ASPECTS OF THE PHONOLOGY OF THE SINHALESE

VERB; A PROSODIC ANALYSIS

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ABSTRACT

The purpose of the thesis is to study Sinhalese verb forms in relation to slow and rapid styles. The theory used in the analysis is that of Prosodic Phonology. The thesis is presented in seven chapters and an appendix.

Discussed in Chapter 1 are styles, speech situations, the theory used in the analysis, the choice of the theory as the theoretical background, the nature of the analysis, research procedure, data, informants, and new information arising from the research.

Chapter 2 is divided into two parts. Part 1 is an outline description of vowel and consonant sounds. The physical characteristics of these sounds and their distribution are given here. Part 2 includes a discussion of the syllable: syllable structure, syllable quantity, syllable prominence and syllable division.

Chapter 3 contains an analysis of simple verb stems. Structures and patterns of verb stems, and contrasts and functions of elements within patterns are given here. In the analysis of disyllabic structures, the relationship between the first and second syllables is also discussed.

Included in chapter 4 is a phonological analysis of phrasal verb stems. Here, three types of stems, non-free morphemes, loan stems and onomatopoeic stems are described. At the end of each analysis, differences of the phonological structure of stems of the given three types are considered. In the analysis of the onomatopoeic stems, the relationship between the initial and non-initial syllables is also examined.
Chapter 5 includes a phonological analysis of affixes which can be suffixes, infixes or prefixes. How phonological structures of affixes differ from those of stems is also discussed.

Discussed in chapter 6 are the conjug. marker, conjug. classes, the relationship between non-past vol. and invol. stems and non-past and past vol. stems, junction prosodies, reduplication and the length relationship.

The analysis of rapid verb forms is given in chapter 7. Here, stems and affixes are described separately. In the analysis, phonological structures of parallel slow forms of stems and affixes are also given for comparison with structures of rapid forms. This chapter is followed by a summary and conclusion.

The appendix includes a grammatical analysis of verb forms and a list of simple verbs which are analyzed in the thesis. In the grammatical analysis, volitive and involitive forms, tenses, aspects, overlapping forms and the grammatical function of suffixes are discussed.
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NOTATION

1) IPA symbols are used throughout the thesis with the following modifications for convenience of typing.

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2) Length of vowels is marked with :, whereas consonant length is indicated by geminate consonants.

3) In the phonetic description, phonetic symbols are given within square brackets, [ ].

4) The Sinhalese script would present difficulties to readers unfamiliar with it, a reading transcription is therefore provided to give some indication of the pronunciation as well as to indicate the systematic functioning of sounds in the language.
NOTATION OF PROSODIC PHONOLOGY

V systems:
- t  high grade
- e  mid grade
- a  low grade

C systems:
- P  plosive system
- N  nasal system
- S  sibilant system
- L  liquid system
- M  pre-nasalized system

Terms:
- p  labial term
- t  apical term
- t  retroflex term
- č  palatal term
- k  dorsal term

Prosodies:
- y  prosody of frontness
- w  prosody of backness
- a  prosody of absence of frontness and backness
- V  long length prosody
- V  short length prosody is unmarked
- h  tense voiceless and breathy onset
- l  lax and voiced onset
- y  y junction prosody
- w  w junction prosody
- g  gemination prosody
ABBREVIATIONS

conjug.  Conjugation
CF      Citation Forms
CS      Casual Speech
emph.   Emphatic
FS      Formal Speech
invol.  Involitive
pl.     Plural
RS      Rapid Speech
SD      Surface Derivation
sg.     Singular
SS      Slow Speech
vol.    Volitive
CHAPTER 1

1.0 INTRODUCTION

1.1 This chapter deals with a general discussion of slow and rapid speech: their nature, contexts and differences between them. It also explains the theory used in the analysis and its justification, the nature of the data, research procedure, the informants, related linguistic research on Sinhalese and how this research differs from those of others.

1.2 Speech styles and their use

Crystal and Davy (1969) say:
"A particular social situation makes us respond with an appropriate variety of language, and as we move through the day, so the type of language we are using changes fairly instinctively with the situation. We use one variety of English at home, another with our friends, a third at work and so on. We usually take this ability for granted; but what are the implications of doing this, how far does the ability extend, and how can we begin to study it" Crystal and Davy (1969: 4).

The quotation given above clearly indicates that a language, whether it is English, Sinhalese, Tamil or any other is not such a unitary one: it has many varieties, such as regional and social. The fact that language in use is a strikingly more complex phenomenon than the variety of language traditionally singled out for description is clearly shown in the work of Labov (1966) in his study of sociolinguistic variation. In fact, in present day sociolinguistic research, there is no place for the idea of "ideal speaker-hearer" to be found in a completely homogeneous speech-community. In the study of languages one has to focus attention not only on social stratification and geographical spread but also on the
various physiological, psychological, emotional and other effects that are classed as matters of performance.

As the purpose of this thesis is to study slow and rapid verb forms of Sinhalese, the discussion given below will be mainly limited to slow and rapid styles on which the literature is relatively very small. Most of the scholars interested in language styles, as for instance, Ramsaran (1979) and Barry (1985), consider Labov as the pioneer in this field. After Labov's research was published, work in this field has been increasing.

However, it is true that linguists were aware of these styles even before the Labov's work. For example, Henderson (1949/1970) recognizes three types of style: isolative, combinative and rapid combinative. Of the first, she says:

"I have called this style of speech "the isolative style". It is that commonly used for monosyllabic words and for the slow, deliberate pronunciation of polysyllables, and is that shown in dictionaries. The structure of the syllable, which is also that of the monosyllabic word, is determined by reference to the isolative style only. A study of words of more than one syllable shows that in connected speech, or what may be called the "combinative style", the syllable structure proper to the isolative style is modified in some degree......... In addition to "isolative style" and "combinative style", it is sometimes necessary when examining certain word and sentence prosodies to take into account yet another style, which I have called "rapid combinative style" (Henderson in Palmer, 1970: 27-28).

Most other linguists, except Hasegawa (1979), discuss two types of style. However they use different terms for them. For example, "informal speech" Brown (1977), "fast speech" Sommerstein (1977) and "connected speech" Hawkings (1984), "Casual speech" Lass (1984) and "rapid speech" Lodge (1984) refer to the same style that I call in this thesis the "rapid style".
At this point it is necessary to comment on Hasegawa's analysis of styles as he sees a distinction between fast (FS) and casual speech (CS) which are used to refer to the same style in the literature. He says:

"I set the primary distinction between FS and CS processes depending on whether a process is sensitive to the rate of speech; if so the process is a FS process, if not, it is a CS process" (1979: 126). He gives two FS processes and three CS processes. In his opinion, FS processes depend on the rate of speech, their operation is not sensitive to lexical items and they are phonetically natural. CS processes can occur in slow or careful speech as well as in fast speech. Referring to a rule called nasal syllabification he says: "The syllabicized form η can occur in a fairly formal or polite expression, regardless of the rate of speech. However, the opposite is not true. i) CS rules are more or less conditioned by lexical information ii) CS rules are sensitive to sociological notions. These two are not only the traits of CS phonological processes but those of CS morphological and syntactic processes. This means that lexical conditioning is a general characteristic of processes sensitive to the sociological notions" (1979: 131).

In my material, however, I do not see any process that can be called CS which differs from rapid speech. In fact, it is not difficult to allocate my material either to slow speech (SS) or to rapid speech (RS). Before going on to discuss SS and RS in detail it is necessary to make a note on style itself.

Hymes says:

"Style has often been approached as a matter of statistical frequency of elements already given in linguistic descriptions, or as a deviation from some norm given by such description.... Styles also depend upon qualitative judgments of appropriateness, and must often be described in terms of selections that apply globally to a discourse" (Hymes,
According to the above description, judgement of what is or is not style depends on several factors: statistical frequencies of elements, a deviation from some norm given by a linguistic description and appropriateness and selection in relation to a discourse.

Ramsaran (1979) in her Ph.D. thesis has given a statistical frequency count of R linking in English rapid speech. According to her research, Hymes first point may be correct. But if rapid speech can be studied in relation to tempo rather than informality, it is difficult to say to what extent this viewpoint is valid. As far as Hymes’s second point is concerned, the researchers, for instance, Ramsaran (1979) and Lass (1984), whose attention was focused on rapid speech, have agreed that styles have a common “norm”. Therefore, Hymes’s second point seems to be accepted. His third point is “appropriateness and selection”. As native speakers have intuitive knowledge of appropriateness of styles, they select styles depending on situations. Therefore, it is possible to agree with Hymes’s third point as well.

Enkvist et al. (1964) describe styles in a straightforward way. They say:

"Stylistic choice.... at first sight seems to be a choice between items that mean roughly the same, where non-stylistic choice, involves selection between different meanings" (1964: 19).

It seems to be true that although forms belonging to two styles have different shapes, their meanings are the same, in other words the difference between two styles does not depend on meaning. For instance, if I take two examples from my material, karla and karål, both have the same meaning and the former occurs in rapid style and the latter occurs in slow style. Both forms are grammatical and the shape of the form depends on the style. Therefore, it is possible to agree with Enkvist et al. (1964), who say:
"As long as both types of construction are grammatical, the choice between them cannot be a matter of grammar. If the use of one or the other is contextually bound, the choice is stylistic" (1964: 41).

Lodge (1984) suggests that slow and rapid styles have to be studied in relation to optional and obligatory phonological processes. According to him processes of RS are optional and those of SS are obligatory. He says:

"We need to discover whether or not the phonological processes discernible in rapid speech are fundamentally different from those of slow or careful speech. The main differences may be that in slow speech any processes that occur are for the most part obligatory, whereas in rapid speech they are optional. For example, in all varieties of English pleasure, which, we will assume, has an underlying [zj], undergoes a "palatalization" process so that it is pronounced with a medial [ʒ]. On the other hand, as you in rapid speech can be pronounced either [æzjə] or [æʒə], although the latter is more likely. This means that we shall have to differentiate between instances where a rule is applied obligatorily and instances where the same rule is applied optionally" (Lodge, 1984: 2).

This optional/obligatory concept can be of value only if the difference between rapid and slow speech cannot be described in relation to rate of articulation. Otherwise this concept will not be sufficient to make a distinction between rapid and slow speech. Referring to the idea of optional and obligatory Lass (1984) says: "The various CS phenomena dealt with in 12.2 are "optional"—but I did not make much of this. The particular kind of optionality involved is however not simply a matter of random application or non-application of a rule: the polarity optional/obligatory is not very helpful. What we have here is a matter of probabilities. A tempo hierarchy like (12.7) is not a listing of forms absolutely characteristic of particular tempi, but should be interpreted
this way: given a particular tempo, at least a certain percentage of tokens meeting the SD of a tempo specific rule will actually show its application" (1984: 304).

In the above quotation Lass has made two important points: the first is that the concept of optional/obligatory is not very helpful in making a distinction between slow and rapid speech and the second is that rapid speech has to be studied in relation to the rate of tempo. In fact, he assumes that the structure of rapid forms can be explained through tempo specific rules.

Barry (1985: 9-10), who agrees with Lass (1984), states that the distinction between slow/rapid speech depends on three factors, rate of articulation, care of articulation and social setting. According to my data rapid forms are produced at an increased tempo, and this is associated with absence of care of articulation. Usually, but not always, care of articulation is absent in informal situations.

1.3 Nature of RS

The nature of RS is dealt with fairly in many books. For instance, Zwicky (1972), Gay, Ushijima, Hirose and Cooper (1974), Linell (1979), Lindblom (1981), Cooper, Soares, Ham and Damon (1982), Macneilage (1983), Lass (1984), Scott (1984) and Barry (1985). I give here a few examples from Lass (1984) and Barry (1985) in order to show some of their findings. Referring to two examples, [hɛŋ] "hang" and [hɛːŋ] "hand" which occur in RS, Lass says: "Thus, a false contrast [ɛŋ] vs [ɛːŋ] occurs in CS, where a minimal pair [hɛŋ] "hang" and [hɛːŋ] "hand" is born out of an interaction between one CF rule (lengthening), and two CS rules. There is thus a potential "phonemic contrast" in CS that can't exist in CF: structurally, the two are different dialects" (1984: 300).

However, Lass assumes that such contrasts should not be treated like those which occur in SS. Instead, he suggests
that structures of RS have to be derived from the structures of SS through tempo specific rules.

Barry (1985) describes the nature of rapid speech on the basis of assimilation, lenition and suppression of boundaries. He says: "The acquisition by a segment of certain articulatory and acoustic features of an adjacent segment is a process which is especially characteristic of CS" (1985: 4).

According to him "can't bear" occurs in RS as [kaːmpbeə] and "right car" occur as [raikkə:]. He discusses four processes under lenition.

1.) Consonantal weakening
   e.g. already [ɔːredə]
   literary [litrɪə]

2.) Vowel reduction
   e.g. could [kəd]
   as there could be [zəɛkəbiː]

3.) Degemination
   Barry (1985) says: "Where assimilation gives rise to two contiguous homorganic stops, as in [kub bi: lei], this may further reduce to a single stop: [kvbileː] (1985: 4)

4.) Cluster simplification
   e.g. best man [besmən] (1985: 4-9).

"Suppression of boundaries" is discussed in relation to two examples. According to Barry "ice cream" and "I scream" which occur in rapid speech as [aɪskrɪəm] and [aɪskrɪəm] respectively, can be distinguished in SS in the manner indicated in the transcription. In RS, however, it may be impossible to distinguish the two on phonetic grounds" (1985: 8).

As a result of these phonological processes, RS may sometimes be very different from SS. For example, let us examine the following utterance given by Lass (1984). He says:

"As a first example, consider this string:

dːɪfʃɪtːi ɪzæːmː ɛɪʃəβæμl]
What language is this? How many words are there in this utterance? It is obviously a language with long consonant [dː nː], nasalized vowels [æi], a bilabial fricative [p], a velar [x] and syllabic fricatives like [f]. In fact, the language is my own variety of English, spoken in a rapid and casual style. It is a casual speech (CS) version of what, as a sequence of CFs, would be: dif ikA-VIltl i iz &®2t Sim na^t Jvat^baetftti (That is, "the difficulty is that I'm not sure about it" Why should this sort of thing be possible in CS?"(1984: 295).

This is an important question. If sounds which are treated as being not pronounceable in a language are possible in RS, what are the reasons for that? Lass (1984) provides an answer to this question in the following quotation:

"What appears to happen is that the faster and more casual speech becomes, the less it is "focal" to the speaker's concerns, the less attention he pays to it. Therefore the inertial properties of the speech apparatus tend to take over: as it were a "gravitational" effect, where decrease of attention leads to decrease of effort. To put it crudely, things tend to get done the easiest way, movements flow along a path of least effort. As attention decreases, so does control; and both distinctiveness and distinctness decrease. Articulatory "fine tuning" is less strictly maintained, so there is a general loosening of control over individual gestures, and an increase in co-articulation" (1984: 297-98).

Barry's view about this aspect of rapid speech is not very different from that of Lass. According to Barry, at a rapid speaking rate, speakers have the option of either increasing the velocity of movement of the articulators or of decreasing articulatory displacement. When speaking rate increases motor activity is speeded up. When this happens, there is an economical restructuring of motor commands.
1.4 **Context**

Having discussed the nature and the functions of RS, one could now examine the contexts of RS and SS. Some linguists, for example, Crystal and Davy (1969) believe that RS and SS can be separated, at least to some extent, on the basis of the context.

First of all, what is context? Halliday (1961) says: "The context is the relation of the form to non-linguistic features of the situation in which language operates, and to linguistic features other than those of the item under attention" (1961: 243-4).

According to the definition given above it is not possible to discuss the context without referring to non-linguistic features of the situation. I have now to examine whether it is possible to discuss the contexts of SS and RS in relation to the speech situation where they occur.

1.5 **Speech situation**

Brown and Gilman (1960) say:

"RS occurs where power relationship in a dyad is symmetrical, and there is a high degree of solidarity and formal speech where the opposite obtains" (1960: 258).

In other words RS occurs in informal situations and SS occurs in formal situations. However, Crystal and Davy (1969) say that, as far as language is concerned, there is no clear-cut division between formal and informal situations. They say:

"The informality of the conversation situation is also reflected in the fact that any kind of language can occur without its being necessarily linguistically inappropriate... It is significant that in an informal language situation, very formal language may be used from time to time as in argument of humour, without its being out of place, whereas the reverse is not true" (1969: 104).
On the one hand, as Crystal and Davy say, SS can be used in informal situations from time to time and on the other hand, even though they say the reverse is not true, my data shows that RS can be used in formal situations depending on the emotional condition. For example, if a person gets angry, he may use RS even in formal situations.

The question that will arise at this point is what constitutes formal and informal situations. Ramsaran (1979) says:

"Formal situations are those in which the participants are either strangers or feel the absence of something in common" (1979: 62).

"Casual situations are those in which the participants are known to each other and feel that they share something in common" (1979: 62).

In my research, the definition of casual situations as given above seems valid. However, it is not so in formal situations. For example, people in my village in Sri Lanka though known to each other regard meetings of village development societies as formal occasions and use only slow speech. There is no absence of something in common.

Nevertheless, Ramsaran has also given the views of some individuals on formal and informal situations; this will be useful in making a distinction between formal and informal situations in my study. According to Ramsaran, one person said

"Someone caught up in formality behaves as they think people expect them to behave rather than they want to behave. Formality may depend on either the occasion or the type or people" (1979: 59-60). Another individual said:

"Formality is an act or activity which occurs through slavish obedience to custom... to be informal is to (be) in a situation where custom and manner and form are not so slavishly followed. People hope that informality creates less barriers. But in an informal situation one feels more awkward and embarrassed because it is more difficult to communicate although it is
supposed to be easier: one has to do it by oneself, but in a
formal situation one knows how to behave..." (1979: 60). A
third individual said:
"A formal situation is one with defined limitations or a
limitation not necessarily articulated; it follows a fairly
recognized procedure; people are expected to have specific
roles and they know what sort of role they should be playing.
It has a certain underlying point or structure... There is
impersonality... It's to do with norms... You feel under certain
restrictions... An informal situation allows for more
variation" (1979: 60).

Of the definitions given above it seems to me that the
third one is the most satisfactory for Sinhalese. In formal
situations people behave within defined limitations not
necessarily articulated, in other words, people behave in an
accepted manner. In such situations they pay more attention to
the style of language they use.

We should not, however, forget the fact that the degree of
formality in such situations - not necessarily in all formal
situations - may change. I would now like to examine Sinhalese
slow and rapid speech in relation to these speech situations.

1.6 Sinhalese styles

As far as styles of Sinhalese are concerned, it is
difficult to say that slow forms occur only in formal
situations. In fact, they occur in both formal and informal
situations. Rapid speech occurs mainly in informal situations.
Nevertheless, it can be used in formal situations when the
level of formality changes. There is yet another aspect of
Sinhalese: a diglossic situation where there are many
differences between written and colloquial languages. They
sometimes look like two separate languages. In some formal
situations slow speech is mixed with literary Sinhalese. Radio
news is an extreme case of this. In other formal situations,
like public meetings, less literary language is used. In some other formal situations such as entertaining guests, literary language is not used at all; the style is, however, slow. In informal situations literary Sinhalese is not used at all; the form of the language is completely colloquial, but can be slow or rapid.

This study is involved in slow and rapid speech, but the literary form is not considered. Rapid speech, if we leave out a few special cases, is usually used within the family, between friends and with relations: especially with close relatives. It is also used when people of high status address those of lower status, as for example, when a master speaks to a servant or a teacher to a student. However, this is not to say that slow forms are not used in such contexts. The term Rapid speech is used in this thesis in the sense that such speech is produced at a rapid speaking rate. When the forms are produced at a rapid tempo, they can differ from those which are produced at a slow speaking rate in various ways, as will be shown in chapter 7. Having discussed the styles, speech situations and tempo of speech, I now turn to discuss the phonological model used in this analysis.

1.7 Theoretical model

The model used in this analysis is that of prosodic phonology which was introduced by J.R. Firth in 1948. However, Palmer (1970), in the introduction to Prosodic Analysis, says: "Although Sound and Prosodies was the first explicit statement of the theory and the first to use the term prosody and prosodic in the appropriate sense, some of the notions involved are to be found in earlier articles, notably Firth 1934, 1935 and 1937" (1970: i). Several articles using prosodic analysis are available in Palmer (1970).

In recent books on phonology, there is at least a brief discussion of Prosodic phonology, for example, Sommerstein
(1977) and Lass (1984). However, the general principles of prosodic analysis are presented mainly in the following three works: The Introduction to Prosodic Analysis (Palmer, 1970), Aspects of Prosodic Analysis (Robins, 1957/1970) and Prosodic Phonology (Waterson, 1987). Waterson (1987) has given six concepts as characterizing prosodic analysis, 1.) restricted language and renewal of connection, 2.) multistructural, 3.) the piece, 4.) polysystemic, 5.) prosodies and phonematic units: systems and structures, and 6.) partial analysis.

1.7.1 Restricted language and renewal of connection

This concept has to be taken into account specially at the beginning of a prosodic analysis. Waterson (1987) says: "The notion of restricted language means that the field of study is to be defined, and the description is then made within the limits stated... The validity of the description made can be tested by "renewal of connection", i.e. by comparing the system set up for the one speaker with those of other speakers belonging to the same community" (1987: 8).

1.7.2 Multistructural

This concept relates to the organization of structures in an analysis. Waterson (1987) says: "Multistructural in Prosodic Phonology refers to the convention that linguistic units of like structures are handled together, and those of unlike structures are handled separately; for example, words of one syllable are dealt with together and apart from words of two and three syllables. Further subdivisions of one-syllable words are then made; for example, into those with open endings, e.g. CV and V, and those with closed endings, e.g. VC and CVC and so on" (1987: 9) In such an analysis it is easy to see the system of contrasts of one structure and how such contrasts differ from those of others. As far as different word classes are concerned such an analysis shows how phonological systems of one word class may differ from those of others.
1.7.3 **The piece**

Piece is a generalized term in Prosodic Phonology. It refers to a structure which is not required to be defined grammatically. According to Waterson (1987) the piece can be the whole or part of a syllable, word, phrase or sentence and its phonological characteristics are described in the same way as those of other phonological units, e.g., the syllable and word.

1.7.4 **Polysystemic**

According to Waterson (1987) this term has three senses. Prosodic Phonology is polysystemic in the sense that different systems are set up at different places in structure. Thus, it is possible to show how initial systems differ from final systems. It is polysystemic in the sense that different phonological systems may be set up for different grammatical classes. It is also polysystemic in the sense that different strata in a language are treated separately. Waterson (1987) says: "The third sense in which polysystemic is used is that different strata in a language such as native words, loan words and onomatopoeic words are described as constituting different phonological systems within the one language" (1987: 11).

1.7.5 **Prosodies and phonematic units: system and structure**

This is one of the main concepts in Prosodic Phonology, which Firth discussed in "Sounds and Prosodies" in detail. Referring to prosodies and phonematic units, Robins (1953) says:

"Prosodic analysis is, in fact, an abbreviated designation of an analysis that makes use of two types of elements, Prosodies and Phonematic units (cf Firth (1948), pp.150-2; Allen (1954),p558); the latter are not phonemes or phonemic units, and the analysis is carried out in terms other than phonemic. In this analysis, abstractions adequate to a full
analysis of the phonological working of the language are made from the phonic data, or the raw material of the actual utterances, and these abstractions fall into the two categories of prosodies and phonematic units" (Robins, in Palmer, 1970: 192).

According to Robins, phonematic units refer to those features of the phonic material which are best regarded as referable to minimal segments, having serial order in relation to each other in structures.

Such units constitute the consonant and vowel elements or C and V units of a phonological structure. Prosodies, Robins says, constitute more than one segment in scope or domain of relevance and may in fact belong to structures of any length, though in practice no prosodies have yet been stated as referring to structures longer than the sentence. Thus there may be syllable prosodies, morpheme prosodies, word prosodies, phrase or sentence part prosodies and sentence prosodies. Phonematic units and prosodies are studied in relation to system and structure. Thus, it is possible to show the distinction between syntagmatic and paradigmatic contrasts and functions. The syntagmatic relevance of phonic elements is judged in two ways: 1.) a feature may be spread or realised phonetically over a structure such as a syllable or a word as a whole; 2.) a feature, though not phonetically realized over the whole structure, may be relevant to a structure by marking its boundaries. Such prosodies can be called demarcative or junction prosodies.

Referring to prosodic contrasts such as found in the English words [buːt] "boot" and [biːt] "beat", Waterson (1987) says: "Lip-rounding and backness start with the bilabial closure for [b] and continue throughout the vowel. When such features have a contrastive function (the rounding and backness in [buːt] "boot" contrast with the lip-spreading and frontness in "beat" [biːt]) they are allotted to prosodies so that the structures of "boot" and "beat" are symbolised as $C_1LV$
and Ci C respectively. Prosodies are elements which are capable of extension over sequences of phonematic units and which have relevance to syllables, words and larger units such as the piece and the sentence. They are "unplaced". Phonematic units occupy places in structure in sequence and are thus "placed" (Waterson, 1987:11). It was said above that phonematic units constitute C and V elements. C systems are described through sub-systems such as P (plosive) system, N (nasal) system and S (sibilant) and V systems are described through grades such as close, mid and open.

1.7.6 Partial analysis

Partial analysis is possible in a prosodic description. For example, even within one structure, prosodic contrasts may be dealt with at one time and C systems of the same structure at another time.

1.7.7 Relationship within structures

Prosodic phonologists are interested in the discussion of relationships within structures. Waterson (1987) says: "Through the use of prosodic theory, with its emphasis on the syntagmatic, synthetic aspects of language, it is possible to focus on different relationships within structures in the child's phonological system at different stages of development and to show different kind of relationship between the child's and adult's forms and structures.." (1987: 14). In fact, Waterson (1987) has demonstrated such relationships through the use of prosodic analysis. These are the concepts that are followed in this analysis. In particular, inspiration was derived from the work of Waterson (1987).

1.8 How Prosodic Phonology is used in this thesis

It is an accepted idea in Prosodic Phonology that
phonological analysis should take into account the requirements of grammatical analysis (Palmer, 1970: 134). In fact, phonological analyses are made on forms which are discussed in grammar. As the purpose of this thesis is to make a phonological analysis of verb forms, it is necessary to give a grammatical analysis of verb forms. This has been done in an appendix. In the analysis of tense, aspects and moods in the appendix, I followed the method used by Abhayasinghe (1973) and the rest is my own analysis.

In the analysis, grammatical abstractions, verb stems, affixes, junction prosodies and syntagmatic relations between syllables and between different shapes of stems are discussed separately. Under phrasal verbs, onomatopoeic stems, loan stems and the stems which are called non-free morphemes are also discussed separately.

Stems and suffixes are divided into groups such as monosyllabic, disyllabic etc. Within each group, like structures are taken together, separately from unlike structures. Each structure is divided into patterns depending on the nature of the systems at C places. Thus, when the structure is CVC, the pattern can be PVP, PVS, NVP etc. This is done in order to show the maximum contrast of systems and prosodies within each structure. Within a pattern, contrasts of systems as well as terms are described. Waterson (1987) studies how the contrasts of C and V systems and prosodies of child language differ from those of adult language. Up to date, as far as I know there has been no phonological analysis of child acquisition of Sinhalese. As I have discussed all possible contrasts of systems and prosodies in verb forms of the adult language, this study can aid future research in comparison of child and adult verb forms. Usefulness of that analysis is seen in chapter 7 also where the contrasts of rapid forms are compared with those of slow forms. In this type of analysis it is possible to see whether complex and simple structures have the same number of patterns, whether complex
and simple patterns have the same number of stems, if not, whether there is any particular reason for that and whether polysyllables can be treated as combinations of monosyllables.

Systems usually have "manner of articulation" as phonetic exponents. Terms usually have "place of articulation" as phonetic exponents. Whenever necessary, systems are described in relation to prosodies. In the analysis, sub-systems at C places and V places are called "systems" for brevity. Sub-systems at C places of monosyllabic stems are called P initial system, P final system, N initial system, etc.; when there is more than one sub-system of the same type, and when the sub-systems are different from each other, they are just called P system, N system etc. In polysyllabic stems, when there is more than one sub-system of the same type within the structure, it is called P initial system of the initial syllable, N final system of the second syllable, and so on and when sub-systems are different from each other, they are just called P system, N system etc. Junction prosodies will be described as a prosodic relation between stem and suffix, stem and infix and infix and suffix.

Partial analyses are made for ease of explanation as permitted by the theory. For example, in describing a stem structure, the structure is first given in terms of C and V, e.g. CVC, su:r-. Then the C systems and terms are given, e.g. StVLt and finally V systems and stem prosodies, e.g. CtVJC are given. In the case of P systems, h and h prosodies are also given to account for the contrast of voice and voicelessness, e.g. hPVoF, pud-. The C and V systems and prosodies used in this thesis are given below.

1.8.1 Prosodies
Prosodies given in this thesis can be divided into five types, syllable prosodies, stem prosodies, suffix prosodies, word prosodies and junction prosodies.
1.8.1.1 Syllable prosodies

h and h prosodies:

These prosodies are required to differentiate Plosive (P) Systems. h prosody is characteristic of a syllable with breathy onset, where the exponents of C sub-systems are voiceless plosives. h prosody is characteristic where the exponents of C sub-systems are voiced plosives. Thus, h and h prosodies are studied in relation to the P system. When the syllable is h prosodic, the onset is tense voiceless and breathy and when the syllable is h prosodic the onset is lax and voiced.

y, w and a prosodies:

The phonetic exponent of y prosody is frontness; the phonetic exponent of w prosody is backness, and the phonetic exponent of a prosody is absence of frontness and backness.

Length prosody:

Syllable length is also treated as a syllable prosody. Syllables can be short or long. When the syllable has long length it is marked with - over V and when the syllable has short length prosody it is unmarked.

1.8.1.2 Stem prosodies

When a stem is monosyllabic it can be characterized by any of the given prosodies, and in that case they are taken as stem prosodies. For example, a stem of the CVC structure can be y, w or a prosodic and h or h prosodic.

1.8.1.3 Affix prosodies

When an affix is monosyllabic it may be characterized by any of the given prosodies. In that case they
are taken as affix prosodies. For instance, an affix of the CV structure can be y, w, or a prosodic and h or h prosodic.

1.8.1.4 Word prosodies

Certain features that are characteristic of the word as a whole will be treated as word prosodies. They are as follows: a) the number of syllables in the word, b) nature of the syllables in terms of syllable structure, c) quantity of the syllables and d) the place of the prominent syllable in the word.

a) Number of syllables:

A simple inflected verb may contain a minimum number of one syllable and a maximum number of seven syllables.

* e.g. ei "may come"
  varaddapuvaham "after making a mistake"

b) Nature of syllables:

A verb may contain only open syllables: an open syllable may be V, CV, V or CV.

* e.g. CV-CV-CV-CV karanava "do"
  CV-CV-CV-CV to:ranava "choose"
  V-CV-CV ena "come"
  V-CV-CV-CV a:ranava "become big"

A verb may contain only closed syllables: a closed syllable may be VC, VC, CVC or CVC. However, examples are found only for VC-CVC and CVC-CVC type forms.

* e.g. VC-CVC addot "if...pull"
  CVC-CVC pannot "if...jump"

A verb may contain both open and closed syllables.

* e.g. CV-CVC-CV kapanda "to cut"
  CV-CVC-CV to:ratot "if...choose"
  CVC-CVC-CV pa:ssala "has/have welded"
c) Syllable quantity:

A syllable can be short or long. It can be any of V, VC, CV, CVC, V, VC, CV and CVC.

All syllables of a word can be short.

e.g. CV-CV-CV-CV kərənəva "do"
V-CV-CV enəva "come"

A verb can contain both short and long syllables but two adjacent syllables cannot be long.

e.g. C̄V-CV-CV-CV to:re^nəva "choose"
C̄C-CV-CV-CV pa:ssənəva "weld"

d) Place of prominent syllable in the verb:

This is discussed in the second part of the second chapter and therefore, will not be discussed here.

1.8.2 C and V systems and structure

1.8.2.1 C systems

A maximum contrast of five sub-systems, P, plosive, N, nasal, S, sibilant, L, liquid and M, pre-nasalized plosive can be set up in order to handle C systems. Sub-systems will henceforth be referred to as systems for greater convenience of reference.

The P system:

The P system has a maximum number of five terms, p, labial, t, apical, ŋ, retroflex, č, palatal and k, dorsal. The P system is studied in relation to h and h prosodies. Thus,

- the phonetic exponent of hPp is p, a voiceless bilabial plosive
- the phonetic exponent of bPp is ɓ, a voiced bilabial plosive
- the phonetic exponent of hPt is t, a voiceless alveolar plosive
- the phonetic exponent of bPt is d, a voiced alveolar plosive
- the phonetic exponent of hPŋ is ŋ, a voiceless retroflex plosive
- the phonetic exponent of bPŋ is ɗ, a voiced retroflex plosive
- the phonetic exponent of hPg is ħ, a voiceless palatal affricate
the phonetic exponent of $\text{IP}_c$ is $\text{idj}$, a voiced palatal plosive
the phonetic exponent of $\text{hP}_k$ is $\text{k}$, a voiceless velar plosive
and the phonetic exponent of $\text{bP}_k$ is $\text{g}$, a voiced velar plosive

The $N$ system:
The $N$ system has a maximum number of five terms, $p$, labial, $t$, apical, $\tilde{t}$, retroflex, $\tilde{c}$, palatal and $k$, dorsal. Thus,
the phonetic exponent of $N_p$ is $m$, a bilabial nasal
the phonetic exponent of $N_t$ is $n$, a alveolar nasal
the phonetic exponent of $N_{\tilde{t}}$ is $\tilde{n}$, a retroflex nasal
the phonetic exponent of $N_{\tilde{c}}$ is $\tilde{j}$, a palatal nasal
and the phonetic exponent of $N_k$ is $\tilde{g}$, a velar nasal

The $S$ system:
The $S$ system has a maximum number of three terms, $t$, apical, $\tilde{c}$, palatal and $q$, glottal. Thus,
the phonetic exponent of $S_t$ is $s$, a voiceless alveolar fricative
the phonetic exponent of $S_{\tilde{c}}$ is $\tilde{s}$, a voiceless palatal fricative
and the phonetic exponent of $S_q$ is $h$, a glottal fricative

The $L$ system:
The $L$ system has a maximum number of four terms, $p$, labial, $t$, apical, $\tilde{t}$, flap and $\tilde{c}$, palatal. Thus,
the phonetic exponent of $L_p$ is $v$, a voiced labio-dental approximant
the phonetic exponent of $L_t$ is $l$, a voiceless alveolar lateral
the phonetic exponent of $L_{\tilde{t}}$ is $r$, a voiceless alveolar trill initially and voiced alveolar flap initially
and the phonetic exponent of $L_{\tilde{c}}$ is $j$, a voiced palatal approximant

The $M$ system:
The $M$ system has a maximum number of four terms, $p$, labial, $t$, apical, $\tilde{t}$, retroflex and $k$, dorsal. Thus,
the phonetic exponent of $M_p$ is $b$, a voiced prenasalized bilabial plos.
the phonetic exponent of $M_t$ is $d$, a voiced prenasalized alveolar plos.
the phonetic exponent of $M_{\tilde{t}}$ is $\tilde{d}$, a voiced prenasalized retroflex plos.

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and the phonetic exponent of $\text{M}k$ is $\text{g}$, a voiced prenasalized velar plos.

1.8.2.2 **V systems**

A maximum contrast of three grades $t$, high, $e$, mid and $a$, low is set up in this thesis to describe Sinhalese vowels. $t$ functions in $y$ and $w$ prosodic syllables, $e$ functions in $y$, $w$ and $a$ prosodic syllables and $a$ functions in $y$ and $w$ prosodic syllables. They are also studied in relation to the prosody of syllable length. Thus,

- the phonetic exponent of $l^y$ is $i$, a short close front vowel
- the phonetic exponent of $l^y$ is $i$, a long close front vowel
- the phonetic exponent of $l^w$ is $u$, a short close back vowel
- the phonetic exponent of $l^w$ is $u$, a long close back vowel
- the phonetic exponent of $e^v$ is $e$, a short half-close front vowel
- the phonetic exponent of $e^v$ is $e$, a long half-close front vowel
- the phonetic exponent of $e^w$ is $o$, a short half-close back vowel
- the phonetic exponent of $e^w$ is $o$, a long half close back vowel
- the phonetic exponent of $a^v$ is $a$, a short central vowel
- the phonetic exponent of $a^v$ is $a$, a long open front vowel
- the phonetic exponent of $a^w$ is $a$, a short open back vowel
- the phonetic exponent of $a^w$ is $a$, a long open back vowel

and the phonetic exponent of $\bar{a}^w$ is $a$, a long open back vowel

1.8.3 After the analysis of disyllabic structures, a statement about possible prosodic structures is given. In some cases, the relationship of the initial and final C systems as well as V systems of disyllabic stems are also discussed.

1.8.4 Prosodic Phonology recognises descriptions of relationships between structures, for example, Waterson (1987). This concept is used in this analysis for two purposes: first, to discuss the relationship between different shapes of stems, i.e. between non-past vol. and invol., non-past and past vol. and between conjugation markers, and secondly, to discuss the relationship between slow and rapid forms in terms of prosodies.
1.8.5 In the analysis, the differences between simple stems and onomatopoeic stems, native stems and loan stems in terms of C and V systems and prosodies are discussed.

1.8.6 Slow verb forms are analysed in chapters, 3, 4, 5 and 6 and Rapid verb forms are analysed in chapter 7.

1.9 The choice of Prosodic Phonology as the theoretical background

I have used Prosodic Theory rather than any other theory for several reasons. First, in a prosodic analysis, as it recognizes C and V elements as well as prosodies, it is easy to show the paradigmatic and syntagmatic contrasts and functions of elements within a structure. Secondly, in segmental analyses the relationship between forms is discussed in terms of C and V units, but in prosodic analyses such relationships can be discussed in terms of C and V units as well as prosodies. As far as Sinhalese verb forms are concerned, this is an important point. For example, the relationship between initial and non-initial syllables as well as between vol. and invol. verb stems is prosodic. Such relationships have not been demonstrated previous to this study.

In other theories, differences between slow and rapid forms are described through phonological processes such as assimilation deletion, etc., for example, Ramsaran (1978). In many cases rules are used in order to describe these processes. Such rules are not sufficient to account for the contrasts and functions of slow and rapid forms and therefore it is difficult to see the real differences between those forms through such rules. But in a prosodic analysis where all contrasts and functions of forms are discussed, all differences between slow and rapid forms can be shown clearly.
As will be discussed in the third and fourth chapters, contrasts of C systems set up for native stems differ from those of loan and onomatopoeic stems. The relationship between initial and final syllables of polysyllabic native stems differs from that in loan verbs, etc. An awareness of these differences arises in prosodic analyses as the theory is polysystemic. Even within one stratum, contrasts and functions of one structure differ from those of others. Such differences are described in prosodic analyses where like structures are taken together, apart from unlike structures, as the theory is multistructural. The usefulness of such an analysis is demonstrated in Tables 2. and 3 in the third chapter.

1.10 Data

My research is based on recordings which are of two types: recordings of language used in formal situations and those of the language used in informal situations. Recordings which include religious speeches, public speeches and radio news, can be considered as formal speech which, in this thesis, is treated as slow. Recordings which include casual conversations represent both slow and rapid speech.

Sixteen cassettes record casual speech. Of these four cassettes are of conversations among family members, which were recorded without their knowledge. The group included a mother, her young sons and daughters and grand children. Among the speakers were five females, aged seventy, forty, thirty-eight, ten and eight, and six males, aged forty-four, forty, thirty-five, thirty-three, fifteen and twelve. Two other cassettes record a conversation between a husband, wife and one of their friends. The husband was aged forty-four, the wife was thirty-two, and their friend was thirty-six.

Five further cassettes are of conversations between family members, their friends and myself. I was a guest. In this case, however, they did not seem to speak in an informal way at
first. This was because, on the one hand I was a guest, and on the other hand they knew that their conversation was being recorded. It was, however, clear that as the conversation proceeded especially when the topic was interesting, they forgot the recording. Consequently, they used rapid speech as well. In this group, there were five males and one female. The males were in their forties and thirties and the female was in her twenties.

Two cassettes record a conversation between one of my friends and myself. My friend was a university lecturer and he was aged 36 when the recording was made.

Three cassettes record interviews. Of the interviewees, two were males and one was a female. The males were in their sixties and fifties and the female was in her fifties.

Six cassettes record formal speech. Of these, two cassettes are of religious speeches, two of public speeches and two of radio news and radio programmes which include discussions of politics. Each cassette lasted for one and a half hours. All my informants were native Sinhalese speakers and most of them could speak only Sinhalese. All except four of the speakers had only primary education.

1.11 Procedure of the research

The research was carried out in four stages. In the first stage the material was collected. This was done by recording conversations, etc. as explained above.

In the second stage, while utterances on the recordings were transcribed, verb forms were separated out, and finally verb forms were divided into slow and rapid forms. In rapid utterances, sometimes, the initial and final C or V systems, a syllable or syllables are subjected to changes such as deletion, assimilation, shortening, etc. Such features, which are treated as utterance linking, are not considered here, as my purpose was to study verb forms. The rapid forms, produced
at an increased tempo, given in this analysis are context free forms, i.e. their shape does not depend on preceding and following words.

In the third stage some additional recordings were made in order to confirm my findings. At this time mainly casual conversations, where rapid speech is found, were recorded.

In the fourth stage, the data were analyzed and the thesis was written.

Before proceeding to my next topic, related linguistic research on Sinhalese, it is relevant at this point to mention a few words about the Sinhalese language. Sinhalese is spoken by about 77% of the population of Sri Lanka, about 75% of whom (adults and children) can read and write. It is an Indo-Aryan language even though there are features which are not known in any other Indo-Aryan language.

1.12 Related linguistic research on Sinhalese

Some discussion of phonetics and phonology is included in all linguistic theses on Sinhalese. These have covered different aspects, such as morphology and syntax, as for example, Dissanayaka (1969), Jayawardhana (1972), Abhayasinghe (1973), Fernando (1973) and Wickramasuriya (1965) and (1978). The phonetic and phonological aspects of Sinhalese are discussed in slightly greater detail in the theses of Dharmadasa (1967), Jayasekara (1973), Premarathne (1974) and Wickramasinghe (1972). There are also some articles which discuss the phonological aspects of Colloquial Sinhalese, e.g. Coats & De Silva (1960), De Silva (1963). Except for a few of De Silva's articles, all are phonemic analyses. Being phonemic, they are purely segmental. Only slow speech was analysed in these articles and theses and to the best of my knowledge rapid speech had not been dealt with at all before this study.

There are, however, two phonological analyses of
Sinhalese, De Silva (1958) and Kekulawala (1964). Kekulawala (1964) is a phonological analysis of the Sinhalese noun and therefore differs from mine. De Silva's thesis, however, (an M.A. thesis) is a phonological analysis of the Sinhalese verb and I would therefore like to indicate the differences between his work and this study in a greater detail.

First, as he says in his thesis:

"The language examined in this thesis is my own idiolect, but where I found the need to do so, I checked my speech with that of other Sinhalese speakers who lived in London while this research being conducted" (1958: V). Thus, he is using his own idiolect whereas my recordings include, among others, natural conversations of several native speakers. His dialect is of the Southern province and mine is of the Western province. All of my informants speak this dialect. De Silva is more concerned about the phonetic aspect of the language and has paid less attention to the phonological aspect, whereas I have attempted to give a complete phonological analysis of verb forms. I have not however, given a detailed phonetic analysis, as De Silva has done this and, as far as verb forms are concerned, there is not a great deal of difference phonetically between the Southern and Western dialects.

Secondly, De Silva analyzed simple verb forms only whereas I have analyzed both simple and phrasal verbs. Furthermore this is the first phonological analysis of non-free morphemes and onomatopoeic stems that occur in phrasal verbs. There is not even a list of stems of non-free morphemes in the literature. Gunasekara (1891) and White (1884) have listed about fifteen onomatopoeic stems but no analysis is given. I have, however, collected quite a large number of onomatopoeic stems. Even in simple verb forms, the prosodic relationship of initial and non-initial syllables, between vol. and invol. verb stems and non-past and past vol. stems and between conjug. markers is not discussed in De Silva (1958). Furthermore, I have discussed all possible structures and patterns and such an analysis has
not been done in previous studies. Thirdly, he has focused attention only on slow forms where as I have included a contrastive analysis of slow and rapid forms. For these reasons my research differs in several ways from those of others, and covers new ground.

In conclusion, I have shown in this chapter that there are two styles, slow and rapid, in spoken Sinhalese. The slow style is used in formal as well as in informal situations and the rapid style is generally used in informal situations. The difference between them depends on tempo. In the discussion, I referred to the work on styles and social situations by others as well. I have discussed the data and informants, and cited the work done by others on Sinhalese in order to indicate those aspects of my study which are new and original. I have also discussed the principles of the theory used in the analysis and the reasons for its justification.
CHAPTER 2

Consonants and Vowels

2.0

2.1 The chapter is divided into two parts, 1 and 2. Part one presents an outline description of vowel and consonant sounds in order to give phonetic values to the transcription used in this thesis; these descriptions serve also as the phonetic basis on which the phonological statements are made. Part 2 deals with syllable structure, syllable quantity, syllable division and syllable prominence.

