A Comparative Study of the Phonological Aspects of Bodo and English

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By

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DECLARATION

I, Arup Sarkar, do hereby declare that the thesis entitled "**A Comparative Study of the Phonological Aspects of Bodo and English**" submitted for the award of the degree of Doctor Of Philosophy in English, is my original work and that it has not previously formed the basis for the award of any degree on the same title.

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CHAPTER – II

Bodo and English Phonemes

2.1 Introduction

Every language has its specific set of phonemes. It is extremely important for a learner to develop the skill of pronouncing the phonemes of the target language properly. But often it is noticed that the differences of phoneme sets of the mother tongue and the target language cause confusions for a learner. This is the problem a Bodo learner of English often confronts when he/she learns English as Bodo and English considerably differ both in kind and number as far as their phonemes are concerned.

2.2 Hypothesis

In this chapter we will have the following hypothesis:

1. The number of phonemes in Bodo is lesser than English causing confusion for Bodo speaker of English.

2. R. P. phonemes / iː, uː, ɜː, ɔː, ɑː, æ, p, t, k, tʃ, dʒ, f, v, θ, ð, ʃ, ʒ / etc. are absent in Bodo. Hence, they are confused while confront these sounds.

2.3 The Findings

2.3.1 Phoneme

According to T. Balasubramanian, "phoneme is a minimal distinctive sound of a language. By *minimal* we mean that it cannot be sub-divided and by distinctive we mean that it has the potentiality of changing the meaning of a word" (1981, p. 49). However, though the term

phoneme is normally restricted to vowels and consonants of a particular language, according to some linguists, the differences of pitch, stress and rhythm also belong to its area (concise Encyclopedia, 1846, para. 1). The term *phoneme* was arguably first used by Dufriche – Desgenettes in 1873, but it referred to only a sound of speech. "The term phoneme as an abstraction was developed by the Polish linguist Jan Mieczyslaw, Baudouin de Courtenay and his student Mikolaj Kruszwski during 1875-1895" (www.Wikidoc.org,January 9,2008, para. 8). Thereafter the concept of the term was further developed by the Prague School during 1926-1935 (Ibidem 9,2008, para. 8). That phoneme is the minimal distinctive unit of sound in a language can best be defined with the help of minimal pairs. Thus, for example, the word cap /kæp/ consists of three sounds: /k/, / æ/ and / p /. Here, each sound is a distinctive unit or phoneme as substitution of any of the sound will bring a change in word and its consequent meaning. For example, change of /k/ with /t/ will make it *tap*: / tæp / changing the meaning altogether. Similarly, substitution of /æ/ with /ɒ/ will again change the meaning and the word from *cap* to *cop*. Again, substitution of final sound /p/ with /t/ makes the new word *cat*. Thus, the above examples exemplify that phonemes are distinctive in nature as the substitution of one sound with other sound brings about a change in meaning.

The set of phonemes may differ language wise as phonemes are language specific. In some languages two sounds may belong to the same phoneme, whereas, they may belong to two different phonemes in some other languages (Balasubramanian, 1981, p. 59). Hence, the particular sound as a phoneme in a particular language becomes an issue which is solved by the discipline called *phonology* which is briefly defined as the selection and organization of sounds in a given language.

2.3.1.1 Principles of phonemic Analysis

According to Hocket (1944), there are five principles of phonemic analysis which help to establish the phonemes and allophones of a given language. These principles are named as, the principle of contrast and contemplation, the principle of phonetic similarity, the principle of neatness of pattern, and the principle of economy (pp. 97-108).

The principle of Contrast and Contemplation

According to the principle of contrastive distribution, the substitution of one sound with the other brings about a change in the meaning of the word. According to Cambridge Advance Learners dictionary (2003) the term contrast means an obvious difference between two or more things (p. 265). Similarly, the term distribution suggests the different position and environments in which a sound can occur (Bharati, 1996, p 12). Thus if two sounds are substituted for each other resulting a change in meaning, they are in contrastive distribution. In general, phonemes are contrastive in nature.

