

generative phonology and the aspirated consonants of colloquial maithili

Ramawatar Yadav

1. Background

This paper attempts to describe the aspirated consonants of Maithili in the framework of generative phonology. The main question that will be asked is: Are the Maithili aspirated consonants to be treated as unitary phonemes or as clusters of two phonemes? In an effort to resolve the situation, 'simplicity metric' criteria will be used and their efficacy and value assessed. A modified version of the distinctive feature system of Chomsky and Halle (1968) will be used.

Maithili is the second major language of Nepal. It is spoken by a total of about 21 million people in the Bihar state of North India and the Tarai of Nepal. It is one of the modern Indo-Aryan languages of South Asia and is more commonly referred to in linguistic literature as one of the three dialects of 'Bihari', after Grierson (1909).

There are no synchronic studies on Maithili that I know of. The only diachronic studies that deserve mention are: Mishra (1947) and Jha (1958). Grierson (1903/1968) provides a classic introduction and specimens of the various dialects of Maithili. A paper by Jha (1939-44/1965) argues for fifty-six 'essential' phonemes of Maithili; to him every grapheme is a phoneme. Two recent papers by SIL linguists, Williams (1973) and Davis (1973) deal with Maithili clause patterns and Maithili sentences respectively, to date.

The author is a native speaker of Maithili. Like in any diglossic situation his choice of dialects and registers depends on various extralinguistic factors; in other words, constant code switching is a routine for daily interaction. For the purpose of the present study, however, examples are drawn from the Colloquial Maithili (CM)—the so-called theth [tʰeʈʰ] Maithili—as spoken in the Tarai of Nepal.

2. Maithili Phonological Inventory

In traditional segmental notation, CM has the set of phonological units presented in Table 1.

		<u>Consonants</u>					
			<u>Labial</u>	<u>dental</u>	<u>retroflex</u>	<u>palatal</u>	<u>velar</u>
Stops	Voiceless	unaspirated	p _h	t _h	ṭ _h	c _h	k _h
		aspirated	p	t	ṭ	c	k
	Voiced	unaspirated	b _h	d _h	ḍ _h	j _h	g _h
		aspirated	b	d	ḍ	j	g
Fricatives				s			h
Resonants	Nasal		m	n			
	Flap			r			(+h)
	Liquid			l			
Semi-vowel							(Y)

Vowels

i		u	} + ~
e	ə	o	
æ	a	ɔ	

Table 1 Inventory of CM Phonological Units

As shown in Table 1, there are 26 consonant phonemes and 8 vowel phonemes. All vowels can be nasalized underlyingly. Marginal phonemes are indicated by parenthesis. For instance, [Y] occurs only in borrowings from Sanskrit. Underlyingly it is /i/ and on the surface [Y] and [j] alternate freely in this dialect. For instance, [Yadab] ~ [jadab]. Phonetically all CM stops are aspirated and all resonants are laryngealized. How to treat them underlyingly forms the main body of this paper.

3. Aspiration

3.1. What is aspiration? Traditionally, aspiration has been defined as a 'puff' of air. But this usage is not specific enough as Ladefoged (1973) suggests. He argues that there are at least two possibilities as to how this extra 'puff' of air might be produced. According to him, it may be produced by an extra push from the respiratory muscle or due to a valvelike action of the glottis, allowing more air to be released. More recently aspiration has been defined in terms of 'the voicing lag', i.e. the intervening period of voicelessness between the release of a stop closure and the onset of voicing for the following vowel. Thus aspiration is a "large delay in voice onset" (Lisker & Abramson, 1964). And, still more recently a new 'theory' of aspiration has been put for-

ward by Kim (1970), wherein aspiration is defined as "a function of the glottal opening at the time of release of the oral closure of a stop." Acoustically, aspiration is noise in the frequency range of the higher formants.

3.2. Aspiration as a distinctive feature: Basing themselves on Lisker and Abramson (1964) Chomsky and Halle (1968) posit that heightened subglottal pressure is a 'necessary' condition for the production of the voiced aspirated stops of Hindi. On the contrary Dhala and Dhala (1972) confirm that the necessary correlate of aspiration is not heightened subglottal pressure as claimed by Chomsky and Halle; instead an invariable drop is found to occur immediately after the release of the closure in both the aspirates and breathy voiced stops. They argue that the feature Reduced Glottal Resistance after Release (RGRR) should be used for aspiration.