2.2 PART 1

2.2.1 Vowels

Vowels may be simple vowels or diphthongs.

2.2.1.1 Simple vowels

There are thirteen vowels in Sinhalese of which seven are short and six are long. The approximate tongue positions of the short vowels, when articulated in isolation, are shown in the vowel diagram given below:
The approximate tongue positions of the long vowels are given in the vowel diagram given below:

The diagrams show that there are perceptible quality differences accompanying the variations of length except in the case of [ə] and [ɔː]. Vowel length is significant in Sinhalese: the distinction of long and short vowels is clearly marked by differences in duration and these give differences in meaning. Apart from this, vowel qualities vary slightly according to adjacent sounds.

2.2.1.1.1 Voicing

All Sinhalese vowels are produced with the vocal cords vibrating, and are therefore voiced.
2.2.1.2. Position of the soft palate

In all syllables where there are no nasal consonants preceding or following a vowel articulation, Sinhalese vowels are pronounced with the soft palate raised. But when they are preceded or followed by a nasal consonant in the same syllable, vowels tend to be nasalized.

e.g. [anɪn̥va] "prick"
    [pʌn̥n̥va] "jump"

It is, however, clear that vowels preceding prenasalized stops are more strongly nasalized than those preceding full nasal sounds.

e.g. [bʌdɪn̥va] "bind"
    [ʌdɪn̥va] "draw"

2.2.1.3. Lip-position

Spread: [i,i:,e,e:,ɛ,ɛ:]
Rounded: [o,o:,u,u:]
Neutral: [a,a:,ə]

2.2.1.4. Jaw opening

Narrow: [i,i:,u,u:]
Medium: [e,e:,o,o:,ɔ]
Wide: [ɛ,ɛ:,a,a:]

2.2.1.5 The distribution of vowels

All the short vowels except [ə] occur verb initially.

E.g. ɪɾan̥va "tear"
    əɾən̥va "lay"
    əɾən̥va "stick"
    uncan̥va "spring"
    ətən̥va "fold"
    ədɪn̥va "pull"

Of the long vowels, however, it was possible to find examples only for [e:], [ɛ:] and [a:]. But this is not to
say that other parallel long vowels of the given short vowels are impossible.

   e.g.  e'ido 'ava "mix"
        e'ido 'ava "join"
        a'ido 'ava "become big"

All short and long vowels occur in initial syllables where they follow a C but [ə] is more common in non-initial position.

   e.g.  pihina 'ava "wipe"
        pi'reno 'ava "comb"
        tema 'ava "wet"
        te'reno 'ava "understand"
        ke'sa 'ava "call"
        pe'reno 'ava "hurt"
        duva 'ava "run"
        pu'idina 'ava "blossom"
        gona 'ava "knit"
        ho'da 'ava "wash"
        ka'ana 'ava "cut"
        pa'reno 'ava "rehurt"
        karana 'ava "do"

[ə] is limited to the example given above.

Of short vowels [i], [e], [u], [a] and [ə] occur in the verb final position and of long vowels only [i:] and [a:] occur.

   e.g.  ka'api "did cut"
        kempu 'ava "what...cut"
        kempuna "cut(past invol.participle)"
        ka'ana 'ava "cut"
        kempu 'ava "cut(past vol.participle)"
        kemi-kepi: "cutting"
        ka'api-ka'api: "cutting (vol.)"

When short vowels occur in the verb final position after a CC group a glottal stop follows them.
e.g.  inneʔ "stay (invol. non-past emph.)"
mddeʔ "pulled (vol. past emph.)"
unnaʔ "stayed"

2.2.1.2. **Diphthongs**

I have not found any reference to diphthongs of verb forms in the Sinhalese literature even though Kekulawala (1964: 23) has given thirteen diphthongs for Sinhalese nouns in his thesis. I have, however, found six diphthongs, namely, [ei], [eu], [eũ], [oi], [ai] and [au]. It is, however, necessary to say that they are phonetic diphthongs. The mode of forming those diphthongs is given in the diagrams given on pages 48,49 with reference to the cardinal vowel fig. 3 and 4.

In the diagrams, the dots represent the approximate starting positions of the Sinhalese diphthongs. The arrows show the direction in which the tongue moves and the positions of the ends of the arrows show the limits of movement of the tongue in each case.

![Diphthongs Diagram](image-url)
2.2.1.2.1 Lip position of diphthongs

Spread at the beginning and slightly rounded at the end: [eu] and [ɛu].

Rounded at the beginning and slightly spread at the end: [oi]

Spread throughout: [ei]

Neutral at the beginning and slightly spread at the end: [ai]

Neutral at the beginning and slightly rounded at the end: [au]

2.2.1.2.2 Jaw positions of diphthongs

Medium to narrow: [ei], [eu] and [oi]

Wide to narrow: [ɛu], [ai] and [au]

Examples for the above description are given below:

- ei "may come"
- peuna "was drunk"
- boi "may drink"
- kmuna "was eaten"
- ainvva "prick"
- palajau "go"
2.2.1.2.3. The Distribution of Diphthongs

The following diphthong occurs verb initially:

[ei]   ei  "may come"

The following diphthongs occur verb finally:

[ei]  kēpēi  "may be cut"
[oi]  boi  "may drink"
[ai]  balai  "may look"
[aʊ]  palējau  "go"

2.2.2. Consonants

The classes of consonant sound in Sinhalese and the symbols used in this thesis are set out in Table 1 below.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>ɾ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flap</td>
<td>ɾ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>(ɹ)²</td>
<td>s</td>
<td>ʃ</td>
<td>h</td>
</tr>
<tr>
<td>Approx.</td>
<td>v</td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Consonants

2.2.2.1 The Distribution of Consonants

The distribution of consonants can be given as follows:

1. Only [ŋ], [t] and [ʔ] occur in the verb final

1 This occurs before homorganic retroflex plosives only.

2 [ɹ] occurs in English loans of educated speech whereas uneducated people substitute it by [p] except in one stem, namely, ə村落.
position.
e.g. kaːpəŋə “eat”
kmːvotə “if...eat”
kanneə “eat (non-past emp.)”

2. All consonants except [c], [j], [ŋ], [ŋ], [g], [ʔ] occur intervocally in simple verbs.
e.g. [p] kaganŋəva “cut”
[b] ohanəva “press”
[t] ohanəva “fold”
[d] adinəva “pull”
[t] natənəva “dance”
[q] kadənəva “break”
[k] dakiməva “see”
[g] laginəva “lay”
[m] damanəva “drop”
[n] ananəva “mix”
[s] hasurənənə “control”
[l] balənəva “look”
[r] karənəva “do”
[h] ahanəva “ask”
[v] tavənəva “foment”
[j] kijənəva “say”

3. In simple verbs, except for [t], [q], [c], [j], [ŋ], [ŋ], [ʔ] and [ʔ] all consonants given in the above chart occur verb initially.
e.g. [p] palənənə “split”
[b] balənənə “look”
[t] talənən “hit”

3. In verb final position [n] is long. [t] is usually not released in verb final position. When released, however, it is aspirated.

4. Voiceless plosives are not aspirated at all in verb medial position.
In phrasal verbs, however, [ɸ], [d], [ɬ], [ʃ], and [p] occur verb initially.

e.g. [ɸ] taggaːnəva "a sound of a crack"
[ɬ] daggaːnəva "a sound of a band"
[ʃ] ċrisgaːnəva "a sound which arises when water is compressed"
[ʃ] ċarasgaːnəva "a breaking sound"
[p] ċarasgaːnəva "a breaking sound of a yarm"
[f] ʃeːpvenəva "avoid"

2.2.2.2 Prenasalized plosives

The prenasalized plosives, [n], [ŋ], [ŋ] and [ŋ] and, as will be discussed later, nasal plosive clusters such as [mb], [nd], [ŋd] and [ŋg] occur intervocically only. The common characteristic of both the pre-nasalized plosives and nasal plosive clusters is that in articulation the soft palate lowers in the preceding vowel and remains so until the articulation of the plosive. Phonetically, the prenasalized plosives are shorter than the nasal plosive clusters in duration; also while prenasalized plosives are similar in duration to single

5. In verb initial position, voiceless plosives are slightly aspirated.
plosive articulations nasal plosive clusters are similar in
duration to long plosives; De Silva (1957) demonstrated
this instrumentally.
At the phonological level pre-nasalized plosives are
analysed as single units for the following reasons:
1. The central vowel precedes single consonants but
cannot precede clusters or double consonants. The low back
vowel is found in these contexts. For example,

balənava  "look"
kapənava  "cut"
but balando  "to look"
kapando  "to cut"

The central vowel precedes the pre-nasalized plosives
and this indicates that they should be treated as single
units.
e.g. narənava  "watch"

2. In the following verb forms, single consonants occur
in inter-vocalic position of Non-past tense stems and they
are geminated in the past tense forms.

<table>
<thead>
<tr>
<th>Non-past</th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>apinava</td>
<td>anna &quot;pricked&quot;</td>
</tr>
<tr>
<td>aðinava</td>
<td>ædda &quot;pulled&quot;</td>
</tr>
<tr>
<td>ñbinava</td>
<td>imba &quot;kissed&quot;</td>
</tr>
</tbody>
</table>

In these examples, the nasal plosive cluster [mb] is
parallel to [nn] and [dd] and the pre-nasalized bilabial
plosive [n] is parallel to [n] and [d].

2.2.2.3 [j] and [v]
Kekulawala (1964) and De Silva (1958) have
considered [v] and [j] as prosodies and not as C units on
the grounds that they differ from consonants:
1. They do not occur in VC type syllables.
2. They do not geminate.
3. There are no [vu] and [ji] syllables.
According to the third point, De Silva (1957) says j-
initial prosody and prosody of frontness and v-initial prosody and prosody of backness are mutually exclusive. This mutual exclusiveness shows the validity of handling [v] and [j] in terms of prosodies. However, for the reasons given below it is possible to analyse them as C units.

2.2.2.3.1 *Past and non-past parallel invol. forms*

As will be shown in the sixth chapter, the conjugation marker of the invol. non-past forms is [e] and that of the past invol. forms is [u]. Thus, forms with CVC type stems are given as follows:

<table>
<thead>
<tr>
<th>Non-past</th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>kepenna &quot;cut(invol.)&quot;</td>
<td>kepuna &quot;cut(invol.)&quot;</td>
</tr>
<tr>
<td>CVC-e-CVCV</td>
<td>CVC-u-CV</td>
</tr>
<tr>
<td>merenna &quot;kill(invol.)&quot;</td>
<td>meruna &quot;killed(invol.)&quot;</td>
</tr>
<tr>
<td>CVC-e-CVCV</td>
<td>CVC-u-CV</td>
</tr>
</tbody>
</table>

According to the forms given above the past form of non-past mavena CVC-e-CVCV "create (invol.)" should be considered as mavena CVC-u-CV "create (invol)" where the shape of the stem is maven- although it occurs as mavena phonetically. The example given above indicates that even though [v] does not occur before [u], phonologically [vu] is possible. In this sense the third point made by De Silva (1958) and Kekulawala (1964) seems to be invalid.

2.2.2.3.2 *Non-past vol. and invol. parallel forms*

In the following forms, the V systems of the VCVCC type stem are back when they are in volitive forms, and front when they are in involitive forms.\(^6\)

<table>
<thead>
<tr>
<th>Vol.</th>
<th>Invol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>uluppena &quot;pull out&quot;</td>
<td>ilippena</td>
</tr>
</tbody>
</table>

\(^6\) This is discussed in prosodic terms in chapter 6.
VCVCC-a-CVCV
atillanāva  "rub"

VCVCC-a-CVCV
atillanāva

According to the structure of the above verbs, the parallel
vol. form of the invol. avussana^va VCVCC-a-CVCV should be
avussana^va VCVCC-a-CVCV even though it occurs as ausṣan-
va VVCCCVCV phonetically. Similar examples can be given
for [j] from nouns but not from verbs, and I shall,
therefore, not discuss them here. The first and second
points made by De Silva (1958) and Kekulawala (1964) seem
to be phonetically correct but it is not clear why they
should be taken as reasons for treating [v] and [j] as
prosodies. For instance, [ŋ] does not geminate and [t̚]
and [d̚] do not occur in VC type syllables but they are not
treated as prosodies. As will be explained in the sixth
chapter, however, [v] and [j] are treated as junction
prosodies in certain contexts.

2.2.2.4 Consonant groups
Consonant groups are of three types; i) double consonants,
ii) homorganic nasal plosive groups and iii) non-homorganic
consonant groups.

i) Double consonants:

In this type of consonant group the place and manner of
articulation are constant throughout, and the group is
either wholly voiceless or wholly voiced. There is no
release between the members of the consonant group; the
duration of the consonantal articulation is about double
the simple consonantal articulation of the type. With the
exception of [ŋ], [h], [ʒ], [v], [r] and [j] any of the
consonants may occur in a consonant group of this type.
e.g. [pp] kappanāva "force to cut"
[bb] tibba^2 "put"
[tt] gatta^2 "took"
ii) Nasal-plosive groups:

In simple verb forms, a consonant group of this kind consists of a nasal articulation of relatively long duration followed by a plosive which is voiced. No voiceless plosives are found in this group, and the nasal is always homorganic with the following plosive.

e.g. [mb] tamban'ava "boil"
[nd] amdan'ava "dress"
[ŋd] dendo "to give"
[ŋg] hangan'ava "hide"

iii) Non-homorganic consonant groups:

In phrasal verbs, however, consonant groups, namely, [pg], [bd], [pr], [tv], [jk], [kv], [ŋk], [ŋv], [st], [st], [sk], [sg], [sv], [sn], [ʃk], [hg], [vk], [lk], [rd], [rj], [rn] and [ʃk] are also found.

[pg] pi:pga:nava "make Pi:p sound"
[bd] nissatdævenava "silence"
[pr] preñaŋkaranava "question"
[tv] ratvenava "warm"
[ʃk] ša:ʃkaranava "charge"
[kv] ulukkenava "sprain"
[ŋk] venkaranava "separate"
[ŋv] lagtenava "come close"
As noted above, this part of the chapter deals with syllable structure, syllable quantity, syllable division and syllable prominence.

2.3.1 Syllable structure

The vocalic articulation is the nucleus of the syllable. The possible structures of the syllable are given as follows (the syllable under discussion is underlined):

- V  anav  "come"
-  aiva  "came"
- VC  anav  "come(imperative )"
- CV  kanav  "eat"
- CV  naiv  "bathe"
- CVC  danav  "know"
- CVC  paissav  "weld"
2.3.2 Syllable quantity

In traditional grammar, seven syllable quantities are given as follows: 1. heavy syllables: V, CV, CVC and CVC
2. light syllables: V, CV, and VC

De Silva (1958) and Kekulawala (1964) have discussed three types of syllable quantity, namely, short, medium and long. Their short quantity syllables are of two types, V and CV which are open. For example:
- CV kanava "eat"

Medium quantity syllables are of three types, VC, CVC V and CV. For example,
- VC asvenava "resign"
- CVC dannava "know"
- Ñ eidenava "prepare a curry"
- CÑ pa-ranava "re-hurt"

Here Ñ and CÑ are open syllables and VC and CVC are closed.

Long quantity is of two types, ÑC and CÑC. For example,
- ÑC Ñtvenava "separate"
- CÑC huilassenava "sigh"

It seems, however, that the analysis in terms of three syllable quantities can only be justified phonetically. In my view, a system of two syllable quantities is enough for a phonological analysis, but it should be slightly different from the traditional classification. My syllable division in terms of quantity is as follows:
1. short syllables: V and CV
2. long syllables: VC, Ñ, ĻC, ĻV, CVC and CÑC.

Such an analysis enables me to handle verb stress effectively.

7. A comprehensive grammar of the Sinhalese, Gunasekara (1891).

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2.3.3 Syllable division

The initial C- belongs to the syllable whose nucleus is the following V. The final C belongs to the syllable whose nucleus is the preceding V. Thus, the forms such as

kapa "cut"
kamu "let us eat"
gijat "even if... go"
ka:paj "eat"

may be divided into two syllable as

ka-pa "cut"
ka-mu "let us eat"
gi-jat "even if... go"
ka:-paj "eat"

As already stated, in Sinhalese verb forms consonant clusters are not found in word initial and final positions. Therefore, verbs such as enđa "come" and allā "catch" are best divided into two syllables as en-đa and al-lā and this is in keeping with the rule for syllable division given above.

However, a question arises in the syllable division of disyllabic verbs of VCV type such as

ihā "sprinkle"
ṣaṇa "prick"
oṭa "fold"

which can be divided as

ih-ā VC-V
ṣaṇ-ā VC-V
oṭ-ā VC-V

or as i-hā V-CV
ṣaṇ-ā V-CV
oṭ-ā V-CV

They are more satisfactorily divided as

i-hā V-CV
ṣaṇ-ā V-CV
oṭ-ā V-CV
on the basis of the native speakers' intuition in dividing them in language games, jokes etc.

2.3.4 Syllable prominence

Syllable prominence depends on syllable quantity and the place where it occurs in the verb. If all syllables in a verb are short the first syllable is stressed and is the most prominent.

e.g. natanawa 'CVCVCVCV "dance"
     balanawa 'CVCVCVCV "look"

If one syllable is long and others are short, no matter where the long syllable occurs it is stressed.

e.g. uganenawa VCVCVCVCV "teach"
     mudo:nawa CVVCVCVCV "coagulate"

If a verb has more than one long syllable (V, VC, CVC, CV, CVC) all of them are stressed but the first long syllable becomes prominent.

e.g. gasso:nawa CVVCVCVCV "cause to hit"
     asso:nawa VCCVCVCV "cause to ask"

To summarize, I have discussed vowel and consonantal articulations and their distribution and types of consonant group in part 1 of this chapter. Discussed in part 2 are syllable structure, syllable quantity, syllable division and syllable prominence.
CHAPTER 3

3.0 SIMPLE VERB STEMS

3.1 This chapter deals with syllable structure of verb stems and contrasts and functions of C and V systems and prosodies within stems. The relationship between initial and final syllables is also discussed here.

3.2 Syllable structure of stems

Stems are divided into two groups, monosyllabic and disyllabic. They are either V or C initial and V or C final. Here I have given stem structures as morphological abstractions. In [kapənəva] for example, the stem is monosyllabic CVC in generalized structure. The structure of the whole word is CVCVCVCV. The morphological division of this is CVC-V-CVCV: the stem is CVC-, the conjugation marker is -V- and the suffix is -CVCV. But phonologically this involves four syllables divided as CV-CV-CV-CV. The generalized stem structures are as follows:

3.2.1 Monosyllabic stems:

C initial and V final
CV ka- "eat"
CV na:- "bathe"

C initial and C final
CVC kap- "cut"
CVCC gass- "shake"
CVCC pa:ss- "weld"
3.2.2 Disyllabic stems:

C initial and C final

- CVCVC varad- "mistake"
- CVCCVC vakkar- "pour"
- CVCVC kaka:r- "decoct"
- CVCVCC viritt- "grin"

V initial and C final

- VCVC utur- "overflow"
- VCVC udur- "uproot"

3.3 Vol. and Invol. stem structures

As illustrated in the appendix, the Sinhalese verb is divided into two types, volitive and involitive: volitive verbs have four conjugation classes and involitive verbs fall into one class. In the analysis, the volitive stems are dealt with first. An analysis of C systems is followed by the analysis of V systems. Prosodies are also described.

3.3.1 Vol. stems

Volitive stems have four conjugation classes, 1, 2, 3 and 4. The basis for these four classes is given in chapter 6.
3.3.1.1 **Stems of conjug. 1**

Conjugation 1 has monosyllabic and disyllabic stems.

3.3.1.1.1 **Monosyllabic stems:**

Monosyllabic stems have four types of structure, CVC, CVCC, VC and VCC.

The **CVC structure:**

The possible patterns of this structure are as follows:

- PVP  
- PVN  
- PVS  
- PVL  
- PVM  
- NVP  
- NVN  
- NVS  
- NVL  
- SVP  
- SVN  
- SVS  
- SVL  
- LVP  
- LVN  
- LVS  
- LVL  
- LVM

The **PVP pattern:**

The P systems are described in relation to h and \(\bar{h}\) prosodies. Thus, the pattern can be represented as \(h/PVh/P\). The P initial system has three terms, p, t and k and the P final system has four terms, p, t, \(\bar{t}\) and k. Thus, there is no contrast of systems in the pattern but there is a contrast of terms as follows: p-t, p-k, t-p, k-p, k-t and k-\(\bar{t}\).

- \(hPfVfPf\)  pud-  "offer"  
- \(hPfVfPk\)  pa:g-  "trample"  
- \(hPfPfPt\)  pat-  "wish"  
- \(bPtVhPf\)  dap-  "lay on the ground"  
- \(bPfKfPt\)  got-  "knit"  
- \(bPfKfPf\)  ga:t-  "waggle"  
- \(hPfKfPf\)  kad-  "break"  
- \(hPfKfPf\)  kap-  "cut"

A three grade contrast, \(\ell, \epsilon\) and \(\alpha\) is required to describe V systems and they are examined in relation to stem prosody all being w prosodic. Prosody of length may be short or long when V is \(\alpha\) and otherwise it is short.

- \(ClwC\)  pud-  "offer"  
- \(Ce\omega C\)  got-  "knit"
The PVN pattern:

The P system is described in relation to h and h prosodies. Thus, the above pattern may be represented as follows: $h/PVN$. The P system has three terms, p, t and k and the N system has two terms, p and t. There is a contrast of systems, P-N in the pattern and the contrast of terms is as follows: p-t, t-p and k-t.

e.g. $h/P\circ VN_t$ pi:n- "swim"
$b/P\circ VN_p$ dam- "put in"
$h/P\circ VN_p$ tem- "wet"
$b/P\circ VN_t$ gen- "cause to bring"

The V system may be $l$, $c$ or $a$. $l$ and $c$ function in y prosodic stems and a functions in w prosodic stems. Length prosody may be short or long when V is $l$, otherwise it is short.

$C\gamma C$ din- "win"
$C\gamma C$ pi:n- "swim"
$C\varepsilon C$ tem- "wet"
$C\omega C$ dam- "put in"

The PVS pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be represented as $h/PVS$. The P system has two terms, p and k and the S system has one term, $?$. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: p-1 and k-2.

e.g. $h/P_p VS_1$ pah- "cause to mature"
$h/P_k VS_1$ kah- "scratch"
$b/P_k VS_1$ gah- "hit"

The V system is always $a$ and it functions in w prosodic stems. Length prosody is short.

e.g. $C\omega C$ kah- "scratch"
The PVL pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as h\~BPVL. The P system has three terms, p, t and k and the L system has four terms, p, t, t\_ and ċ. There is a contrast of systems, P-L in the pattern and the contrast of the terms is as follows: p-t, p-\_p, p-Č, t-p, t-\_t, t-Č, k-p, k-t, k-\_t and k-Č.

```
e.g. hPpVLT pal- "split"
hPtVLT bur- "bark"
hPpVLČ pa:j- "become clear of the weather"
hPpVLč tal- "hammer"
hPVLC tij- "have"
BPtVLP dov- "to draw milk"
BPtVLČ dir- "decay"
BPkVLČ kič- "say"
BPkVLp ga:v- "cause to smear"
BPkVLt gal- "flow"
BPkVLT gar- "riddle"
```

The V system may be ę, ź or a. Ł functions in y and w prosodic stems, ę functions in w, y and a prosodic stems and a functions in w prosodic stems. Length prosody may be short or long.

```
e.g. CłVČ dir- "decay"
CłVC pi:r- "comb"
ClwČ bur- "bark"
CewČ pol- "winnow"
CěwČ to:r- "choose"
CęVC per- "filter"
Ca̕Č k̕ar- i "do"
Ca̕wČ gal- "flow"
CałČ pa:r- "hurt"
```

1 tij- and kar- are treated as irregular stems.
The PVM pattern:

This pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as hPVM. The P system has the term p and the M system has the term k. There is a contrast of systems, P-M and the contrast of terms is p-k.

  e.g. hP\_pV\_M\_k pO\_k - "soak"

The V system is € and it functions in a w prosodic stem. Length prosody is short.

  C€\_w\_C pO\_k - "soak"

The NVP pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as NVh/P\_P. The N system has two terms p and t and the P system has three terms, t, t, and k. There is a contrast of systems, N-P in the pattern and the contrast of the terms is as follows: p-t, p-k and t-t.

  e.g. N\_pV\_h\_P\_k mak- "erase"
  N\_pV\_h\_P\_t mud- "cause to coagulate"
  N\_tV\_h\_P\_t nat- "dance"

The V system may be l or a and the stem is w prosodic. Length prosody is short.

  e.g. C\_l\_w\_C mud- "cause to coagulate"
  C\_a\_w\_C nat- "dance"

The NVN pattern:

The N initial and N final systems have two terms, p and t. There is no contrast of systems in the pattern and the contrast of terms is as follows: p-t and t-p.

  e.g. N\_pV\_n\_t ma:n- "aim at"
  N\_tV\_n\_p nam- "bend"

The V system is a and the stem is w prosodic. Length prosody may be short or long.
e.g. CαωC  ma:n-  "aim at"
CαωC  nam-  "bend"

The NVL pattern:

The N system has two terms, p and t and the L system has the terms t and t. There is a contrast of systems, N-L in the pattern and the contrast of terms is as follows: p-τ and t-τ.

e.g. NpVLτ  mar-  "kill"
NtVLτ  nel-  "pick out"
NtVLτ  ner-  "bulge"

The V system may be ε or α. ε functions in y or w prosodic stems and α functions in w prosodic stems. Length prosody may be short or long when V is ε, otherwise it is short.

e.g. CεωC  nel-  "pick out"
CεωC  mo:r-  "mature"
CαωC  mar-  "kill"

The NVS pattern:

The pattern is limited to one stem where the N system has the term p and the S system has the term τ. Thus there is a contrast of systems, N-S in the pattern, and the contrast of terms is p-τ.

e.g. NpνSτ  mah-  "sew"

The V system is α and the stem is w prosodic. Length prosody is short.

e.g. CαωC  mah-  "sew"

The SVP pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as Sνh/hP. The S system has one term, τ and the P system has two terms, p and t. There is a contrast of systems, S-P in the pattern and the contrast of terms is as follows: τ-p and τ-t.

e.g. SτνPp  hap-  "bite"
The V systems may be $t$, $\epsilon$ or $\alpha$. $\epsilon$ functions in $y$ prosodic syllables and $\epsilon$ and $\alpha$ function in $w$ prosodic syllables. Length prosody is long when $V$ is $\epsilon$, otherwise it is short.

e.g. $C\gamma\nu\nu$ hit- "think"
$C\theta\epsilon\nu\nu$ $h\alpha:d$- "wash"
$C\alpha\omega\nu$ had- "make"

The SVN pattern:

The pattern is limited to one stem where the S system has the term $\eta$ and the N system has the term $p$. There is a contrast of systems, S-N in the pattern and the contrast of terms is as follows: $p - \eta$.

e.g. $S\gamma\nu\nu_p$ ham- "blow"

The V system is $\alpha$ and the stem is $w$ prosodic. Length prosody is short.

e.g. $C\alpha\omega\nu$ ham- "blow"

The SVS pattern:

The pattern is limited to one stem where the S initial system has the term $t$ and the S final system has the term $\eta$. There is no contrast of systems in the pattern but there is a contrast of terms as follows: $t - \eta$.

e.g. $S_t\nu S\gamma\nu\nu_\eta$ sa:h- "suffice"

The V system is $\alpha$ and the stem is $w$ prosodic. Length prosody is long.

e.g. $C\alpha\omega\nu$ sa:h- "suffice"

The SVL system:

The S system has two terms, $t$ and $\eta$ and the L system has three terms, $t$, $\zeta$ and $\epsilon$. There is a contrast of

\[ 2 \text{In colloquial Sinhalese, only invol. form of this stem is used.} \]
systems, S-L in the pattern and the contrast of terms is as follows: t-τ, 1-t, 1-τ and 1-č.
e.g. S\textsubscript{1}VL\textsubscript{τ} su:r- "scratch"
    S\textsubscript{1}VLč hoj- "find"
    S\textsubscript{1}VLτ hal- "filter"
    S\textsubscript{2}VL\textsubscript{τ} ha:r- "dig"
The V system may be L, E or A. E functions in y and w prosodic syllables and L and A function in w prosodic syllables. Length prosody may be short when V is E and otherwise it is long.
e.g. C\textsubscript{1}wC su:r- "scratch"
    C\textsubscript{E}wC hel- "drop"
    C\textsubscript{E}wC hoj- "find"
    C\textsubscript{A}wC ha:r- "dig"

The LVP pattern:
The P system is described in relation to h and h prosodies. Thus the pattern can be given as LV\textsubscript{h}hP. The L system has four terms, p, t, τ and č and the P final system has two terms, t and τ. There is a contrast of systems, L-P and the contrast of terms is as follows: p-t, p-τ, t-τ and č-t.
e.g. L\textsubscript{p}V\textsubscript{h}P\textsubscript{τ} vat- "cause to drop"
    L\textsubscript{p}V\textsubscript{h}P\textsubscript{τ} vad- "deliver a child"
    L\textsubscript{1}V\textsubscript{h}P\textsubscript{τ} rid- "cause to ache"
    L\textsubscript{1}V\textsubscript{h}P\textsubscript{τ} ru:t- "slip"
    L\textsubscript{6}V\textsubscript{h}P\textsubscript{τ} jod- "employ"
The V system may be L, E or A. E functions in y and w prosodic stems and E and A function in w prosodic stems. Length prosody may be short or long when V is L, otherwise short.
e.g. C\textsubscript{1}wC rid- "cause to ache"
    C\textsubscript{1}wC ru:t- "slip"
    C\textsubscript{E}wC jod- "employ"
    C\textsubscript{A}wC vad- "deliver a child"
The LVN pattern:

The pattern is limited to one stem where the L system has the term p and the N system has the term t. There is a contrast of systems, L-P in the pattern and the contrast of terms is p-t.

E.g. LpvNvt \textit{van-} "wave"

The V system is a and the stem is w prosodic. Length prosody is short.

E.g. CawC \textit{van-} "wave"

The LVS pattern:

The L system has two terms, p and t and the S system has one term, t. There is a contrast of systems, L-S in the pattern and the contrast of terms is as follows: p-t and t-t.

E.g. LpVSt \textit{vah-} "close"
LtvSt \textit{leh-} "untie"

The V system may be € or a and they function in y and w prosodic stems respectively. Length prosody is short.

E.g. CawC \textit{vah-} "close"
Ce\textit{\textgamma}C \textit{leh-} "untie"

The LVL pattern:

The L initial system has three terms, p, t and t and the L final system also has three terms, p, t and t. There is no contrast of systems in the pattern and the contrast of terms is as follows: p-t, p-\textgamma, t-\textgamma, t-p and t-p.

E.g. LpvLP \textit{vav-} "grow"
LpVLt \textit{ve:1-} "dry"
LpVL\textgamma \textit{vij-} "weave"
LtVLT \textit{lij-} "write"
LtVLP \textit{lov-} "lick"
Lt\textgamma VLp \textit{rav-} "frown"

The V systems may be l, € or a. L functions in y prosodic stems, € functions in y and w prosodic stems and a functions in w prosodic stems. Length prosody is short when V is l.
otherwise it may be short or long.

e.g.  CvwC  vij-  "weave"
CéwC  ve:l-  "dry"
CeωC  lov-  "lick"
CaωC  rav-  "frown"
CaωC  va:v-  "bear"

The LVM pattern:

The pattern is limited to one stem where the L system has the term t and the M system has the term t. There is a contrast of systems, L-M in the pattern and the contrast of terms is as follows: t-t.

e.g.  LtvMt  rad-  "remain"

The V system is a and the stem is w prosodic. Length prosody is short.

e.g.  CaωC  rad-  "remain"

The CVCC structure:

This structure has the following patterns:

\[
\begin{array}{cccccc}
PvPP & PvNP & - & PvNN & PvSS & PvLL \\
SvPP & SvNP & SvPN & - & - & SvLL \\
LvPP & LvNP & - & - & LvSS & - \\
\end{array}
\]

The C systems of the CC cluster may be either two homorganic C systems or a homorganic nasal plus plosive cluster except in the case of SvPN where the cluster is non-homorganic. In the first case they have the same systems and the same terms and in the second case they have the same terms. The third case is treated as an exception. Thus, compared with the patterns of the CVC structure given above, the patterns of the CVCC structure can be treated as combinations of those of the CVC structure. For example, the difference between the PVP and PVPP is that the latter has an additional P which is homorganic with the stem final P system. In the analysis, the terms of those CC clusters are described together as they are
homorganic.

The PVPP pattern:

The P systems are described in relation to h and h prosodies. Thus the pattern can be given as $hP^VhP^P$. The P initial system has three terms, p, t and k and the P systems of the PP cluster have three terms, t, ĉ and k. There is no contrast of systems in the pattern and the contrast of the terms is as follows: p-ĉ, t-k and k-t.

E.g.
- $hP^pVhP^p$ pućč- "burn"
- $hP^tVhP^k$ dakk- "set forth"
- $hP^kVhP^t$ ku:dd- "awaken"

The V systems may be L or ĉ and they function in w prosodic syllables. Length prosody may be short or long when V is $L$, otherwise it is short.

E.g.
- C$\backslash$wCC pućč- "burn"
- C$\backslash$tCC ku:dd- "awaken"
- C$\backslash$wCC dakk- "set forth"

The PVNP pattern:

The P initial and final systems are described in relation to h and h prosodies respectively. Thus the pattern can be given as $hP^Vh^NP$. The P initial system has three terms, p, t and k and the N and P systems of the NP cluster have two terms, p and t. There is a contrast of systems, P-N in the pattern and the contrast of terms is as follows: t-p and k-t.

E.g.
- $hP^pVh^NP_\ell$ pumb- "blow"
- $hP^tVh^NP_\ell$ tamb- "seethe"
- $hP^kVh^NP_\ell$ kænd- "call"

The V system may be L or ĉ. L functions in w prosodic stems and ĉ functions in y and w prosodic stems. Length prosody is short.

E.g.
- C$\backslash$wCC pumb- "blow"
- C$\backslash$tCC tamb- "seethe"
- C$\backslash$wCC kænd- "call"
The PVNN pattern:

The P system is described in relation to h prosody. Thus the pattern can be given as bPVNN. The P system has two terms, p and t. The N systems of the NN cluster have two terms, p and t. There is a contrast of systems, P-N in the pattern but there is no syntagmatic contrast of terms.

\[ bP_{PVNN}p \] bumm- "to be sullen"
\[ bP_{PVNN}t \] dann- "inform"

The V systems may be \( t \) or \( \alpha \) and they function in w prosodic stems. Length prosody is short.

\[ C_{wCC} bumm- "to be sullen" \]
\[ C_{a\nuCC} dann- "inform" \]

The PVSS pattern:

The pattern is limited to one stem. The P system is described in relation to h prosody. Thus the pattern can be given as bPVSS. The P system has the term k and the S systems of the SS cluster have the term t. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: k-t.

\[ bP_{PVSS}k \] gass- "spring"

The V system is \( \alpha \) and the stem is w prosodic. Length prosody is short.

\[ C_{a\nuCC} gass- "spring" \]

The PVLL pattern:

The P system is described in relation to h prosody. Thus the pattern can be given as bPVLL. The P system has the term t and the L systems of the LL cluster have two terms, t and \( \check{\epsilon} \). There is a contrast of systems, P-L in the pattern and the contrast of terms is as follows: t-\( \check{\epsilon} \).

\[ bP_{PVLL}t \] dall- "light"
\[ bP_{PVLL}\check{\epsilon} \] dojj- "sleep"

The V system may be \( \epsilon \) or \( \alpha \) and the stems are w prosodic.
Length prosody is short.
  e.g.  CawCC  dall-  "light"
        CewCC  dojj-  "sleep"

The SVPP pattern:
  The P systems are described in relation to h prosody. Thus the pattern can be given as SVhPP. The P systems have the term p and the S system has the term l. There is a contrast of systems, S-P in the pattern and the contrast of terms is: l-p.
  e.g.  S_lVhPP_p  happ-  "knock against"
  The V system is a and the stem is w prosodic. Length prosody is short.
  e.g.  CawCC  happ-  "knock against"

The SVPN pattern:
  The P system is described in relation to h prosody. Thus the pattern can be given as SVhPN. The S system has the term 2, the P system and the N system of the PN cluster have the terms k and p respectively. There is a contrast of systems, S-P-N in the pattern and the contrast of terms is as follows: 2-k-p.
  e.g.  S_2VhPN_p  hikm-  "cause to discipline"
  The V system is l and the stem is y prosodic. Length prosody is short.
  e.g.  C1yCC  hikm-  "cause to discipline"

The SVNP pattern:
  The pattern is limited to one stem and the P system is described in relation to h prosody. Thus the pattern can be given as SVNhP. The S system has the term 2 and the N system and the P system of the NP cluster have the term k. There is a contrast of the systems, S-N-P in the pattern and the contrast of terms is 2-k.
  e.g.  S_2VNhP_k  hang-  "hide"
The V system is a and the stem is w prosodic. Length prosody is short.

* e.g. CaCC hang- "hide"

The SVLL pattern:

The S system has the term 럴 and the L systems of the LL cluster have the term t. There is a contrast of systems, S-L in the pattern and the contrast of terms is: ㄹ-t.

* e.g. S_2VLL_t hu:ll- "sigh"
* S_2VLL_t holl- "shake"

The V system may be l or e and they function in w prosodic syllables. Length prosody is short when V is e and long when V is l.

* e.g. C_3wCC hu:ll- "sigh"
* C_3wCC holl- "shake"

The LVPP pattern:

The pattern is limited to one stem. The P systems are described in relation to h prosody. Thus the pattern can be given as LVPP. The P systems have the term t the L system has the term p. There is a contrast of systems, L-P in the pattern and the contrast of terms is p-t.

* e.g. L_PvPP_t vadd- "fix"

The V system is a and the stem is w prosodic. Length prosody is short.

* e.g. CaCC vadd- "fix"

The LVNP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as LVNP. The L system has the term t and the N and P systems of the NP cluster have the term k. There is a contrast of systems, L-N-P in the pattern and the contrast of terms is t-k.

* e.g. LtVNP_k ring- "creep"
The V system is $L$ and the stem is $y$ prosodic. Length prosody is short.
e.g. $C^L_yCC$ ring- "creep"

The LVSS pattern:
The pattern is limited to one stem where the $L$ system as well as the $S$ systems of the SS cluster have the term $t$. There is a contrast of systems, $L$-$S$ in the pattern but there is no contrast of terms.
e.g. $L^tVSS_t$ less- "slip"
The V system is $€$ and the stem is $y$ prosodic. Length prosody is short.
e.g. $C^€yCC$ less- "slip"

The VC structure:
This structure has the following patterns: $VP, VN, VS, VL$ and $VM$.

The VP pattern:
The P system is described in relation to $h$ and $h$ prosodies. Thus the pattern can be given as $V^h/BP$. The P system has two terms, $p$ and $t$.
e.g. $V^hP_p$ ob- "press"
$V^hP_t$ ot- "fold"
$V^hP_t$ e:d- "prepare"
The V systems may be $L$ or $€$. $L$ functions in $y$ prosodic stems and $€$ functions in $y$ and $w$ prosodic stems. Length prosody may be short or long when $V$ is $€$, otherwise it is short.
e.g. $€^wC$ ob- "press"
$€^wC$ ot- "fold"
$L^vC$ id- "ripen"
$€^vC$ e:d- "prepare"

The VN pattern:
The N system has the term $t$.  
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e.g. VNt an- "mix"
    VNt un- "spring"

The V systems may be l or a and they function in w prosodic stems. Length prosody is short.
    e.g. aυC an- "mix"
        υC un- "spring"

The VS pattern:

The pattern is limited to one stem where the S system has the term t.
    e.g. VS2 ah- "ask"

The V system is a and the stem is w prosodic. Length is short.
    e.g. ϵυC ah- "ask"

The VL pattern:

The L system has three terms, t, t and ϵ.
    e.g. VLt el- "lay"
        VLt ir- "tear"
        VLε uj- "cook"

The V systems may be l, ϵ or a. l functions in y and w prosodic stems, ϵ functions in y prosodic stems and a functions in w prosodic stems. Length prosody is long when V is a, otherwise it is short.
    e.g. ϖυC ir- "tear"
        ιυC ur- "suck"
        ηυC el- "lay"
        ιωC a:r- "become big"

The VM pattern:

The M system has four terms, p, t, t and k.
    e.g. VMp ₪ ab- "mould"
        VMt a:Ɂ- "join"
        VMt ad- "cry"
        VMk a:Ɋ- "cause to indicate"
The V system is a and the stem is w prosodic. Length prosody may be short or long.

- e.g. awC ab- "mould"
- e.g. awC a:j- "join"

The VCC structure:

The structure has the following patterns: VNP, VSS and VLL where the CC cluster can be either the homorganic N and P systems or the homorganic L or S systems. Thus, compared with the patterns of the VC structure, VN, VS, and VL, the patterns of the VCC, structure have an additional C which is homorganic. Otherwise, there is no difference between patterns of the VC and VCC in complexity.

The VNP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as VNbP. The N and P systems have the term t.

- e.g. VNbPt ind- "make stay"

The V system is l and the stem is y prosodic. Length prosody is short.

- e.g. llwCC ind- "make stay"

The VSS pattern:

The pattern is limited to one stem where the S systems have the term t.

- e.g. VSSl uss- "raise"

The V system is l and the stem is w prosodic. Length prosody is short.

- e.g. llwCC uss- "raise"

The VLL pattern:

The L systems have the term t.

- e.g. VLLl ill- "ask for"
- e.g. VLLl ell- "hang"
The V system may be ɪ, ɛ or ɑ. ɪ and ɛ function in ɣ prosodic stems and ɑ functions in ɣ prosodic stems. Length prosody is short.

e.g. ɪvCC ill- "ask for"
ɛvCC ell- "hang"
ɑwCC all- "catch"

3.3.1.1.2 Disyllabic stems

The disyllabic stems have five structures, CVCVC, CVCVCC, CVCCVC 3, VCVC and VCVCC. The patterns of the disyllabic stem structures can be treated as combinations of monosyllabic patterns in the sense that there is no difference between monosyllabic and disyllabic structures in complexity. For example, the disyllabic pattern PVPVN can be considered as a combination of the monosyllabic patterns, PV+NVP 4 and the disyllabic pattern PVLVPP can be considered as a combination of PV+LVPP and so forth.

The CVCVC structure:

This structure has the following patterns:

\[
\begin{align*}
\text{PVPVN} & \quad \text{PVPVL} & \quad \text{PVNVP} \\
\text{SVSVL} & \quad \text{PVSVP} \\
\text{LVLVL} & \quad \text{PVLVP} \\
\text{SVNVL} & \quad \text{SVLVS} & \quad \text{NVLVL} & \quad \text{NVLVM} \\
\text{PVPVN} & \quad \text{NVPVL} & \quad \text{NVLVP} & \quad \text{SVNVS} & \quad \text{LVPVS} \\
\text{LVPVN} & \quad \text{SVPVL} & \quad \text{-} & \quad \text{LVNVS} & \quad \text{-} \\
\text{-} & \quad \text{LVPVL} & \quad \text{-} & \quad \text{-} & \quad \text{-}
\end{align*}
\]

3 This structure is limited to one stem which is basically a loan, and therefore treated as an exception. This is analyzed with native stems as this has completely conformed with the native pattern.

