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## Languages and Peoples of the Eastern Himalayan Region (LPEHR)

*Morphophonemic variation in the nominal morphology of Assamese*

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### ABSTRACT

This paper seeks to analyse and describe the nature of morphophonemic variation in the nominal morphology of Assamese, an Indo-Aryan language spoken in Assam. Previous discussions of morphophonemic variation in the language have focused on the phonological aspects of such variation (Goswami and Tamuli, 2003: 410-13). However, the present study seeks to examine the nature and range of phonological variations within morphemes triggered by nominal morphological processes such as (a) deictic inflections for relational nouns, (b) case inflections for nouns and pronouns and (c) nominal word-formation via derivation and compounding.

Identifying the phonological and morphological factors behind the morphophonemic variation in nominal morphology will serve to uncover the patterned nature of the underlying regularities of a major area of Assamese grammar. Moreover, in seeking to align the morphophonemic variations with specific nominal morphological processes rather than treating them in intrinsic phonological terms, this study proposes to highlight the interdependent functioning of the levels of analysis. Such functioning is evident in instances of phonological variations within morphemes that serve to mark different grammatical functions in the language. In addition to such descriptive considerations, the range of variations and their associated morphological processes can also shed light on specific aspects of diachronic change when they are cross-linguistically compared with cognate languages.

The study is based mainly on corpus data using the empirical methodology of corpus linguistics. The CIIL-Lancaster Assamese corpus has turned out to be a very important aspect of the information for observing different areas discussed here. Besides the empirical data, supplementary introspective data will also be used where necessary. As the Assamese language has different varieties and the morphophonemic and allomorphic variants differ in their shapes and functions in these varieties, so the data are taken from the Standard Colloquial Assamese (SCA) which is historically referred to the Sibsagar (*hibõhagõija*) variety of the language.

### KEYWORDS

Assamese, Morphophonemic variation, Exponent, Alternation, Inflection

# *Morphophonemic variation in the nominal morphology of Assamese<sup>1</sup>*

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## 1 Introduction

The study of the morphophonemic variation in the nominal morphology covers a major area of Assamese grammar. Morphophonemic analysis involves an attempt to discover a series of formal rules, rules that can predict the regular sound changes occurring at the morphological level in Assamese. Previous discussions of morphophonemic variation in the language have focused on the phonological aspects of such variation (Goswami and Tamuli, 2003: 410-13). Though the authors have pointed out some rules that show vowel harmony and consonantal alternation, their discussion mainly centers around the phonological aspects. No attempt has been made to align these operations with the grammatical processes that serve to trigger these operations. They have observed three phonemic environments regarding the occurrence of /i, u, ə/. This paper differs from Goswami and Tamuli by attempting to align the morphophonemic variations with specific nominal morphological processes, such as case inflections for nouns and pronouns, deictic inflections for relational nouns, and nominal word-formation via derivation and compounding. This study also examines the interdependent functioning of the levels of analysis. The motivation to write on this area comes primarily from the wish to investigate the patterned nature of variation found in the phonological alternation of morphological forms observed in the native speaker's use of the language.

The study is based mainly on corpus data using the empirical methodology of corpus linguistics. The CIIL-Lancaster Assamese corpus has turned out to be a very important aspect of the information for observing different areas discussed here. The CIIL-Lancaster Assamese Corpus (a 2.96 million -word corpus of written text) is a part of EMILLE (i.e, Enabling Minority Language Community) corpus documentation. The EMILLE corpus project was undertaken by the Universities of Lancaster and Sheffield. Though the primary resource developed by the project is the EMILLE corpus, which consists a monolingual corpora for fourteen South Asian languages, but later on, the EMILLE Team has made some major changes to the original design of the EMILLE corpus, most notably the incorporation of the CIIL corpora into the EMILLE corpus. Besides the empirical data, supplementary introspective data will also be used where necessary. This study is based on synchronic observation of the data along with a representational perspective.

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Our stand with regard to the status of the representational perspective here is based on the analysis ‘inherent in the actual material of the language under analysis.’ (Robbins 1989: 44). Moreover, these are considered to be ‘part of the content of the speaker’s minds or brains.’ (Robbins 1989: 44)

The discussion on the morphophonemic variation in the nominal morphology of Assamese is observed in this paper under three headings. First, morphophonemic variation in nouns and pronouns through the morphological process of inflection has been discussed. It discusses case inflections and deictic inflections for nouns and pronouns. The next section is devoted to the discussion of morphophonemic variations resulted from the affixation of derivational morphemes. And finally, a brief discussion is done on the morphological process of compounding.

## **2 Nominal word-formation via inflection**

The morphophonemic variation in nominal morphology in Assamese can be observed through inflection. The study of phonological alternation aligned with morphological analysis has been done here in three sub-sections. First, case inflections for nouns and pronouns have been discussed, then morphophonemic variations in numerals are dealt with, and last, the deictic inflections for relational nouns have been examined.

### *2.1 Case Inflection for nouns and pronouns*

The inflectional category of case that helps in observing the morphophonemic variation in Assamese can be analyzed at two levels, first, case inflection for nouns and second, case inflections for pronouns.