3.3. Salient features of aspiration in CM:

A. Initially there is full contrast between unaspirated and aspirated stops in CM. It appears that CM is particularly rich in minimal pairs, e.g.

/pul/	'bridge'	/tan/	'pull!'	/tik/	'pigtail'
/p ^h ul/	'flower'	/t ^h an/	'several yards of cloth'	/t ^h ik/	'right; true,
/bul/	'walk!'	/dan/	'charity'	/dol/	'small bucket'
/b ^h ul/	'brown'	/d ^h an/	'paddy'	/d ^h ol/	'drum'
/cor/	'thief'	/kam/	'work'		
/c ^h or/	'edge'	/k ^h am/	'pole'		
/jor/	'strength'	/gam/	'village'		
/j ^h or/	'soup'	/g ^h am/	'sweat; sunrays'		

B. Medially too there is a full contrast between aspirated and unaspirated stops in CM.

e.g.

/nəpa/	'measure!'	/poti/	'granddaughter'
/nəp ^h a/	'profit'	/pot ^h i/	'book'
/ləb+hi/	'bring!'	/udar/	'generous'
/lab+hi/			
/lab ^h i/	'umbilical cord'	/d ^h ar/	'credit'

/kəʔgər/	'shapely'	/ car/	'pickle'
/kət ^h gər/	'solid'	/ c ^h ar/	'shower'
/ənɔ̃a/	'egg'	/bajəl/	'spoke'
/t ^h ənɔ̃ ^h a/	'cool; cold'	/baj ^h əl/	'engaged'
	/kəkri/	'a fruit'	
	/k ^h ək ^h ri/	'paddy without rice'	
	/gəgri/	'small pitcher'	
	/g ^h əg ^h ri/	'skirt'	

C. In the final position aspiration is distinctive in all but /ɔ̃/ and /ɔ̃^h/.

e.g.

/kəp/	'shiver'	/bat/	'matter; talk'		
/kap ^h /	'scratch'	/bat ^h /	'pain'		
/k ^h ep/	'times'	/bad/	'after; exclude'		
/k ^h eb/	'sail'	/bad ^h /	'out into the fields'		
/k ^h eb ^h /	'plant seeds'				
/kaʔ/	'cut!'	/bic/	'center'	/bik/	'sell!'
/kat ^h /	'wood'	/bic ^h /	'pick up'	/bik ^h /	'poison'
		/bij/	'seed'	/bak/	'speech'
		/bij ^h /	'rust'	/bag/	'garden'
				/bag ^h /	'tiger'

D. Only unlaryngealized resonants occur in the initial position in CM.

e.g.

/mam/	'mother's brother'
/nam/	'name'
/rer/	'crowd'
/ler/	'saliva'

E. Medially phonetically laryngealized resonants and resonants +h alternate with one another.

e.g.

[bər ^h au]	[bər ^h au] / bəd ^h au /	'please (cause it to) move ahead'
[kən ^h ə]	[kən ^h ə] / kən ^h ə /	'shoulder'
[jim ^h ər]	[jim ^h ər] / jihər /	'a tree'
[kəl ^h a]	[kəl ^h a] / kəl ^h a /	'adulterated(oil)'

F. In the final position, resonants get realized as follows:

e.g.

[baI ^h r]		'flood'
[bər ^h]		'grow!'
[kan ^h]		'shoulder'
[kaI]	[kaI ^h]	'tomorrow'
[k ^h am]	[k ^h am ^h]	'pole'

4. Frequency

It is commonly held that it is useful to incorporate the information conveyed by the relative frequency of the phonemes of a language in its phonology. In this study, a count of the dictionary entries (Jha, 1952) of CM initial phonemes and of CM resonants +h occurring in all positions is provided in order to determine the relative frequency of CM consonant phonemes. The number of entries in this dictionary totalled 12,603. The frequency of occurrence of CM consonant phonemes is given in Figure 1.

1	/b/	1082	9	/n/	412
2	/k/	1017	10	/t/	396
3	/s/	906	11	/j/	386
4	/p/	891	12	/h/	383
5	/m/	754	13	/b ^h /	381
6	/c/	516	14	/k ^h /	369
7	/g/	506	15	/l/	354
8	/d/	477	16	/p ^h /	256

17	/c ^h /	253	22	/j ^h /	193
18	/r/	252	23	/d/	161
19	/g ^h /	215	24	/t ^h /	114
20	/d ^h /	214	25	/d ^h /	105
21	/t/	194	26	/t ^h /	81

Figure 1 Frequency of CM Phonemes

The total frequency of occurrence of resonant +h segments is presented in Figure 2.