4 Conjug. 3 has PV type patterns.
The PVPVN pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus the pattern can be given as hPVNVN. The P initial system has the term t, the P system of the second syllable has the term t and the N final system of the second syllable has the term p. There is a contrast of systems, P-N in the pattern and the contrast of terms is t-t-p.

e.g. hPtvPtvNp tạtam- "strain"

The contrast of the V systems and syllable prosodies is a and e and they function in w and a prosodic syllables.

e.g. Ca^CeA^C tạtam- "strain"

The PVPVL pattern:

The P systems are described in relation to h and h prosodies. Thus, the pattern can be given as h/PNvhPVL. The P initial system has three terms, p, t and k, the P initial system of the second syllable has three terms t, t and k and the L system of the second syllable has three terms, p, t and t. There is a contrast of the systems, P-L in the pattern and the contrast of terms is as follows: p-t-t, p-t-t, p-t-t, t-t-p and k-t-t.

e.g. hPvPvtLVlt patur- "spread"

hPvPvtLVlt paṭal- "twine"

hPvPvtLVlp paṭev- "load"

bPvBbPvVLlt dedar- "shake"

bPvBbPvVLlp doḍav- "jabber"

hPvPvPvKLlt kākar- "decoct"

The syntagmatic and paradigmatic contrast of the V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-t</td>
<td>w-w</td>
</tr>
</tbody>
</table>

80
Length may be short or long when V is α, otherwise it is always short.

e.g. CeαCeαC dedar- "shake"
CeαCeαC dodav- "jabber"
CcCwCwC patur- "spread"
CaαCeαC pažav- "load"
CaαCαCwC kaka:j- "decoct"

**The PVNVP pattern:**

The PVNVP pattern is limited to one stem where the P initial system is described in relation to h prosody and the P final system of the second syllable is described in relation to h prosody. Thus, the pattern can be given as `hPVNVP`. The P initial system has the term k, the N system has the term p and the P final system of the second syllable has the term t. There is a contrast of the systems, P-N-P in the pattern and the contrast of terms is k-p-t.

e.g. `hPkVNpVbPt` kumud- "cause to dive"

The V system is l and the syllables are w prosodic. Length prosody is short.

e.g. ClwClwC kumud- "cause to dive"

**The PVSVP pattern:**

The PVSVP pattern is described in relation to h prosody and the P final system is described in relation to h and h prosodies. Thus, the pattern can be given as `hPVSVP`. The P initial system has one term p, the S system has one term q and the P final system of the second syllable has two terms t and t. There is a contrast of the systems, P-S-P in the pattern, and the contrast of terms is as follows: p- q-t and p- q-t.

e.g. `hPpVSqVbPt` pahad- "make clear"
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-a</td>
<td>y-y</td>
</tr>
<tr>
<td>l-l</td>
<td>w-w</td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. CtvCtvC pihit- "take hold"
CaWCaWc pahad- "make clear"

The PVNVL pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as hPVNVL. The P system has the term k, the N system has the term t and the L system has the term c. There is a contrast of systems, P-N-L in the pattern, and the contrast of terms is as follows: k-t-c.

e.g. hPvKNtVLc genij- "take"

The contrast of V systems is: c-t. The syllables are y prosodic and length prosody is short.

e.g. CcyCcyC genij- "take"

The PVLVP pattern:

The initial P system is described in relation to h and h prosodies and the P final system of the second syllable is described in relation to h prosody. Thus the pattern can be given as h'hPVLVP. The P initial system has the term k, the L system has two terms t and t and the P final system of the second syllable has two terms p and k. There is a contrast of systems, P-L-P in the pattern, and the contrast of terms is as follows: k-t-p and k-t-k.

e.g. hPvKLtVhPp galap- "match"

hPvKLtVhPk karak- "cause to circle"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-c</td>
<td>w-Ø</td>
</tr>
</tbody>
</table>
Length prosody is always short.

\[ \text{e.g. } \text{CawCawC } \text{galop-} \quad \text{"match"} \]
\[ \text{CawCawC } \text{karak-} \quad \text{"cause to circle"} \]

The PVLVS pattern:

The P system is described in relation to \( h \) and \( h \) prosodies. Thus, the pattern can be given as \( ^{hP} \text{PVSVL} \). The P system has one term, \( k \), the L system has three terms, \( p \), \( t \) and \( t \), and the S system has two terms, \( t \) and \( t \). There is a contrast of the systems, P-L-S in the pattern, and the contrast of terms is as follows: \( k-p-t \), \( k-t-t \) and \( k-t-t \).

\[ \text{e.g. } ^{hP} \text{PVLV} \text{tVSL } \text{gavas-} \quad \text{"intersperse"} \]
\[ ^{hP} \text{PVLV} \text{tVSL } \text{kelas-} \quad \text{"pollute"} \]
\[ ^{hP} \text{PVLV} \text{tVSL } \text{garah-} \quad \text{"blame"} \]

The contrast of V systems and syllable prosodies is as follows:

\[
\begin{array}{cc}
\text{V systems} & \text{prosodies} \\
\epsilon-\epsilon & \gamma-\gamma \\
\alpha-\epsilon & \omega-\omega \\
\end{array}
\]

Length prosody is always short.

\[ \text{e.g. } \text{CawCawC } \text{kelas-} \quad \text{"pollute"} \]
\[ \text{CawCawC } \text{gavas-} \quad \text{"intersperse"} \]
\[ \text{CawCawC } \text{garah-} \quad \text{"blame"} \]

The PVLVL pattern:

The P system is described in relation to \( h \) and \( h \) prosodies. Thus, the pattern can be given as \( ^{hP} \text{PVVLVL} \). The P initial system has three terms, \( p \), \( t \) and \( k \), the L initial and final systems of the second syllable have three terms, \( p \), \( t \) and \( t \). There is a contrast of systems, P-L in the pattern and the contrast of terms is as follows: \( p-t-t \), \( p-t-t \), \( p-t-t \), \( p-t-t \), \( k-t-t \) and \( k-t-t \).

\[ \text{e.g. } ^{hP} \text{PVLVL } \text{peral-} \quad \text{"drop"} \]
\[ ^{hP} \text{PVLVL } \text{bural-} \quad \text{"bark"} \]
\[ ^{hP} \text{PVLVL } \text{pavar-} \quad \text{"foist"} \]
\[ ^{hP} \text{PVLVL } \text{tavar-} \quad \text{"smear"} \]
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L-\varepsilon )</td>
<td>( y-\alpha )</td>
</tr>
<tr>
<td>( \varepsilon-\varepsilon )</td>
<td>( w-\alpha )</td>
</tr>
<tr>
<td>( \alpha-\varepsilon )</td>
<td></td>
</tr>
</tbody>
</table>

Length prosody is always short.

Example: V systems: "digest" (\( c^\varepsilon C e^\alpha C \) dirav-)
Prosodies: "bark" (\( c^\varepsilon C e^\alpha C \) burav-)
"drop" (\( c^\varepsilon C e^\alpha C \) peral-)
"roar" (\( c^\varepsilon C e^\alpha C \) gorav-)
"unfix" (\( c^\varepsilon C e^\alpha C \) galav-)

The PVLVM pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as \( ^{n}PVLVM \). The P system has the term p, the L system has the term t and the M system has the term p. There is a contrast of the systems, P-L-M in the pattern and the contrast of terms is p-t-p.

Example: V systems: "persuade" (\( c^\varepsilon C e^\alpha C \) polab-)

The PVMVL pattern:

The P system is described in relation to h and \( h \) prosodies. Thus, the pattern can be given as \( ^{n}\|PVMVL \). The P system has two terms, t and k, the M system has three terms, p, t and k and the L system has three terms, p, t and \( \xi \). There is a contrast of the systems, P-M-L in the pattern and the contrast of terms is as follows: t-k-t, k-t-\( \xi \), k-p-\( \xi \) and k-t-\( \xi \).
The contrast of V systems and prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>ε- ]</td>
<td>w-w</td>
</tr>
<tr>
<td>α- ]</td>
<td>w-ə</td>
</tr>
<tr>
<td>α-€</td>
<td>y-ə</td>
</tr>
</tbody>
</table>

Length prosody is always short.

e.g. CæwClwC kodur- "whisper"
CaæClwC kabur- "repay"
CaæCeæC kædæv- "call"
CaæCeæC dagłæl- "struggle"

The NVPVL pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as NvpPVL. The N system has the term p, the P system has the term t and the L system has the term t. There is a contrast of systems, N-P-L in the pattern and the contrast of terms is p-t-t.

e.g. NpVhPvl matur- "utter"

The contrast of V systems is α-]. Syllables are w prosodic and length prosody is short.

e.g. CaæClwC matur- "utter"

The NVLVP pattern:

The P system is described in relation to h prosody. Thus the pattern can be given as NVLvhP. The N system has two terms p and t the L system has the term t and the P system has two terms, p and k. There is a contrast of systems, N-L-P in the pattern and the contrast of terms is as follows: p-t-k and t-t-p.

e.g. NpVlVhPh mirik- "squeeze"
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-e</td>
<td>w-ø</td>
</tr>
<tr>
<td>e-e</td>
<td>y-ø</td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. CiVCicC mirik- "squeeze"
      CeV CeAC nerap- "expel"

The NVLVL pattern:

The N system has two terms, p and t, the initial L system of the second syllable has two terms, t and ĉ and the L final system of the second syllable has one term, p. There is a contrast of systems, N-L in the pattern and the contrast of the terms is as follows: p-t-p, and t-ĉ-p.

e.g. NpVLtVLp malav- "fry slightly"
      NtVLtVLp nalav- "lull"
      NtVLavVLp nijav- "grin"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-e</td>
<td>w-ø</td>
</tr>
<tr>
<td>e-e</td>
<td>y-ø</td>
</tr>
<tr>
<td>a-ɛ</td>
<td>y-ø</td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. CiVCicC nijav- "grin"
      CeV CeAC molav- "kindle"
      CaV CeAC nalav- "lull"

The SVPVP pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus the pattern can be given as SVhPVhP. The S system and the P initial system of the second syllable have the term t and the P final system of the second syllable has the term p. There is a contrast of systems, S-P in the pattern and the contrast of
terms is t-p.
e.g. $S^tV_hP_tV_hP_p$ satap- "cause to sleep"
The contrast of V systems is α-ε and they function in w and a
prosodic syllables respectively. Length prosody is short.
e.g. $C^\alpha C^\epsilon C$ satap- "cause to sleep"

The SVPVL pattern:
The P system is described in relation to h and h prosodies. Thus the pattern can be given as $S^\gamma V_hP_hP_hV_L$. The S system has one term, 2, the P system has two terms, t and t, and the L system has one term p. Thus, there is a contrast of systems, S-P-L and the contrast of terms is as follows: 2- t-p and 2-t-2.
e.g. $S_2^\gamma V_hP_hP_hV_L$ hitav- "make stay"
$S_2^\gamma V_hP_hP_hV_L$ hada:r- "study"
The contrast of V systems and syllable prosodies is as follows:

$\begin{array}{ll}
V \text{ systems} & \text{ prosodies} \\
\alpha-\epsilon & y-\alpha \\
\alpha-\alpha & w-w \\
\end{array}$

Length prosody is short when V is or ε, otherwise it may be short or long.
e.g. $C^\epsilon C^\epsilon C$ hitav- "make stay"
$C^\epsilon C^\epsilon C$ hada:r- "study"

The SVNVS pattern:
The S initial system has two terms, t and z, the N system has the term t and the S final system of the second syllable has two terms z and t. There is a contrast of systems, S-N-S in the pattern and the contrast of terms is $z-t-2$.
e.g. $S^tV_NtV_S$, sanas- "console"
$S_2^zV_NtV_S$, hinash- "cause to laugh"
The contrast of V systems and prosodies is as follows:

$\begin{array}{ll}
V \text{ systems} & \text{ prosodies} \\
\alpha-\epsilon & y-\alpha \\
\end{array}$
Length prosody is short.
e.g. CaωCεαιC sanαs- "console"
CωCaυC hinαh- "laugh"

The SVNVL pattern:
The pattern is limited to one stem where the
S system has the term t, the N system has the term p and the L
system has the term t. There is a contrast of systems, S-N-L
in the pattern and the contrast of terms is t-p-t.
e.g. StVNpVLt samar- "commemorate"
The contrast of V systems is α-ε and they function in w and ο
prosodic syllables. Length prosody is short.
e.g. CaωCεαιC samar- "commemorate"

The SVSVL pattern:
The pattern is limited to one stem where the S
initial system has the term ζ, the S initial system of the
second syllable has the term t and the L system has the term ι.
There is a contrast of systems, S-L in the pattern and the
contrast of terms is ζ-t-ι.
e.g. SζVSιVLι hasur- "control"
The contrast of V systems is α-λ. Syllables are w prosodic
and length prosody is short.
e.g. CaωCιωC hasur- "control"

The SVLVS pattern:
The pattern is limited to one stem where the S
initial system and the S final system of the second syllable
have the term t and the L system has the term ι. There is a
contrast of systems, S-L-S in the pattern and the contrast of
terms is t-ι-t.
e.g. StVLιVSt sarαs- "decorate"
The contrast of V systems is α-ε and they function in w and ξ
prosodic syllables. Length prosody is short.
The LVPVS pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as LV\textsubscript{h}PVS. The L system has the term p, the P system has the term t and the S system has the term \( \ddash \). There is a contrast of systems, L-P-S in the pattern and the contrast of terms is p-t-\( \ddash \).

e.g. \( L_pV^hP_tV^s \) \textit{vaṭah-} "make understand"

The contrast of V systems is \( \alpha-\epsilon \) and of syllable prosodies is \( w-\text{a} \). Length prosody is short.

e.g. \( CawCawC \) \textit{vaṭah-} "make understand"

The LVPVN pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as LV\textsubscript{b}PVN. The L system and the N system have the term p and the P system has the term t. There is a contrast of systems, L-P-N in the pattern and the contrast of terms is p-t-p.

e.g. \( L_pV^bP_tV^n \) \textit{vadam-} "accompany"

The Contrast of V systems is \( \alpha-\epsilon \) and of prosodies is \( w-\text{a} \). Length prosody is always short.

e.g. \( CawCawC \) \textit{vadam-} "accompany"

The LVPVL pattern:

The P system is described in relation to h and \( \ddash \) prosodies. Thus, the pattern can be given as LV\textsubscript{h/\ddash}PVL. The L initial system has one term p, the P system has four terms, p, t, \( \ddash \) and \( \ddash \) and the L final system has two terms, t and \( \ddash \). Thus, there is a contrast of systems, L-P-L and the contrast of terms is as follows: \( p-\ddash, p-t-\ddash, p-\ddash-t \) and \( p-k-\ddash \).

e.g. \( L_pV^hP_tV^l \) \textit{vapur-} "sow"
\( L_pV^hP_tV^l \) \textit{vada:r-} "preach"
The contrast of V systems and syllable prosodies is as follows.

<table>
<thead>
<tr>
<th>V systems</th>
<th>Prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>α-ε</td>
<td>w-ə</td>
</tr>
<tr>
<td>α-ι</td>
<td>w-w</td>
</tr>
<tr>
<td>α-α</td>
<td></td>
</tr>
</tbody>
</table>

Length prosody may be short or long when V is α, otherwise it is short.

e.g. CαwCεαC vaṭal- "raid"
CαwCινC vagur- "pour"
CαwCαωC vada:r- "preach"

The LVNVS pattern:

The pattern is limited to one stem where the L system and the N system have the term p and the S system has the term t. There is a contrast of systems, L-N-S in the pattern and the contrast of terms is: p-t.

e.g. LpVhPvVLt vimbs- "ask"

The contrast of V systems is t-ε and of syllable prosodies is y-ə. Length prosody is short.

e.g. CινCεαC vimas- "ask"

The LVNVL pattern:

The pattern is limited to one stem where the L initial system and the N initial system of the second syllable have the term p and the L final system of the second syllable has the term t. There is a contrast of systems, L-N-L and the contrast of terms is p-t.

e.g. LpVNpVLt vama:r- "vomit"

The V system is α and the syllables are w prosodic. Length prosody is short.

e.g. CαwCαωC vama:r- "vomit"
The LVLVM pattern:

The pattern is limited to one stem where the L initial system has the term p, and the L initial system of the second syllable and the M system have the term t. There is a contrast of systems, L-M in the pattern and the contrast of terms is p-t.

e.g. LpVLtVMt valad- "eat"
The contrast of V systems is a-ε and of syllable prosodies is w-ə. Length prosody is short.
e.g. CaεCəC valad- "eat"

The LVLVL pattern:

The L initial system has two terms, p and t, the L initial system of the second syllable has two terms, p and ε and the L final system of the second syllable has the t. There is no contrast of systems in the pattern and the contrast of terms is as follows: p-t and t-ε-t.
e.g. LpVLpVLt vevul- "tremble"
LtVLεVLt lijəl- "bud"
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>ε-Ł</td>
<td>y-w</td>
</tr>
<tr>
<td>L-ε</td>
<td>y-ə</td>
</tr>
</tbody>
</table>

Length prosody is short.
e.g. CεVLwC vevul- "tremble"
CŁεCəC lijual- "bud"

To summarize, according to the analysis given above the following prosodic contrasts are possible in the CVCVC structures: the first syllable may be y or w prosodic. The second syllable may be y, w or ə prosodic. When the second syllable is not a prosodic, it may harmonise with the first syllable prosodically. The second syllable is always ə prosodic when the C initial or final system of the second syllable is the L system with p or t terms. Thus, prosodic relationships like those given below are possible:
The contrast \( y-w \) is only possible in one stem, namely, vevul-. This is the only stem where the \( L \) initial systems of the first and the second syllables have the term \( p \) and where the second syllable is \( w \) prosodic. It can thus be considered as an exception.

The CVCVCC structure:

In this structure, systems of the \( CC \) cluster are always homorganic. The structure has the following patterns:

- \( PVNVPP \):
  - SVPVSS
  - SVLVLL
- \( PVLVPP \):
  - SVLVSS
  - LVPVLL
- \( NVLVPP \):
  - 
  -
- \( LVLVPP \):
  - 
  -

The \( PVNVPP \) pattern:

The pattern is limited to one stem where the \( P \) systems are described in relation to \( h \) prosody. Thus, the pattern can be given as \( ^hP^\nu^v^\nu^hPP \). The \( P \) initial system has the term \( k \), the \( N \) system and the \( P \) systems of the \( PP \) cluster have the term \( t \). There is a contrast of systems, \( P-N-P \) and the contrast of terms is \( k-t \).

\( ^hP^\nu^v^\nu^hPP^t \) \( konitt- \) "pinch"

The contrast of \( V \) systems is \( \epsilon-t \) and of syllable prosodies is \( w-y \). Length prosody is long.

\( C^\nu^\nu^\nu^\nu^\nuCC \) \( konitt- \) "pinch"

The \( PVLVPP \) pattern:

The \( P \) initial system is described in relation to \( h \) prosody and the \( P \) systems of the \( PP \) cluster are described...
in relation to \( h \) and \( \bar{h} \) prosodies. Thus, the pattern can be given as \( hPVLVh/bPP \). The \( P \) initial system has two terms, \( p \) and \( k \), the \( L \) system has two terms, \( t \) and \( \bar{t} \) and the \( P \) systems of the \( PP \) cluster have the term \( t \). There is a contrast of systems, \( P-L-P \) and the contrast of terms is as follows: \( p-t-t \) and \( k-t \).

\[
\text{e.g. } hPpVLtVbPPt \quad \text{purudd-} \quad \text{"splice"}
\]
\[
\text{hPkVLtVbPPt} \quad \text{kalatt-} \quad \text{"shake"}
\]

The contrast of \( V \) systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>( V ) systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>( t-t )</td>
<td>( w-w )</td>
</tr>
<tr>
<td>( a-a )</td>
<td></td>
</tr>
</tbody>
</table>

Length prosody is short.

\[
\text{e.g. } \text{Cl}^w\text{Cl}^wCC \quad \text{purudd-} \quad \text{"splice"}
\]
\[
\text{Ca}^w\text{Ca}^wCC \quad \text{kalatt-} \quad \text{"shake"}
\]

The NVLVPP pattern:

The pattern is limited to one stem where the \( P \) systems are described in relation to \( h \) prosody. The \( N \) system and the \( P \) systems of the \( PP \) cluster have the term \( t \), and the \( L \) system has the term \( p \). There is a contrast of systems, \( N-L-P \) in the pattern, and the contrast of terms is \( t-p-t \).

\[
\text{e.g. } NtVLpVhPPt \quad \text{navatt-} \quad \text{"stop"}
\]

The \( V \) system is \( a \) and syllables are \( w \) prosodic. Length prosody is short.

\[
\text{e.g. } \text{Ca}^w\text{Ca}^wCC \quad \text{navatt-} \quad \text{"stop"}
\]

The SVPVSS pattern:

The pattern is limited to one stem where the \( P \) system is described in relation to \( h \) prosody. Thus the pattern can be given as \( \text{SVbPVSS} \). The \( S \) initial system has the term \( \bar{t} \), the \( P \) system has the term \( k \) and the \( S \) systems of the \( SS \) cluster have the term \( t \). There is a contrast of systems, \( S-P-S \) and the contrast of terms is \( \bar{t}-k-t \).

\[
\text{e.g. } S\bar{t}VbP_kVSS_t \quad \text{hagiss-} \quad \text{"convince"}
\]

The contrast of \( V \) systems is \( a-t \) and of syllable prosodies is
w-y. Length prosody is short.
e.g. Ca\~nC\~nCC hagiss- "convince"

The SVLVSS pattern:
The pattern is limited to one stem where all systems of the pattern have the term t. There is a contrast of systems, S-L-S in the pattern but there is no contrast of terms.
e.g. StVL\~tVSS\~t salass- "make arrangements"
The V system is \( \alpha \) and the syllables are w prosodic. Length prosody is short.
e.g. Ca\~nCa\~nCC salass- "make arrangements"

The SVLVLL pattern:
The pattern is limited to one stem where the S system has the term \( \dot{2} \), the L initial system of the second syllable has the term p and the L systems of the second syllable have the term t. There is a contrast of systems, S-L and the contrast of terms is \( \dot{2}-p-t \).
e.g. S\dot{2}VL\~tPVLL\~t hevill- "tile"
The contrast of V systems is \( \epsilon-t \). Syllables are y prosodic and length prosody is short.
e.g. C\~nC\~n\~nCC hevill- "tile"

The LVPVLL pattern:
The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as LV\~hPVLL. The L initial system has the term \( \check{c} \) and the P system and the L systems of the LL cluster have the term t. There is a contrast of systems, L-P-L in the pattern and the contrast of terms is \( \check{c}-t \).
e.g. L\~hV\~hP\~tVLL\~t jatull- "lock"
The contrast of V systems is \( \alpha-t \). Syllables are w prosodic and length prosody is short.
e.g. Ca\~nC\~n\~nCC jatull- "lock"
The LVLVPP pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus the pattern can be given as LVLVhPP. The L initial system has the term p, the L initial system of the second syllable has the term t and the P systems of the PP cluster have the term t. There is a contrast of systems, L-P in the pattern and the contrast of terms is p-t-t.

* e.g. \( LpVLT_yhPPt \) viritt- "grin"

The V system is \( i \) and the syllables are y prosodic. Length prosody is short.

* e.g. \( C\tilde{y}C\tilde{y}CC \) viritt- "grin"

To summarize the prosodic contrasts in CVCVCC structures, the second syllable harmonises with the initial syllable in terms of prosodies except in two stems, namely, konitt- and hagiss-. Therefore, the usual prosodic relationship is as follows:

\[
\begin{align*}
\text{y} & - \text{y} - \\
\text{w} & - \text{w} -
\end{align*}
\]

\( \alpha \) prosodic syllables do not occur in this structure.

The CVCCVC structure:

This structure is limited to one stem of which the pattern is LVPPVL. The P systems are described in relation to h prosody. Thus the pattern can be given as LVhPPVL. The L initial system has the term p, the P final system of the initial syllable and the P initial system of the second syllable have the term k and the L final system of the second syllable has the term t. There is a contrast of systems, L-P-L in the pattern and the contrast of terms is p-k-t.

* e.g. \( LpVhPP_kWL_t \) vakkar- "pour"

The contrast of V systems is w-\( e \) and of syllable prosodies is w-\( a \). Length prosody is short.

* e.g. \( C\omega CCe\tilde{a}C \) vakkar- "pour"
The VCVC structure:

This structure has the following patterns:

- VPVN
- VPVL
- VPVS
- VNVN
- VSVL
- VLVL
- VLVM

The VPVN pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus the pattern can be given as VhPVPN. The P system has the term t and the N system the term p. There is a contrast of systems, P-N in the pattern and the contrast of terms is t-p.

e.g. VhPtVNp  idim-  "cause to swell"

The V systems are i and the syllables are y prosodic. Length prosody is short.

e.g. iVClyC  idim-  "cause to swell"

The VPVL pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as Vh/bPVL. The P system has three terms, t, t and k and the L system has three terms, p, t and t. There is a contrast of systems, P-L in the pattern and the contrast of terms is as follows: t-p, t-t and k-t.

e.g. VhPtVLt  atur-  "place"
- VhPtVLt  udur-  "uproot"
- VnPVLp  aṭav-  "set a trap"
- VnPkVLt  akul-  "fold"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>l-l</td>
<td>w-w</td>
</tr>
<tr>
<td>a-l</td>
<td>w-∅</td>
</tr>
<tr>
<td>a-ε</td>
<td></td>
</tr>
</tbody>
</table>
Length prosody is short.

- **udur-** “uproot”
  - \( \alpha \omega \text{Cl} \text{wC} \)
  - \( \alpha \omega \text{Ce} \text{pC} \) “set a trap”
  - \( \alpha \omega \text{Cl} \text{wC} \) “fold”

The VPVS pattern:
The pattern is limited to one stem where the P system is described in relation to \( \eta \) prosody. Thus, the pattern can be given as \( \text{VbPVS} \). The P system has the term \( t \) and the S system has the term \( \gamma \). There is a contrast of systems, P-S in the pattern and the contrast of terms is \( t-\gamma \).

- **adah-** “believe”
  - \( \text{VBPtVS}_2 \)

The V systems are \( \alpha \) and syllables are \( w \) prosodic. Length prosody is short.

- **amun-** “knit”
  - \( \text{VNpVN}_t \)

The VNVN pattern:
The pattern is limited to one stem where the N initial system has the term \( p \) and the N final system of the second syllable has the term \( t \). There is no contrast of systems in the pattern but there is a contrast of terms, namely, \( p-t \).

- **uhul-** “bear”
  - \( \text{VS}_1 \text{VL}_t \)

The contrast of V systems is \( \alpha-L \). Syllables are \( w \) prosodic and length prosody is short.

- **ihir-** “spill”
  - \( \text{VS}_1 \text{VL}_t \)

The contrast of V systems and syllable prosodies is as follows:
V systems prosodies

\begin{align*}
\text{L-L} & : \ y-y \\
\text{L-€} & : \ y-\text{€}
\end{align*}

Length prosody is short.

e.g. \( \text{L-L} \) \text{C-L} \ ihir- "spill"
\( \text{L-L} \) \text{C-L} \ uhul- "bear"
\( \text{L-L} \) \text{C-L} \ ihel- "hold umbrellas etc."
\( \text{L-L} \) \text{C-L} \ ahul- "pick up"

The VLVL pattern:

The L initial system of the second syllable has three terms, \( p, t, \) and \( \text{t} \) and the L final system of the second syllable has two terms, \( p \) and \( t \). There is no contrast of systems in the pattern and the contrast of terms is as follows: \( p-t, t-p, \text{t}-p \) and \( \text{t}-t \).

e.g. \( \text{V-L} \text{V-L} \) \text{L-L} \ avul- "kindle"
\( \text{V-L} \text{V-L} \) \text{L-L} \ alav- "stick"
\( \text{V-L} \text{V-L} \) \text{L-L} \ orav- "stare"
\( \text{V-L} \text{V-L} \) \text{L-L} \ amal- "accompany"

The contrast of V systems and syllable prosodies is as follows:

\begin{align*}
\text{V systems} & \quad \text{prosodies} \\
\varepsilon-\varepsilon & : \ w-\text{€} \\
\alpha-\varepsilon & : \ y-\text{€} \\
\alpha-\text{L} & : \ w-w
\end{align*}

Length prosody is short.

e.g. \( \varepsilon-\varepsilon \) \text{C-L} \ orav- "stare"
\( \alpha-\varepsilon \) \text{C-L} \ amal- "accompany"
\( \alpha-\text{L} \) \text{C-L} \ avul- "pick up"

The VMVL pattern:

The M system has three terms, \( p, t, \) and \( \text{k} \) and the L system has two terms, \( p \) and \( t \). There is a contrast of systems, M-L in the pattern and the contrast of terms is as follows: \( p-t, t-t \) and \( k-p \).
e.g. VMpVLt  abar- "grind"
VMtVLt  adur- "recognise"
VMkVLt  agav- "indicate"
The contrast of V systems and syllable prosodies is as follows:

V systems, prosodies
a-e   w-ə
a-ə   w-w

Length prosody is short.
e.g. awCLwC  abar- "grind"
awCLwC  adur- "recognise"

To summarize, possible contrasts in the VCVC structure is as follows: the second syllable may be y, w or ə prosodic and the first syllable may be y or w prosodic. When the second syllable is not ə prosodic it may harmonize with the first syllable prosodically.
e.g. y- y-
w- w-
y- ə-
and  w- ə-

The VCVCC structure:

This structure has the following patterns in which the C systems of the CC cluster are homorganic. The structure has the following patterns:

VPVNN VPVLL VLVPP VLVSS
VMVNN - - -

The VPVNN pattern:

The pattern is limited to one stem where the P system is described in relation to ə prosody. Thus the pattern can be given as VbPVNN. The P system has the term k and the N systems of the NN cluster have the term t. There is a contrast of systems, P-N in the pattern and the contrast of terms is k-t.
terms is k-t.
e.g. VbPwVNNt ugann- "teach"
The contrast of V systems is L-α. Syllables are w prosodic and 
length is short.
e.g. wCaαwCC ugann- "teach"

The VPVLL pattern:
The P system is described in relation to h and 
h prosodies. Thus, the pattern can be given as Vh/bPVLL. The 
P system has three terms, p, t and k and the L systems of the 
LL cluster have one term, t. There is a contrast of systems, 
P-L in the pattern and the contrast of terms is as follows: p-t 
and k-t.
e.g. VhPwVLLt apull- "beat clothes" 
VhPtVLLt atull- "rub" 
VbPwVLLt agull- "lock"
The contrast of V systems and syllable prosodies is as follows:

V systems prosodies
L-ł y-y
α-ł w-w

Length prosody is short.
e.g. wClwCC ugull- "uproot"
ωClωCC atull- "rub"

The VLVPP pattern:
The pattern is limited to one stem where the P 
systems are described in relation to h prosody. Thus the 
pattern can be given as VLVhPP. The L system has the term t 
and the P systems of the PP cluster have the term p. There is 
a contrast of systems, L-P, and the contrast of terms is t-p.
e.g. VltVhPPp ulupp- "strip off"
The V systems are L and syllables are w prosodic. Length 
prosody is short.
e.g. wClwCC ulupp- "strip off"
The VLVSS pattern:

The pattern is limited to one stem where the L system has the term p and the S systems of the SS cluster have the term t. There is a contrast of systems, L-S in the pattern and the contrast of terms is p-t.

e.g. VLpVSSt avuss- "provoke"

The contrast of V systems is as follows: α-L. Syllables are w prosodic and length prosody is short.

e.g. αwCLwCC avuss- "provoke"

The VMVNN pattern:

The pattern is limited to one stem where the M system and the N systems of the NN cluster have the term t. There is a contrast of systems, M-N in the pattern but there is no contrast of terms.

e.g. VMtVNNt adunn- "introduce"

The contrast of V systems is α-L. Syllables are w prosodic and length prosody is short.

e.g. αwCTwCC adunn- "introduce"

In patterns of the VCVCC structure, the second syllable harmonizes with the initial syllable in terms of prosodies, all stems being w prosodic.

As far as the prosodic structure of the disyllabic stems are concerned, the second syllable when it has the CC cluster harmonizes with the initial syllable prosodically. (It is important to note that a syllable with the CC cluster in the syllable final position can never be a prosodic). In all other cases the second syllable is either w prosodic, depending on the context given above, or harmonizes with the initial syllable prosodically.

3.3.1.2 Stems of conjug. 2

Stems belonging to conjug. 2 may be monosyllabic or disyllabic.
3.3.1.2.1 Monosyllabic stems

These have two types of structure, CVC and VC

The CVC structure:

This structure has the following patterns:

<table>
<thead>
<tr>
<th>PVP</th>
<th>PVN</th>
<th>PVS</th>
<th>PVL</th>
<th>PVM</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVP</td>
<td>NVN</td>
<td>NVS</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SVP</td>
<td>-</td>
<td>-</td>
<td>SVM</td>
<td>LVP</td>
</tr>
<tr>
<td>-</td>
<td>LVL</td>
<td>LVM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The PVP pattern:

The P systems are described in relation to h and h prosodies. Thus the pattern can be given as \( h_P V h_P V_P \). The P initial system has three terms, p, t, and k and the P final system has four terms, p, t, t, and k. There is no contrast of systems in the pattern but there is a contrast of terms as follows: p-t, t-p, k-t and t-k.

- e.g. \( h_P V h_P t \) pad- "ride"
- \( h_P V h_P t \) bad- "fry"
- \( h_P t V h_P P \) tap- "warm one's self"
- \( h_P t V h_P k \) dak- "see"
- \( h_P t V h_P t \) kat- "knit"

The V systems are t or c t and they function in w prosodic stems. Length prosody long when V is t, otherwise short.

- e.g. \( C t w C \) pu:d- "blossom"
- \( C a w C \) pad- "ride"

The PVN pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as \( h_P V P V N \). The P system has two terms, p and k and the N system has one term, t. There is a contrast of systems, P-N in the pattern and the contrast of terms is as follows: p-t and k-t.

- e.g. \( h_P P V N t \) pan- "jump"
The V system is α and stems are w prosodic. Length prosody is short.
e.g. CaαC ban- "blame"
     CaαC pan- "jump"

The PVS pattern:
The P system is described in relation to h and h prosodies. Thus, the pattern can be given as h/bPVS. The P system has two terms, p and k and the S final system has one term ?. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: p-γ and k-γ.
e.g. hPpVSγ pa:h- "winnow"
     hPpVSγ bah- "descend"
     hPpVSγ kah- "cough"

The V system may be l or α. l functions in y prosodic stems and α functions in w prosodic stems. Length prosody is short when V is l and otherwise it may be short or long.
e.g. ClαC pih- "wipe"
     CaαC kah- "cough"
     CααC pa:h- "winnow"

The PVL pattern:
The P system is described in relation to h and h prosodies. Thus, the pattern can be given as h/bPVL. The P system has the term k and the L system has the term t. There is a contrast of systems, P-L in the pattern and the contrast of terms is t-k.
e.g. hPkVLt kel- "attack"
     hPkVLt gil- "swallow"

The V system may be l or € and they function in y prosodic stems. Length prosody is short.
e.g. C€€C kel- "attack"
The PVM pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as h\hPVM. The P system has the term p and the M system has two terms, p and t. There is a contrast of systems, P-M in the pattern and the contrast of terms is p-t.

\[ \text{e.g. } \begin{align*}
\text{hP}_{p} & \text{VM}_{p} \quad \text{pib-} \quad \text{"blow"} \\
\text{hP}_{p} & \text{VM}_{t} \quad \text{bid-} \quad \text{"break"}
\end{align*} \]

The V system is l and stems are y prosodic. Length prosody is short.

\[ \begin{align*}
\text{ClyC} & \quad \text{pib-} \quad \text{"blow"} \\
\text{ClyC} & \quad \text{bid-} \quad \text{"break"}
\end{align*} \]

The NVP pattern:

The P system is described in relation to h prosody. Thus, the pattern can be given as NVP. The N system has two terms, p and t and the P system has three terms, t, p and k. There is a contrast of systems, N-P in the pattern and the contrast of terms is as follows: p-t, p-t and t-k.

\[ \begin{align*}
\text{e.g. } \begin{align*}
\text{N}_{p} & \text{V}_{p} \text{P}_{t} \quad \text{mad-} \quad \text{"polish"} \\
\text{N}_{p} & \text{V}_{p} \text{P}_{t} \quad \text{mad-} \quad \text{"press out"} \\
\text{N}_{t} & \text{V}_{p} \text{P}_{t} \quad \text{nag-} \quad \text{"climb"}
\end{align*}
\end{align*} \]

The V system is a and it functions in w prosodic stems. Length prosody is short.

\[ \begin{align*}
\text{e.g. } \begin{align*}
\text{Ca} & \text{wC} \quad \text{mad-} \quad \text{"polish"} \\
\text{Ca} & \text{wC} \quad \text{mad-} \quad \text{"press out"}
\end{align*}
\end{align*} \]

The NVN pattern:

The pattern is limited to one stem where the N initial system has the term p and the N final system has the term t. There is no contrast of systems in the pattern but there is a contrast of terms: p-t.

\[ \begin{align*}
\text{e.g. } \begin{align*}
\text{N}_{p} & \text{V}_{N} \text{N}_{t} \quad \text{man-} \quad \text{"measure"}
\end{align*}
\end{align*} \]
The V system is \( \alpha \) and the stem is \( w \) prosodic. Length prosody is short.
e.g. \( Ca^wC \) man- “measure”

The NVS pattern:
The pattern is limited to one stem where the N system has the term \( t \) and the S system has the term \( ? \). There is a contrast of systems, N-S in the pattern and the contrast of terms is \( t-? \).
e.g. \( NtVS_2 \) nah- “exhaust”
The V system is \( \alpha \) and the stem is \( w \) prosodic. Length prosody is short.
e.g. \( Ca^wC \) nah- “exhaust”

The SVP pattern:
The pattern is limited to one stem where the P system is described in relation to \( h \) prosody. Thus, the pattern can be given as \( SV^hP \). The S system has the term \( ? \) and the P system has the term \( t \). There is a contrast of systems, S-P in the pattern and the contrast of terms is \( ?-t \).
e.g. \( S_2V^hP_2 \) hit- “stay”
The V system is \( u \) and the stem is \( y \) prosodic. Length prosody is short.
e.g. \( Cl^vC \) hit- “stay”

The SVM pattern:
The pattern is limited to one stem where the S system has the term \( ? \) and the M system has the term \( t \). There is a contrast of systems, S-M in the pattern and the contrast of terms is \( ?-t \).
e.g. \( S_2VM_t \) hid- “evaporate”
The V system is \( u \) and the stem is \( y \) prosodic. Length prosody is short.
e.g. \( Cl^vC \) hid- “evaporate”
The LVP pattern:

The P system is described in relation to h and  h prosodies. Thus, the pattern can be given as LV\text{h/bP}. The L system has four terms, p, t, t, and c and the P system has three terms, t, t, and k. There is a contrast of systems, L-P in the pattern and the contrast of terms is as follows: p-t, p-t, c-t, t-k and t-k.

e.g. L_pV_bP_t vad- "strike"
L_pV_hP_t vat- "be worth"
L_pV_bP_t vad- "come"
L_sV_bP_t jad- "pray"
L_tV_hP_k rak- "save"
L_tV_bP_k lag- "lodge"

The V systems may be i or a. i functions in y prosodic stems and a functions in w prosodic stems. Length prosody is short.

e.g. C^-yC vid- "shoot an arrow"
C^-aC rak- "save"

The LVS pattern:

The L system has two terms, p and t, and the S system has one term ?. There is a contrast of systems, L-S in the pattern and the contrast of terms is as follows: p-? and t-?.

e.g. L_pV_s? vah- "rain"
L_tV_s? rah- "peel"

The V system is a and the stem is w prosodic. Length prosody is short.

e.g. C^-aC rah- "peel"

The LVM pattern:

The L system has the term p and the M system has the term t. There is a contrast of systems, L-M in the pattern and the contrast of terms is p-t.

e.g. L_pV_m_t vad- "worship"
L_pV_m_t vid- "experience"
The V system may be \( \ell \) or \( \alpha \). \( \ell \) functions in \( y \) prosodic stems and \( \alpha \) functions in \( w \) prosodic stems. Length prosody is short. 

\[ \begin{align*}
\text{e.g.} & \quad \text{C} \ell \text{wC} \quad \text{vid} & & \text{"experience"} \\
& \text{C} \alpha \text{wC} \quad \text{vad} & & \text{"worship"}
\end{align*} \]

The VC structure:

This structure has the following patterns: VP, VN, VS, VL and VM. Length prosody of all patterns is short.

The VP pattern:

The P system is described in relation to \( h \) prosody. Thus, the pattern can be given as VbhP. It has two terms, \( p \) and \( t \). 

\[ \begin{align*}
\text{e.g.} & \quad \text{VbhP}_p \quad \text{ob} & & \text{"suit"} \\
& \text{VbhP}_t \quad \text{ad} & & \text{"pull"}
\end{align*} \]

The V system may be \( e \) or \( \alpha \) and they function in \( w \) prosodic stems. 

\[ \begin{align*}
\text{e.g.} & \quad \text{V} e \text{wC} \quad \text{ob} & & \text{"suit"} \\
& \text{V} \alpha \text{wC} \quad \text{ad} & & \text{"pull"}
\end{align*} \]

The VN pattern:

The pattern is limited to one stem where the \( N \) system has the term \( t \). 

\[ \begin{align*}
\text{e.g.} & \quad \text{VN}_t \quad \text{an} & & \text{"prick"}
\end{align*} \]

The V system is \( \alpha \) and the stem is \( w \) prosodic. 

\[ \begin{align*}
\text{e.g.} & \quad \text{V} \alpha \text{wC} \quad \text{an} & & \text{"prick"}
\end{align*} \]

The VS pattern:

The pattern is limited to one stem where the \( S \) system has the term \( ? \). 

\[ \begin{align*}
\text{e.g.} & \quad \text{VS}_? \quad \text{ih} & & \text{"sprinkle"}
\end{align*} \]

The V system is \( \ell \) and the stem is \( y \) prosodic. 

\[ \begin{align*}
\text{e.g.} & \quad \text{V}\gamma \text{vC} \quad \text{ih} & & \text{"sprinkle"}
\end{align*} \]
The VL pattern:

The pattern is limited to one stem where the L system has the term \( t \).

\[ \text{e.g. } \text{VL}_t \text{ ar-} \quad \text{"send"} \]

The V system is \( \alpha \) and the stem is \( w \) prosodic.

\[ \text{e.g. } \alpha^wC \text{ ar-} \quad \text{"send"} \]

The VM pattern:

The \( M \) system has two terms, \( p \) and \( t \).

\[ \text{e.g. } \text{VM}_p \text{ ib-} \quad \text{"kiss"} \]

\[ \text{VM}_t \text{ ad-} \quad \text{"draw"} \]

The V system may be \( t \) or \( \alpha \). \( t \) functions in \( y \) prosodic stems and \( \alpha \) functions in \( w \) prosodic stems.

\[ \text{e.g. } \text{TV}_C \text{ ib-} \quad \text{"kiss"} \]

\[ \alpha^wC \text{ ad-} \quad \text{"draw"} \]

3.3.1.2.2 Disyllabic stems

The disyllabic stems have two structures, CVCVC and VCVC.

The CVCVC structure:

This structure has the following patterns: PVLVP, NVPVP, NVLVP and LVLVP. Length prosody of all patterns of this structure is short.

The PVLVP pattern:

The P initial system is described in relation to \( h \) prosody and the P final system of the second syllable is described in relation to \( h \) and \( \bar{h} \) prosodies. Thus, the pattern can be given as \( ^nPVLV^hL^pP \). The P initial system has one term \( p \) and the L system has two terms, \( p \) and \( t \). There is a contrast of systems, \( P-L-P \) in the pattern and the contrast of terms is as follows: \( p-t \) and \( p-\bar{t}-t \).

\[ \text{e.g. } ^nP_PVL_PV_hP_t \text{ pavat-} \quad \text{"last"} \]

\[ ^nP_PVL_PV_hP_t \text{ parad-} \quad \text{"defeat"} \]

The contrast of \( V \) systems is \( \alpha-\epsilon \) and of syllable prosodies is \( w-\epsilon \).
The NVPVP pattern:

The pattern is limited to one stem where the P initial and final systems of the second syllable are described in relation to h and h prosodies respectively. The N system has the term t, the P initial system of the second syllable has the term k and the P final system of the second syllable has the term t. There is a contrast of systems, N-P in the pattern and the contrast of terms is t-k-t.

e.g. NtVlpkVhPt nəgiːt- "stand up"
The contrast of V systems is as follows: α-ε. Syllables are y prosodic.

e.g. CaKtvC nəgiːt- "stand up"

The NVLVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as NVLVhP. The N system has the term t, the L system has the term p and the P system has the term t. There is a contrast of systems, N-L-P in the pattern and the contrast of terms is t-p-t.

e.g. NtVLpVhP t navət- "stop"
The contrast of V systems is α-ε. α functions in a w prosodic syllable and ε functions in a a prosodic syllable.

e.g. CaKtvC navət- "stop"

The LVLVP pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as LVLVh/hP. The L initial system has one term, p, the L initial system of the second syllable has two terms, t and t and the P system has two terms, k and t. There is a contrast of systems, L-P in the pattern and the contrast of terms is as follows: p-t-k and p-t-t.
e.g. \[LPVLtV\]hPkt \[valak\] - "refrain from"
\[LPVLtVbPkt\] \[varad\] - "mistake"

The contrast of \(V\) systems is \(\alpha-\varepsilon\) and of syllable prosodies is \(w-\varepsilon\).

\[VCVC\]
\[Ca\v Ce\v C\] \[valak\] - "refrain from"
\[Ca\v Ce\v C\] \[varad\] - "mistake"

The \(VCVC\) structure:

This structure has the following patterns:

\[VPVP\] \[VSVM\] \[VLVP\]
\[VLVP\] \[\_\_\_\_\]

Length prosody of all patterns of this structure is short.

