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The Metrical Structure of Indo-Aryan Loanwords in Khasi

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Abstract

The present study provides a brief and elementary description of the metrical structure of Indo-Aryan loanwords in Khasi. In doing so, it specifically aims to analyze the stress patterns of the loanwords within a few select metrical parameters as espoused by Hayes (1995). Overall, the study seeks to investigate whether the loanwords conform to the stress system of the target language (Khasi) or retain the characteristic stress properties of the source language (Hindi, Assamese and Bengali).

Keywords: Khasi, Indo-Aryan, borrowing, metrical phonology, stress.

1. Introduction

The paper is a study on the loanword adaptation of one of the suprasegmental features, namely, stress. The recipient language, Khasi belongs to the Mon-Khmer branch of Austro-Asiatic language family, while the donor languages, viz. Hindi, Bengali, and Assamese are members of the Indo-Aryan language family. By analyzing the stress patterns of loanwords under the framework of metrical theory, the study aims to examine whether the donor language stress position violates the native language's stress rules or does it preserve its original stress position.

2. Background Literature

Before commencing with the description and analysis of the data, it may be useful to give some background information on the subject under discussion.

2.1 Concept of Borrowing

Since time immemorial, languages have been in contact with each other for social, cultural, linguistic and many other reasons; this fact has been pointed out by Hock (1991, p. 380) in this way "Languages and dialects…do not exist in a vacuum. There always is at least some contact with other languages or dialects". Hock (op.cit., p. 408) recognizes need-filling and prestige as primary motivations behind the linguistic process of borrowing. The term borrowing has many facets and types; however, the current study employs a common and less contentious understanding of the term. Haugen (1950, p. 212) defines borrowing as "the attempted reproduction in one language of patterns previously found in another". Thomason and Kaufman (1988, p.37), define borrowing as "the incorporation of foreign features into a

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group's native language by speakers of that language". Aikhenvald (2006) opines that those linguistic components transferred from a source language into a target language may include either phonological, morphosyntactic or lexical items. In his seminal work, Haugen (1950) distinguishes three types of borrowing: (i) Loanwords; (ii) Loan blends; and (iii) Loanshifts.

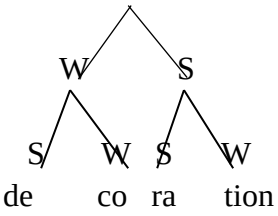
However, for the purposes of this study, only loanword is relevant. Loanword is defined by Haugen (1950) as a condition in which a language borrows both the form and the semantics of a foreign word, which may undergo a process of phonetic incorporation into the structures of the target language.

2.2 Metrical Theory

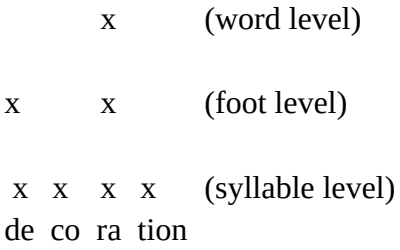
Metrical theory came into existence in the mid-1970s, with the publication of Liberman's doctoral dissertation entitled 'The Intonational System of English' (1975). It was further developed by other linguists such as Liberman and Prince (1977), Halle and Vergnaud (1978), Selkirk (1980), Hayes (1980), Prince (1983) and Hayes (1995) among others.

Liberman (1975) specifically states that stress is not a phonemic feature of vowels in a word instead it is a relative property to be expressed in a hierarchical structure. A node is strong (S) not by virtue of some inherent property, but because its sister node (in a binary branching structure) is weak (W). The hierarchal organization of metrical structures is formally represented in terms of two models: metrical trees and metrical grids as in the following word decoration: Example cited from Pater (1992)

(1) a.



b.



In the above example, the metrical tree in 1a. shows the prominence relationship between the four syllables in the word 'decoration' (the first and third are strong but the third syllable is more prominent than the first syllable). The grid label in 1 (b) displays rhythmic alternation between strong and weak syllables on the basis of the height of the grid columns. Thus, the third syllable with the higher column will represent the most prominent syllable. The convention used in this study is a mix of both tree and grid representations.

