td>
<td>'to hook, grapple'</td>
</tr>
<tr>
<td>*/קָש/</td>
<td>'(to be) grand, noble, eminent, glorious'.</td>
</tr>
<tr>
<td>*/קָט/</td>
<td>'to dig up, unearth'.</td>
</tr>
<tr>
<td>*/קָח/</td>
<td>'to hold up (right), make fast; to raise'.</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'to pile up, amass'.</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'to place upon (over)'.</td>
</tr>
<tr>
<td>*/רָע/</td>
<td>'(to be) finished up, done'.</td>
</tr>
<tr>
<td>*/לָצ/</td>
<td>'(to be) mixed up, confused, mad'. Compare /קָל/ '(to be) disordered, incoherent'.</td>
</tr>
</tbody>
</table>
/lōk/ 'to lift, raise'  
/tlōk/ 'to rise (to one's feet)'

DIRECTION DOWNWARD

/blät/ 'to press, squeeze'  
/tblät/ 'to hold (under the arm, in tongs)'. Compare /kblät/ 'to hold (under the arm)'.

/bāt/ 'to shut, close'  
/tbāt/ 'to squeeze'.

/kāp/ 'to strike down, fell'  
/tkāp/ 'to topple, overturn'.

/wiāj/ 'to beat, hammer'  
/twiāj/ 'anvil'. Compare /kwiaj/, same meaning.

/rīap/ '(to be) flat, level'  
/trīap/ 'to bring down (prey), capture by pouncing upon, fell'.

/rēl/ 'to spread'  
/trēl/ 'to sprawl, collapse'.

/*-rōm/ 'to go down'  
/trōm/ 'to sink, drop; to squat'.

/līək/ 'to leave, separate'  
/tlēək/ 'to drop, fall'.

(VB /-lēək/)

5. Prefix /c-/. As a simple prefix, /c-/ forms a consonant cluster with the initial of the word bases with which it occurs and does not alternate with other allomorphs. It is next to the least common of the simple prefixes in my data (Table VIII). It occurs only with primary bases, and stands before base-initial /b, m, d, n, k, q, w, r, l, h/; in my data it is not found before the palatals or /p, t, n, j, s/.

The essential function of /c-/ appears to be to add a restrictive aspect to the idea of the word base. The restriction in question is manifested either as a marked narrowing of the semantic range (specialization) of the base or through the development of figurative senses not originally associated with the base (metaphor). Certain /c-/ derivatives acquire a
durative or repetitive nuance which is almost certainly incidental to specialization: /bɒt/ 'to slide' > /cbbt/ 'to stroke, caress', /lɪən/ 'to sound' > /clɪən/ 'to babble'. Other /c-/- derivatives take on an attributive nuance which impinges upon the domain of /L-/ perfectives: /rʊən/ 'to shrivel' > /crʊən/ '(to be) shriveled', /lʊp/ 'to cover over' > /clʊp/ '(to be) shadowy, dim'; this likewise seems to be incidental to specialization. A few /c-/- derivatives have only nominalized meanings, a circumstance which again is incidental.

Maspero (1915: 194, 200, 221) recognizes a /c/-/ prefix, indicates that it is usually found before base-initial /b, k, q, w, r, l/, and indicates that it shows a tendency to form substantives. Gehr (1951: 69, 72), following Maspero, also notes that it is used in forming nouns, though he gives several examples of verbal derivatives. Jacob (1963: 65, 69) recognizes a /c/-/ prefix but does not identify its function. Gorgomijev (1966: 54, 55) remarks that it forms (a) derivatives of the same part of speech as the base but with different meanings or, not infrequently, different shades of meaning, and (b) derivatives of different parts of speech from the base. Huffman (1967: 72) identifies the function of /c/-/ as one of marking specialization and causation. Jacob (1968b: 179) notes that like /k-, s-/ it restricts the meaning of the base and forms "words of lower frequency."

* /baŋ/ 'to fight' /cbaŋ/ 'to fight, combat'.
/bbbt/ 'to slide, glide' /cbbt/ 'to stroke, caress'.
/baol/ 'to speed, run' /cbaol/ '(to be) hurried, done in haste'.
/baoh/ 'to fix or drive in' /cbaoh/ 'post, pile, stake; pin'.

/ɓɔŋ/ 'elder sibling'  /cbaŋ/ '(to be) elder'.
/muŋ/ '(to be) massed, compact'  /cmɔl/ 'to wrap, pack, bundle'.
/dɛɲ/ 'to hunt, drive from cover'  /cdeŋ/ 'clitoris'.
/kɛt/ 'to stick' (VB /-kit/)  /ckit/ '(to be) stuck fast'.
/kɑ̝h/ 'to scrape, wipe'  /ckɑ̝h/ 'to scrape out, wipe off'.
/kɑŋ/ 'to extend laterally'  /ckaŋ/ 'to extend the arms laterally; to crucify'.
/kɔ̝h/ 'to scrape, pick' (VB  /-kaŋ/)  /ckaŋ/ 'to pick up with tongs or chopsticks'.
/kɛŋ/ 'to meet, join'  /ckɛŋ/ 'to stick, cling'.
/qɔ̝j/ 'to rise, stand'  /cqɔŋ/ 'to get up, rise to one's feet'.
/qʊk/ 'to lean, sway' (VB /-qʊk/)  /cqʊk/ 'to lean over, contemplate; to crane the neck (to see)'.
/qǔn/ 'to reduce, diminish'  /cqǔn/ '(to be) sated, appeased'.
/wiɛl/ 'to turn, spin, cut in a circle'  /cwiel/ 'to go around (and around), circle; to hollow out'.
/wɛŋ/ '(to be) long'  /cwaŋ/ 'to make a wide detour (in order to avoid)'.
/wyl/ 'to turn, spin' (VB  /-wıl/)  /cwyl/ 'to whirl; to come and go'.
/wiɛl/ 'to plait, roll'  /cwiel/ 'to weave (basketry), wind into a ball'.
/rǐɛp/ '(to be) flat, even'  /criɛp/ '(to be) calm, silent'.
/rǐɛw/ 'to proceed warily'  /criɛw/ 'to grope, feel one's way'.
/ɾiəw/ 'to thin, lessen'

(VB /-ɾiəj/)  /cɾiəj/ '(to be) watery, watered down, limp'.

/ɾiəl/ 'to lean, slope'

/cɾiəl/ '(to be) sloping, shelving'.

/ɾt/ 'to turn, be turned'

(VB /-ɾ/)

/cɾé/ 'to slope, be askew'.

/ɾé/ 'to slope, spread'

/cɾé/ '(to be) sloping'.

/ɾeŋ/ 'to plait split bamboo

or wattle siding'

/cɾeŋ/ 'to retain (a riverbank) with bamboo siding'.

/ɾeŋ/ 'to sift (rice)'

/cɾeŋ/ 'sifter, sieve'.

/ɾiŋp/ 'to flatten, unsettle'

/cɾap/ '(to be) cowed, flustered'.

/ɾaj/ 'to hurt'

/cɾaj/ '(to be) piercing, shrill'.

/ɾoʃh/ 'to scrape, graze'

/cɾɔh/ 'to scrape or thin down; to skin'.

/ɾyt/ 'to stretch'

/cɾyt/ '(to be) drawn, wasted'.

/ɾyl/ 'to wear down, dull'

/cɾyl/ 'low spirits, despair'.

/ɾüh/ 'to pick, cull'

/cɾüh/ 'to choose, select'.

/ɾʊm/ 'to wrap'

/cɾʊm/ '(to be) covered up'.

/ɾʊŋ/ '(to be) squat, thick-set'

/cɾʊŋ/ 'chopping block'.

/ɾʊh/ 'to drop'

/cɾʊh/ 'to fall, flop'.

/ɾʊŋp/ 'to join, bring together'

/cɾʊŋp/ 'to unite with, permeate'.

/ɾʊŋp/ 'to shrivel'

/cɾʊŋp/ '(to be) shriveled, shrunken, gnarled'.

/ɾuʃh/ 'to stretch out, surpass' (VB /-ɾuʃh/)
6. Prefix /k-/. As a simple prefix, /k-/ forms a consonant cluster with the initial of the word bases with which it occurs and does not alternate with other allomorphs. It is one of the least common of the simple prefixes in my data (Table VIII). It occurs only with primary bases, and stands before all base initials except the two velars and /j/.
The primary function of /k-/ is to intensify the predication of the base. Through association with bases designating movement in certain directions, it has acquired secondary directional overtones reminiscent of /t-, s-/.

Of particular interest is the development of concrete directionality into figurative directionality with fairly explicit negative nuances. Some alternation with /t-, s-/ is to be observed. Specialization is common but appears to be incidental to intensification and directionality.

Maspero (1915: 194, 199, 220) recognizes a /k-/ prefix, indicates that its distribution is "general" (unrestricted), and states that it shows a tendency to form adjectives or participles. Gehr (1951: 69, 72), following Maspero, also notes that it is used in forming adjectives or participles. Jacob (1963: 65, 69) identifies the function of /k-/ as one of forming attributive verbs. Gorgonijev (1966: 54-5) notes that it forms adjectives, nouns, and verbs. Huffman (1967: 70-1) finds that it marks specialization, negation, causation, and nominalization. Jacob (1968b: 179) notes that like /c-, s-/ it restricts the meaning of the base and forms "words of lower frequency."

6.1. Intensive /k-/. In the following cases /k-/ yields derivatives which share the notion of increased force or emphasis emanating from the base itself or from the manner in which the base idea is accomplished

- /bāc/ 'to take trouble' /kbāc/ 'to decorate, put the finishing touches on, carve'.
- /bān/ 'to cover' /kbān/ 'to veil, mask, screen'.
- /mālı/ 'to twist' /kmālı/ 'to twist, wring'.
- /cōep/ 'to stick, cling' /kcōep/ 'to hold fast, be secure'.
- /cōəm/ '(to be) discolored' /kcōəm/ '(to be) dark (with water): (to be) soaked, drenched'.

/qat/ ' (to be) little, tiny' (VB /-qat/)
/kqat/ 'a kind of very small mosquito; a small frog; an undersized cormorant'.
/waj/ 'to beat, lash'
/kwaj/ ' (to be) distressing, torturesome'.
/lêp ~ rêp/ 'to plunder'
/krêp/ 'to suck (flowers), gather honey'. Compare /trêp/, same meaning.
/raj/ ' (to be) painful, difficult' (VB /-raj/)
/kraj/ ' (to be) arduous, disagreeable, painful'.
/lât/ 'to mix, be disorderly'
/klât/ 'to open (the eyes, mouth, legs) wide'.
*/-lac/ 'to fear'
/klac/ 'to fear, dread, be afraid'.
/lêsh/ 'to separate'
/klâh/ ' (to be) separated into units, several, some'.
/lôt/ 'to jump'
/klact/ ' (of eyes) to start from their sockets, protrude'.
/san/ 'peace, happiness'
/ksan/ ' (to be) peaceful, prosperous'.
/sân/ 'moment'
/ksân/ 'instant, split second'.
/hyr/ 'anger'
/khýr/ 'to flare up, fly into a passion'. 
6.2. **Directional /k-/**. In the following cases /k-/ yields derivatives which, without suffering any loss of emphasis or specialization, manifest their intensive force as directionality acquired in the majority of cases from the base:

**DIRECTION UPWARD AND/OR OUTWARD**

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
<th>Derivative</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pèc/</td>
<td>'to jut, project'</td>
<td>/kpec/</td>
<td>'to shoot, squirt, send out, emit'.</td>
</tr>
<tr>
<td>/pùh/</td>
<td>'to boil' (VB /-pu/)</td>
<td>/kpu/</td>
<td>'to swirl and eject (water from the mouth), spurt out'.</td>
</tr>
<tr>
<td>/po/</td>
<td>'to hold or carry (in the arms)'</td>
<td>/kpo/</td>
<td>'part from which other parts branch out: stem- or stern-post of a boat; spathe (of coconut or areca), cluster (of bananas)'.</td>
</tr>
<tr>
<td>/bæz/</td>
<td>'to turn, change course'</td>
<td>/kbae/</td>
<td>'to turn to one side, bend'.</td>
</tr>
<tr>
<td>/tøn/</td>
<td>'stem, stalk'</td>
<td>/kton/</td>
<td>'crosspiece, beam'.</td>
</tr>
<tr>
<td>/caj/</td>
<td>'to distribute'</td>
<td>/kcaj/</td>
<td>'to strew, scatter'.</td>
</tr>
<tr>
<td>/cøen/</td>
<td>'to stand on; layer, level, story'.</td>
<td>/kcøen/</td>
<td>'to rise in tiers'.</td>
</tr>
<tr>
<td>/wøl/</td>
<td>'to turn, veer' (VB /-wøl/)</td>
<td>/kwøl/</td>
<td>'(to be) distracted, pre-occupied'.</td>
</tr>
<tr>
<td>/løa/</td>
<td>'to (take) leave'</td>
<td>/kløa/</td>
<td>'(to be) absent, far away; to go away from, forsake'.</td>
</tr>
<tr>
<td>/riæj/</td>
<td>'to spread' (VB /-riæj/)</td>
<td>/klriæ/</td>
<td>'to scatter, disseminate'.</td>
</tr>
<tr>
<td>/liæt/</td>
<td>'(to be) spread out'</td>
<td>/klæst/</td>
<td>'(to be) widely separated, at a distance; to make off'.</td>
</tr>
<tr>
<td>/léc/</td>
<td>'to come out, emerge'</td>
<td>/klèc/</td>
<td>'to send (turn, order) out, dislodge'.</td>
</tr>
</tbody>
</table>
/saʃ/ 'to spread' /ksaʃ/ '(to be) widespread, common'.

**DIRECTION DOWNWARD AND/OR INWARD**

/bət/ 'to press, squeeze' /kbaːt/ 'to hold under the arm or between the legs'. Compare /tət/ 'to hold under the arm'.

/bæ/ 'to turn, change course' /kbaː/ 'drop-off, brink'.

/bət/ 'to shut, close' /kbaːt/ 'to cover (stop up, plug) a wound'.

/bət/ 'to cut' /kbaːt/ 'to cut into, chafe, rub'.

/tæh/ 'to hit' /ktæh/ '(of waves) to beat, break'.

/tʊp/ 'to keep' /ktʊp/ 'to hold back, prevent'.

/təep/ '(to be) up against, close to'

/təət/ 'to hit sharply, rap' /ktəət/ 'to bounce; to shudder'.

/tæh/ 'to oppose' (VB /-tæh/) /ktæh/ 'to obstruct, fasten'.

/dəp/ 'to pierce' (VB /-da/) /kda/ 'to drill, bore'.

/dap/ 'to close, clench' (VB /-dəp/)

/kip/ 'to pinch'

/wiæ/ 'to beat, hammer' /kwieæ/ 'anvil'. Compare /twieæ/, same meaning.

/wiæl/ 'plain, lowland' /kwieæl/ 'to drive (cattle) down to the grasslands: to graze'.

/wiæl/ 'to spread' /ksaʃ/ '(to be) widespread, common'.

**DIRECTION DOWNWARD AND/OR INWARD**

/bət/ 'to press, squeeze' /kbaːt/ 'to hold under the arm or between the legs'. Compare /tət/ 'to hold under the arm'.

/bæ/ 'to turn, change course' /kbaː/ 'drop-off, brink'.

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/dap/ 'to close, clench' (VB /-dəp/)

/kip/ 'to pinch'

/wiæ/ 'to beat, hammer' /kwieæ/ 'anvil'. Compare /twieæ/, same meaning.

/wiæl/ 'plain, lowland' /kwieæl/ 'to drive (cattle) down to the grasslands: to graze'.
/risap/ 'to be) flat, even'
/krap/ 'to lower oneself by squatting or crouching, drop to the
ground in obeisance'.

/rúap/ 'to contract'
/krúap/ 'to shrink, curl up; to
crouch, gather oneself in'.

/rop/ 'to shelter, protect'
/kron/ 'to hold sway over, reign'.

/lüp/ 'to cover, hide'
/klüp/ 'lid, hatch'.

/lüh/ 'to pass through'
/klöh/ 'to pierce the septum (of
a bull or buffalo)'.

6.3. Negative /k-/.
In the following cases /k-/ yields derivatives
which manifest their intensive force as abstract outward or downward directionality having fairly clear associations with deficiency, contrariety, or abnormality:

/bæk/ 'to break' (VB /-bæch/)
/kbaeh/ 'to be) battered'.

/bät/ 'to bend, turn'
/kbät/ 'treachery, deceit'.

/mën/ 'to be (found), exist;
to have'
/kmíen/ 'to be) missing, absent;
to lack, have not'.

/mœl/ 'to twist' (VB /-mœ/)
/kmœl/ 'kind of worm that eats
through cloth and paper'.

/mœl/ 'to twist'
/kmœl/ 'to distort'.

/mu/ 'to roll'
/kmø/ 'to be) curled, cockled'.

/muł/ 'to be) circular or
globular'
/kmöl/ 'to have the form of an
irregular cone'.

/tiap/ 'to pull, tug'
/ktiap/ 'to be) enlarged, roughly
used (vagina)'.

/duel/ 'to fall, drop'
/kdœl/ 'dejection, melancholy'
I -nép/ 'to afflict, annoy'
Icajl 'to distribute, spend'
Ičáj 'to move, shake'
Ičáj 'to be twisting'
Ičáj 'to be crooked, contorted'
Ičáj 'to be twisted'
Ičáj 'to be bent, crippled'
Ičáj 'to be unshapely, misshapen, deformed'
Ičáj 'to spread'
Ičáj 'to be swollen, distended'
Ičáj 'to sound, cry'
Ičáj 'to make a sound'
Ičáj 'to leave, depart'
Ičáj 'to mix'
Ičáj 'resentment, aversion'.
Ičáj 'to squander, fritter away'.
Ičáj 'to disturb, agitate'.
Ičáj 'to be bent, crippled'.
Ičáj 'to be unshapely, misshapen, deformed'.
Ičáj 'to be swollen, distended'.
Ičáj 'ill omen; disaster'.
Ičáj 'rumbling in the belly: hunger, appetite'.
Ičáj 'to falsify, misrepresent'.
Ičáj 'mixture, adulteration, degeneration'.

7. Prefix /s-/. As a simple prefix, /s-/ forms a consonant cluster with the initial of the word bases with which it occurs and does not alternate with other allomorphs. It is one of the more uncommon of the simple prefixes in my data (Table VIII). It occurs only with primary bases, and in my data stands before all base initials except /c, j, s, h/.

The primary function of /s-/ appears to be to add an augmentative aspect to the base, though in some cases the augmentative nuance is weak.
and tantamount to intensification. The development of secondary directional associations is marked and includes such nuances as disjunction, opposition, motion upward, and motion downward.

Maspero (1915: 194, 202, 221) recognizes an /s-/ prefix, notes that it is very rare and hardly ever found before base initials other than /d, q/, and states that it has a tendency to form substantives. Gehr (1951: 69, 74), following Maspero, indicates that it is used in forming nouns, though he gives examples of verbal derivatives. Jacob (1963: 65) accepts an /s-/ prefix but does not identify its function. Gorgonijev (1966: 55) takes note of it but likewise does not comment on its function. Huffman (1967: 71-2) specifies its functions as specialization and attribution. Jacob (1968b: 179) states that like /c-, k-/ it restricts the meaning of the base and forms "words of lower frequency."

7.1. **Augmentative /s-/**. In the following cases /s-/ yields derivatives which share the notion of augmenting the idea of the word base:

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/paoq/</td>
<td>'to swell, fill'</td>
</tr>
<tr>
<td>(VB /-baq/)</td>
<td>that which is made bigger by filling; bladder, pouch, bag.</td>
</tr>
<tr>
<td>/tia/</td>
<td>'to resound'</td>
</tr>
<tr>
<td>/noep/</td>
<td>'to speed, repeat'</td>
</tr>
<tr>
<td>*/-kom/</td>
<td>'(to be) slender'</td>
</tr>
<tr>
<td>/riep/</td>
<td>'to dress, adorn'</td>
</tr>
<tr>
<td>/roq/</td>
<td>'to cover, be long enough'</td>
</tr>
<tr>
<td>(VB /-roq/)</td>
<td>to cover' (VB /-roq/) the length of.</td>
</tr>
<tr>
<td>/riep/</td>
<td>'to even, equalize'</td>
</tr>
<tr>
<td>(VB /-rop/)</td>
<td>'to make longer, adjust to cover' (VB /-rop/) the length of'.</td>
</tr>
<tr>
<td>/rop/</td>
<td>'to be alike, similar'</td>
</tr>
<tr>
<td></td>
<td>*/-rop/</td>
</tr>
<tr>
<td></td>
<td>'to be alike, similar'</td>
</tr>
</tbody>
</table>
/lūp/ 'to cover, shade'  
(VB /-rūp/)  
/srūp/ 'to cool off, refresh oneself'.

7.2. **Intensive /s-/**. In the following cases /s-/ yields derivatives which share the notion of increased force or emphasis emanating from the base of manner of accomplishment of the base idea:

/kūk/ 'to harden'  
/skūk/ 'to harden up, get all dried up, wither'.

/ŋōp/ 'to be) dead'  
(VB /-ŋūp/)  
/sŋūp/ 'utterly lifeless place: wilderness, desert'.

/qat/ 'to tend, care for'  
/sqat/ 'to be) well tended: (to be) clean, neat'.

/qāk/ 'to gulp'  
/sqāk/ 'to hoarse'.

/-rēk/ 'to dry'  
/srēk/ 'to be) parched, thirsty'.

/rēp/ 'to prepare' (VB /-rēp/)  
/srēp/ 'to be) all ready, all done, permanent'.

/rūec/ 'to come to an end or point' (VB /-rēc/)  
/srūc/ 'to be) finished, complete'.

/rōm/ 'to surround'  
/srōm/ 'to cover all around, envelop: pod, husk; case, sheath'.

/rūsh/ 'to be) alive'  
/srūsh/ 'to be) fresh, animated'.

/lēm/ 'to be) dim, faint'  
/slēm/ 'to be) halfhearted, lukewarm'.

7.3. **Directional /s-/**. In the following cases /s-/ yields derivatives seeming to share the notion of directionality. These show four nuances which appear to be referable for the most part to the base: (a) outward motion, blending into disjunction or dissociation, (b) contrary
motion or location, (c) motion or location outward and over, and (d) motion or location outward and downward.