The \(VPVP\) pattern:

The pattern is limited to one stem where the \(P\) initial and final systems of the second syllable are described in relation to \(h\) and \(h\) prosodies respectively. Thus, the pattern can be given as \(VPVP\). The \(P\) initial and final systems of the second syllable have \(p\) and \(t\) terms respectively. There is no contrast of systems in the pattern but there is a contrast of terms: \(p-t\).

\[VhPbVbPkt\] \[upad\] - "be born"

The contrast of \(V\) systems is \(l-\varepsilon\) and of syllable prosodies is \(w-\varepsilon\).

\[wCe\v C\] \[upad\] - "be born"

The \(VSVM\) pattern:

The pattern is limited to one stem where the \(S\) system and the \(M\) system have terms \(\varepsilon\) and \(t\) respectively. There is a contrast of systems, \(S-M\) in the pattern and the contrast of terms is \(\varepsilon-t\).

\[VS2VMt\] \[whid\] - "pick"

The contrast of \(V\) systems is \(\alpha-t\). They function in \(y\) prosodic syllables.
e.g. $\alpha\nu\mathrm{CtvC}$ ehid-"pick"

The VLVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. The L system and the P system have the terms p and t respectively. There is a contrast of systems, L-P in the pattern and the contrast of terms is as follows: p-t.

e.g. $\mathrm{VLpVbP}_t$ evid-"walk"

The contrast of V systems is $\alpha$-t and syllables are y prosodic.

e.g. $\alpha\nu\mathrm{CtvC}$ evid-"walk"

In the disyllabic stems of conjug.2 the prosodic relationship is as follows: the second syllable is $\alpha$ prosodic when the initial syllable is w prosodic and the second syllable is y prosodic when the initial syllable is y prosodic. Thus, the possible prosodic structures can be given as follows:

$$w - \alpha -$$
$$y - y -$$

3.3.1.3 **Stems of conjug. 3**

Conjug. 3 has only monosyllabic stems. These have two structures $^5$, CV and V.

The CV structure:

This structure has four patterns, PV, NV, SV and LV.

The PV pattern:

The P system is described in relation to h and $h$ prosodies. Thus, the pattern can be given as $h/hPV$. The P system has three terms, p, t and k.

---

$^5$ de-, bo-, ve-, re-, ja- and e- are treated as irregular stems.
The V system may be ε or α. ε functions in y and w prosodic stems and α functions in w prosodic stems. Length prosody may be short or long when V is α but otherwise is short.

The NV pattern:
The pattern is limited to one stem where the N system has the term t.

e.g. Ntv na:- "bathe"
The V system is α and the stem is w prosodic. Length prosody is long.

e.g. Caw na:- "bathe"

The SV pattern:
The pattern is limited to one stem where the S system has the term ʔ.

e.g. Sʔv ha:- "plough"
The V system is α and the stem is w prosodic. Length prosody is long.

e.g. Caw ha:- "plough"

The LV pattern:
The L system has four terms, p, t, t, and č.

e.g. LpV ve- "happen"
Ltv la- "eat"
LtʰV re- "evacuate the bowels"
LčV ja- "go"
The V system may be ε or α. ε functions in y prosodic stems and α functions in w prosodic stems. Length prosody is short.

e.g. Cεv ve- "happen"
    Caw ja- "go"

The V structure:

This structure is limited to one stem where V is ε and the stem is y prosodic. Length prosody is short.

e.g. εy e- "come"

3.3.1.4 Stems of conjug. 4

Conjug.4 has only monosyllabic stems. They have two structures, CVC and VC. The CVC structure is limited to two stems in which the final C harmonizes with the initial C of the following suffix. For example, when suffix C system is N with the term t the stem final C is Nt and when the following C is P with the term t it is Pt.

e.g. BPtVNt-Nt dannava "know"
    BPtVNt-V dna "having known"
    BfkVNt-Nt gannava "take"
    BfkVNt-V gana "having taking"
    BfkVNF-PNp gannu "let us take"
    BfkVhPt-hPt gattot "if...take"

When these stems are followed by a suffix beginning with a V the final C is N with the term t as they are in the given examples.

(It may be noted that dan- occurs only in non-past general and perfective forms).

The V system is α and the stems are w prosodic. Length prosody is short.

e.g. CaαC dannava "know"
    CaαC gannava "take"

The VC structure:

This structure is limited to one stem where the
stem final C harmonizes with the initial C of the following suffix. Thus, when the initial C system of the suffix is Nt, the stem final C is Nt and when the suffix initial C is Np the stem final C is Np. However, when it occurs before the conjug. marker which is a vowel it is Nt.

e.g. VNt-V idola "has/have stayed"
VNp-Np immu "let us stay"

e.g. VNt-Nt innava "stay"
The V system is \( t \) and the stem is \( y \) prosodic. Length prosody is short.
e.g. \( t \)VC innava "live"

3.3.1.5 Summary of the structures

According to the analysis given above conjug. 1 and 2 have monosyllabic and disyllabic stems and conjug. 3 and 4 have only monosyllabic stems. Monosyllabic stems of conjug. 1 have four structures, CVC, CVCC, VC and VCC. Monosyllabic stems of conjug. 2 and 4 have two structures, CVC and VC. Monosyllabic stems of conjug. 3 have two structures, CV and V. Disyllabic stems of conjug. 1 have four structures, CVCVC, CVCVCC, VCVC and VCVCC and disyllabic stems of conjug. 2 have two structures, CVCVC and VCVC. These structures are given along with the number of patterns they have in the tables that follow.

<table>
<thead>
<tr>
<th></th>
<th>Conjug. 1</th>
<th>Conjug. 2</th>
<th>Conjug. 3</th>
<th>Conjug. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVC</td>
<td>18</td>
<td>13</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>CVCC</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VC</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>VCC</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CV</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>V</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2. Monosyllabic structures
It is important to note that only conjug.1 has consonant clusters and only conjug.3 has V final stems.

3.3.1.6 There is another point to be mentioned here. According to the above analysis, on the one hand, complex structures have few patterns and simple structures have many patterns and, on the other hand, complex patterns have few stems and simple patterns have many stems.

The prosodic structures of disyllabic stems of conjug.1 and 2 are given in table 2.
3.3.2. Invol. stems

It is not necessary to analyze invol. stems here as the difference between vol. and invol. can be described in terms of prosodies. The relationship between vol. and invol. stems is discussed in Chapter 6.

In conclusion, paradigmatic and syntagmatic contrasts and functions of prosodies and C and V units of verb stems have been discussed in this chapter. Verb stems were divided according to the four conjugation classes, followed by the structures of each conjugation class. The patterns of each structure were described in order to show the contrasts and functions of elements within each pattern. The prosodic relationships between the first and the second syllables of disyllabic stem structures was also demonstrated. Finally, the structures and number of patterns of each conjugation class were given in tables showing that the conjug. classes have different phonological characteristics.
CHAPTER 4

4.0 PHRASAL VERB STEMS

4.1 This chapter deals with phrasal verb stems. Phrasal verbs are a group of special verbs of which the phonological structure is different from that of others. Even though phrasal verbs are frequent in colloquial Sinhalese, to date to the writer’s knowledge they have not been subjected to a phonological analysis.

4.2 Gair (1970) describes phrasal verbs as follows: "A phrasal verb is a composite form with a verb as final element and privileges of occurrence like those of a single stem verb" (Gair, 1970: 46).

According to him, a phrasal verb may include a stem plus a simple verb where the simple verb may be one of kara^n^va, ven^va or gann^va.\(^1\) The first element could be one of the following:

1) Noun stem

   e.g. sellagkeran^va "play"
   "game" "do"
   kata:karen^va "talk"
   "talk" "do"

2) An adjective

   e.g. narakvenavva "spoil"
   "bad" "happen"
   podivenavva "make small or destroy"
   "small" "happen"

\(^1\) However, jan^va, kan^va, dam^na^va, gahana^va, badin^va, kij^va and ga:n^va also occur in phrasal verbs given here.
3) A morpheme which does not occur outside such combinations (non-free morpheme).

e.g. patangann̄ava "begin"
ahukarēn̄ava "entrap"

Wickramasinghe (1972), who puts the phrasal verbs given by Gair into one group, recognises another group. She says: "We may observe that some stems are lexically complex. A distinction between compound and conjunct verbs is been made here so as to relate the V+V sequences to the former and the N+V and Adj+V to the latter" (1972:46). According to Wickramasinghe, the phrasal verbs given by Gair are conjunct verbs. However, when the new group given by Wickramasinghe is added to Gair’s group, the phrasal verb may be described as follows:

1. Conjunct verbs
   a) Noun+verb
   b) Adj.+verb
   c) Non-free-morpheme+verb

2. Compound verbs

   Verb+verb

   As stated above, composite forms that consist of two verbal sequences are treated as compound verbs. The final element of compound verbs is usually a form of damōn̄ava or gann̄ava.

   e.g. taṭṭa parōn̄age: kaḍ̄ela dāmma
        father old house destroyed
        "Father destroyed the old house"

   eja: bat uja: gatta
        he rice cooked
        "He cooked rice"

   However, damōn̄ava is restricted in occurrence to some particular verbs and gann̄ava occurs with certain others. I am not going into detail about this as it is not relevant to my
analysis. The first element of compound verbs is a non-past perfective form.

4.2.1 According to the above discussion, Gair does not deal with compound verbs on the one hand and on the other hand Wickramasinghe does not deal with the third group of phrasal verb, the non-free-morpheme+verb given by Gair. According to my data, however, the conjunct verb can be divided into five groups as follows:

1) Noun stem+verb
2) Adj. stem+verb
3) Non-free-morpheme+verb
4) Loan stem+verb

and 5) Onomatopoeic stem+verb

The compound verb is covered by the definition given by Wickamasinghe.

4.2.2 A phonological analysis of compound verbs is not given here as all stems of simple verbs have been analyzed in chapter 3: all stems involved in compound verbs are simple.

In conjunct verbs, native nominal and adjectival stems as well as loan stems that occur in nouns and adjectives are also not analyzed as they have already been analyzed by Woodhouse (1864-1886), Coomaraswamy (1923), Silva (1961), Kekulawala (1964) and Hettiaratchi (1965). However, the following groups of conjunct verbs are analyzed here as a phonological analysis of those stems has not yet been given in any other thesis:

1) Non-free morphemes
2) Loan stems which do not occur outside conjunct verbs and
3) Onomatopoeic stems

\[2\] In the analysis, these are underlined.
4.3 Non-free morpheme

4.3.1 Syllable structure

Stems may be monosyllabic, disyllabic trisyllabic, quadrisyllabic or penta-syllabic. They may be C or V initial and C or V or final.

4.3.1.1 Monosyllabic stems

C initial and V final

C\(\bar{V}\) : bo:ve- "drink"
C\(\bar{V}\) : ja:ve- "join"

C initial and C final

CVC : ratve- "warm"
CVC : raskar- "collect"

V initial and V final

V : aiva\(\bar{d}\)- "support"

4.3.1.2 Disyllabic stems

C initial and V final

CVCV : pahuve- "go after"
CVCCV : hambave- "meet"

C initial and C final

CVCVC : patangan- "begin"
CVCCVC : vattankar- "uphold"

V initial and V final

VCV : ahuve- "capture"
VCV : usigan- "make dogs go"

V initial and C final

VCVC : arakgan- "save"
VCVC : ulukve- "sprain"
4.3.1.3  **Trisyllabic stems**

C initial and V final

CVCVCV  **pahuruga:**  "scratch"

4.3.1.4  **Quadrисyllabic stems**

V initial and V final

VCVCVCV  **atupatuga:**  "sweep"

4.3.1.5  **Pentasyllabic stems**

V initial and C final

VCVCVCVCVC  **aturudahanve:**  "disappear"

4.3.2  **Monosyllabic stems**

Monosyllabic stems have three structures, CV, CVC and V.

The CV structure:

This structure has the following patterns: PV, SV and LV.

The PV pattern:

The P system is described in relation to h and b prosodies. Thus, the pattern can be given as $h/bP$. The P system has two terms, p and k.

- e.g. $hPpV$  **pa:ve-**  "float"  
- $bPpV$  **bo:ve-**  "breed"  
- $hPkV$  **ka:ga:---**  "shout"  
- $bPkV$  **ga:ve-**  "touch"  

The V systems may be t, e or a. t and e function in w prosodic stems and a functions in w and y prosodic stems. Length prosody is long.

- e.g. $Clw$  **bu:ga:**  "shave"  
- $Cew$  **bo:ve-**  "breed"
The SV pattern:

The S system has one term ʔ.

Caw p a : "float"

The system may be ε or a and they function in й and w prosodic stems respectively. Length prosody is long.

Caw p a : "float"

The LV pattern:

The pattern is limited to one stem where the L system has the term ʔ.

Caw p a : "float"

The V system is a and the stem is w prosodic. Length prosody is long.

Caw p a : "float"

The CVC structure:

The CVC structure has the following patterns: SVN, LVP, LVS and LVN.
The LVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as LVhP. The L system has the term t and the P system has the term t. There is a contrast of systems, L-P in the pattern and the contrast of terms is t-t.

e.g. \( L_t V h P_t \)  
ratve- "warm"

The V system is a and the stem is w prosodic. Length prosody is short.

e.g. \( C a^w C \)  
ratve- "warm"

The LVS pattern:

The pattern is limited to one stem where the L system has the term t and the S system has the term t. There is a contrast of systems, L-S in the pattern and the contrast of terms is t-t.

e.g. \( L_t V S_t \)  
raskar- "collect"

The V system is a and the stem is y prosodic. Length prosody is short.

e.g. \( C a^v C \)  
raskar- "collect"

The LVN pattern:

The L system has two terms, p and t and the N system has one term, k. There is a contrast of systems, L-N in the pattern and the contrast of terms is as follows: p-k and t-k.

e.g. \( L_p V N_k \)  
vegve- "separate"

\( L_t V N_k \)  
lane- "come close"

The V systems may be e or a and they function in y and w prosodic stems respectively. Length prosody is short.

e.g. \( C e^v C \)  
vegve- "separate"

\( C a^v C \)  
lane- "come close"

The V structure:

The V structure is limited to one stem where the V is a and the stem is w prosodic. Length prosody is short.
4.3.3 Disyllabic stems

Disyllabic stems have the following structures: CVCV, CVCVC, CVCCVC, CVCCVC, VCV, VCCV and VCCVC.

The CVCV structure:

This structure has the following patterns:

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVPV</td>
<td>patabād- &quot;conferring a title&quot;</td>
</tr>
<tr>
<td>PVSV</td>
<td>pudija- &quot;sleep&quot;</td>
</tr>
<tr>
<td>PVLV</td>
<td>tudude- &quot;cause&quot;</td>
</tr>
<tr>
<td>SVNV</td>
<td>kakija- &quot;ache&quot;</td>
</tr>
</tbody>
</table>

The PVPV pattern:

The P systems are described in relation to h and h prosodies. Thus, the pattern can be given as h/hPVPVh/hPVPV. The P initial system has three terms, p, t and k and the P initial system of the second syllable has three terms, t, t and k. There is no contrast of systems in the pattern but there is a contrast of terms as follows: p-t, p-t and t-t.

<table>
<thead>
<tr>
<th>Example</th>
<th>Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>patabād-</td>
<td>hPVPVhPVPV</td>
</tr>
<tr>
<td>pudija-</td>
<td>hPVPVhPVPV</td>
</tr>
<tr>
<td>tudude-</td>
<td>hPVPVhPVPV</td>
</tr>
<tr>
<td>kakija-</td>
<td>hPVPVhPVPV</td>
</tr>
</tbody>
</table>

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>Prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>α-L</td>
<td>w-y</td>
</tr>
<tr>
<td>α-ε</td>
<td>w-w</td>
</tr>
<tr>
<td>L-Ł</td>
<td>w-ε</td>
</tr>
</tbody>
</table>

Length prosody is short.

<table>
<thead>
<tr>
<th>Example</th>
<th>Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>pudija-</td>
<td>ClwClV</td>
</tr>
<tr>
<td>tudude-</td>
<td>ClwClV</td>
</tr>
<tr>
<td>patabād-</td>
<td>CaωCε-</td>
</tr>
<tr>
<td>kakija-</td>
<td>CaωClV</td>
</tr>
</tbody>
</table>

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The PVSV pattern:

The P system is described in relation to h and $h$ prosody. Thus, the pattern can be given as $h$PVSV. The P system has two terms, $p$ and $t$ and the S system has two terms, $t$ and $\bar{t}$. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: $p-\bar{t}$, $p-t$ and $t-\bar{t}$.

e.g. $hP_{p}VS_{v}^{2}$V $pahukar-$ "over take"
$hP_{p}VS_{v}^{2}$V $pasaikar-$ "pass through"
$bP_{t}VS_{v}^{2}$V $bihive-$ "be born"
$bP_{t}VS_{v}^{2}$V $dahagan-$ "grab"

The contrast of the V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>$l-\bar{l}$</td>
<td>$y-y$</td>
</tr>
<tr>
<td>$a-l$</td>
<td>$w-w$</td>
</tr>
<tr>
<td>$a-a$</td>
<td></td>
</tr>
</tbody>
</table>

Length Prosody may be short or long when V is $a$, otherwise it is short.

e.g. $Ct_{v}Ct_{v}$ $bihive-$ "be born"
$Ca_{v}Ct_{v}$ $pahukar-$ "over take"
$Ca_{v}Ca_{v}$ $dahagan-$ "grab"
$Ca_{v}Ca_{v}$ $pasaikar-$ "pass through"

The PVLV pattern:

The P system is described in relation to $h$ prosody. Thus, the pattern can be given as $h$PVLV. The P system has one term, $p$ and the L system has two terms $t$ and $\bar{t}$. There is a contrast of systems, P-L in the pattern and the contrast of terms is as follows: $p-t$ and $p-\bar{t}$.

e.g. $hP_{p}VL_{t}^{v}V$ $balija-$ "cry loudly"
$hP_{p}VL_{t}^{v}V$ $barugah-$ "break into parts"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>$a-t$</td>
<td>$w-y$</td>
</tr>
<tr>
<td>$w-w$</td>
<td></td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. $Ca_{v}Ct_{v}$ $balija-$ "cry loudly"
The NVPV pattern:

The P system is described in relation to prosody. Thus, the pattern can be given as NVbPV. The N system has two terms, p and t and the P system has one term t. There is a contrast of systems, N-P in the pattern and the only contrast of terms is p-t.

e.g. $N_p V h P_t V$ mo:duve- "spring up"
$N_t V h P_t V$ nidi:ja- "sleep"

The contrast of the V systems and syllable prosodies is as follows: V systems prosodies

\[
\begin{array}{cc}
\epsilon-t & w-w \\
\ell-t & y-y
\end{array}
\]

Length prosody of the initial syllable is long when V is $\epsilon$ and otherwise it is short.

e.g. $C_{t} V C_{t} v$ nidi:ja- "sleep"
$C_{\epsilon}\epsilon C_{t} w$ mo:duve- "spring up"

The NVSV pattern:

The pattern is limited to one stem where the N system has the term p and the S system has the term $\gamma$. There is a contrast of systems, N-S in the pattern and the contrast of terms is p-$\gamma$.

e.g. $N_p V S_{\gamma} V$ mahuve- "mix"

The V systems are $\ell$ and the syllables are w prosodic. Length prosody is short.

e.g. $C_{t} C_{t} w$ mahuve- "mix"

The NVLV pattern:

Both systems of the pattern have two terms, p and t. There is a contrast of systems, N-L in the pattern and the contrast of terms is as follows: p-t.

e.g. $N_p V L_{p} V$ muvave- "be screened"
$N_p V L_{t} V$ melive- "laze"
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-λ</td>
<td>y-γ</td>
</tr>
<tr>
<td>l-α</td>
<td>w-γ</td>
</tr>
<tr>
<td></td>
<td>w-w</td>
</tr>
</tbody>
</table>

Length prosody may be short or long when V is α, otherwise it is short.

- e.g. Ca^CVCAw "laze"  
- e.g. CawCtv "be screened"  
- e.g. Ca^CVtv "wiggle"

**The SVNV pattern:**

The pattern is limited to one stem where the S system has the term t and the N system has the term p. There is a contrast of systems, S-N in the pattern and the contrast of terms is t-p.

- e.g. StVNpV "bye"

The contrast of V systems is α-λ. The syllables are w prosodic and length prosody is short.

- e.g. Ca^CVw "bye"

**The SVLV pattern:**

The pattern is limited to one stem where the S system has the term t and the L system has the term t. There is a contrast of systems, S-L in the pattern and the contrast of terms is t-t.

- e.g. StVLtV "walk around"

The contrast of V systems is α-λ. The syllables are y prosodic and length prosody is short.

- e.g. Ca^CVtV "walk around"

**The LVPV pattern:**

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the
pattern can be given as LVhPV. Both systems of the pattern have the term t. There is a contrast of systems, L-P in the pattern but there is no contrast of terms.

  e.g. LtVhPtV  latape- "worry"

The contrast of V systems is α-ε and of syllable prosodies is w-ə.

  e.g. CaVeCe  latape- "worry"

The CVCVC structure:

This structure has the following patterns:

<table>
<thead>
<tr>
<th>Pattern</th>
<th>PVPVP</th>
<th>PVPVN</th>
<th>PVLVP</th>
<th>PVLVN</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLVLP</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SVLNV</td>
<td></td>
<td>SVPVS</td>
<td>SVLVL</td>
</tr>
<tr>
<td></td>
<td>LVSNL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The PVPVP pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as hPVhPVhP. The P initial system has the term p and the P initial and final systems of the second syllable have the terms t and t respectively. There is no contrast of systems in the pattern but there is a contrast of terms as follows: p-τ-t.

  e.g. hPpVhPtVhP  pitatve- "depart"

The contrast of V systems is i-a and of syllable prosodies is y-w. Length prosody is short.

  e.g. CτCαVeC  pitatve- "depart"

The PVPVN pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as hPVhPVN. The P initial system has the
term $p$ and the $P$ initial and $N$ final systems of the second syllable have the terms $t$ and $k$ respectively. There is a contrast of systems, $P-N$ in the pattern and the contrast of terms is $p-t-k$.

\[ \text{e.g. } \hat{h}P_{P}V_{P}P_{N}V_{N} \rightarrow \text{patangan-} \quad \text{"begin"} \]

The $V$ systems are $\alpha$ and the syllables are $w$ prosodic. Length prosody is short.

\[ \text{e.g. } C_{P}wC_{P}wC \rightarrow \text{patangan-} \quad \text{"begin"} \]

The $PVLVP$ pattern:

The pattern is limited to one stem where the $P$ initial system of the initial syllable and the $P$ final system of the second syllable are described in relation to $h$ and $h$ prosodies respectively. Thus the pattern can be given as $hPVLhP$. The $P$ initial system has the term $t$, the $N$ initial and the $P$ final systems of the second syllable have the terms $\check{c}$ and $\check{t}$ respectively. There is a contrast of systems, $P-L-P$ in the pattern and the contrast of terms is $t-\check{c}-t$.

\[ \text{e.g. } \hat{b}P_{P}V_{L}\check{c}V_{P}P_{T} \rightarrow \text{dijatve-} \quad \text{"launch"} \]

The contrast of $V$ systems is $\epsilon-\alpha$ and of syllable prosodies is $y-w$. Length prosody is short.

\[ \text{e.g. } C_{I}yC_{T}wC \rightarrow \text{dijatve-} \quad \text{"launch"} \]

The $PVLVN$ pattern:

The $P$ system is described in relation to $h$ and $h$ prosodies. Thus, the pattern can be given as $h/PVLVhN$. The $P$ system has two terms $p$ and $\check{c}$, the $L$ system has two terms, $p$ and $t$ and the $N$ system has one term $k$. There is a contrast of systems, $P-L-N$ in the pattern and the contrast of terms is as follows: $p-\check{t}-k$ and $\check{c}-p-k$.

\[ \text{e.g. } \hat{h}P_{P}V_{L}\check{t}V_{N}k \rightarrow \text{peranga-} \quad \text{"scrape off"} \]

\[ \hat{b}P_{P}XV_{L}P_{N}k \rightarrow \text{ji:vangkar-} \quad \text{"vitalize..by charms"} \]

The contrast of $V$ systems and syllable prosodies is as follows:

\begin{tabular}{ll}
$V$ systems & prosodies \\
$\epsilon-\alpha$ & $y-w$
\end{tabular}


The NVLVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as NVLVP. The N system has the term t and the L and P systems have the terms t and k respectively. There is a contrast of systems, N-L-P in the pattern and the contrast of terms is t-t-k.

The V systems are e and the syllables are w prosodic. Length prosody is short.
e.g. C\textsubscript{t}vCa\textsubscript{w}C norokve- "confront"

The SVPVS pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as SVhPVS. The S initial system has the term t and the P system and the S final system of the second syllable have the terms k and t respectively. There is a contrast of systems, S-P-S in the pattern and the contrast of terms is t-k-t.
e.g. StV\textsubscript{h}P\textsubscript{k}VSt sakaskar- "adjust"

The V systems are a and the syllables are w prosodic. Length prosody is short.
e.g. C\textsubscript{a}wCa\textsubscript{w}C sakaskar- "adjust"

The SVLVM pattern:

The pattern is limited to one stem where the S system has the term t and the L and N systems have terms p and k respectively. There is a contrast of systems, S-L-N in the pattern and the contrast of terms is as follows: t-p-k.
The contrast of V systems is e-a. The syllables are w prosodic and length prosody is long.

\[ \text{e.g. } \text{StVLpVNk} \quad \text{so : va : \text{i}gve} - \quad \text{"attain to Sovan"} \]

The contrast of V systems is v-a and of syllable prosodies is y-w. Length prosody is short.

\[ \text{e.g. } \text{C\v{e}wC\v{e}wC} \quad \text{so : va : \text{i}gve} - \quad \text{"attain to Sovan"} \]

The SVLVL pattern:

The pattern is limited to one stem where the S system has the term 2 and the L initial and L final systems of the second syllable have the terms t and p respectively. There is a contrast of systems, S-L in the pattern and the contrast of terms is 2-t-p.

\[ \text{e.g. } \text{SpVlVeVlK} \quad \text{hilavk\v{e}r} - \quad \text{"recoup"} \]

The contrast of V systems is v-a and of syllable prosodies is y-w. Length prosody is short.

\[ \text{e.g. } \text{ClwCa\v{e}C} \quad \text{hilavk\v{e}r} - \quad \text{"recoup"} \]

The LVSVN pattern:

The pattern is limited to one stem where the L system has the term p and the S and N systems have the terms t and k respectively. There is a contrast of systems, L-S-N in the pattern and the contrast of terms is p-t-k.

\[ \text{e.g. } \text{LvVS\v{c}VNk} \quad \text{vasang\v{c}er} - \quad \text{"hide"} \]

The V systems are a and the syllables are w prosodic. Length prosody is short.

\[ \text{e.g. } \text{Ca\v{e}wCa\v{e}C} \quad \text{vasang\v{c}er} - \quad \text{"hide"} \]

The CVCCVC structure:

This structure has the following patterns:

PVNNVN \quad LVPPVN \quad LVLNVP

The PVNNVN pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as hPVNNVN. The P system has the term p, the N final system of the initial syllable and the N initial
system of the second syllable have the term t and the N final system of the second syllable has the term k. There is a contrast of systems, P-N in the pattern and the contrast of terms is p-t-k.

\[ ^hPpVNtVNk \quad \text{pennuŋkər-} \quad \text{“show”} \]

The contrast of V systems is ɛ-t and of syllable prosodies is y-w. Length prosody is short.

\[ ^CɛyCCl\text{w}C \quad \text{pennuŋkər-} \quad \text{“show”} \]

The LVPPVN pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as LV\(^h\)PPVN. The L system has the term p, the P final system of the initial syllable and the P initial system of the second syllable have the term t and the N system has the term k. There is a contrast of systems, L-P-N in the pattern and the contrast of terms is p-t-k.

\[ ^LpVhPPtVNk \quad \text{vattagkər-} \quad \text{“uphold”} \]

The V systems are ɛ and the syllables are w prosodic. Length prosody is short.

\[ ^CawCCCa\text{w}C \quad \text{vattagkər-} \quad \text{“uphold”} \]

The LVLNVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as LVLN\(^h\)P. The L initial and L final systems of the first syllable have the terms p and t respectively and the N and P systems have the terms p and t respectively. There is a contrast of systems, L-N-P in the pattern and the contrast of terms is p-t-p-t.

\[ ^LpVL\text{e}NpVhPt \quad \text{valmat\text{ve}-} \quad \text{“lose the way”} \]

The V systems are ɛ and the syllables are w prosodic. Length prosody is short.

\[ ^CawCCCa\text{w}C \quad \text{valmat\text{ve}-} \quad \text{“lose the way”} \]
The CVCCV structure:

This structure is limited to one stem where the pattern is SVNPV. The P system is described in relation to h prosody. Thus, the pattern can be given as SVNpPV. The S system has the term \( \gamma \) and the N system and the P system have the term \( p \). There is a contrast of systems, S-N-P in the pattern and the contrast of terms is as follows: \( \gamma-p \).

\[ S \gamma N^p P^V \]

The contrast of V systems is \( \alpha-\varepsilon \) and of syllable prosodies is \( w-\omega \). Length prosody is short.

\[ CawCC\varepsilon hambave- \]

The VCVC structure:

This structure has the following patterns: VPVN and VLVP.

The VPVN pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VbPN. The P system has the term \( t \) and the N system has the term \( k \). There is a contrast of systems, P-N in the pattern and the contrast of terms is \( t-k \).

\[ VbP^t VN^k \]

The contrast of the V systems is \( t-\alpha \). The syllables are w prosodic and length is short.

\[ ClwCawC udugan- \]

The VLVP pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VLVP. The L system has the term \( t \) and the P system has the term \( k \). There is a contrast of systems, L-P in the pattern and the contrast of terms is \( t-k \).

\[ VLtV^P \]

The V systems are \( t \) and the syllables are w prosodic. Length
prosody is short.
e.g. $\text{l}^\text{w}\text{ClwC}$ ulukve- "sprain"

The VCV structure:

This structure is limited to one stem where the pattern is VSV. The S system has two terms, t and $?$. 

e.g. VS$^t$V usigan- "make dogs go"

VS$^t$V ahuve- "capture"

The contrast of the V systems and syllable prosodies is as follows: 

V systems prosodies

$\text{t} - \text{t}$ $\text{w} - \text{y}$

$\alpha - \text{t}$ $\text{w} - \text{w}$

Length prosody is short.
e.g. $\text{u}^\text{w}\text{Clv}$ usigan- "make dogs go"

$\alpha^\text{w}\text{Clv}$ ahuve- "capture"

The VCCVC structure:

This structure is limited to one stem where the pattern is VNPVN. The P system is described in relation to $\perp$ prosody. Thus, the pattern can be given as VNPPN. The N final system of the initial syllable and the P system have the term p and the N final system of the second syllable has the term k. There is a contrast of systems, N-P-N in the pattern and the contrast of terms is as follows: $\text{p} - \text{k}$.

e.g. VNP$\text{p}$VNk a:mbankər- "subdue"

The V systems are $\alpha$ and the syllables are $\perp$ prosodic. Length prosody of the initial syllable is long and that of the second syllable is short.
e.g. $\text{a}^\perp\text{CCa}^\perp\text{C}$ a:mbankər- "subdue"

4.3.4 Trisyllabic stems

Trisyllabic stems have the following structures: CVCVCC, CVCVCC, CVCCVCC, CVCCVCC, CVCCVCCV, CVCCVCCV, VCCVCCV, VCCVCCV, VCCVCCV and VCCVCCV.
The CVCVCV structure:

This structure has the following patterns:

<table>
<thead>
<tr>
<th>PVPVLV</th>
<th>NVPVLV</th>
<th>PVLVLV</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVPVLV</td>
<td>-</td>
<td>-</td>
<td>NVNVSV</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>SVLVLV</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>LVMVLV</td>
<td>-</td>
</tr>
</tbody>
</table>

The PVPVLV pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as \( ^{n}P^{h}PV^{h}P^{h}VLV \). The P initial systems of the first and second syllables have the terms \( p \) and \( t \) respectively and the L system has the term \( t \). There is a contrast of systems, P-L in the pattern and the contrast of terms is \( p-t \).

e.g. \( ^{n}P^{h}PV^{h}P^{h}VLV \)  \( \text{pita:reja-} \)  "over flow"
The contrast of V systems is \( L-a-e \) and of syllable prosodies is \( y-w-y \). Length of the second syllable is long and that of the other syllables is short.

e.g. \( ^{n}C^{h}C^{h}a^{h}C^{h}e^{h}a \)  \( \text{pita:reja-} \)  "over flow"

The PVNVLV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as \( ^{n}PV^{h}VN^{h}VLV \). The P system has the term \( k \) and the N system and the L system have the terms \( p \) and \( t \) respectively. There is a contrast of systems, P-N-L in the pattern and the contrast of terms is \( k-p-t \).

e.g. \( ^{n}P^{h}VN^{h}VLV \)  \( \text{km:morede-} \)  "shout"
The contrast of V systems is \( a-e \) and of prosodies is \( y-w-a \). Length prosody of the initial syllable is long and that of the other syllables is short.

e.g. \( ^{n}C^{h}a^{h}C^{h}e^{h}w^{h}C^{h}e^{h}a \)  \( \text{km:morede-} \)  "shout"
The PVLVLV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as $hPVLVLV$. The P system has the term $p$, the L initial system of the second has the term $t$ and the L initial system of the third syllable has the term $t$. There is a contrast of systems, $P-L$ in the pattern and the contrast of terms is $p-t-t$.

*e.g.* $hPVLtVLtV$ *paralave-* "become subject to a trance by a charm"

The contrast of V systems is $\alpha\epsilon$ and of syllable prosodies is $\text{w-a}$. Length prosody is short.

*e.g.* $Ca^{\omega}Ce^aCe^\alpha$ *paralave-* "become subject to a trance by a charm"

The NVPVLV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as $NVhPVLV$. The N system has the term $p$, the P system has the term $t$ and the L system has the term $t$. There is a contrast of systems, $N-P-L$ in the pattern and the contrast of terms is $t-t$.

*e.g.* $NtV^hPtVLtV$ *natarav-* "stop"

The contrast of V systems is $\alpha\epsilon$ and of syllable prosodies is $\text{w-a}$. Length prosody is short.

*e.g.* $Ca^{\omega}Ca^{\omega}Ce^\alpha$ *natarav-* "stop"

The NVNVSV pattern:

The pattern is limited to one stem where the N initial system has the term $p$, the N initial system of the second syllable has the term $t$ and the S system has the term $\varphi$. There is a contrast of systems, $N-S$ in the pattern and the contrast of terms is $p-t-\varphi$.

*e.g.* $NpVNtVS\varphi V$ *menahiko-* "muse"

The contrast of V systems is $e-l$. The syllables are y prosodic and length prosody is short.
The SVLVLV pattern:

The pattern is limited to one stem where the S system has the term ʃ, the L initial systems of the second and third syllables have the terms p and t respectively. There is a contrast of systems, S-L in the pattern and the contrast of terms is ʃ-p-t.

e.g. S₂VLpVLtV hevilikær- “cover a roof”

The contrast of V systems is ζ-Ł. The syllables are y prosodic and length is short.

e.g. CeyCeyCly hevilikær- “cover a roof”

The LVMVPV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as follows: LVMVhPV. The L system has the term ʃ, the M system has the term p and the P system has the term t. There is a contrast of systems, L-M-P in the pattern and the contrast of terms is ʃ-p-t.

e.g. L₇VMpVhP₇V rebitigæh- “wrinkle”

The contrast of V systems is a-Ł. The syllables are y prosodic and length prosody is short.

e.g. CaₓCtyCly rebitigæh- “wrinkle”

The CVCVCVC structure:

This structure has the following patterns:

<table>
<thead>
<tr>
<th>Pattern</th>
<th>PVPVN</th>
<th>PVLPVP</th>
<th>PVLVSN</th>
<th>SVNVPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVPVSN</td>
<td>SVLPVP</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>SVLPVP</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The PVPVN pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as hPVhPVN. The P initial systems of
the first and the second syllables have the terms `p` and `t` respectively and the N initial and final systems of the third syllable have the terms `p` and `k` respectively. There is a contrast of systems, P-N in the pattern and the contrast of terms is p-t-p-k.

e.g. \( hPpVhP_tVNpVNk \)  \( \text{pítəməŋkər} \)  "expel"
The contrast of V systems is L-e-a and of syllable prosodies is y-ä-w. Length prosody is short.
e.g.  \( C\text{C}e\text{C}a\text{C} \)  \( \text{pítəməŋkər} \)  "expel"

The PVPVSVN pattern:

The P systems are described in relation to h prosody. Thus, the pattern can be given as \( hPVPVhPVSVN \). The P initial systems of the first and second syllables have the terms `p` and `t` respectively and the S and N systems have the terms `t` and `t` respectively. There is a contrast of systems, P-S-N in the pattern and the contrast of terms is p-t-t-k.

e.g. \( hP_PVhP_TVSTVN_t \)  \( \text{patisande} \)  "result"
The contrast of V systems is a-L-a and of syllable prosodies is w-y-w. Length prosody is short.
e.g.  \( C\text{a}\text{C}e\text{C}a\text{C} \)  \( \text{patisande} \)  "result"

The PVLVPVP pattern:

The pattern is limited to one stem where the P initial system is described in relation to h prosody and the P initial and final systems of the third syllable are described in relation to h prosody. Thus, the pattern can be given as \( \text{BPVLVhPVP} \). The P initial system has the term `t` and the P initial and final systems of the third syllable have the terms `p` and `t` respectively. The L system has the term `t`. There is a contrast of systems, P-L-P in the pattern and the contrast of terms is t-t-p-t.

e.g. \( B_P_TVhTVPVP \)  \( \text{dira:patve} \)  "decay"
The contrast of V systems is L-ä and of syllable prosodies is y-w. Length prosody of the second syllable is long and that of
the others is short.
e.g. ClvCawCaCawC  *dira:patve-*  "decay"

The SVNVPVN pattern:
The P system is described in relation to h prosody. Thus, the pattern can be given as SVNVPVN. The S system and the N initial system of the second syllables have the terms t and p respectively, and the P and N systems of the second syllable have the terms t and k respectively. There is a contrast of systems, S-N-P-N in the pattern and the contrast of terms is t-p-t-k.
e.g. StvVNpVnPNk  *sama:danve-*  "observe"
The V system is a and the syllables are w prosodic. Length prosody of the second syllable is long and that of the other syllables is short.
e.g. CawCAwCaCawC  *sama:danve-*  "observe"

The SVSVHPVP pattern:
The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as SVSVhPVhP. The S initial systems of the first and the second syllables have the terms t and p respectively and the P initial and final systems of the third syllable have the terms p and t respectively. There is a contrast of systems, S-P in the pattern and the contrast of terms is t-p-t.
e.g. StvSVpVPVPt  *siihitatve-*  "become conscious"
The contrast of V systems is c-a and of syllable prosodies is y-w. Length prosody is short.
e.g. ClvClvCaCawC  *siihitatve-*  "become conscious"

The SVLPVPV pattern:
The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as SVLVPVPVhP. The S system has the term
t, the L system and the P initial system of the third syllable have the term p, and the P final system of the third syllable has the term t. There is a contrast of systems, S-L-P in the pattern and the contrast of terms is t-p-t.

   e.g. StVLpVhPpVhPt  su vap atve- "recover"
   The contrast of V systems is t-€-a and of syllable prosodies is w-€-w. Length prosody is short.
   e.g. ClwC€CawC  su vap atve- "recover"

The SYSVSVN pattern:

   The pattern is limited to one stem where the S initial systems of the first, second and third syllables have the terms t, t and t respectively and the N system has the term k. There is a contrast of systems, S-N in the pattern and the contrast of terms is p-€-t-k.

   e.g. StVS1VS1VNk  sihisagve- "become conscious"
   The contrast of V systems is t-€-a and of syllable prosodies is y-w. Length prosody is short.
   e.g. ClwC€CawC  sihisagve- "become conscious"

The LVPVPVP pattern:

   The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as LVhPVhPVhP. The L system has the term c, the P initial system of the second syllable has the term t and the P initial and final systems of the third syllable have terms p and t respectively. There is a contrast of systems, L-P in the pattern and the contrast of terms is c-t-p-t.

   e.g. LxVhPpVhPpVhPt  jatapatve- "set aside"
   The contrast of V systems is a-€-a and of syllable prosodies is w-€-w. Length prosody is short.
   e.g. Ca€CeCa€CaC  jatapatve- "set aside"

The CVCCVCV structure:

   This structure is limited to one stem where
the pattern is PVPNVPV. The P initial system is described in relation to h prosody and the P systems of the other syllables are described in relation to h prosody. Thus the pattern can be given as bPV^hPNV^hPV. The P initial systems of the first and the second syllables have the term t, the N system has the term p and the P initial system of the third syllable has the term t. There is a contrast of systems, P-N-P in the pattern and the contrast of terms is t-p-t.

e.g. bPtVhPtNPVhPtV datmitika- "grind the teeth"
The contrast of V systems is a-u and of syllable prosodies is w-y. Length prosody is short.

e.g. Ca^hCCi^vCtCv datmitika- "grind the teeth"
The CVCCVCVC structure:

The structure is limited to one stem where the pattern is SVPPVLVN. The P systems are described in relation to h prosody. Thus, the pattern can be given as SVhPPVLVN. The S system has the term t, the P final system of the first syllable and the P initial system of the second syllable have the term p and the L system and the N system have the terms č and k respectively. There is a contrast of systems, S-P-L-N in the pattern and the contrast of terms is t-p-č-k.

e.g. StVhPPpVLVNk sappàja:ńve- "partake of food"
The V systems are α and the syllables are w prosodic. Length prosody of the second syllable is long and that of the other syllables is short.

e.g. Ca^hCCa^wCa^C sappàja:ńve- "partake of food"
The CVCVCCVC structure:

The structure is limited to one stem where the pattern is NVPVNVP. The P initial system of the second syllable is described in relation to h prosody and the P systems of the third syllable are described in relation to h prosody. Thus, the pattern can be given as NVPV^hPVP^hP. The N
initial system has the term p, the P initial system of the second syllable has the term t, the N final system of the second syllable and the P initial system of the third syllable have the term p and the P final system of the third syllable has the term t. There is a contrast of systems, N-P-N-P in the pattern and the contrast of terms is p-t-p-t.
e.g. NpVhPtvNpVhPtV
mudumpatve- "attain the utmost"
The contrast of V systems is t-a. The syllables are w prosodic and length prosody is short.
e.g. CtwCtwCCawC
mudumpatve- "attain the utmost"

The VCVCV structure:
This structure has the following patterns: VPVPV, VLNVN and VLVLV.

The VPVPV pattern:
The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as VhPVhPV. The P initial systems of the second and the third syllables have the terms p and t respectively. There is no contrast of systems in the pattern but there is a contrast of terms: p-t.
e.g. VhPtvhPtv
apateja- "waste"
The contrast of V systems is a-e and of syllable prosodies is w-α-y. Length prosody is short.
e.g. αwCwCwεw
apateja- "waste"

The VLNVN pattern:
The pattern is limited to one stem where the L system has the term t and the N system has the term t. There is a contrast of systems, L-N in the pattern and the contrast of terms is t-t.
e.g. VLtvNtv
uraneve-
"get angry"
The contrast of V systems is l-ε and of syllable prosodies is w-α. Length prosody is short.
e.g. ʰCeʰCe ˌurənəvə- "get angry"

The VLVLV pattern:
The pattern is limited to one stem where the L initial system of the second syllable has the term ʰp and that of the third syllable has the term ʰt. There is no contrast of systems in the pattern but there is a contrast of terms: ʰp-ʰt.
e.g. ʰVLpVLʰV ˌivəɾəvə- "finish"
The contrast of V systems is ʰ-ʰ and of syllable prosodies is ʰ-ʰ. Length prosody is short.
e.g. ʰCeʰCeʰ ˌivəɾəvə- "finish"

The VCVCCV structure:
The structure is limited to one stem where the pattern is VNVPPV. The P systems are described in relation to h prosody. Thus, the pattern can be given as VNVʰPPV. The N system has the term ʰp and the P final system of the second syllable and the P initial system of the third syllable have the term ʰt. There is a contrast of systems, N-P in the pattern and the contrast of terms is ʰp-ʰt.
e.g. VNʰVʰPPʰV ˌamətəvə- "wrench"
The contrast of V systems is ʰ-ʰ. The syllables are y prosodic and length prosody is short.
e.g. ʰaNʰCəCəCəv ˌamətəvə- "wrench"

The VCCVCV structure:
The structure is limited to one pattern, VPPVSV where the P systems are described in relation to h and h prosodies. Thus, the pattern can be given as VʰbPPVSV. The P final system of the initial syllable and the P initial system of the second syllable have two terms, ʰp and ʰk and the S system of the third syllable has ʰʔ two terms, ʰt and ʰf. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: ʰp-ʰt and ʰk-ʰf.
e.g. VbppVS\textsubscript{1}V  \textit{ebbehive-} "accustom"
VbppVS\textsubscript{1}V  \textit{ekka:skuər-} "collect"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>Prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-a-</td>
<td>y-y-y</td>
</tr>
<tr>
<td>e-e-</td>
<td>y-w-w</td>
</tr>
</tbody>
</table>

Length prosody is long when V is a where the syllable is w prosodic and otherwise it is short.

e.g. eyCCawCtw  \textit{ekka:skuər-} "collect"
eyCCawCtv  \textit{ebbehive-} "accustom"

The VCVCVC structure:

This structure has two patterns, VPVSYS and VPVLVL.