The Principle of Complementary Distribution

Unlike the principles of contrastive distribution, when two sounds never occur in the same environment, they are in complementary distribution. In English, allophones are complementary in nature. Thus, "the environments of different allophones of the same phoneme are different. For example, in English the clear [1] is always followed by a vowel sound as in words like [læm] lamb, [bəluːn] balloon and [bleɪd] blade, while the dark [ɫ] is always either followed by a consonant or it occurs in a word final position" (Bharati, 1996, p. 14-15). Thus the above mentioned allophones of /1/ are mutually exclusive.

The Principle of Phonetic Similarity

The principle of phonetic similarity is another criterion to demarcate the phonemes. According to this principle, if two sounds totally lack phonetic similarity, they may or may not be two different phonemes. On the other hand, if two sounds bear close phonetic similarity, they may or may not be allophones of the same language, (Bharati, 1996, p.19). Thus [p] and [b], both being bilabial plosives, are phonetically quite similar. The difference between them is that [p] is voiceless, whereas [b] is voiced. Still, in English, they are two distinct phonemes. But, in Tamil, they are allophones of the same phonemes. (www.wordpress.com, blog. Feb1, 2010). Hence, according to the scholars like Tarini Prasad (2008), "the application of this principle is not always clear" (p. 37).

The Principle of Pattern Congruity

According to the principle of pattern congruity, there is normally a pattern in the way sounds are organized in a language. It is also known as symmetrical patterning or phonetic patterning. It refers to the parallelism or recurrence of behavior of sounds. Thus, in English, we notice the pattern of short and long vowel contrasts. Another example of such pattern is the contrast of voiceless phonemes with voiced phonemes. According to Surabhi Bharati (1996), "Suppose in a given language we find, with the help of minimal pairs, that [p] and [b], [k] and [g], and [s] and [z] are different phonemes. But we are unable to find minimal pairs for sounds like [t] and [d] in the same language. Then on the basis of the principles of pattern congruity, we can hypothesize that [t] and [d] should also be different phonemes"
(p. 19-20).

The Principle of Economy

The principle of economy believes that it is better to analyze the phonemes of a language when the number is smaller. In other words, this theory wants economy in phonetic

transcription by lessening the number of successive segmental phonemes. However, according to scholars like Tarini Prasad (2008), this principle is less important and least useful in determining the phonemes of a language (p.38).

2.3.1.2 Phone

Phone refers to any kind of objective speech sound produced by the vocal organs. It is the smallest possible identifiable segment of sound though it doesn't have any relation as to how it fits into the structure of a given language.In other words "a phone is an analysed sound of a language" (www. SIL International.com, Sept. 18, 1997). The word has given birth to the terms like *phonetics* and *phonology*. Surabhi Bharati (1996) defines the distinction of phones, phonemes and allophones. According to her, all speech sounds of a language are called phones and if they are distinctive in nature, then they are called phonemes. If they are not distinctive in nature, they are called allophones (p. 7).

2.3.1.3Allophone

The term *allophone* is derived from Greek words *allos* and *phone*. *Allos* means other and *phone* means voice or sound (www.wikipedia.com, 17 June, 2009). The variations of the same phoneme are called allophones. Unlike phonemes, allophones are not distinctive in nature. Infact, the allophones of a phoneme occur in complementary distribution. In other words, allophones never occur in the same environment. Hence, they can't bring a change of meaning of the word. They are merely the realizations of the same phoneme which are in complementary distribution (Roach, 2002m p.41). As T. Balasubramanian illustrates, "phonemes are language specific". According to him, two sounds may belong as part of the same phoneme in a language, whereas the same sound might have two separate identities in another. Thus, for example, /p/ and [pʰ] are two separate phonemes in Hindi as in *pal*

meaning moment and [pʰəl] meaning fruit. But in English, they are part of the same phoneme /p/ (1981, pp. 59-61). Besides being in complementary distribution, another important principle for a phone to be allophone is phonetic similarity. The allophones must share close similarity in regard to the place and manner of pronunciation of their mother phoneme. However, mere principle of being in complementary distribution does not always help in identifying an allophone, as in the case of English /h/ and /ŋ/. Though these two phones do not occur in the same phonetic environment, they do not share considerable phonetic similarity. Whereas [h] is a voiceless glottal friction, [ŋ] is a voiced velar nasal. Therefore, they are two different phonemes, not allophones. On the other hand, [t] and [tʰ] are used in complementary distribution and they have considerable phontic similarity. Both are voiceless bilabial plosives. Hence, they are considered as allophones of /t/ (Balasubramaniun, 1981, PP. 60-61).

