

Semantic Transparency and Productivity in Assamese Derivation

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Abstract

This paper explores how semantic transparency influences the phenomenon of morphological productivity in the Assamese language while looking into the fact whether phonological transparency has anything to do. There are shreds of evidence that certain affixes occur more frequently than others, or speakers prefer certain kinds of affixes to others in new word formations. There must be some underlying reasons because of which the speakers without being aware show preferences for some affixes. In this respect, the role of semantic transparency can be a considerable aspect to be investigated. Semantic transparency correlates with the cognitive understanding of speakers, which affects the productivity of a morphological process. However, in this process, phonological transparency may not always influence semantic transparency in Assamese morphology. The paper tries to discuss how semantic transparency is influenced by phonological transparency in Assamese, primarily focusing on derivative suffixes and its impact on productivity.

Keywords: Assamese morphology; semantic transparency; morphological productivity; phonological transparency; word-formation process; affixation

1. Introduction

The target language of this study, Assamese, is a dominant language of the state of Assam of the North-Eastern region of India which belongs to the Indo-Aryan language family. The language also works as the *lingua franca* of the region. It is also spoken in some parts of Arunachal Pradesh, Meghalaya, Nagaland, Koch Bihar, Bangladesh, and Myanmar, etc. and is

one of the twenty-two languages that is recognized and listed in the 8th Schedule of the Indian Constitution.

Assamese comprises numerous affixes for the inflectional and derivational word-formation processes. The categories of affixes that are found in Assamese are prefixes and suffixes. Although a language may have several affixes, every affix has its pattern of getting added to a stem or base, and not all of them can be used randomly for forming words. There are some patterns, because of which, if one affix can be used for producing a certain type of word, other affixes may not be an alternative to it. Every affix has certain conditions of getting attached to a base or stem in forming words and hence, adding an affix to a random base might not produce a valid or accepted word or word-form. For example, in Assamese, *-ɔk* works as an agentive, denominal, deverbal and deadjectival noun suffix, whereas *-aru* is an agentive noun-forming suffix which can be attached only to verb bases.

In an Indo Aryan language like Assamese, where a huge number of affixes exist for word formations (Morol 1974; Bora 2009; Bora 2015; Deka 2015; Deka & Deka 2009; Hakacham 7 2015; Goswami 1981; Goswami 2000), it is not a rare instance to observe that many affixes behave similarly, their selection of bases or stem and pattern of word-formation might be similar and sometimes they can be used as an alternative affix (E.g., *-uɔi* in *pɔrhɔi* ‘reader’ and *-uta* in *pɔrhuta* ‘reader’). These similar affixes that are used for new word formations can also be termed as competing morphological processes (Plag, 1999). In derivational morphology, most of the affixes share similar functions. For example, a lot of suffixes can form agentive and action nouns from different bases. For example, *-ɔk* in *k^hetijɔk* ‘Farmer’, *-ɔni* in *nasɔi* ‘dancer’, *-aru* in *zuzaru* ‘fighter’ etc. However, even if fewer differences may exist between two similar affixes, but they are not the same affixes and somehow every affix contains at least one unique feature.

According to Innateness hypothesis (Chomsky, 1957), the knowledge of language is inherent to the native speakers, which means it is programmed genetically to us. From this hypothesis, we can say that the knowledge of adding an affix to its acceptable stems or bases is often inherent to native speakers. They, without being aware, can identify a valid attested form and also can form nonce words without getting errors. Even though the process is unconscious to the native speakers, affixes follow certain criteria to get attached to bases. However, not all the affixes are being used equally in word-formations, some of them occur more frequently than others and this phenomenon is called productivity. There are some factors because of which speakers can readily identify some affixes as well as their stems or bases for a word over others. Semantic transparency can be a factor that may influence the phenomena of productivity, as some argue that productivity depends on the semantic transparency of the affix (Plag, 2004; Hay, 2001).