1	[r ^h]	159
2	[n ^h]	42
3	[m ^h]	37
4	[l ^h]	19

Figure 2 Frequency of Resonant +h Segments

A few comments need to be made about Figures 1 and 2. First, the phonemes have been arranged in order of their frequency of occurrence. Second, the five phonemes with the highest frequency in CM are /b, k, s, p, m/ in that order; similarly the five most frequent aspirated phonemes of CM are /b^h, k^h, p^h, ch, g^h/ in that order. Third, the sound segment which bears the lowest functional load in CM is [l^h] which occurs only 19 times throughout this dictionary.

5. Pregenerative Approach

Trubetzkoy (1939/69: 56-62) offers seven phonological 'rules' to determine whether a segment should be considered 'monophonematic', i.e., a single phoneme, or 'polyphonematic', i.e., a combination of phonemes. Of these the following are particularly significant:

Rule 1 — Only those combinations of sound whose constituent parts in a given language are not distributed over two syllables are to be regarded as the realization of single phonemes.

Rule II — A combination of sounds can be interpreted as the realization of a single phoneme only if it is produced by a homogeneous articulatory movement or by the progressive dissolution of an articulatory complex.

Rule III — A combination of sounds can be considered the realization of a single phoneme only if its duration does not exceed the duration of realization of the other phonemes that occur in a given language.

Judged by these criteria, CM stop +h segments come out to be single phonemes. Consider, for instance:

[liʃk^həɪ] 'written, fated'; not *[likʃhəɪ]

[k^həʃb^hra] 'deep ditch'; not *[k^həbʃhra]

Besides, initial consonant clusters are not permitted in CM (only high vocabulary of Sanskrit origin permit such clustering). This fact is also in conformity with Trubetzkoy's Rule IV:

Rule IV — A potentially monophonematic combination of sounds, that is, a combination of sounds corresponding to the conditions of Rules I to III, must be evaluated as the realization of a single phoneme, if it is treated as a single phoneme; if it occurs in those positions in which phoneme clusters are not permitted in the corresponding language.

according to which, such combination of CM must be regarded as the realization of single phonemes.

The situation with CM resonant +h, however, is otherwise. Consider:

[nəʃr ^h er]	[nərʃher]	'vagabond'
[k ^h əʃm ^h ā]	[k ^h əʃmā]	'house pole'
[kəʃl ^h ā]	[kəlʃhā]	'adulterated (oil)'
[kəʃn ^h ā]	[kənʃhā]	'shoulder'

According to Trubetzkoy, then, CM resonant +h must be treated as combinations of two phonemes.

Pike's (1947) 'interpretation techniques', based in particular on the criteria of 'predominant structure pattern' and 'syllable length' are no more revealing than those of Trubetzkoy, and would produce more or less similar results.

Hockett (1955) would presumably consider the CM aspirated consonants as clusters of C + h. At least this is what can be extrapolated from what he has to say on languages of India:

Sanskrit, and certain modern languages, such as Hindustani, are often said to have four types of stops: voiceless and voiced, intersecting unaspirated and aspirated. But in both named cases the aspirated (be it voiced or voiceless) is rather patently simply the phoneme /h/, which recurs elsewhere: this leaves just a two-way manner contrast.

Gleason (1961) too would go along with Hockett.

Remarking on Hindi and other languages of India, he says:

Hindi and many other languages of India are generally said to have four series of stops: voiceless unaspirate, voiceless aspirate, voiced unaspirated and voiced aspirate. Of course it is obviously possible to reduce these to two series, each of which can occur in clusters with a following /h/.

To sum up, it can be said that in pregenerative phonology it was not possible to have an evaluation criterion allowing the selection of one solution over several competing ones as preferable.

6. Generative Phonology Framework

The analysis of the Maithili consonants into distinctive features results in the matrix in Table 2.