#### *2.1.1. Case inflection for nouns*

Traditional analysis of Assamese suggest that there are seven cases based on the categories of the case system in Sanskrit. These are: ergative, accusative, instrumental, dative, ablative, genitive and locative. But the scholars and grammarians in Assamese express different views regarding the classifications of case forms in Assamese. A group of scholars do not want to include ablative case in Assamese case system. (Goswami, G.C, 1999: 177; Das B. 2010: 26; Goswami & Tamuli, 2003: 419). Though there is no explanation as to why they have not considered ablative as a part of Assamese case system, but it should be mentioned that the marker used to indicate ablative case can also be observed under the category of postpositions. Moreover, the ablative case is expressed in combination with the genitive (example 6 below). Another group of scholars have included ablative as a category of case system in Assamese but excluded genitive case from the system. ( Bora, L.S. 2006:91; Goswami, U.N. 1989: 38-39; Pathak, R. 1988:43)

The markers identifying these cases, except the ablative, are added to the citation form of a particular word to create new words. The post-position *পা* follows the nominal form that ends with the genitive marker *ৰ*, but the resultant form functions as ablative case system when the post-position is added to it. These cases do not always align in function with the original cases of Sanskrit. The case forms in Assamese are:

- (1) Ergative : *i, e*  
 Accusative: *k/ɔk*  
 Instrumental: *ɹe/eɹe*  
 Dative *ɔk/loi*  
 Ablative: *pɔɹa*  
 Genitive: *ɹ/ɔɹ*  
 Locative: *t/ɔt*

Nouns, in Assamese are inflected for all the seven cases but only the ergative case shows morphophonemic variation. Also in case of ergative case, the variation occurs with the vowel ending (V-ending) nouns. Assamese allows two alternants as ergative case markers : *i* and *e* and their occurrence depends on the environment. If the citation form is consonant ending (C-ending), the marker *-e* is suffixed to the form and no morphophonemic alternation occurs in c-ending forms. But if the citation form ends with a vowel, then phonologically conditioned morphophonemic alternation occurs which is regular. The V-ending citation forms can be sub-classified in Assamese as: *ɔ*- ending, *a*-ending, *ʊ*-ending, *i*- ending , *u*-ending and *ou*-ending and both *ɔ*-ending and *a*-ending forms do not respond to the morphophonemic alternation. In the case of nouns, the citation form remains the base form to which the ergative case marker and its variants are added. The examples in Table 1 will illustrate this:

Base form	example	Resultant form	Morphophonemic alternation
C-ending	<i>ɹam-e</i> Ram-ERG	<i>ɹame</i> 'Ram'	
V-ending	<i>ɔ</i> -ending <i>nɔbɔ-i</i> Naba-ERG	<i>nɔbɔi</i> 'Naba'	
	<i>a</i> -ending <i>gita-i</i> Gita-ERG	<i>gitai</i> 'Gita'	
	<i>ʊ</i> -ending <i>bɔʊ-e</i> Balo-ERG	<i>bɔʊwe</i> 'Balo'	<i>e ~ we</i>
	<i>u</i> -ending <i>zɔdu-e</i> Jadu-ERG	<i>zɔduwe</i> 'Zodu'	<i>e ~ we</i>
	<i>i</i> -ending <i>kɔɔbi-e</i> Karabi-ERG	<i>kɔɔbije</i> 'Karabi'	<i>e ~ je</i>
	<i>ou</i> -ending <i>mou-e</i> Mou-ERG	<i>mouwe</i> 'Mou'	<i>e ~ we</i>

Table 1 – Morphophonemic variation in ergative nouns

Table 1 shows that *i, e, we* and *je* are exponents of the Ergative Case morpheme. ‘Those features and parts of utterances which are in one way or another referred to each abstraction may be said to serve as its EXPONENTS.’ ( Robbins, 1989:45) The orthographic system in Assamese clearly represents these. Table 1 clearly presents that the exponent *e* alternates with *we* and *je* depending on the V-ending status of the stem. If the base forms end with *ʊ* and *u* then *e* alternates with *-we*. If the base form ends with *i*, then *e* alternates with *je*. Again, the same exponent can function differently in different contexts. For example, *-we* expounds ergative case marker when

added to nouns like *zɔdu*, but in a larger context the same *-we* in *zɔduwe* can be a part of the transitive subject. As *-we* functions as a marker of the subject, so at the morphological level, it acts as the ergative case suffix. But in the sentential context, when *-we* is added to a particular stem, the resultant form becomes able to perform the role of a subject in the sentence. For example:

- (2) *zɔdu-e*<sup>2</sup>      *bʰat*      *kʰa-l-e*  
 Zodu-ERG      rice      eat-PST-1  
 ‘Zodu ate rice.’

In this transitive sentence, the form *zɔduwe* (i.e., *zɔdu-e*) is functioning as a transitive subject grammatically as the subject noun *zɔdu* is inflected for the ergative case here. Thus, *-we* has served as an exponent of the ergative case marker at one level, i.e., at morphological level and also functioned as a part of the subject noun at the syntactic level. The native speakers, without having the formal knowledge about grammatical rules and structure of the language, know what type of base forms (V-ending/C-ending) are inflected for what type of categories and how to use those forms in some proper context. For example,

- (3) *zɔdu-e/ gita-i/ Jam-e*                      *bʰat*      *kʰa-l-e*  
 Zodu-ERG/ Gita-ERG/ Ram-ERG      rice      eat-PST-1  
 ‘Zodu/Gita/Ram ate rice.’

Here, *zɔduwe*, *gitai* and *rame* are functioning as subjects and they can be analyzed depending on their forms and occurrence in the sentence. But any native speaker applying his/her competence can use the suitable marker to any base form to create such type of utterances. This type of variation cannot be observed in applying other case markers in nouns. For example, if the genitive suffix is added to the nouns listed in Table 1, they will take only *ɹ* or *ɔɹ* depending on the v-ending and c-ending status of the root morpheme, such as :

- (4) *Jam + ɔɹ = Jamɔɹ* ‘Of Ram.’  
*nɔbɔ + ɹ = nɔbɔɹ* ‘Of Naba’  
*gita + ɹ = gitaɹ* ‘Of Gita’ and so on.