This study, however, draws from the ideas formulated in Hayes (1995). Hayes in his discussion of metrical theory includes a large number of typologically diverse systems; at the same time Hayes (op.cit) veers the focus of the theory to a finite set of parameters. Hence, the stress system of any language opts for a particular choice from a limited set of parameters. This study selects the following parameters:

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(i) Size (Boundedness)
(ii) Foot Dominance
(iii) Directionality
(iv) Quantity sensitivity:
(v) Degenerate foot

Hayes (1995) also discusses about two types of feet: iambs and trochees. In iambic languages the head of the feet is right dominant whereas in trochaic languages the head of the feet is left dominant, and it is further categorized into two types: moraic trochees and syllabic trochees in which the former is quantity sensitive and the latter quantity insensitive.

3. Stress in Hindi, Assamese, and Bengali

It is a complex endeavour to provide a definite account of stress assignment rules in Hindi, because of the simple fact that it has a good deal of variation based on region and dialect. Different authors such as Mehrotra (1966), Kelkar (1968), Pandey (1989) and Hayes (1995) have different views on the nature and structure of stress in Hindi. Nonetheless, Pandey's (2020) paper on metrical stress patterns of Standard Literary Hindi and Standard Formal Hindi is the most appropriate reference for this current study. The paper provides enough evidence to describe Hindi as a bounded, quantity and rhythm sensitive system. According to Pandey (2020) Hindi stress is placed within a three-syllable window starting from the right. The default position for primary stress is the second syllable from the right, that is, a syllabic trochaic foot.

Bengali is another language which has dialectal variation. Studies such as Chatterji (1921), Goswami (1944) and Hayes and Lahiri (1991) all seem to agree that stress assignment is regularly word initial. Significantly clashing views are expressed by Shaw (1984) and Das (2001), they uphold the view that stress placement in Bengali is dependent on syllable weight.

According to Mahanta (2001) Assamese follows a Trochaic (strong-weak) rhythm with the main stress in the initial syllable. Put differently, the primary stress consistently falls at the left edge where foot construction begins. Additionally, stress placement is quantity sensitive, and in cases where a heavy syllable immediately follows a light syllable, the heavier syllable surfaces as the stress-bearing unit.

4. Indo-Aryan Loanwords in Khasi

At least two studies concerning loanword phonology of Khasi have been carried out, namely, Rabel (1976) and Baishya and Shabong (2012). The paper by Rabel (1976) provides an extensive list of loanwords borrowed from three principal languages: Hindi Bengali and Assamese. The following words are examples cited by Rabel (1976).

Table 1. Indo-Aryan Loanwords in Khasi

Syllable Type	Khasi	Bengali	Hindi	Assamese	Gloss
Monosyllables	ma:p	map	ma:f	maf	forgive
	ma:r	mal	ma:l	mal	articles
	biʔ	biʃ	wiʃ	bih	poison
	dak	dag	da:g	dak	mark/post
Disyllables	dɔrba:r	dɔrbar	darba:r	dɔrbar	council
	haɟa:r	haɟar	haɟa:r	haɟar	thousand
	ɟuba:b	ɟɔbab	ɟawa:b	ɟobab	answer
	ɟuti	ɟuto	ɟu:ta:	ɟuta	shoe
Trisyllables	pahara	pahara	pahara:	pahara	guard
	mahaɟɔn	mɔhaɟɔn	maha:ɟan	mahaɟɔn	shopkeeper
	barabɔ:r	bɔrabɔr	bara:bar	bɔrɔbɔr	always
Quadrisyllable	mokɔtduma	mokoddama	mukadama	mɔkɔddɔma	lawsuit

Baishya and Shabong (2012) also list an adequate number of loanwords based on different semantic fields such as kinship terms, flora and fauna, lifestyle, food, instruments etc. The most important contribution of this study, however, lies in its analysis of a number of phonological processes that had taken place during the formation of these loanwords. The following are some of the examples of phonological processes as cited in Baishya and Shabong (2012).