Semantic transparency is the degree to which the meaning of a whole word can be perceived from its constituents. It means the meaning of the whole is related to its parts. According to Auch, Gagne and Spalding (2020), “Semantic transparency is a theoretical construct referring to the extent to which the constituents of multi-morphemic words (e.g., fool+ish or re+hearse in derived words, or snow+ball or shin+dig in compound words) contribute to the meaning of the whole word.” It is widely used in the research field on multi-word lexemes. If a word’s meaning gets reflected in its constituents, then it can be said that the word is semantically transparent and if the meaning of a word is not related to its constituents, then it is opaque (Kiparsky 1973). For the investigation of semantic transparency, compounds are the preferred target of study, as they show a variety of changes in terms of the meaning of the words and their constituents (Bell & Schafer 2016). From this view, endocentric compounds are regarded as semantically transparent, as the meaning of the compound word can be inferred from its constituents. For example, the endocentric compound *bookshop* in English. The meaning is related to its constituents, or the meaning can be deciphered easily by the hearer from its constituent’s *book* and *shop*. Contrary to this, exocentric compounds are considered semantically non-transparent or opaque, because there is no semantic relation between the constituents and the entire word. For example, *blockhead* means a stupid person. The meaning of its constituents’ *block* and *head* does not correlate with the meaning of the word directly.

Regarding semantic transparency in affixation, let us look into the three principles mentioned by Arista and Escarza (2016). These three principles say:

STP 1: The attachment of an affix significantly modifies the meaning of the base of derivation.

STP 2: An affix performs one and the same lexical function in all the derivatives to which it is attached.

STP 3: A lexical function is performed by one and the same affix in all the derivatives where it applies.

These three principals have emphasised the idea that to be semantically transparent, an affix must adhere to meaning consistency. It should be consistent in defining its function or in adding meaning to a base in all the derivatives it applies to. Seuren and Wekka (1986) say that “Intuitively speaking, [semantic transparency] can be seen as a property of enabling listeners to carry out semantic interpretation with the least possible machinery and with the least possible requirements regarding language learning.” If this is the case, then semantic transparency in affixation refers to the meaning of consistency of an affix in all the derivatives which are formed by that affix. That means such affixes must have meaning predictability. Therefore, one can

easily predict in what type of bases that affix is attached, or what meaning it can imply if it is attached to an unknown base. For example, *-ness* in English forms abstract nouns from adjectives, e.g., kindness, unpleasantness, freshness, etc. From this, we can understand that it implies an attribute or a state of being. Now if one encounters *-ness* with a new base, then also s/he would be able to grasp an idea of the meaning the new word conveys. Therefore, from this angle, we can say that the *-ness* keeps semantic transparency while attaching to a base. Again, another view of semantic transparency says that if the meaning of the base readily reflects on the derived word as well or the meaning of the base can be traced in the derived word, then it can be said that it is semantically transparent. (Hay 2001).

Turning to productivity again, we know that language as a means of communication separates human beings from animals. Human beings are facilitated with a limited number of linguistic symbols from which they have to generate various linguistic expressions to convey their thoughts. Hockett (1960) defines this characteristic of language as productivity and labels it as one of the design features of languages. It is considered a fundamental characteristic of language which separates human language from the language of the animal. Productivity, from a linguistic point of view, refers to the unlimited use of language in innovative ways. It is possible to get an infinite number of outputs from a finite number of inputs (Hockett, 1960). This is the reason people can produce sentences or words they have never heard before. Bauer (2002) says that “The language system or grammar that describes that language system is productive because, and to the extent that, the individual processes involved in the system and described in the grammar are themselves productive”. Language is said to be productive because of the presence of productive processes in language.

As a component of language, the reflection of productivity can be observed at the morphological level. When talked about morphological productivity, it correlates with the mechanisms of forming words by different morphological or word-formation processes. Bauer (2002) states that “within morphology, the important discussions of productivity are individual ways of making words”. Some morphological or word-formation processes are more productive than others. Affixation is an integral part of the morphological process, which can yield several insights in terms of productivity. From this perspective, morphological productivity is the capacity of morphemes to produce new words or word forms. As Plag (1999) argues, “Having scrutinized the different criteria put forward in standard definitions of productivity, it can be stated that this notion boils down to the property of a given word-formation process or affix to be used to derive a new word in a systematic fashion.” The productivity of a morpheme implies how often a morpheme is used in a language. If it is productive, then it can be applied naturally in forming new words. New complex words are created by productive morphemes.

1.1 Semantic Transparency, Phonological Transparency and Productivity

A lot of research has been done on semantic transparency and its relationship with the decomposition of word forms as well as productivity (Baayen 1992, 1994; Bybee 1988, 1995a; Plag 2004; Hay 2001). Some researchers have examined the relationship between semantic transparency and productivity (Hay 2001; Plag 2004). In the discussions of semantic transparency, some argue that noncompositionality of derived forms leads to opacity, and hence such forms appear to be less productive and vice versa.