### 2.1.2. Case inflections for pronoun

Pronouns in Assamese can be sub-divided into four types, namely personal pronoun, relative pronoun, interrogative pronoun and demonstrative pronoun, that also show morphophonemic variation when case markers are added to them. Phonologically conditioned alternation affects the morphophonemic variation when pronouns are inflected for all the six cases except ergative case in Assamese. When the case markers are added to the pronouns, the citation form takes an oblique form which functions as the base form and the resultant form shows the morphophonemic variation. Then, the base form functions as exponents while the case markers function as affixal exponents of the overall categorial exponents. But in case of the ergative case, the

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<sup>2</sup> The examples represents only the words and the affixes added to these. Morpheme to morpheme break has been done here. The resultant forms that have been presented in table 1 exhibit the form at word level, no morpheme break is done here.

pronouns, in their singular forms, function as zero-exponents as no overt marking is there. But if they take a plural suffix, they also function as affixial exponents as they exhibit an overt case marking system.

2.1.2.1 Case inflection for personal pronoun

Personal pronouns are inflected for all the cases but they do not show the morphophonemic variation while using the ergative case marker. The citation forms remain the same and the ergative marker *-e/i* cannot be applied to them. Though the ergative case marker cannot be suffixed to them, but inherent case inflection is happening here which is not syntactically determined, but semantically it is present here. It should be worth mentioning here that the ergative is not marked on pronouns in Assamese. Whether it is a transitive subject or an intransitive subject, the form remains the same, i.e, the case inflection cannot be determined syntactically. For example,

- (5) *mɔi*        *bʰat*        *kʰa-l-ɔ*  
 1SG+ERG rice        eat-PST-1  
 'I ate rice.'

Here, the transitive subject represents the 1<sup>st</sup> person in Assamese. But, before using other case markers, their citation forms turn to the base forms (example- *mɔi*~ *mɔ*, *tɔi*~*tɔ*) where the case suffixes are used and thus they show the morphophonemic variation. Again, in case of instrumental and ablative cases, in personal pronouns, certain post positions occur with the word forms which have already undergone morphophonemic changes while adding genitive case marker to them. For example:

- (6) *tumi* '2nd person honorific' : citation form  
*tɔmaɪ* 'your' : *tɔma* (base form) + *ɪ* (genitive case morpheme)

The instrumental case marker *daɪa* and the ablative case marker *pɔɪa* occur with the form *tɔmar*, as observed in:

- (7) *tɔmaɪ daɪa*  
 your INSTR  
 'by you'

- (8) *tɔmaɪ pɔɪa*  
 your ABL  
 'from you'

It should be noted here that when the post-positions *daɪa* and *pɔɪa* are added to particular words marked by the genitive, they function as instrumental and ablative case markers respectively. The following is a discussion on the case morphemes which function as affixial exponents by exhibiting the morphophonemic alternations:

(A) Accusative case marker

When accusative case marker *-k* is added to the pronouns, they turn to their base forms where the phenomenon of morphophonemic alternation occurs, as illustrated in Table 2:

Person	Personal pronoun +suffix	Resultant form	Morphophonemic alternation
1 <sup>st</sup>	<i>mɔi+ k</i> 1SG+ACC	<i>mɔk</i> me	<i>ɔi~ɔ</i>
2 <sup>nd</sup> non.hon	<i>tɔi+ k</i> 2SG+ACC	<i>tɔk</i> you	<i>ɔi~ ɔ</i>
2 <sup>nd</sup> fam	<i>tumi+ k</i> 2SG+ACC	<i>tɔmak</i> you	<i>u ~ ɔ</i> <i>i~ a</i>
2 <sup>nd</sup> hon	<i>apuni+ k</i> 2SG+ACC	<i>apɔnak</i> you	<i>u~ɔ</i> <i>i ~ a</i>

Table 2 – Suffixation of accusative case marker

(B) Dative case marker

Assamese permits two variants that can function as dative case : *-k/ɔk* (the accusative marker) and *-loi*. ‘It usually expressed the indirect object relation as well as a range of meaning which is similar to the meaning expressed by English ‘to’ or ‘for’.( Deb. 2012: 105). The distribution of *-k/ɔk* depends on the status of C/V-ending of the root morpheme. *-k* occurs with V-ending (vowel ending) forms, whereas *ɔk* occurs with C-ending (consonant ending) forms. Morey (2013) suggested the use of the term ‘anti-agentive’ as more appropriate here as *-k/ɔk* is found in words that function both as patient and recipient.<sup>3</sup> In an examination of various Northeast Indian languages that exhibit the ‘anti-agentive’, Morey observed that “Assamese does mix some features of the anti-agentive system with the accusative -dative split of the classical language.’ (2013: 186)

As the morphonemic alternation in accusative case marker with *-k* has been observed in Table 2 , so the variation while adding dative marker to the base form is shown in Table 3 . Here the suffix *-loi* is added to the forms.