2.3.1.3.1 Common Allophonic Variants of Consonants in R.P.

[p]   Unaspirated voiceless bilabial plosive. It occurs in unaccented syllables and when it is followed by /s/, as in,

         Potato [pətʰeɪtəʊ] and spirit [spɪrɪt].

[pʰ]   Aspirated voiceless bilabial plosive. It occurs in accented syllables, as in,

           paper   [ˈpʰeɪpə]

           Appoint   [əˈpʰɔɪnt].

 [p’]   Voiceless bilabial plosive with no audible release. It occurs when /p/ occurs in word final position and when /p/ is followed by another plosive or affricate, as in,

         Limp   [lɪmp’]

         Captain   [ˈkʰæp’tɪn]

         Cheapjam   [ˈtʃiːp’dʒæm]

[p^N]   Nasally released voiceless bilabial plosive. It occurs when /p/ is immediately followed by its homorganic nasal, as in,

        topmost   [tʰɒpməʊst]

[b̥]   Partially devoiced bilabial plosive. It occurs in the word initial position, as in,

        ball   [b̥ɒl].

[b]   Fully voiced bilabial plosive. It occurs inter-vocalically and when /b/ occurs in the environment of other voiced sounds, as in,

        robber   [rɒbə]

        symbol   [sɪmbɫ]

[b˺]   Voiced bilabial plosive with no audible release. It occurs word finally and when /b/ is followed by another plosive or affricate, as in,

        Cab   [kʰæb˺]
        Robbed   [rɒb˺d˺]

[b^N]   Nasally released voiced bilabial plosive . If occurs when /b/ is followed by /m/, as in,

        Submit   [səbˈmɪt˺]

[tʰ]   Aspirated voiceless alveolar plosive. It occurs in the initial position in stressed syllables, as in,

        Ten   [ˈtʰen]

[t]   Unaspirated voicless alveolar plosive. It occurs in stressed syllables when /t/ is preceded by /s/ and in unaccented syllables, as in,

        Station [ˈsteɪʃən]

        Pantry [ˈpʰæntr̥i]

[t^N]   Nassaly released voiceless alveolar plosive. It occurs when /t/ is followed by its homorganic nasal /n/, as in,

        Cotton [ˈkʰɒt^Nn]

[t^L]   Laterally released voiceless alveolar plosive. It occurs when /t/ is followed by the alveolar lateral sound /1/, as in,

Kettle [ˈkʰet^{L}l]

[t˺]   voiceless alveolar plosive with no audible release. It occurs when /t/ is in the word final position and when /t/ is followed by another plosive or affricate, as in,

Cat	[kʰæt˺]
Football	[ˈfʊt˺bɔːɫ]
That church	[ˈðət˺ tʃɜːtʃ]

[t̠] Voiceless post alveolar plosive. It occurs when /t/ is followed by post alverolar /r/, as in,

Attract [əˈtʰræk˺t̠˺]

[d̥]   Partially devoiced alveolar plosive. It occurs in the work initial position, as in,

Doll   [d̥ɒɫ]

[d]   Fully voiced alveolar plosive. It occurs inter-vocalically and when /d/ occurs in the environment of other voiced sounds, as in,

Reddish [ˈɹedɪʃ,]

Render [ˈɹendə]

[d˺]   Voiced alveolar plosive without audible release. It occurs when /d/ is in word final and when /d/ is immediately followed by another plosive or affricate, as in,

Bad	[ˈbæd̥˺]
Badpain	[ˈbæd̥pʰeɪn]
Goodjam	[ˈgʊd̥ˈdʒæm]

[d^N]   Nasally released voiced alveolar plosive. In occur when /d/ is immediately followed by /n/ , as in,

Madness [ˈmæd^{N}nəs]

[dᴸ]   Laterlally released voiced alveolar plosive. It occurs when /d/ is immediately followed by /l/, as in,