When talked about decomposition of words, it refers to the process through which a word can be segmented into its smaller parts. Some words can be easily broken down or segmented, while some others are not. For example, *kindness* can be segmented more easily into its base *kind* and suffix *-ness* than the word *business*. Hence, the decompositionality of *kindness* is more than *business*. The meaning of the base readily reflects in the derived word *kindness*, unlike *business*. From this, it was opined that semantic transparency is more in decomposable derived words.

Again, it is found particularly after studying the case of *-ness* and *-ity* (Aronoff and Schvaneveldt 1978; Cutler 1980) that the words which are formed by word boundary affixes are more productive than the words that are formed by formative boundary affixes. Cutler (1980) says that *-ness* derivatives which are more productive than the *-ity* derivatives are found more phonologically transparent, as it is a word-boundary affix.

Although we could not find a direct statement regarding the direct connection between semantic transparency and phonological transparency in literature, however, in the discussion of semantic transparency it is assumed that phonological transparency is also closely related with it. In morphological processing of decomposition model, discussion of decomposition comes down to the decomposition of words in the forms of phonotactic only.

Cutler (1980) further says that speakers prefer word boundary affixes over the formative boundary affixes for their transparency, i.e., the speakers want to offer an unchanged base, for it is easier to grasp the meaning of the newly derived words.

All these show that an unchanged base (i.e., without phonetic transformation at the boundary) helps the hearer to grasp the meaning of the newly derived words by tracing the meaning from the base. If there is any phonotactic or phonetic change on the base, in the case of nonce-formations, the hearers find it difficult to decipher the meaning as the base word is not visible to them.

Therefore, it shows that semantic transparency and phonological transparency are related to each other in the sense that the more phonological transparent it is, the more semantically transparent it becomes and vice versa. It also influences productivity in the same way.

However, most of these discussions are found in the English language, we are yet to explore this phenomenon in the languages of the other families too. In Assamese, the number of formative boundary affixes is relatively high, only a few formative boundary affixes exist and therefore, it may not always turn out that the phonological opacity means semantic opacity as well.

1.2 Research Questions

It is assumed in the discussion of semantic transparency and productivity that semantic transparency and phonological transparency are closely related to each other in influencing productivity. The research question here is “How is semantic transparency influenced by phonological transparency relevant in influencing the phenomenon of productivity in Assamese?”

2. Aims and Objective

This paper tries to examine the role of semantic transparency in morphological processing in the Assamese language. While semantic transparency is often tested in psycholinguistic experiments or theories, morphological productivity is the central issue in the study of word-formation in the morphological study. The study on the relation between these two is not exhaustive in literature though. This paper aims to discuss about the relationship between these two aspects of language while examining the influence of phonological transparency on semantic transparency in the Assamese derivational word formation process.

It explores primarily how semantic transparency is realized in Assamese affixation and how it marks an impact on productivity. However, the aim of the paper is neither to propose a measuring method nor any theory for semantic transparency and morphological productivity. As the nature of the study is qualitative, it also does not aim to measure the rates of semantic transparency as well as productivity. It only describes how these phenomena are realized in the language as well as the relation between the two.

3. Data

The example words mentioned in this paper are collected from a prominent Assamese dictionary *Hemkosh* (ed. 2016). Judgments of a few speakers are taken into consideration while investigating the transparency of meaning in affixation and preference of affixes for word-formation.

4. Discussion

Affixes are generally divided into two categories, word-boundary affixes and formative boundary affixes (Chomsky and Halle, 1968). Cutler (1980, 1981) discusses that as word boundary affixes are phonologically transparent, speakers frequently choose word-boundary affixes over formative boundary affixes in new word-formation. She states, “In other words, in choosing neologisms formed with word boundary affixes, subjects in this study were expressing a preference for derived words which were closer to their base words over those which were phonologically further away”. This way, word-formative affixes turn out to be more productive than the formative boundary affixes. Although Cutler has not specifically mentioned about semantic transparency here, but the study hints that the case of semantic transparency is intertwined with phonological transparency so far. The more phonologically transparent forms tend to be more semantically transparent, as the speaker’s preference shows a cognitive understanding of the meaning of the affix behind it. For an affix, if the base word as well as the affix has to undergo phonetic changes (in formative boundary), speakers show less preference for the same because it requires more effort to understand its usage and its meaning. In Assamese, however, we cannot declare that a particular affix is either phonologically transparent or phonologically non-transparent in isolation, i.e., we cannot say whether it is a formative boundary affix or a word boundary affix if it is not attached to any bases. Like in English, where *-ness* is always phonologically transparent irrespective of the base, in Assamese, phonological transparency differs with bases. An affix may be transparent with some bases, while it may not be with other. That means an affix can be a word boundary affix with certain bases, while it can be a formative boundary affix with some others. For example,