Person	Personal pronoun+suffix	Resultant form	Morphophonemic alternation
1 <sup>st</sup>	<i>mɔi+ loi</i>	<i>mɔloi</i>	<i>ɔi ~ɔ</i>

<sup>3</sup> “...what we term ‘anti-agentive’... to convey both patients and recipients, categories marked by accusative and dative respectively in Latin and Sanskrit.” (Morey, 2013: 174)



	1SG+ DAT	to me	
2 <sup>nd</sup> non.hon	<i>tɔi+ loi</i> 2SG+ DAT	<i>tʊloi</i> to you	<i>ɔi~ ʊ</i>
2 <sup>nd</sup> fam	<i>tumi+ loi</i> 2SG+ DAT	<i>tʊmaloi</i> to you	<i>u ~ ʊ</i> <i>i~ a</i>
2 <sup>nd</sup> hon	<i>apuni+ loi</i> 2SG+ DAT	<i>apʊnaloi</i> to you	<i>u~ʊ</i> <i>i ~ a</i>

Table 3 - suffixation of dative case marker

(C) Genitive case marker

The genitive marker *-ɹ* is added to the pronouns which show the morphophonemic variation in the resultant form, as observed in Table 4:

Person	Personal pronoun+suffix	Resultant form	Morphophonemic alternation
1 <sup>st</sup>	<i>mɔi+ ɹ</i> 1SG+ GEN	<i>mʊɹ</i> my	<i>ɔi~ʊ</i>
2 <sup>nd</sup> non.hon	<i>tɔi+ ɹ</i> 2SG+ GEN	<i>tʊɹ</i> your	<i>ɔi~ ʊ</i>
2 <sup>nd</sup> fam	<i>tumi+ ɹ</i> 2SG+ GEN	<i>tʊmaɹ</i> your	<i>u~ ʊ</i> <i>i~ a</i>
2 <sup>nd</sup> hon	<i>apuni+ ɹ</i> 2SG+ GEN	<i>apʊnaɹ</i> your	<i>u~ ʊ</i> <i>i ~ a</i>

Table 4 - Suffixation of genitive marker

(D) Locative case marker

When the locative marker *-t* is suffixed to pronouns, the resultant forms show the morphophonemic variation, as illustrated in Table 5 below:

Person	Personal pronoun+suffix	Resultant form	Morphophonemic alternation
1 <sup>st</sup>	<i>mɔi+ t</i> 1SG+ LOC	<i>mʊt</i> in me	<i>ɔi~ʊ</i>
2 <sup>nd</sup> non.hon	<i>tɔi+ t</i> 2SG+ LOC	<i>tʊt</i> in you	<i>ɔi~ ʊ</i>
2 <sup>nd</sup> fam	<i>tumi+ t</i> 2SG+ LOC	<i>tʊmat</i> in you	<i>u ~ ʊ</i> <i>i~ a</i>
2 <sup>nd</sup> hon	<i>apuni+ t</i> 2SG+ LOC	<i>apʊnat</i> in you	<i>u~ʊ</i> <i>i ~ a</i>

Table 5 - suffixation of locative marker

The discussion on the use of case suffixes in pronominal forms or pronouns show that though both nouns and pronouns inflect for case markers, the inflectional process affects the internal structure of the root word in case of pronouns. With all of these pronouns, whether followed by accusative marker -k, dative marker -loi, genitive marker -J, or locative marker -t, the same processes occur

- (9) a. Root  $\text{ɔi} \rightarrow \text{ʊ}$   
 b. Root  $u \rightarrow \text{ʊ}$   
 c. Root  $i \rightarrow a$

### 2.1.2.2 Suppletion

In Assamese, the third person non-honorific *hi* can be treated under the category of suppletion as it cannot be used as the inflected form while adding case markers to it. Only in case of ergative case, *hi* remains the same, as there is no overt marking here. But another phonetically distinct root *ta-*, which cannot be used without a suffix, is used for different forms of the word and functions as the base form when case markers are added to it, as evident in Table 6 below:

Pronoun	Ergative	Accusative	Dative	Genitive	Locative
<i>hi</i>	<i>hi</i> 'he'				
<i>ta-</i>		<i>ta-k</i> 'him'	<i>ta-loi</i> 'to him'	<i>ta-r</i> 'his'	<i>ta-t</i> 'in him'

Table 6 - suppletive forms of *hi*

### 2.1.2.3 Case inflection for relative pronoun

Relative pronoun *zi*, in Assamese, takes different forms when the case markers are added to the citation form *zi*. The resultant forms show morphophonemic variations, as shown in Table 7:

	Ergative	Accusative	Instrumental	Dative	Genitive	Locative
Relative pronoun ( <i>zi</i> ) (human reference)	<i>zi + e &gt; zije</i> 'who'	<i>zi + k &gt; zak</i> 'to whom'		<i>zi + loi &gt; zaloi</i> 'to whom'	<i>zi + J &gt; zaJ</i> 'whose'	
<i>zi</i> (non-human reference)			<i>zi + Je/di &gt; zihete/zihedi</i> 'by which'	<i>zi + loi &gt; zoloi</i> 'to where'	<i>zi + J &gt; zoJ</i> 'of which'	<i>zi + t &gt; zot</i> where
Morphophonemic alternation	<i>i + e ~ ije</i>	<i>i + k ~ ak</i>	<i>i + Je ~ ihete</i> <i>i + di ~ ibedi</i>	<i>i + loi ~ aloi</i>	<i>i + J ~ aJ</i>	<i>i + t ~ ot</i>

Table 7 - relative pronoun *zi*

It is observed that *zi* takes three base forms: *za* (when accusative, dative and genitive suffixes are added to it) for introducing human referents, *zo* (when dative, genitive and locative suffixes are added to it) for introducing non-human referents and *zib* with non-human referents when an instrumental marker is suffixed to it. Again, in case of locative suffix, the suffix *-t* cannot

be added to the root word with human reference. If locative case marker is to be added, then the relative pronoun must take a postposition and *-t* is suffixed to the post positional form, as in:

- (10) *za-ɹ*                      *log-ɔt*  
 who-GEN                      company-LOC  
 ‘with whom’

#### 2.1.2.4 Case inflection for demonstrative pronoun

The demonstrative proximal pronoun *i* is used to refer to both human and non-human beings and the resultant forms, after adding case markers to *i*, can be applied to both types of referent. The forms with morphophonemic variations, where citation form *i* changes to *ija* which functions as base form when case markers are suffixed to it, are observed in Table 8 :