<div align="center">Huddle [ˈhʌdᴸl]</div>

[d̠]   Voiced post-alveolar plosive. It occurs when /d/ is followed by /r/, as in,

<div align="center">dream [d̠riːm]</div>

[kʰ]   Aspirated voiceless velar. It occurs when /k/ is in a stressed syllable, as in,

<div align="center">Came [ˈkʰeɪm]</div>

[k]   Unaspirated voiceless velar plosive. It occurs when /k/ is immediately preceded by /s/ in accented syllable and in unaccented syllable, as in,

<div align="center">School [ˈskuːl]</div>

<div align="center">Anchor [ˈæŋkə]</div>

[kˈ]   Voiceless velar plosive with no audible release. It occurs when /k/ is in word final and when /k/ is immediately followed by another plosive or affricate, as in,

Hick	[ˈhɪkˈ]
Locked	[ˈlɒkˈtˈ]
Desk chair	[ˈdekˈtʃeə]

[g̊]   Partially voiced velar plosive. It occurs when /g/ is in word initial or in word final, as in,

Game	[ˈg̊eɪm]
Dgg	[ˈeg̊]

[g]   Fully voiced velar plosive. It occur when /g/ is in between two vowels and when it occurs in the environment of other voiced sounds, as in,

Dagger	[ˈdægə]
Single	[ˈsɪŋɫ]

[gˀ]   Voiced velar plosive with no audible release. It occur when /g/ is in word final and when it is immediately followed by another plosive or affricate, as in,

Mug   [ˈmʌgˀ]

Begged   [ˈbegˀdˀ]

Big chain   [ˈbɪgˀtʃeɪn]

[dʒ]   is devoiced in word final position, as in,

Badge   [ˈbædʒ]

[ɦ]   voiced glottal fricative. It occurs in intervocalic position, as in,

Behind [bɪˈɦaɪnd]

[ɱ]   labio dental nasal. It occurs when /m/ is followed by /f/ and /v/, as in,

Comfort   [ˈkʌɱfətˀ]
Circumvent   [sɜːkəɱˈventˀ]

[ṉ]   Voiced dental nasal. It occurs when /n/ is followed by / θ/ or /ð/, as in,

Tenth   [ˈtʰeṉθ]

In there   [ɪṉˈðeə]

[n̠]   post alveolar voiced nasal. It occurs when /n/ is followed by /r/, as in,

enrol   [ɪn̠ˈrəʊl]

[n̩]   voiced syllabic alveolar nasal, as in,

Button [ˈbʌtn̩]

[l]   Clear voiced palatalized alveolar lateral. It occur when /l/ is followed by a vowel or /j/, as in,

Lend   [ˈlend]

Lure   [ˈlʊə]

[ɫ]   Dark voiced velarized alveolar lateral. It occurs when /l/ is in word final or when it is followed by a consonant, as in,

Hill   [ˈhɪɫ]

Milk   [ˈmɪɫk]

[l̩]   voiced syllabic alveolar lateral, as in,

cattle [ˈkætl̩]

[l̪]   /l/ can be dental when followed by voiceless dental fricative / θ/, as in,

health   [ˈhel̪θ]

[ɹ]   voiced post alveolar friction less compliment. It occurs in word initial position, as in,

Red   [ɹedˠ]

[ɹ̝]   Voiced post alveolar fricative. It occurs when /r/ is preceded by /d/, as in,

Dream [ˈdɹ̝i:m]

[ɹ̝̊]   Voiceless post alveolar fricative. It occurs when it is preceded by aspirated voiceless plosive, as in,

Prime   [ˈpʰɹ̝̊aɪm]

try   [ˈtʰɹ̝̊aɪ]

cream   [kʰɹ̝̊i:m]

[ɾ]   Voiced alveolar flap. It occurs when /r/ is in between two vowels and when it is preceded by dental fricatives / θ/ and /ð/, as in,

Hurry   [ˈhʌɾɪ]

Three   [θɾi:]

With regards   [wɪðɾɪˈɡɑ:dz]