(i) Word-boundary forms

a. *ɔŋkurək* ‘shelter, nest’ (P. 3)

ɔŋkur+ək

sprout+N

c. *ɔntərək* ‘insulator’ (P. 65)

ɔntər+ək

midst+N

e. *kʰundɔna* ‘Mortar’ (P. 387)

kʰund +ɔna

to clash+N

b. *ɔpəkərək* ‘non-harmful’ (P. 70)

ɔ +ɔpəkər+ək

Pre+harm +N

d. *ɔŋkurən* ‘Process of sprouting’ (P. 3)

ɔŋkur +ən

A shoot+N

(ii) Formative boundary forms

a. *ɔŋgɔrɔikʰjək* ‘bodyguard’ (P. 8)

ɔŋgɔ+rɔikʰja +ək

organ+guarding+N

c. *dɔrxək* ‘a spectator’ (P. 665)

b. *dɔrpək* ‘Cupid’ (P. 665)

drip +ək

pride+N

d. *ɔkulən* ‘inadequate’ (P. 11)

drix+ɔk
see +N

ɔ +kula +ɔn
Pre+suffice+Adj

e. *ɔwɔxoxɔn* ‘descent’ (P. 106)
ɔwɔ+xoh +ɔn
Pre +absorb+N

f. *sepena* ‘forceps’ (P. 510)
sep +ɔna
To squeeze+N

g. *kekɔni* ‘A groan’ (P. 343)
keka+ɔni
groan+N

h. *ad^hɔrua* ‘incomplete’ (P. 148)
ad^ha+ɔrua
half +Adj

i. *guwal* ‘milkman’ (P. 443)
Go +al
cow+N

-*ɔk* is phonologically transparent in examples (i), whereas it is phonologically non-transparent in the examples (ii), because it has undergone morpho-phonemic changes at the boundary unlike (i). Similarly, we can observe this instance with -*ɔn* and -*ɔna*.

One point needs to be mentioned here that most of the Indo-Aryan languages suffer morphophonemic changes in more or less manner in affixation not only on the boundary but also it may occur at any part of the word. Only a few affixes, the majority of which are prefixes have word boundary forms. For example,

(iii)

a. *nijamɔk* ‘who makes rules’ (P. 757)
nijɔm+ɔk
rule +N

b. *pat^hɔk* ‘a reader’ (P. 816)
pat^h+ɔk
read+ N

c. *asarɔn* ‘behaviour’ (P. 137)
asar +ɔn
behavior+N

d. *krɔndɔn* ‘cry’ (P. 361)
krɔd+ɔn
cry +N

Viewing the nature of morphophonemic changes in Assamese, linguists have listed their systemic changes that occur at the boundaries this way (Morol 1974; Bora 2009; Bora 2015; Deka 2015; Deka & Deka 2009; Hakacham 2015; Goswami 1981; Goswami 2000):

a) /ɔ-/ and /-ɔ/ becomes /a/ together.

i. *sɔr +ɔsɔr = sɔrasɔr*
move+fixed = cosmos

- ii. *debɔ+ɔxur =debaxur*
god +demon= god and demon
- b) /ɔ-/ and /-a/ merge to form /a/ together.
- i. *him +alɔi =himalɔi*
snow +home= Himalaya
- ii. *bhɔi+atur =bhɔjatur*
fear+anxious=fearful
- c) /a-/ and /-ɔ/ become /e/ together
- i. *axa + ɔtit = axatit*
hope + past = hopeless
- ii. *xima + ɔntɔ = ximantɔ*
border + end = border
- d) /a-/ and /-a/ becomes /e/ together
- i. *bidja + alɔi = bidjalɔi*
education+ home = school
- ii. *xɔda + anɔndɔ = xɔdanɔndɔ*
Always + happy = Always happy
- e) /ɔ/ and /i/ becomes /e/ together.
- i. *debɔ+indrɔ=debendrɔ*
god+Indra =Indra (name of a Hindu God)
- ii. *pɔrɔmɔ+iswɔr =pɔrɔmeswɔr*
great+God = God
- f) /a/ and /i/ becomes /e/ together
- i. *zɔtha+isthɔ =zɔt^hesthɔ*
like+ many= Ample
- ii. *mɔha+iswɔr=mɔheswɔr*
great+God = Lord Siva
- g) /ɔ/ and /u/ merge to form /u/ together.
- i. *sɔndrɔ+udɔi= sɔndrudɔi*
moon+risen = Rising moon
- ii. *kal + usit = kalosit*
time+ appropriate= timely