	Accusative	Dative	Genitive	Locative
Demonstrative pronoun <i>i</i>	<i>i + k &gt; ijak</i> ‘to him/it’	<i>i+loi&gt;ijaloi</i> ‘to him/it’	<i>i + r &gt; ijar</i> ‘his/its’	<i>i + t &gt; ijat</i> ‘here’
Morphophonemic alternation	<i>i~ija</i>	<i>i~ija</i>	<i>i~ija</i>	<i>i~ija</i>

Table 8 - demonstrative pronoun *i*

#### 2.1.2.5 Case inflection for interrogative pronoun

K-initial interrogative pronouns are of two types in Assamese indicating animacy and non-animacy status of the referents. The form for human referents is *kʊn* ‘who’, whereas for non-human referents is *ki* ‘what’. When the case-markers are suffixed to these two forms, the base forms are realized in their oblique forms. The pronouns with their oblique forms are shown in Table 9:

Interrogative pronouns	Human	Non-human
Base form	<i>kʊn</i>	<i>ki</i>
Oblique form	<i>ka-</i>	<i>kib/ko</i>
Morphophonemic alternation	<i>ʊ ~ a</i>	<i>i ~ ih</i>
Processes involved	alternation	alternation

Table9 - forms of interrogative pronoun

	Base form+Accusative	Base form+Dative	Base form+ Genitive	Base form+ Locative
Interrogative pronoun <i>kʊn</i>	<i>kʊn + k &gt;kak</i> ‘whom’	<i>kʊn + loi&gt;kaloi</i> ‘to whom’	<i>kʊn + ɹ&gt;kaj</i> ‘whose’	<i>kʊn + t &gt;kat</i>
Interrogative pronoun <i>ki</i>	<i>ki + k &gt;kihɔk</i>	<i>ki + loi&gt;kiholoi</i> <i>koloi</i>	<i>ki + ɹ&gt;kihɔɹ</i> <i>kor</i>	<i>ki+ t &gt;kihɔt</i> <i>kot</i>

Table 10 - Case inflections for demonstrative pronouns

The resultant forms in Table 10 above illustrate that morphophonemic variations can be observed when accusative, dative, genitive and locative case markers are suffixed to both the interrogative pronouns indicating human and non-human referents.

### 2.2. Morphophonemic variation in numerals

Some numerals in Assamese show morphophonemic variation when classifiers are suffixed to them, as observed in Table 11:

Numeral	Numeral+ classifier	Resultant form	Morphophonemic alternation	Processes involved
<i>ek</i> ‘one’	<i>ek+zɔn</i> one+ CLS	<i>ezɔn</i> ‘one’	$k + z > z$	consonant alternation
<i>dui</i> ‘two’	<i>dui+ta</i> two+CLS	<i>duta</i> ‘two’	$i + t > t$	consonant alternation
<i>sɔj</i> ‘six’	<i>sɔj+zɔn</i> six +CLS	<i>sɔzɔn</i> ‘six’	$j + z > z$	consonant alternation

Table 11 - Morphophonemic variations in numerals

It is evident here that three numerals, namely *ek* ‘one’, *dui* ‘two’ and *sɔj* ‘six’ exhibit morphophonemic alternation. All other numerals, in Assamese, are morphophonemically inert.

### 2.3. Deictic inflections for relational nouns

Relationship nouns, or kinship terms, that denote relation-extensions are used in Assamese to identify relationships between individuals in a family. ‘The inflection of a small class of nouns of relationship with regard to personal deixis constitutes an important typological characteristic of Asamiya’ (Goswami and Tamuli, 2003:415). Some personal deictic inflectional suffixes, also known as kinship markers, are added to the relationship nouns with second person and third person Subject, which show morphophonemic variations, as observed in Table 12.

Person	Deictic suffixes/ kinship markers	After forms ending in <i>a</i>	After forms ending in <i>i/u</i> and consonants	Examples with <i>a</i> -ending forms	Examples with <i>i</i> -ending forms
1 <sup>st</sup> person	$\emptyset$	$\emptyset$	$\emptyset$	<i>ma-<math>\emptyset</math></i> mother-1+KIN.MRKR ‘my mother’	<i>zi-<math>\emptyset</math></i> daughter- 1+KIN.MRKR ‘my daughter’
2 <sup>nd</sup> person non.hon	<i>ɪ/ɛɪ</i>	<i>ɪ</i>	<i>ɛɪ</i>	<i>ma-ɪ</i> mother- 2+KIN.MRKR ‘your mother’	<i>zi-ɛɪ</i> daughter- 2+KIN.MRKR ‘your daughter’
2 <sup>nd</sup> person fam	<i>ɪa/ ɛɪa</i>	<i>ɪa</i>	<i>ɛɪa</i>	<i>ma-ɪa</i> mother-2 +KIN.MRKR ‘your mother’	<i>zi-ɛɪa</i> daughter- 2+KIN.MRKR

					'your daughter'
2 <sup>nd</sup> person hon	<i>k / ɛk</i>	<i>k</i>	<i>ɛk</i>	<i>ma-k</i> mother-2 +KIN.MRKR 'your mother'	<i>zi-ɛk</i> daughter-2 +KIN.MRKR 'your daughter'
3 <sup>rd</sup> person	<i>k / ɛk</i>	<i>k</i>	<i>ɛk</i>	<i>ma-k</i> mother- 3+KIN.MRKR 'his mother'	<i>zi-ɛk</i> daughter- 3+KIN.MRKR 'his daughter'