All the features used here, except Reduced Glottal Resistance after Release (RGRR) and distinctive Release, are as defined in Chomsky and Halle (1968). Following Dhala (1972) the additional feature, Distinctive Release, may be used in order to capture the generalization that CM affricates, aspirated stops and breathy voiced stops belong to a natural class in that they all require the release of the closure for their identification. However, it is believed that either of the two features—RGRR and Distinctive Release—will do for the present purpose.

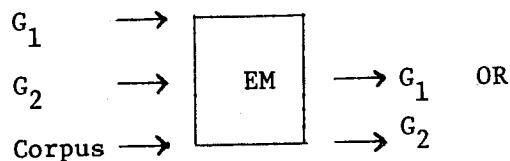
As will be seen below, generative phonology applies a mechanical procedure in order to evaluate and choose one of the several competing solutions. The criterion of such an evaluation procedure is economy and is commonly known as the 'simplicity metric.'

	p ^h	b ^h	t ^h	d ^h	t ^h	d ^h	c ^h	j ^h	k ^h	g ^h	s	r	l	m	n	h
sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
anterior	+	+	+	+	-	-	-	-	-	-	-	+	+	+	+	+
coronal	-	-	+	+	+	+	+	+	-	-	+	+	+	+	+	-
high																
nasal																
lateral																
continuant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
voice	-	+	-	+	-	+	-	+	+	-	-	-	-	-	-	-
RGRR	-	+	-	+	-	+	-	+	-	-	-	-	-	-	-	-
<u>or</u>																
distinctive release																

Table 2 Distinctive Features of CM Consonants

6.1. The Simplicity Metric

The notion of simplicity has been of theoretical significance in the framework of generative grammar. Implicit in this technical term are three main claims. First, simplicity is equated with generality. Long ago Chomsky (1955) stated that "simplicity correlates with 'maximal degree of generalization'". In other words, such an evaluation procedure will help linguist make the "strongest legitimate universal claim" about the structure of a given language. Second, it is claimed that the maximally simple phonologies have more "learnability" and hence will be easily learnt by children and readily preferred by speakers. Third, it is held that the child, in the process of the acquisition of a given language, will construct the 'simplest' grammar of that language compatible with the corpus. Hyman (1975) schematizes this as follows:



In other words, an evaluation metric (EM) will automatically ease the burden of selecting the maximally simple grammar. It is because of this particular claim that simplicity metric has attracted so much attention lately.

6.2. The Simplicity Metric and Generative Phonology

Within the distinctive feature framework, simplicity is often equated with the number of features utilized to capture a 'significant' phonological generalization. In the words of Harms (1966) "the average number of bits per phoneme is often taken as a measure of economy."

Now we go back to the original question, i.e. whether CM aspirated consonants should be treated as one phoneme or two. The answer to this question will be sought in the light of criteria as proposed in Harms (1966). Working within the framework of morpheme structure rules, Harms proposes two criteria to measure the economy of a phonological solution: 1) the number of features required to uniquely specify within the lexicon both the solutions, i.e. /c^h/ vs. /c/ and /ch/ vs. /c/ and 2) the relative frequency of occurrence of two sets of consonants— aspirated and unaspirated—in the language.

First the /c^h/ vs. /c/ solution.

Harms arbitrarily assigns the nth number of features to /c/. Thus a CM unaspirated consonant, /c/, will take one extra feature [-RGRR], i.e. n + 1 for its unique specification; similarly a CM aspirated consonant too will require one extra feature [+RGRR] i.e.

$n + 1$ for its unambiguous specification in the lexicon. In other words, /c/ and /c^h/ will each take $n + 1$ features; taken together $2n+2$. Here it should be mentioned in passing that in a theory of "Markedness" /c/ will be U, i.e., 'unmarked' and therefore will add no 'cost' to the phonological system of the language; on the other hand /c^h/ will be M, i.e., 'marked' and hence will 'cost' one extra feature, thereby rendering the system less economical.

Now the /ch/ vs. /c/ solution. We already know that /c/ has been assigned the n^{th} number of features. /ch/ thus will require $n +$ whatever number of features is required to uniquely specify CM /h/. Two features [+ sonorant, - ant.] are sufficient for an unambiguous specification of CM /h/. Hence /ch/ will require $n + 2$ features; taken together /ch/ vs. /c/ will require $2n + 2$, i.e. exactly the same as the /c^h/ vs. /c/ solution.