**OUTWARD MOTION**

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/put/</td>
<td>'to press, squeeze'</td>
</tr>
<tr>
<td>/sput/</td>
<td>'to express, squeeze out; sponge'.</td>
</tr>
<tr>
<td>/tēŝk/</td>
<td>'to snare, catch'</td>
</tr>
<tr>
<td>/stēŝk/</td>
<td>'to move out and catch: to cut off, intercept'.</td>
</tr>
<tr>
<td>/dēn̂/</td>
<td>'to know, recognize'</td>
</tr>
<tr>
<td>/sdēn̂/</td>
<td>'(to be) known out of many: (to be) well-known'.</td>
</tr>
<tr>
<td>/tēn̂/</td>
<td>'(to be) tight'</td>
</tr>
<tr>
<td>/sdēn̂/</td>
<td>'(to be) stretched out, elongated'.</td>
</tr>
<tr>
<td>/dok̂/</td>
<td>'to stretch' (VB /-dōk̂/)</td>
</tr>
<tr>
<td>/sdōk̂/</td>
<td>'(to be) stretched out, extended, recumbent; stiff'.</td>
</tr>
<tr>
<td>*/kēlep/</td>
<td>'to scrape'</td>
</tr>
<tr>
<td>/skēlep/</td>
<td>'to scrape but remain separate: to graze'.</td>
</tr>
<tr>
<td>/kāt/</td>
<td>'to cut'</td>
</tr>
<tr>
<td>/skāt/</td>
<td>'to reach out and cut: to cut across, intersect'.</td>
</tr>
<tr>
<td>/kōal̂/</td>
<td>'to distinguish'</td>
</tr>
<tr>
<td>/skōal̂/</td>
<td>'to distinguish out of many, out of mind: to know'.</td>
</tr>
<tr>
<td>/wēn̂/</td>
<td>'(to be) long'</td>
</tr>
<tr>
<td>/swēn̂/</td>
<td>'to go out a long distance, explore'.</td>
</tr>
<tr>
<td>/rê/</td>
<td>'to turn'</td>
</tr>
<tr>
<td>/srê/</td>
<td>'to turn out of course: to take a wrong turn, go astray'.</td>
</tr>
<tr>
<td>/rōet̂/</td>
<td>'to spread, disperse' (VB /-rōet/)</td>
</tr>
<tr>
<td>/sraet/</td>
<td>'to have one's garments off, be bare, unclothed'.</td>
</tr>
</tbody>
</table>
/řaj/ 'to scatter, separate'
/sraj/ 'to undo, unfasten'.

/řel/ 'to stretch, incline to'
/sral/ 'to favor out of many:
to pick, choose'.

/řel/ '(to be) spread thin'
/sral/ '(to be) light, insubstantial'.

/rōsh/ 'to scrape, dig'
/srōh/ 'to dig out, excavate'.

/rūec/ 'to come to an end or point'
/srōec/ 'to have an edge or point that vanishes away (to nothing):
(to be) sharp, pointed, acute'.

/rut/ 'to slide, run'
/srot/ 'to slide away, run off'.

/rōc/ '(to be) bright, gleaming'
/sraoc/ 'to shine out, stand out, be conspicuous'.

/rōv/ 'to give cover, shield'
/(VB /-rōv/)
/srōv/ 'to deliver from danger, rescue'.

/lēsh/ 'to separate' (VB /-lēh/)
/slēth/ 'to break off, interrupt'.

CONTRARY MOTION

/blest/ 'to press'
/stlest/ 'to rub against (as two friction sticks)'.

/tīsp/ '(to be) close'
/stīsp/ 'to get close up against:
to mate, copulate'.

/tēsh/ 'to oppose'
/stēsh/ 'to face up to, confront;
to stop up tight'.

/tīm/ '(to be) abreast, in line'
/stīm/ 'to stand side by side; to make two things even or flush'.

/tōp/ '(to be) facing'
/stōp/ 'to lean against'.

/tōp/ '(to be) facing' (VB /-top/)
/stōp/ 'to shore up, sustain'.

/stop/
/dāp/ 'to follow' (VB /-dāp/) /sdāp/ 'to follow closely (with the ear): to hear, obey'.

/qāap/ 'to die' (VB /-qāap/) /sqāap/ 'to come close to dying: to yawn'.

/qasəl/ 'to frolic' /sqasəl/ '(to be) virtually fro­licking: (to be) in agitated motion'.

/qāp/ '(to be) dark' /sqāp/ '(to be) nearly dark: (to be) dim, cloudy, murky'.

MOTION (OUTWARD AND) OVER

/pian/ 'to climb (up onto)' /spian/ 'that which one climbs up to and over: bridge, gang-plank'.

*/-piaj/ 'to divide, distribute' /spiaj/ 'to distribute crosswise over the shoulder, sling across the back'.

/təŋ/ 'stem, stalk' (VB /-tuŋ/) /stuŋ/ 'to carry (seedlings) up and over: to transplant (rice)'.

/dəc/ '(to be) ultimate, ab­solute' (VB /-dəc/) /sdaəc/ 'supreme (topmost and over­lying) lord: chief, king'.

/daŋ/ 'this, that' /sdaŋ/ 'supreme one, he who is supreme (term used in referring to or addressing the King)'.

/paŋ/ 'to grin, grimace' /spəŋ/ 'to twist the mouth (against itself), make a wry face'.

*/-kāj ~ -kuj/ 'to sit, squat' /skuŋ/ 'to sit athwart, perch, roost'.

*Proper names and terms marked with an asterisk are not transliterated.
/lēk/ 'to cover, hide' /slēk/ 'to cover (hide) the body:
(VB /-lēk/)

(to put on (wear) a lower garment).

/lēk/ 'to scratch, score' /slēk/ 'scar, (old) wound'.

/lēp/ 'to cover, shade' /slēp/ 'to cover over, overhang'.

MOTION (OUTWARD AND) DOWNWARD

/mial/ 'to twist, screw' /smial/ 'to twist down (in), spiral'.

/toŋ/ 'source, origin' (VB /-tūŋ/)
/stūŋ/ 'to plumb the depths of, take soundings, probe'.

/toŋ/ 'stem, stalk' /stoŋ/ 'stem that hangs down:
banana cluster'.

/rähl/ 'to wear, abrade' /srähl/ '(to be) worn down, smooth, (VB /-räl/)
polished, bright'.

/lūt/ 'to drop, let fall' /srūt ~ slōt/ 'to fall down (apart):
(VB /-rūt/) to cave in, collapse'.

/rēk/ 'to flow, pour' (VB /-rēk/)
/srēk/ 'to flow down and out: to drain, empty, leak'.

8. Prefix /m-. Modern Khmer has a set of nasal prefixes of the shapes /m-/ and /qaN-/ which yield three classes of derivatives: (a) derivatives having only the /m-/ prefix, (b) those having only the /qaN-/ prefix, and (c) those in which /m-/ alternates apparently optionally with /qaN-/. With one exception, these formal differences seem to correspond to no semantic differences and to reflect dialect mixture. The exception is the strictly singularizing function of /m-/ (section 8.1), which however appears to blend into particularizing and specializing functions marked by /m-/, /qaN-/ or both.

Note that the forms of the two prefixes are not as different as
they may seem. Prefix /m-/ forms a consonant cluster with the initial of word bases with which it occurs (Table II); in this case a bridge sound is usually interposed between it and the new postinitial (Chapter II, section 2): /m're:l/ [m'O'l:e, m'Oll:e] 'soot', /mltip/ [m'O'l:lp, m'Oll:lp] 'shadow'. The /m/- prefix does not assimilate to the base initial. The /qaN-/ prefix, which has the shape of a CVN- presyllable (Chapter II, section 5), is essentially an assimilating nasal preceded by a prothetic vowel or onglide. In the Standard language this prothetic vowel develops its own initial /q/, which patterns with the OR: [qaN-] > [?a.m-]. The nasal assimilates to following base initials in the same manner as other presyllables (Table V).

Together, /m/- and /qaN/- rank among the more common simple prefixes in my data (Table VIII). Aside from a few occurrences of singularizing /m/- with secondary bases, both occur only with primary bases: /m/- before base-initial /p, d, n, c, k, lJ, j, r, s/, /qaN/- before the same nine plus /b, t, q, w, 1/.

Their major function is to add an individualizing aspect to the notion of the base; this is divisible into (a) a singularizing function and (b) a specializing function. Minor functions are the formation of resultative and of a small number of instrumental derivatives.

As to prefix /m-/, Maspero (1915: 195-6) affirms that none of the nasals may serve as prefixes. He notes that a few forms such as /mcılı/ 'needle' appear to belie this statement but explains them away as "deformations" of forms such as /qancılı/ 'needle'. Gehr (1951: 75) says outright that "prefixed 'm' is not permissible in the Khmer system," but refers to cases of an apparent /m/- prefix in Khmer and Thai. Jacob (1963:
recognizes /m-/ and identifies its function as one of forming nominal derivatives of general meaning. Gorgonijev (1966: 55-6) also recognizes it, but says nothing regarding its function beyond pointing out that it forms "a small group of nouns as well as isolated adjectives." Huffman (1967: 76) accepts /m-/, but apparently only as an allomorph of /mís/j 'one'. Jacob (1968b: 177-9) does not refer to it.

None of the foregoing sources except Maspero as paraphrased above suggests an allomorphic relationship between /m-/ and /qaN-/. Maspero himself (1915: 155, 194, 198-9, 205, 220-1) accepts the equivalent of /qaN-/ but clearly implies that it is a reduction by aphaeresis of any of the other CVN- prefixes except /bVN-/; he ascribes no particular function to it. Gehr (1951: 69, 70) similarly admits /qaN-/ but does not consider its function. Jacob (1963: 65, 69) recognizes it and notes that it forms nominal derivatives denoting utensils. Gorgonijev (1966) does not appear to refer to it. Huffman (1967: 88) recognizes it, attributing to it a nominalizing function. Jacob (1968b: 178) notes it but does not comment on its function.

8.1. Singularing /m-/. In the following cases /m-/ yields derivatives which share the notion of singularity in both the cardinal and ordinal senses of the numeral "one." On the one hand, /m-/ marks the singular number; on the other, it particularizes or individualizes the base, adding to it associations of primacy or precedence. As has been said, /m-/ as a strict singular marker does not alternate with /qaN-/ in my data, and may stand before secondary bases.

/poan/ 'thousand' /mpoan/ 'one thousand'.

*-pháj/ 'twenty' /mpháj/ '(one) twenty'.

8.2. **Specializing /m-/**. In the following cases /m-/ yields derivatives which share the notion of specialization with reference to the word bases on which they are built. The prefix is found only with primary bases, and shows alternation with /LVN-/. 

*/*-píaj/ ‗to distribute‘ /qampíaj/ ‗to strew, scatter,
/pih/ '(to be) much, many'
/qampi/ '(to be) plentiful, common'. Compare /rumpi/, same meaning.

/pyn/ 'to take refuge'
/qampyn/ 'to retreat into one's mind: to meditate, be deep in thought'. Compare /rumpyn/, same meaning.

/puh/ 'to boil'
/qampuh/ '(to be) a-boil'.

/tesh/ 'to resist'
/qantesh/ 'to struggle, fidget'.

/tol/ 'to beat, thrash'
/qantol/ 'to thrash, fling oneself about'.

/dap/ 'to follow closely'
(VB /-dáp/)
/qandap/ 'to follow in time or order: to come later, behind'.

/dak/ 'to put'
/qandak/ 'to lay down, position'.

/cip/ 'pinch, contraction'
/qancip/ 'gulp, swallow'.

/cun/ 'to bring, offer'
/qancun/ 'to provide, produce'.

*/-cúaj/ 'to shake'
/qancúaj/ 'to agitate, stagger'. Compare /rúmcúaj/, same meaning.

/cap/ 'to stick'
/qancap/ 'to stick'.

/cat/ 'to stop, come to a standstill'
/qamcat/ '(to be) solid, fixed, stationary'.

/jesk/ 'to toss, jerk'
/qanjesk/ 'to waddle'.

*/-klek/ 'to move, stir'
/qanbek/ '(to be) alive or crawling with'.

*Denotes variation in verb usage.
/kêl/ 'to move' (VB /-kael/)
/qamkêl ~ qankêl ~ qankael/ 'to budge; to bustle about'. Compare /rûmkêl ~ rûnkêl/, same meaning.

/kût/ '(to be) true, correct'
/qânkût/ 'to correct: to crop, dock (the tail or ears of an animal)'.

*/-kûj ~ -kuj/ 'to sit, squat'
/qânkûj/ 'to sit down, take a seat'.

/kôsh/ 'to remove'
/qânkôsh/ '(to be) stripped, bare'.

/qîen/ 'to slope, lean'
/qamqîen/ 'to have a leaning toward, be disposed to'. Compare /rûmqîen/, same meaning.

/qae1/ 'to move, alternate'
/qamqae1 ~ qanqae1/ 'to stroke, caress; to examine by touch, feel'.

/wen/ '(to be) long'
/qâwen/ 'to lag, loiter; to prolong, drag out'.

/wên/ 'circle'
/qâqwên/ 'ring, ambit, cycle'. Compare /rûqwên/, same meaning.

/wol/ '(to be) preoccupied' (VB /-wôel/)
/qâqwôel/ '(to be) anxious'.

/rût/ 'to squeeze, tighten'
/mrût ~ qmrût/ 'to contract, draw together'.

/rût/ 'to run (away)'
/mrût ~ qmrût/ 'to let go, free; to abduct, ravish'.

/rûsh/ '(to be) alive'
/qamrûsh/ 'to keep alive, feed'.
8.3. Resultative /m-/. In the following cases /m-/ yields derivatives which show specialization and at the same time designate the result of accomplishment of the base. Again the prefix is found only with primary bases, and shows alternation with /LVN-/.

/ron/ 'to cover, protect' /qamron/ 'to keep safe, safeguard'.
/lism/ 'to flare' /qanlism/ '(to be) flaming, vivid'.
/lēsh/ 'to separate' (VB /-lash/) /qanlash/ '(to be) cut off, lonely, solitary'.
/laj/ '(to be) drawn out, viscous' /qanlaj/ '(to be) ropy, sticky, glutinous'.
/lým/ '(to be) blurred' /qanlym/ '(to be) indistinct, barely visible'.
/lóc/ '(to be) sad' /qanloc/ '(to be) dejected, melancholy'.
/hōp/ '(to be) out of breath' /mhōp/ 'to heave, throb, quiver'.

/pīa/ 'to kill for food' /qampīa/ 'prey, remains (of a carcass)'. Compare /rumpīa/, same meaning.
/pūn/ 'to swell, bulge' /qampūn/ 'tube, cylinder'. Compare /bumpūn/, same meaning.
/bān/ 'to break off' /qambaṅ/ 'fragment, shard, debris'.
/baoh/ 'to seed, gin' /qambaoṅ/ '(spun) cotton'.
/daoj/ 'to go by way of, follow' /mdaoj ~ qandaŋ/ 'pursuit, continuation, succession'.
/*-nēŋ/ 'to afflict, annoy' /mnēŋ ~ qmnēŋ/ 'affliction,
Icu! (to be) sour, tart
mcu/ 'juice of sour fruits used as a condiment'.

can/ 'to tie, (make) net'
qanca/ 'net, drag-net, seine'.

kaex 〜 kex/ 'to scrape, scratch'
qakex/ 'dandruff, scurf'. Compare /rükac/, same meaning.

kaex/ 'to break, splinter'
qakac/ '(small) fragment, particle, scraps'. Compare /rümkac/, same meaning.

kōp 〜 kōp/ 'to step on' (VB /-kōp/)
qokūp/ 'trap, caltrop, pitfall'.

kūt/ 'to be) true, correct'
qokūt/ 'that which has been cropped or docked: stump (of tail, tooth, leg)'.

weah/ 'to split, cleave'
qowēsh/ 'split, cleft, rift, gash'. Compare /rūwēsh/, same meaning.

wuly/ 'to go around' (VB /-weyl/)
qowel/ 'coil (made from loose ends of the sarong); ring-shaped support for a legless jar'. Compare /rūwēl/, same meaning.

wén/ 'to do in turn, repay' (VB /-wōn/)
qowōn/ 'repayment, recom pense, reward; fee, rent; favor'. Compare /rūwōn/, same meaning.

wōel/ 'to measure (capacity)' qowōel/ 'measure (of capacity)'. Compare /rūwōel/, same meaning.

grief, annoyance'.

Iqanecl 'net, drag-net, seine'.

Iqa/Jekc 'dandruff, scurf'. Compare IkaJEkcl, same meaning.

Iqa/Jekc 'net, drag-net, seine'. Compare IkaJEkcl, same meaning.

Iqa/Jekac 'small) fragment, particle, scraps'. Compare /rümkac/, same meaning.

Iqa/JekUpl 'trap, caltrop, pitfall'.

Iqawēl/ 'to measure (capacity)' qawōel/ 'measure (of capacity)'. Compare /rūwōel/, same meaning.
8.4. Instrumental /m-. In the following cases /m-/ yields derivatives denoting the means by which the base idea is accomplished. Here too the prefix is found only with primary bases, and shows alternation with /LVN-/.

/baoh/ 'to sweep, brush, clean'
/qambaoh/ 'broom, whisk, duster'.

/tęek/ 'to snare'
/qantęek/ 'snare; noose, slip-knot'. Compare /rűntęek/, same meaning.

/daot/ 'to skewer, impale'
/qandaot/ 'pale, stake'.

/mrk/ 'to carry (on a balance-pole)'
/mrək ~ qamrək/ 'burden carried on a balance-pole'.

/rnq/ 'to attract, accumulate'
/mrnq/ 'soot'.

/lo/ '(to be located) on, over'
/qanlo/ 'location, place'.

/łüp/ 'to cover, shade'
/mlüp ~ qamlüp/ 'shade, shadow'.

/*/-łuk/ 'to put in, add to'
/qanłuk/ 'vegetables put into seasoned liquid dishes'.

/łůŋ/ 'to dig' (VB /-łoŋ/)
/qanłoŋ/ 'pit, trench (for trapping animals)'. Compare /rűm-łůŋ/, same meaning.

/loŋ/ 'to cross, pass' (VB /-luŋ/)
/mlůŋ ~ qamlůŋ ~ qanłoŋ/ 'passage of time, lapse, duration'.

/*/-saw ~ -sęw/ 'to pulverize'
/msaw ~ qamsaw/ 'powder, dust; flour, meal'.

/saam/ '(to be) damp, wet'
/qamsaam/ 'dew'.

/hōp/ 'to eat'
/mhōp/ '(prepared) food, fare'.

/qam/ 'to cover, shade'
/mlup ~ qamlup/ 'shade, shadow'.

/*/-łuk/ 'to put in, add to'
/qanłuk/ 'vegetables put into seasoned liquid dishes'.

/mlup/ 'to cover, shade'
/mlup ~ qamlup/ 'shade, shadow'.

/*/-łuk/ 'to put in, add to'
/qanłuk/ 'vegetables put into seasoned liquid dishes'.
9. **Prefix** /l-/. Unlike most of the other simple prefixes, /l-/ manifests two allomorphs, /r-/ and /l-/. Both of these form consonant clusters with the initial of the word bases with which they occur, /r-/ usually being realized [f^0-], /l-/ usually being realized [l^0-].

/l-/ is one of the most common simple prefixes in my data (Table VIII). It occurs only with primary bases, and stands before all base-initials except /r/. The /l-/ allomorph, besides being less frequent than the /r-/ allomorph, does not occur before base-initial /n, c, r, s/. Elsewhere the two are alternants and yield a good many doublets such as /rbaak ~ lbaak/ '(to be) open' and /rhaek ~ lhaek/ '(to be) torn'. Semantic differentiation of such doublets is exceptional, but is illustrated by /lēiok/ 'to mark, scar' > (VB /-lēiok/) /rlōik/ '(to be) scratched, burned' : /līeok/ '(to be) scratched, ruled out, unlikely' and by /wēn/ '(to be) long' > /rwēn/ '(to be) far away' : /lwēn/ 'section of a building on separate piling'.

The primary function of /l-/ is to add a perfective or completive aspect to the notion of the base. This aspect is usually difficult to express in translation. The essential difference between /cūc/ 'to break, bend, fold' and /rcūc/ 'to break, bend, fold' is that the former announces the action without reference to its completion while the latter specifies that the action has been accomplished. Neither form carries
any implication of tense or voice. A secondary function, which often appears to be a weakened version of the first, is to add a specializing aspect to the notion of the base.

Maspero (1915: 157, 194-5, 201-2, 220-1) accepts only the /r-/ allomorph of /l-/ but recognizes that it is "sometimes" replaced by /l-/, which is specifically said to be never used as a prefix; he adds that it occurs before another liquid but "does not appear to be used" before /p, b, t, d, s/. He does not mention its function. Gehr (1951: 69, 70), following Maspero, accepts the /r-/ allomorph and treats /l-/ as a variant of it; he repeats Maspero's remark that /l-/ is "never used in prefixion ... except as a mutant" of /r-/; then contradicts Maspero by saying that the simple prefixes, including /r-/ "are not permissible with root-words beginning with a consonant of the same class ..." He has nothing to say of its function. Jacob (1963: 65, 69) recognizes both /r-/ and /l-/ and indicates that their function is to form attributive verbs. Gorgoni-jev (1966: 55) recognizes only the /r-/ allomorph and states that it "usually serves to form reflexive verbs." Huffman (1967: 76) accepts /r-/ but makes no mention of /l-/; he identifies its functions as attribution (deriving adjectival verbs from transitive and intransitive verbs), the derivation of intransitive verbs from transitive verbs, and nominalization (deriving nouns from transitive verbs). Jacob (1968b: 179) similarly recognizes /r-/ and does not mention /l-/; of the former she says that it "often forms an attributive verb."

9.1. Perfective /l-/. In the following cases /l-/ yields derivatives which share the notion of completed action:

*/píaj/ 'to distribute' /rpíaj/ '(to be) scattered'.