Table 12. Deictic inflections

As shown in Table 12, no deictic suffix is added to the relationship nouns when it shows relationship with the first person. Again, the neutralization in forms in relational nouns having deictic inflection between second person (honorific) and third person is an important feature of Assamese grammar.<sup>4</sup> 'The formal contrast is neutralized between the deictic centres of second person honorific and third person.' (Goswami and Tamuli. 2003: 415) . The morphophonemic variations that can be observed due to the deictic inflection have been presented in Table 13:

Vowel-ending	Examples with forms	Resultant forms	Processes involved
<i>i</i> -ending (simple)	<i>bʰɔni-ɛɪ</i> sister-KIN.MRKR <i>mahi- ɛɪ</i> aunt-KIN.MRKR	<i>bʰɔnijeɪ</i> 'your sister' <i>mahijeɪ</i> 'your aunt'	Alternation <i>ɛ~je</i>
<i>i</i> -ending (diphthong)	<i>bʰai- ɛɪ</i> brother-KIN.MRKR <i>kɔkai-ɛɪ</i> elder brother-KIN.MRKR	<i>bʰajeɪ</i> 'your younger brother' <i>kɔkajeɪ</i> 'your elder brother'	Alternation <i>i~j</i>
<i>u</i> -ending	<i>baideu- ɛɪ</i> elder sister- KIN.MRKR <i>kʰuɹadeu- ɛɪ</i> uncle-KIN.MRKR	<i>baideweɪ</i> 'your elder sister' <i>kʰuɹadeweɪ</i> 'your uncle'	Alternation <i>ɛ~we</i>
<i>ou</i> -ending	<i>nɔbou- ɛɪ</i> sister-in-law-KIN.MRKR	<i>nɔbouver</i> 'your sister-in-law'	Alternation <i>ɛ~we</i>
<i>oi</i> -ending	<i>tarwoi- ɛɪ</i> father's friend-KIN.MRKR <i>bijoi- ɛɪ</i> father-in-law of son/daughter-KIN.MRKR	<i>tarwoijeɪ</i> 'your father's friend' <i>bijojieɪ</i> 'the father-in-law of your son'	Alternation <i>ɛ~je</i>

Table 13. - kinship marker -*ɛɪ*, 2nd person non.honorific

<sup>4</sup> Such type of neutralization is a part of verbal morphology in Assamese too. The language exhibits the neutralization in forms between second person honorific and third person when a verb root gets inflected for tense.

Though deictic inflection affects the morphophonemics of relator nouns with regard to both the second person and third person, Table 11 B illustrates the morphophonemic variations regarding the second person non-honorific form only. It should be mentioned here that the use of the forms of various kinship marker such as *ɹ/ɛɹ* , *k/ɛk* etc. depends on the final vowel phoneme of the root word. If the kinship term or the root word ends with *-a*, then *ɹ/ɹa/k* is suffixed to it and if it ends with *i* and *u*, then *ɛɹ/ɛɹa/ɛk* is added.(This can be observed in Table 12 and 13.)

### 3. Nominal word-formation via derivation

The phonological variations within morphemes can be observed with regard to the nominal word formation through derivation. As derivational morphology is concerned with the formation of new lexemes that differ either in syntactic category or in meaning from their bases, so, in Assamese too, when both the two types of derivational suffix, namely, class maintaining and class changing, are added to the base forms, they exhibit morphophonemic variations.

#### 3.1. Class -maintaining derivational suffix

When some particular derivational morphemes are suffixed to the nouns, then those nouns do not change their syntactic category, but their meaning change. For example:

Suffix	Base form with suffix	Resultant form	Morphophonemic alternation	Processes involved
<i>ija</i>	<i>dʰɹl+ ija</i> drum+SFX  <i>kʰɹl+ ija</i> drum+SFX	<i>dʰulija</i> ‘a drummer’  <i>kʰulija</i> ‘a drummer’	<i>ɹ ~ u</i>	Vowel alternation
<i>ɔni</i>	<i>habi+ ɔni</i> Jungle SFX  <i>kɔsu+ ɔni</i> arum plant+SFX	<i>habijɔni</i> ‘a place full of jungle’  <i>kɔsuwɔni</i> ‘a place covered with the arum plants	<i>ɔ ~ jɔ</i>  <i>ɔ ~ wɔ</i>	alternation
<i>uwa</i>	<i>bihu+ uwa</i> Bihu+SFX	<i>bihuwa</i> ‘a Bihu dancer (m)’	<i>u+ u &gt; u</i>	merging
<i>ɔti</i>	<i>bihu +ɔti</i> Bihu+ SFX	<i>bihuwɔti</i> ‘a Bihu dancer (f)’	<i>ɔ ~ wɔ</i>	alternation
<i>ɔk</i>	<i>kʰeti+ ɔk</i> cultivation+SFX  <i>pʰɔndi+ ɔk</i> a stratagem+SFX	<i>kʰetijɔk</i> ‘a farmer’  <i>pʰɔndijɔk</i> ‘a crafty person’	<i>ɔ ~ jɔ</i>	alternation
<i>ijaɹ</i>	<i>magɔn+ ijaɹ</i>	<i>mɔgɔnijaj</i> ‘a begger’	<i>a ~ ɔ</i>	alternation

	the act of begging+SFX  <i>zʊgʌn+ ijaʌ</i> a supply+SFX	<i>zʊgʌnijaʌ</i> 'a supplier'	<i>a ~ ɔ</i>	
<i>ɔija</i>	<i>naʊ+ ɔija</i> boat+ SFX <i>bʰaʊ+ ɔija</i> an act +SFX	<i>naʊɔija</i> 'a boatman'  <i>bʰaʊɔija</i> 'an actor on the stage'	<i>ʊ ~ w</i>	alternation

Table 14 - Morphophonemic variation with class-maintaining suffix

The data presented in Table 14 shows that after adding the derivational suffix to the base forms, the derived forms belong to the noun category of words. The base forms, here, are identical to their citation forms.