We see that in Assamese, phonological transparency of an affix depends on the bases where it applies to. In English, we can draw an equation among phonological transparency, semantic transparency, and productivity. To be semantically transparent, an affix may require phonological transparency (e.g. *-ness*), which ultimately leads to productivity of an affix. However, in Assamese, semantic transparency does not depend much on phonological transparency because an affix is not consistent in terms of phonological transparency (e.g. *-ɔk*) most of the time. It means there is not a one-to-one correlation between semantic transparency and phonological transparency in Assamese, the level of complicity in semantic transparency depends on the speaker's ability to identify (comprehensibility) the base and affix. Therefore, the criteria of semantic transparency determined by phonological transparency is not applicable in assessing productivity of an affix in Assamese.

It is also found that many bases of Assamese have suffered language change across time or they are accommodated in the language from other languages with time. However, such words appear to be semantically less transparent if not non-transparent or opaque completely because of their non-independent bases only, not for the affixes. Most of the time, the bases of such words are not used independently, and their presence can be realized or observed only in an attached form. They certainly have a meaning which is not identifiable at the surface level. Even if their meaning is graspable, they are not used frequently at the other place in the language or they cannot stand alone. For example,¹

(iv)

a. *ɔd^hiropɔn* 'Transplanting' (P. 41)
ɔd^hi+ruh+ɔn
 Pre+to germinate+N

b. *ɔd^hɔhk^hjepɔn* 'Throwing downwards' (P. 41)
ɔd^hɔh+k^hjip+ɔn
 Pre +throw+N

c. *ɔɔni* 'A flint and steel for striking fire' (P. 96)
ri +ɔni
 Movement+N

d. *dɔrpɔk* 'cupid' (P. 665)
dri +ɔk
 Pride+N

e) *dɔrxɔk* 'on-looker' (P. 665)
drix+ɔk
 See+N

f. *uddipɔk* 'Provocative' (P. 205)
ut+dip+ɔk
 Pre+light+N

g. *akramɔk* 'aggressive' (P. 131)
a+krɔm+ɔk
 Pre+move+Adj

h. *udb^hawɔk* 'inventor' (P. 207)
ut+b^hu +ɔk
 Pre+happen+N

¹ Linguists and grammarians often consider that the source of these bases are mostly found in Sanskrit.

i. *pərikəlpək* (P. 799)
Pəri+krip +ək
 Pre+imagination+N

j. *ussarən* ‘Pronunciation’ (P. 195)
Ut+sər +ən
 Pre+move+N

k. *gap^hiləti* ‘carelessness’ (P. 418)
gap^hil +əti
 careless +əti

Again, there are some affixes in the language which get attached only to the bases that cannot stand alone (most of them are from other language or that have gone through language changes), however, these affixes can hardly be found in other places unlike (iv). (Although in the above-mentioned examples in (iv), affixes are attached to non-independent bases, the same affixes may also be found with independent bases as well). They show less productivity in word-formation, as these are semantically non-transparent. It appears semantically non-transparent, because to form new words by these affixes, speakers find difficulty in choosing the appropriate bases, as non-independent bases like these are not used in ordinary context for which they are not confident about the meaning or usage of those bases. In this situation, they do not naturally opt for such affixes to avoid discrepancy. For example, *ut-* in *utpadən* ‘production’, *utxahi* ‘enthusiastic’; *xəm-* in *xəmb^həb* ‘possible’, *xəmbərd^həna* ‘felicitate’ etc. However, the number of such affixes is not very huge in the language.

On the other hand, many other affixes take both independent and non-independent bases during attestation (See examples (i), (ii) and (iv)). Therefore, it cannot be generalized about the semantic transparency of these affixes based on the bases it takes. Sometimes speakers are not even aware of the presence of such affixes and view such words as non-affixed lexicalised form. In this situation, till a particular affix can form words for independent bases, the presence of words formed with non-independent bases should not affect the productivity of these affixes.