<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pēn/</td>
<td>'to be) full'</td>
<td>/lpejn/</td>
<td>'to be) full, replete'</td>
</tr>
<tr>
<td>/pyl/</td>
<td>'to be) dim'</td>
<td>/lpyl/</td>
<td>'to be) dim, overcast, murky'</td>
</tr>
<tr>
<td>/baeŋ/</td>
<td>'to separate'</td>
<td>/rbaeŋ/</td>
<td>'to be) separate, spaced'</td>
</tr>
<tr>
<td>*/-bah/</td>
<td>'to break'</td>
<td>/rbah/</td>
<td>'to come loose'</td>
</tr>
<tr>
<td>/bah/</td>
<td>'to shake, rebel'</td>
<td>/rbah/</td>
<td>'to be in revolt; rebel'</td>
</tr>
<tr>
<td></td>
<td>(VB /-bāh/)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/bêt/</td>
<td>'to cut, close, cover'</td>
<td>/rbêt /</td>
<td>'to be) cut off, closed; stoppage, closure'</td>
</tr>
<tr>
<td>/baek/</td>
<td>'to open'</td>
<td>/rbæk ~ lbaek/</td>
<td>'to be) open, ajar, dislocated (joint); mouth, opening'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/bot/</td>
<td>'to slide, roll'</td>
<td>/rbot ~ lbot/</td>
<td>'to slip off'</td>
</tr>
<tr>
<td>/baoc/</td>
<td>'to break off, tear out'</td>
<td>/rbaoC ~ lbaoc/</td>
<td>'to be) loose, detached'</td>
</tr>
<tr>
<td>/baoh/</td>
<td>'to cast, sow'</td>
<td>/rbah/</td>
<td>'to be) sparse, thinly distributed'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/bêt/</td>
<td>'to turn, bend'</td>
<td>/rbêt ~ lbaet/</td>
<td>'to be) bent, twisted, askew; bend or section (of a river), coil (of a snake)'</td>
</tr>
<tr>
<td>/mu/</td>
<td>'to roll, wrap'</td>
<td>/rmu ~ lmu/</td>
<td>'to roll up, coil; roll, coil, pack'</td>
</tr>
<tr>
<td>/ton/</td>
<td>'stem, stalk'</td>
<td>/rton ~ lton/</td>
<td>'to be) slender, tapering'</td>
</tr>
<tr>
<td>/däp/</td>
<td>'to bunch, clench'</td>
<td>/rdäp/</td>
<td>'fist'</td>
</tr>
<tr>
<td></td>
<td>(VB /-däp/)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
/däc/ 'to break'
/rdäc/ 'to be) apart, loose, separate'.

/döm/ 'cake, lump, block'
/rdöm/ 'to be) bunched, clustered'.

*/-dök/ 'to stretch'
/rdök/ 'to be) lying flat'.

/daoh/ 'to free, loose'
/rdaoh ~ ldaooh/ 'to be) free, rid, clear'.

/cüc/ 'to break, bend, fold'
/rcüc/ 'to break, bend, fold'.

/qůk/ 'to shake'
/rqůk ~ lqůk/ 'to be) shaky, unsteady'.

/qiən/ 'to be) sloping'
/riqən ~ liqən/ 'to be) sloping'.

*/-qan/ 'to (leave a) mark'
/lqan/ 'mark, trace, track, trail'.

/qät/ 'to be) little'
(VB /-qät/)
/rqät ~ lqät/ 'termite'.

/qän/ 'to diminish' (VB
/-qän/)
/lqän/ 'to be) small, thin (voice), slender, fine'.

/qaon/ 'to tilt, slope'
(VB /-qan/)
/lqan/ 'to be) tilted, slanted'.

/qak/ 'to swallow, gorge'
(VB /-qäk/)
/lqäk/ 'to be) muddy, full of sediment'.

*/-qaq/ 'to grind'
/lqaq/ 'dust, powder'.

/wək/ 'to spread, separate'
/lwək/ 'separation, fork (in road), crotch, gap, space'.

/wən/ 'to be) long'
/rwan/ 'to be) at a distance, far off', /lwən/ 'length or section of a building (on
/wān/ '(to be) rolled, twisted' (VB /-wān/)
/wāl/ '(to be) diverted, pre-occupied' (VB /-wāl/)
/wōn/ 'to ring, encircle'
/*/-līn/ '(to be) smooth, bare'
/līst/ 'to spread'
/lēık/ 'to mark, scar'
(līsk/ 'to be) scratched, burned; burn, scalded place', /lēık/
'(to be) scratched, ruled out, unlikely'.
/lēaj/ 'to mix, melt'
/laćk/ 'part, piece'
/lēsh/ 'to separate, break up' (VB /-lać/̂l)
/laxn/ 'to rise'
/lūp/ 'to efface'
/lōt/ 'to skin'
/lām/ 'to shake'

separate piling').
/rwān/ '(to be) tangled up'.
/rwēl/ '(to be) busy, occupied'.
/rwōn/ '(to be) wound around, coiled, rolled'.
/rliŋ/ '(to be) smooth, bare, shiny, clean'.
/rlīst/ '(to be) open, in (full) bloom'.
/rlēık/ 'to be) scratched, burned;
'līaj ~ līaj/ 'to mix, dissolve, amalgamate; to melt, liquefy'.
/rlēk/ '(to be) meted out, appor- tioned'.
/rlaç/ '(to be) apart, in pieces, in confusion'.
/rlaxn/ '(to be) raised, elevated'.
/rlūp ~ lūp/ '(to be) obliterated, worn away'.
/rlōt/ 'skinned place, abrasion'.
/rlām/ 'to crumble, collapse'.
/lūt/ 'to lower, dip' /rlūt ~ llūt/ '(to be) out, quenched, extinguished'.
/lūh/ 'to go through' /rlūh/ 'to go (all the way) through, go from one side to the other'.
/lūej/ 'to break down' /rlūej ~ llūej/ 'to decompose, rot, decay'.
/lūsh/ 'to lessen, subtract' /rlūsh/ 'to pay off (a debt), except, omit, bar'.
/hāsk/ 'to tear, rip' /rhaek ~ lhaek/ '(to be) torn, ripped, tattered'.
/hā/ 'to part, open, separate' /rha ~ lha/ '(to be) open, deserted, abandoned'.
/hät/ 'to pant, be tired' /lḥät/ '(to be) tired out'.
(VB /-ḥät/⁶²)
/sām/ '(to be) damp, wet' /rhaam ~ lhaam/ '(to be) damp; dampness, moisture'.
(VB /-haam/)
/hött/ 'to draw, stretch' /rhött ~ lḥött/ '(to be) drawn out to full length; to extend all the way'.
/hāok/ 'to pierce' /rhaok ~ lhaok/ '(to be) pierced, open (of ornamental work)'.

9.2. Specializing /l-/.
In the following cases /l-/ yields derivatives which share the notion of specialization with reference to the word bases on which they are built:

/bāk/ 'to break, snap' /lbaek/ 'to shell (beans)'.

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>/bāc/</td>
<td>'to take trouble'</td>
</tr>
<tr>
<td>/bāk/</td>
<td>'to break, fracture'</td>
</tr>
<tr>
<td>/bāq/</td>
<td>'to cover, hide'</td>
</tr>
<tr>
<td>/bāt/</td>
<td>'to slide, roll'</td>
</tr>
<tr>
<td>/baoc/</td>
<td>'to tear out'</td>
</tr>
<tr>
<td>/bāt/</td>
<td>'to turn, bend'</td>
</tr>
<tr>
<td>/bak/</td>
<td>'to skin, peel, husk'</td>
</tr>
<tr>
<td>/mūal/</td>
<td>'to twist'</td>
</tr>
<tr>
<td>/tān/</td>
<td>'(to be) tight, hard'</td>
</tr>
<tr>
<td>/daːl/</td>
<td>'(to be) continuous'</td>
</tr>
<tr>
<td>/dām/</td>
<td>'to beat, knock'</td>
</tr>
<tr>
<td>/dak/</td>
<td>'to pull out'</td>
</tr>
<tr>
<td>/cāp/</td>
<td>'to teem'</td>
</tr>
<tr>
<td>/cūm/</td>
<td>'to turn, ring'</td>
</tr>
<tr>
<td>/cō/</td>
<td>'to flow, rise (of the sea)'</td>
</tr>
<tr>
<td>/rēk/</td>
<td>'to shake, toss'</td>
</tr>
<tr>
<td>/paj/</td>
<td>'to vie, race'</td>
</tr>
<tr>
<td>/kāleh/</td>
<td>'to rub'</td>
</tr>
<tr>
<td>/lbāc/</td>
<td>'to strive, endeavor; effort, exertion'.</td>
</tr>
<tr>
<td>/lbāk/</td>
<td>'ledge, cornice'.</td>
</tr>
<tr>
<td>/rbān/</td>
<td>'to protect, escort'.</td>
</tr>
<tr>
<td>/rbōt/</td>
<td>'to slip away, escape'.</td>
</tr>
<tr>
<td>/rbāoc/</td>
<td>'to preen'.</td>
</tr>
<tr>
<td>/rbūt/</td>
<td>'to wind, slither'.</td>
</tr>
<tr>
<td>/rbak/</td>
<td>'to peel, flake, come off in scales'.</td>
</tr>
<tr>
<td>/rmūal/</td>
<td>'to writhe, contort; muscular cramps'.</td>
</tr>
<tr>
<td>/rtyān/</td>
<td>'(to be) harsh, severe'.</td>
</tr>
<tr>
<td>/rdaːl/</td>
<td>'(to be) unceasing, constant'.</td>
</tr>
<tr>
<td>/rdām/</td>
<td>'to collide; jolt, shock, collision'.</td>
</tr>
<tr>
<td>/rdak/</td>
<td>'to uproot, remove'.</td>
</tr>
<tr>
<td>/rcāp/</td>
<td>'to throng'.</td>
</tr>
<tr>
<td>/rcūm/</td>
<td>'to encompass, unite'.</td>
</tr>
<tr>
<td>/rcō/</td>
<td>'to throng; throng, mob, concourse'.</td>
</tr>
<tr>
<td>/rēnēk/</td>
<td>'to fidget; to waddle'.</td>
</tr>
<tr>
<td>/r̥naj/</td>
<td>'to make haste'.</td>
</tr>
<tr>
<td>/rkāleh/</td>
<td>'to irritate; irritation, inflammation'.</td>
</tr>
<tr>
<td>Verb</td>
<td>Meaning</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>/kël/</td>
<td>'to budge, move slightly' (VB /-kël/)</td>
</tr>
<tr>
<td>/rêj/</td>
<td>'to raise (the eyes), hold up (the head)'</td>
</tr>
<tr>
<td>/rêòep/</td>
<td>'to be) dead'</td>
</tr>
<tr>
<td>/qêt/</td>
<td>'to be) little' (VB /-qêt/)</td>
</tr>
<tr>
<td>/qa/</td>
<td>'to rejoice, gladden'</td>
</tr>
<tr>
<td>/jûm/</td>
<td>'to weep'</td>
</tr>
<tr>
<td>/lîa/</td>
<td>'to open (up, out)'</td>
</tr>
<tr>
<td>/lîen/</td>
<td>'to ravage, ruin'</td>
</tr>
<tr>
<td>/léc/</td>
<td>'to appear, emerge'</td>
</tr>
<tr>
<td>/lask/</td>
<td>'part, piece'</td>
</tr>
<tr>
<td>/lên/</td>
<td>'to let go, forsake'</td>
</tr>
<tr>
<td>/laen/</td>
<td>'to rise' (VB /-lên/)</td>
</tr>
<tr>
<td>/lûp/</td>
<td>'to efface'</td>
</tr>
<tr>
<td>/lâm/</td>
<td>'to shake'</td>
</tr>
<tr>
<td>/lut/</td>
<td>'to sprout, grow'</td>
</tr>
<tr>
<td>/lût/</td>
<td>'to drop, lower'</td>
</tr>
<tr>
<td>/lûaj/</td>
<td>'to break down'</td>
</tr>
<tr>
<td>/lóc/</td>
<td>'to burn'</td>
</tr>
<tr>
<td>/rkêl/</td>
<td>'(to be) rough, bumpy'</td>
</tr>
<tr>
<td>/rêj/</td>
<td>'(to be) proud, arrogant'</td>
</tr>
<tr>
<td>/rêòep/</td>
<td>'(to be) dead, abate, subside'</td>
</tr>
<tr>
<td>/rqêt ~ lqêt/</td>
<td>'(to be) slight, minute, spare'</td>
</tr>
<tr>
<td>/lqà/</td>
<td>'(to be) good, fair, fine'</td>
</tr>
<tr>
<td>/rjûm ~ ljûm/</td>
<td>'to droop, dangle'</td>
</tr>
<tr>
<td>/rlîa ~ llîa/</td>
<td>'to extend, deploy; to relax, unbend'</td>
</tr>
<tr>
<td>/rlîen/</td>
<td>'(to be) dissolve'</td>
</tr>
<tr>
<td>/rléc ~ lléc/</td>
<td>'to jut, protrude'</td>
</tr>
<tr>
<td>/rlêk/</td>
<td>'to separate, detach'</td>
</tr>
<tr>
<td>/rlên/</td>
<td>'to set apart, remove'</td>
</tr>
<tr>
<td>/rlasen/</td>
<td>'to rise to one's feet, stand up', /rlàq/ 'to grub or plow up, extirpate'</td>
</tr>
<tr>
<td>/rlûp ~ llûp/</td>
<td>'to do away with, abolish'</td>
</tr>
<tr>
<td>/rlûm/</td>
<td>'to topple, overthrow'</td>
</tr>
<tr>
<td>/rlut/</td>
<td>'to throw out new shoots'</td>
</tr>
<tr>
<td>/riût ~ llût/</td>
<td>'to have a miscarriage; miscarriage'</td>
</tr>
<tr>
<td>/rlûaj ~ llûaj/</td>
<td>'to digest'</td>
</tr>
<tr>
<td>/rlóc/</td>
<td>'to light, kindle'</td>
</tr>
</tbody>
</table>
/lao/ '(to be) disorderly' /rlao/ '(to be) gay, dissolute'.
/löet/ 'to skin, peel' /rlöet/ 'to skin, scrape, chafe'.
/log/ 'to pass, cross' /rlög/ '(to be) excessive'.
/lūsh/ 'to lessen, drop' /rlōh/ 'to thin out; to fall (down, in)'.
(VB /-loh/)
/sat/ 'to float' /rsat/ '(to be) adrift'.
/sac/ 'to eject' /rsac/ 'to scatter, spread'.
/saj/ 'to scatter' /rsaj/ 'to be) sparse, separated, detached'.
/sag/ 'to match, be the mate to'
/*-haz/ '(to be) inactive' /rhaz ~ lhaiz/ 'idleness, leisure, rest'.
/*-ham/ 'to flow' /rhäm ~ lham/ 'to ooze, exhude'.
/*-haaj/ 'to rise, revive' /rhaaj ~ lhaaj/ '(to be) refreshing'.
/häp/ 'to pant, be out of breath' /rhäp ~ lhäp/ '(to be) winded, foun-
dered (of a horse); to gape'.
/häk/ 'to return' /rhäk ~ lhäk/ 'to parade (walk out and come back), strut, swagger'.

CHAPTER V
RHOTACIZED PREFIXES

1. **General.** The term rhotacized prefix refers to the common post-initial /r/ distinguishing the five CrV- presyllables. These, as has been seen, take the form of /prV-, trV-, crV-, krV-, srV-, in which V represents phonemically long CR /o/ and OR /a/. For additional formal particulars see Chapter II, sections 4 and 5.2.

Insofar as my data are representative of the language, the rhotacized prefixes constitute the smallest group of affixes in Standard Khmer. Derivatives in /prV-/ account for nearly 70 percent of the total.

In my data the rhotacized prefixes occur with primary bases having any initial except /n, r/ and with secondary bases having initial /pn, pr, ph, cl, ch, kh/. However, occurrence of these prefixes with secondary bases is uncommon. In addition to the few secondary /prV-/ derivatives listed hereafter, Guesdon (1930) gives 11 and the VK gives 53 items in pra- followed by main syllables having initial clusters. Nearly all of these appear to be derivatives created in and borrowed intact from Sanskrit, such as prathabā (Skt prthivī) 'smell', prathama (Skt prathama) 'first', and prabhā (Skt prabhā) 'splendor'. With /trV-, crV-, krV-, srV-/ the number of subdissyllabic main syllables drops sharply. Of such /trV-/ derivatives Guesdon lists 11, the VK only 1; of /crV-/ derivatives Guesdon has only one, the VK none at all; of /krV-/ derivatives Guesdon has 5, the VK only one; and of /srV-/ derivatives Guesdon has one while the VK has 3. In all these cases base postinitials are restricted to /h/ after all five prefixes, to /r, l/ after /prV-, trV-, krV-, srV-/, and possibly to /n, η/ after /prV-/: /pracbāt ñ pracbāt/ 'apoplexy' (Guesdon
Comparison of the distribution of the rhotacized and corresponding simple prefixes (except /R-/) yields mixed results. With bases having labial initials prefix /p-/ is very rare, whereas /prV-/ is common. The same can be said of /t-/ and /trV-/ with bases having dental initials. On the other hand, both /c-, k-, s-/ and /crV-, krV-, srV-/ are rare before palatals, velars, and spirants respectively. In addition, /crV-/ apparently does not occur before dentals and spirants, while /srV-/ apparently does not occur before semivowels. With a few exceptions, the dictionaries substantiate the evidence of my corpus.

Contrast between the rhotacized and simple prefixes of the same class tends to be weak. Such alternating forms as /proprýt ~ pprýt/ 'behavior', /pruml ~ pml/ 'to gather', /praqck ~ pqck/ 'an odoriferous cheese-like preparation made from fish and meat (more often known in the Standard as /prahôk/)', /krâhâk ~ khâhâk ~ kohâk/ 'to lie, prevaricate' /praphâh ~ ppâhâh/ '(to be) grey', and even /bae sên ~ prasên/ 'if' are fairly common.

It appears that the essential function of the /r/ element of the five rhotacized prefixes is to buffer the initial, as it were, and thereby reinforce their syllabicilty. It has been shown that forms with initial consonant clusters are often prosodically monosyllabic while phonetically dissyllabic (Chapter II, sections 1 and 4). Hence without their postinitial /r/ the rhotacized prefixes would be indistinguishable from the corresponding simple prefixes. This suggests that the syllabicilty of the rhotacized prefixes is environmentally conditioned, or at least was so at one stage of the language. If this is true, they may be allomorphs of the
corresponding simple prefixes. Apart from the clearly defined reciprocal function of /prV-/, all five of the rhotacized prefixes show considerable duplication of the simple prefixes.

Maspero (1915: 197, 205-7, 221) accepts all five prefixes, and observes that while /prV-/ is found before bases having any initial, /trV-, crV-, krV-/ occur only before /p, b, m, w, l, h/ and /srV-/ occurs only before /p, b, t, d, c, k, l/. He affirms that all of the rhotacized prefixes have a tendency to form reflexive and reciprocal derivatives. Gehr (1951: 70), following Maspero, notes that apart from /R-/ the "simple prefixes are not permissible with root-words beginning with a consonant of the same class." He recognizes all five rhotacized prefixes and like Maspero states that they denote the reflexive or reciprocity. He further observes that "in Siamese the distinction between the simple prefix and the 'r' form is scarcely felt; there is a tendency to insert 'r' after p [/p/] and k in writing, whereas it is rarely audible in speech." Jacob (1963: 65; 1968b: 178a and Huffman (1967: 77) similarly accept all five of the prefixes.

2. Prefix /prV-/. The distinctive function of /prV-/ is to add a reciprocal aspect to the predication of the base. Secondary functions duplicate (a) prefix /R-/ before a few bases with labial initials and (b) prefix /p-/ in its role of marking the factive, causative, and agentival-instrumental. A residue of /prV-/ derivatives which share the notion of specialization is treated here as a subgroup of the factives.

Jacob (1963: 69) indicates that /prV-/ is an intensifier. Huffman (1967: 78-80) finds that it marks reciprocity, causation, nominalization, specialization, verbalization, and attribution. Jacob (1968b: 179) mentions that it "gives the idea of reciprocity."
2.1. Frequentative /prV-/. In the following cases /prV-/ yields derivatives sharing a frequentative aspect:

/pun/ 'to heap'

/prapun ~ ppun/ 'to heap up (repeatedly), amass'.

/prýt/ 'to be) strict, severe'

/proprýt ~ pprýt/ 'strict conduct, propriety'.

/phah/ 'ashes'

/praphah ~ pphah/ '(to be) grey'.

/báxt/ 'to turn, bend' (VB

/prubáxt/ 'bend, dog-leg; bay, bight, cove'.

/bäh/ 'to shoot, fire'

/prubäh/ 'to shoot at one another'.

/tiäp/ 'to pull, tug'

/prutiäp/ 'to tussle'.

2.2. Reciprocal /prV-/. In the following cases /prV-/ yields derivatives sharing a reciprocal aspect. The strict reciprocal idea, connoting interaction by two or more subjects on or against each other, is in some cases weakened to connote mutual action by two or more subjects in common. In the first case the reference is to action given and received, in the second case to action undertaken in cooperation.

/péok/ 'to rest on, lay over'

/prápëok/ '(to be) placed on top of one another, be entwined'.

/phöt/ 'to abut on, be flush with'.

/práphöt/ 'to graze, skim'.

/béxt/ 'to press, squeeze'

/prubéxt/ 'to crowd or huddle together; to touch, brush'.

/back/ 'to break, separate'

/pruback/ 'to fork, divide; fork, confluence'.

/bément/ 'to shoot, fire'

/prubément/ 'to shoot at one another'.

/tiánp/ 'to pull, tug'

/prutiánp/ 'to tussle'.