### 3.2. Class changing derivational suffix

In Assamese, nouns can be derived from adjectives and verbs, but only the deverbal nouns exhibit morphophonemic variations. The morphophonemic alternations can be observed with regard to both vowel ending and consonant ending verb roots. For example:

Nominal suffix	Types of verb roots	Base form with suffix	Resultant form	Morphophonemic alternation
<i>ɔn</i>	a-ending	<i>kʰa+ ɔn</i> eat+SFX	<i>kʰaʊɔn</i> 'the act of eating'	<i>ɔ ~ wɔ</i>
		<i>za+ ɔn</i> go+SFX	<i>zaʊɔn</i> 'the act of going'	
		<i>zi+ ɔn</i> live+SFX	<i>ziʃɔn</i> 'the act of living'	
	i-ending	<i>ħi+ ɔn</i> stitch+SFX	<i>ħijɔn</i> 'the act of stitching'	<i>ɔ ~ jɔ</i>
		<i>ħʊ+ ɔn</i> sleep+SFX	<i>ħʊwɔn</i> 'the act of sleeping'	
		<i>ɽʊ+ ɔn</i> plant +SFX	<i>ɽʊwɔn</i> 'the act of planting'	
<i>ɔni</i>	a-ending	<i>da+ ɔni</i> reap+SFX	<i>daʊɔni</i> 'a reaper'	<i>ɔ ~ wɔ,</i>
		<i>sa+ ɔni</i> watch at+SFX	<i>saʊɔni</i> 'a sight'	
	ʊ-ending	<i>ɽʊ+ ɔni</i> plant+SFX	<i>ɽʊwɔni</i> 'a woman who transplants peddy seedlings'	<i>ɔ ~ wɔ</i>
		<i>bʊ+ ɔni</i> weave+SFX	<i>bʊwɔni</i> 'a woman who weaves for wages.'	
	ɔ-ending	<i>bʊ+ ɔni</i> weave+SFX	<i>bʊwɔni</i> 'a woman who weaves for wages.'	<i>ɔ ~ ʊ</i> <i>ɔ ~ wɔ</i>

Table 15 - morphophonemic variation with class changing suffix (v-ending)

Table 15 exemplifies that when the nominal derivational suffix that starts with *ɔ* (as in *ɔn* and *ɔni*) is added to vowel ending base forms or verb roots, it alternates with *ʉɔ* and *jɔ*. Again, if the base form or the verb root ends in a consonant phoneme, with the syllabic structure CVC, then the vowel of the base form responds to the morphophonemic alternation as observed in Table 16:

Nominal suffix	Base form with suffix	Resultant form	Morphophonemic alternation	Process involved
<i>ɔnija</i>	<i>maɔ</i> + <i>ɔnija</i> to beg+SFX  <i>sap</i> + <i>ɔnija</i> to approach +SFX	<i>mɔɔɔnija</i> ‘a beggar’  <i>sɔpɔnija</i> ‘a man living at the house of a woman who keeps him.’	<i>a ~ ɔ</i>	alternation
<i>uwa</i>	<i>d<sup>h</sup>ar</i> + <i>uwa</i> loan + SFX	<i>d<sup>h</sup>ɔɔuwa</i> ‘a loanee’	<i>a ~ ɔ</i>	alternation

Table 16 morphophonemic variation with class changing suffix (c-ending)

The data presented here show that *a* of *maɔ*, *sap* and *d<sup>h</sup>ar* alternates with *ɔ* when derivational suffixes *ɔnija* and *uwa* are added to the base forms.

Assamese allows another type of construction with regard to verbs functioning as nouns. In such type of construction, when classifiers are suffixed to the base forms, the derived forms show morphophonemic variations. After suffixing the particle *a* to the root, the vowel *a* occurring at the initial or middle position alters with *ɔ* and the derived form functions as nouns or as a modifier of the nouns, depending on the context. For example, consider Table 17:

Base form +particle	Derived form	Morphophonemic alternation
<i>ab</i> + <i>a</i> ‘come’+ PART	<i>ɔba</i>	<i>a~ɔ</i>
<i>nas</i> + <i>a</i> ‘dance’+PART	<i>nɔsa</i>	<i>a~ɔ</i>
<i>kand</i> + <i>a</i> ‘weep’ + PART	<i>kɔnda</i>	<i>a~ɔ</i>

Table 17 - morphophonemic variation with particle *a*

The derived forms can function either as modifier of the noun in a noun phrase or as head if classifiers are suffixed to them, as in:

- (11) *kali*      *ɔba*      *manuh-zɔn*  
 yesterday    come+PART    man-CLS  
 ‘The person who came yesterday’



- (12) *kali*            *ɔha-zɔn*  
 yesterday        come+PART-CLS  
 ‘The person who came yesterday’

In example (11) *ɔha* is modifying the noun and hence is functioning as a dependent. But in example (12) *ɔha* itself is functioning as head when the classifier *zɔn* is suffixed to it. This form serves as zero exponent with no overt marking, but indicating the function of the subject in a sentence like:

- (13) *kali*            *ɔha-zɔn*            *azi-ɔ*            *ah-is-e*  
 yesterday        come+PART-CL    today-EMP MRKR    come-IMPV-PRES+3  
 ‘The person who came yesterday, has come today also.’