After a dictionary count it was determined that in a list of dictionary entries of 12,603, the total occurrence of CM /p/ was 1553 times and of CM /p^h/ 367 times. For an illustration of Harms' method, the following calculation may suggest itself:

	/p ^h /	/p/	/ph/	/p/
	$n + 1$	$n + 1$	$n + 2$	n
367 p ^h	367n+	1553n+	367n+	1553n
1553 p	367	1553	367x2	
Total	1920+	1920	1920n+	734

The above calculation shows that 1186 feature specifications will be economized if /ch/ vs. /c/ solution is adopted. It also demonstrates the fact that the selection of one solution among several competing ones is made almost entirely on the relative frequency of occurrence of the two sets of sounds. In fact, such is the solution that Harms suggests for Bengali (Ferguson & Chowdhury, 190) and argues that "even if the number of nonaspirated stops exceeds the number of aspirated stops by only one, the cluster solution will prove more economical." It should be noted, however, that Ferguson and Chowdhury (1960) offer a /c^h/ vs. /c/ solution for Standard Colloquial Bengali (SCB). And, so does Srivastava (1968) for Hindi.

7. Now, a host of questions that raise themselves are: Is this claim correct? Is there any empirical support for such a claim? Even if the claim as such is correct, is it useful? Should economy be the sole criterion for interpretation of the aspirates? Is it psychologically real? In other words, is this the solution that the native speakers of CM will readily accept? The answer to all

these questions is outright no. Such a solution is in fact counterintuitive to a native speaker of CM.

Also, a judgment on the explanatory adequacy of competing grammars of a language should not be made in abstraction, having recourse only to feature counting and economy. "Never underestimate the power of a creative formalist", said Charles Kisseberth—and this is true especially if the goal of the theory is mere observational adequacy. However, if the goal is to capture also the 'knowledge' (a notion not explicitly defined) of the native speakers of a language and thereby achieve the level of descriptive adequacy, the preferred solution must also be able to incorporate the native competence of the speakers of a language. In other words, the evaluation procedure should also incorporate the 'intuition' of the native speakers as one of its tenets. In this sense perhaps the formulations of traditional grammarians and some structuralists (Trubetzkoy, Pike, etc.) were far superior.

8. Finally, a question that remains to be answered is: how to account for CM resonants that are phonetically laryngealized? It is argued that the phonetically laryngealized resonants of CM should be treated as clusters rather than units because of 1) lack of distributional contrast initially, 2) free variation elsewhere, and 3) problems of syllabification, as shown in Sections 3.3 and 5. In fact, all that is needed is to have some P-rules notwithstanding the 'cost' they will add to the level of Phonological Rules in the grammar of CM.

CM Laryngealization Rules

Rule 1 $\left[\begin{array}{l} - \text{ anterior} \\ + \text{ coronal} \\ - \text{ high} \\ + \text{ voice} \\ + \text{ RGRR} \end{array} \right] \rightarrow [+ \text{ sonorant}] \quad \begin{array}{l} [+ \text{ syllabic}] \text{ —} \\ \text{ —} \# \end{array}$

Rule 1 says that word finally and postvocally all [d^h] becomes [r^h] in CM.

Rule 2 $\left[\begin{array}{l} + \text{ nasal} \\ \alpha \text{ place} \end{array} \right] \left[\begin{array}{l} + \text{ anterior} \\ + \text{ voice} \\ + \text{ RGRR} \\ \alpha \text{ place} \end{array} \right] \begin{array}{l} [+ \text{syllabic}] \text{ —} \\ \# \end{array} \begin{array}{l} [+ \text{syllabic}] \\ \# \end{array} \begin{array}{l} 1 \quad \emptyset \quad 3 \\ [+ \text{RGRR}] \end{array}$

1 2 3

Rule 2 is written in transformational format and it says that word finally and intervocalically [nd^h] will become [n^h] and [mb^h] will become [m^h] in CM.

Here is a sample derivation, for illustration:

Underlying Forms	/kand ^h	k ^h amb ^h	pəḍ ^h	cəIḍ ^h /#kə	bəḍ ^h /#əl/
Rule 1	-	-	pər ^h	cəIr ^h /#kə	bər ^h /#əl
Rule 2	kan ^h	k ^h am ^h	-	-	-
Derived Forms	[kan ^h	k ^h am ^h	pər ^h	cəIr ^h kə	bər ^h əl]

The situation with [l^h] is not clear. But then its functional load is so low—19 out of 12,603—, and the dictionary invariably provides the alternate, i.e., [lh] form. Here I suggest that may be the phonetic laryngealization of CM can be explained better if it is viewed in the perspective of, what is known as, the Convergence or Sprachbund theory of language. After all, almost all the Sino-Tibetan languages spoken around the region have a whole series of laryngealized resonants as underlying phonemes.