[j̊]   Slightly devoiced palatal semi vowel. It occurs when /j/ is preceded by /sp/, /st/, /sk/ clusters, a voiceless fricative, or unaspirated /p/, /t/, /k/, as in,

Spurious   [ˈspj̊ʊərɪəs]

Stew   [stj̊u]

Pursue   [pəˈsj̊u]

Few   [fj̊u]

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Opulent	[ˈɒpjʊlənt]
Help you	[ˈhelpˈj̊u]

[ç]   Voiceless palatal fricative. It occurs when /j/ is preceded by aspirated /p/, /t/, /k/ and glottal fricative /h/, as in,

Pure	[ˈpʰçʊə]
Tune	[ˈtʰçuːn]
Queue	[ˈkʰçuː]
Huge	[ˈhçuːd̥ʒ̊]

[w̥]   voiceless labio-velar fricative. It occurs when /w/ is preceded by aspirated /t/ and /k/, as in,

Twig	[ˈtʰw̥ɪg̊]
Queen	[kʰw̥iːn]

(R.K. Bansal & T Balasubramanian, 2005, pp. 73-111)

2.3.1.4 Bracketing

Bracketing differs according to category of symbols in phonological transcriptions. Thus, in case of phonemic transcriptions slant brackets // are used to enclose the symbols. Phonemic symbols don't specify the exact quality of the concerned sound. It is more of a generalization. However, the phonetic transcriptions are enclosed within square brackets []. Peter Roach (2000) categorizes transcriptions as narrow phonetic transcription and broad phonetic transcription. A narrow phonetic transcription contains minute presentation of the exact quality of the sound. On the other hand, the broad phonetic transcription concerns about presenting just a little more information than the phonemic transcription (pp. 42-43). Allophonic variants are represented within square brackets as they specify the detail quality of a sound.

2.3.1.5 Distinctive Features

The notion that Phonemes are the minimal distinctive units of sound changed in the twentieth century. Now the minimal or the smallest unit of sound is called *the feature*. The concept of features emerged with the Prague School of Phonology. The Practioners of Prague School Trubetzkoy, Jackobson, Fant and Halle proposed that each phoneme could be further sub-divided into a number of features in 1952. However, their description of each feature was based on acoustic characteristics of the segment (Bharati, 1999, p. 14). But this notion was taken over by the advocates of generative grammar in 1960. They shifted the focus from acoustic to articulatory phonetics. Now more stress was given to the articulatory characteristics. Now they tried not only to distinguish but also to relate the elements of phonological systems across the range of possible human languages (Bharati, 1999, P. 14).

"The term *distinctive* refers to that part of functional contrast in language systems which have to do with distinguishing one form from another" (Lyons, 1981, P. 89). On the other hand, the term *feature*, in this context, refers to the various articulatory activities like voicing, tongue position, lip rounding etc. The features normally indicate the place and manner of articulation required for the articulation of a phoneme. They are the smallest and irreducible unit of sound which is used for the specification of phonemes.

Features are traditionally represented in binary terms to signify the presence or absence of the feature in the segment. Thus, a positive value (+) denotes the presence of a feature, whereas, a negative value (-) indicates the absence of a feature. These features with their respective values are written in square brackets.

Unlike the binary or distinctive features some features are non-distinctive and privative. Thus, for example, labial is privative feature as no language ever refers to the class of non-labial segment. In other words, non-labials do not form a natural class (Bharati, 1999, PP. 3-4). Similarly, nasality is a distinctive feature in English consonants but not so for English

vowels. However, in French nasality is a distinctive feature for both vowels and consonants. (Fromkin et. al, 2003, Pp. 291-293).

2.3.1.5.1 Purpose of Distinctive Features

As phonemes are the result of a number of co-ordinated articulatory activities, features help in foregrounding each individual articulatory and acoustic aspect. Infact, a segment consists of a number of features called matrix. The features also help in determining the natural class of phonemes. To be the part of a natural class a segment must "share one or more features, and there should be no other sound that has this feature or combination of features" (Bharati, 1999, P. 6). Distinctive features also simplify the rules. It helps to state the rules more easily than ever before. In other words, distinctive features can generalize a rule. Distinctive features are also remarkable for their universal nature. Features are formed following the characteristics of the vocal apparatus which is same in all languages. Hence, the constitution of a universal set to apply in all human languages has been possible. Identification of the nature of allophones has also been simplified due to distinctive features. Distinctive Feature can better state the environmentally conditioned changes of allophonic variants.