<table>
<thead>
<tr>
<th>/tēsk/</th>
<th>'to snare, hook'</th>
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<tbody>
<tr>
<td>/pratēsk/</td>
<td>'to cross, intersect, intertwine'.</td>
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<table>
<thead>
<tr>
<th>/tēsh/</th>
<th>'to hit, oppose'</th>
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<tbody>
<tr>
<td>/pratēsh/</td>
<td>'to run into, meet by chance; crash, collision'.</td>
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<table>
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<tr>
<th>/tāh/</th>
<th>'obstacle'</th>
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<tbody>
<tr>
<td>/pratāh/</td>
<td>'to get in each other's way, interfere'.</td>
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<table>
<thead>
<tr>
<th>/tūp/</th>
<th>'to hold (back), obstruct'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pratūp/</td>
<td>'to hold onto or cling to one another'.</td>
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<table>
<thead>
<tr>
<th>/tūl/</th>
<th>'to resist'</th>
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</thead>
<tbody>
<tr>
<td>/pratūl/</td>
<td>'to face, confront; (to be) opposite, in front'.</td>
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<table>
<thead>
<tr>
<th>/dāl/</th>
<th>'to hit, pound'</th>
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</thead>
<tbody>
<tr>
<td>/pradāl/</td>
<td>'to box; boxing'.</td>
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<table>
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<tr>
<th>/dāt/</th>
<th>'(to be) close, in contact'</th>
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<tbody>
<tr>
<td>/pradāt/</td>
<td>'(to be) close to one another, touching'.</td>
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<table>
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<tr>
<th>/dāc/</th>
<th>'(to be) alike'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pradāc/</td>
<td>'(to be) alike, like one another; to liken, compare'.</td>
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<table>
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<tr>
<th>/dām/</th>
<th>'to beat, knock'</th>
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<tbody>
<tr>
<td>/pradām/</td>
<td>'to beat, knock, against; to collide'.</td>
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<table>
<thead>
<tr>
<th>/cāp/</th>
<th>'to seize'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pracāp/</td>
<td>'to grasp, clutch, one another, be entwined'.</td>
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<table>
<thead>
<tr>
<th>/cām/</th>
<th>'to watch, wait'</th>
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</thead>
<tbody>
<tr>
<td>/pracām/</td>
<td>'to wait for one another'.</td>
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<table>
<thead>
<tr>
<th>/cāk/</th>
<th>'to pierce, stab'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pracāk/</td>
<td>'to fight with bladed weapons'.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>/cāk/</th>
<th>'to peck, bite'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pracāk/</td>
<td>'to peck at one another, fight (of birds)'.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>/cūl/</th>
<th>'to fight, clash'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pracūl/</td>
<td>'to incite (two animals) to fight; fight between animals'.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/cūsp/</th>
<th>'to meet'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pracūsp/</td>
<td>'to meet one another'.</td>
</tr>
</tbody>
</table>
/cōep/ 'to stick, cling' /pracōp/ 'to stick to one another'.
(VB /-cōp/)

/can/ 'to tie, fasten' /pracan/ 'to tie or fasten together'.

/chom/ '(to be) facing' /prachom/ '(to be) face to face'.

/paj/ 'to vie' /prapaj/ 'to vie with one another'.

/kōp/ 'to squeeze, grip' /prakōp/ 'to clasp one another; to grip, hold fast, stick'.

/kāk/ 'to embrace' /prakāk/ 'to hug, hold, embrace one another'.

/kāp/ 'to cut, slice' /prakāp/ 'to stab (at) one another'.

/kāt/ '(to be) close' /prakāt/ '(to be) close to one another, touching'.

/kaaj/ 'to rest (the head) on' /prakaaj/ 'to lean on one another'.

/kaoh/ 'to hold, keep' /prakaoh/ 'to stick together'.

/kap/ '(to be) related' /prakap/ '(to be) interrelated; relationship, connection'.

/khām/ 'to bite' /prakhām/ 'to bite one another, fight'.

/qaon/ 'to bend, slope' /prqaon/ 'to converge'.

/wiaj/ 'to beat' /prwiaj/ 'to exchange blows, fight'.

/lēŋ/ 'to play' (VB /-lēŋ/) /prålēŋ/ 'to play together'.

2.3. Factive /prV-/. In the following cases /prV-/ yields derivatives sharing a factive aspect:65
/pén/ 'to coil, roll'
/prapén/ 'to coil, roll'.

/pēek/ 'to rest on, lay over'
/prapēek/ 'to place down on'.

/pūen/ 'to hide'
/prapūen/ 'to hide'.

/pōen/ 'to entwine'
/prapōen/ 'to entwine'.

/pnōl/ 'omen'
/prapnōl/ 'to augur, portend; omen, augury'.

/bāc/ 'to scatter, strew'
/prabāc/ 'to scatter, strew'.

/bāk/ 'to break'
/prabāk/ 'to break, smash'.

/bān/ 'to hide, bury'
/prabān/ 'to hide'.

/bet/ 'to cover'
/prabet/ 'to cover over (up)'.

/tēek/ 'to snare, hook'
/pratēek/ 'to hook, catch'.

/taq/ 'to replace'
/prataq/ 'place, stead'.

/tük/ 'grief, affliction'
/pratük/ 'to grieve, afflict'.

/tul/ 'to address (superior beings)'
/pratul/ 'to address (superior beings)'.

/taoŋ/ 'to cling, climb'
/prataoŋ/ 'to cling, clutch; to climb, scale'.

/tōal/ '(to be) held fast'
/pratōal/ '(to be) held fast, secure; deadlock, impasse'.

/dēp/ 'to hunt, chase'
/pradēp/ 'to chase, pursue'.

/dāk/ 'to set down'
/pradāk/ 'to set down, lay down; deposit'.

/dak/ 'to pull out of joint'
/pradak/ 'to pull out of joint'.

/cip/ 'to pinch'
/pracic/ 'to pinch, contract; pinch, contraction'.

/caj/ 'to distribute'
/pracaaj/ 'distribution; alms'.
| /cêt/  | 'heart/mind'  | /pracêt/  | 'to care, be concerned about; care, concern'. |
| /cüm/  | 'to encompass' | /pracüm/  | 'to assemble; assembly, gathering'. |
| /cluah/ | 'quarrel, row' | /pracluah/ | 'quarrel, row'. |
| /pœp/  | '(to be) quick' | /prapœp/  | 'to make haste'. |
| /kāp/  | 'to cut, slice' | /prakāp/  | 'to slash'. |
| /kān/  | 'to hold'  | /prakān/  | 'to keep, maintain'. |
| /ko/  | 'to heap'  | /prako/  | 'to heap up, amass, accumulate'. |
| /koŋ/  | 'to lie on'  | /prakoŋ/  | 'to lie on'. |
| /kāt/  | '(to be) right, true' (VB /-kāt/) | /prakāt/  | '(to be) true, sure'. |
| /khām/ | 'to strive' | /prakhām/  | 'to strive, make an effort'. |
| /qōh/  | 'to pull, draw' | /praqōh/  | 'to give a pull, tug; to carry along, drag'. |
| /wpēl/  | 'wide, open space' | /prwpēl/  | 'expanse; extent'. |
| /wŋŋ/  | '(to be) long' | /prwŋŋ/  | 'length'. |
| /lae/  | '(to be) mixed' | /prarae/  | 'to mix up, confuse'. |
| /laŋ/  | 'to leave, forsake' | /pralaŋ/  | 'to leave, forsake'. |
| /lēsh/  | 'to break up (apart)' (VB /-lēsh/) | /pralaš/  | 'to separate, dismember'. |
| /laj/  | '(to be) mixed, hybrid' | /prulaj/  | '(to be) mixed, hybrid'. |
| /lỳm/  | '(to be) dim' | /prulỳm/  | 'dawn, daybreak'. |
| /lūp/  | 'to cover, shade' | /prulūp/  | 'dusk, twilight'. |
| /lon/  | '(to be) open' | /prulon/  | 'clearing, glade; space, space, space,' |
(VB /-lũŋ/)  
/lē̄h/ 'to separate' (VB  
/-lũñ/)  
/sac/ 'to spread, scatter'  
/ha/ 'to depart; to ruin'  
/hĩ̄m/ 'dawn'

Isacl 'to spread, scatter'.  
Ihal 'to depart; to ruin'.  
Ipadl 'to carve'.  
Idaml 'to plant'.  
/dep! 'to hunt, chase'  
/dam! 'to plant'.  
/dam! 'to plant'.  
/dam! 'to plant'.  
/dam! 'to plant'.

praloh/ 'to separate; separation'.  
prusac/ 'to spread, scatter'.  
pruha/ 'to abandon; to damage'.  
prahiem/ 'dawn'.

pratakl, (to be) scrawled, scribbled, illegible'.  
pradepl/ 'to go on, continue'.  
pradapl 'to adorn'.  
pradam! 'to set up, erect, establish'.  
pradakl 'banister, balustrade'.  
pracap/ 'to charge with an offense'.  
pracokl 'to give a mouthful of prechewed food (to an infant)'.  
pracao1 'legal prescription, limitation'.  
pracoapl/ 'lecher'.  
pranaj/ 'to make haste'.

2.4. Specializing /prV-/. In the following cases /prV-/ yields derivatives which share the notion of specialization with reference to the word bases on which they are built. The members of this group appear to have enough in common with the factives to be considered specialized factives.

*-tak/ '(to be) slovenly'  
-*tak/ '(to be) scrawled, scribbled, illegible'.

/dep! 'to hunt, chase'  
/pruha/ 'to abandon; to damage'.  
/dep! 'to hunt, chase'  
/pruha/ 'to abandon; to damage'.

pratakl, (to be) scrawled, scribbled, illegible'.

pradepl/ 'to go on, continue'.  
pradapl 'to adorn'.  
pradam! 'to set up, erect, establish'.  
pradakl 'banister, balustrade'.  
pracap/ 'to charge with an offense'.  
pracokl 'to give a mouthful of prechewed food (to an infant)'.  
pracao1 'legal prescription, limitation'.  
pracoapl/ 'lecher'.  
pranaj/ 'to make haste'.
/kiːp ~ kίep/ 'to squeeze, hold /prakίep/ 'fork, crotch'.
in tongs'
/kám/ 'rope, line, hawser' /prakám/ '(buffalo-hide) line
for hobbling elephants'.
/kəuh/ 'to hold, keep' /prakaoh/ 'to arrest, detain'.
/kap/ 'to possess' /prakap/ 'to include, comprehend'.
/kul/ 'to hold up' /prakul/ 'to chock (wedge) up;
to raise, elevate'.
/gęj/ 'to raise (the eyes),
hold up (the head)'
/lęŋ/ 'to play' (VB -lęŋ/) /pralęŋ/ 'to romp, frolic, gambol'.
/łeŋ/ 'to leave, forsake' /pralaęŋ/ 'to depart from, be
different'.
/loŋ/ 'to pass, experience' /pralọŋ/ 'to try, test'.
/läm/ 'to mix, disturb' /praläm/ 'to meddle'.

2.5. Causative /prV-. In the following cases /prV-/ yields derivatives sharing a causative aspect:
/mul/ '(to be) grouped,
massed'
/pramöl ~ pmöl/ 'to bring to-
gather, collect, unite'.
/chaot/ '(to be) mad, foolish' /prachaot/ 'to fool, gull, dupe'.
/kət/ 'to adhere' /prakət/ 'to set (jewels)'.
/kət/ 'to whet, excite' /prakət/ 'challenge, provocation'.
/kor/ 'to lie on' /prakor/ 'to lodge, stow'.
/läm/ 'to mix, confuse' /praläm/ 'to trick, take in'.

2.6. Agentival-Instrumental /prV-. In the following two cases /prV-/ yields derivatives which could be construed as nominalized
factivs but which appear to be analogous to the agentival-instrumental /p-/ derivatives.

/chêh/ 'to burn, blaze' /prachêh/ 'wick'.
/qāp/ 'to cover, envelop' /praqāp/ 'case, box'.

3. Prefix /trV-/.

The small number of /trV-/ derivatives in my data appear to fall into two main groups. The members of one group seem to share a factive aspect and show alternation with /p-, prV-, crV-, krV-. The members of the other group seem to share an aspect which presents the predication of the base as an essential or characteristic quality; these show alternation with /crV-, krV-, srV-/.


3.1. Factive /trV-/. In the following cases /trV-/ yields derivatives sharing a factive aspect:

/jiën/ 'festoon, tassel' /trojiën/ 'to festoon'.
/bāc/ 'to shoot, spurt' /trabāc ~ crabāc/ 'to squeeze or crush (fruit), express (juice), knead'.

daoh/ 'to free' /trudaoh ~ pdaoh/ 'to free, loose'.
/kāp ~ kāp/ 'to squeeze, hold in tongs'. /trakāp ~ prakāp/ 'fork, crotch'.
/lāh/ '(to be) more, in excess' /trulāh ~ crulāsh/ 'to surpass, exceed'.
/san/ 'peace, calm' /trusan ~ krusan/ '(to be) peaceful, calm'.
onomatopoeia for a call of acclamation or war-cry

3.2. Qualitative /trV-. In the following cases /trV-/ yields derivatives sharing a qualitative aspect. These connote accomplishment of the base in an essential or characteristic way, being in a state by nature, or being of a certain nature. In two cases this last nuance is weakened to the extent of having comparative force reminiscent of English -ish, as in "reddish" or "devilish".

/mul/ '(to be) round, spherical'
/tūn/ '(to be) soft, supple'
/cāp/ 'to seize'
/chyr/ '(to be) deep, thick'
/wey/ '(to be) long'
/lēc/ 'to come out, emerge'
/saj/ 'to spread, extend'
/san/ 'to go together'
/hyń/ 'to deafen' (VB -hān/

/trumul/ '(to be) oval, depressed'.
/trātūn ~ sratūn/ '(to be) soft, supple'.
/tracāp/ 'to catch (snatch) in mid-air, on the run'.
/trachyr/ '(to be) deep, thick'.
/traweŋ/ '(to be) oblong, oval'.
/tralēc/ 'to stick out (the chest), thrust forward'.
/trasaj/ '(to be) spreading, branching, bushy, thick'.
/trasany/ '(to be) together, in company'.
/trahyń/ '(to be) deafening; din, boom, commotion'.

4. Prefix /crV-. The small number of /crV-/ derivatives in my
data also appear to fall into two groups, factive and qualitative.

Jacob (1963: 69) indicates that /crV-/ marks the causative. Huffman (1967: 80-1) ascribes to it the functions of causation, intensification, attribution, and verbalization. Jacob (1968b: 178-9) does not mention its function.

h.1. Factive /crV-/. In the following cases /crV-/ yield derivatives sharing a factive aspect and showing alternation with /prV-, trV-, c-, srV-/:  

*/-lēk/ 'to put in, add to' /crolēk/ 'to dip, soak, immerse'.  
*/-baml/ 'to grasp' /crobaml ~ cbaml/ 'to take in the hand, pick up by the handful'.  
/bāc/ 'to shoot, spurt' /crbāc ~ trabāc/ 'to squeeze or crush (fruit), express (juice), knead'.

/mūn ~ mēn/ 'moment, instant' /crmēn/ 'just now, a moment ago'.  
/mūc/ 'to plunge' /crmūc/ 'to immerse'.  
/mūsj/ 'one' /crmūsj/ 'to join, unite'.

/kāt/ '(to be) close' /crkit ~ ckt/ 'to touch, cling'. (VB /-kit/)  
/gūk/ 'to shake, wag' /crgūk ~ srcgūk/ 'to waver, sway, teeter'. (VB /-gūk ~ -gūk/)  
*/-mūst/ 'to cross' /crwūt ~ cwūt/ 'to crisscross, intersect'.  
/lēk/ 'to play' (VB /-lēn/) /crlēn ~ prolēn/ 'to play together, disport'.

/lāc/ '(to be) mixed, confused' /crlāc ~ prlāc/ 'to mix up,
confuse'.

/to break up (apart)' /to separate, dismember'.

/to be) more, in excess' /to surpass, exceed', 'to go beyond, cross; to exaggerate; to miss the mark'.

/to break apart' /gap, space, interval'.

/to be) open' /space, expanse; way, path, channel'.

/to mix, disturb' /to mix up, confuse; to disturb, upset'.

4.2. Qualitative /crV-/.

In the following cases /crV-/ yields derivatives sharing a qualitative aspect indistinguishable from the qualitative function of /trV-, krV-, srV-/:

/to be) strong, robust' /to be) firm, solid'.

/to be) wanton, lewd' /to be) obscene'.

/to pull, drag' /to be) listless, languid, apathetic'.

/to be) apart, parted' /to be) hanging, agape, pendulous (as lips)'.

5. Prefix /krV-/.

The small number of /krV-/ derivatives in my data appear to fall into three groups: factive, specializing, and qualitative. Alternation occurs with /prV-, t-, trV-, k-/ but not with /crV-/.
Jacob (1963: 69) notes that /krV-/ forms attributive verbs. Huffman (1967: 81) finds that it marks causation, intensification, and verbalization. Jacob (1968b: 179) identifies its function as one of restricting the meaning of the word base.

5.1. Factive /krV-/. In the following cases /krV-/ yields derivatives sharing a factive aspect:

- /wūŋ/ 'ring, round' (VB /-WOl/) /krawŋ/ 'to roll (coil) up'.
- /san/ 'peace, calm' /krasan ~ ksan ~ trasan/ '(to be) peaceful, calm, prosperous'.

5.2. Specializing /krV-/. In the following cases /krV-/ yields derivatives in which a restrictive aspect is added to the idea of the base either through a marked narrowing of the semantic range or through development of metaphorical senses not originally associated with the base:

- */-tak/ '(to be) slovenly' /kratak ~ pratak/ '(to be) scrawled, scribbled, illegible'.
- /cāl/ 'swirl, eddy, rush (of water)' /kracāl/ 'confluence of noxious humors: inflammation'.
- /wēŋ/ '(to be) long' /krawēŋ/ 'to throw away'.
- /wēj/ 'to beat, thrash' /krawēj/ 'pain, anguish'.
- /wly/ 'to turn, revolve' /krawly/ 'ring, ferrule, loop'.
- /wōl/ '(to be) preoccupied' /krawōl/ 'concern, anxiety'.

(VB /-wūl/)

- /lēc/ 'to come out, emerge' /krlēc/ 'to break loose'.

/krV- 
forms attributive verbs. Huffman finds that it marks causation, intensification, and verbalization. Jacob identifies its function as one of restricting the meaning of the word base.

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- /wēj/ 'to beat, thrash' /krawēj/ 'pain, anguish'.
- /wly/ 'to turn, revolve' /krawly/ 'ring, ferrule, loop'.
- /wōl/ '(to be) preoccupied' /krawōl/ 'concern, anxiety'.

(VB /-wūl/)

- /lēc/ 'to come out, emerge' /krlēc/ 'to break loose'.
5.3. Qualitative /krV-/. In the following cases /krV-/ yields derivatives sharing an aspect which presents the predication of the base as an essential or characteristic quality:

/pul/ 'poison' /krupul/ '(to be) sickening, nauseating'.

/taen/ '(to be) strong' /krataen/ '(to be) strong, solid, strong-limbed, powerful'.

/pen/ 'to twist, frown' (VB /-pen/) /krapen/ '(to be) twisted, wry (of a face)', /krapen/ '(to be) twisted, bent, deformed'.

/wian/ 'to roll up, twist' /krwian/ '(to be) coiled up, doubled up'.

/wen/ '(to be) long' /krwen/ '(to be) far apart'.

/wen/ 'to turn, bend' (VB /-wen/) /krwen/ 'to turn, spin, whirl'.

/wel/ 'to turn around' (VB /-wel/) /krwel/ 'to revolve; to roam, explore'.

/wiel/ 'wide, open space' /krwiel/ 'space, expanse; world'.

/lit/ 'to spread, display' /krulit ~ klit/ 'to open (the eyes, mouth, legs) wide'.

/lot/ 'to jump' /krulot ~ klaot ~ tlaot/ '(of eyes) to start from their sockets, protrude'.

/*-haj/ '(to be) steaming, hot' /kruhaj/ '(to be) burning; to smart, burn'.
6. **Prefix */srV-/**. The small number of */srV-/** derivatives in my data appear to fall into the same three groups as the */krV-/** derivatives: factive, specializing, and qualitative. Alternation occurs with */prV-/, trV-, crV-, s-/ but not with */krV-/**.

Jacob (1963: 69) identifies this prefix as an intensifier and a quantifier. Huffman (1967: 80) finds that it marks intensification, specialization, and verbalization. Jacob (1968b: 179) states that it restricts the meaning of the word base.

6.1. **Factive */srV-/**. In the following cases */srV-/** yields derivatives sharing a factive aspect:

- /mul/ '(to be) massed, grouped' /sramul/ 'to collect, unite'.
- /tõep/ '(to be) low, humble' /sratõep/ 'to make an obeisance, prostrate oneself'.
- */-lõp/ '(to be) fond of' /srulõp/ 'to like, love'.
- */-dãj/ 'to utter' /srudãj ~ sdãj/ 'to say, speak'.
- /lõp/ 'to cover, shade' /srulõp ~ prlõp/ 'dusk, twilight'.

6.2. **Specializing */srV-/**. In the following cases */srV-/** yields derivatives in which a restrictive aspect is added to the idea of the base either through a marked narrowing of the semantic range or through development of metaphorical senses:

- /mõn/ 'to bend' /sramõn/ 'to squat, crouch; to cower, lurk'.
- /bõn/ 'to twist' /srabõn/ 'to make a wry face'.
- /bak/ 'to blow, puff' (VB /srabãk ~ sbãk/ 'moment'.
- /-bãk/)
/tüm/ '(to be) ripe, old' /sratüm/ '(to be) dark; darkness, night'.
/tōep/ '(to be) facing, contiguous' (VB /-top/) /sratōep/ 'covering, layer, bed',
/tūk/ 'to shake, wag, nod' /srāték ~ craqyk/ 'to waver, sway, tetter', /srāyk/ '(to be) downcast, dejected'.
/līap/ 'to smear, oil' /srālap/ 'to rub with oil'.
/lōet/ 'to skin, peel' (VB /-list/) /srālat/ 'to (lay) bare, strip'.
/lāh/ '(to be) apart' /srālah/ 'to get free, break loose'.
/lut/ 'to grow' /srālut/ '(to be) tall, high'.
/rōc/ '(to be) bright, brilliant' (VB /-lōc/) /srāloc ~ sraoc/ 'to shine out, stand out, be conspicuous'.

6.3. Qualitative /srV-/. In the following cases /srV-/ yields derivatives sharing an aspect which presents the predication of the base as an essential or characteristic quality:

/pyl/ '(to be) dim' /srāpyl/ '(to be) dim, indistinct'.
/tūn/ '(to be) soft, supple' /sratūn ~ tratūn/ '(to be) soft, supple'.
/pun̥/ '(to be) gracious' /srāpun̥/ '(to be) gracious, charming, affable'.
/kūt/ '(to be) right, true' /srūkūt/ '(to be) wise'.


/līp/ '(good) luck' /sralīp/ '(to be) lucky'.
/līm/ '(to be) indistinct' /sralīm/ '(to be) indistinct,
dim, vague, confused'.
/lūp/ 'to cover, shade' /sralūp/ '(to be) dark, somber'.

CHAPTER VI

NONSYLLABIC INFIXATION

1. General. The infixational subsystem of modern Khmer is divisible into two series, namely nonsyllabic infixes and a single syllabic infix, /Vmn- ~ VN-/. The total number of derivatives by infixation on which this and the next chapter are based is shown in Table IX.