Also, it should be noted that in CM the surface contrast between a laryngealized resonant and a non-laryngealized resonant is maintained only in those cases which would otherwise cause semantic merger and thereby increase homophony.

For example,

[kan ^h]	'shoulder'	[bər ^h]	'grow!'
[kan]	'ear'	[bər]	'bridegroom'

and so on.

9. Summary

CM aspirates have been discussed in detail. It is decided that CM has 26 unaspirated and aspirated consonant phonemes—both voiceless and voiced. The phonetically laryngealized resonants of CM are treated as clusters rather than units. It is argued that a mere concern for economy of inventory is not adequate. It is concluded that if CM requires extra feature specifications in the lexicon, and extra P-rules to account for the laryngealized resonants that surface phonetically, then this is the price we must pay if we are to satisfy the distributional requirements, syllabificational constraints and, finally, the native speaker's intuition about the language.

REFERENCES

- Chomsky, N. (1955) The Logical Structure of Linguistic Theory,
Mimeo, M.I.T. Library.
- Chomsky, N. & Halle, M. (1968) The Sound Pattern of English,
Harper & Row.
- Davis, A. (1973) 'Maithili Sentences' in Hale, A. (ed.) Clause,
Sentence and Discourse Patterns in Selected Languages Nepal
1, produced by T.U. Kathmandu.
- Ferguson, C.A. & Chowdhury, M. (1960) 'The Phonemes of Bengali,'
Language 36:1.
- Gleason, H.A. (1961) An Introduction to Descriptive Linguistics,
New York.
- Grierson, G.A. (1903/1968) 'Bihari and Driya Languages', in
Linguistic Survey of India 5:2, Motilal Banarsidas, India.
- Grierson, G.A. (1909) An Introduction to the Maithili Dialect of
the Bihari Language as Spoken in North Bihar, Part 1, Calcutta,
Asiatic Society.
- Harms, Robert T. (1966) 'The Measurement of Phonological Economy',
Language: 42.
- Hockett, Charles F. (1955) A Manual of Phonology IJAL 21:4.
- Hyman, L. (1975) Phonology: Theory and Analysis HRW.
- Jha, S. (1939-44/65) 'Maithili Phonetics', Indian Linguistics,
Vol. II; Reprint Edition.
- Jha, D. (1952/B.S. 2008) Mithila Bhasha Kosh (Maithili Dictionary)
Printed by Sri Rambhajan Press, Patna (India).
- Jha, S. (1958) The Formation of the Maithili Language, Luzac &
Company Ltd. London.
- Kim, Chin-Wu (1970) 'A Theory of Aspiration', Phonetica: 21.
- Ladefoged, P. (1971) Preliminaries to Linguistic Phonetics, the
University of Chicago Press.
- Lisker, L. & Abramson, A.S. (1964) 'A Cross-Language Study of
Voicing in Initial Stops' Word: 20.
- Mishra, J. (1947) A History of Maithili Language, Prayag, India.

- Dhala, M. (1972) Topics in Hindi-Urdu Phonology, Doctoral Dissertation, University of Calif. LA.
- Dhala, M. & Dhala, J. (1972) 'The problem of Aspiration in Hindi Phonetics', Project of Linguistic Analysis, Reports, Second Series, No. 16.
- Pike, K.L. (1947) Phonemics, Ann Arbor, The Univ. of Michigan Press.
- Srivastava, R.N. (1968) 'Theory of Monophonematis and the Aspirated Phonemes of Hindi', Acta Linguistica 8:3-4.
- Trubetzkoy, N.S. (1939/69) Principles of Phonology tr. Baltaxe, Christina A.M., Univ. of Calif. Press.
- Williams, J. (1973) 'Clause Patterns in Maithili,' in Trail, R.L. (ed.) Patterns in Clause, Sentence and Discourse in Selected Languages of India and Nepal 2, produced by T.U. Kathmandu.