2.3.1. 5.2 Classification of Features

Features are classified into some natural classes like,

1. Class feature

2. Place feature

3. Laryngeal feature

4. Manner feature

Class Feature

Class features are demarcated on the basis of the behaviour of vocal tract, that is, the closing and opening of vocal tract. These features are binary in nature. The major class features are discussed below.

Consonantal

If there is a considerable obstruction in the vocal tract during the production, the sound is consonantal [+ cons]. Thus, the feature (+ cons) is applicable to describe plosives, affricates, fricatives, nasals, and liquids like [1] and [r]. On the other hand, the feature [-cons] is applied to describe the vowels and glides like [j] and [w].

Sonorant

Sonorant [+son, -son] sound is another kind of major class feature. It is produced with a continuous opening of the glottis making spontaneous voicing possible. Vowels and glides are examples of [+ son] sounds, whereas, plosives, affricates, and fricatives are [-son].

Syllabic

The feature [+ Syllabic] is also known as vocalic / nonvocalic. It is also one of the major class features. The feature [+ Syllabic] can constitute syllable peaks / nucleus like vowels and syllabic consonants. On the other hand, [-syllabic] segments cannot function as the nucleus of a syllable. Normally, [+ syllabic] designates all vowels, whereas, [- syllabic] designates all consonants and glides.

Place Features

Place features represent the place of articulation. Place features are privative in nature. However, binary place features are also used only to specify the distinction of place within the major place feature.

Labial

The feature [lab] is one of the major place features. It specifies the sounds articulated with one or both lips. Bilabials and labio-dental consonants are the examples of [lab]. Labials can also be further specified as [+,-round] to indicate whether the sound is produced with lip rounding or not.

Dorsal

Dorsals or tongue body features specify the position of the tongue. Consonants [k, g, ŋ, j] and all the vowel sounds are dorsals in English. Dorsal sounds are further classified as mentioned below.

[+/-high]

While a dorsal is articulated by raising the body of the tongue towards the palate, it is called [+ high], as in, palatals, velars, palatalized and velarised consonants, high vowels and glides. The rest of the dorsal are [-high].

[+/-low]

[+low] sounds are produced with the body of the tongue lowered and the root retracted. Low vowels, pharyngeal and pharyngealised consonants are the examples of [+low] sounds. Other sounds are [-low].

[+/-back]

[+back] sounds are articulated with the tongue body slightly retracted towards the rear wall of the pharynx. Velars, uvulars, pharyngeals, velarised and pharyngealized consonants, central vowels, back vowels and glides are [+ back]. On the other hand, during the articulation of [-back] sounds the tongue body is extended slightly forward.

[+/-tense]

These sounds are produced with greater deformation of vocal tract and constriction of the tongue body. Normally, long vowels are distnguished as [+tense] and short vowels as [-tense].

[+/- advanced tongue root]

[+ ATR] sounds are articulated by drawing the root of the tongue forward, enlarging the pharyngeal cavity and after raising the tongue body. The examples of [+ATR] vowels are [ɪ, ʊ, e] and [-ATR] are [æ, ɑ:] etc.

Coronal

Coronal sounds are articulated with the tip and the blade of the tongue. Dentals, alveolars, retroflex, palato-alveolars and palatals are coronal sounds. These sounds are further specified according to the way mentioned below.

[+/- Anterior]

[+ ant] sounds are produced with the tip or blade of the tongue at or in front of the alveolar ridge. Dental and alveolars are [+ant]. On the other hand, post alveolar, retroflex and palato alveolar sounds are [- ant].

[+/- Strident]

   "[+ strident] sounds are characterised by the high-frequency turbulent noise that accompanies the production of some fricative and affricates." (Akmaijian et al., 2010, P. 117). In other words, these sounds are produced when two articulators are in close approximation and the air escapes with high intensity fricative noise.