Nonsyllabic infixes consist of a simple consonant which is inserted into the interior of the word base directly after the initial and which forms a consonant cluster with the latter. Insofar as the formation of consonant clusters is concerned, two exceptions to this statement are explained by the nonoccurrence or rarity of /b, d, n, ñ, q, w, j, h/ as prior members of clusters. One type of exception is seen in the derivation /jûm/ 'to weep' + /-b-/ > /jóbûm/ 'weeping', instead of */jûbûm/. The other type of exception is seen in the derivation /qa/ 'to saw' + /-n-/ > /qana/ 'saw', instead of */qna/.

Six nonsyllabic infixes are described here: /-b-, -m-, -n-, -r-, -l-, -h-/. The functions of the first three of these are fairly clear; those of the other three are vague. In addition to these six, */-c-, -ñ-, -w-/ are treated as a residue of possible relic infixes regarding which little can be said without further work. It is worth noting here that Maspero (1915: 208-9) and after him Gehr (1951: 80) recognize /b, t, d, c, k, w, r, l, s/ and the nasals as nonsyllabic infixes, in other words the entire consonant inventory except /p, q, y, h/. Both add that in general the simple infixes serve to form instrumental derivatives, though /-m-/ is distinctively agentival.

2. Infix /-b-/. Infix /-b-/, which has the allomorph /-ðb-/ only
<table>
<thead>
<tr>
<th>Nonsyllabic</th>
<th>Syllabic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary Derivatives</td>
</tr>
<tr>
<td></td>
<td>-b- 37</td>
</tr>
<tr>
<td></td>
<td>-m- 24</td>
</tr>
<tr>
<td></td>
<td>-n- 97</td>
</tr>
<tr>
<td></td>
<td>-r- 28</td>
</tr>
<tr>
<td></td>
<td>-l- 16</td>
</tr>
<tr>
<td></td>
<td>-h- 28</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>230</td>
</tr>
<tr>
<td>Grand total:</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE IX: TOTAL DERIVATIVES BY INFIXATION.**
in the form /jôbûm/ cited above, is one of the less common nonsyllabic infixes in my data (Table IX). Not found after labial base initials, it occurs as a postinitial after /t, c, k, r, l, s/.

/-b-/ derivatives appear to fall into three functional groups: resultative, similitative, and agentival-instrumental.

Jacob (1963: 66, 69) accepts a /-b-/ infix and indicates that it forms derivatives denoting the "object made." Huffman (1967: 91, 92-3) also accepts it and finds that it marks resultative and instrumental nominalization as well as specialization. Jacob (1968b: 184) includes /-b-/ among the less common infixes and states that it forms nouns indicating the object achieved by the action of a verb.

2.1. Resultative /-b-/. In the following cases /-b-/ yields derivatives in which the predication of the base is presented from the point of view of the nonabstract result achieved by its accomplishment, in some instances with the added nuance of a single or typical realization of the base idea:

/ça/ 'to plant in a row' /cba/ 'flower bed, pleasure garden'.
/câp/ 'to hold, restrain' /cbâp/ '(social) restraint: custom, customary law, tradition'.
/kûn/ 'to join, unite' /kbûn/ 'to cup the hands'.
/kla̱h/ 'to place on' /kba̱h/ 'diacritic placed over a character'.
/jûm/ 'to weep' /jôbûm/ 'weeping, tears'.
/rîp/ 'to prepare, arrange' /rbîp/ 'arrangement, disposition'.
/rîøn/ 'to learn' /rbîøn/ 'learning, knowledge'.

| /rɪəŋ/ | '(to be) continuous' | /rblən/ | 'continuity; perseverance' |
| /rəj/ | 'to commandeer' | /rbəj/ | 'labor force impressed into corvée; sequestered property' |
| /rʊm/ | 'to wind into a ball' | /rbʊm/ | 'clew, coil, ball' |
| /rəŋ/ | 'to plait' (VB /-ləŋ/) | /lbaŋ/ | 'basketry, woven work of split bamboo or osiers' |
| /lɪəj/ | 'to mix' | /lbaɪ/ | 'variety, miscellany' |
| /læk/ | '(to be) mad, foolish' | /lbaɾ/ | '(act of) folly, rashness' |
| /lʏən/ | '(to be) swift' (VB /-rʏən/) | /ləyən ~ rəyən/ | '(instance of) speed or agility' |
| /lɪʃ/ | 'to hear' (VB /-li/) | /ləbɪʃ/ | 'fame, reputation' |
| /lɛp/ | 'to confiscate' (VB /-lip/) | /ləpɛʃ/ | '(act of) confiscation; confiscated property' |
| /lɛk/ | 'to raise' | /lbaɛk/ | 'building; (act of) establishment' |
| /lʊəŋ/ | 'to coax, beguile' | /lbaʊəŋ/ | 'cajolery; fraud' |
| /lʊɛk/ | 'to sell' | /lbʊk/ | 'sale' |
| /lɔk/ | 'to groove' | /lbɔk/ | 'groove, slot; molding' |
| /lʊk/ | 'to sleep' | /lbʊk/ | '(a night's) sleep; nap' |
| /lɔŋ/ | 'to try, test' | /lbʊŋ/ | 'trial, test, experiment' |
| /saɛj/ | 'to roll or tuck up, raise' | /sbaɛʃ/ | '(act of) raising; relief' |

2.2. **Similative /-b-/.** In the following cases /-b-/ yields derivatives, possibly factive at one time, which share the notion of metaphorical specialization and designate actions or objects which are felt to be
like the base predication:

/don/ 'coconut'    /tobn/ '(human) head'.
/rut/ 'to slide, glide'    /rbbt/ 'to slip, cave in'.
/luk/ 'to sell'    /lbak/ '(to be) venal, mercenary'.
/set/ 'to preen, comb'    /sbbt/ 'to tend, take care of'.

2.3. Agentival-Instrumental /-b-/. In the following cases /-b-/ yields derivatives which present the predication of the base from the point of view of that which or the one who accomplishes it, or from the point of view of the means by which it is accomplished:

/dot/ 'to cook over a fire'    /tbot/ 'to place (meat) between cooking-sticks'.
/dal/ 'to pound (rice)'    /tbál/ '(rice) mortar'.
/req/ 'to sift, screen'    /rbæŋ/ 'sifter, sieve'.
/læŋ/ 'to coax, beguile'    /rbæŋ/ 'quack, mountebank'.
    (vb /-ræŋ/)
/lēŋ/ 'to play' (vb /-lēŋ/)    /lbæŋ/ 'amusement, game'.
/lēp/ 'to smear, cover'    /lbāp/ 'alluvium, silt, mud'.
    (vb /-lēp/)
/lēsh/ 'to divide, separate'    /lbāh/ 'punctuation mark indicating strophes, paragraphs, and chapters'.
/lūp/ 'to cover, shade'    /lbāp/ 'alluvium; a surfacing for blackboards'.

3. Infix /-m-/. Infix /-m-/ has the allomorph /-rVm-/, which varies freely with it in the two forms /pman ~ praman/ 'hunter' and
145

/pmèk - prumèk/ 'drinker' and occurs nowhere else in my data. /-m-/ is one of the less common infixes (Table IX). It occurs with primary bases having initial /b, t, d, c, k, r, l, s/; in addition, four secondary bases with initial /ph, ch, kh/ are listed hereafter. In these the post-initial /h/ is replaced by the infix.

The functions of /-m-/ fall fairly clearly into two groups, one agentival, the other resultative. An interesting subgroup of the former consists of derivatives with attributive verbal meanings presupposing agentival meanings.

Jacob (1963: 66, 69) accepts /-m-/ and its /-rVm-/ allomorph and indicates that it forms nominalized derivatives referring to the agent of the base predication; she also notes a causative /-m-/, mentioned below. Huffman (1967: 93-4) recognizes /-m-/ but apparently not /-rVm-; he observes that /-m-/ marks agentival nominalization, attribution, and causation, illustrating causation with the single form /lmèh/, regarding which more is said below under /rmèh/. Jacob (1968b: 183-4) states that /-m-/ denotes the agent of the base predication, forms nouns, and marks the causative. 70

3.1. Agentival /-m-/. In the following cases /-m-/ yields derivatives which designate the agent of the base predication. In some cases these are verbalized and acquire a simulative or qualitative association.

/pmèk/ 'to drink'  /pmèk/ 'one who drinks, drinker; (to be) drunk'.

/bän/ 'to shoot, fire' (VB /pmàn - prumàn/ 'one who shoots a weapon: bowman, rifleman, hunter'.

/-bän/
<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/täk/</td>
<td>'to be) powerful'</td>
</tr>
<tr>
<td>/taen/</td>
<td>'to be) robust, vigorous'</td>
</tr>
<tr>
<td>/čiaŋ/</td>
<td>'to avert; (to be) oblique'</td>
</tr>
<tr>
<td>/čam/</td>
<td>'to watch, guard'</td>
</tr>
<tr>
<td>/čahk/</td>
<td>'to carry off by force'</td>
</tr>
<tr>
<td>/kän/</td>
<td>'to hold, bear'</td>
</tr>
<tr>
<td>/kān/</td>
<td>'to oppose, bar'</td>
</tr>
<tr>
<td>/rēh/</td>
<td>'to pick, choose; (to be) choosy, willful' (VB /-lōh/)</td>
</tr>
<tr>
<td>/rūt/</td>
<td>'to run (away)'</td>
</tr>
<tr>
<td>/lūsc/</td>
<td>'to steal, rob'</td>
</tr>
<tr>
<td>/lōp/</td>
<td>'to be) greedy'</td>
</tr>
<tr>
<td>/sān/</td>
<td>'to be) involved, confused'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tmak/</td>
<td>'powerful person; (to be) powerful'.</td>
</tr>
<tr>
<td>/tmaen/</td>
<td>'robust person; (to be) robust'.</td>
</tr>
<tr>
<td>/cmiaŋ/</td>
<td>'one who averts his eyes; to look out of the corner of one's eyes'.</td>
</tr>
<tr>
<td>/cmām/</td>
<td>'watchman, guard'.</td>
</tr>
<tr>
<td>/cmāk/</td>
<td>'thief, abductor'.</td>
</tr>
<tr>
<td>/kmān/</td>
<td>'holder, bearer'.</td>
</tr>
<tr>
<td>/kmān/</td>
<td>'opponent, adversary'.</td>
</tr>
<tr>
<td>/rmēh/</td>
<td>'one who is willful, unmanageable; (to be) disobedient, recalcitrant, rebellious'.</td>
</tr>
<tr>
<td>/rmūt/</td>
<td>'fugitive, renegade'.</td>
</tr>
<tr>
<td>/lmūc/</td>
<td>'thief, robber'.</td>
</tr>
<tr>
<td>/lmōp/</td>
<td>'greedy person, glutton; vulture; (to be) greedy, gluttonous'.</td>
</tr>
<tr>
<td>/smān/</td>
<td>'one who is involved or confused; (to be) tangled, complicated'.</td>
</tr>
</tbody>
</table>
3.2. Resultative */m-/.

In the following cases */m-/ yields derivatives which designate the result of the base predication:

*/-təəh/* /to raise, erect/* */tməəh/* 'watch tower'.

*/cua~/* /to trade, deal*/ /cmua~/* 'trade, traffic; business deal'.

*/rəəh/* /to scrape, scratch*/ /rməəh ~ ləməəh/* 'itch'.

*/-leah/* */-leah/* (VB)

*/ləəc/* /to rob, steal*/ /lməəc/* 'theft'.

*/set/* /to melt, smelt*/ /sməət/* 'smelting; cast articles'.

*/səən/* /to model, work clay*/ /sməən/* 'pottery, ceramics'.

4. Infix */-n-/*.

Infix */-n-/* manifests two allomorphs, */-vn-/* and */-rvn-/*, in addition to */-n-/* itself. The first is seen in two derivatives of bases with initial /q/: */qa/* / to saw > */qana/* / saw and */qap/* / to support > */qanap/* / support', 74 in both cases V being /a/ instead of /a/.

The second is seen in 20 derivatives of bases with initial /p, b, t, d, c, s/ and shows alternation with */-n-/*: */pnəək ~ prənək/* 'heap, hump, hillock, knoll'. Allomorph */-n-/* occurs with primary bases in initial /p, b, t, d, c, k, r, s/; no cases of base-initial /l/ have been met with.

In addition, the data given hereafter include derivatives from two secondary bases in which postinitial /h/ is replaced by the infix: */chəət/* / to make a line, gash or furrow > */cnəət/* / line' and /cnaat/* / paper with writing on it', and */khəə/* / (to be) furious > */knəə/* / fury' (note that the latter base is Skt/P ghora 'dreadful, violent').

The principal and typical function of */-n-/* is the formation of agentival-instrumental derivatives. Secondary functions are the formation
of resultatives and of locatives. The latter appear to be a mere subgroup of the instrumentals, from which they are not always easily distinguished: is /tronūm/ 'perch' a device or a place for birds to roost on, is /cnōen/ 'pedal, stirrup' a device or a place for setting the foot on or in? With /tnal/ 'place for growing plants: seed bed' and /tnā/ 'place for putting things on: shelf', the places in question seem themselves to be instruments for accomplishment of the base idea. All such moot forms have been assigned to the instrumentals.  

Maspero (1915: 210, 211-2, 221) recognizes /-n-/ and its /-VN-/ allomorph, but takes both as environmentally conditioned allomorphs of a general nasal infix which is also manifested as /-m-/ and /-VN-. The /-rVN-/ allomorph he assigns to infix /-r-/. His general nasal infix is treated as distinct from the set of "infixes proper" mentioned in section 1, though he does not show how it is distinct; as has been said, he considers all of the infixes except agentival /-m-/ to have an instrumental function. Gehr (1951: 79) paraphrases Maspero. Jacob (1963: 66, 69) accepts /-n-/ and its /-rVN-/ allomorph, and an assimilating /-VN-/ allomorph. These three are identified as forming nominalized derivatives designating utensils. Huffman (1967: 91, 105) recognizes /-n-/ as an instrumental nominalizer and /-rVN-/ as marking nominalization and specialization, though he does not appear to accept their relationship. Jacob (1968b: 183-4) again accepts /-n-/ and /-rVN-/ but this time indicates that the first denotes the utensil by which the base idea is accomplished while the second, marking nominalization, denotes the "object achieved by the action of the verb."

4.1. Agentival-Instrumental /-n-/ In the following cases /-n-/
yields derivatives which designate the agent or the instrument of accomplishment of the base idea:

/pen/ 'to coil' /pén/ 'that (part) which is coiled up: coil (of a snake)'.

/pĕsk/ 'to lean, rest' /pneśk/ 'device for resting something on: prop, stay, support'.

/baśk/ 'to break (off)' /pnaśk ~ pranaśk/ 'fragment, chip, splinter; piece, part'.

/buog/ 'to do up the hair' /pnuog/ 'that which is done up: knot, chignon'.

/bot/ 'to press out' /pnot/ 'cowlick, feather'.

/bök/ 'hump (of an ox)' /pņok ~ pruņuk/ 'hump-like formation: heap, rick, hill; platform, dais'.

/bol/ 'to twitter' /pņol/ 'that which is twittered: omen, portent, sign'.

/bao/ 'to crush, roll' /pņao/ 'cane crusher, cotton gin'.

/po/ 'to carry on the back' /prano/ 'back basket, pack'.

/de/ 'to sew, stitch' /tnē/ 'that which is sewn: needlework'.

*/-teah/ 'to raise, erect' /tnēsh/ 'that which is raised above ground level: hunter's shack (on piling)'.

/tēsk/ 'to snare, trap' /tnēsk/ 'snare, trap; lure'.

/dal/ 'to grow' /tnal/ 'growing place: seed bed'.

/tō/ 'to put (down) on' /tnē ~ tronē/ 'device or place
for putting things on or in:
stand, shelf, rack; tray for
fruit; storeroom, granary'.

/tyːm/ 'to be) in front'

/tn̩m/ 'that which goes in front:
royal standard or ensign, re-
galia'.

/tyːm/ 'to yoke'

/tn̩m/ 'tie-beam, stringer'.

/dək/ 'to lead'

/tn̩k/ 'to be) tractable, docile,
amenable'.

/tʊəh/ 'to bar, block, dam'

/tn̩sh/ 'dam, weir'.

/də/ 'to trade, exchange'

/tn̩/ 'means or medium of exchange:
barter price, purchase price'.

/daot/ 'to skewer, impale'

/tn̩o/ 'iron needle for
filing papers; spitted meat;
ligature of 600 sapèques'.

/daol/ 'to punt'

/tn̩ol/ 'punting pole'.

/dən/ 'to catch in a net'

/tn̩n/ 'net!.

/dəl/ 'to reach, get to'

/tn̩l/ 'access, way, roadway, em-
banked causeway'.

/tic/ 'to sting, prick, bite'

/tn̩c/ 'stinger, thorn, fang'.

/tʊp/ 'to obstruct'

/tn̩u/ 'barricade; dam'.

/tʊm/ 'to perch'

/tn̩m/ 'perch'.

/tul/ 'to carry on the head'

/tn̩l/ 'burden carried on the
head'.

/tɪsp/ '(to be) low; to
spread down' (VB /-t̩sp/)

/tn̩ʊsp/ 'mat, carpet, cloth'.
/ton/ 'stem, leafstalk'
/cül/ 'to stitch, net'
/cúe/ '(straight) line, row'
/cúst/ 'to encircle (the head)'
/cúal/ 'to hire, engage'
/cök/ 'to plug, stop up'
/caot/ 'to draw lots'
/chot/ 'to make a line, gash, furrow' (VB /-caot/)
/cāen/ 'to step, tread'
/cik/ 'to dig'
/kíap/ 'to squeeze, press'
/kañ/ 'to come from the side'
/kät/ 'to determine'
/kāc/ 'to break off, snap'

/trono/ 'spatula'.
/cnul/ 'large net-maker's needle'.
/cnúe/ 'line-like device: pole, rail; line, lineage'.
/cnúst/ 'crown, turban'.
/cnúal/ 'means of hire: pay, wage, fee, rent'.
/cnök/ 'plug, stopper, bung'.
/cnaot/ 'method of drawing lots: draw, raffle, lottery; that (lot) which is drawn: lot, chance'.
/cnaot/ 'that on which lines have been made: paper with writing on it'.
/cnāen/ 'pedal, treadle; footrest, stirrup'.
/cronik/ 'digging tool, pick, mattock'.
/knía/ '(screw-) press, vice'.
/knāh/ 'scraping tool, scraper'.
/knæŋ/ 'transverse road; bud, twig'.
/knät/ 'measuring stick, ruler'.
/knāc/ 'that which has been broken off: small sticks or rods used
*/-kāh/ 'to fasten together' /knāh/ 'pin, peg, line; to pin, dowel, string (coins) on a line'.

/kāep/ 'to clutch, pick up in the fist'. /knaep/ 'fistful, handful'.

/kaaj/ 'to rest (the head) on' /knaaj/ 'device or place for resting the head: pillow'.

/kāep/ 'to join, unite' /knāep/ 'unit, entity'.

/khec/ 'to twist, tie' /knuec/ '(rattan or osier) ties, withes (for basketwork)'.

/kaoh/ 'to scrape, grate' /knaoh/ 'rasp, grater, currycomb'.

/kaoh/ 'to hold, restrain' /knaoh/ 'fetters, hobbles; shackles, handcuffs, leg-irons'.

/ko/ 'to heap up' /knō/ 'heap, hoard; knoll, hill'.

/kaal/ 'to hold up' (VB /-kāl/) /knōl/ 'holder, stand; support'.

/qa/ 'to saw' /qana/ 'saw'.

/qap/ 'to support' /qanap/ 'support, brace, stay'.

/rēp/ '(to be) flat, level' /rnēp/ 'that which (place) which is flat: flat surface, flooring of crushed bamboo'.

/rēn/ 'to close (up)' /rnēn/ '(window) screen, shade, shutter'.

/rūk/ 'to force or ram into' /rnūk/ 'bolt, sliding bar'.

/rōeh/ 'to scrape, rake' /rnōeh/ 'rake, harrow'.

/slet/ 'to insert' /snist/ 'peg, pintle, plug; wedge'.

as counters'.
4.2. Locative /-n-. In the following cases /-n-/ yields derivatives which designate the place, in space or time, in which the predication of the base is accomplished or the place, part or state achieved by accomplishment of the base:

/pen/ 'to sit upon the crossed legs' /pnen/ 'the horizontal plane formed by sitting upon the crossed legs: lap'.
/bush/ 'to enter religious orders'.

/tat/ 'to turn, bend, fold'

/dak/ 'to place'

/tan/ 'to lengthen, grow out' (VB /-tan/)

/dak/ 'to fold, twist'

/tic/ 'to sting, prick, bite'

/cam/ 'to watch, wait'

/kat/ 'to be born, develop'

/ril/ 'to wallow'

/rut/ 'to cover, lay down upon' (VB /-rut/)

/pnuah/ 'religious orders'.

/pnat/ 'the line formed by folding: fold, crease, wrinkle'.

/tnak/ 'the place or point at which (something) is placed: step, degree, station, grade'.

/tnak/ 'part formed by growth: section (of bamboo or cane); node, joint'.

/tnak/ 'the space, pocket or recess formed by folding in the ends of the sarong (for holding objects)'.

/tronic/ 'the point on the body where one is stung: sting, prick, bite'.

/cnam/ 'the period in which one waits out (the crops): season, year'.

/knaet/ 'the period in which the moon waxes'.

/rnal/ 'to sprawl (on the ground)'.

/rnut/ 'the part on which flooring is laid down: joist'.

4.3. Resultative /-n-/.

In the following cases /-n-/ yields derivatives which designate the result of accomplishment of the predication of the base:

*/bān/ 'to fight'
/prānān/ 'match, contest'.

/tāk/ '(to be) concerned'
/tānāk/ - trānāk/ 'uneasiness, concern, anxiety'.

/đō/ 'to trade, exchange'
/tānō/ 'trade, exchange'.

/tōp/ '(to be) new, recent; to
make new, renew, invent'
/trōnōp/ 'renewal, renovation, restoration'.

/tūk/ 'to keep, hold to'
/trōnūk/ 'constancy'.

/tam/ 'to forgo, renounce'
/trānam/ 'abstinence; fast, diet'.

/chūt/ 'to make a line, gash, furrow'
/chūt/ 'gash, groove, incision, streak'.

/khō/ '(to be) furious'
/khō/ 'fury, wrath'.

/kōst/ 'to tighten, cinch up'
/kōst/ 'constriction, dis-comfort'.