2. *Phonological processes*

i. Devoicing:
/gadha/→ /kada/ 'donkey'

ii. Deaspiration:
/sukh/→/suk/ 'happy'

iii. Defricativization
/piaj/ →/pyat/ 'onion'

iv. Fricativization:
/čini/→/šini/ 'sugar'

5. Metrical Analysis of Loanwords

A brief discussion on the nature of stress in Khasi words will provide useful insights about the process of loanword adaptation in Khasi. Basically, words in Khasi are monosyllabic, for example, bʊʔ 'put', we:ʔ 'dip', sɔʔ 'fruit', sim 'bird' etc. These monosyllabic words when pronounced in isolation are always realized with stress. Scholars who worked on stress in Khasi (Rabel 1961, Henderson 1967, and Khyriem 2012) seem to agree that primary stress falls on the final syllable of a word. For disyllabic words, primary stress is assigned to the final syllable, and secondary stress is assigned to the only remaining syllable, that is, the penultimate syllable as in 3a. For trisyllabic words, primary stress is assigned to the final syllable. Out of the two

remaining syllables, secondary stress will be assigned to the syllable farthest from the primary stress that is the antepenultimate syllable as in 3b.

3a.	*ˌpnˈʃot*	*'destroy'*	*(bisyllabic word)*
3b.	*ˌnɔŋ pnˈʃɔt*	*'destroyer'*	*(trisyllabic word)*

Besides the polysyllabic words which are derived through prefixation, there is a substantial number of polysyllabic compounds in Khasi. Khyriem (2012) has classified compounds into two main types:

1. Compounds which are derived from combination of two or more root words. e.g.

4a.	*um*	+	*sɔʔ*	*(ˌumˈsɔʔ)*
	water	+	*perspire*	
	Root 1	+	*Root 2*	
	'juice'			

4b.	*sŋi*	+	*sa:c*	+	*ʃaɲ*	*(ˌsŋisa:cˈʃa)*
	day		*wash*		*clothes*	
	Root 1	+	*Root 2*	+	*Root 3*	
	'Saturday'					

2. Compounds which are formed from combinations of one or two sesquisyllabic roots with one monosyllabic root.

Another syllable type termed 'sesquisyllabic' (Matisoff 1973:86) is found to exist in many Austro-Asiatic languages including Khasi, wherein a disyllabic word consists of an initial unstressed syllable also called a minor syllable by Henderson (1952) followed by a stressed full syllable (main syllable).

5.	*r**n**dang*	+	*kti*	*(ˌr**n**daŋˈkti)*
	neck	+	*hand*	
	Sesqui root	+	*Mono Root*	
	'wrist'			

On basis of the above discussion, the description of foot construction and stress in the loanwords yields the following parameter values.

(1) Foot Size. According to Hayes (1995) and Kager (1995), metrical feet are maximally bounded (binary) or unbounded (n-ary). A bounded foot contains at most two syllables of

which one is strong and the other is weak. An unbounded foot is composed of any number of syllables of which one is strong and the rest weak.

When analyzing the loanwords, a considerable number of disyllables, trisyllables and quadrisyllables do not seem to fit into the specified type of foot structure. The foot size in these loanwords appear to be dependent on the syllable count. Examples in (6) will help explain the issue at hand:

(6) *a) disyllables*

ˌku.ˈlab	*'rose'*
ˌka.ˈli	*'car'*
ˌka.ˈɟɔ:r	*'carrot'*

b) trisyllables

ˌta.la.ˈsi	*'search'*
ˈta.ra.ˈɟur	*'scales'*
ˌi.la.ˈka	*'area'*

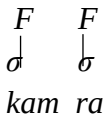
d) quadrisyllable

ˌa.tos.k^{h}a.ˈna	*'chimney'*

It is evident from the above examples that the loanwords are consistently stressed in both the initial and final syllables across words of different lengths. The words in 6 (a), clearly has no limited distance neither from each other nor from word edges, thereby affirming that the aforesaid loanwords do not form a bounded/unbounded foot, wherein a foot would consist of a strong and weak node respectively. Instead, the pattern requires a parse into two monosyllabic feet as shown in the following illustration:

(7)

ˌkamˈra *'room'*



Together with foot structure, there is a well-founded rhythmic principle which prohibits stress clash (Prince 1983):

(8) *Stress Clash: two adjacent stressed elements.*

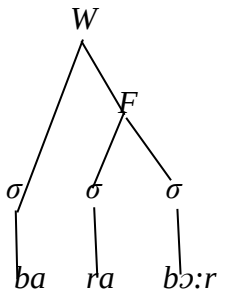
The pattern in disyllabic loanwords violates the stress clash principle, which states that stressed syllables and unstressed syllables should alternate within a prosodic word. The following grid-based example illustrate the non-alternating pattern found in the loanword:

(9)

	*	*word*
*	*	*feet*
*	*	*syllable*
kam	*ra*	

Trisyllabic loanwords, however, exhibit a typical binary pattern as it allows no more than two elements, i.e., two syllables have a direct dominance under a feet node as shown in (10).

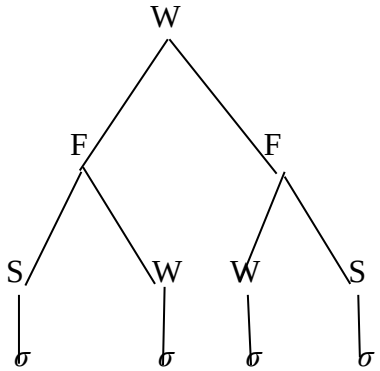
(10)



ba *ra* *bɔ:r* *'always'*

In loanwords of at least four syllables, which is rarely attested, if binary parsing is to be adhered to, then a trochaic foot must be assumed at the left edge of the word and an iambic foot at the right edge.

(11)



ˌa tos kʰa ˈna 'chimney'

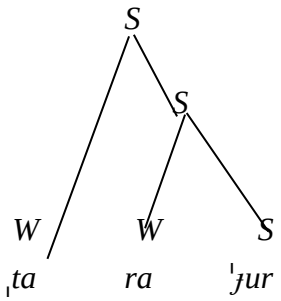
(trochaic) (iambic)

What one can surmise from the above example is that quadrisyllabic loanwords is an issue for foot size proposed by Hayes (1995). The possibility of having both trochaic and

iambic feet seem highly unlikely since a language with metrical feet selects either iambic or trochaic feet and the two types of foot are not allowed in one language.

(ii) Foot Dominance – According to Kager (1995), foot dominance parameter governs the side of the foot where the head is located. In right-dominant feet (iambic feet), all right branching points are dominant and left nodes recessive, while the opposite situation holds in left-dominant feet (trochaic feet). The foot marking rule in the loanwords marks all dominant nodes as strong, as in (12).

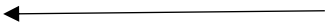
(12)



(iii) Directionality – Directionality determines the direction in which foot construction scans the stress domain. If it starts at the right edge, then it is a right - to - left system. If, on the other hand, it starts at the left edge, it is a left- to-right system. The loanwords, for example, in this study, parses syllables from right to left.

(13) Stress direction

(ˌta) (laˈsi) ‘search’



Right-to-left parsing

(iv) Quantity sensitivity: This parameter determines the role of syllable weight in assigning stress. According to Hayes (1995) a language is quantity-insensitive if it is does not take syllable weight into account when deciding which syllable is more prominent than the other. In quantity-sensitive systems, syllable weight assumes a central role, distinguishing between heavy syllables (two moras) and light syllables (one mora). Hayes (1995) also suggests that all iambic stress systems are quantity-sensitive.