The VPVSYS pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VBVPVSYS. The P system has the term t and the S initial systems of the second and third syllables have the terms \( \text{t} \) and \( \text{t} \) respectively. There is a contrast of systems, P-S in the pattern and the contrast of terms is \( \text{t} \)-\( \text{t} \).  
e.g. VBpTVSTY u\textit{dahasve-} "get angry"

The contrast of V systems is \( \text{t} \)-\( \text{a} \). The syllables are w prosodic and length prosody is short.

e.g. \( wC\text{aw}CwC \) \textit{udahasve-} "get angry"

The VPVLVL pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VBVPVLVL. The P system has the term t and the L initial and final systems of the third syllable have the terms p and t respectively. There is a contrast of systems, P-L in the pattern and the contrast of terms is \( \text{t} \)-p-t.

e.g. VBpTVpVLt \textit{adavalkər-} "close a little"
The contrast of V systems is α-ε-α and of syllable prosodies is ω-ω-ω. Length prosody is short.  

\[
\begin{align*}
\text{e.g. } \quad & \text{Ca}^\text{Ce}^\text{C} \text{Ca}^\text{Ce} \quad \text{acayalkar-} \quad \text{"close a little"} \\
\end{align*}
\]

4.3.5 Quadrisyllabic stems

Quadri-syllabic stems have the following structures, CVCVCVCV, CVCVCVCVC, CVCCVCCVCV, CVCVCVCCVC, VVCVVCV, VCCVCVVCV and VVCVVCVC.

The CVCVCVCV structure:

This structure has two patterns, PVPVPVNV and PVSVLVVLV.

The PVPVPVNV pattern:

The pattern is limited to one stem where the P system of the second syllable is described in relation to h prosody and the P systems of the other syllables are described in relation to h prosody. Thus, the pattern can be given as hPVPVPVhPVNV. The P initial systems of the first, second and third syllables have the terms p, t and k respectively and the N system has the term t. There is a contrast of systems, P-N in the pattern and the contrast of terms is p-t-k-t.  

\[
\begin{align*}
\text{e.g. } & \quad \text{hP}^\text{PVPVPVhPVNV} \quad \text{padakunukar-} \quad \text{"circumambulate"} \\
\end{align*}
\]

The contrast of V systems is α-ε- and of syllable prosodies is ω-ω-ω. Length prosody is short.  

\[
\begin{align*}
\text{e.g. } & \quad \text{Ca}^\text{Ce}^\text{C} \text{Ce}^\text{C} \quad \text{padakunukar-} \quad \text{"circumambulate"} \\
\end{align*}
\]

The PVSVPVPV pattern:

The pattern is limited to one stem where the P system of the third syllable is described in relation to h prosody and those of others are described in relation to h prosody. Thus, the pattern can be given as hPVSVhPVPVhPV. The P initial systems of the first and the second syllables have the term p and the S system and the P initial system of the fourth
syllable have the terms p and t respectively. There is a contrast of systems, P-S-P in the pattern and the contrast of terms is p-t-p-t.

e.g. $^nP_vS_tV_bP_pV_nP_tV$ pasubatave- "discourage"
The contrast of V systems is α-1-α. The syllables are w-α

The contrast of V systems is α-1.

e.g. Ca♥C1wCa♥Cε pasubatave- "discourage"

The PVSVLVLV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. The P system has the term t, the S system has the term ʔ and the L initial systems of the third and fourth syllables have the terms p and t respectively. There is a contrast of systems, P-S-L in the pattern and the contrast of terms is t-ʔ-p-t.

e.g. $^nP_tV_s?V_L_pV_L_tV$ tahavurukar- "confirm"
The contrast of V systems is α-1. The syllables are w prosodic and length prosody is short.

e.g. Ca♥C1wCa♥Cε tahavurukar- "confirm"

The CVCVVCVCVC structure:

The structure is limited to one stem where the pattern is PVPVLPVSL. The P systems are described in relation to h prosody. Thus, the pattern can be given as $^nP_vP_vP_vP_vP_vL_v$. The P initial systems of the initial and second syllables have the terms p and t respectively, the L initial system of the third syllable has the term p and the S system and the L final system of the fourth syllable have the terms ʔ and t respectively. There is a contrast of systems, P-L-S-L in the pattern and the contrast of terms is p-ʔ-p-ʔ-t.

e.g. $^nP_vP_vP_tV_L_pV_S_ʔV_L_t$ pituvahalkar- "expel"
The contrast of V systems is 1-α and of syllable prosodies is y-ω. Length prosody is short.

e.g. Ct¥C1wCa♥CwC pituvahalkar- "expel"
The CVCVCVCCVC structure:

The structure is limited to one stem where the P system of the second syllable is described in relation to h prosody and those of others are described in relation to h prosody. Thus, the pattern can be given as hPbPVPVhPVPVhPNPN. The P initial systems of the first, second and third syllables have the terms k, t and p respectively, the P final system of the third syllable and the P initial system of the fourth syllable have the term t, and the N system has the term k. There is a contrast of systems, P–N in the pattern and the contrast of terms is k–t–p–t–k.

e.g. PVPVPVPVNV kudupattankar- "destroy"
The contrast of V systems is l–a. The syllables are w prosodic and length prosody is short.

e.g. ClwClwCaCCwC kudupattankar- "destroy"

The CVCCVCCVCV structure:

The structure is limited to one stem where the pattern is PVSNVPVPV. The P system of the third syllable is described in relation to h prosody and those of others are described in relation to h prosody. Thus, the pattern can be given as hPVSNVPVPV. The P initial systems of the first and fourth syllables as well as the S system and the N initial system of the second syllable have the term t and the N final system of the second syllable and the P initial system of third syllable have the term p. There is a contrast of systems, P–S–N–P in the pattern and the contrast of terms is t–p–t.

e.g. hPtVSNtVnPVPVhPVPV tusni:mbu:teve- “silence”
The contrast of V systems is l–e and of syllable prosodies is w–y–w–a. Length prosody of the first and the fourth syllables is short and that of the others is long.

e.g. ClwCClwwCCwC tusni:mbu:teve- “silence”
The VCVCVCV structure:

This structure has three patterns, VPVPVPV, VPVPVNV and VPVPVSV.

The VPVPVPV pattern:

The pattern is limited to one stem where the P initial system of the second syllable is described in relation to h prosody and those of others are described in relation to h and h prosodies. Thus, the pattern can be given as VhPVPVhPVPV. The P initial system of the second syllable has the term t, the P initial system of the third syllable has two terms p and t and the P initial system of the fourth syllable has two terms, t and t. There is no contrast of systems in the pattern but there is a contrast of terms: t-p-t and t-t.

Example:
- VhPtVhPpVhPtV: atupatuga- "sweep"
- VhPtVhPtVhPtV: atidemikar- "bring up"

The contrast of V systems is a-t-a- and they function in y and w prosodic syllables. Length prosody is short.

Example:
- awCtwCawCtw: atupatuga- "sweep"
- ayCtwCayCtw: atidemikar- "bring up"

The VPVPVNV pattern:

The pattern is limited to one stem where the P initial systems of the second and third syllables are described in relation to h and h prosodies respectively. Thus, the pattern can be given as VhPVhPVNV. The P initial systems of the second and third syllables have the terms t and p respectively and the N system has the term t. There is a contrast of systems, P-N in the pattern and the contrast of terms is t-p-t.

Example:
- VbPtVhPpVhPtV: adapanave- "stun"

The contrast of V systems is a-e-a-e and of syllable prosodies is w-a-w-a. Length prosody is short.

Example:
- awCtwCawCtw: adapanave- "stun"
VPVPVSV;  

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as VnPVnPVSV. The P initial systems of the second and third syllables have the terms t and p respectively and the S system has the term ʔ. There is a contrast of systems, P-S in the pattern and the contrast of terms is p-t-ʔ.
e.g. VnPtVnPpVSʔV atepahukar- "forget"  
The contrast of V systems is a-€-a- and of syllable prosodies is w-ə-w. Length prosody is short.
e.g. awCeCoCeClw atepahukar- "forget"  
The VCVCVCCVC structure:  
This structure has two patterns, VPVLVNVN and VNVNVVPN.

The VPVLVNVN pattern:  
The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VnPVVLVNVN. The P and L systems have the terms t and t respectively and the N initial and final systems of the third syllable have the terms p and k respectively. There is a contrast of systems, P-L-N in the pattern and the contrast of terms is t-t-p-k.
e.g. VnPtVlTvNPVPNk ataramanye- "lose the way"  
The contrast of V systems is a-€-a and of syllable prosodies is w-ə-w. Length prosody is short.
e.g. awCeCoCeCoCaClw ataramanye- "lose the way"  
The VNVNVVPN pattern:  
The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as VNVNVVPN. The N initial systems of the second and third syllables have the terms t and p respectively and the P system and the N final system of the
fourth syllable have the terms t and k respectively. There is a contrast of systems, N-P-N in the pattern and the contrast of terms is t-p-t-k.

e.g. \( VN_t VN_P VN_t VN_k \) \textit{anumo: danve-} "observe"

The contrast of V systems is \( \alpha-\iota-\epsilon-\alpha \). The syllables are w prosodic and length prosody of the third syllable is long and that of the others is short.

e.g. \( \alpha^w C\epsilon^w C\epsilon^w C\alpha^w C \) \textit{anumo: danve-} "observe"

The VCCVCCVCVC structure:

The structure is limited to one stem where the pattern is VPPPVNV. The P systems are described in relation to h prosody. Thus, the pattern can be given as \( V_h P P_h PVNV \). The P final system of the initial syllable and the P initial system of the second syllable have the term \( \iota \), the P initial system of the third syllable has the term \( k \) and the N system of the fourth syllable has the term \( t \). There is a contrast of systems, P-N in the pattern and the contrast of terms is \( \iota-k-t \).

e.g. \( V_h P P_t V_h P_k V N_t V \) \textit{attakuna: ve-} "spoil"

The contrast of V systems is \( \alpha-\epsilon-t-\alpha \) and of syllable prosodies is \( y-\alpha-w \). Length prosody of the fourth syllable is long and that of the others is short.

e.g. \( \alpha^v C\epsilon^v C\epsilon^v C\epsilon^v \) \textit{attakuna: ve-} "spoil"

4.3.8 Pentasyllabic stems

The penta-syllabic stems have three structures, CVCVCCVCVCV, VCVCVCVCV and VCVCVCVCVCV.

The CVCVCCVCVCV structure:

The structure is limited to one stem where the pattern is SVNVLVSVNV. The S initial systems of the first and the fourth syllables as well as the N initial systems of the second and fifth syllables have the term \( t \) and the L system has the term \( p \). There is a contrast of systems,
S-N-L-S-N in the pattern and the contrast of terms is t-p-t.

\[ \text{e.g. } \text{StVNtVLpVStVNtV} \quad \text{sunuvisunuv} \quad \text{"destroy"} \]

The V system is t and it functions in y and w prosodic syllables. Length prosody is short.

\[ \text{e.g. } \text{ClwClwClwClwClw} \quad \text{sunuvisunuv} \quad \text{"destroy"} \]

The VCVCVCVC structure:

The structure is limited to one stem where the pattern is VPVPVPVPV. The P initial system of the fifth syllable is described in relation to h prosody and those of the other syllables are described in relation to h prosody. Thus, the pattern can be given as VhPvPvPvPvPvPvPv. The P initial systems of the third, fourth and fifth syllables have the terms k, t, p and t respectively. There is no contrast of systems in the pattern but there is a contrast of terms as follows: k-t-p-t.

\[ \text{e.g. } \text{VhPvPvPvPvPvPvPv} \quad \text{ekatu pa da ve} \quad \text{"assemble"} \]

The contrast of V systems is a-u-a and of syllable prosodies is y-a-w. Length prosody of the fourth and the fifth syllables is long and that of the other syllables is short.

\[ \text{e.g. } \text{eCwCwCwCwCw} \quad \text{ekatu pa da ve} \quad \text{"assemble"} \]

The VCVCVCVCVC structure:

The structure is limited to one stem where the pattern is VPVLVPVSVN. The P initial systems of the second and the fourth syllables are described in relation to h and h prosodies respectively. Thus, the pattern can be given as VhPvLvPvPvSVN. The P initial systems of the second and the fourth syllable have the term t, the L system has the term t and the S system and the N system have the terms 2 and k respectively. There is a contrast of systems, P-L-P-S-N in the pattern and the contrast of terms is t-t-t-2-k.

\[ \text{e.g. } \text{VhPtVLtVPvPvS2 VNx} \quad \text{aturudahane} \quad \text{"disappear"} \]

The contrast of V systems is a-t-a. The syllables are w prosodic and length prosody is short.
According to the above analysis, the phonological structure of the given stems differs from those of simple verb stems in several ways; i) the M system which occurs in simple stems does not occur in the stems given above, ii) length prosody of CV type stem structures is always long in non-free morphemes whereas CV stem structures can be short or long in simple verb stems iii) there is no systematic prosodic relationship in the polysyllabic stems given above whereas there is such a relationship in disyllabic stems of simple verbs and iv) simple verb stems are either monosyllabic or disyllabic but the stems given above can be monosyllabic, disyllabic, trisyllabic, quadrisyllabic or pentasyllabic. All structures along with the patterns they have are given in Table 5.

<table>
<thead>
<tr>
<th>Structures</th>
<th>Number of patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monosyll. stems</strong></td>
<td></td>
</tr>
<tr>
<td>CV</td>
<td>3</td>
</tr>
<tr>
<td>CVC</td>
<td>4</td>
</tr>
<tr>
<td>V</td>
<td>1</td>
</tr>
<tr>
<td><strong>Disyll. stems</strong></td>
<td></td>
</tr>
<tr>
<td>CVCV</td>
<td>9</td>
</tr>
<tr>
<td>CVCVC</td>
<td>10</td>
</tr>
<tr>
<td>CVCVCVC</td>
<td>3</td>
</tr>
<tr>
<td>CVCCV</td>
<td>1</td>
</tr>
<tr>
<td>VCVC</td>
<td>2</td>
</tr>
<tr>
<td>VCCVC</td>
<td>1</td>
</tr>
<tr>
<td><strong>Trisyll. stems</strong></td>
<td></td>
</tr>
<tr>
<td>CVCVCV</td>
<td>8</td>
</tr>
<tr>
<td>CVCVCVC</td>
<td>7</td>
</tr>
<tr>
<td>CVCVCVC</td>
<td>1</td>
</tr>
<tr>
<td>CVCVCVC</td>
<td>1</td>
</tr>
<tr>
<td>CVCVCVC</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 5. Phrasal verb stems (Non-free morphemes)

4.4 Loan stems

Loan stems may be Tamil, Sankrit, Pali or English. ³

4.4.1 Tamil stems

There are a large number of Tamil loans in Sinhalese, but there are a few stems that occur only in phrasal verbs¹. They are given below. Tamil stems may be disyllabic or trisyllabic.

4.4.1.1 Disyllabic stems

Disyllabic stems have four structures, CVCV, CVCCV, CVCVC, and CVCCVC.

³ As there are very few loan stems the syllable structure of them is not discussed separately.

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The CVCV structure:

This structure is limited to one stem where the pattern is LVSV. The L system has the term p and the S system has the term t. There is a contrast of systems, L-S in the pattern and the contrast of terms is p-t.

e.g. LpVS-TV visikar- "throw out"

The V systems are t and the syllables are y prosodic. Length prosody is short.

e.g. Ct\(\downarrow\)Cy visikar- "throw out"

The CVCCV structure:

This structure has the following patterns:

PVPPV  PVNPV  PVLLV
LVPPV  SVNPPV  NVLLV
NVPPV  -  -

The PVPPV pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as \(hPpVhPPV\). The P initial system has the term p and the P final system of the first syllable and the P initial system of the second syllable have the term t. There is no contrast of systems in the patterns but there is a contrast of terms: p-t.

e.g. \(hP_pVhPP\) pattukar- "light"

The contrast of V systems is a-i. The syllables are w prosodic and length prosody is short.

e.g. Caw\(\uparrow\)Cy pattukar- "light"

The PVNPV pattern:

The pattern is limited to one stem where the P initial system is described in relation to h prosody and the P initial system of the second syllable is described in relation to h prosody. Thus, the pattern can be given as \(hPVh\)PPV. The P initial system has the term k and the N system and the P
initial system of the second syllable have the term t. There is a contrast of systems, P-N-P in the pattern and the contrast of terms is k-t.

e.g. \(^hP\)kVN\(\text{-}p\)tV kaːnduve- "leak"
The contrast of V systems is α-τ. The syllables are w prosodic. Length prosody of the first syllable is long and that of the second syllables is short.
e.g. C\(\text{-}w\)CC\(\text{-}w\) kaːnduve- "leak"

The PVLLV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as \(^hP\)VLLV. The P system has the term k and the L final system of the first syllable and the L initial system of the second syllable have the term t. There is a contrast of systems, P-L in the pattern and the contrast of terms is k-t.
e.g. \(^hP\)kVLLtV kol laka- "plunder"
The contrast of V systems is ε-α. The syllables are w prosodic and length prosody is short.
e.g. Cε\(\text{-}w\)CC\(\text{-}w\) kol laka- "plunder"

The NVPPV pattern:

The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as NV\(h\)PPV. The N system has the term p and the P final system of the first syllable and the P initial system of the second syllable have the term t. There is a contrast of systems, N-P in the pattern and the contrast of terms is p-τ.
e.g. N\(P\)V\(\text{-}h\)PP\(\text{-}t\)V mattuk\(\text{-}t\)ar- "chastise"
The contrast of V systems is α-τ. The syllables are w prosodic and length prosody is short.
e.g. C\(\text{-}w\)CC\(\text{-}t\)V mattuk\(\text{-}t\)ar- "chastise"
The NVLLV pattern:
The pattern is limited to one stem where the N system has the term p and the L final system of the first syllable and the L initial system of the second syllable have the term t. There is a contrast of systems, N-L in the pattern and the contrast of terms is p-t.
e.g. NpVLLtV mellākār- "subdue"
The V system is € and it functions in y and a prosodic syllables. Length prosody is short.
e.g. C€yCC€ mellākār- "subdue"

The SVNPV pattern:
The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as SVN^PV. All systems of the pattern have the term t. There is a contrast of systems, S-N-P in the pattern but there is no contrast of terms.
e.g. StVNBptV se:nduve- "arrive"
The contrast of V systems is €-t and of syllable prosodies is y-w. Length prosody of the first and second syllables is long and short respectively.
e.g. C€yCClw se:nduve- "arrive"

The LVPPV pattern:
The pattern is limited to one stem where the P systems are described in relation to h prosody. Thus, the pattern can be given as LV^hPPV. The L system has the term p and the P final system of the first syllable and the P initial system of the second syllable have the term t. There is a contrast of systems, L-P in the pattern and the contrast of terms is p-t.
e.g. LPVhPPtV va:ttukār- "cast metal in mould"
The contrast of V systems is a-t. The syllables are w prosodic, and length prosody of the first syllable is long and that of the second syllable is short.
The CVCVC structure:

The structure is limited to one stem where the pattern is PVLVL. The P system is described in relation to h prosody. Thus, the pattern can be given as \textsuperscript{h}PVLVL. The P system has the term k and the L initial and final systems of the second syllable have the terms p and t respectively. There is a contrast of systems, P-L in the pattern and the contrast of terms is k-p-t.

e.g. \textsuperscript{h}PVLVL ke:velkar- “cheat”

The V system is e and the syllables are y prosodic. Length prosody of the initial syllable is long and that of the second syllable is short.

e.g. C\epsilon\nu CVCL ke:velkar- “cheat”

The CVCCVC structure:

The structure is limited to one stem where the pattern is NVPPVL. The P systems are described in relation to h prosody. Thus, the pattern can be given as NV\textsuperscript{h}PPVL. The N system has the term \textsuperscript{p} and the P final system of the first syllable and the P initial system of the second syllable have the term \textsuperscript{c} and the L system has the term t. There is a contrast of systems, N-P-L in the pattern and the contrast of terms is p-\textsuperscript{c}-t.

e.g. NV\textsuperscript{h}PPVL me:čalkar- “subdue”

The contrast of V systems is e-\alpha and of syllable prosodies is y-w. Length prosody of the first syllable is long and that of the second syllable is short.

e.g. C\epsilon\nu CC\alpha\omega C me:čalkar- “subdue”

4.4.1.2 Trisyllabic stems

Trisyllabic stems have two structures, CVCVCCV and VCVCCV.
The CVCVCCV structure:

The structure is limited to one stem where the pattern is NVPVNPV. The P systems are described in relation to h prosody. Thus, the pattern can be given as NVbPVNbPV. The N initial system has the term p, the P initial system of the second syllable has the term t and the N final system of the second syllable and the P initial system of the third syllable have the term k. There is a contrast of systems, N-P-N-P in the pattern and the contrast of terms is p-t-k.

E.g. NpVbPtVNPtVNhPkV midanguze- "spend time"
The contrast of V systems is i-a-i and of syllable prosodies is y-w. Length prosody is short.
E.g. ClxCaCWCCLw midanguze- "spend time"

The VCVCCV structure:

This structure has three patterns, VPVPPV, VPVPNV and VLVPPV.

The VPVPPV pattern:

The P initial system of the second syllable is described in relation to h prosody and the P systems of the other syllables are described in relation to h prosody. Thus, the pattern can be given as VbPVhPPV. The P initial system of the second syllable has the term t and the P final system of the second syllable and the P initial system of the third syllable have the term k. There is no contrast of systems in the pattern but there is a contrast of terms: t-k.

E.g. VPtVhPPtV adukkukar- "pile"
The contrast of V systems is a-i. The syllables are w prosodic and length prosody is short.
E.g. a=Ct wCt CC adukkukar- "pile"

The VPVPNV pattern:

The P systems are described in relation to h prosody. Thus, the pattern can be given as VbPVNPbPV. The P
initial system of the second syllable has the term \( t \) and the N final system of the second syllable and the P initial system of the third syllable have the term \( k \). There is a contrast of systems, P-N-P in the pattern and contrast of terms is \( t-k \).

\[ \text{e.g. } \text{VbP} t \text{VnP} k \text{V} \quad \text{adanguve-} \quad \text{"contain"} \]

The contrast of V systems is \( a-l \). The syllables are w prosodic and length prosody is short.

\[ \text{e.g. } \text{awCawCClw} \quad \text{adanguve-} \quad \text{"contain"} \]

The VLVPPV pattern:

The P systems are described in relation to h prosody. Thus, the pattern can be given as VLVPPV. The L system has two terms \( t \) and \( t \) and the P final system of the second syllable and the P initial system of the third syllable have two terms \( k \) and \( c \). There is a contrast of systems, L-P in the pattern and the contrast of terms is as follows: \( t-k \) and \( t-c \).

\[ \text{e.g. } \text{VL} \text{tVnP} k \text{V} \quad \text{ulukkuve-} \quad \text{"sprain"} \]

\[ \text{VL} \text{tVnP} c \text{V} \quad \text{uraččikar-} \quad \text{"rub"} \]

The contrast of V systems and syllable prosodies is as follows:

- V systems prosodies
  - \( l-l \)
  - \( w-w \)
  - \( l-a \)
  - \( w-y \)

Length prosody is short.

\[ \text{e.g. } \text{wCawCClw} \quad \text{ulukkuve-} \quad \text{"sprain"} \]

\[ \text{wCawCClw} \quad \text{uraččikar-} \quad \text{"rub"} \]

4.4.1.3 According to the analysis given above, the phonological structures of Tamil stems differ in several ways from those native stems discussed earlier in this chapter: i) there are no monosyllabic, quadrisyllabic and penta-syllabic Tamil stems, ii) double consonants which can be homorganic nasal+plosive or two homorganic consonants are very common in Tamil stems and iii) among double consonants, \( čč \) and \( ťť \) are possible: these do not occur in native stems discussed in the
There are many Pali and Sanskrit loans in colloquial Sinhalese. However, one Sanskrit and three Pali stems occur only in phrasal verbs. The structure of the Sanskrit stem is CVCVCCV and the structures of the Pali stems are as follows: CVCVCV and VCVCV.

The CVCVCCV structure:

The structure is limited to one stem where the patterns is LVLOP. The P system is described in relation to h prosody. Thus, the pattern can be given as LVLOP. The L initial systems of the first and second syllables have the term p, the L final system of the second syllable has the term t and the P system has the term t. There is a contrast of systems, L-P in the pattern and the contrast of terms is p-t-t. e.g. LVLOP = "open"

The contrast of V systems is u-e and of syllable prosodies is y-w-s. Length prosody is short.

e.g. CVCVCV = "open"

The CVCVCV structure:

The structure has two patterns, PVPVPV and SVNVPV.

The PVPVPV pattern:

The P systems are described in relation to h prosody. Thus, the pattern can be given as PVPVPV. The P initial systems of the first, second and third syllables have the terms k, p and t respectively. There is no contrast of systems in the pattern but there is a contrast of terms: k-t-p. e.g. PVPVPV = "get angry"

The contrast of V systems is u-e and of syllable prosodies is w-y-s. Length prosody is short.
The SVNVPV pattern:

The P system is described in relation to h prosody. Thus, the pattern can be given as SVNVPV. All systems of the pattern have the term \( t \). There is a contrast of systems, S-N-P in the pattern but there is no contrast of terms.

For example:

- StVNtVnPtv \texttt{sana:ta\kappa r-} "prove"

The V system is \( a \) and the syllables are \( w \) prosodic. Length prosody of the first syllable is short and that of the second syllable is long.

For example:

- Ca\(w\)Ca\(w\)Ce\(w\) \texttt{sana:ta\kappa r-} "prove"

The VCVCV structure:

The structure is limited to one stem where the pattern is VLVPV. The P system is described in relation to h prosody. Thus, the pattern can be given as VLVPV. All systems of the pattern have the term \( t \). There is a contrast of systems, L-P in the pattern but there is no contrast of terms.

For example:

- VLtVnPtv \texttt{ai\ru:di\dave-} "impute"

The contrast of V systems is \( a-t-c \) and of syllable prosodies is \( w-a \). Length prosody is long.

For example:

- \(\daw\)\(\daw\)(\(\daw\) Ce\(w\) \texttt{ai\ru:di\dave-} "impute"

### 4.4.3 English stems

There are a few English stems which occur only in phrasal verbs. They can be monosyllabic and disyllabic.

#### 4.4.3.1 Monosyllabic stems

Monosyllabic stems have two structures: CVC and VC.

The CVC structure:

This structure has the following patterns: PVP, PVS, PVL and LVS.
The PVP pattern:

The pattern is limited to one stem where the P initial and final systems are described in relation to h and h prosodies respectively. Thus, the pattern can be given as hPvhP. The P systems have the term č. There is no contrast of systems or terms in the pattern.

![Image]

The V system is α and the stem is w prosodic. Length prosody is long.

![Image]

e.g. ķPvčP čaiškar- "charge"

The PVS pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as hPVS. The P initial system has the term p and the S final system has the term t. There is a contrast of systems, P-S in the pattern and the contrast of terms is p-t.

![Image]

The V system is α and the stem is w prosodic. Length prosody is long.

![Image]

e.g. ķPvčS pāšve- "pass"

The PVL pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as hPVL. The P initial system has the term p and the L final system has the term t. There is a contrast of systems, P-L in the pattern and the contrast of terms is p-t.

![Image]

The V system is ε and the stem is y prosodic. Length prosody is long.

![Image]

e.g. ķPvčL pēlve- "fail"
The LVS pattern:

The pattern is limited to one stem where the L system has the term t and the S system has the term t.

\[ \text{e.g. } \text{LtVS} \rightarrow \text{roiskar-} \rightarrow \text{"roast"} \]

The V system is \( e \) and the stem is w prosodic. Length prosody is long.

\[ \text{e.g. } \text{C} \rightarrow \text{roiskar-} \rightarrow \text{"roast"} \]

The VC structure:

This structure has two patterns, VN and VS.

The VN pattern:

The pattern is limited to one stem where the N system has the term t.

\[ \text{e.g. } \text{VN} \rightarrow \text{oinve-} \rightarrow \text{"be on"} \]

The V system is \( e \) and the stem is w prosodic. Length prosody is long.

\[ \text{e.g. } \text{C} \rightarrow \text{oinve-} \rightarrow \text{"be on"} \]

The VS pattern:

The pattern is limited to one stem where the S system has the term p.

\[ \text{e.g. } \text{VS} \rightarrow \text{oive-} \rightarrow \text{"be off"} \]

The V system is \( e \) and the stem is w prosodic. Length prosody is long.

\[ \text{e.g. } \text{C} \rightarrow \text{oive-} \rightarrow \text{"be off"} \]

4.4.3.2 Disyllabic stems

There is only one disyllabic stem of which the structure is CVCVC. The pattern is LVLVS. The L initial systems of the first and second syllables have the terms \( t \) and \( p \) respectively and the S final system of the second syllable has the term t. There is a contrast of systems, L-S in the pattern and the contrast of terms is \( t-p-t \).
The contrast of V systems is i-ε and of syllable prosodies is y-ə. Length prosody of the first syllable is short and that of the second syllable is long.

4.4.3.4 According to the analysis of Sanskrit, Pali and English double consonants like [rt] are possible in loans, which do not occur in native stems. As far as English stems are concerned εa type syllables are possible which do not occur in the native stems at all. All structures of loan stems along with the number of patterns are given in Table 6.

<table>
<thead>
<tr>
<th></th>
<th>Structures</th>
<th>English</th>
<th>Pali</th>
<th>Sans.</th>
<th>Tamil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monosyll. stems.</td>
<td>CVC</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>VC</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CV CV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CV CC</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CV CCCV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>CVCCVC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Disyll. stems.</td>
<td>CV CV CV</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CV CVCCV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>VC CV</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>VC CV CC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Trisyll. stems.</td>
<td>CV CV CV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 6. Loan stem structures

4.5 Onomatopoeic stems

In Sinhalese, phrasal verbs with onomatopoeic stems are usually used for direct imitation of various sounds. The
onomatopoeic stems can be classed as either animate or inanimate. Phrasal verbs with animate stems signal sounds that are produced by animals or human beings by mouth and they are calling or crying sounds. Inanimate sounds come from human or animal actions or inanimate functions.Animate stems occur in phrasal verbs where the simple verb stem is either ga:- or kij- and inanimate stems occur in phrasal verbs where the simple verb stem is ga:-. As the majority of the onomatopoeic stems are inanimate, they will be taken first.

4.5.1 Inanimate onomatopoeic stems

Inanimate onomatopoeic stems can be divided into six groups depending on the length of the noise. Each group can further be divided depending on the degree of the noise. For instance, stems such as

dado:rianga:- "the sound of a heavy fall"
siidi:rianga:- "the sound of thunder"
and dado:rianga:- "the sound of a heavy fall"
signal huge noises which last for a longer period than
tigga:- "the Tick of a pendulum clock"
tugga:- "the cracking sound"
tahga:- "the fall on to wet ground"
and dagga:- "the metallic banging noise"
which last for a short period and signal simple non-reverberating sounds. The groups are given below with the degrees of overall length and noise marked from 1 to 6, 1 being the shortest and least noisy.

Group 1

<table>
<thead>
<tr>
<th>Length(L)</th>
<th>Noise (N)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>&quot;the Tick of a pendulum clock&quot;</td>
</tr>
<tr>
<td>tigga:-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dahga:-</td>
<td></td>
<td>&quot;the sound of a fall onto wet ground&quot;</td>
</tr>
<tr>
<td>Group 2</td>
<td>L: 2</td>
<td>N: 3</td>
</tr>
<tr>
<td>do:nga:-</td>
<td></td>
<td>&quot;the noise of a gun shot&quot;</td>
</tr>
</tbody>
</table>

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Group 3

B. atq: sga:
"the noise of a gun shot"
L: 3  N: 2

čiri: sga:
"the squelching sound"

pata: sga:
"the noise of a small explosion or crack"

Group 4

dado: ri: nga:
"the sound of a heavy fall"
L: 4  N: 3

pato: ri: nga:
"the sound of a huge explosion"

Group 5

bazarara: sga:
"the sound of tearing cloth"
L: 5  N: 2

karačara: sga:
"the sound of tearing paper"

Group 6

i)
bazarara:
"the sound which arises when a tree becomes uprooted"
pata: pata:
"the sound of continuous explosions"

ii)
ku: sga:
"the sound of some machines"
sui: sga:
"the sound of curries cooking"
ho: sga:
"the sound of heavy rain"

Even within a given group, stems with retroflex consonants signal noisier sounds than those with other consonants. For example, pato: ri: nga: - is noisier than dado: ri: nga: -.

4.5.1.1 Inanimate onomatopoeic stems may be monosyllabic, disyllabic or quadrisyllabic.

4.5.1.2 Monosyllabic stems

Monosyllabic stems have two structures, CV and CVC.

The CV structure:

This structure has two patterns: PV and SV.
The PV pattern:

The pattern is limited to one stem where the P system is described in relation to h prosody. Thus, the pattern can be given as hPV. The P system has the term č.

\[ \text{e.g. } hP\check{v}V \quad \check{v}u\check{u}g:\text{ "the sound of some machines"} \]

The V system is l and the stem is w prosodic. Length prosody is long.

\[ \text{e.g. } C\check{l}w \quad \check{v}u\check{u}g:\text{ "the sound of some machines"} \]

The SV pattern:

The pattern is limited to one stem where the S system has three terms t, č and ć.

\[ \text{e.g. } StV \quad su\check{u}g:\text{ "the sound of curries cooking"} \]
\[ S\check{c}V \quad fo\check{u}g:\text{ "the sound of gales"} \]
\[ S_2V \quad ho\check{u}g:\text{ "the sound of heavy rains"} \]

The V systems may be l or ē and they function in w prosodic stems. Length prosody is long.

\[ \text{e.g. } C\check{l}w \quad su\check{u}g:\text{ "a sound of curries cooking"} \]
\[ C\check{c}w \quad ho\check{u}g:\text{ "a sound of heavy rains"} \]

The CVC structure:

This structure has three patterns, PVP, PVS and PVS.

The PVP pattern:

The P systems are described in relation to h and h prosodies. Thus, the pattern can be given as h/\check{b}PVh/\check{b}P. The P initial system has three terms, p, t and č and the P final system has two terms, p and k. There is no contrast of systems in the pattern but there is a contrast of terms as follows: t-k and č-k.

\[ \text{e.g. } hP_fVhP_p \quad pi:\text{ "the sound of a vehicle horn"} \]
\[ hP_tVhP_k \quad tig:\text{ "the sound of a pendulum clock"} \]
\[ hP_fVhP_d \quad da\check{g}:\text{ "the banging noise"} \]
\[ hP_gVhP_k \quad \check{c}a\check{g}:\text{ "a chopping noise"} \]
The V system may be \( \lambda \), \( \epsilon \) or \( \alpha \). \( \lambda \) functions in \( y \) and \( w \) prosodic stems and \( \epsilon \) and \( \alpha \) function in \( w \) prosodic stems. Length prosody is long when \( V \) is \( \lambda \) where the syllable is \( y \) prosodic, otherwise it is short.

e.g. \( C\!l\!v\!C \) \( \text{tigga}:- \) "the Tick of a pendulam clock"
\( C\!l\!v\!C \) \( \text{pi:nga}:- \) "the sound of a vehicle horn"
\( C\!l\!w\!C \) \( \text{tuzga}:- \) "the noise of a small crack"
\( C\!e\!w\!C \) \( \text{dogga}:- \) "a banging noise"
\( C\!a\!w\!C \) \( \text{tagga}:- \) "the sound of a tap"

The PVN pattern:

The P system is described in relation to \( h \) and \( h \) prosodies. Thus, the pattern can be given as \( h/\!P\!V\!N \). The P system has three terms, \( t \), \( t \), and \( k \) and the N system has one term \( k \). There is a contrast of systems, P-N in the pattern and the contrast of terms is \( t-k \) and \( t-k \).

e.g. \( h\!P\!t\!V\!N\!k \) \( \text{dangga}:- \) "the sound of a drum"
\( h\!P\!t\!V\!N\!k \) \( \text{tanga}:- \) "the metallic banging noise"
\( b\!P\!t\!V\!N\!k \) \( \text{danga}:- \) "the sound of a drum"
\( h\!P\!k\!V\!N\!k \) \( \text{ki:nga}:- \) "the noise which is sometimes produced in the ear"

The V system may be \( \lambda \), \( \epsilon \) or \( \alpha \). \( \lambda \) functions in \( y \) and \( w \) prosodic stems, \( \epsilon \) and \( \alpha \) function in \( w \) prosodic stems. Length prosody may be short or long.

\( C\!l\!v\!C \) \( \text{ki:nga}:- \) "the noise which is sometimes produced in the ear"
\( C\!l\!w\!C \) \( \text{dunga}:- \) "the sound of a drum"
\( C\!e\!w\!C \) \( \text{donga}:- \) "the sound of a drum"
\( C\!e\!w\!C \) \( \text{dona}:- \) "the noise of an explosion"
\( C\!a\!w\!C \) \( \text{tanga}:- \) "the metallic banging noise"
\( C\!a\!w\!C \) \( \text{ta:nga}:- \) "a noise of a large bell"

The PVS pattern:

The P system is described in relation to \( h \) and \( h \) prosodies. Thus, the pattern can be given as \( h/\!P\!V\!S \). The P
system has three terms, p, t, and q and the S system has two terms t and q. There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: p-?, t-?, q-t, and c-t.

e.g. \( hP_pVS_2 \) puhga:- "the sound of a blow pipe"
\( hP_pVS_2 \) bahga:- "the sound which arises when lids of bottles are removed suddenly"

\( hP_tVS_2 \) tahga:- "a small fall onto wet ground"
\( hP_tVS_2 \) dahga:- "a big fall onto wet ground"

\( hP_gVSt \) chu:sga:- "the sound of an unsuccessful fire cracker"

The V system may be l, e or a. l functions in y and w prosodic stems and e and a function in w prosodic stems. Length prosody is long when V is l where the stem is w prosodic, otherwise it is short.

e.g. \( Cl^C \) dihga:- "a beating sound"
\( Cl^C \) puhga:- "the sound of a the blow pipe"
\( Cl^C \) chu:sga:- "the sound of an unsuccessful fire cracker"

\( Ce^C \) dohga:- "the sound of a fall onto ground"
\( Ca^C \) dahga:- "a sound of a fall onto wet ground"

4.5.1.3 Disyllabic stems

Disyllabic stems have two structures, CVCV and CVCVC.

The CVCV structure:

This structure has the following patterns:

PVPV  PVSV  PVLV
-     -     SVLV
-     -     NVLV

The PVPV pattern:

The P systems are described in relation to h and
h prosodies. Thus, the pattern can be given as \( h/bPVh/bPV \). The P initial system has four terms p, t, ń and k and the P final system has two terms, ń and k. There is no contrast of C systems in the pattern but there is a contrast of terms: p-ń, ń-ń, ń-k and k-ń.

e.g. \( nhPnVnPnV \) pataga: - "the continuous crackling sound of the forest fire"

\( nhPnVnPnV \) didiga: - "a beating sound"

\( nhPnVnPnV \) takaga: - "the sound of the bell called Take"

\( dhPnVnPnV \) dakaga: - "the sound of a bullock cart"

\( dhPnVnPnV \) gidiga: - "a running sound"

\( dhPnVnPnV \) kataga: - "a sound of shivering"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-t</td>
<td>y-y</td>
</tr>
<tr>
<td>a-č</td>
<td>w-w</td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. \( ClwClw \) gidiga: - "a running sound"

\( ClwClw \) guduga: - "a swallowing sound of gruel"

\( Ca\wCe\w \) pataga: - "the continuous crackling sound of the forest fire"

The PVSV pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as \( h/bPVSV \). The P system has two terms, p and k and the S system has one term, ń. There is a contrast of systems, P-S in the pattern and the contrast of terms is p-ń and k-ń.

e.g. \( dpPnVStV \) busuga: - "the sound of a big fan"

\( dpPnVStV \) kusaga: - "the sound of a circling weal"

The contrast of V systems and syllable prosodies is as follows:
Length prosody is short.

**Example:**

- **ClvClv** kisiga:- "the sound of a circling wheel"
- **ClwClw** busuga:- "the sound of a big fan"
- **CawCe9** basaga:- "the sound of pouring grain into bags"

The **PVLV** pattern:

The **P** system is described in relation to **h** and **h** prosodies. Thus, the pattern can be given as **h/hPVLV**. The **P** system has three terms, **p**, **č** and **k** and the **L** system has one term, **t**. There is a contrast of systems, **P-L** in the pattern and the contrast of terms is **p-t**, **č-t** and **k-t**.

**Example:**

- **hPvVLtv** baraga:- "the sound of a breaking tree branch"
- **hPvVLtv** jaraga:- "the sound of a tree being uprooted"
- **hPvVLtv** kiriga:- "the sound of scraping of hard articles"

The contrast of **V** systems and syllable prosodies is as follows:

**V** systems | prosodies
--- | ---
L-L | y-y
a-ε | w-w
e-ε | w-ə

**Difference in Length Prosody:**

**Example:**

- **ClvClv** kiriga:- "the scraping sound of hard articles"
- **ClwClw** çoruga:- "the splashing sound of small fountains"
- **CawCe9** čoraga:- "the pouring sound of water etc."
- **CawCe9** baraga:- "the sound of a breaking tree branch"
The SVLV pattern:
The S system has one term, t and the L system has two terms, t and t. There is a contrast of systems, S-L in the pattern and the contrast of terms is t-t.
e.g. StVLtV saraqa: - "a rustling sound"
StVLtV siliga: - "the sound of a small stream"
The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-t</td>
<td>y-y</td>
</tr>
<tr>
<td>a-ε</td>
<td>w-w</td>
</tr>
<tr>
<td></td>
<td>w-ο</td>
</tr>
</tbody>
</table>

Length prosody is short.
e.g. CaνCεη saraga: - "a rustling sound"
ClνCη siliga: - "the sound of a small stream"
ClwCη suruga: - "the swallowing sound of gruel"

The NVLV pattern:
The pattern is limited to one stem where the N system has the term ε and the L system has the term t. Thus, there is a contrast of systems, N-L in the pattern and the contrast of terms is ε-t.
e.g. NεVLtV paraga: - "the sound of animals crunching raw potatoes"
The contrast of V systems is a-ε and of syllables prosodies is w-ο. Length prosody is short.
e.g. CaνCεη paraga: - "the sound of animals crunching raw potatoes"

In the PVPV pattern of the CVCV structure, as far as h and h prosodies are concerned, both syllables are either h prosodic or h prosodic. Patterns where the first syllable is h prosodic
and the second syllable is \( h \) prosodic do not occur. Thus, the patterns like \( hPVbPV \)
and \( bPVbPV \) are possible. But patterns like \( hPVbPV \)
or \( bPVbPV \) are not found.

In the CVCV structure The L system does not occur at the C initial place at all. It occurs only in the second syllable. Thus, patterns like \( PVLV \)
\( NVLV \)
and \( SVLV \) are possible. But the patterns like \( LVPV \)
\( LVNV \)
and \( LVSV \) are not found.

As far as the V systems and syllable prosodies are concerned the following phonological structures are possible:

V systems      prosodies
\( t - t \)    \( y-y, \ w-w \)
\( \varepsilon-\varepsilon \)    \( w-\varnothing \)
\( \alpha-\varepsilon \)    \( w-\varnothing \)

The CVCVC structure:

This structure has the following patterns:

PVPVN      PVLVS      SVLVN
PVPVS      SVLVS

The PVPVN pattern:

The P systems are described in relation to \( h \) and \( \dot{h} \) prosodies. Thus, the pattern can be given as \( h/hPVn/hPVn \). The P initial system has three terms \( p, t \) and \( k \), the P initial system of the second syllable has two terms, \( t \) and \( t \) and the N system has one term, \( k \). There is a contrast of systems, P-N in the pattern and the contrast of terms is as follows: \( p-t-k \), \( t-t-k \), \( t-p-k \) and \( k-t-k \).

E.g. \( \overline{hP}V\overline{hP}V\overline{N} \)  \( \text{pato:nga:-} \) "the sound of an explosion"
The contrast of V systems and syllable prosodies is as follows:

V systems prosodies
\[
\begin{align*}
\text{L} & \quad \text{y-y} \\
\alpha & \quad \text{w-w}
\end{align*}
\]

Length prosody of the first syllable is short and that of the second syllable is long.

e.g. \(Ct\text{CyC} \quad \text{gidi} : \text{nga} : - \) "a sound of a huge explosion"

The PVPVS pattern:

The P systems are described in relation to \(h\) and \(\alpha\) prosodies. Thus, the pattern can be given as \(n/PVh/PVS\). The P initial system has four terms, \(p, t, \dot{t}\) and \(k\), the P initial system of the second syllable has three terms, \(p, t\) and \(k\) and the S system has two terms \(t\) and \(\dot{\gamma}\). There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: \(p-\dot{t}-t, t-p-\dot{\gamma}, \dot{t}-k-t, t-\dot{t}-t\) and \(k-t-\dot{t}\).

e.g. \(nP_{PVh}\) \(PVt\text{VSt} \quad \text{patasga} : - \) "the sound of a small explosion"

\(nP_{PVh}\) \(PVt\text{VSt} \quad \text{dabahga} : - \) a fall on to the wet ground"

\(nP_{PVh}\) \(PVt\text{VSt} \quad \text{takasga} : - \) the sound of the snap of a hard article"

\(nP_{PVh}\) \(PVt\text{VSt} \quad \text{didisga} : - \) "the rustling of footsteps"

\(nP_{PVh}\) \(PVt\text{VSt} \quad \text{katasa} : - \) "the sound of breaking articles"

\(nP_{PVh}\) \(PVt\text{VSt} \quad \text{gudusa} : - \) "a sound of swallowing"

The contrast of V systems and syllable prosodies is as follows:

V systems prosodies
\[
\begin{align*}
\text{L} & \quad \text{y-y} \\
\alpha & \quad \text{w-w}
\end{align*}
\]

Length prosody is short.
The PVLVS pattern:

The P system is described in relation to h and h prosodies. Thus, the pattern can be given as h / b PVLVS. The P system has one term c and the L system and the S system have the terms t and t respectively. There is a contrast of systems, P-L-S in the pattern and the contrast of terms is c- t-t.

e.g. ^PcVL-tVS-t c irisga: - "the squelching sound of water"
    bPcVL-tVS-t jurusga: - "the squelching sound of mud"

The contrast of V systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>V system prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>l - l</td>
</tr>
<tr>
<td>y - y</td>
</tr>
<tr>
<td>a - a</td>
</tr>
<tr>
<td>w - w</td>
</tr>
</tbody>
</table>

Length prosody is short.

e.g. CiryClwC irisga: - "the squelching sound of water"
    CiryClwC jurusga: - "the squelching sound of mud"
    CarwCarwC karasga: - "the tearing sound of paper etc."