Again, *ɔhazɔn* can serve as categorial exponent if it functions as ergative or accusative noun, as in:

- (14) *kali*            *ɔha-zɔn-e*            *kɔtʰa-tɔ*            *zan-is-il*  
 yesterday        come+PART-CL-ERG    matter-CLS        know-IMPV-PST+3  
 ‘The person who came yesterday knew the matter.’

- (15) *kali*            *ɔha-zɔn-k*            *kɔtʰa-tɔ*            *zɔna-is-il-ɔ*  
 yesterday        come+PART-CL-ACC    matter-CLS        inform-IMPV-PST-1  
 ‘I informed the matter to the person who came yesterday.’

In examples (14) and (15), *e* and *k* are serving as exponents of ergative and accusative case morphemes respectively. It can be noted here that this function is similar to that of the Relative clause in English.

#### 4. Nominal word-formation via compounding

The morphological process of compounding, which occurs in Assamese when two or more words are joined to make a longer word, is a nominal composition. In terms of sources of the lexical items entering into the compounding process, three types of compounding can be distinguished, first, both the root words are of Sanskrit origin, second, both the words are native<sup>5</sup> and third, one is loan word and the other is a native/loan word. In our discussion, we are observing the morphophonemic variation in native compound words. Though compounding is a very productive process involved in nominal word-formation, we are dealing with those patterns only which exhibit phonological alternation. The data presented in Table 18 represent different native words. The resultant forms, i.e, the compound words show that though two independent words are there, the second word in each of the examples does not change its origin form. It remains same after the process occurs, but it influences the first word. Table 18 clearly illustrates this:

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<sup>5</sup> The term ‘native’ here indicates an Assamese word of non-Sanskrit origin.

Root words	Compound words	Morphophonemic alternations	Morphophonemic rules
<i>dak gʌi</i> 'post train' <i>dak ɡʌi</i> 'post house' <i>pak ɡʌi</i> 'cooking house'	<i>daggʌi</i> 'mail train' <i>daggʌi</i> 'post office' <i>pagɡʌi</i> 'kitchen'	<i>k~g</i>	<i>k</i> alternates with <i>ɡ</i> , when it is followed by / <i>g</i> / and / <i>ɡ</i> / in open juncture.
<i>ħat din</i>  <i>ħatbaɪ</i>	<i>ħaddin ~ħadin</i> 'seven days' <i>ħadbaɪ</i> 'seven times'	<i>t~d</i>	<i>t</i> alternates with <i>d</i> optionally when followed by / <i>d</i> / and / <i>b</i> /
<i>ada bɔjɔħ</i> half age <i>ada kɔpali</i> half headache <i>buḍ. baɪ</i> wednes day	<i>adbɔjɔħ</i> 'middle age' <i>adkɔpali</i> 'a partial headache' <i>budbaɪ</i> 'Wednesday'	<i>ḍ. d</i>	<i>ḍ.</i> alternates with <i>d</i> optionally when followed by consonants in open juncture

Table 18 - Morphophonemic variations in compounding

## 5. Conclusion

The study of morphophonemic variation in nominal morphology covers a vast and important area of Assamese grammar. In my study, I have tried to uncover the patterned regularity of the language on the basis of descriptive notions. This paper primarily focused on nominal structures that have reflected the morphophonemic variations in Assamese. The alternations have been observed occurring through both the morphological processes of inflection and derivation. It has been observed that nouns and pronouns show morphophonemic variations in the areas of case inflection and deictic inflection. The C/V status of the root morpheme also affects the alternation. Again, in case of nominal word formation through derivation, the addition of class-maintaining and class-changing derivational suffixes too have been observed having an impact on the morphophonemic variation. The morphological process of compounding also has influenced the alternations in Assamese. This study, thus, is an attempt to discuss different issues relating to morphophonemic variations in Assamese, which can help the young speakers of Assamese to understand the rules behind the usages. The written usage, particularly with reference to spelling conventions, is in a state of flux, as the new learners of the language do not have clear spelling norms based on the phonology to follow. The current defective pedagogy is not able to handle the learning delivery of the orthographic convention of the language to the young learners in a way that reflects the regular patterns underlying the native speaker's competence. The ranges of variations found in the alternation of the nominal forms discussed here are likely to facilitate the investigation of morphophonemic variants in other areas of the language such as verbal morphophonology. It is not surprising that it should be so given that the same phonological operations for mapping grammatical functions serve as exponents. There is a great scope for more linguistic investigation in this area.

## NOTATIONAL CONVENTION

1. The deep or underlying forms are usually shown in the data line. But there are certain cases where some particular words are not divided into smaller constituent parts, i.e. the base form has not been indicated. In such cases the sequence has been treated as words, not morphemes, and those are indicated with a '+' sign while glossing.
2. Assamese vowel inventory:
  - i* - Front close high unrounded vowel
  - e* - Front higher-mid half-open unrounded vowel
  - $\epsilon$  - Front lower-mid half-open unrounded vowel
  - a* - Front low open rounded vowel
  - $\text{ɔ}$  - Back low-open rounded vowel
  - o* - Back lower-mid half-open rounded vowel
  - $\text{ʊ}$  - Back higher-mid half-close rounded vowel
  - u* - Back high close rounded vowel

## ABBREVIATIONS

NEG	negative	KINMRKR	kinship marker
1	1 <sup>st</sup> person	SG	singular
2	2 <sup>nd</sup> person	HON	honorific
3	3 <sup>rd</sup> person	IMPV	imperfective
ACC	accusative	LOC	locative
CLS	classifier	NON.HON	non honorific
DAT	dative	PART	particle
ERG	ergative	PRES	present
FAM	familiar	PST	past
GEN	genitive	SFX	suffix

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