With respect to stress assignment in the Indo-Aryan loanwords, it could be argued that stress assignment is influenced by the distinction between these kinds of syllables where the CV syllables are always light (monomoraic) and CVV (either diphthong or phonetic/phonemic length) syllables always heavy (bimoraic). CVC syllables are light by default, but in the case of loanwords CVC counts as heavy for stress, by the rule of Weight by Position (Hayes 1989) which accommodates coda consonants with a mora. Typically, CVV and CVC syllables always attract primary stress, while the light syllable CV only gets secondary stress.

The existence of both phonemic and phonetic length in the recipient language (Khasi) also warrants for the presence of a heavy syllable of the type CVV (diphthong) and CV: (long vowel) in the loanwords as seen in the following examples:

(14)	sa:k^{h}i:	'witness'	k^{h}utia	'loose coins'
	CV:CV:		CVV	

Several iambic stress systems are characterized by iambic lengthening. Hayes (1995:100) opines that final position is the characteristic environment of word- and phrase-final lengthening, which can also make a syllable perceptually salient. Since the recipient language follows an iambic pattern, it is not surprising that the loanwords too exhibit vowel length in the final syllables as in 16 (a), (b) and (c):

(15) Iambic lengthening

(a)	*pi.sa:*	*'money'*
(b)	*ri.ti:*	*'dustur'*
(c)	*lu.te:*	*'loot'*

Thus, one can surmise and state from the above discussion that syllables in loanwords show quantity sensitivity with both light(monomoraic) and heavy (bimoraic) syllables as schematized below:

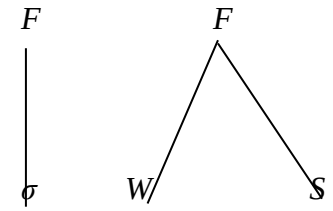
(15) Syllable weight in Indo-Aryan loanwords

Heavy/bimoraic:	*VC/CV:C/CVV/CVC*
	ut 'camel', ma:p 'forgive', sia 'ink', hat 'market'
Light/monomoraic:	*CV/CCV*
	b^{h}a 'good, klur 'crore'

(v) Degenerate Foot: Hayes (1995) states that degenerate feet are logically the smallest possible feet. They consist of a single light syllable in a language that is sensitive to weight or of a single syllable in a language that has no distinction of weight. They are formed when a foot is left stranded after parsing every other syllable into a binary foot.

In the loanwords, when iambs are being constructed from right-to-left, an initial degenerate foot is built in words with an odd number of syllables as in the following example, where 'ma' is a light monosyllabic foot.

(16) Degenerate foot



'businessman'

Conclusion

At first glance, the study of stress patterns of Indo-Aryan loanwords in Khasi may appear to show a stress preservation rule between Khasi and the Indo Aryan languages. One could be tempted, for instance, to analyze the occurrence of stress in both the initial and final syllable in disyllabic words as a way to accommodate the stress properties of both the donor languages (which are unequivocally trochaic with main stress in the initial syllable) and the recipient language (which is iambic with the main stress in the ultimate syllable). However, this argument proves to be preposterous, if one is to delve deep into the stress system of native Khasi words (such as ˌkr.ˈteŋ 'name and ˌkn.ˈduʔ 'meet'), one notices that both initial and final syllables are stressed, suggesting, that the stressing of initial and final syllables may well be the structural property of the recipient language. In this context then, there is no conclusive evidence to specify the nature of the initial stress, that is, whether it is the main stress borrowed from the source languages which underwent demotion to fit into the structure of the target language or simply a secondary stress found to exist in the recipient language. Alternatively, it could be argued that Indo-Aryan words with non-final stress have been borrowed into the language with adjustments made to fit the final-stress system of the recipient language; primary stress on the first syllable in the donor languages shifts to the final position in the recipient language.

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