Affixes of Assamese display different functions and patterns of addition with bases. Sometimes it is difficult to identify whether it should be considered as homophonous morpheme or the same affix having several functions. However, it is preferred to consider the later on the ground that meaning or the function is not completely out of the context or unrelatable although they have considerable differences. For example,

(v) –i

a. *rini* ‘Debted’ (P. 223)
rin +i
 Debt+adj

b. *ekəb^haxi* ‘Monolingual’ (P. 228)
ekə+b^hax +i
 one+language+N

c. *Pahi* ‘A petal of flower’ (P. 829)

pah +i
Petal+N

e. *agjabadi* ‘agnostic’ (P. 139)

agjabad +i
Agnosticism +Adj

g. *ɔnubadi* ‘Translator’ (P. 59)

ɔnubad +i
Translate+i

i. *bibeki* ‘Conscientious’ (P. 968)

bibek+i
inwit+Adj

k. *bahi* ‘A flute’ (P. 953)

bah +i
bamboo+N

(vi) -ual

a. *dɔtowel* ‘full of teeth’ (P. 660
379)

dat +ual
teenth+Adj

c. *g^hatowel* ‘A ferryman’ (P. 455)

g^hat+ual
port+N

(vii) -aru

a. *dubaru* ‘A diver’ (P. 609)

dub+aru
sink+N

(viii) -ɔrua

a. *ad^hɔrua* ‘Half-done’ (P. 148)

ad^ha+ɔrua

d. *ɔkɔni* ‘An affectionate term for addressing children’ (P. 8)

ɔkɔn+i
little+i

f. *atjutxahi* ‘over-interested’ (P. 34)

atjutxah +i
Over interested+Adj

h. *ɔpɔkari* ‘Harmful’ (P. 70)

ɔpɔkar+i
Harm +i

j. *bɔhupɔdi* ‘Polynominal’ (P. 930)

bɔhu+pɔd+i
many+leg+Adj

l. *bandɔri* ‘Female monkey’ (P. 944)

bandɔr +i
monkey+N

b. *k^hatowel* ‘One occupying *khat*’ (P.

k^hat+ual
land+N

b. *zikaru* ‘A conqueror’ (P. 556)

zik+aru
Win+N

b. *batɔrua* ‘walker’ (P. 939)

bat+ɔrua

c. *hatɔrua* ‘Relating to a market’ (P. 1367)

hat +*ɔrua*

Market+Adj

It is observed that affixes with multiple meanings or functions, however, lack meaning consistency, while affixes with only one or two meanings or functions remain consistent in meaning delivery. For example, *-i* (v) follows several patterns of changes or projects several functions or meanings while the other suffixes ((vi)-(viii)) display limited patterns or functions. We see *-i* has been added to different bases as nominal suffix (agent noun, action noun, abstract noun), adjectival suffix, feminine suffix, diminutive suffix. It also works as a pleonastic morpheme with some bases. It can be added to noun, verb and adjective bases to form new words. Whereas suffixes like *-ual* (vi a-c) can be used only as denominal noun suffix and denominal adjective suffix, *-aru* (vii a-b) is used as deverbial agentive noun, *-ɔrua* (viii a-c) is used as a noun adjective denoting the sense or entity ‘related to’. Looking into semantic transparency, affixes like *-ual*, *-aru*, *-ɔrua* have limited usage which suggests that they have more meaning consistency than that of *-i*, which is far more dynamic in terms of meaning and pattern. Therefore, it is seen that as suffixes like *-i* is more dynamic and has several patterns, they lack semantic consistency, hence semantic transparency too unlike others. Speakers’ manner of selection proves that they take less time to identify the meaning of a given word which is formed by a suffix that retain meaning consistency i.e., more semantically transparent. But it might be the opposite in creating new words for a given base by choosing a suffix on their own which is explained in the following paragraph.

Although meaning consistency has a positive effect on semantic transparency, suffixes and prefixes behave differently in terms of productivity. Meaning consistency results in more semantic transparency; it, however, may not be a positive factor, particularly for suffixes in terms of productivity. Suffixes showing several patterns of changes or functions (e.g. *-i*) tend to be more productive than others as it is evident from the significant number of words found in the written corpora as well as day-to-day speech pattern. The suffix *-i* is undoubtedly turns out as the most used suffix for forming words in the language. It hints that productivity might be more for suffixes that have less meaning consistency and wider usages. One of the reasons behind this is that such suffixes have fewer restrictions in forming words because of which the speakers get more options or choices to pick up a suffix to form a word without much risk of getting an ‘awkward’ expression, rather than putting effort in choosing a suffix for a particular base keeping in mind the criteria it has to meet.