/san/ 'peace, calm'
/sranan/ 'bliss, happiness'.

/sōk/ '(to be) content'
/sranōk/ 'contentment'.

5. Infix /-r-/. One of the less common infixes in my data is /-r-/ which appears to be restricted to primary bases with initial /p, t, c, k, s/.

The primary function of /-r-/ appears to be the formation of derivatives showing specialization of their respective bases. Secondary functions appear to be the formation of factive, causative, and agentival derivatives.

Maspero (1915: 208, 210, 221) accepts an /-r-/ infix as well as an
/-rVm- allomorph of it; he says nothing of its function beyond the blanket statement already referred to, to the effect that all of the infixes except /-m-/ are instrumentals. Gehr (1951: 80) merely paraphrased Maspero. Neither Jacob (1963: 66; 1968b: 183-4) nor Huffman (1967: 91) recognize /-r-/ as an infix.

5.1. Specializing /-r-/. In the following cases /-r-/ yields derivatives showing specialization with reference to the word bases on which they are built:

/bae/ 'to turn, veer' /praeh/ 'to turn around, change, convert, alter'.

{-#baeh/ 'to break up, divide' /praeh/ 'to crack, split, come apart'.

/bah/ 'to rise up, reject' /praeh/ 'to overthrow, expel'.

/baoh/ 'to plant, sow' /praoh/ 'to sow broadcast'.

/dam/ 'to plant, insert' /trum/ 'to immerse, soak; to pickle'.

/cak/ 'to part' (VB /-c!ak/) /crek ~ criak/ 'to split, rip'.

/cioh/ '(to be) noisy' /criaw/ '(to be) shrill, keen'.

/cepi/ 'to spring, bound' /crap/ '(to be) rough, uneven'.

/-ci!aj/ 'to shake' /cr!aj/ 'to stir, disturb'.

/co/ '(of the sea) to rise, be high'

/coem/ '(to be) livid, soiled' /croam/ 'soiled, soaked ground under the kitchen: muck'.

/co ~ cak/ 'to stop, plug up' /cruk/ 'to cram, stuff'.

/kup/ '(to be) united' /krup/ '(to be) complete, enough'.
/koŋ/ 'to be) placed over' /kroŋ/ 'to shelter, protect, watch over', /kroŋ/ 'to cover, shelter, rule, /kroŋ/ 'shelter, cage, hutch, granary'.

/vb /-koŋ, -kʊŋ/) /kroŋ/ 'to shelter, protect, watch over', /kroŋ/ 'to cover, shelter, rule, /kroŋ/ 'shelter, cage, hutch, granary'.

/kʊŋ/ 'ring, circle, wheel; to unite' /kroŋ/ 'to shelter, protect, watch over', /kroŋ/ 'to cover, shelter, rule, /kroŋ/ 'shelter, cage, hutch, granary'.

/san/ 'peace, calm' /sran/ 'to subside, slack off; lull, respite'.

/sæt/ 'to pick, remove impurities' /sræt/ 'to sift out, clean, whiten (rice)'.

/hɔp/ 'to eat' (vb /-sɔp/) /srɔp/ 'to consume, ingest, imbibe'.

/sʊŋ/ 'to raise, erect' (vb /-sʊŋ/) /sran/ 'to subside, slack off; lull, respite'.

/srʊŋ/ 'to be) raised on piles; (to be) high, tall, exhuberant'.

5.2. Factive /-r-/.

In the following cases /-r-/ appears to yield derivatives showing a factive nuance:

/ciɛŋ/ '(to be) inclined' /ciɛŋ/ 'to incline, lean'.

/caot/ 'precipice' /craot/ '(to be) steep, sheer'.

/kʊɛm/ 'to bear, sustain' /kʁɛm/ 'endurance, tolerance'.

(vb /-kʊɛm/)

5.3. Causative /-r-/.

In the following cases /-r-/ yields derivatives sharing a causative nuance:

/cɔɛp/ '(to be) taken in, attracted' (vb /-ciɛp/) /cʁɛp/ 'to absorb, soak up; to acquire'.

/kìɛk/ 'to encircle' /kʁɛk/ 'to wrap (a line) around; to make fast, attach, tie'.
5.4. Agentival /-r-/.

In the following cases /-r-/ yields derivatives sharing an agentival nuance:

/poet/ 'to entwine, coil around'
/pr̩et/ 'that which is lashed around something: thong, strap'.

/kān/ 'to hold, bear' (VB /-kan/)

/kūp/ 'to cover, conceal'

/kr̩yp/ 'cover, lid; to cover'.

6. Infix /-1-/. The least common of the nonsyllabic infixes in my data is /-1-/, which occurs with primary bases having initial /b, t, d, c, k, r, s/ and with secondary bases having initial /ph, th, ch/.

The only discernible function of /-1-/ appears to be specialization.

Maspero (1915: 208-10) and Gehr (1951: 80) accept an /-1-/ infix but do not mention its specific function. Jacob (1963: 66; 1968b: 183-4) does not recognize it. Huffman (1967: 91, 94), however, accepts it and also takes its function to be specialization.

/phēj/ 'to spread, diffuse'
/plēj/ 'to shine, glow'.

/bāk/ 'to deviate'

/plēk/ '(to be) altered, unrecognizable'.

/bāk/ 'to break, divide up'

/plēk/ 'lot, plot, patch'.

*/bān/ 'to change, repair'

/plēn/ 'to exchange, replace'.

/tuŋ/ 'to balance' (VB /-tuŋ/)

/tuŋ/ 'to weigh'.

/daoh/ 'to free, release'

/tlao̯/ 'to disengage, dislocate; trigger, sprain'.

/thōt/ '(to be) big'

/tlōt/ '(to be) fat, bulky'.
/chōh/ 'to burn'

/chaom ~ caom/ '(to be) fair, beautiful'

/chaot/ '(to be) mad, simple'

/kīek/ 'to clasp, enfold'

/kaem/ '(to be) different'

/kān/ '-kān/ 'to fasten together'

/riēp/ '(to be) flat, level'

/rūŋ/ '(to be) great'

/sāp/ 'to scatter, dissipate'

/sa/ '(to be) white'

/cloh/ 'to gleam, reflect'.

/clōh/ 'to gleam, reflect'.

/claom/ '(to be) superb, grand'.

/beautiful'.

/claot/ '(to be) senseless, stupid'.

/kīek/ 'to hold under the arm; armpit'.

/klōm/ '(to be) mixed, varied'.

/klēh/ 'to secure, stitch, peg'.

/rlēp/ '(to be) even, on a level with'.

/rlūŋ/ '(to be) broad, spacious'.

/slēp/ 'to die'.

/sla/ 'to whiten, cook in sauce'.

7. Infix /-h-/.

Maspero (1915: 209) and Gehr (1951: 80) do not accept an /-h-/ infix, nor do Jacob (1963: 66; 1968b: 183-4) and Huffman (1967: 91). Evidence for such an infix, though unconvincing, is strong enough to merit consideration.

The phonemic status of postinitial /h/ is clearly shown by minimal pairs such as /ka/ 'to defend' : /kha/ 'capstan', /kaj/ 'to scratch' : /khaj/ 'to appear', /kaē/ 'to correct' : /khaē/ 'month', /kao/ 'to shave' : /khaō/ 'trousers', and /kām/ 'stroke' : /khām/ 'to bite'. Most forms with postinitial /h/ are either loans such as /khaet/ 'province' (< P khetta) or are derivatives by prefixation from bases with initial /h/:

/hāp/ 'to pant' > /phāp/ 'to heave, throb', /mēp/ 'to gasp, gape',

/thāp/ 'to choke', /rhāp/ '(to be) fountedered'. In addition to these, a
small number of forms have been found which fall into pairs which contrast only to the extent that one member of each pair has a postinitial /h/ which cannot be identified as the initial of any known base.

In addition to the paucity of evidence in favor of it, the main argument against acceptance of an /-h-/ infix is the replacement of post-initial /h/ by infixes /-m-, -n-, -l-/ , already seen in cases such as /phək/ 'to drink' > /pmək/ 'drinker', /chət/ 'to gash' > /cnət/ 'gash', and /chaot/ '(to be) mad' > /claot/ '(to be) stupid'. This replacement and the possible relationship between the following forms may be reconciled at some future time.

Judging by the meager evidence below, /-h-/ may serve two functions: intensification and specialization.

7.1. **Intensive /-h-/**.

/ˈpɪsh/ '(to be) much, many'  
/ˈpʰɪsh/ 'plenty, abundance; multitude'.

/cən/ 'to eat (of monks)'  
/ˈcʰən/ 'to eat (of monks)'.

/cəj/ 'to eat'  
/ˈcʰəj/ 'to eat'.

/caom/ '(to be) fair, beauti-ful'  
/ˈcʰaom/ 'comeliness, splendor'.

/kət/ 'to cinch up, tighten'  
/ˈkʰət/ 'to hold firmly, secure'.

/kən/ 'to hold, halt'  
/ˈkʰən/ 'to restrain, prevent'.

/kət/ '(to be) firm, fixed'  
/ˈkʰət/ 'to fasten, secure; to fix, decide'.

7.2. **Specializing /-h-/**.

/bək/ 'to skin, bare; to fan, blow on'  
/ˈpʰək/ 'to expose to the air; to fan, cool'.


8. Residue. Considering the purpose of this study, it will not be amiss to mention three possible infixes and the evidence in favor of them.

8.1. Infix */-c-/. Maspero (1915: 208-9, 221) and Gehr (1951: 80) accept a */-c-/* infix but do not mention its specific function; Jacob (1963: 66; 1968b: 183-4) and Huffman (1967: 91) do not accept it.

The following data suggest a vestigial */-c-/* infix restricted to
primary and secondary bases with initial /k/ and fulfilling an intensive or specializing function:

/khāl/ '(to be) worn out, frayed' > /khɔl/ '(to be) self-willed, bad-tempered' (VB /-khɔl/) > /kɔl/ '(to be) lazy'.

/kāk/ 'dregs, deposit' (VB /-kāk/) > /khāk/ 'to spit, wipe the nose' > /kɔ̄ek/ 'to expel (foul food) from the mouth, spit out'.

/kāt/ 'to cut (up)' (VB /-kat/) > /khat/ 'loss, ruin, disaster' > /kcat/ 'to rout (an enemy); rout, stampede'.

/kāoh ~ kūsh/ 'to hit, strike' (VB /-kōh/) > /khōh/ 'to go contrary, miss, be wrong' (VB /-khaoh/) > /kcaoh/ '(to be) deficient, defective'.

/kɔ̄em/ '(to be) supported, flanked' > /kɔ̄em/ 'to stand shoulder to shoulder, be tightly packed'.

/kāp/ 'to cover, conceal' > /kɔ̄p/ 'to wrap up, pack, bundle'.

/kak/ '(to be) hard, stiff' > /kɔ̄ak/ '(to be) lame, game; to limp'.

8.2. Infix */-η-/. Maspero (1915: 211-3) appears to accept an infix */-η-/, but his examples show that he has in mind the velar allomorph of infix */-vn-/. Gehr (1951: 79) specifically mentions an */-η-/* infix but has clearly misinterpreted Maspero. Jacob (1963: 66; 1966b: 183-4) does not recognize such an infix. Huffman (1967: 91, 94), however, does recognize it. He ascribes to it the function of nominalization and illustrates it by the single example of /saoj/ 'to eat (royal)' > /snaoj/ 'royal food', in which the derivative is the object of the action of the verb.

The following forms suggest that */-η-/* may be an old infix occurring with primary bases having a dental initial:

/tun/ '(to be) spent, inert' /tun/ '(to be) heavy, not light' (VB /-tun/)
/sac/ 'to eject, project' /sqac/ '(to be) radiant'.
/saj/ 'to disperse, scatter' /sqaj/ 'to emit, diffuse; to breathe, exhale'.
/suan/ 'to tend, groom' /squan/ 'to lavish attentions on, dote on'.
/saoj/ '(of royalty) to eat, enjoy' /sqaoj/ '(royal) food and drink'.
/sam/ '(to be) fitting, proper' /sqam ~ sqām/ '(to be) decorous, respectful; (to be) still, silent, immobile'.

8.3. Infix */-w-/. Maspero (1915: 208-10) and Gehr (1951: 80) accept a */-w-/ infix and cite a few examples of it, but do not assign it any specific function. Neither Jacob (1963: 66; 1968b: 183-4) nor Huffman (1967: 91) recognize it.

The following forms illustrate a possible */-w-/ infix, vestigial at most, occurring with primary bases having initial /t, k, r, s/: /tā/ 'to set down, lay on' /twā/ 'to set the hand to, do, make, fashion'.
/kāek/ 'to encircle' /kwāek/ 'encirclement, embrace; turn, rotation'.
/kaen/ 'to levy, impress' /kwaen/ '(jurisdictional) district'.
/kaη/ 'to come from the side' /kwaη/ '(to be) oblique, crosswise; (to be) lame, halt'.
/kaη/ 'to scrape, pick, remove' /kwaη/ 'to pick out, dig'.
<table>
<thead>
<tr>
<th>/kāp/</th>
<th>'to strike, slash at'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kwaŋ/</td>
<td>'lash, blow (with a rattan whip)'</td>
</tr>
<tr>
<td>/kāoŋ/</td>
<td>'(to be) concave, arched'</td>
</tr>
<tr>
<td>/kwaŋ/</td>
<td>'arch, dome; vault'.</td>
</tr>
<tr>
<td>/kwaŋ/</td>
<td>'(to be) circular, ring-like, round'.</td>
</tr>
<tr>
<td>/rēŋŋ/</td>
<td>'to watch, protect'</td>
</tr>
<tr>
<td>/rwēŋŋ/</td>
<td>'to watch over, safeguard; (to be) watchful, alert'.</td>
</tr>
<tr>
<td>/saoŋ/</td>
<td>'of royalty) to eat, enjoy'</td>
</tr>
<tr>
<td>/swaoŋ/</td>
<td>'(of royalty) to eat, enjoy'</td>
</tr>
</tbody>
</table>
CHAPTER VII
SYLLABIC INFIXATION

1. General. Modern Khmer has a single syllabic infix. This manifests two shapes which are in complementary distribution: /-Vmn-/, occurring with primary bases, and /-VN-/, occurring with secondary bases. In both cases V represents CR /u~л/ and OR /a/ . N represents /m, n, й/, the distribution of which is shown in Table V. Of the shape /-Vmn-/ are the allomorphs /-umn-/ (CR) and /-æmn-/ (OR). Of the shape /-VN-/ are the allomorphs /-ım-, -uın- (-uən-), -uə-/ (CR) and /-ım-, -ən-, -əə-/ (OR). Allomorphs /-ım-, -uən-/ are in free variation.

The syllabic infix is inserted, as in the case of the nonsyllabic infixes, into the interior of the word base directly after the initial. The resulting derivative accordingly becomes a dissyllable in which the initial of the base is the initial of a new presyllable. Derivatives of primary bases regularly have main syllables with initial /n/: /póľ/ 'to utter, talk' > /pʊmnóľ/ 'talking', /caj/ 'to spend' > /cumnaj/ 'spending'. Derivatives of secondary bases have the base postinitial as the initial of their main syllables: /cró/ 'to be deep' > /cũmró/ 'being deep', /pḳat/ 'to cut' > /bəŋḳat/ 'cutting'.

Thus forms containing /-Vmn-/ being built upon primary bases, are primary derivatives. Those with /-VN-/ being built upon secondary bases, are typically secondary derivatives. In the examples just given, /cró/ 'to be deep' is < /cό/ 'to mount, rise (of the sea)' + infix /-r-/, while /pḳat/ 'to cut' is < /kåt/ 'to cut' + prefix /p-/.

An exception to the above patterns is introduced by a small class of derivatives in which CVN- presyllables are followed by subdissyllabic
main syllables: /bəmplōət/ 'to divert', /caŋkran/ 'brazier', /kumplaeŋ/ '(to be) comical', /samkhan/ 'to receive a reward', /rūmphīeŋ/ '(to be) refreshing'. These are discussed below in section 3.

The essential function of the syllabic infix is to present the predication of the base as a process or operation conducing to some end in view. Without durative or perfective connotations, this processive aspect emphasizes the acting out of the base idea. As with all Khmer derivatives, the grammatical function of processive forms hinges upon their position in utterances; all but a handful have developed nominal meanings or verbal meanings, or both. Less typical functions of the infix are the formation of resultative, agentival-instrumental, locative, and collective derivatives. None of these associations appears to be intrinsic to the infix.

Maspero (1915: 211-4, 214-5) did not recognize an assimilating /-VN-/ infix. Seeing Khmer primarily through its writing system, he distinguished a nonassimilating /-Vm-/ from an assimilating /-(V)N-/ . Under the latter he included my agentival-instrumental /-n-/ (/cnōk/ 'plug', /rnōh/ 'harrow'), my agentival /-m-/ (/cmām/ 'watchman'), and my processive /-VN-/ (/sāndāp/ 'teaching', /kancōk/ 'to ravish', /caŋqap/ 'food'). Though he was well aware of the environmental conditioning of /-Vmn-/ and his /-Vm-/ , it cannot be said that he recognized the unity of the former and my /-VN-/ . Schmidt (1916: 457-8, 470) interpreted /-Vmn-/ as a "double infix" which included a nonassimilating /-Vm-/ and a nonsyllabic /-n-/ to be identified with my agentival-instrumental /-n-/; to demonstrate this view he set up such progressions as /bōk/ 'hump (of an ox)' > /pōk/ 'heap, knoll' > /bāmnōk/ 'heap, pile'. He also felt that /-Vmn-/ and infix /-b-/ were probably in an allomorphistic relationship. Gehr (1951:
78-9) paraphrases Maspero's interpretation. Jacob (1963: 66, 69) recognizes both /-Vmn-/ and /-VN-/, specifies their complementary distribution, and identifies their function as one of general nominalization. It will be recalled that under /-VN-/ she includes agentival and instrumental functions. Huffman (1967: 94-104) distinguishes three syllabic infixes: (a) a /-VN-/ with the primary function of resultative, instrumental, and other types of nominalization, but which also forms causative, attributive, and other verbal derivatives; (b) a nonassimilating /-Vm-/ with the primary function of marking causation, but which also performs derogation, specialization, verbalization, and other modifications; and (c) a /-Vmn-/ with the primary function of forming resultative, abstract, agentival, personal, and other nominals. Jacob (1968b: 183-4) assigns agentival and causative as well as nominalizing functions to /-VN-/ and describes /-Vmn-/ as a "Noun-former (often an abstract noun)."

The syllabic infix is by far the most common in my data, accounting for over half of all the derivatives collected. To cite all of these forms here would be superfluous and repetitious. Each function will therefore be illustrated with a selection of fifteen or twenty derivatives.

Despite their functional unity, derivatives containing the /-Vmn-/ allomorphs involve problems of analysis and description which differ from those raised by the /-VN-/ allomorphs. The two sets of allomorphs will consequently be treated separately.

2. /-Vmn-/ Allomorphs. The syllabic infix is found with primary bases having initial /p, b, t, d, c, k, q, s/. Its nonoccurrence with primary bases having initial nasals or /j/ is not surprising (Table VI). Its nonoccurrence with bases having initial /w, r, l, h/ may represent a
gap in my data, though this seems scarcely likely in view of their large number.

Among my data are three small groups of /-Vmn-/ derivatives which show common peculiarities.

In three cases anomalous OR bases with initial /p/ change that /p/ to /b/ before the infix, and in four cases OR bases with initial /t/ change that /t/ to /d/ before the infix. Neither of these is a regular morphophonemic change of the kind described in Chapter II, section 5.3. The forms in question are:

- /pāk/ 'to stitch' /bāmnāk/ 'stitching'.
- /pāh/ 'to mend' /bāmnāh/ 'mending'.
- /qaŋ/ 'to desire' /bāmnāŋ/ 'desire'.
- /taŋ/ 'to manage' /damnaŋ/ 'management'.
- /taŋ/ 'to replace' /damnaŋ/ 'replacement'.
- /tə/ 'to continue' /damna/ 'continuance'.
- /tāk/ 'to drip' /damnāk/ 'drip; drop'.

In four cases bases with initial /d/ yield alternant derivatives with initial /d- ~ s-/. This feature, presumably a manifestation of dialect influence, has not been met with under any other conditions. The forms in question are:

- /dēk/ 'to lie down' /damnēk ~ sammēk/ 'rest, sleep; sleeping-place'.
- /dām/ 'to plant' /damnām ~ sammām/ 'land under crops, plantation'.
- /dāk/ 'to locate, lodge' /damnāk ~ sammāk/ 'location, lodging'.


In two cases unanalyzable secondary bases with postinitial /h/ appear to yield /-Vmn-/ derivatives instead of /-VN-/ derivatives, as is normal: /thūm/ '(to be) big' > /tūmhūm/ 'size', /khōc/ 'to damage' > /kəmhōc/ 'damage'. The forms in question are:

/thaok/ '(to be) cheap'  /təmnaok/ 'cheapness'.
/khōh/ 'to go wrong, be in error'  /kəmnōh/ 'fault, error'.

The occurrence of /-Vmn-/ in these cases may be taken as evidence that the derivations are incorrect and that the postinitial /h/ of the secondary bases is infixed.

2.1. Processive /-Vmn-/.

In the following cases /-Vmn-/ adds a processive aspect to the idea of the base, presenting that idea as being acted out at any point in time for some definite end:

/pūh/ 'to boil'  /pūmnūh/ 'boiling, bubbling'.
/bōl/ 'to twitter'  /bōmnōl/ 'twittering, warbling'.
/tīp/ '(to be) low'  /tūmnīp/ 'subsidence'.
/tēsăh/ 'to hit, strike'  /tūmnēsăh/ 'clapping, applause'.
/dēl/ 'to abuse, revile'  /dəmnēl/ 'abuse, scoffing'.
/cik/ 'to dig'  /cūmnik/ 'digging, excavation'.
/cūp/ 'to meet'  /cūmnēp/ 'meeting, encounter'.
/cēp/ 'to come (go) out'  /cəmnēp/ 'emergence'.
/căp/ 'to seize'  /cəmnăp/ 'seizure, capture'.
/ku/ 'to draw, design'  /kūrnă/ 'drawing, painting'.
2.2. Resultative /-Vmn-. In the following cases /-Vmn-/ yields derivatives which designate the result achieved, concrete or abstract, by accomplishment of the base idea:

/pûŋ/ 'to take refuge' /pûmnûŋ/ 'refuge, shelter'.
/pût ~ bût/ 'to compress' /pûmnut ~ bûmnût/ 'pellet, wad'.
/baŋk/ 'to break' /bûmnák/ 'piece, part'.
/bûl/ 'to lend money' /bûmnûl/ 'loan, debt'.
/tic/ 'to sting, bite' /tûmnic/ 'sting, bite'.
/dûŋ/ 'to know' /dûmnûŋ/ 'knowledge, information'.
/cûfə/ 'to believe' /cûmnûfə/ 'belief, faith'.
/cûnə/ 'to place in a row' /cûmnûnə/ 'row, line, series'.
/cûnq/ 'to dress wood' /cûmnûnq/ 'shavings, chips'.
/cûh/ 'to go down' /cûmnûh/ 'tonnage, burden'.
/kût/ 'to think' /kûmnût/ 'thought, notion, idea'.
/kûh/ 'to scratch, draw a line' /kûmnûh/ 'paraph, flourish; dia-
critic mark'.
/kûn/ 'to levy, requisition' /kûmnûn/ 'impressed laborers,'
confiscated property'.