The SVLVS pattern:

The pattern is limited to one stem where the S initial system has the term t and the L system and the S final system of the second syllable have the terms t and t respectively. There is contrast of systems, S-L-S in the pattern and the contrast of terms is t-t-t.

e.g. StVLtVSt surusga: - "the sound of a dying fire"

The V system is l and the syllables are w prosodic. Length prosody is short.

e.g. CtwClwC surusga: - "the sound of dying fire"
The SVLVN pattern:

The S system and the L system have the term t and the N system has the term k. There is a contrast of systems, S-L-N in the pattern and the contrast of terms is t-k. e.g. StVLtVNk silinga:- "the sound of a waving chain"

The contrast of the V systems and syllable prosodies is as follows: V systems prosodies

l-l y-y
a-a w-w

Length prosody is short in the first syllable but either short or long in the second syllable.

e.g. CtvCtvC silinga:- "the sound of a chain clattering"
CavCavC sala:nga:- "the falling sound of metallic plates, etc."

According to the analysis given above the P system does not occur at the C final place; there only the S system with t and2 terms and the N system with k term occur. In the patterns where the initial systems of the first and second syllables are P, both syllables are either h prosodic or h prosodic. In other words both syllables harmonize in terms of h and h prosodies.

As far as V systems and syllable prosodies are concerned the following syntagmatic relations are possible.

V systems prosodies

l-l y-y
a-a w-w

4.5.1.4 Quadrisyllabic stems

Quadrisyllabic stems have two types of structure, non-
reduplicated and reduplicated.

4.5.1.4.1 Non-reduplicated structure

This has one pattern, PVPPVVLVNVN where the P systems
are described in relation to \( h \) and \( \bar{h} \) prosodies. Thus, the pattern can be given as \( h/P\bar{h}/P\bar{PV}\bar{L}VLV\bar{N} \). The \( P \) initial system has three terms, \( p, t \) and \( k \) and the \( P \) initial system of the second syllable has two terms, \( p \) and \( \bar{t} \). The \( L \) initial systems of the third and fourth syllables and the \( N \) system have the terms, \( \bar{t}, \bar{c} \) and \( k \) respectively. Thus, there is a contrast of systems, \( P-L-N \) in the pattern and the contrast of terms is as follows: \( p-\bar{t}-\bar{c}-k, t-p-\bar{t}-c-k, t-\bar{t}-\bar{c}-k \) and \( k-\bar{t}-t-c-k \). It may be noted that there is no paradigmatic contrast of systems and terms of the third and fourth syllables.

e.g. \( hP\bar{P}P\bar{V}h/P\bar{L}VL\bar{V}\bar{L}VNk \) \( \text{pato:rii} \text{nga}:- \) "the noise of a huge explosion"  
\( dP\bar{V}P\bar{V}P\bar{L}VL\bar{V}\bar{L}VNk \) \( \text{dabo:rii} \text{nga}:- \) "the sound of a heavy fall onto the water"  
\( \bar{d}P\bar{V}P\bar{V}P\bar{L}VL\bar{V}\bar{L}VNk \) \( \text{dadi:rii} \text{nga}:- \) "the noise of the thunder"  
\( \bar{d}P\bar{V}V\bar{V}P\bar{V}P\bar{L}VL\bar{V}\bar{L}VNk \) \( \text{gidi:rii} \text{nga}:- \) "the noise of the thunder"

The contrast of \( V \) systems and syllable prosodies is as follows:

<table>
<thead>
<tr>
<th>( V ) systems</th>
<th>prosodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>( a-e-l-a )</td>
<td>( w-w-y-w )</td>
</tr>
<tr>
<td>( a-l-l-a )</td>
<td>( w-y-y-w )</td>
</tr>
<tr>
<td>( l-l-l-a )</td>
<td>( y-y-y-w )</td>
</tr>
</tbody>
</table>

Length prosody of the second syllable is long and that of the others is short.

e.g. \( CawC\bar{C}wC\bar{C}wC \) \( \text{pato:rii} \text{nga}:- \) "the sound of a huge explosion"  
\( Ca\bar{C}wC\bar{C}wC \) \( \text{dadi:rii} \text{nga}:- \) "the sound of the thunder"  
\( C\bar{C}wC\bar{C}wC \) \( \text{gidi:rii} \text{nga}:- \) "the sound of the thunder"

4.5.1.4.2 Reduplicated structure

These are of two types: \( CV\bar{C}CV\bar{C}V \) and \( CV\bar{C}CV\bar{C}V\bar{C}V \).
The CVCVCVCV structure:

This can be considered as the reduplicated structure of the CVCV structure discussed earlier in this chapter. Therefore it is not necessary to analyse it here.

The CVCVCVCVC structure:

This can also be considered as the reduplicated structure of the CVCV structure plus a C. The C final system of this structure is always S with the term t.

e.g. PVPVPVPVS\textsuperscript{t} \textit{gudugudusga}:- "the sound of swallowing gruel etc."

PVLVPVLVS\textsuperscript{t} \textit{širikirisga}:- "the squelching sound of water"

SVLVSVLVS\textsuperscript{t} \textit{surusurusga}:- "the sound of dying fire"

It was said earlier that in some patterns of the CVCV structure the V system of the second syllable can be \(\epsilon\) where the syllable is a prosodic. In the CVCVCVCVC structure that V system is \(\alpha\) where the syllable is \(w\) prosodic.

e.g. \(\text{Ca}^{\alpha}\text{Ce}^{\alpha}\text{Ca}^{\alpha}\text{Ca}^{w}\text{C}\) \textit{patapatasga}:- "a cracking sound"

\(\text{Ca}^{w}\text{Ce}^{\alpha}\text{Ca}^{\alpha}\text{Ca}^{w}\text{C}\) \textit{satapatasga}:- "a pouring sound of drops"

4.5.2 Animate onomatopoeic stems

Animate onomatopoeic stems may be monosyllabic, disyllabic, trisyllabic, quadrisyllabic or pentasyllabic.

4.5.2.1 Monosyllabic stems

Monosyllabic stems have the following structures: CCC, CV, CVC, VC, and V.

The CCC structure:

This structure has two patterns, PLL and SNN.

The PLL pattern:

This pattern is limited to one stem where the P
system is described in relation to h prosody. Thus, the pattern can be given as hPLL. The P system has the term k and the L systems have the term t. There is a contrast of systems, P-L in the pattern and the contrast of terms is as follows: k-t.

\[ \text{e.g. } hPLL_t \quad \text{grrga:-} \quad \text{"the leopard's growl"} \]

The SNN pattern:

The pattern is limited to one stem where the S system has the term 2 and the N systems have the term p. There is a contrast of systems, S-N in the pattern and the contrast of terms is as follows: 2-p.

\[ \text{e.g. } S_2NNp \quad \text{hmmga:-} \quad \text{"the owl's hoot"} \]

The CV structure:

This structure is limited to one stem where the pattern is SV. The S system has the term 2.

\[ \text{e.g. } S_2V \quad \text{huikija-} \quad \text{"a calling sound"} \]

The V system is t and the stem is w prosodic. Length prosody is long.

\[ \text{e.g. } C\text{l}w \quad \text{huikija-} \quad \text{"a calling sound"} \]

The CVC structure:

The CVC structure has the following patterns: PVP, PVN, PVS and NVL.

The PVP pattern:

The P systems are described in relation to h prosody. Thus, the pattern can be given as hPVhP. The P initial system has two terms, ĉ and k and the P final system has two terms, p and k. There is no contrast of systems in the pattern but there is a contrast of terms: ĉ-p or no contrast.

\[ \text{e.g. } hP\text{l}VhP_p \quad \text{čipkija-} \quad \text{"the sound which is made to drive away dogs"} \]
The V system may be \( t \) or \( \alpha \). \( t \) functions in \( y \) prosodic stems where length prosody is short and \( \alpha \) functions in \( w \) prosodic stems where length prosody is long.

\[ \text{CawC} \] \( \text{ka:kkija-} \) "the caw of crows"

The PVN pattern:

The P system is described in relation to \( h \) prosody. Thus, the pattern can be given as \( h^p \text{V} \text{n} \). The P system has the term \( t \) and the N system has the term \( k \). There is a contrast of systems, P-N in the pattern and the contrast of terms is as follows: \( t-k \).

\[ \text{hP\text{t}V\text{n}k} \] \( \text{tiga:} \) "the squirrel's chatter"

\[ \text{hP\text{t}V\text{n}k} \] \( \text{tanga:} \) "the elk's bark"

The V system may be \( l \) or \( \alpha \) and they function in \( y \) and \( w \) prosodic stems respectively. Length prosody is short.

\[ \text{CawC} \] \( \text{tiga:} \) "the squirrel's chatter"

\[ \text{CawC} \] \( \text{tanga:} \) "the elk's bark"

The PVS pattern:

The P system is described in relation to \( h \) and \( h \) prosodies. Thus, the pattern can be given as \( h^p\text{bPVS} \). The P system has three terms, \( p \), \( \zeta \) and \( k \) and the S system has two terms, \( t \) and \( \gamma \). There is a contrast of systems, P-S in the pattern and the contrast of terms is as follows: \( p-\gamma \), \( \zeta-\gamma \), \( k-\gamma \) and \( \zeta-t \).

\[ \text{hP\text{p}\text{v}\text{s}} \] \( \text{buhga:} \) "the dog's bark"

\[ \text{hP\text{p}\text{v}\text{s}} \] \( \text{c\text{e\text{h}g}a:} \) "a sound which people make when they are disappointed"

\[ \text{hP\text{p}\text{k}\text{v}\text{s}} \] \( \text{kahga:} \) "the sound of coughing"

\[ \text{hP\text{p}\text{s}\text{v}s} \] \( \text{c\text{i\text{s}g}a:} \) "mouse's squeak"

The V system may be \( l \), \( \epsilon \) or \( \alpha \). \( l \) functions in \( y \) and \( w \) prosodic stems, \( \epsilon \) functions in \( y \) prosodic stems and \( \alpha \) functions in \( w \) prosodic stems.
prosodic stems. Length prosody may be short or long when V is t, otherwise it is short.

  e.g. CIVC ći:sga:- "mouse's squeak"
        ClwC buhga:- "a barking sound"
        CevC ćehga:- "a sound which people make when they are disappointed"
        CawC ćahga:- "the sound of coughing"

The NVL pattern:

  The pattern is limited to one stem where the N system has the term c and the L system has the term p. There is a contrast of systems, N-L in the pattern and the contrast of terms is c-p.

  e.g. NVLp  pa:vkij:- "cat's meow"

  The V system is a and the stem is w prosodic. Length prosody is long.

  e.g. CawC  pa:vkij - "cat's meow"

The SVS pattern:

  The S initial system has two terms, c and ć and the S final system has one term ć. There is no contrast of systems in the pattern but there is a contrast of terms: c-ć.

  e.g. SăVS2  fahga:- "a sound which is made when one is surprised or disappointed"

  S₁VS₁  hahga:- "a laughing sound"

  The V system is a and the stems are w prosodic. Length prosody is short.

  e.g. CawC  hahga:- "a laughing sound"

The LVN pattern:

  The pattern is limited to one stem where the L system has the term t and the N system has the term k. There is a contrast of systems, L-N in the pattern and the contrast of terms is t-k.

  e.g. LtVNk  ru:qga:- "the buzzing of bees"
The V system is \( t \) and the stem is \( w \) prosodic. Length prosody is long.
e.g. \( ClwC \) ru\( i\)nga:- "the buzzing of bees"

The VC structure:

This structure has only one pattern, VS where the S system has one term, \( q \).
e.g. \( VSq \) u\( h\)ga:- "the sound which is made when one is in pain"

The V system may be \( t \), \( e \) or \( a \). \( t \) and \( e \) function in \( y \) and \( w \) prosodic stems and \( a \) functions in \( w \) prosodic stems. Length prosody is long when \( V \) is \( t \) or \( a \) and the stem is \( w \) prosodic, otherwise it is short.
e.g. \( tvC \) ih\( g\)a:- "the sound which is made when one sees or hears an ugly thing"  
\( twC \) uh\( g\)a:- "the sound which is made when one is in pain"  
\( twC \) u\( h\)ga:- "the sound which is made when one is in pain"  
\( evC \) e\( h\)ga:- "a sound which is made when one sees or hears an ugly thing"  
\( ewC \) o\( h\)ga:- "a sound which is made when one is surprised"  
\( awC \) a\( h\)ga:- "a sound which is made when one is disappointed"  
\( awC \) a\( h\)ga:- "a sound which is made when one is disappointed"

The V structure:

The structure is limited to two stems. In the first example, \( V \) is \( t \) and the stem begins with \( w \) prosody and ends with \( y \) prosody. In the second example \( V \) starts with \( a \) grade and ends with \( t \) grade and the stem begins with \( w \) prosody.
and ends with y prosody. Length prosody is always long.

* e.g. \( \text{wii} \) \( \text{ui} \) \( \text{ki} \) \( \text{ja} \)- "the sound which is made when one is in pain"

\( \text{wii} \) \( \text{ai} \) \( \text{ki} \) \( \text{ja} \)- "a sound which is made when one is in pain"

### 4.5.2.2 Disyllabic stems

Disyllabic stems have three structures, CVCV, CVCVC and VCCV.

The CVCV structure:

This structure has one pattern, PVSV where the P system is described in relation to h and h prosodies. Thus, the pattern can be given as \( h/PVSV \). The P system has two terms, p and k and the S system has the term, \( \text{?} \). There is a contrast of systems, P-S in the pattern and the contrast of terms is p-\( \text{?} \) and k-\( \text{?} \).

* e.g. \( \text{bPP} \text{VSV}_{2} \text{V} \) \( \text{bbeh} \text{ki} \text{ja} \)- "the bleating of a goat"

\( \text{hPK} \text{VSV}_{2} \text{V} \) \( \text{koho} \text{ki} \text{ja} \)- "the plaintive cuckoo's cry"

The contrast of \( V \) systems and syllable prosodies is as follows: \( V \) systems prosodies

\[ \begin{align*}
    a-a & \quad y-y- \\
    e-e & \quad w-w-
\end{align*} \]

Length prosody of the second syllable is long and that of the first syllable is short.

* e.g. \( \text{CayCay} \) \( \text{bbeh} \text{ki} \text{ja} \)- "the bleating of a goat"

\( \text{CewCew} \) \( \text{koho} \text{ki} \text{ja} \)- "the plaintive cuckoo's cry"

The CVCVC structure:

This structure is limited to one stem where the pattern is PVLVS. The P system is described in relation to h prosody. Thus, the pattern can be given as \( h/PVSVL \). The P and L systems have k and \( t \) terms respectively and the S system has the term \( t \). There is a contrast of systems, P-L-S in the pattern and the contrast of terms is k-\( t \)-\( t \).

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The V systems are *i* and the syllables are "prosodic. Length prosody of the first and second syllables is short and long respectively.

The VCCV structure:

The structure is limited to one stem where the pattern is VNPV. The P system is described in relation to h prosody. Thus, the pattern can be given as VNPV. Both systems have the term p. There is a contrast of systems, N-P in the pattern but there is no contrast of terms.

The contrast of V systems is i - a and of syllable prosodies is w - y. Length prosody of the first syllable is short and that of the second syllable is long.

Quadrisyllable stems

Quadrisyllabic stems have three structures CVCVCVCV, CVCVCCVCVC and CVCVCCVCVCV.
The CVCVCVCV structure:

The structure is limited to one stem where the pattern is PVSVPVSV. The P systems are described in relation to h prosody. Thus, the pattern can be given as nPVSVhPVSV. The P systems have the term k and the S systems have the term t. There is a contrast of systems, P-S-P-S in the pattern and the contrast of terms is k-t-k-t.

e.g. nPVStVnPvStV kasukusuga: - "a whispering sound"
The contrast of V systems is a-i. The syllables are w prosodic and length prosody is short.
e.g. CawClwClwClw kasukusuga: - "a whispering sound"

The CVVCVCVCVC structure:

The P initial system of the third syllable is described in relation to h prosody and the other P systems are described in relation to h prosody. Thus, the pattern can be given as nPVhPVhPVhPVhP. The P initial system of the first syllable has the term c, the P initial systems and the N final systems of the second and fourth syllables have the term k and the P initial system of the third syllable has the term p. There is a contrast of systems, P-N-P-N in the pattern and the contrast of terms is c-k-p-k.

e.g. nPVhPVhPVhPVhPN kasumbukunga: - "a monkey's cry"
The contrast of V systems is a-i. The syllables are w prosodic and length prosody is short.
e.g. CawCawCawCawkasumbukunga: - "a monkey's cry"

The CVCCVCVCVC structure:

The structure is limited to one stem where the pattern is PVPPVPVPP. The P systems are described in relation to h prosody. Thus, the pattern can be given as nPVhPVhPVhPVhPPV. The P systems have the term k. There is no contrast of systems as well as of terms in the pattern.
e.g. nPVhPVhPVhPVhPPV kukkanukkuku:kku:ga: - "cock's crow"
The V systems are l and the syllables are w prosodic. Length prosody of the first and second syllables is short and
that of the other syllables is long.

  e.g. ClwCClwC1wCClw  kukku:kku:ga:- “cock’s crow”

4.5.2.5 Penta-syllabic stems

Pentasyllabic stems have two structures, CVCCVCCVCVCCV and CVCCVCCVCVCCV.

The CVCCVCCVCVCCV structure:

The structure is limited to one stem where the pattern is PVPPPPVPPVVLVN. The P initial system of the fourth syllable is described in relation to h prosody and those of the others are described in relation to h prosody. Thus, the pattern can be given as BPVPPPPVPPVPPVVLVN. The P initial system of the fourth syllable has the term k and those of the other syllables have the term t and the L initial and N final systems of the fifth syllable have the terms t and k respectively. There is a contrast of systems, P-L-N in the pattern the contrast of terms is t-k-t-k.

  e.g. bPtVbPPtVhPPtVhPktVLtVNk dududu:dudulu:nga: “a particular bird’s cry”

The V systems are t and the syllables are w prosodic. Length prosody of the fifth syllable is long and that of the other syllables is short.

  e.g. ClwCClwCClwCClwC1wC dududu:dudulu:nga: “a particular bird’s cry”

The CVCCVCCVCVCCV structure:

The structure is limited to one stem where the pattern is SVPPVSVPPVSV. The P systems are described in relation to h prosody. Thus, the pattern can be given as SVhPPVSVhPPVSV. The P systems have the term k and the S systems have the term q. There is a contrast of systems, S-P-S-P-S and the contrast of terms is q-k-q-k-.

  e.g. S1VhPPkVS1VhPPkVS1V hukkihukkihuki:j- “the fox’s bark”
The V systems are \( \lambda \) and they function in \( w \) and \( y \) prosodic syllables. Length prosody of the fifth syllable is long and that of the other syllables is short.

\(~ \)\( \text{C}_w\text{C}_w\text{C}_w\text{C}_w\text{C}_w \) \( \text{hukkihukkihu:kij-} \) "the fox's bark"

4.6 According to the analysis given above the phonology of onomatopoeic stems has special features: C systems which are very rare at the C initial place of simple verbs are very common in onomatopoeic stems. In disyllabic inanimate onomatopoeic stems the second syllable harmonizes with the initial syllable in terms of \( h \) and \( h \) prosodies as well as \( y \) and \( w \) prosodies. Polysyllabic animate stems, being imitative of sounds, are partially reduplicated. As was shown above, there is a systematic prosodic relationship between initial and non-initial syllables of polysyllabic onomatopoeic stems. Monosyllabic and disyllabic inanimate onomatopoeic stems are usually used in reduplicated form. Syllabic consonants, which do not occur in stems of other types are possible in animate onomatopoeic stems. All structures of onomatopoeic stems along with the number of patterns they have are given in Table 7.

<table>
<thead>
<tr>
<th>Structures</th>
<th>Inanimate</th>
<th>Animate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monosyll. stems</td>
<td>( \text{CCC} )</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>( \text{CV} )</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>( \text{CVC} )</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>( \text{VC} )</td>
<td>-</td>
</tr>
<tr>
<td>Disyll. stems</td>
<td>( \text{CVCV} )</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>( \text{CVCVC} )</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>( \text{VCCV} )</td>
<td>-</td>
</tr>
<tr>
<td>Trisyll. stems</td>
<td>( \text{CVCVCV} )</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>( \text{CVCVCVCV} )</td>
<td>5</td>
</tr>
</tbody>
</table>

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In conclusion, the phonological analysis of stems of phrasal verbs was given in this chapter. There, three types of stems, non-free morphemes, loan stems and onomatopoeic stems which occur as the first element of the stems of phrasal verbs were discussed. It was shown there that, on the one hand the phonological analysis of the stems considered above differs from that of simple verb stems and on the other hand the phonological analysis of each type of the three types analysed in the chapter differs from that of the others in several ways.

| Quadrisyll. stems | CVCVCVCVC | 9  | -            |
|                  | CVCVCVCVC | 1  |
| Pentasyll. stems | CVCCVCCVCCV  | 1  |
|                  | CVCCVCCVCCV | 1  |

Table 7. Onomatopoeic stem structures
5.0 AFFIXES

5.1 This chapter presents a phonological analysis of affixes which can be prefixes, suffixes, or infixes. However, as the majority of the affixes are suffixes, they will be taken first.

5.2 Suffixes

5.2.1 Syllable structure of suffixes

Suffixes fall into three groups, monosyllabic, disyllabic and trisyllabic.

5.2.1.1 Monosyllabic Suffixes

C- initial and C- final
CVC \textit{kata}t \hspace{1cm} "even if ... eat"

C- initial and V final
CV \textit{pura}v\textit{apu} \hspace{1cm} "filled"
CCV \textit{kanne} \hspace{1cm} "that is what ... eat"

V- initial and V-final
V \textit{unna} \hspace{1cm} "stayed"
V \textit{ke:ve} \hspace{1cm} "that is what ... ate"

V- initial and C-final
VC \textit{a:vat} \hspace{1cm} "even if ... come"
VC \textit{kepuvot} \hspace{1cm} "if cut"
5.2.1.2 **Disyllabic Suffixes**

All disyllabic suffixes are V-final. However, in the initial position both C- and V- are found.

C-initial and V-final

CVCV  kapana:ya  "cut"

CVCCV  kapapa:lla  "(you) cut"

V-initial and V-final

VCV  kepuva:ye  "let it ... cut"

5.2.1.3 **Trisyllabic stems**

There is only one trisyllabic suffix found in verb forms, namely, -ahama. For example,

VCVCV  kepuva:ham:ama  "after cutting"

VCVCV  pennahama  "after jumping"

5.2.2 **Structures and patterns of suffixes**

5.2.2.1 **Monosyllabic suffixes**

Monosyllabic suffixes are of six types, CV, CVC, CVC, CCVC, V, and VC.

The CV structure:

The possible patterns of the CV structure are PV, NV and LV.

The PV pattern:

The P system functions in relation to h prosody. Thus, the pattern can be given as $hP_V$. The P system has one term, p.

\[ hP_PV \]

\[ hP_PV \]

The V system is $u$ and it functions in $y$ and $w$ prosodic suffixes. Length prosody is always short.
The NV pattern:

The pattern is limited to one stem where the \textit{N}\ system has a term, \textit{p}.

\begin{itemize}
  \item\textit{NpV kapama} "let us cut"
\end{itemize}

The \textit{V} system is \textit{l} and it functions in \textit{w} prosodic suffixes. Length prosody is always short.

\begin{itemize}
  \item\textit{Cuv kapama} "let us cut"
\end{itemize}

The LV pattern:

The \textit{L} system has one term, \textit{t}.

\begin{itemize}
  \item\textit{LtV kapala} "has/have cut"
\end{itemize}

The \textit{V} system is \textit{a} and the suffix is \textit{w} prosodic. Length prosody is short.

\begin{itemize}
  \item\textit{Caw kapala} "has/have cut"
\end{itemize}

The CVC structure:

The possible patterns of the CVC structure are PVP, PVN, NVN and SVN.

The PVP pattern:

The \textit{P} systems are described in relation to \textit{h} prosody. Thus the pattern can be given as \textit{nPvnP}. The \textit{P} systems have one term, \textit{t}.

\begin{itemize}
  \item \textit{nPvNP kapatot} "if...cut"
  \item \textit{nPvNP kapstat} "even if...cut"
\end{itemize}

The \textit{V} system may be \textit{e} or \textit{a} and they function in \textit{w} prosodic suffixes. Length prosody is short.

\begin{itemize}
  \item\textit{CeWC kapatot} "if...cut"
  \item\textit{CeWC kapstat} "even if...cut"
\end{itemize}

The PVN pattern:

The \textit{P} system is described in relation \textit{h} and \textit{h}
prosodies. Thus the pattern can be given as $h \cdot P^P V N^N$.
The P system has three terms, $p$, $t$ and $k$. The N system has one term, $k$.

- **e.g.** $hP^P V N^N_k$ kapəpanəg "do cut"
- $hP^P t V N^N_k$ kəpuvədenəg "let(them) cut"
- $hP^P k V N^N_k$ kəpañoθaŋ "until ... cut"

The V system may be $ɛ$ or $α$. $ɛ$ functions in $y$ prosodic suffixes and $α$ functions in $w$ prosodic. Length prosody is always short.

- **e.g.** CawC kapəpanəg "do cut"
- CευC kəpuvədenəg "let(them) cut"

The NVN pattern:

The pattern is limited one suffix where the N initial system has the term $t$ and the N final system has the term $k$.

- **e.g.** NtVNk kawənaŋ "if(you) ate"

The V system is $α$ and the suffix is $w$ prosodic. Length prosody is short.

- **e.g.** CawC kawənaŋ "if(you) ate"

The SVN pattern:

The pattern is limited to one suffix where the S system has the term $q$ and the N system has the term $k$.

- **e.g.** SqVNk kapəhaŋ "do cut"

The V system is $α$ and the suffix is $w$ prosodic. Length prosody is short.

- **e.g.** CawC kapəhaŋ "do cut"

The CCV structure:

This structure has three patterns, PPV, NFV and NNV.

The PPV pattern:

The P systems are described in relation to $h$
and ḥ prosodies. Thus, the pattern can be given as ḥ/ḥPPV. The P systems are always homorganic and have two terms, t and ċ.

    e.g. ḥPPtV kapaddi "while cutting"
    ḥPPċV kapičči "was cut(emp)"

The V system may be ḥ or ċ and ġ functions in ĭ and ē functions in ā prosodic suffixes. Length prosody is always short.

    e.g. ģÇtV kapaddi "while cutting"
    ģÇty kapičča "cut(invol. past participle)"
    ģCCē kapapičča "cut (invol. past participle)"

The NPV pattern:

    The pattern is limited to one suffix where the P system is described in relation to ḥ prosody. Thus, the pattern can be given as NbPV. The P and N systems are homorganic and they have the term ť.

    e.g. NbPtV kapanda "do cut"

The V system is ė and the suffix is ā prosodic. Length prosody is short.

    e.g. ģCCē kapanda "do cut"

The NNV pattern:

    The pattern is limited to one suffix where the N systems are homorganic and have the term ť.

    e.g. NNtV kapanne "cut(non-past) emph."

The V system is ė and the suffix is ĭ prosodic. Length prosody is short.

    e.g. ģCCē kapanne "cut(non-past) emph."

The CCVC structure:

    This structure has two patterns, PPVN and NNVN.
The PPVN pattern:

The pattern is limited to one suffix where the P systems are described in relation to h prosody. Thus, the pattern can be given as PPVN. The P systems are homorganic and have the term t and the N system has the term k.

e.g. hPPtVNk kapaden “let(them) cut”

The V system is € and the suffix is y prosodic. Length prosody is short.

e.g. CCøyC kapaden "let(them) cut"

The NNVN pattern:

The pattern is limited to one suffix where the N systems of the initial NN cluster have the term t and the N final system has the term k.

e.g. NNtVNk kapannag “let(me) cut”

The V system is a and the suffix is w prosodic. Length prosody is short.

e.g. CCaωC kapannag “let(me) cut”

The V structure:

The V systems may be t or €. t functions in y and w prosodic suffixes and € functions in y and a prosodic suffixes. Length prosody is always short.

e.g. tv kapai “may cut”

lw kapapiya “do cut pl.”

cy kɛpuva “cut(past emph)”

cə kɛpuva “cut(past participle)”

The VC structure:

The possible patterns of the VC structure are VP and VN.

The VP pattern:

The P system is described in relation to h prosody. Thus the pattern can be given as VhP. The P system
has one term, t.
  e.g. $VhP_t$ k$\text{mpuvot}$ "if...cut"
The V systems may be a or $\epsilon$ and they function in $w$ prosodic suffixes. Length prosody is short.
  e.g. $Ce^w$ k$\text{mpuvot}$ "if...cut"
  $Ca^w$ k$\text{mpuvot}$ "even if...cut"

The VN pattern:
The pattern is limited to one suffix where the N system has the term, k.
  e.g. $VN_k$ k$\text{mpiy\&}$ "be cut(yourself)"
The V system is a and the suffix is $w$ prosodic. Length prosody is short.
  e.g. $a\text{w}C$ k$\text{mpiy\&}$ "be cut(yourself)"

5.2.2.2 Disyllabic suffixes

The disyllabic suffixes have only one structure, CVCV. There are three patterns of this structure, namely, PVPV, PVLV and NVLV where each pattern is limited to one suffix.

The PVPV pattern:
The P systems are described in relation $h$ prosody. Thus the pattern can be given as $hPVPV$. The P initial system has the term k and the P initial system of the second syllable has the term $t$. Thus, there is no contrast of systems in the pattern but there is a contrast of terms, k-$t$.
  e.g. $hPwVhP_tV$ k$\text{pan\&akota}$ "while cutting"
The V system is $\epsilon$ and it functions in $w$ and $\alpha$ prosodic syllables. Length prosody is short.
  e.g. $Ce^wC\alpha$ k$\text{pan\&akota}$ "while cutting"

The PVLV pattern:
The P initial system is described in relation
to h prosody. Thus the pattern can be given as \( ^{h}PVLV \). The \( P \) system has the term \( p \). The \( L \) initial system of the second syllable has the term \( c \). Thus, there is a contrast of systems, \( P-L \) as well as of terms, \( p-c \) in the pattern.

\[ \text{e.g. } ^{h}PVLV \quad \text{kapəpija} \quad \text{"do cut"} \]

The contrast of the \( V \) systems is as follows: \( v-e \). \( v \) functions in a \( y \) prosodic syllable and \( c \) functions in a \( a \) prosodic syllable. Length prosody is short.

\[ \text{e.g. } CVCe^a \quad \text{kapəpija} \quad \text{"do cut"} \]

The \( NVLV \) pattern:

The \( N \) initial system has the term \( t \) and the \( L \) initial system of the second syllable has the term \( p \).

\[ \text{e.g. } NTVLpV \quad \text{kapanava} \quad \text{"cut"} \]

The contrast of \( V \) systems is as follows: \( c-a \). \( c \) functions in a \( o \) prosodic syllable and \( a \) functions in a \( w \) prosodic syllable. Length prosody is short.

\[ \text{e.g. } CCaCaw \quad \text{kapanava} \quad \text{"cut"} \]

5.2.2.3 Trisyllabic suffixes

There is only one trisyllabic suffix, of which the structure is VCVCV. The pattern is \( VSVNV \). The \( S \) system has the term \( q \) and the \( N \) system has \( h_0 \). Thus, there is a contrast of systems, \( S-N \) as well as of terms, \( q-p \) in the pattern.

\[ \text{e.g. } VSVVNpV \quad \text{kəpuvahama} \quad \text{"after cutting"} \]

The contrast of \( V \) systems is \( a-e \). \( a \) functions in a \( w \) prosodic syllable and \( e \) functions in a \( o \) prosodic syllable. Length prosody is short.

\[ \text{e.g. } aCCaCw \quad \text{kəpuvahama} \quad \text{"after cutting"} \]

5.3 Infices

There are three infixes, the causative infix, the past invol. marker and the conjug. marker. The conjug. marker is
different from other infixes and will therefore be discussed in the sixth chapter. The causative marker and the past invol. marker will be dealt with here.

5.3.1 **The causative marker**

The causative marker may be non-past or past.

5.3.1.1 **The non-past causative marker**

The structure of the causative infix is CV. The C system is L with the term p in the following contexts:

1) when it occurs after stems belonging to conjug.3,

   e.g. \( L_pV \) kāvanava "cause to eat"

   \( L_pV \) yavanava "send"

2) when it occurs after the monosyllabic stems belonging to conjug.1 where the stem final C is P system or L system with the terms t and \( \tilde{t} \) or M system with any term. There is a conjug. marker between the stem and the causative marker.

   e.g. \( CVP_t-L_pV \) kādayanava "cause to break"

   \( CVP_t-L_pV \) gotayanava "knit"

   \( CVP_t-L_pV \) nāṭayanava "cause to dance"n

   \( CV莲花-L_pV \) balayanava "cause to look at"

   \( CV莲花-L_pV \) marayanava "cause to kill"

   \( VM_t-L_pV \) adayanava "cause to cry"

3) when it occurs after monosyllabic stems of conjug. 2 where the stem final C is the P system with the term t or L system with the term \( \tilde{t} \).

   e.g. \( CVP_t-L_pV \) hitayanava "plant"

   \( VL_t-L_pV \) aryanava "cause to open"

4) when it occurs after disyllabic stems belonging to conjug.1 except hinas-, upad-, valak- and varad-.

   e.g. \( L_pV \) poralayan va "cause to drop"
(It may be noted that the conj. marker is absent in forms given in No.1 above and in all other cases it is present. As stated above it occurs between the stem and the suffix).

Except for the stems given above, in all other cases where stems belong to conj. 1, 2 and 4, C of the causative infix harmonizes with the stem final C. In these cases, however, the conj. marker is absent.

e.g. CV\textsuperscript{h}P\textsubscript{p}hPV kapp\textsuperscript{a}nava "cause to cut"
CV\textsuperscript{h}P\textsubscript{p}-hP\textsubscript{p}PV addanava "cause to pull"
CV\textsuperscript{h}P\textsubscript{p}-N\textsubscript{p}PV dam\textsuperscript{a}nava "cause to put"
VN\textsubscript{t}-N\textsubscript{t}V ann\textsuperscript{a}nava "cause to prick"
CVCV\textsuperscript{h}P\textsubscript{t}-hP\textsubscript{t}PV ne\textsuperscript{a}itianava "cause to stand up"
CVCV\textsuperscript{h}P\textsubscript{k}-hP\textsubscript{k}PV valak\textsuperscript{a}nava "cause to avoid"

In all cases given above the V system is \epsilon and the syllable is \textsuperscript{a} prosodic. Length prosody is short.

e.g. C\textsuperscript{a} kavanava "cause to eat"
C\textsuperscript{a} kapp\textsuperscript{a}nava "cause to cut"

Sometimes there can be two causative infixes in the forms given in the second group. In this case, the first infix behaves as described above, i.e. C of the causative marker harmonizes with the stem final C. The second infix behaves in the way described for the stems of the first group, in other words C of the second infix is L with the term p.

e.g. N\textsuperscript{p}VL\textsubscript{p}PV kapp\textsuperscript{a}nava "cause to cut"
N\textsuperscript{p}VL\textsubscript{p}PV dam\textsuperscript{a}nava "cause to put"
The V system is \epsilon and the syllable is always \textsuperscript{a} prosodic. Length prosody is short.

e.g. C\textsuperscript{a}C\textsuperscript{a} kapp\textsuperscript{a}nava "cause to cut"
C\textsuperscript{a}C\textsuperscript{a} dam\textsuperscript{a}nava "cause to put"
5.3.1.2 **The past causative marker**

In the past tense causative forms, the causative infix is CV where C is L with the term p.

- e.g. \( L_pV \) \( k\text{-}p\text{ey}u\text{va} \) "caused to cut"
- e.g. \( L_pV \) \( m\text{-}r\text{e}y\text{y}u\text{va} \) "caused to kill"

The V system is \( t \) and the infix is \( w \) prosodic. Length prosody is short.
- \( C_tw \) \( k\text{-}p\text{ey}u\text{va} \) "caused to cut"
- \( C_tw \) \( m\text{-}r\text{e}y\text{y}u\text{va} \) "caused to kill"

5.3.2 **The past invol. marker**

The structure of the past invol. marker is C. The C system is \( N \) with the term t.

- e.g. \( N_t \) \( w\text{-}d\text{u}n\text{a} \) "was broken"
- e.g. \( N_t \) \( m\text{-}r\text{u}n\text{a} \) "was killed"

5.4 **Prefixes**

There are four prefixes in colloquial verb forms. One is monosyllabic, the others are disyllabic. The structure of the monosyllabic prefix is VC and those of others are CVCV and VCV.

The VC structure:

The C system is \( S \) with the term t.

- e.g. \( V_St \) \( a\text{-}s\text{ven}n\text{a}v\text{a} \) "resign"
- e.g. \( V_St \) \( a\text{s}k\text{a}r\text{a}n\text{a}v\text{a} \) "arrange"

The V system is \( a \) and the prefix is \( w \) prosodic. Length prosody is short.

- e.g. \( a^wC \) \( a\text{-}s\text{ven}n\text{a}v\text{a} \) "resign"
- e.g. \( a^wC \) \( a\text{s}k\text{a}r\text{a}n\text{a}v\text{a} \) "arrange"
The CVCV structure:

The CVCV structure has one pattern, PVLV where the P system is described in relation to h prosody. Thus the pattern can be given as hPVLV. The P system has the term p and the L system has two terms, t and t. There is a contrast of systems, P-L in the pattern. The contrast of terms is as follows: p-t, p-t.

e.g. hPpVLpV piligannava "accept"
    hPpVLtV pirimahanava "eke out"

The V systems are u and the syllables are y prosodic. Length prosody is short.

    e.g. ClyCtv piligannava "accept"

The VCV pattern:

The pattern of the VCV structure is VLV and it is limited to one prefix. The L system has the term t.

    e.g. VLtV arradinava "plan"

The contrast of V systems is α-ε. α functions in w prosodic syllable and ε functions in a a prosodic syllable. Length prosody is short.

    e.g. αwCεv arradinava "plan"

All structures along with the number of patterns they have are given in Table 8.
In conclusion, the phonological analysis of suffixes, infixes and prefixes was given in this chapter. According to the analysis of verb stems, a CC cluster does not occur in the onset position of the syllable of native stems. In suffixes, however, such clusters occur. Nevertheless, they can only be either homorganic plosives or a homorganic nasal plus plosive cluster. In stems, length prosody can be short or long. But in affixes it is always short. Another important point that should be mentioned here is that the M system does not occur in affixes.

Table 8. **Affix structures**

<table>
<thead>
<tr>
<th></th>
<th>Suffixes</th>
<th>Infixes</th>
<th>Prefixes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monosyll. stems</strong></td>
<td></td>
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</tr>
<tr>
<td>CV</td>
<td>3</td>
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</tr>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VC</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>V</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Disyll. Stems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CVCV</td>
<td>3</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>VCV</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Trisyll. stems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VCV</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VCVCV</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

In conclusion, the phonological analysis of suffixes, infixes and prefixes was given in this chapter. According to the analysis of verb stems, a CC cluster does not occur in the onset position of the syllable of native stems. In suffixes, however, such clusters occur. Nevertheless, they can only be either homorganic plosives or a homorganic nasal plus plosive cluster. In stems, length prosody can be short or long. But in affixes it is always short. Another important point that should be mentioned here is that the M system does not occur in affixes.
CHAPTER 6

6.1 This chapter is divided into three parts. Part 1 gives an account of the conjug. marker and its relationship to conjug. classes. In Part 2, the relationship between non-past vol. and invol. stems and non-past and past vol. stems is considered. Part 3 deals with the following topics, junction prosodies of stems and suffixes, reduplication, the relationship between a\textsuperscript{\alpha} and e\textsuperscript{\eta} the relationship between vowels preceding and following [h] and length relationship of simple verbs.

6.2 PART 1

6.2.1 Conjug. marker

The morphological unit which occurs between stems and suffixes is treated as the conjug. marker. In the literature conjug. marker has been treated in two ways. Except in one thesis, De Silva (1958) it is treated as the stem final vowel. As far as the function of the verb stem is concerned the function of the conjug. marker is different from other vowels of the stem. In order to examine this one may compare the analysis of the conjug. marker with the analysis of V systems given in chapter 3. De Silva (1958) on the other hand treats conjug. markers as junction prosodies. According to the definition of junction prosodies given in Prosodic Phonology it is difficult to treat conjug. markers as junction prosodies. In fact, the conjug. markers are quite different from the junction prosodies described in Part 3 in this chapter.

I have treated the conjug. marker as an infix. Such an analysis makes it possible to establish four conjug. classes in relation to which vol. and invol. forms and their relation to tenses can be described more satisfactorily. The absence and
presence of the conjug. marker is illustrated below: the presence of the conjug. marker is represented by α, € and placed between hyphens and its absence is represented by (non-syllabic marker).

Presence of the conjug. marker:

1) Between C-final stems and C-initial suffixes:
   CVC-€-CVCV  bal-€-nava “look”
   VC-€-CVCV   an-i-€nava “prick”
   CVC-€-CVCV  b€l-u-va “looked”
   CVC-€-CVCV  k€p-e-nava “is cut”

2) Between C-final stems and V-initial suffixes:
   CVC-αω-V    bal-α-i “may look”
   VC-αω-V     an-α-i “may mix”

Absence of the conjug. marker:

1) Between V-final stems and C-initial suffixes:
   CV-φ-CVCV   ka-φ-va “eat”
   CV-φ-CVCV   na-φ-va “bathe”

2) Between V-final stems and V-initial suffixes:
   CV-φ-V      ka-i “may eat”
   CV-φ-V      de-i “may give”

3) Between C-final stems with the N system and C-initial suffixes:
   CVC-φ-CVCV  dan-φ-va “know”
   VC-φ-CVCV   in-φ-va “stay”

4) Between C-final stems with γ prosody and V-initial suffixes:
   CVC-γ-γ-V   pεn-γ-a “jumped”
6.2.2 Conjugation classes of volitive forms

6.2.2.1 Non-past

Four conjug. classes, 1, 2, 3, and 4, based on the stem final feature and type of conjug. marker are set up for non-past vol. forms.

Conjug. 1

In conjug. 1 the conjug. marker is e and the syllable is a prosodic.

e.g. CVC-eʔ-CVCV  kapənəva "cut"
CVC-eʔ-CVCV  balənəva "look"

Conjug. 2

In conjug. 2 the conjug. marker is 1 and the syllable is y prosodic.

e.g. CVC-1v-CVCV  paninəva "jump"
VC-1v-CVCV  adinəva "pull"

Conjug. 3

In conjug. 3 the conjug. marker is ø and the stem is V final.

e.g. CV-ø-CVCV  ka-nəva "eat"
CV-ø-CVCV  naː-nəva "bathe"

Conjug. 4

In conjug. 4 the conjug. marker is ø and the stem is C final and nasal.

e.g. CVC-ø-CVCV  gan-nəva "take"
VC-ø-CVCV  in-nəva "stay"
6.2.2.2  **Past**

Conjug. 1

In conjug. 1 the conjug. marker is *l* and the syllable is *w* prosodic.

e.g. CVC-\[l\]-CV kẹpuva 1 "cut"

CVC-\[l\]-CV bẹlụva "looked"

Conjug. 2

In conjug. 2 the conjug. marker is ^ and the stem is C-final.

e.g. CVC-^CV pên-n-a 1 "jumped"

VC-^CV ẹd-d-a "pulled"

Conjug. 3

In conjug. 3 the conjug. marker is ^ and the stem is V-final.

e.g. CV-^CV kẹ:-va 1 "ate"

CV-^CV nẹ:-va "bathed"

Conjug. 4

In conjug. 4 the conjug. marker is ^ and the stem is C-final.

e.g. CVC-^-CV gẹt-t-a 1 "took"

VC-^-CV un-n-a "stayed"

6.2.2.3  **Non-past perfective**

Conjug. 1

In conjug. 1 the conjug. marker is ɛ and the syllable is ą prosodic.

e.g. CVC-ą-CV kẹpala "has/have cut"

CVC-ą-CV bẹlụla "has/have looked at"

1 [v], [n], [t] and [d] are treated as junction prosodies.
Conjug. 2

In conjug. 2 the conjug. marker is  and the syllable is prosodic as in conjug. 1.
e.g. CVC- CV  pənala "has/have jumped"

Conjug. 3

In conjug. 3 the conjug. marker is  and the stem is V-final.
e.g. CV-CV  ka:-la "has/have eaten"
CV-CV  na:-la "has/have bathed"

Conjug. 4

In conjug. 4 the conjug. marker is  and the syllable is prosodic.
e.g. VC-CV  idа:la "has/have stayed"

The conjug. markers of non-past, past and non-past perfective vol. forms of the four conjug.s are summarized in Table 9.