On the other hand, the picture is quite opposite for prefix. Prefixes with meaning consistency i.e., which are more transparent display more productivity than other prefixes. The reason is not very difficult to grasp, as prefix basically shows semantic relevance or their function is primarily of semantic, the correlation between meaning consistency and productivity, hence, go hand in hand.

Affixes are mono-morphemic (e.g. *-i*, *-aru*, *-ɔk*, *xu-*, *xɔ-* etc.) as well as multi-morphemic (e.g., *-ɔnia* (*ɔn+ia*), *-ual* (*u+al*) etc.) The etymological trace shows that sometimes many multi-morphemic suffixes are an extended form of other suffixes or a combination of two or more suffixes (Kakati, 1941). Again, some mono-morphemic suffixes are also reduced form of other suffixes (Kakati, 1941). It is again seen that affixes that carry multiple-meanings often turn out as mono-morphemic and vice versa. If this is the case, mono-morphemic suffixes show meaning consistency, as they generally project multiple-meanings or functions. On the other hand, multi-morphemic suffixes have more meaning consistency than mono-morphemic ones. In case of productivity, as stated above, mono-morphemic suffixes like *-i* are more productive than multi-morphemic suffixes like *-ual*, *-ɔrua*, etc. However, at the end, it has to be admitted that no phenomenon is absolute and cannot be divided always into binary sections as they always leave a grey area for exceptions.

5. Conclusion

It has already been mentioned at the beginning that in this study no measuring methods have been applied to examine this phenomenon quantitatively, it is only an indication of how semantic transparency is realized in Assamese affixation and how it may influence their productivity. Lack of availability of full-fledged resources in digital form (dictionaries and corpus) has limited an extensive quantitative study. The word-list that has been prepared from the dictionary takes a real amount of time, as it is completely done manually and therefore cannot be guaranteed the absence of flaws in the process. Whatsoever, the paper has tried to highlight the nature of semantic transparency as well as its probable impact on productivity in the Assamese affixation.

Summarizing the findings:

Firstly, we see that the criteria of semantic transparency brought by phonological transparency in affixation is not always applicable in assessing productivity of an affix in Assamese ((i), (ii)).

Secondly, some affixes like *ut-* and *xɔm-*, take only non-independent bases, meanings of which are non-transparent. These types of affixes are hardly observed in new word-formation in

the language. Non-independent bases with non-occurring affixes (affixes that do not occur with independent bases) are less productive in the language.

On the other hand, the majority of affixes have words with independent (-ɔk, -ɔn, -ɔni in examples (i) and (ii)) as well as non-independent (ɔk, -ɔn, -ɔni in examples (iv)) bases, of which, the meaning is less vivid for the words having non-independent bases. But in terms of productivity of such affixes, we cannot generalize about it merely by looking into semantic transparency, as such affixes do not only have words with non-independent bases, they also have words with independent bases. However, speakers tend to choose independent bases in new word-formation by these affixes.

Thirdly, the affixes of varied functions or meaning and dynamic pattern of changes lack meaning consistency (Examples (v)), thus also lack semantic transparency, whereas affixes having a limited function or fewer patterns (examples vi-viii) retain meaning consistency and they are semantically transparent. However, in this case, productivity does not go along with semantic transparency for suffixes. Instead, suffixes of multiple meaning or pattern of changes (examples v), that are semantically less transparent, are more productive than the suffixes having less function or variety of meaning (examples 6-8). The reason behind this can be explained this way that while forming new words, speakers take resort to the kind of suffixes that project minimal criteria because of which they are more dynamic than others to avoid discrepancies.

Fourthly, morphophonemic affixes that are not extensions of other affixes or which are of the diminutive form (example (v)) appear to be more dynamic in terms of meaning and pattern of changes than some of the multi-morphemic (examples (vi)-(viii)) affixes with constrained meaning or pattern of changes. That is, the first one is less transparent semantically due to its less meaning consistency and the later is more semantically transparent as they have more meaning consistency. The nature of productivity in this respect is already explained in the previous context.

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