/kāt/ 'to cut'  
/kumnāt/ 'cut, slice, bit'.

/kaat/ 'to be born'  
/kumnaat/ 'nature, character'.

/sak/ 'to mark, brand'  
/samnak/ 'mark, brand, stigma'.

/sōn/ 'to model, work clay'  
/samnōn/ 'pottery, clay products'.

2.3. Agentival-Instrumental-Locative /-Vmn-/ . In the following cases /-Vmn-/ yields derivatives which designate the agent, the means, or the place of accomplishment of the base idea:

/pēsek/ 'to lean, rest'  
/pūmnēsek/ 'support, prop'.

/pēn/ 'to hide'  
/pūmnēn/ 'hiding-place'.

/tiēp/ '(to be) low'  
/tūmnīep/ 'low ground, hollow'.

/toēl/ 'to obstruct'  
/tūmnōel/ 'obstacle'.

/daēl/ '(to be) the same, constant'  
/damnāl/ 'domicile, residence'.

/tān/ 'to replace, represent'  
/damnāy/ 'representative, delegate'.

/cūsēl/ 'to hire, engage'  
/cūmnēl/ 'fee, rent'.

/cēp/ 'to come (go) out'  
/cūmnēp/ 'gain, revenue'.

/cēm/ 'to remember'  
/cūmnēm/ 'reminder'.

/cat/ 'to halt'  
/cūmnat/ 'halting-place, relay'.

/cap/ 'to tie, attach'  
/cūmnāq/ 'tie, band, strap'.

/kīēp/ 'to press, grip'  
/kūmnīep/ 'vice, press'.

/sōn/ 'to rest, sleep (of monks)'  
/samnēn/ 'monk's pallet'.

/sōk/ 'to bribe'  
/samnēk/ 'bribe'.

/sōn/ 'to model, work clay'  
/samnōn/ 'pottery, clay products'.

/Ikatl/ 'to cut'  
/Ikaatl/ 'to be born'.

/Isakl/ 'to mark, brand'  
/Isbnl/ 'to model, work clay'.

/Ikamnatl/ 'cut, slice, bit'.

/Ikamnaatl/ 'nature, character'.

/Isamnakl/ 'mark, brand, stigma'.

/Isamnbnl/ 'pottery, clay products'.

/Ipeakl/ 'to lean, rest'  
/Ipuanl/ 'to hide'.

/Itiapl/ '(to be) low'  
/Idaell/ '(to be) the same, constant'  
/Idamnēl/ 'domicile, residence'.

/I~1/ 'to replace, represent'  
/Icuall/ 'to hire, engage'.

/Ice~1/ 'to come (go) out'  
/Icamnaml/ 'reminder'.

/Icatl/ 'to halt'  
/Icamnaml/ 'reminder'.

/Icarnnual/ 'fee, rent'.

/Icarnn~1/ 'tie, band, strap'.

/IkUrnniap/ 'vice, press'.

/Isamnbkl/ 'bribe'.

/I /
2.4. Collective /-Vmn-/. In the following cases /-Vmn-/ yields derivatives which present the agentival, instrumental or locative aspect of the base as an aggregate of individual members:

/cẹp/ '(to be) connected' /cunędẹp/ 'lowlands in front of mountains'.

/caom/ 'to surround' /camnaom/ 'retinue, entourage'.

/kān/ 'to hold, maintain' /kunān/ 'fief, appanage'.

/sat/ 'to float' /samnät/ 'flotsam, debris'.

/sön/ 'to model, work clay' /samnön/ 'pottery'.

3. /-VN-/ Allomorphs. Maspero (1915: 219) states that his non-as-simulating /-Vm-/ infix is, "of all forms of derivation, the only one still in use today." He notes that singers make frequent use of it and often during improvisation pair up a word base with its /-Vm-/ derivative in order to conform to metrical patterns.85

The syllabic infix is found with secondary bases having initial /p, t, c, k, r, l, s/ but not /m/ (Table II), and the /-VN-/ allomorphs in question here fulfill the same functions as the /-Vmn-/ allomorphs just described.

Since derivatives with the /-VN-/ allomorphs are built upon secondary bases, it follows that they are secondary derivatives presupposing intermediate primary derivatives; in accounting for /-VN-/ derivatives, secondary as well as primary bases are therefore to be looked for. Table IX shows that my data contain 364 /-VN-/ derivatives which can be demonstrated to be secondary derivatives by reason of being built upon known secondary bases.

However, the Table also shows 486 /-VN-/ derivatives which can be
referred to primary bases but for which no secondary bases could be found.

Derivatives of this type are illustrated by:

/punjūl/ 'to show, teach' < */pjūl/ < /jūl/ 'to understand'.
/bantūn/ 'to soften' < */ptūn/ < /tūn/ 'to be) soft'.
/tūmpūl/ 'to be) tainted' < */tpūl/ < /pūl/ 'poison'.
/donrēk/ 'balance-pole' < */trēk/ < /rēk/ 'to carry on a pole'.
/cūmrūt/ 'to let go' < */crūt/ < /rūt/ 'to run (away)'.
/canlo/ 'trial, attempt' < */clo/ < /lo/ 'to try'.
/kūmrē/ 'to corrupt' < */krē/ < /rē/ 'to ruin'.
/kanloŋ/ 'to cross' < */kloŋ/ < /loŋ/ 'to cross'.
/sambaeŋ/ 'separate ménage' < */sbaeŋ/ < /baeŋ/ 'to separate'.
/sanēkst/ 'to whet' < */skēst/ < /kēst/ 'to whet'.
/rūmbach/ 'broom' < */rbaach/ < /bach/ 'to sweep'.
/rūmlīŋ/ 'to expunge' < */rīŋ/ < /līŋ/ 'to wash, wipe'.

The absence of secondary bases in such cases may be explained in terms of
gaps in my corpus and the knowledge of my informants; in terms of the out-
right loss of intermediate forms; in terms of changes in the meaning of
intermediate forms; and in terms of the development of a new set of CVN-
shaped prefixes coexisting with and in certain environments replacing
the simple prefixes.

Discontinuity in the line of semantic development from primary
bases to /-VN-/ derivatives is seen in the following:

/kōep/ '(to be) good, right' > /pkōep/ 'to suit, comply with'
and /bunjōep/ 'to judge'.
/raj/ '(to be) painful, sharp' > /praj/ 'to be) salty, pickled'
and /bajraj/ 'jellyfish'.

The development of a new set of syllabic or syllabicized prefixes having the shape of the simple prefixes with /-VN-/ is a question which calls for much more detailed treatment than can be given it here. Such a development may have come about with the obsolescence of the original system of affixation. It may have responded to the imperfect distribution
of the simple prefixes; it was probably favored by a progressive loss of meaning of most of the affixes, by the tendency of many derivatives to lose all etymological link with their bases, and by their consequent liability to reanalysis. This development is illustrated by (a) the occurrence of CVN- presyllables with analyzable secondary bases, by (b) the occurrence of CVN- presyllables in positions where the homorganic simple prefixes do not occur, particularly where gemination would result, and by (c) a marked tendency for the labial CVN- presyllable in these positions to lose its processive force and to become a causative marker.

The occurrence of CVN- presyllables before analyzable secondary bases is illustrated by the following:

/raj/ '(to be) painful, sharp' > /praj/ '(to be) salty' > /bampraj/ 'to (sprinkle with) salt' (not */bamraj/).

/hāp/ 'to pant, be breathless' > /thāp/ 'to suffocate' > /bānthāp/ 'to (cause to) suffocate' (not */tānthāp/ or */pā/hāp/).

/kān/ 'to hold' > /kran/ 'holder (for fire): brazier' > /caŋ/kran/ 'brazier'.

/riŋ/ '(body) build' > /krīŋ/ '(to be) unshapely, deformed' > /caŋ-krīŋ/ '(to be) misshapen, deformed'.

/lēŋ/ 'to play' > /plēŋ/ 'to play' > /kaŋ/ 'to be) comical'.

/ciŋ/ '(to be) loud' > /ciŋ/ '(to be) shrill, keen' > /kaŋriŋ/ '(to be) high, piercing'.

/tūŋ/ '(to be) ripe' > /thūŋ/ '(to be) full, big' > /santhūŋ/ '(to be) very big'.

/kān/ 'to carry, bring' > /kān/ 'reward' > /samkaŋ/ 'to receive a reward'.


The occurrence of CVN- presyllables in positions where the homorganic simple prefixes (except /R-/) are not found is illustrated by:

/péŋ/ 'to be) full' /bampéŋ/ 'to fill'.
/púen/ 'to hide, be hidden' /bampúen/ 'to hide, conceal'.
/túŋ/ 'to be) soft, spent' /tūntūn/ 'softening, diminution'.
/dām/ 'to cook' /dandām/ 'to cook'.
/can/ 'to net, plait' /cūncan/ 'fish net'.
/caol/ 'to throw out' /cūmcəol/ 'discarded object'.
/kāsk/ 'to enfold' /kāskāsk/ 'to hug'.
/kān/ 'to hold, bear' /kānkān/ 'to hold down'.
/sap/ 'to be) particular' /samsap/ 'to be) overly particular'.
/saem/ 'to be) damp' /samsaem/ 'damp; dew'.
/lūm/ 'to be) dim' /lūnlūm/ 'to be) faint'.
/lōc/ 'to be) sad' /lūnlōc/ 'sadness'.

The tendency for CVN- presyllables with labial initials to loss processive force and serve as causative markers is seen in numerous derivations, including those from loan bases. An intermediate /p-/ form may or may not be present.

/phāj/ 'fear' (Skt/P bhaya) /bampphāj/ 'to frighten'.
/cao/ 'thief, scoundrel; (to be) wicked, wanton)' (Skt/ P cora)
   /tūm/ 'to be) ripe' /bantūm/ 'to ripen'.
   /tūm/ 'to perch' /bantūm/ 'to train (a bird) to perch'.
   /kān/ 'to hold, bear' /barkān/ 'to have (someone) hold'.

P cora}
3.1. Processive /-VN-/. In the following cases /-VN-/ adds a processive aspect to the idea of the base, presenting that idea as being acted out at any point in time for some definite end:

/prap/ 'to crush, quell' /bəmrap - bərap/ 'quelling, suppression'.
/pdaoh/ 'to free, extricate' /bandaoh/ 'freeing, liberation'.
/tlūh/ 'to pierce' /tūmlūh/ 'piercing, breach'.
/tqoJ1/ 'to moan, groan' /damqoJ1/ 'moaning, groan'.
/cneah/ 'to win' /cūmnēah/ 'winning, victory'.
/cnaj/ '(to be) far off' /camnaj/ 'remoteness, distance'.
/cqaet/ '(to be) full, gorged' /camqaet/ 'being full, satiety'.
/klān/ '(to be) strong' /kamlān/ 'being strong, strength'.
/kbān/ 'to mask, conceal' /kambān/ 'concealment'.
/kcak/ 'to limp' /kamcak/ 'lameness'.
/rqīaq/ '(to be) inclined' /rūmqīaq/ 'inclination, being partial'.
/rloŋ/ 'to cross' /rūmlong/ 'crossing, transgression'.
/sqīem/ '(to be) still' /samqīem/ 'silence'.
/swat/ 'to desire, crave' /sandwat/ 'craving'.

3.2. Resultative /-VN-/. In the following cases /-VN-/ yields derivatives which designate the result achieved, concrete or abstract, by accomplishment of the base idea:

/ply/ 'to shine, be bright' /pūnlī/ 'brightness, light'.
/pram/ 'to inform, announce' /barmram/ 'notice, announcement'.
/tron/ 'to have, wear' /tūmron/ 'article of royal ac-
    coutrement (emblem or weapon)'.
/traj/ 'to clear a trail' /damraj/ 'trail hacked through a forest'.
/crîšt/ 'to cut with a sickle, reap' /comrîšt/ 'harvest'.
/craj/ 'to presage misfortune' /crapraj/ 'misfortune'.
/khîc/ 'to ruin, damage' /kâmîc/ 'damage, impairment'.
/kdâp/ 'to bunch' /kandâp/ 'bunch, cluster'.
/rîlîj/ 'to mix, fuse' /rûmlîj/ 'mixture'.
/rkîîh/ 'to scrape, bruise' /rûŋkîîh/ 'scrape, bruise'.
/stuŋ/ 'to transplant' /sununu/ 'field of newly transplanted rice'.
/sdâp/ 'to hear, listen' /sandâp/ 'instruction, teachings'.

3.3. Agentival-Instrumental /-VN/-: In the following cases /-VN/- yields derivatives which designate the agent or instrument of accomplishment of the base idea:

/ptēsh/ 'to bar, bolt' /bantēsh/ 'bar, bolt'.
/ptûl/ 'to support' /bantûl/ 'support, prop'.
/tpec/ 'to card cotton' /dampéc/ 'card'.
/tpûk/ 'to pick (fruit) with a hook' /dampûk/ 'fruit hook'.
/tran/ 'to filter, purify' /damran/ 'filter, strainer'.
/crūm/ '(to be) sheltered' /cûmrûm/ '(light, temporary) shelter, lean-to'.
/ckâîh/ 'to scrape out' /cûŋkâîh/ 'toothpick, ear-spoon'.
/kda/ 'to bore, drill' /kanda/ 'gimlet, auger'.
/klâh/ 'to fasten with a peg' /kandâh/ 'peg, pin'.

IskOall '/to know, recognize' /samkOall/ 'sign, mark, brand'.
/stēeh/ '/to cover the front' /santēeh/ 'breast-band, plastron (of a crab), cover'.
/stuc/ '/to raise with a lever, fish with a pole and line'
          /santuc/ 'fishing pole and line'.
/skāt/ '/to cut off, bar' /soŋkāt/ 'partition, compartment'.

3.4. Collective /-VN-/ In the following cases /-VN-/ yields derivatives which present the base idea as an aggregate of individual members:

/plāc/ '/edible plant parts, edible plants, vegetables'
/khāc/ '/month'
/sqōj/ '/to rot, stink'
/slỳk/ '/leaf'

/bunlāc/ 'fruit'
/kunhae/ 'season, time of year'.
/samqōj/ 'garbage'.
/saŋlỳk/ 'leaf, sheet.'

The foregoing items are probably to be identified with Jacob's (1963: 68) quantifiers, of which she mentions several in Old Khmer, including the form sanre, a derivative of sre (modern /srat/) 'ricefield'. Coxès (1942: 21 note 2, 23 and note 2, 74 and note 2) calls attention to this term and a variant sare, explaining them as "a unit of land measurement" used for counting fields.
CHAPTER VIII

SUMMARY

Though based on a limited corpus, the foregoing chapters offer an examination of a Mon-Khmer affixational system which is considerably more complete than any which has been attempted heretofore. It should go without saying that the conclusions presented here, while as firm as the data have seemed to allow, are provisional. Even as they stand, however, they may be said to throw not a little light on a previously dark area of Khmer morphology and to provide a point of departure for closer examination of affixation in other Mon-Khmer languages. To this extent, they fulfill the objectives of the study.

It has been shown that modern Khmer has four series of affixes, two coming under the prefixational subsystem and two coming under the infixational subsystem. There are eight simple prefixes, at least six simple infixes, five syllabic (rhotacized) prefixes, and a single syllabic infix. The functions of prefixes and infixes as they are presently understood are shown in Tables X and XI. Comparison of the two tables reveals duplication of seven functions between prefixes and infixes. Among these, /p-/, CrV-/ share the causative and factive functions with /-r-/, while /p-, m-, prV-/ share the agentival-instrumental and resultative functions with /-b-, -m-, -n-, -r-, -Vmn- ~ -VN-/

An original contribution made here, which may not be without significance for future work in Mon-Khmer, is the recognition of the analogic extension of CVN- presyllables to form a secondary prefixational subsystem. Fuller description of this secondary subsystem, which appears to be suppletive in origin, is definitely in order.
<table>
<thead>
<tr>
<th></th>
<th>Simple</th>
<th>Rhotacized</th>
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<tr>
<td>Agentival</td>
<td>p-</td>
<td>prV-</td>
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<tr>
<td>Augmentative</td>
<td></td>
<td>s-</td>
</tr>
<tr>
<td>Causative</td>
<td>p-</td>
<td>prV-</td>
</tr>
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<td>t-</td>
<td>k-</td>
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<td>prV-</td>
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<td>Frequentative</td>
<td>R-</td>
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<td>m-</td>
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<td>Intensive</td>
<td>R-</td>
<td>t-</td>
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<td>Negative</td>
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<td>p-</td>
<td>m-</td>
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<td>Singularizing</td>
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</tr>
<tr>
<td>Specializing</td>
<td>c-</td>
<td>m-</td>
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</table>

TABLE X: PREFIX FUNCTIONS

*Includes the diminutive, distributive, and habitual functions.
The principal original feature of the study lies in its treatment of affix function. The emphasis placed here upon aspect has not been attempted so systematically in earlier studies; it might be said, in fact, that the role of affixation in Khmer has been beclouded by the assumption that derivational affixes produce forms of a particular word class. It is precisely in this area that the provisional nature of the findings given will be most apparent. The functions attributed to each affix seem to be as trustworthy as the data on which they are predicated but at the same time to be liable to modification as new data become available. The present lack of definition may be put down to two factors: the synchronic approach deliberately followed up to this point and the apparent lifelessness of the system under study.

An important by-product of the study is the identification of many bases and their meanings. It is hoped that the separation of bases and affixes in modern Khmer will provide a firmer basis than has existed previously for comparison of other Mon-Khmer languages. It may also be that the system delineated here will be suggestive in future work in unlocking the ambiguities of affixation in other languages of the group. For example, the distinction made here between causative /p-/ and the evidently more common factive /p-/ may justify reexamination of the /p-/ prefix in related languages. Also to be looked for elsewhere is a particularizing /m-/ (as in /mcae/ 'lord') developing out of singularizing /m-/ (as in /mnaj/ 'one day'); it is my impression that this function has not been signalized before.

Other Mon-Khmer languages will presumably distinguish simple or nonsyllabic prefixes from rhotacized or otherwise syllabicized prefixes and thereby show a parallel to the situation in modern Khmer, where /p-, t-,
<table>
<thead>
<tr>
<th>Function</th>
<th>Nonsyllabic</th>
<th>Syllabic</th>
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<tbody>
<tr>
<td>Agentival</td>
<td>-b- -m- -n- -r-</td>
<td>-Vmn- ~ -VN-</td>
</tr>
<tr>
<td>Causative</td>
<td>-r-</td>
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<tr>
<td>Collective</td>
<td></td>
<td>-Vmn- ~ -VN-</td>
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<td>Factive</td>
<td>-r-</td>
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<td>Instrumental</td>
<td>-b- -n-</td>
<td>-Vmn- ~ -VN-</td>
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<td>Intensive</td>
<td>-b- -n-</td>
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<tr>
<td>Locative</td>
<td>-n-</td>
<td>-Vmn- ~ -VN-</td>
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<tr>
<td>Processive</td>
<td>-n-</td>
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<tr>
<td>Resultative</td>
<td>-b- -m- -n-</td>
<td>-Vmn- ~ -VN-</td>
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<tr>
<td>Similative</td>
<td>-b-</td>
<td></td>
</tr>
<tr>
<td>Specializing</td>
<td>-r- -l- -h-</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE XI: INFIX FUNCTIONS.**
c-, k-, s-/ are matched by /prV-, trV-, crV-, krV-, srV-/ as far as form is concerned whereas the functional relationships within and between the two sets are not neatly allocated. In Khmer /p-, prV-/ share the factive, causative, and agentival-instrumental functions but apparently no others. No functional duplication is in evidence between /t-, trV-/, /c-, crV-/, /k-, krV-/ or /s-, srV-/; but much duplication exists between /t-, k-, s-/ on the one hand and between /trV-, crV-, krV-, srV-/ on the other. The specializing function of /c-/ and the negative function of /k-/ seem to be distinctive. As Jacob (1968a: 112) has observed, similar relationships and nonrelationships are likely to be found in other languages of the Mon-Khmer group.

The background data furnished under each affix show that in the mere isolation of affixes little advance has been made over the work of my predecessors. Apart from differences of detail noted in each case, therefore, the study establishes a certain consensus regarding the inventory of affixes in modern Khmer. A few substantive departures of interpretation and arrangement have nevertheless been made; these for the most part have been in the direction of simplification.

Minor original contributions are the frequencies and distributions established for each affix; these of course are relative only to the corpus used, but may be suggestive. The interpretation of registral alternation as a morphophonemic phenomenon is new. The concept of variant bases and reconstructed bases as a useful technique of analysis seems not to have been previously applied to Khmer derivation.
NOTES

1 The term in Khmer is bhāsā khmera /phiēsa kmae/ [phiēse kʰmeː] 'language of the Khmer'. The word /kmae/ is defined by the RK (108b) as "a person born in or residing on Cambodian territory and coming under the jurisdiction of Khmer law." For English usage the term is here broadened to include the nominal senses of (a) "the language of the Khmer," one dialect of which is the subject of the present study, and (b) "a member of the Khmer speech community; Khmer-speakers, collectively," and the adjectival sense of (c) "of or relating to the Khmer people or language." Use of Khmer is the primary criterion of identification with the Khmer cultural tradition: in a socio-cultural sense, one who does not speak Khmer cannot be a Khmer. It does not necessarily follow that one who does speak Khmer is a Khmer, but control of the language is the most obvious token of assimilation. See Constitution du Royaume du Cambodge, Article 2.