<table>
<thead>
<tr>
<th></th>
<th>Conjug. 1</th>
<th>Conjug. 2</th>
<th>Conjug. 3</th>
<th>Conjug. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-past</td>
<td>-eə-</td>
<td>-V-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Past</td>
<td>-Vu-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Non-past</td>
<td>-eə-</td>
<td>-eə-</td>
<td>-</td>
<td>-eə-</td>
</tr>
<tr>
<td>perfective</td>
<td>-eə-</td>
<td>-eə-</td>
<td>-</td>
<td>-eə-</td>
</tr>
</tbody>
</table>

Table 9. Vol. conjug. markers

6.2.3 Conjug. marker in invol. forms

All invol. forms fall into one class and the conjug. marker is always present.
6.2.3.1 **Non-past**

The conjug. marker is € and the syllable is y prosodic.

* e.g. CVC-€y-CVCV  kəpenəva "cut (invol.)"
  VC-€y-CVCV  edanəva "pull (invol.)"

6.2.3.2 **Past**

The conjug. marker is ł and the syllable is w prosodic.

* e.g. CVC-łw-CV  kəpuna "cut (invol.)"
  VC-łw-CV  eduna "pulled (invol.)"

6.2.3.3 **Non-past perfective**

The conjug. marker is ł and the syllable is y prosodic.

* e.g. CVC-ły-CV  kəpila "has/have cut (invol.)"
  VC-ły-CV  edila "has/have pulled (invol.)"

Thus, the conjug. markers of non-past, past and non-past perfective invol. forms can be given as follows:

<table>
<thead>
<tr>
<th>Non-past</th>
<th>Past</th>
<th>Non-past perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>-€a-</td>
<td>-łw-</td>
<td>-ły-</td>
</tr>
</tbody>
</table>

6.3 **PART 2**

6.3.1 The simple verb stems were analyzed in the third chapter. There, it was said that the difference between vol. and invol. stems depends on prosodies and not on V systems or C systems. Therefore, in the following section the prosodic relationship between non-past vol. and non-past invol. verb stems as well as non-past and past vol. stems will be discussed.
6.3.2 The systematic prosodic relationship between vol. and invol. non-past stems

8.3.2.1 Monosyllabic stems

As far as prosodies are concerned, monosyllabic stems of each conjug. class can be divided into two groups. Stems of the first group are characterized by $y$ prosody in both vol. and invol. stems and those of the second group are characterized by $w$ prosody when vol. and $y$ prosody when invol.

**Group 1: $y$ prosodic vol. and invol. stems**

<table>
<thead>
<tr>
<th>Conjug. 1</th>
<th>Vol.</th>
<th>Invol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. CevC-e$^\alpha$</td>
<td>- temenava &quot;wet&quot;</td>
<td>CevC-e$^\nu$</td>
</tr>
<tr>
<td>$\nu$C-e$^\alpha$</td>
<td>- iranava &quot;tear&quot;</td>
<td>$\nu$C-e$^\nu$</td>
</tr>
</tbody>
</table>

| Conjug. 2 | |
|-----------|------|--------|
| e.g. C$\nu$C-$\nu$ |- hidinava "break" | C$\nu$C-e$^\nu$ |- $\check{b}$denava |
| $\nu$C-$\nu$ |- ihinava "sprinkle" | $\nu$C-e$^\nu$ |- ihenava |

| Conjug. 3 | |
|-----------|------|--------|
| e.g. Ce$^\nu$-$\check{\phi}$ |- denava "give" | Ce$^\nu$-e$^\nu$ |- devenava |
| e$^\nu$-$\check{\phi}$ |- anava "come" | e$^\nu$-e$^\nu$ |- e$^\nu$-e$^\nu$ |

| Conjug. 4 | |
|-----------|------|--------|
| e.g. $\nu$C-$\check{\phi}$ |- innava "stay" | $\nu$C-e$^\nu$ |- indenava |

According to the examples given above it is clear that the difference between vol. and invol. forms depends on the conjug. marker and not on the stem.

**Group 2: $w$ prosodic vol. stems and $y$ prosodic invol. stem**
Vol. | Invol.
---|---
e.g. Ca\(^\theta\)C \text{kanenava} "cut" | \text{CavC kanenava}
e.g. \(\alpha\)C \text{etenava} "fold" | \text{\(\alpha\)C etenava}
e.g. Cl\(^\theta\)C \text{pidenava} "offer" | \text{Cl\(^\theta\)C pidenava}


e.g. CawC \text{paninava} "jump" | \text{CavC pennenava}
e.g. CawC \text{adinava} "pull" | \text{CawC adenava}
e.g. ClwC \text{puadinava} "blossom" | \text{ClwC pidenava}


e.g. Caw \text{kanava} "eat" | \text{Cav kevenava}
e.g. Caw \text{janava} "go" | \text{Cav jevenava}


Conjug. 4

e.g. CawC \text{dannava} "know" | \text{CavC dennenava}
e.g. CawC \text{gannava} "take" | \text{CavC gennenava}

According to the examples given above, the difference between vol. and invol. stems is prosodic; both have the same V systems but vol. stems are w prosodic and invol. stems are y prosodic.

8.3.2.2 Disyllabic stems

Only conjug. 1 and 2 have disyllabic stems.

Conjug. 1

Stems belonging to conjug. 1 can be divided into four groups, A, B, C and D.

Group A:

In group A, both vol. and invol. stems are characterized by y prosody.

e.g.

Vol. | Invol.
---|---
\text{Cl\(^\theta\)C\text{ly}-CVCV} \text{mirikenava} "squeeze" | \text{Cl\(^\theta\)C\text{ly}-CVCV mirikenava}
\text{lyCl\(\theta\)C-CVCV} \text{mirikenava} | \text{lyCl\(\theta\)C-CVCV mirikenava}

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ihirena 'spill' ihirena

Thus the difference between vol. and invol. stems depends on the conjugation marker which is a prosodic in vol. form and y prosodic in invol. form.

Group B:

In group B, prosodies of both vol. and invol. stems are as follows: y-ə-

e.g.  
CeyCeəC-eə-CVCV  CeyCeəC-eү-CVCV
peraλenava "drop" peraλenava
CeyCeəC-eə-CVCV  CeyCeəC-eү-CVCV
teraπenava "press" teraπenava

Thus the difference between vol. and invol. stems similarly depends on the conjug. marker which is ə prosodic in vol. forms and y prosodic in invol. forms.

Group C:

In group C, syllable prosodies of vol. and invol. stems are w-ə and y-ə respectively. So the difference is in the prosody of the first syllable of the stem.

Vol.     Invol.

e.g.     CawCeəC  CeyCeəC
gilapenava "match" gilapenava
CeyCeəC  CeyCeəC
golaπenava "persuade" golaπenava

Group D:

In group D, vol. stems are w prosodic and invol. stems are y prosodic. Here the difference between vol. and invol. stems depends on the prosodies of both syllables of the stem.

Vol.     Invol.

e.g.     αwCtvC  αyCtvC
akulnenava "fold" akulenava
uCtvC  uCtvC
uturenava "overflow" uturenava
Conjug. 2

Disyllabic stems belonging to conjug. 2 can be divided into two types, A and B.

Group A:
In group A, stems of both vol. and invol. stems are y prosodic. Thus, the difference between vol. and invol. stems depends on the conjug. marker which is t_y in vol. stems and e_y in invol. stems.

*e.g.*

<table>
<thead>
<tr>
<th>Vol.</th>
<th>Invol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaCt_yC-lv-CVCV</td>
<td>CaCt_yC-Cs-ev-CVCV</td>
</tr>
<tr>
<td>nmsiCtnaCva &quot;stand&quot;</td>
<td>nmsiCtCteCva</td>
</tr>
<tr>
<td>avCt_yC-lv-CVCV</td>
<td>avCt_yC-Cs-ev-CVCV</td>
</tr>
<tr>
<td>avCtidCnaCva &quot;walk&quot;</td>
<td>avCtCddCnaCva</td>
</tr>
</tbody>
</table>

Group B:
In group B, syllable prosodies of vol. and invol. stems are w-ə and y-ə respectively. The difference thus depends on the first syllable of the stem.

*e.g.*

<table>
<thead>
<tr>
<th>Vol.</th>
<th>Invol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaCwCηC C</td>
<td>CaCwCηC</td>
</tr>
<tr>
<td>pCradinaCva &quot;defeat&quot;</td>
<td>pCradCnaCva</td>
</tr>
<tr>
<td>pCradinaCva &quot;bear&quot;</td>
<td>pCradCnaCva</td>
</tr>
</tbody>
</table>

6.3.2.3 According to the above analysis, in invol. stems, monosyllabic stems and the first syllable of disyllabic stems are always y prosodic. The second syllable of disyllabic stems may be y or w depending on the contexts given in the third chapter. In volitive stems, the monosyllabic stems and the initial syllable of disyllabic stems may be y or w prosodic but
not a prosodic. The second syllable of disyllabic stems may be \( y, w \) or a prosodic. A summary of the prosodic relationship is given in Table 10.

<table>
<thead>
<tr>
<th>Conjug. classes</th>
<th>Monosyllabic stems</th>
<th>Disyllabic stems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>( y )</td>
<td>( y )</td>
</tr>
<tr>
<td></td>
<td>( w )</td>
<td>( y )</td>
</tr>
<tr>
<td>2</td>
<td>( y )</td>
<td>( y )</td>
</tr>
<tr>
<td></td>
<td>( w )</td>
<td>( y )</td>
</tr>
<tr>
<td>3</td>
<td>( y )</td>
<td>( y )</td>
</tr>
<tr>
<td></td>
<td>( w )</td>
<td>( y )</td>
</tr>
<tr>
<td>4</td>
<td>( y )</td>
<td>( y )</td>
</tr>
<tr>
<td></td>
<td>( w )</td>
<td>( y )</td>
</tr>
</tbody>
</table>


8.3.3 The systematic prosodic relationship between past and non-past vol. stems

8.3.3.1 *Monosyllabic stems*

Monosyllabic stems are divided into three groups A, B and C. Stem belonging to conjug. 1 and 2 are studied in group A and B and those of conjug. 3 are analyzed in group C.

Group A:

In group A, stems of both past and non-past are \( y \) prosodic.
According to the examples given above it is clear that there is no prosodic difference between non-past and past stems of the given groups, both being \( y \) prosodic.

Group B:

Stems in group B differ; they are \( w \) prosodic in the non-past and \( y \) prosodic in the past.

e.g.  

<table>
<thead>
<tr>
<th>Conjug. 1</th>
<th>Non-past</th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>( CwC )</td>
<td>kap( n)ava &quot;cut&quot;</td>
<td>( Ca)( w)C kapuva</td>
</tr>
<tr>
<td>( \epsilon)( w)C</td>
<td>ot( n)ava &quot;fold&quot;</td>
<td>( e)( w)C etuva</td>
</tr>
<tr>
<td>( Cl)( w)C</td>
<td>du( v)anava &quot;run&quot;</td>
<td>( Cl)( w)C divva</td>
</tr>
</tbody>
</table>

Conjug. 2

| \( Ca\)\( w\)C | pani\( n\)ava "jump" | \( Ca\)\( w\)C pennna |
| \( \alpha\)\( w\)C | ad\( i\)nava "pull" | \( \alpha\)\( w\)C adda |

Group C:

As stated above, group C includes stems belonging to Conjug. 3. They may further be divided into four sub-groups, 1, 2, 3 and 4. Non-past stems belonging to conjug. 3 may differ from the corresponding past stems not only in prosodies but also in V systems.

Group 1

The stem is \( y \) prosodic in the non-past and \( w \) prosodic in
the past. In the non-past stem, V is €, and the stem is y prosodic and in the past V is t and the stem is w prosodic.

\[ \text{e.g.} \quad \text{Non-past} \quad \text{Past} \]
\[ C€v \quad \text{den} \text{\_ava} \quad "\text{give}" \quad Ct\text{\_w} \quad \text{dun} \text{\_na} \]

Group 2

The stem in both past and non-past is y prosodic. V is e in the non-past and t in the past.

\[ \text{e.g.} \quad \text{Non-past} \quad \text{Past} \]
\[ C€v \quad \text{ran} \text{\_ava} \quad "\text{evacuate}" \quad Ct\text{\_v} \quad \text{riv} \text{\_va} \quad \text{the bowels}" \]

Group 3

Stems in this group are w prosodic in the non-past and y prosodic in the past, and the V system is α. Length prosody of the non-past stem may be short or long and is always long in the past.

\[ \text{e.g.} \quad \text{Non-past} \quad \text{Past} \]
\[ C\text{\_a}w \quad \text{nai} \text{\_n\_ava} \quad "\text{bathe}" \quad C\text{\_a}v \quad \text{na} \text{\_iva} \]
\[ C\text{\_a}w \quad \text{hain} \text{\_n\_ava} \quad "\text{plough}" \quad C\text{\_a}v \quad \text{he} \text{\_iva} \]
\[ C\text{\_a}w \quad \text{kan} \text{\_n\_ava} \quad "\text{eat}" \quad C\text{\_a}v \quad \text{ke} \text{\_iva} \]

Group 4

The stem is w prosodic in the non-past and y prosodic in the past. V is € in the non-past stem and t in the past stem.

\[ \text{e.g.} \quad \text{Non-past} \quad \text{Past} \]
\[ C\text{\_e}w \quad \text{bon} \text{\_n\_ava} \quad "\text{drink}" \quad C\text{\_l}v \quad \text{biv} \text{\_va} \]

Group 5

The stem is w prosodic in the non-past and y prosodic in the past. V is α in the non-past stem and t in the past stem.

\[ \text{e.g.} \quad \text{Non-past} \quad \text{Past} \]

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It was said in the third chapter that conjug. 4 has only three stems, namely, dan-, gan- and in-. The stem dan-, however, is limited to the non-past. gan- has no difference in V system and syllable prosody in both non-past and past. The stem in- is y prosodic in the non-past and w prosodic in the past.

e.g. Non-past Past

Cty innava "stay" Cty unna

According to the analysis given above, the non-past and past stems of conjug. 1 and 2 have a systematic prosodic relationship but there is not such a systematic relationship in some stems of conjug. 3 and 4. These relationships are summarized in table 11 together with those of disyllabic stems.

6.3.3.2 Disyllabic stems

Only conjug. 1 and 2 have disyllabic stems. Stems of conjug. 1 are divided into four groups, A, B, C and D but there is only one group in conjug. 2.

Conjug. 1

Group A:

In group A, stems of both past and non-past are y prosodic.

Non-past Past

CtyClvC CtyClvC

mirikana "squeeze" mirikuva

iyCtvC tvCtyC

ihirana "spill" ihiruva

---

2 This stem is treated as an irregular one.
Group B:
In group B, the first and the second syllables of both non-past and past stems are y and a prosodic respectively.

- Non-past: CeyCeəC
- Past: CeyCeəC

**Example:**
- *perəlanənəva* "drop" *perəluvə*
- *teɾəpənənəva* "press" *teɾəpuvə*

Group C:
In group C, syllables of the non-past stems are w-a and those of the past stems are y-a.

- Non-past: CawCeəC
- Past: CawCeəC

**Example:**
- *galəpənənəva* "match" *galəpəvuva*
- *poləbənənəva* "persuade" *pelaNuva*

Group D:
In group D, the non-past stems are w prosodic and the past stems are y prosodic.

- Non-past: CawCaəCC
- Past: CawCaəCC

**Example:**
- *kalətənənəva* "stir" *kalətθuva*
- *ugənənənəva* "teach" *igənuvə*

**Conjug. 2**
Disyllabic stems belonging to conjug. 2 are y prosodic in both non-past and past stems.

- Non-past: CayC\textsuperscript{1}yCC
- Past: CayC\textsuperscript{1}yCC

**Example:**
- *negiθinənənəva* "stand" *negiθa*
- *avɨiθinənənəva* "walk" *avɨiθa*
A summary of the above analysis is given in the table 11.

<table>
<thead>
<tr>
<th>Conjug. class</th>
<th>Monosyllabic stems</th>
<th>Disyllabic stems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td></td>
<td>w</td>
<td>y</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td></td>
<td>w</td>
<td>y</td>
</tr>
<tr>
<td>3</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td></td>
<td>y</td>
<td>w</td>
</tr>
<tr>
<td></td>
<td>w</td>
<td>y</td>
</tr>
<tr>
<td>4</td>
<td>y</td>
<td>w</td>
</tr>
</tbody>
</table>

Table 11 Non-past and past vol. stems

6.4

PART 3

6.4.1 Junction prosodic systems

When abstractions are made of the morphological elements comprising a verb form, namely, stems and affixes which can be prefixes, infixes and suffixes, there yet remain certain features of interrelations between stems and suffixes, stems and the conjug. marker, which is an infix, and the conjug. marker and suffixes, to be accounted for; these will be set out in this thesis as junction prosodies of stems and suffixes, of stems and conjug. marker and of conjug. marker and suffixes.

There are three junction prosodic systems, namely,
1. y-prosody
2. w-prosody
and 3. g- prosody.

The phonetic exponent of y- prosody is [j], the palatal approximant.

The phonetic exponent of w- prosody is [v], the labiodental approximant.

The phonetic exponent of g- prosody is a geminated consonant.

In the phonological formulae they are marked as y, w and g.

6.4.1.1 y-junction prosody

y- junction prosody occurs between stem and suffixes in the following context: VV-aw,εv/ε.

* e.g. giia: CV-y-V "went"
  giijot CV-y-VC "if...go"
  giiae CV-y-V "gone"

y- junction prosody occurs between the conjug. marker and suffixes in the following context: VV-aε,εv/ε.

* e.g. merijan CVCV-y-VC "kill yourself"
  merijâ CVCV-y-V "kill yourself"
  vêtijâ CVCV-y-V "fall yourself"
  vêtijê CVCV-y-V "fall yourself"

All forms belonging to this group are involitive imperative.

6.4.1.2 w- junction prosody

w- junction prosody occurs between stems and suffixes in the following context of in vol. forms: VV-aε,εv/ε.

* e.g. km:ya 3 CV-w-V "ate"
  km:yot CV-w-VC "if...eat"
  km:yâ CV-w-V "eaten"
  me:ya CV-w-V "bathed"
  me:yot CV-w-V "if...eat"
  me:yâ CV-w-V "bathed"

3 Grammatical functions of these suffixes are given in the appendix.
w- junction prosody occurs between the conjug. marker and suffixes in the following context of vol. forms: \textbf{\textit{\{\textbf{w-}conjug. marker\textbf{\}}} suffixes.}

\textbf{\textit{\textnormal{E.g.}}}

\begin{itemize}
  \item \textbf{\textit{kēpuya CVCV-w-V}} "cut"
  \item \textbf{\textit{kēpuyot CVCV-w-VC}} "if...cut"
  \item \textbf{\textit{kēpuya CVCV-w-V}} "cut (past part.)"
  \item \textbf{\textit{bēluya CVCV-w-V}} "looked"
  \item \textbf{\textit{bēluyot CVCV-w-VC}} "if...look at"
  \item \textbf{\textit{bēluya CVCV-w-V}} "looked (past participle)"
\end{itemize}

All forms belonging to this group are those of vol. past.

\textbf{6.4.1.3 \textit{\textit{g-}junction prosody}}

\textit{\textit{g-}prosody occurs between stems and suffixes in the following context: \textbf{\textit{\{P,N,S,L-g\}}} suffixes.}

\textbf{\textit{\textnormal{E.g.}}}

\begin{itemize}
  \item \textbf{\textit{tēppa CVC-g-V}} "sunbathed"
  \item \textbf{\textit{mēda VC-g-V}} "pulled"
  \item \textbf{\textit{mēgīta CVCVC-g-V}} "stood"
  \item \textbf{\textit{dēkka CVC-g-V}} "saw"
  \item \textbf{\textit{pānna CVC-g-V}} "jumped"
  \item \textbf{\textit{issā VC-g-V}} "sprinkled"
  \item \textbf{\textit{gilla CVC-g-V}} "swallowed"
\end{itemize}

All forms belonging to this group are those of the vol. past of conjug. 2.

\textit{\textit{g-}junction prosody occurs between stems and the conjug. marker in the following context: \textbf{\textit{\{P,N,S,L-g\}}} suffixes.}

\textbf{\textit{\textnormal{E.g.}}}

\begin{itemize}
  \item \textbf{\textit{kēpveuvuva CVC-g-\textbf{e}CVCV}} "caused to cut"
  \item \textbf{\textit{mēdevuva VC-g-\textbf{e}CVCV}} "caused to pull"
  \item \textbf{\textit{vētēdevuva CVC-g-\textbf{e}CVCV}} "caused to fall"
  \item \textbf{\textit{nēggevuva CVC-g-\textbf{e}CVCV}} "Caused to wake"
  \item \textbf{\textit{dēmpēvuva CVC-g-\textbf{e}CVCV}} "caused to put"
  \item \textbf{\textit{mēnnevuva VC-g-\textbf{e}CVCV}} "caused to prick"
  \item \textbf{\textit{gesgevuva CVC-g-\textbf{e}CVCV}} "caused to hit"
  \item \textbf{\textit{gillevuva CVC-g-\textbf{e}CVCV}} "caused to swallow"
\end{itemize}

All forms belonging to this group are those of past causative.

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6.5 Reduplication

It is stated in the appendix that reduplicated verb forms are used to indicate that the action is in progress. In the literature, reduplicated forms were treated as reduplication of verb stems. In this study, however, they are treated as reduplication of base forms.

6.5.1 Monosyllabic stems

Conjug. 1:

In reduplicated forms of conjug. 1 the conjug. marker of the first part is € where the syllable is a prosodic and the conjug. marker of the second part may be € where the syllable is a prosodic or a where the syllable is w prosodic. In the first case all syllables are short and in the second case the second syllable of the second part is long.

E.g. $\text{CawCe}^a-\text{CawCe}^a$ kapa-kapa: "cutting"
$\text{CawCe}^a-\text{CawCaw}$ kapa-kapa: "cutting"

Conjug. 2:

In conjug. 2, the base form is reduplicated, i.e. the conjug. marker is always € where the syllable is a prosodic.

E.g. $\text{CayCe}^a-\text{CayCe}^a$ pana-pana: "jumping"
$\text{ayCe}^a-\text{ayCe}^a$ pana-pana: "pricking"

Conjug. 3:

It is said in the appendix that stems of conjug. 3 themselves are treated as base forms as the conjug. marker is absent there. In reduplicated forms, the first stem has short length prosody and the second one has long length prosody. E.g.

$\text{Caw-Caw}$ ka-ka: "eating"
$\text{Caw-Caw}$ na-na: "bathing"
However, when the stem ve- is reduplicated it occurs as ve-vi: where V of the first stem is e and that of the second stem is i. Both syllables are y prosodic, but the first stem has short length prosody and the second has long length prosody.
e.g. Cev-Clv ve-vi: "happening"

Conjug. 4:
As is said in the appendix, among the three stems belonging to conjug. 4 only two have base forms. They are reduplicated as follows:

\[
\begin{align*}
Ca^\gamma Ce^\alpha - Ca^\gamma Ce^\alpha & \text{ dmn}-dmn \ "knowing" \\
yCe^\alpha - yCe^\alpha & \text{ ida}-ida \ "living" 
\end{align*}
\]

6.5.2 Disyllabic stems
As was stated in chapter 3 only conjug. 1 and 2 have disyllabic stems. However, it is not necessary to discuss reduplicated disyllabic stems here in detail as they are similar to two base forms.

Conjug. 1
e.g. ClvClvCe^\alpha - ClvClvCe^\alpha mirika-mirika "squeezing"
\[
\begin{align*}
\alpha & ClvCe^\alpha - \alpha & ClvCe^\alpha \text{ akula-akula } "folding"
\end{align*}
\]

Conjug. 2
Ca^\gamma ClvCe^\alpha - Ca^\gamma ClvCe^\alpha nagita-nagita "standing"
\[
\begin{align*}
\alpha & ClvCe^\alpha - \alpha & ClvCe^\alpha \text{ avida-avidu } "walking"
\end{align*}
\]

6.6 Length relationship

According to the analysis of simple verb stems and affixes two adjacent syllables cannot have long length prosody. There is no such restriction for short length prosodic syllables, i.e. all syllables of a polysyllabic verb can be short length prosodic. However, in disyllabic forms where V of the suffix is a and the suffix is w prosodic either the stem or the
suffix is long, i.e. both cannot have short length prosody. 

e.g. gija: CVCV "went"
    kɛ:va CVCV "ate"
    ka:la CVCV "has/have eaten"
    kala: CVCV "did (something)"

Nevertheless, both syllables cannot be long. According to the analysis of loan stems of phrasal verbs, however, two adjacent syllables can be long.

e.g. a:ru:צavenava CVCVCV "impute"

6.7 α prosodic syllables with €

The α prosodic syllables with € do not occur in closed syllables and in the syllables preceding or following [h]. In such contexts α occurs.

e.g. kapənava CVCəCVCV "cut"
    but kapanda CVCoCCV "to cut"
    peralanava CVCoCəCVCV "drop"
    but garahanava CVCoCaCVCV "blame"

In conclusion, it has been shown in this chapter that verb stems could be divided into conjug. classes depending on the nature of the conjug. marker. The usefulness of such a classification can be seen in the third chapter where the verb stems are analysed. It has also shown in this chapter that there is a systematic prosodic relationship between non-past vol. and invol. forms and non-past and past vol. forms. Junction prosodies which are predictable according to context, reduplication, length relationship of syllables and α prosodic syllables with €, were also considered in this chapter.
CHAPTER 7

RAPID VERB FORMS

7.0 A phonological analysis of verb stems was given in the third and fourth chapters and that of affixes was given in the fifth chapter. This chapter deals with verb forms which have one phonological shape in SS and another in RS. The difference between SS and RS is observable from certain stems and affixes, the causative infix or the conjug. marker. It is not necessary to analyze verb forms which are similar in both SS and RS as an analysis has already been given for slow verb forms.

In this chapter, the focus will be on the relevant phonological unit (which can be a few syllables, one syllable, a V or a C unit or prosodies) on which the difference between slow and rapid forms depends. Here also stems, affixes and the conjug. marker will be considered separately; stems will be taken first. However, as SS stem and suffix structures have already been described in detail only the formulae will be given here for comparison with RS structures.

7.2 STEMS

7.2.1 Simple verb stems

In the third chapter, where a phonological analysis of verb stems was given, verb stems were first grouped on the basis of the grammatical categories of verb forms, and secondly, they were divided into sub-groups by the nature of the conjug. marker. Finally, the sub-groups were again divided on the basis of the C and V structures of the stems.

In the analysis of RS stems it is not necessary to discuss all the stems of those groups and sub-groups as there are only about twenty-two stems which have one shape in SS and another shape in RS. All other stems have the same shape in both SS and RS.
and RS. Among those twenty-two stems one belongs to conjug.3, two belong to conjug.2 and all others belong to conjug.1.

7.2.1.1 Conjug. 1

The stems belonging to conjug.1 are as follows:

pen- \quad tij- \quad kar- \quad nam- \quad lov- \quad ahul-
pal- \quad dam- \quad kij- \quad nim \quad vat- \quad al-
bal- \quad dov- \quad gen- \quad ve:l-
dan- \quad vij-

Among the given stems some need to be analyzed individually and others, when they share common features, will be discussed in groups.

pen- and gen-

The parallel RS stems of pen-, CVC and gen-, CVC when they occur in non-past forms are pe:, CV and ge:, CV. The C system of the RS stems is P and the terms are p and k respectively.

e.g. \begin{align*}
\text{PpV} & \quad \text{pen:na:} \quad \text{"see"} \\
\text{PkV} & \quad \text{ge:na:} \quad \text{"bring"}
\end{align*}

The phonological structure given for the SS stems is as follows:

\begin{align*}
\text{PpV} & \quad \text{penenava} \quad \text{"see"} \\
\text{PkV} & \quad \text{genenava} \quad \text{"bring"}
\end{align*}

Thus, there is a contrast of systems, P-N as well as of terms, p-t and k-t in the SS stems but there are no such contrasts in the RS stems.

There is no difference between the SS and RS stems in the V systems and syllable prosodies apart from that of length. The difference in length is discussed in the analysis of the conjug. marker.

lov- and dov-

The parallel RS stems of lov-, CVC and dov-, CVC are lo:-, CV and do:-, CV when they occur in non-past forms where the suffix begins with C or V but not a CC cluster.
The C systems of the RS stems are L and P with the term t.

\begin{align*}
\text{e.g. } \text{LtV} & \quad \text{lona:} & \text{"lick"} \\
\text{hPtV} & \quad \text{dona:} & \text{"milk"}
\end{align*}

The phonological structure given for the SS stem is as follows:

\begin{align*}
\text{LtVLp} & \quad \text{lovanava} & \text{"lick"} \\
\text{hPtVLp} & \quad \text{dovanava} & \text{"milk"}
\end{align*}

As far as the SS stem is concerned, there is a contrast of systems, P-L as well as of terms, t-p. But there is no such contrast in the RS stems. There is no difference between the SS and the RS stems in the V system and syllable prosody apart from the difference in length prosody which is discussed in the analysis of the conjug. marker.

\begin{align*}
\text{nam- and nim-}
\end{align*}

The parallel RS stems of \text{nam-} and \text{nim-} are \text{nav-} and niv- where the stem structure is CVC. The C initial system is N with the term t and the C final is L with the term p.

\begin{align*}
\text{e.g. } \text{NtVLp} & \quad \text{navona:} & \text{"bend"} \\
\text{NtVLp} & \quad \text{nivona:} & \text{"extinguish"}
\end{align*}

The phonological structure given for the SS stems is as follows:

\begin{align*}
\text{NtVNp} & \quad \text{namanava} & \text{"bend"} \\
\text{NtVNp} & \quad \text{nimanava} & \text{"extinguish"}
\end{align*}

Thus, there is a contrast of systems, N-L as well as of terms, t-p in the RS stems but there is no contrast of systems in the SS stem even though there is a contrast of terms. The V system and the syllable prosodies of both SS and RS stems are the same.

\begin{align*}
\text{pal-, tal-, ve:l- and al-}
\end{align*}

The invol. non-past perfective SS forms of the above verbs are \text{pēlila, tēlila, ve:lila} and \text{ēlila} and the parallel RS forms are as follows: \text{pēila, tēila, ve:ila} and \text{ēila}. The stems are \text{pəl-, təl-, ve:l- and ēl-} and stem structures are (C)CV. The C system may be the P system with the terms p and t, or the L system...
system with the term p.

\[ \begin{align*}
P_P V & \quad \text{pmila} \quad \text{"has/have split"} \\
P_t V & \quad \text{tdila} \quad \text{"has/have flogged"} \\
L_P V & \quad \text{velila} \quad \text{"has/have dried"} \\
V & \quad \text{mila} \quad \text{"has/have stuck"} \\
\end{align*} \]

The phonological structure given for the SS stems is as follows:

\[ \begin{align*}
P_P V L_t & \quad \text{pmila} \quad \text{"has/have split"} \\
P_t V L_t & \quad \text{tdila} \quad \text{"has/have flogged"} \\
L_P V L_t & \quad \text{velila} \quad \text{"has/have dried"} \\
V L_t & \quad \text{mila} \quad \text{"has/have stuck"} \\
\end{align*} \]

Thus, there is a contrast of the systems, P-L as well as of terms, p-t in the SS stems but there is no such contrast in the RS stems. Both SS and RS stems have the same V systems and syllable prosodies.

\[ \text{vat-} \]

The SS invol. past general, non-past perfect, conditional and concessive forms of vat- are vətuna, vətila, vətunot and vətunat where the stem structure is CVC. The parallel RS forms are vəhna, vəhla, vəhnot and vəhnat. In the RS stem structure, the C initial system is L with the term p and the C final system is S with the term η.

\[ \begin{align*}
L_P V S_2 & \quad \text{vəhna} \quad \text{"fell"} \\
L_P V S_2 & \quad \text{vəhla} \quad \text{"has/have fallen"} \\
\end{align*} \]

The phonological structure given for the SS stem is as follows:

\[ \begin{align*}
L_P V^h P_t & \quad \text{vətuna} \quad \text{"fell"} \\
L_P V^h P_t & \quad \text{vətila} \quad \text{"has/have fallen"} \\
\end{align*} \]

Thus, the difference between the SS and RS stem is that the contrast of the systems of the SS stem is L-P and that of the RS stem is L-S. The contrast of the terms of the SS stem is p-t and that of the RS stem is p-η.

\[ \text{ahul-} \]

The parallel RS stem of ahul- is avul-. The stem structure
of the above stem is VCVC. In the RS stem structure the C initial system is L with the term p and the C final system is L with the term t.

E.g. \( VL_pVL_t \) avul\( \ddot{a} \)na: "pick up"

The phonological structure given for the SS stem is as follows:

E.g. \( V_S^2VL_t \) abul\( \ddot{a} \)na\( \ddot{a} \)va "pick up"

Thus, there is a contrast of systems as well as of terms in the SS stem but there is no contrast of systems in the RS stem even though there is a contrast of terms. The V systems and syllable prosodies of both stems are the same.

tij-

It is shown in the third chapter that this SS stem is treated as an irregular one. In that the C final system is L with the term c when it occurs in non-past forms. However, it is P with the term p when it occurs in past forms.

E.g. \( P_tV_BP_p \) tibuna "was"

In RS, the C final system is L with the term p.

E.g. \( P_tVL_p \) tivuna "was"

Thus, there is no contrast of the systems in the SS stem but there is a contrast in the RS stem. The contrasts of terms are the same in both SS and RS stems.

kar-

It is shown in the third chapter that this stem is also treated as an irregular stem. In that the C final system is L with the term t when it occurs in non-past forms. However, when it occurs in past forms it is L system with the term t.

E.g. \( P_kVL_t \) kal\( \ddot{a} \)la: "did"

In RS it is the L system with the term t.

E.g. \( P_kVL_t \) kara: "did"

vij-

vij- is yet another irregular stem which has two shapes; one in the non-past and another in the past. In the past, the stem
final C is the L system with the term p.

\[\text{e.g. } L^pV_{LP} \text{ vivva } \texttt{"wove"}\]

In RS, however, the stem is V final.

\[\text{e.g. } L_pV \text{ vijja } \texttt{"wove"}\]

There is a difference between the SS and RS stem in length and that will be discussed in the analysis of the conjug. marker.

**dam-**

The parallel RS stem of dam- is da:- when it occurs in non-past volitive forms. The structure of the RS stem is CV where the C system is P with the term t.

\[\text{e.g. } bP_pV \text{ da:na: } \texttt{"put"}\]

The phonological structure given for the SS stem is as follows:

\[bP_pVN_p \text{ damanava } \texttt{"put"}\]

Thus, there is a contrast of systems, P-N as well as of terms, t-p in the SS stem but there is no such contrast in the RS stem. There is no difference between the SS and RS stem in the V system and syllable prosody. The difference in length is discussed in the analysis of the conjug. marker.

**bal-**

The parallel RS stem of bal- is ba:- when it occurs in the infinitive form where the stem structure is CV. The C initial system is P with the term p.

\[\text{e.g. } bP_pV \text{ ba:nda } \texttt{"to look at"}\]

The phonological structure given for the SS stem is as follows:

\[bP_pVL_t \text{ balanda } \texttt{"to look at"}\]

Thus, there is a contrast of systems, P-L as well as of terms, p-t in the SS stem but there is no such contrast in the RS stem. There is no difference between the SS and RS stems in the V systems and syllable prosody. The difference in length is discussed in the analysis of the conjug. marker.

**tij- and kij-**

The parallel RS stems of tij- and kij- are ti:- and ki:- when
they occur in non-past perfective forms. The structure of the RS stem is CV where the C system is P with the terms t and k.

\[ \text{e.g.} \quad hP_tV \quad \text{ti:la} \quad "\text{has/have kept}" \\
\quad hP_kV \quad \text{ki:la} \quad "\text{has/have said}" \\
\]

The phonological structure given for the SS stem is as follows:

\[ \begin{align*}
&hP_tVLx \quad \text{ti:la} \quad "\text{has/have kept}" \\
&hP_kVLx \quad \text{ki:la} \quad "\text{has/have said}" \\
\end{align*} \]

Thus, there is a contrast of systems, P-L as well as of terms, \( k-\ell \), in the SS stem but there is no such contrast in the RS stem. There is no difference between the SS and RS stems in the V systems and syllable prosody and the difference in length is discussed in the analysis of the conjug. marker.

7.2.1.2 Conjug. 2

The stems belonging to conjug.2 can be given as follows: pan-, ban-, gan- and an-.

\[ \text{pan-, ban-, gan- and an-} \]

The parallel RS stems of pan-,ban-,gan- and an are pa-,ba-,ga-, and a-. The stem structure of the RS stems is (C)V where the initial C is P which has two terms, p and k. The P system is described in relation to h and \( h \) prosodies.

\[ \begin{align*}
&hP_pV \quad \text{paina:} \quad "\text{jump}" \\
&B_pV \quad \text{baina:} \quad "\text{blame}" \\
&B_kV \quad \text{ga:} \quad "\text{count}" \\
&V \quad \text{a:} \quad "\text{prick}" \\
\end{align*} \]

The phonological structure given for the SS stems is as follows:

\[ \begin{align*}
&hP_{p}V_{t} \quad \text{paninava} \quad "\text{jump}" \\
&B_{p}V_{t} \quad \text{baninava} \quad "\text{blame}" \\
&B_{k}V_{t} \quad \text{ganinava} \quad "\text{count}" \\
&V_{t} \quad \text{aninava} \quad "\text{prick}" \\
\end{align*} \]

Thus, there is a contrast of systems, P-N as well as of terms, p-\( \ell \) and k-\( \ell \) in the SS stems but there is no such contrast in the RS stems. There is no difference between the SS and RS
stems in the V system and syllable prosody.

7.2.1.3 Conjug. 3

There is only one stem of conjug. 3 that needs to be included in the analysis of RS stems, namely the stem ja-.

ja-

It was said in the third chapter that ja- is an irregular stem which occurs as gi- in past forms and gih- in non-past perfective forms. In RS, the stem that occurs in the non-past perfective is gi: where the structure is CV. The C system is P with the term k and it is described in relation to h prosody.

e.g. bPkJV giliiala "has/have gone"

The phonological structure given for the SS stem is as follows:

bPkJVS1 gilihila "has/have gone"

Thus, there is a contrast of systems, P-S as well as of terms, k-2 in the SS stem but there is no such contrast in the RS stem. There is no difference between the SS and RS stem in the V system and syllable prosody and the difference in length is discussed in the analysis of the conjug. marker.

According to the analysis given above, compared with the SS analysis, it is possible to say that certain C systems which occur finally in SS stems, are absent in RS. They are as follows: the N system with the terms p and t, the L system with the terms p, t, and S and the S system with the term 2.

The N system with the term t is absent in the following context: aω-ω, eω-εω. The N system with term p is absent in the following context: aω-εω. The L system with the term p is absent in the following context: eω-εω. The L system with the term t is absent in the following context: aω-εω, aν-νω. The L system with the term S is absent in the following context: ω-εω.

The S system with the term 2 is absent in the following context: νω-νω.
7.2.2 Phrasal verb stems

It was said in the fourth chapter that phrasal verbs are a composite of two elements in which the first element could be a non-free morpheme, a loan stem, an onomatopoeic stem, a noun stem, an adjective stem or a simple verb form and the second element is a simple verb of the type discussed in the third chapter. The difference between RS and SS phrasal verbs mainly depends on the second part of the phrasal verb. Therefore, the discussion of the simple RS verbs given above applies here as well. For instance, the parallel RS phrasal verb of the SS phrasal verb visikaranava is visika^rna:. Thus, the first element visi remains unchanged in both RS and SS and the difference is in the second part. There are, however, a few points to be considered here.

It was stated in the fourth chapter that kar-, ve- and gan- are the most common stems of simple verbs used in phrasal verbs. The stem ksr- is the same in RS phrasal verbs as in SS phrasal verbs. The shape of the other two stems when occurring in RS, however, depends on the preceding element of the phrasal verb.

**ve-**

The structure of the given stem is CV. The C system is L and the term is p. The V system is € and the stem is y prosodic.

* e.g. L_\text{te}_y \text{ venava} "happen"

In RS when the first stem of a phrasal verb ends in a C system, the initial C system of ve- harmonizes with the preceding C system.

* e.g. CVCVP_t+P_tV+CV mahattena: "becomes big"

The phonological structure given for the SS stem is as follows:

* e.g. CVCVP_t+L_pV+CVCV mahatvenava "becomes big"

However, when the first element ends in a V system which is
the form of the stem ve- is e-, eγ, with no initial C system.
e.g. CVCVCV+eγ+CV vakutuθna: "curl"
    VCVCV+eγ+CV ekaθagnna: "come together"
There is no difference between the RS and SS stems in the V
systems and syllable prosody in the examples given above.
Nevertheless, when the final V system of the first element of
the phrasal verb is e and the syllable is e prosodically it
harmonizes prosodically with eγ and a syllable with long length
prosody results, ekaθagnna, VCVCeγCV. The SS stem is ekaθaθen
va, VCVCe Lp€eγCVCV. Thus, in this case, the RS stem has fewer
syllables and fewer contrasts of prosodies than the SS verb
stem.

gan-

This simple verb stem is very common in reflexive phrasal
verbs. In SS the stem structure is CVC. The parallel RS stem
of gan- is n- with the structure C. The C system is N with the
term t.
e.g. Nt kapa:qna: "cut for oneself"
The phonological analysis given for the SS stem is as follows:
e.g. bPwVNt kapa:qanqna "cut for oneself"
Thus, there is a contrast of systems, P-N as well as of terms,
k-θ in the SS stem but there is no such contrast in the RS
stem. There is no V system in the RS stem and therefore, as
far as the whole stem (the first and the second elements) is
concerned, the RS stem has fewer syllables than the SS stem.

7.3 Affixes

It was said in the fifth chapter that affixes could be
suffixes, prefixes or infixes. As far as the RS affixes are
concerned, only certain suffixes and the causative infix are
involved. These are considered below.
7.3.1 Suffixes

There are about thirty three suffixes that occur in verb forms. Of these seven have been observed to have one shape in SS and another in RS. They are as follows: -n'ava, -aham^, -aig, -kota, -kag, -nne and -nnag. -n'ava is the non-past general suffix and -nne is the non-past emphatic suffix; both belong to the Indicative Mood. -nnag is the permissive suffix of the Imperative Mood. The others, namely, the Prior Temporal 1 suffix -ahama, the Prior Temporal 2 suffix -aig, the Contemporaneous suffix -kota, and the Limitative suffix -kag, which are traditionally called non-finite verbs occur in complex sentences.

7.3.1.1 Non-past general suffix

The non-past general suffix is -n'ava and the suffix structure is CVCV. The parallel RS suffix is -na: the structure is CV. The C system of the CV structure is N with the term t.

e.g. NtV kapana: "cut"

The phonological structure given for the SS suffix is as follows:

NtVLpV kapana:ya "cut"

Thus, there is a contrast of systems, N-L as well as of terms, t-p in the SS suffix but there is no such contrast in the RS suffix.

The V system of the RS suffix is a and the syllable is w prosodic. Length prosody is long.

e.g. Caw kapana: "cut"

The phonological structure given for the SS suffix is as follows:

CeCaw kapana:ya "cut"

There is also a contrast of systems e - a, as well as of prosodies, e - w in the SS suffix but there is no such contrast in the RS suffix. Length prosody of the SS suffix is short and that of the RS suffix is long. Furthermore, the SS suffix is
disyllabic and the RS suffix is monosyllabic.

7.3.1.2 **Non-past emph. suffix**

The non-past emph. suffix is -nne and the structure is CCV. The parallel RS suffix is -nn and the structure is CC. The C systems of both suffixes are NN with the term t. As far as the V system is concerned, the phonological structure given for the SS suffix is as follows:

\[ CC\epsilon^v \text{ kapanne} \quad \text{"cut emph."} \]

Thus, the difference between the SS and RS stems is that the SS suffix has a V system but the RS suffix does not.

7.3.1.3 **Permissive imperative A suffix**

The permissive imperative suffix is -nnag and the suffix structure is CCVC. The parallel RS suffix is -nna and the structure is CCV. The C systems of the RS suffix are N with the term t.

\[ NNtV \text{ kapanna} \quad \text{"let me cut"} \]

The phonological structure given for the SS suffix is:

\[ NNtVNk \text{ kapanna} \quad \text{"let me cut"} \]

Thus, there is a contrast of terms, t-k in the SS suffix but no such contrast in the RS suffix. However, there is no difference between the SS and RS suffixes in the V systems and prosodies which are \( \alpha \).