2 The Mekong Delta region in what is now South Vietnam was Khmer territory until the Vietnamese expansion of 1653-1795. See Huard et Durand (1954: 31-5), where the progressive absorption of the Khmer provinces is summarized and dated. For a fuller account see Aubaret (1863: 1-67). The Thai provinces in question were Khmer territory until the wars with the Thai launched by Rāmādhipati of Ayutthayā in 1352 and culminating in the abandonment of Angkor in 1430-1433. See Coedes (1964: 424-6), Dauphin-Meunier (1961: 54, 56-7), Giteau (1957: 118-20), and Ghosh (1960: 200-5).

3 This figure has been compiled by the writer from numerous official and unofficial sources and is necessarily estimative. It includes 5.6 millions in Cambodia; 494,684 in Vietnam; 200,000 in Thailand; and 2,000 in
Laos.

4 On the Austroasiatic family see Sebeok (1942), Thomas (1964), and Haudricourt (1966).

5 Shorto and Jacob (1963: 15-23) accept only Pear, Chong, Samré, and Stieng. Maspero (1929) and after him Finnow (1959) accept the same four and add Angrak, Saoc, and Budeh. Budeh and Pinnow's Dip (elsewhere Budip) are Stieng dialects (Lebar 1964: 157). Kui is accepted by Maspero (1929) and Dupont (1943: 43). The latter adds Biat, usually classed under Phnong (Mhong), but does not include Stieng.

6 The earliest dated monument of Khmer is an inscription of 611 A.D. (Codès 1942: 21; Dupont 1943: 43, note 2; Briggs 1951: 15b, note 18).

7 See in particular Cady (1964: 53) and Olivier (1956: 4-15, 144-7).

8 It was not until 1879 that Hendrik Kern deciphered and translated the first Sanskrit inscription from Cambodia (Codès 1963: 9). When the first Khmer inscription was published I have not been able to establish, but it seems to have been several years later. On the earliest Western contacts with Cambodia see Groslier (1958). The earliest work on Khmer cited by Shorto and Jacob (1963) is Leyden, "On the Languages and Literatures of the Indo-Chinese Nations," in Asiatick Researches 10 (1808): 257. As reprinted in Leyden (1886) this represents a scant 21 lines. Crawfurd (1828) next published a 103-item comparative vocabulary dividing Khmer into two dialects, "Kamboja" and "Komen." A year after the Protectorate a remarkably good vocabulary of over a thousand items, collected by an unidentified French missionary, was published by the brother of Henri Mouhot in the appendix to Mouhot (1864: II.207-40). Next came a 93-item wordlist...
compiled by Bastian (1868: IV.253-7). For later works see Shorto and Jacob (1963: 15-23).

9 This body was established by a decree of the Governor-General of Indochina dated 15 December 1898 under the name of Mission Archéologique de l'Indochine. By a subsequent decree of 20 January 1900 it began operations under a broadened format with its present name.

10 It was typical of this limited interest that the impressive grammar of Maspero (1915), who had been closely associated with the Ecole Française from its beginning, was issued only under the latter's patronage.

11 This regional neglect has been neatly summarized by Haas (1965).

12 The main exceptions to this statement are Wilhelm Schmidt, who in reality published very little on Khmer, and Georges Maspero. For an account of Khmer studies in France see Bernard (1948). The continuing blindness of post-World War II French scholars to modern Khmer is exemplified by Gaspardone (1947) and Cordes (1960).

13 The indexes thus ignore an equally important (or unimportant) mention of Khmer by Sebeok (1942).

14 See in this connection the pertinent comments of Professor Henderson in Henderson (1964: 415-6).

15 See Marouzeau (1951: 71, under Dérivation). As used here the term carries no implication of productivity.

16 The evidences of suffixation in modern Khmer are too few and their analysis requires an approach too different from that used here for inclusion in this study, which is hence limited to prefixation and infixation. The classic example of apparent suffixation in Khmer is /ître/ 'upper
part, top' > /låk/ 'to raise', /låq ~ ləŋ/ 'to rise', /ləh/ 'to go over, be more' (Maspero 1915: 193; Gorgonijev 1966: 52-3).

17 See Forbes (1881), Kuhn (1889), and Grierson (1904: 1-3).

18 For example, Maspero saw the allomorphic relationship between /r-, rVN-/ and /l-, lVN-/; but his observations on aphaeresis appear to have led him to accept an allomorphic relationship between these two pairs and /qaN-/ (Maspero 1915: 155-6, 195). Elsewhere (463) he confuses Khmer /pra-/ with Skt pra-: under base yuta (his yūt) 'lutte' he gives the derivative prayuta (his pra-yūt) 'combat', despite Skt yudh > prayuddha. Guesdon (1930: 1098a, 1109a) marks both forms as Skt.

19 Guesdon cross-referenced a vast number of word bases and derivatives but his attributions are to be treated with caution. In his eagerness to signal as many derivational relationships as possible he made many errors, though probably no more than did Maspero.

20 In this phase of the work five native informants were used: (1) a male of Vietnamese and Khmer parentage from a merchant family of central Phnom-Penh, (2) a female from an elite, all-Khmer family of Phnom-Penh, (3) a male from an elite, all-Khmer family of Phnom-Penh, (4) a male from a Chinese family of Tak-Khmau, a short distance south of the capital, and (5) a female from an all-Khmer family of Battambang, resident five years in Phnom-Penh. All of the foregoing were speakers of the Standard; four were university students or university graduates, and below thirty-five years of age; one had completed normal school. Their ethnic diversity may be taken as typical of the educated class. Dictionaries used were Chāya-Huka-Ни (1964), Guesdon (1930), Ménétier (1933), Nwma-Фута (1954), Pannetier (1907; 1922), Tep-Yok et Thao-Kim (1962), and above all the VK.
All of these had major shortcomings; none was taken as more authoritative than the native informants. Texts exploited included various elementary and intermediate school readers, newspapers, and a few classics such as the *Cpa1pa prusa* (1959) edited for modern classroom use.

21 I am indebted to Noss (1959: 4.1) for this interpretation of [ʰ] and [⁹].

22 The distribution of [⁹] and [ᵃ] follows a regular morphophonemic alternation to be described in section 6.2.

23 On this term see section 4.

24 My [ mike] represents a low rather than a higher low front unrounded vowel; see Hockett (1955: 32, Figure 9).

25 "Learn a lesson from those who drink alcohol, / boast not that you are impervious to its effects; / Drink and you will be[come] a thorough drunkard: / you'll be poor indeed, but brag that you are rich." *Cpa1pa prusa* (1959: papa 86).

26 /aʃ/ occurs in syllable final position, /a̞/ before finals other than /ʒ/.

27 For Henderson the primary factor in register is contrastive resonance while contrastive pitch is a secondary factor (Henderson 1952: 151). She allows that "in relation to the VM of the second [my close] register, those of the first are in general more open in quality" (159), but this sole reference to the common lowering of the OR in relation to the CR is clearly not part of her definition of register. She insists in fact that "the different vowel 'colour' inherent in the registers ... ensures that no vowel nucleus of the first register can ever have exactly the same.
quality as a vowel nucleus of the second register, no matter how alike their general description may be apart from the question of register" (155). It is worth noting that Martini (1945) made no mention of resonance or pitch; contrastive openness is implicit in his description of the vowels.

28 Martini (1945: 115; 1949: 432; 1954: 246) was silent regarding the structure of the word, being content to affirm that words of native origin "have two syllables at most" (1945: 125). Henderson's view is that "the characteristic word-forms of Cambodian are monosyllables and dissyllables of certain given patterns ..." (1952: 149). What I interpret as subdissyllables are treated by her as monosyllables with "extended initials" (1952: 149, 150, 164). Pinnow (1958: 176) for the most part follows Henderson's description.

29 Since the shortness of CVN- presyllables is predictable from the syllable shape, the breve over their nuclei is superfluous. In this study the breve is regularly omitted in the case of presyllabic /ʌ/, since there is no qualitative distinction between /ʌ/ and /a/. Over presyllabic /ʊ ~ ŋ/ it is retained as a reminder that the nucleus is lower high rather than high.

30 Normally base /tyn/ + /-l-/ would yield */tlyn/, with no change of register. The actual form /tlyn/ evinces an unexplained change of the base from CR /tyn/ to OR */tyn/.

31 "Natural" register is that which conforms to the patterns of distribution. Departures from these patterns occur, as will be mentioned.

32 Jacob (1960: 361, 367) is inclined to interpret such OK forms as
those just cited as orthographic dissyllables which probably represented phonological subdissyllables. An assumption of this study is that unde-

rived subdissyllables of native origin do not occur. It is consequently expected that Mrs Jacob's interpretation will eventually be demonstrated. See Martini (1954: 250) and Pinnow (1958: 178).

33 The word has several senses, including 'gossip' and 'crony'. The gloss 'commerce' in Maspero is clearly a typographical error.

34 The form is anomalous because prevocalic /p/ is normally followed by CR syllable nuclei.


37 On this matter see the outraged comments of Maspero (1915: 36).

38 It may be mentioned here that Huffman (1967: 77) recognizes a distributive /ni-/ prefix deriving adjectives from numerals, as in /mũaj/ 'one' > /nimũaj/ 'each, every'. I have not considered it in this study because it does not conform to any of the structural types of prefixes accepted and hence does not appear to be part of the native affixational system. I share Guesdon's view that it is to be identified with Skt nis-~ nĩ- and P ni-, with essentially separative and privative functions (Guesdon 1930: 889a). It appears to have a distributive function only in /nimũaj/ and to occur with hardly more than half a dozen native bases.

39 Of Pacôh Mrs Jacob (1968a: 112) states: "There is also, as in Khmer, an overlapping of uses of several forms, e.g., the phonetic forms, ta, ca operate alongside pa in Pacôh as causative prefixes. No phonetic
feature in the verb seems to account for the alternatives, in most cases.
In the same language ㆩ operates as a completive prefix too. "Jacob
(1968b: 178) observes of Khmer that "the meaning conveyed by the prefixes
is in many instances not clearcut. The prefixing processes are not to any
extent alive now. ... Either the partner word or the prefixed form, or
both, may therefore have undergone a change of meaning, since the pre-
fixing process became obsolete." Maspero (1915: 219-20) observes: "Strict-
ly speaking, the prefixes and infixes do not have specific values of their
own; the meaning of a given derivative depends less on the affix with
which it is formed than on the meaning of the word base on which it is
built. The same prefix or infix can form derivatives with different senses
according as the bases to which it is successively attached have substan-
tival, adjectival, verbal meaning, etc. ..."

40 On /mīm/ and /mēm/ see Ouddès (1935).

41 The occurrence of /līl/ is illustrated by /lūəŋ/ 'to comfort' >
/lūəŋ/ 'to flatter, cajole' (Huffman 1967: 73), adapting his notation to
my own. The /r, ƣ/ "reduplicatives" of /l/ are neither illustrated nor ex-
plained.

42 The VB is ƣara /-pə/, still found in other dialects as /jəro/. This
correspondence of final /l/ and zero in the Standard to /r/ elsewhere is
fairly common.

43 I owe this gloss to Professor Henderson (1952: 167).

44 The VB is mwra /-mə/, in other dialects /mərə/.

45 The form /səbɨp/ shows an anomalous reversion to the register of
the primary base, /rɪp/ 'to prepare'.

46 Despite the use of this term for a declensional case in Finno-Ugric, I have reborrowed it (< Latin facere 'to make, do, bring to pass') to designate the essential verbal aspect in question here. It should not be confused with factitive, a synonym for causative. See Marouzeau (1951: 43, 93).

47 Etymologically, 'to cause (a text, coin, one's appearance) to forsake (its original form or aspect)'.

48 See Chapter III, section 2.3. The traditional Khmer house type is raised on piles.

49 See Chapter III, section 1.

50 /lath/ presupposes the CR counterpart of /-lach/ (Table IV). However, before final /h/ CR /á/ is replaced in the Standard by /ū/; hence VB /-lūsh/.

51 This is the only variation of this type I have encountered, and may not be tenable.

52 See Chapter III, section 1.

53 The original connotation of /kbat/ appears to have been 'a going back on one's word, violation of an oath'. Guesdon (1930: 186a) lists the older orthography kpatha, marks it as Sanskrit, and implies a relationship with /sbat/ 'to vow', which is a loan from Skt šapatha and/or P sapatha. Maspero (1915: 200, 456) correctly refers it to /bät/, but the VK appears to reject it entirely.

54 See note 44, where a different VB is in question.

55 /srāc/ presupposes the CR counterpart of /-rāc/ (Table IV). Neither /ē/ nor /ē/ is found before final /c/ in my data, however, and it seems
only prudent to look for a CR nucleus of some other shape. The most plausible alternative is suggested by /réc/, which has the meaning 'to be worn or ground down' and is almost certainly a cognate of /rusc/. In fact, for /srác/ Guesdon (1930: 190a, 1919b) lists the variant forms sre'ca and sreca, both of which correspond to /srèc/. Such an alternation between /e/ and /a/ is well attested, though an /œ ~ e/ alternation is not. In addition, note the crossing of the ideas associated with the bases in /samrusc/ 'to sharpen' < /rusc/ 'to come to an end or point' and /samråc/ 'to finish up' < /réc/ ' (to be) worn or ground down'.

56 The structure of the word does not admit initial vowels (Chapter II, section 5). The initial vowels of loanwords as well as orthographic initial vowels are realized with a prior /q/, which patterns with OR nuclei (Chapter II, section 6.2): BadRequest /q̪āj/ 'what?', usa /q̪oh/ 'firewood', āna /qan/ 'to read', ankara /qonka/ 'husked rice'.

57 The traditional interpretation of this singularizing /m-/ has been that it is a mere "contraction" of /muaj/ 'one' (Pannetier 1907: xiv, l23; 1922: l81; Maspero 1915: 292; Guesdon 1930: 1328a). Huffman (1967: 76) points out that /m-/ is "the most frequent allomorph" of /muaj/, while Jacob (1968b: 83) says that /muaj/ in its capacity as a multiplier has "the alternative form" /m-/.

58 Both the VK (165a) and Guesdon (1930: 36lb) list dialectal and sub-standard ḫai /ŋaj/. The form in the Standard is /tnaj/. Considering the unnatural register of /ŋaj/, it may be an aphaeretic form of /tnaj/; in this regard compare Standard /maon/ 'hour' (with unnatural OR) with Surin /cmoon/ 'hour', where the prefix would account for the register (Chapter II, section 6.2). In any case, Standard /mŋaj/ may exemplify a tendency
to avoid secondary bases with /m-/ , despite the occurrence of such forms as /mphøj/ 'twenty' and /mkhaŋ/ 'one side'.

59 On the bridge sounds in question see Chapter II, section 1.

60 In its treatment of these doublets the VK, fulfilling its prescriptive role, seeks to establish one member of each pair as correct. It ignores many of the doublets listed here. It crosslists only 11 /r-/ items which are referred to the corresponding /l-/ forms, only 17 /l-/ items referred to corresponding /r-/ forms. It admits only 6 doublets under /r-/ , only 7 under /l-/ . This is a far cry from the confusion of the two allomorphs recorded by the older dictionaries, and from the descriptive point of view cannot be considered realistic.

61 OR /-laeh/ is postulated instead of CR /-læh/ , since the OR of the derivative cannot otherwise be accounted for.

62 Guesdon (1930: 1959a) lists the probably cognate form ḫeta /hēt/ 'oppressive atmosphere; asthma, emphysema'. This is not recognized by the VK.

63 Normally base /tünkü/ + /l-/ would yield */rtüncü/ , with no change of register. The actual form /rtünkü/ evinces a change of the base from OR /tüŋ/ to CR */tügen/ , and is probably an instance of the loss of register in the high nonfront unrounded nuclei (Chapter II, section 3). See note 30.

64 Guesdon (1930) lists a number of exceptions to this statement which are not accepted by the VK: 10 items in which /krv-/ is followed by base initial /k/ (e.g., krako /krako/ 'second-grade cardamom' and four other plant names), and 4 items in which /srv-/ is followed by /s/ (e.g.,
srasran /srasraŋ/ 'together' and three questionable items with variants: /srasak ~ ssrak ~ trasak/ 'nightfall (?)', /srasaŋ ~ krasaŋ/ 'species of tree', and /srasal ~ krasal/ 'to disport'.

65 On the sense of this aspect see Chapter IV, section 3.1.

66 Possibly a calque of French saisir.

67 Possibly a calque of French traînard.

68 For details see Table II and Chapter II, section 1. I have also found no infixed derivatives of bases with initial /m/.

69 This verbal sense presupposes a nominal instrumental */tbōt/ 'twin sticks for holding meat over a fire'.

70 A subgroup of Mrs Jacob's agentival derivatives is exemplified by forms which appear in my transcription as /kamla/, /kamsat/, and /kam-lac/, glossed respectively as 'ignoramus', 'a destitute person', and 'a timid person'. I have no evidence of agentival senses of these three, which (in my data) refer to conditions of 'ignorance', 'poverty', and 'fear'; any agentival senses which these three or other /-VN-/ derivatives may develop are surely secondary. Mrs Jacob's nominalizing and causative /-m-/ is illustrated by forms of the same type as /kamla/.

71 Huffman (1967: 94) recognizes only the form /lmāh/, glosses it 'to exceed, violate', and interprets it as a causative derivative of /lāh/ 'beyond' (which I have previously glossed as '(to be) more, in excess'). This is a good instance of the moot bases mentioned in Chapter III, section 2.3.

72 On the base see Chapter III, section 2.3.

73 Regarding the semantic relationship between the base and derivative
compare /sklep/ 'to scratch; to itch'.

74 Both of these items are cited by Maspero (1915: 211).

75 It has been mentioned that the grammatical function of any given lexical item is not overtly marked in Khmer. Thus the voice of forms with verbal meaning is determined by the context. From the point of view of the native speaker /pnaek/ 'fragment' is indifferently "that which breaks off" (active and agentival) or "that which is broken off" (passive and agentival); /tnesek/ 'snare' is "that which snares" (active and instrumental), while /tno/ 'barter price' is "that which is exchanged" (passive and instrumental). Just as the agent is not formally distinguished from the instrument of an action, it seems unlikely that Khmer distinguishes either of these from the location of an action; all three fall within a single category. /tnok/ 'pocket in the sarong', without being either the agent or the instrument of the action (/dak/ 'to fold'), is "the place or space formed by folding" (passive and locative), while /pnhuh/ 'religious orders' is neither the agent nor the instrument of the action of /buh/ 'to enter religious orders' but is "the place or state achieved by entering religious orders" (active and locative).

76 See note 70.

77 On the base see Chapter III, section 2.3.

78 This verbal meaning seems to presuppose the nominal meaning 'that which is (or can be) led by the halter: tractable animal'. Compare the verbalized /-m-/ derivatives in section 3.1.

79 The allusion is to the stem together with the blade of a leaf.

80 Presupposing nominal 'wallowing place'. 
See note 30.

Guesdon (1930: 864a) lists two forms which may be dialectal loans: dhjama /tθm/[ 'secret' and dhjama /tθm/[ 'in silence, in secret'.

See note 29.

Schmidt (1916: 458) refers to this function of /-Vmn-/ as pluralization, illustrating it with /komnän/[ 'fief', /cumnəp/[ 'lowlands at the foot of mountains', and an apparently untenable /cumnən/[ 'things thrown down on the ground'. This function includes Mrs Jacob's /-VN-/ quantifiers, mentioned in section 3.4.

Maspero (1915: 219) also states that "as a rule derivatives by infixation are not formed from derivatives by prefixation" and vice versa; he admits that his /-Vm-/ may be infixed into derivatives by prefixation, but asserts that instances of this are rare. Gehr (1951: 71) echoes this view, which is without foundation, as the examples given will show.

This is an honorific preverb used in contexts relating to divine and royal beings.
BIBLIOGRAPHY


Aubaret, G. 1863. Histoire et description de la Basse Cochinchine ... traduites pour la première fois, d'après le texte chinois original. Paris, Imprimerie Impériale.


Codès, G. 1942. Inscriptions du Cambodge ... vol. II. Hanoi, Imprimerie d'Extême-Orient.

l'Académie des Inscriptions et Belles-Lettres, 367-74.


Haudricourt, André G. 1966. The limits and connections of Austroasiatic


Henderson, E.J.A. 1965. The topography of certain phonetic and morphological characteristics of South East Asian languages. Lingua 15.II: 400-34.


African Studies, University of London.
skogo jazyka. Učenije zapiski Leningradskogo ordena Lenina gosudar­
stvennogo Universiteta, im. A.A. Ždanova, 294 (Vostok. 12): 100-7.
Kuhn, E. 1889. Beiträge zur Sprachenkunde Hinterindiens. Sitzungsberichte
der königlichen bayrischen Akademie der Wissenschaften, philos.-
philol. Kl., I.189-236.
Lebar, Frank M., Gerald C. Hickey, John K. Musgrave. 1964. Ethnic groups
of mainland Southeast Asia. New Haven, Human Relations Area Files.
Les langues du monde. 1952. Par un groupe de linguistes sous la direction
de A. Meillet et Marcel Cohen. Nouvelle édition. Paris, Centre
National de la Recherche Scientifique, H. Champion.
Leyden, John. 1886. On the languages and literatures of the Indo-Chinese
London, Trubner.
Marouseau, J. 1951. Lexique de la terminologie linguistique. 3e édition.
Paris, Geuthner.
Martini, François. 1951. Notes d’étymologie khmère. BSEI, nouvelle série,

Martini, François. 1954. De la réduction des mots sanskrits passés en cambodgien. BSLP 50.1: 244-61.


Mouhot, Henri. 1864. Travels in the central parts of Indo-China (Siam), Cambodia and Laos during the years 1858, 1859 and 1860. London, John Murray.


Zide, 89-95. The Hague, Mouton.

Noss, Richard B. and Vanphut H. Phan. 1959. Cambodian basic course, units 1-12 [with magnetic tapes]. Washington, D.C., Foreign Service Institute, Department of State.

Noss, Richard B. and Im Proum with the assistance of Dale I Purtle and Someth Suos. 1966. Cambodian basic course, volume one, units 1-45 [with magnetic tapes]. Washington, D.C., Foreign Service Institute, Department of State.


Pinnow, Heinz-Jürgen. 1963. The position of the Munda languages within the Austroasiatic language family. Linguistic comparison in South


Shorto, H.L., Judith M. Jacob and E.H.S. Simmonds. 1963. Bibliographies