7.3.1.4 **Prior Temporal Suffix 1**

The prior temporal suffix is -ahams and the suffix structure is VCVCV. The parallel RS suffix is -ham\text{e} and the structure is CVCV. The C systems and terms of both SS and RS suffixes are \( S_2-N_p \) and do therefore need not to be discussed further. The contrast of the V systems is \( \alpha-\epsilon \) in both SS and RS. \( \alpha \) functions in \( \omega \) prosodic syllable and \( \epsilon \) functions in a prosodic syllable. In RS, length prosody of the initial syllable is long and that of the second syllable is short; in SS all three syllables have short length prosody.
Thus, there are three V systems in the SS suffix but only two in the RS suffix and there is no contrast of length prosody in the SS suffix but the initial and final syllables of the RS suffix have a contrast of long and short length prosodies respectively.

7.3.1.5 Prior Temporal Suffix 2

As is stated in the appendix, the prior temporal suffix occurs after the past completive general suffix -a as -aŋ where the suffix structure is VVC. The parallel RS suffix is α:ŋ and the suffix structure is VC. There is no difference between the SS and RS suffix structures in the C system and it will therefore not be discussed here. The V system of the RS structure is α and the syllable is y prosodic. Length prosody is long.

\[ \text{e.g. } C\nuC \text{ kēpuhama (passe) "after cutting"} \]

The phonological structure given for the SS suffix is as follows:

\[ \text{e.g. } a\nuC \text{ kēpuvamg (passe) "after cutting"} \]

Thus, length prosody of the RS structure is long and that of SS structure is short. The SS suffix structure has a contrast of prosodies, w-y but there is no such contrast in the RS suffix which is y prosodic. The SS suffix structure is disyllabic and the RS suffix structure is monosyllabic.

7.3.1.6 Contemporaneous Suffix 2

The contemporaneous suffix 2 occurs obligatorily after the non-past participle as -nako:ta and these are treated as a single suffix here. The suffix structure is CVCVCV. The parallel RS suffix is -no:tə with the structure CVCV. The C systems of the initial and the final syllables of the CVCV structure are N with the term t and P with the term ţ.
respectively. The P system is described in relation to h prosody.

e.g. $N_{vh}P_{v}V$ kapano:ta "while cutting"
$N_{vh}P_{v}V$ marano:ta "while killing"

The phonological structure given for the SS suffix is as follows:

$N_{vh}P_{k}VhP_{v}V$ kapenakota "while cutting"
$N_{vh}P_{k}VhP_{v}V$ marenakota "while killing"

Thus, there is no difference between the SS and RS suffixes in the contrast of C systems, namely, N-P but there is a difference in the contrast of terms: the SS suffix structure has a contrast of three terms, t-κ-t but the RS suffix structure has only a contrast of two terms, t-κ.

The V system of the RS suffix structure is € and it functions in w and a prosodic syllables. Length prosody of the first syllable is long and that of the final syllable is short.

e.g. $C_{ew}Ce_{w}a$ kapano:ta "while cutting"
$C_{ew}Ce_{w}a$ marano:ta "while killing"

The V systems and syllable prosodies of the SS suffix structure are:

$Ce_{w}Ce_{w}Ce_{w}a$ kapenakota:ta "while cutting"
$Ce_{w}Ce_{w}Ce_{w}a$ marenakota:ta "while killing"

Thus, in the SS suffix w prosody contrasts with the preceding and following a prosodies but in the RS suffix w prosody contrasts only with the following a prosody. Length prosody of the SS suffix is short but that of the RS suffix has a contrast of long or short. Furthermore, the SS suffix is trisyllabic and the RS suffix is disyllabic.

7.3.1.7 Limitative Suffix

The limitative suffix, -kag occurs obligatorily after the non-past participle suffix -na as -na:ka $\tilde{a}$ and these are treated as single suffix. The structure is CVCVC. The parallel RS suffix is -na:q with the structure CVC. The C initial and final systems of the RS suffix are N with the terms
and k respectively.

\[ N_t V N_k \]

\[ kapan\text{a}^q \]

"until...cut"

\[ N_t V N_k \]

\[ mar\text{a}^q \]

"until...kill"

The phonological structure given for the SS structure is:

\[ N_t V^h P_k V N_k \]

\[ kapan\text{a}^q \]

"until...cut"

\[ N_t V^h P_k V N_k \]

\[ mar\text{a}^q \]

"until...kill"

Thus, there is a contrast of systems, P-N as well as of terms, t-k in the SS suffix structure but there is no contrast of systems in the RS structure even though there is a contrast of terms, t-k.

The V system of the RS suffix structure is \( \varepsilon \) and the structure is \( w \) prosodic. Length prosody is long.

\[ C\varepsilon^w C \]

\[ kapan\text{a}^q \]

"until...cut"

\[ C\varepsilon^w C \]

\[ mar\text{a}^q \]

"until...kill"

The V systems and prosodies of the SS suffix are:

\[ C\varepsilon C^w C \]

\[ kapan\text{a}^q \]

"until...cut"

\[ C\varepsilon C^w C \]

\[ mar\text{a}^q \]

"until...kill"

Thus, there is a contrast of V systems, \( \varepsilon-\alpha \) as well as of prosodies, \( \varepsilon-w \) in the SS suffix structure but there are no such contrasts in the RS suffix structure.

7.3.2 The Causative Infix

It was stated in the fifth chapter that the structure of the causative infix, \(-ve-\) is CV, and the nature of the C system depends on the stem final C system. The parallel RS infix is \(-o:\) with the structure is \( V \), when it occurs in non-past general and non-past perfect forms. The V system is \( \varepsilon \) and the syllable is \( w \) prosodic. Length prosody is long.

\[ \varepsilon^w \]

\[ kap\text{a}^n a: \]

"cause to cut"

\[ \varepsilon^w \]

\[ mar\text{p}^n a: \]

"cause to kill"

The phonological structure given for the SS infix is as follows:

\[ C\varepsilon \]

\[ kapan\varepsilon^w a^w a \]

"cause to cut"

\[ C\varepsilon \]

\[ mar\varepsilon^w a^w a \]

"cause to kill"

Thus, the V system of the both infixes is the same. However,
the SS infix is ω prosodic but the RS infix is ω prosodic and there is a difference of length prosody. Also the SS infix has a C system whereas the RS infix does not, in other words, the structure of the SS infix differs from that of the RS infix.

According to the discussion given above, compared with the SS stems, the following C and V systems are absent in RS. The P system with the k term is absent in the following context: \( e^\omega / e^\omega \). When this happens the preceding V is also absent and length prosody of the following syllable, if short in SS, is long. The L system with the term p is absent in two contexts, \( e^\omega - e^\omega \) and \( e^\omega - e^\omega \). In the case of the first context the preceding V is also absent and length of the following syllable is long. In the second case also the preceding V system is absent. Apart from that, prosody of the syllable is \( \omega \) which is \( \omega \) in SS. The N system with the term k is absent in the following context: \( \alpha^\omega - \alpha^\omega \). \( \alpha^\omega \) occurs in SS and \( \alpha^\omega \) occurs in RS the following context: \( L^p N^p \). \( \alpha^\omega \) is absent in the following contexts: \( N^p \), \( \alpha^\omega - S^p \).

7.4 The presence and absence of the conjugation marker

It was said in the sixth chapter that the conjugation marker is always present in the forms of conjug.1. However, the following forms of conjug.1 do not have the conjug. marker in RS.

1.) The non-past perfective forms where the final C of the stem is the M system with \( \tau \), the N system with \( \tau \) or the L system with \( \tau \) or \( \tau \).

<table>
<thead>
<tr>
<th>e.g.</th>
<th>SS</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VM(\tau)-(e^\alpha)-CV</td>
<td>a(\gamma)la</td>
<td>VM-CV</td>
</tr>
<tr>
<td>VN(\tau)-(e^\alpha)-CV</td>
<td>an(\alpha)la</td>
<td>VN-CV</td>
</tr>
<tr>
<td>VLL(\tau)-(e^\alpha)-CV</td>
<td>all(\alpha)la</td>
<td>VLL-CV</td>
</tr>
<tr>
<td>VL(\tau)-(e^\alpha)-CV</td>
<td>kar(\alpha)la</td>
<td>VN-CV</td>
</tr>
</tbody>
</table>
2.) The forms of vat- :
   e.g. SS          RS
   CVC-Lw-CV vatuna CVC-CV vənna "fell"
   CVC-Lw-CV vatune CVC-CV vənne "fell emph."
   CVC-Ly-CV vətila CVC-CV vəhla "has/have fallen"

3.) The imperative form of kap- :
   e.g. SS          RS
   CVC-εω-CVC kapapaŋ CVC-CVC kappag "has/have cut"

4.) The non-past perfective form of kij- :
   e.g. CV-εω-CV kijala CV-CV ki:la "has said"

5.) The non-past volitive forms of dam- :
   e.g. SS          RS
   CVC-εω-CVCV damanava CV-CV da:na: "put"
   CVC-εω-CV damala CV-CV da:la: "has/have put"
   CVC-αω-CCV damanda CV-CCV da:nda: "to put"
   CVC-αω-CCV damaddi CV-CCV da:ddi "while putting"

6.) The volitive imperative form of bal- :
   e.g. SS          RS
   CVC-αω-CCV balaŋa CV-CCV ba:ŋa "to look at"

7.5 Length Relationship
   It was said in the sixth chapter that two adjacent syllables
   in simple verbs may not have long length. In RS forms,
   however, two adjacent syllables can have long length prosody.
   e.g. CVCVCV        maro:na: "cause to kill"
        CVCCVCV        kappo:na: "cause to cut"
7.6 Prosodic harmony

It was stated in the discussion of the systematic prosodic relationship between past and non-past volitive verb stems, in the sixth chapter, that all syllables of stems belonging to group D were w prosodic when they occurred in non-past forms and y prosodic when they were in past forms. In RS, however, the initial syllable of the stem is y prosodic and the second syllables is w prosodic when it occur in past forms. In this case, it seems the second syllable harmonizes prosodically with the following syllable in which V (the conjug. marker) is 1 and the syllable is w prosodic.

e.g.

SS
\[ \alpha yClvC \] \[ \varepsilon kuluva \] "folded"
\[ \gamma ClvCC \] \[ igulluva \] "pulled out"
\[ Ca\gamma ClvC \] \[ matiruva \] "charm"
\[ \alpha yClvC \] \[ etiruva \] "spread"

RS
\[ \alpha yClwC \] \[ \varepsilon kuluva \] "folded"
\[ \gamma ClwCC \] \[ igulluva \] "pulled out"
\[ Ca\gamma ClwC \] \[ matiruva \] "charmed"
\[ \alpha yClwC \] \[ etiruva \] "spread"

As a result of this harmony the second syllable of the RS stem has w prosody where there is y prosody in the SS stem. However, the V system of the syllable is the same.

7.7 The main differences between SS and RS forms

Rapid forms differ from slow forms in several ways: 1) in length: the structures of RS forms may be shorter than those of SS forms, 2) they may differ from SS forms in syllable type, 3) they differ from SS forms in syllable prominence, 4) there are fewer syntagmatic contrasts in RS forms, 5) they differ from SS forms in the possibility of having syllabic C system and 6)
absence of the cojug. marker.

1) Length differences
RS verb forms can be shorter than SS verb forms in four ways: (i) by one C, (ii) by one V, (iii) by one CV syllable or (iv) by more than one syllable.

(i) RS shorter by one C:

<table>
<thead>
<tr>
<th>SS</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVCCVCQ</td>
<td>jannaŋ</td>
</tr>
<tr>
<td>CVCCVCQ</td>
<td>kannanj</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>janna</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>kanna</td>
</tr>
<tr>
<td>CVCCCVQ</td>
<td>jannaŋ</td>
</tr>
<tr>
<td>CVCCCVQ</td>
<td>kannanj</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>janna</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>kanna</td>
</tr>
</tbody>
</table>

(ii) RS shorter by one V:

<table>
<thead>
<tr>
<th>SS</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVCCCV</td>
<td>kərəla</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>vaṭila</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>kərəla</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>vaṭila</td>
</tr>
</tbody>
</table>

(iii) RS shorter by one syllable:

<table>
<thead>
<tr>
<th>SS</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVCCCVQ</td>
<td>gannya</td>
</tr>
<tr>
<td>CVCCCVQ</td>
<td>dannaira</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>ganna:</td>
</tr>
<tr>
<td>CVCCCV</td>
<td>danna:</td>
</tr>
</tbody>
</table>

(iv) RS shorter by more than one syllable:

<table>
<thead>
<tr>
<th>SS</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVCCCVQCV</td>
<td>kəreyanaya</td>
</tr>
<tr>
<td>CVCCCVQCV</td>
<td>marəreyanaya</td>
</tr>
</tbody>
</table>

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RS

| CVCVCV | karo:na: | "cause to do" |
| CVCVCV | maro:na: | "cause to kill" |

2) Syllable type
RS forms may differ from SS forms in syllable type. For example, in the following SS verb forms all syllables are CV type but RS verb forms have CVC type syllables as well.

| SS | CV-CV-CV | kərəla | "has/have done" |
| SS | CV-CV-CV | baləla | "has/have looked at" |
| RS | CVC-CV | kərəla | "has/have done" |
| RS | CVC-CV | baləla | "has/have looked at" |

3) Syllable prominence
RS verb forms may differ from SS verb forms in syllable prominence. For example, the first syllable of the following verb is stressed in SS:

| 'CVCVCVCVCVCV | marəvənəva | "cause to kill" |

But in RS the second syllable is stressed.

| RS | CVCVCV | maro:na: | "cause to kill" |

Syllable prominence, as was discussed in the second chapter, depends on several factors, two of them being syllable length and type. When the syllable length and structure of RS verb forms differ from those of SS, the place of the stressed syllable may also differ.

| SS | 'CVCVCV | janava | "go" |
| SS | CV'ČVCV | tibičča | "be (past participle)" |
| SS | 'CVCVCVCVCV | baləvənəva | "cause to look at" |
| RS | CV'ČV | jana: | "go" |
| RS | 'ČYCCV | ti:čča | "be (past participle)" |
| RS | CV'ČV'ČV | balo:na: | "cause to look at" |
4) Difference in number of syntagmatic contrasts

As has been pointed out throughout the foregoing account of RS forms, they have fewer contrasts of C systems, V systems, terms and prosodies than SS forms. As an example, one may take the non-past general suffix, -nava. As was discussed on page 234, in SS this has a contrast of two systems, N-P as well as of two terms, t-p. The RS suffix has only one system, N and one term, t. As far as the V systems are concerned, the SS suffix structure has a contrast of two V systems, e and a and the RS suffix has only one V system, a. The SS suffix has a contrast of two prosodies, ə-w but there is no contrast of prosodies in the RS suffix as it is w prosodic.

5) Syllabic consonants

As stated in the second chapter, only V units are syllabic in SS verb forms. In RS, however, some consonants, phonetically speaking, alveolar nasal [n] and alveolar lateral [l] can be syllabic.

\[ \text{e.g.} \]

- gann \[gan\text{n}] \text{"take (emph.)"}
- jann \[jan\text{n}] \text{"go (emph.)"}
- allla \[all\text{l}la] \text{"has/have caught"}
- atullla \[atull\text{l}la] \text{"has/have rubbed"}

6. The presence and absence of the conjugation marker

RS forms may differ from the SS forms in the presence or absence of the conjugation marker. Examples were given in 7.4.

To summarize, in this chapter RS verb forms which differ from their parallel SS forms were described. First, stems were analyzed, secondly, suffixes were discussed, thirdly, a point
was made about phrasal verbs, fourthly, the presence and absence of the conjugation marker and prosodic harmony were considered and finally the main differences between SS and RS forms in structure, length, syllable prominence, etc., were discussed. The chapter shows that the phonology of RS forms differs from that of SS forms and that it is simpler than the phonology of SS forms. It was stated earlier that the difference between RS and SS depends on tempo. More linguistic material is produced within the same stretch of time in RS than in SS. For fast planning and production, RS needs to be less complex than SS phonetically and phonologically. The analysis given in this chapter provides evidence for this in relation to some Sinhalese verb forms.
SUMMARY AND CONCLUSIONS

Summary

The purpose of the thesis is to study the phonology of Sinhalese verb forms and their relation to slow and rapid styles. The theory used in the analysis is that of prosodic Phonology.

Chapter 1

This chapter deals with a general discussion of slow and rapid speech: nature, contexts and differences between them, the theory used in the analysis and the justification, nature of the data, procedure, informants, related linguistic research on Sinhalese, and how this research differs from that of others. An attempt was made to study styles in relation to speech situations and there I referred to related work done by others. Especially I discussed their definitions, views and the outcome of their work. In my discussion of the styles of Sinhalese, it is shown that the difference between slow and rapid styles depends on tempo. This is the first time, to the writer's knowledge that the rapid style of Sinhalese has been the subject of research.

Chapter 2

Chapter 2 consists of two parts, 1 and 2. Part 1 is an outline description of vowel and consonant sounds. There, physical characteristics of these sounds and their distribution are given. In the description of vowel sounds, simple vowels as well as diphthongs are discussed. Diphthongs had not previously been noted in Sinhalese verb forms. In the discussion of consonants, prenasalized plosives, double consonants, nasal plosive complexes and consonant clusters are
considered. Part 2 involves the discussion of the syllable: syllable structure, syllable quantity, syllable division and syllable prominence.

Chapter 3

Included in chapter 3 are an analysis of syllable structure of stems and an analysis of syntagmatic and paradigmatic contrasts of C and V systems and prosodies. The prosodic relationship between first and second syllables of disyllabic stems is also studied there. In the analysis, all possible stem structures and all possible patterns of each structure are given. It is shown that the monosyllabic stems, except the stem kar- and the initial syllables of the disyllabic stems can be either y or w prosodic. The final syllable of the disyllabic stems can be y, w or a prosodic. The a prosodic syllables in disyllabic stems are predictable on the basis of the C initial and final systems of the second syllable. When the second syllable is not a prosodic, it harmonizes with the initial syllable in terms of prosody. Thus, syllables are y-y or w-w prosodic or y-a and w-a under certain constraints.

Chapter 4

A phonological analysis of stems of phrasal verbs are given in the fourth chapter. There I have given three types of stem: non-free morphemes, onomatopoeic stems and loan stems. The same method which was followed in the analysis of simple stems is followed here as well. It is shown that the contrasts of C and V systems and prosodies of stems of one type differ from those of others. In CV type syllables of stems of non-free morphemes, length prosody is always long. There is no systematic prosodic relationship between the initial and non-initial syllables of polysyllabic stems of non-free morphemes.
Compared with simple stems analyzed in chapter 3, the M system which occurs in simple stems does not occur in non-free morphemes. In onomatopoeic stems, it is shown that there is a relationship between initial and non-initial syllables not only in y, w and ø prosodies but also in h and h prosodies. As far as C systems are concerned, the systems which are rare at the C initial places of simple stems are very common at the C initial place of onomatopoeic stems. The M system does not occur in onomatopoeic stems either. It was said in the fourth chapter that loan stems which occur only in phrasal verbs are few in number. However, phonological structures of loan stems are very different from those of native stems. Tamil loan stems have retroflex sounds in double consonants which are not found in simple native stems and English and Sanskrit stems have consonant clusters which do not occur in native stems at all.

**Chapter 5**

In chapter 5, the phonological analysis of affixes which can be prefixes, infixes and suffixes is given. In the analysis of the causative infix, it is shown that the nature of the C system of the infix in non-past forms depends on the preceding consonant. It is also shown that the shape of the causative infix in non-past forms is different from that in past forms. The way in which the phonological systems of affixes differ from those of stems is also discussed there.

**Chapter 6**

Chapter 6 is divided to three parts, part 1, part 2 and part 3. Part 1 deals with conjug. marker and conjug. classes. In the past, what is treated as conj. marker here, was considered to be part of the verb stem. Part 2 observes the relationship between non-past vol. and invol. stems and non-past and past vol. stems. It is shown in the analysis that
there is a systematic relationship between them. Included in part 3 are junction prosody systems, reduplication, the relationship between ε and α and the length relationship.

Chapter 7

The phonological analysis of rapid verb forms is given in chapter 7. First, a list of verb stems which have one shape in SS and another in RS is given, then their phonological analysis follows. In the analysis, phonological structures of RS stems are compared with those of SS structures. The same method is followed in the analysis of RS affixes as well. The chapter also includes a discussion of the conjugation marker, the length relationship of RS forms, and the nature of some RS past stems. Under the title of "Differences between RS and SS verb forms" the main differences between RS and SS forms are discussed. The chapter indicates that the phonology of rapid forms is quite different from that of SS forms.

Appendix

A grammatical analysis of verb forms is given in the appendix. There, the verb is analyzed taking tense, aspect and mood into consideration. The so called non-finite verb forms are also discussed. The appendix includes discussion of overlapping forms, the grammatical function of affixes, number and sequence of affixes, and shapes of stems in relation to grammatical categories of verb forms. A list of suffixes as well as a list of simple verbs is also given there. In the list of simple verbs, non-past vol., invol. and causative forms are given. I have followed the method used by Abhayasinghe (1973) in the analysis of tense, aspect and mood, but the rest is my own analysis.
Conclusions

Finally, in my view the major contribution of the thesis is that it has provided data and analyses of rapid style verb forms and verb forms with onomatopoeic stems and non-free morphemes, three aspects of Sinhalese which have not been studied before. The thesis also provides a much more detailed phonological analysis of Sinhalese verb forms than has hitherto been available and demonstrates various phonological relationships that had not been noted previously: the relationship between slow and rapid verb forms, between vol. and invol. stems and non-past and past vol. stems, the relationship between non-past and past conjug. markers and the relationship between first and second syllables of simple verb stems. The relationship between vol. and invol. stems had been examined in studies previous to this one, for instance, Wickramasinghe (1972) and Abhayasinghe (1973) but as the conjug. marker was taken as a part of the stem in such studies, the relationship shown was not very systematic. It is also shown in the analysis of disyllabic simple verb stems that they could be considered as combinations of monosyllabic stems. Otherwise, there is no difference between them in complexity of structures. Furthermore, because of the divided study into structures and patterns, it is possible to show that according to the analysis of simple verb stems, on the one hand, simple structures have many patterns and complex structures have few patterns, and on the other hand, simple patterns with relatively few contrasts have many stems and complex patterns with relatively more contrasts have few stems. Thus it is possible to say that stems with fewer contrasts would seem to require less planning in production and less complexity in storage and are therefore more economical as far as speech processing goes than stems with many contrasts. This suggests that if all stems had many contrasts, the vocabulary would have to be smaller than it is. This is shown in the analysis of English
child phonology (Waterson 1987) as well.
The purpose of the appendix is to discuss the Sinhalese verb, taking aspect, tense and mood into consideration in order to give a picture of verb conjugation morphology as background to the analyses I have presented of verb stems, affixes, junction prosodies of stems and affixes, as well as certain predictable relationships of syllables and verb forms.

The Sinhalese verb can be divided into two major groups, volitive and involitive; both can be transitive and intransitive.

1. a) Vol. transitive
   
   mama gahak kémuva
   I a tree felled
   "I felled a tree"
   b) Vol. intransitive
   
   malli adanava
   younger cry
   brother
   "Younger brother cries"

2. a) Invol. transitive

   pihijată kakula kémuna
   to the the cut
   knife leg
   "The leg was cut by the knife"
   b) Invol. intransitive

   mătă adenava
   to me cry
   "I cry accidentally"

Volitive verbs (both transitive and intransitive) are of two types: causative and non-causative. The examples given in 1. a) and b) are non-causative. Causative verbs which are
formed by adding -va - to the base forms are called single causatives. When they are formed by adding double causative suffixes (va+va) they are called double causatives.

**Single causative**

amma malliṭa bat kavanava
mother to younger rice cause
brother to eat

"Mother causes younger brother to eat"

**Double causative**

amma akka lavva malliṭa bat kavanava
mother elder with to younger rice cause to
sister help of brother eat

"Mother causes elder sister to cause younger brother to eat rice"

Even though causative forms are mostly volitive there are some single involitive causatives as well. They are, however, few in number. The following verbs can be considered as involitive causatives.

ɨddena: “to be caused to pull"
mirikayenava “to be caused to seize”
mərayuna: “was caused to kill”
keppenava “to be caused to cut”

**Tense**

Verbs in Sinhalese have two tenses, past and non-past. The non-past can be sub-divided in accordance with reference to events at a) present, b) future, c) habitual and d) (eternal) timeless events. Past tense forms refer to events which took place in the past. Non-past tense forms are made by adding -nava to non-past verb bases or stems and past tense verbs are formed by adding -a to past verb bases.
Non-past

a) Referring to events at present:

**e.g.** balla bura\_n\_a\_\_a
the dog is barking
"The dog is barking"

b) Referring to events in the future:

**e.g.** mana heta gedara jan\_a\_a
I tomorrow home going
"I am going home tomorrow"

c) Referring to habitual events:

**e.g.** sadu\_a\_\_a ka\_a vaha\_a\_a

to Monday shops close
"Shops are closed on (every) Monday"

d) Referring to (eternal) timeless events:

**hava\_a\_\_\_a ira bahi\_a\_a\_a**

in the sun sets
evening
"The sun sets in the evening"

Past

As stated above, past tense forms refer to events which took place in the past.

**e.g.** amma pola\_a gi\_a\_a

mother to the went
fair
"Mother went to the fair"

Aspect

Two aspects are used in the non-past and there are three aspects in the past tense.
Non-past tense

Two aspects namely, 1) general and 2) progressive are found in the non-past tense:

1) General:
e.g. balla ku:duvatsa janava
the dog to the cage go
"The dog goes to the cage"

2) Progressive:
e.g. balla ku:duvatsa jamin innava
the dog to the cage going be
"The dog is going to the cage"

Past tense

Past tense has three aspects namely, 1) completive, 2) progressive and 3) perfective.

1) Completive

The completive form can be sub-divided into two, namely, a) completive general and b) completive emphatic.

a) Completive general:
e.g. api kw:va
we ate
"We ate"

b) Completive emphatic:
e.g. bat okkom ballo ka:pi
rice all dogs did eat up
"The dog did eat up all the rice"

2) Progressive

Progressive forms are formed by reduplicating the non-past base followed by [hi:ija] or [unna] obligatorily.¹
e.g. minissu bat kaka: unna
people rice eating were

¹ Reduplication is discussed in chapter 6.
"People were eating rice"

3) Perfective

Perfective verbs are formed by adding -la to the verb stem which is then followed by the verb [tijanava].

\[
\text{e.g. mamə ñba ka:la tijanava}
\]

I mangoes eaten be

"I have eaten mangoes"

Before going on to discuss moods it is necessary to make a special statement about vol., invol. and causative verbs and tenses.

Vol., invol. and causative forms

As was stated earlier in this chapter, verbs generally have vol. invol. and causative forms. It, however, does not follow that all verbs have those three forms, for example, some verbs have vol. forms only. On the basis of the presence or absence of vol., invol. and causative forms, verbs can be grouped into four classes, 1, 2, 3 and 4.

Group 1

Verbs in group 1 have vol., invol. and causative forms.

\[
\begin{array}{lll}
\text{e.g.} & \text{Vol.} & \text{Invol.} & \text{Causative} \\
\text{kapanava} & \text{kepenava} & \text{kappanava} \\
\text{"cut"} & \text{"is cut"} & \text{"cause to cut"} \\
\text{natanav} & \text{matenava} & \text{natananava} \\
\text{"dance"} & \text{"dance accid."} & \text{"cause to dance"}
\end{array}
\]

Group 2

Verbs in group 2 have vol. and causative forms only.

\[
\begin{array}{ll}
\text{e.g.} & \text{Causative} \\
\text{dannava} & \text{dannanava} \\
\text{"know"} & \text{"inform"}
\end{array}
\]
inngava
"stay"

indanava
"cause to stay"

Group 3

Verbs in group 3 have invol. and causative forms only.

Invol.
Causative
ridanava
ridanava
*hurt* "cause to hurt"
hinlenava
hinassnava
*laugh* "cause to laugh"

Group 4

Group 4 has two sub-groups, a) and b);

a) All verbs in this sub-group are vol.
   e.g. 
vatinava
   "value"
obinava
   "suit"
galanava
   "match"

b) All verbs in this sub-group are invol.
   damenava
   "feel"
tvenava
   "sorry"
eglenava
   "stick"

Tenseless forms

There are some verbs which do not have past tense forms. As they have only non-past tense forms, I call them tenseless forms. Some of them are given below:

dannava
"know"
vatinava
"value"
obinava
"suit"
bummanava
"stay in a bad mood"
dojjanava
"sleep"

Overlapping forms

Verbs with overlapping forms may be divided into two groups,
Group 1

Verbs in group 1 have two shapes, vol. shape and invol. shape but both have invol. meaning. They are non-past forms and are used in free-variation.

e.g. \( \text{varad} \text{în}^{v}_{\text{a}} / \text{v}^{\text{a}} \text{r}^{\text{a}} \text{d}^{\text{en}}^{\text{a}} \text{v}^{\text{a}} \) "mistake"
\( \text{pu}:\text{din}^{v}_{\text{a}} / \text{pi}:\text{den}^{\text{a}} \text{v}^{\text{a}} \) "blossom"

Their past tense forms, however, have only invol. shape.

Group 2

Verbs in group 2 have vol. and invol. shapes where both have the same meaning not only in the non-past tense but also in the past tense.

**Non-past tense**

e.g. \( \text{pupur}^{\text{a}} \text{n}^{\text{a}}^{\text{a}} / \text{pipi}^{\text{e}}\text{ren}^{\text{a}}^{\text{a}} \) "explode"
\( \text{utur}^{\text{a}} \text{n}^{\text{a}}^{\text{a}} / \text{iti}^{\text{e}}\text{ren}^{\text{a}}^{\text{a}} \) "overflow"

**Past tense**

\( \text{pipir}^{\text{u}} \text{va} / \text{pipi}^{\text{r}^{\text{u}}} \text{r}^{\text{u}}^{\text{a}} \) "exploded"
\( \text{iti}^{\text{ru}} \text{va} / \text{iti}^{\text{r}^{\text{u}}} \text{r}^{\text{u}}^{\text{a}} \) "overflowed"
tense general and progressive, have already been considered under tense and aspect. However, emphatic forms which have not been discussed there are given below. They are of two types, namely, non-past emphatic and past general emphatic; non-past emphatic forms are formed by adding -nne to the non-past base and those of past tense are formed by adding -e to the past tense base. The word order of emphatic sentences is S+V+O while in all other non-emphatic sentences it is either S+O+V or S+V+O.

Non-past emphatic forms:

E.g. mamə kanne bat
I eat (emph.) rice
"It is rice that I eat"

Past general emphatic forms:

E.g. mamə kəvə bat
I ate rice
"It is rice that I ate"

2. Imperative mood

Imperative sentences are used to urge, command, request or instruct the hearer to act in the required manner. Imperative sentences are grouped into two: simple and permissive. Three grades namely, honorific, ordinary and non-honorific are required to be stated for the simple imperative sentences. All three have singular and plural forms; plurality is indicated by Φ and -la.

Simple

1) Honorific:

Honorific imperatives are used in situations where the speaker asks the hearer or hearers politely to do something. These are formed by adding -ŋə to the verb bases.

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2) Ordinary:

Ordinary imperatives are used in situations where the speaker asks the hearer or hearers to do something in a neutral manner. They are formed by adding -nava to verb stems. e.g. Sg. Pl.

kapanava kapanavalaka
oja: gas kapanava
you trees fell
“You fell trees”

3) Non-honorific:

Non-honorific imperatives are used in situations where the speaker, who is superior in status to the hearer, asks the hearer or hearers to do something. They are formed by adding -pag or -hag to verb bases. e.g. Sg. Pl.

kapapag kapapagla
kapahag kapahagla
uba gas kapapag
you trees fell
“you fell trees”

Permissive:

Permissive imperatives can be divided into three groups: A, B and C. Those in group A are used in situations where the speaker requests or proposes that the hearer permits or allows him (the speaker) to act. They are formed by adding -nnag to verb bases. Those in group B are used in situations where the speaker proposes that the hearer should act with him. They are formed by adding -mu to verb bases. Those in group C.
are used in situations where the speaker commands, requests or proposes that the hearer permit or allow a third person to act. They are formed by adding either -deŋ or -aːve to past participles or past completive forms.

Group A:

e.g. mama gas kapənnəγ.
I trees let fell
"Let me fell trees"

Group B:

e.g. api gas kapəmu.
we trees let cut
"Let us fell trees"

Group C:

e.g. eja: gas kəpuvaːdeŋ/kəpuvaːdeŋ
trees let fell
"Let him fell trees"
eja: gas kəpuvaːve/kəpuvaːve
trees let fell
"Let him fell trees"

The suffix -ko is added to the given imperative forms to emphasize the action. For instance, kapənəvako, kapaŋəoko, kəpə pallako.

3. The Benedictory mood

Verbs in benedictory mood express the idea of "may it be" and they are formed by adding -paŋ to verb bases, except the stem, ve-, to which the suffix -aŋ is added. However, verbs having this mood are few in number.

e.g. mage amma nivəŋ dəkəpaŋ.
my mother Nirvana may attain
"May my mother attain Nirvana"
"May my mother attain Buddhahood"

4. The Inferential mood

Verbs in inferential mood express the idea of "may do". They are formed either by adding puluvaŋ or iḍa tijanava to infinitive forms, or -i to verb bases.

Example:

- father trees to fell may
  
  "Father may fell trees"
  
  ta:tta gas kapanda puluvaŋ

5. The Possibility mood

The idea of possibility, like the Inferential mood, is expressed by adding puluvaŋ to infinitive forms.

Example:

- he tomorrow trees cut possible
  
  "It is possible for him to cut trees tomorrow"
  
  eja:he ga kapanda puluvaŋ

6. The Ability mood

The idea of ability, again, is expressed by adding puluvaŋ to infinitive forms. The difference between the Possibility and the Ability moods depends on the context.

Example:

- he tomorrow trees to fell can
  
  "He can fell trees"
  
  eja:he ga kapanda puluvaŋ

7. Modality of certainty

The idea of "must" is expressed when
Other Verb Forms

The following verb forms are also considered here as they form a part of the grammar on which my analysis is based.

1. Conditional forms

Conditional forms which express the idea of "of" are formed by adding either -tot to non-past verb bases or -ot to past verb bases.

Non-past

e.g. oja: gas kapando o:nt
     you trees to fell must
     "You must fell trees"

Past

e.g. oja: gas kapevot mama kuṭṭi karanava
     you trees if..fell I pieces do
     "If you fell trees I will cut them into pieces"

2. Concessive Forms

Concessive forms which express the idea of "even if" are formed by adding either -tat to non-past verb bases or -at to past verb bases.

Non-past

e.g. oja: gas kapeyat mamā iranne nē:
     you trees even if fell I saw not
"I will not saw trees even if you fell them"

**Past**

{oja: gas kēpuvaŋa māma iranne nē: you trees even if cut I saw not  
"I will not saw trees even if you fell them"}

3. Prior Temporal Forms

Prior temporal forms which express the idea of "after" are of two types, A and B.

Type A:

Type A are formed by adding -ahama either to past verb bases or to past completive participles.

*Type A:*

{oja: loriŋa patāvaŋa you to the lorry load  
"After I have felled trees you load them in the lorry"}

4. ṭa Forms

When suffix -ṭa is added to non-past and past general forms, the meaning may be "before", "after" or "for" depending on the following words of the sentence.
Non-past

kəpəvəta passe gas aĩkəranda
to cut after trees remove
"After trees have been felled remove them"

Past

oja: gas kapanavəta məmə kəmati:
you trees to cut I like
"I like your felling of trees"

5. Contemporaneous Forms

Contemporaneous forms which express the idea of "when" are of two types, A and B.

Type A:

These are formed by adding -ddi or -ddiŋ to non-past verb bases.
e.g. minissu gas kapaddi vessa
people trees when rained felling
"It rained when people were felling trees"

Type B:

These are formed by adding -kəta to non-past participles.
e.g. eja: gas kapanakəta məmə ekətukeruva
he trees when felling I collected
"When he was felling trees I collected them"

6. Limitative Forms

Limitative forms which express the idea of "until" are
formed by adding -kang to non-past participles.

\textit{e.g.} oja: gas kapanaakit mama innan

\textit{you trees until fell I shall stay}

\textit{"I shall wait until you fell trees"}

7. Participles

These are of two types, namely, non-past and past. Past participles can further be sub-divided into A) past completive general and B) past completive emphatic.

\textbf{Non-past}

In non-past participles -na is added to non-past verb bases.

\textit{e.g.} gas kapana minissu a:va

\textit{trees felling people came}

\textit{"The people who fell trees came"}

\textbf{Past}

A) Past completive general:

In past completive general -a is added to past verb bases when they are vol. and -na and -nu to bases when they are invol.

\textbf{Volitive:}

\textit{e.g.} gas kepuna minissu a:va

\textit{trees felled people came}

\textit{"The people who felled trees came"}

\textbf{Involitive:}

\textit{e.g.} kepunu/kepuna gas lorijata patavanad

\textit{felled trees in the lorry load}

\textit{"Load the trees which were felled into the lorry"}
b) Past completive emphatic:

In past completive emphatic participles -pu is added to non-past verb bases when they are volitive and -ččor -čči to invol. verb bases when they are involitive.

Volitive:

e.g. gas kapapu minissu a:va
   trees felled people came
   "The people who did fell trees came"

Involitive:

   Kapapu/kapapu gas lorijatə pata nấuđə
   felled (emph.) trees in the load
   lorry
   "Load the trees which were felled into the lorry"

8. Base forms

The base forms can be past or non-past.

Non-past base forms:

It was stated in the analysis of the conjug. marker of non-past perfective forms that in conjug. marker of stems of conjug.s 1 and 2 is e and the syllable is Ě prosodic. Stems having this conjug. marker are treated as non-past base forms. Stems belonging to conjug. 3 and 4 are themselves treated as non-past base forms. As was noted above many suffixes are added to non-past base forms.

Past base forms:

It was said in chapter 6 that the conjug. marker of past stems of conjug. 1 and 2 is i and the syllable is Ĩ prosodic. Stems having this conjug. marker is treated as past base forms. Stems belonging to conjug. 3 and 4 are themselves treated as past base forms. As was noted above, some suffixes,
for instance, -aham is added to past base forms.

**suffixes**

There are about 33 suffixes which occur in Sinhalese verb forms. They are given below:

-ṇava -ddi -tot -ddi -ot -la -i
-koṭa -nnag -tat -ḍi -at -mu -e
-piḷa -deḷ -ḍa -iḷ -pu -u
-paḷ -nne -aḷ -pi -a
-haḷ -ndha -ṭḥ -a
-kaḷ -ko

-aham

Of these the following three suffixes are found only in invol. forms: -ḍi, -ḍa and -aḷ.

**Number and sequence of suffixes occurring in verb forms**

A verb can contain one, two or three suffixes.

*e.g.* kapala "has/ have cut"
kapuva-ḷa "after cutting"
kapa-ṇda-la-ko "do cut"

**Infixed**

There are three infixed, causative marker, conjugation marker and past invol. marker. The conjug. marker occurs 1) between stem and suffix, 2) between stems and causative marker, and in the past invol. 3) between stem and past invol. marker.

1) Between stem and suffixes:
*e.g.* kapaṇava "cut"
ihiṇaṇava "sprinkle"

2) Between stem and the causative marker:
e.g. kapavanava "cause to cut"
    maravanava "cause to kill"

3) Between stem and past invol. marker:
    karpuna "was cut"
    marunya "was killed"

The causative marker occurs between the conjug. marker and suffixes when the conjug. marker is present.

e.g. kapavanava "cause to cut"
    maravanava "cause to kill"

When the conjug. marker is absent, the causative marker occurs between stem and suffixes:

e.g. kavanava "cause to eat"
    na:vanava "cause to bathe"

The past invol. marker occurs between the conjug. marker and suffixes:

e.g. karpuna "was cut"
    marnuna "was killed"

The verb kap- is used to illustrate all vol. and invol. inflectional forms.

<table>
<thead>
<tr>
<th>Vol.</th>
<th>Invol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-past general:</td>
<td></td>
</tr>
<tr>
<td>kapanava &quot;cut&quot;</td>
<td>karpunava</td>
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<tr>
<td>Past general:</td>
<td></td>
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<tr>
<td>karpua &quot;cut&quot;</td>
<td>karpuna</td>
</tr>
<tr>
<td>Non-past perfective:</td>
<td></td>
</tr>
<tr>
<td>kapela &quot;has/have cut&quot;</td>
<td>karpila</td>
</tr>
<tr>
<td>Past completive emph.</td>
<td></td>
</tr>
<tr>
<td>kapapi &quot;did cut&quot;</td>
<td>karpicci</td>
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<tr>
<td>Past general emph.</td>
<td></td>
</tr>
<tr>
<td>karpue</td>
<td>karpune</td>
</tr>
<tr>
<td>&quot;that is what cut&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Infinitive:

kapandê “to cut”

Imperative (permissive A):
kapannag “let me cut”

Imperative (permissive B):
kapemu “let us cut”

Imperative (permissive C):
kûpuvadeg “let him cut”
kûpuva:ve “let him cut”

Imperative (non-honorific sg.):
kapêpag “do cut”
kapahag “do cut”

Imperative (non-honorific pl.):
kapêpijau “do cut”
kapêpalla “do cut”
kapâhalla “do cut”

Conditional (non-past):
kapêtot “if cut”

Conditional (past):
kûpuvot “if cut”

Concessive (non-past):
kapêtat “even if cut”

Concessive (past):
kûpuvat “even if cut”

Prior temporal 1:
kûpuvahama “after cutting”

Prior temporal 2:
kûpuvaïj “after cutting”

Contemporaneous 1:
kapaddi “while cutting”
kapaddiïj “while cutting”

Contemporaneous 2:
kapênakota “while cutting”

Limitative:
kapênakagi “until cut”

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Non-past participle:
kapBna "cutting" kępuna
Past general part:
kępunu "cut" kępuna/kępunu
Past emph. participle:
kapapu "did cut" kępiciča/kępiciči
-ţa form:
kępuntaţa (passe) "after cutting" kępunatą

According to the forms given above the stem has two shapes, 1 and 2. Shape 1 is kap- and shape 2 is kęp-. Shape 1 occurs in the following forms: vol. non-past general forms, non-past emph. forms, vol. infinitive forms, vol. imperative forms, vol. non-past conditional forms, vol. non-past concessive forms, vol. contemporaneous, non-past perfective forms, vol. non-past part. and past emph. participle.


A list of simple verbs used in the analysis in this thesis is given below. In the list, vol., invol. and causative forms of non-past general are given. However, as was said above, some verbs have forms of the three categories, some have only two forms some have just one form. Causative forms are vol. except for a very few which have invol. forms as well.
<table>
<thead>
<tr>
<th>Conjug. 1</th>
<th>Vol.</th>
<th>Invol.</th>
<th>Causative</th>
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<tbody>
<tr>
<td>apullana</td>
<td>epillena</td>
<td>apullavana</td>
<td>apullavana</td>
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<tr>
<td>atulla</td>
<td>stillena</td>
<td>atulla</td>
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<td>-</td>
<td>addanava (causative)</td>
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| jodānāvā | jedenāvā | jodāvāvā |

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| mādinava | medēnava | maddanava |
| māninava | mēnenava | mānānava |
| nēgitānava | nēgitēnava | nēgitānava |
| nagināv | - | nāgānāva |
| nāhināv | nēhenāv | - |
| nāvatināv | nēvātenāv | nāvattēnāv |
| obināv | - | - |
| pīhināv | pihēnāv | pīssēnāv |
| pībināv | pībenāv | pumbeṇāv |
| pu:dīnāv | pī:denāv | - |
| padināv | - | - |
| pānināv | pēnenāv | pānānāv |
| pāvatīnāv | pēvātenāv | - |
| pāvattēnāv | pēvēttenāv | - |
| pārādināv | pārādenāv | pāraddēnāv |
| pā:hināv | pē:henāv | pā:ssenāv |
| rākināv | rēkeṇāv | rakkeṇāv |
| rāhināv | rēhenāv | rasseṇāv |
| upōdināv | ipōdenāv | upaddēnāv |
| viddināv | videnāv | viddānāv |
| vīdināv | vīdenāv | vindānāv |
| vadināv | vēdenāv | vaddēnāv |
| vādināv | vēdenāv | vandēnāv |
| vāṭināv | - | - |
| vadināv | - | - |
| vālākināv | vēlēkenāv | vālākēnāv |
| varādināv | vērādenāv | varaddēnāv |

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**Conjug. 3**

| bonava | - | - |
| ba:nava | - | - |
| denava | devenava | - |
| danava | - | - |
| ga:nava | gæ:venava | ga:venava |
| ha:nava | hæ:venava | ha:venava |
| kanava | kævenava | kavænava |
| lanava | - | - |
| na:nava | næ:venava | na:venava |
| pa:nava | - | - |
| renava | revenava | - |
| venava | - | - |
| jævenava | - | - |

**Conjug. 4**

| dannava | - | - |
| gannava | gænænava | gannænava |

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CLC  Chicago Linguistic Society
IL  Indian Linguistics
JASA  Journal of the Acoustical Society of America
JVLVB  Journal of Verbal Learning and Verbal Behaviour
UCR  University of Ceylon Review
JRASC  Journal of the Royal Asiatic Society