[+/- distributed]

   [+ dist] sounds are articulated with relative length of contact that the length makes along the roof of the mouth. Dentals and palate-alveolars are [+ dist], whereas all the other coronal sounds are [-dist].

Radicals

These sounds are produced with the root of the tongue. "These include pharyngeal and epiglottal consonants" (www.wikipedia.com, 26 Feb, 2013).

Laryngeal Features

Various states of the larynx are represented by these features. Different laryngeal features are discussed below.

[+/- voice]

   [+voice] sounds are articulated with the vibration of the vocal cords. On the other hand, [-voice] sounds are produced with a glottal opening preventing the vibration of the vocal cords. Voiced consonants, glides and vowels are [+voice] and all the other sounds are [-voice] in English.

[+ spread glottis]

[+sg] sounds specify the openness of the glottis. It indicates the aspirated sounds. Aspirated consonants are examples of [+sg]. However, this is a privative feature. Hence, it does not have its opposite [-sg].

[+constricted glottis]

These features specify the degrees of closure of the glottis. In fact, [+cg] is produced when the glottis is close. In English, only the glottal stop [?] is the [+cg]. This is also a privative feature.

Manner Features

Manner features are so called as they represent manner of articulation. Different manner features are discussed below.

Nasal

During the articulation of [+nasal] sounds the position of velum is lowered to allow the air to pass through nasal passage. This is a privative feature. The nasal consonants and nasalised vowels are the examples of [+nasal].

Lateral

[+lat] sounds are produced when the tip of the tongue is partially blocking the air stream allowing the air to pass through one or both sides of the tongue. In English [l] is the only [+lat] sound. All the other sounds are [-lat].

Continuant

[+cont] sounds are articulated without any significant obstruction in the oral cavity. Example of [+cont] are vowels, glides, r-sounds and fricatives. On the other hand, plosives, nasal consonants, affricates and laterals are [-cont].

Delayed Release

[+del rel] specifies the sounds that are released slowly. In English affricates are [+ del rel]. It is a privative feature.

Feature Matrix for Consonants

		p	b	t	d	k	g	f	v	s	z	θ	ð	ʃ	ʒ	tʃ	dʒ	m	n	ŋ	l	r	j	w	h
Major Class Features	[consonant]	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
	[sonorant]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	-
Place Features	[labial]	+	+					+	+									+						+	
	[coronal]			+	+					+	+	+	+	+	+	+	+		+		+	+			
	[anterior]			+	+					+	+	+	+	-	-	-	-		+		+	+			
	[strident]			-	-					+	+	-	-	+	+	+	+		-		-	-			
	[distributed]			-	-					-	-	+	+	+	+	+	+		-		-	-			
	[dorsal]					+	+													+			+		
	[radical]																								
Laryngeal Features	[voice]	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	+	+	+	+	+	+	+	-
	[CG]																								
	[SG]																								+
Manner Features	[nasal]																	+	+	+					
	[continuant]	-	-	-	-	-	-	+	+	+	+	+	+	+	+	-	-	-	-	-	+	+	+	+	+
	[lateral]																				+	-			
	[delayed release]															+	+								

Table 2.1   Feature Matrix for R.P. Consonants

(Bharati, 1999, p. 11)

Feature Matrix for Vowels

		iː	ɪ	e	ɜː	æ	ʌ	ə	ɑː	uː	ʊ	ɒ	ɔː
Major Class Features	[consonant]	-	-	-	-	-	-	-	-	-	-	-	-
	[sonorant]	+	+	+	+	+	+	+	+	+	+	+	+
Laryngeal Features	[voice]	+	+	+	+	+	+	+	+	+	+	+	+
Place Features	[labial]									+	+	+	+
Dorsal Features	[high]	+	+	-	-	-	-	-	-	+	+	-	-
	[back]	-	-	-	-	-	-	-	+	+	+	+	+
	[low]	-	-	-	+	+	-	-	+	-	-	-	-
	[tense]	-	-	-	-	-	-	+	+	+	-	-	+
Manner Features	[continuant]	+	+	+	+	+	+	+	+	+	+	+	+

Table 2.2   Feature Matrix for R.P. Vowels

(Ibidem, p. 12)

2.3.2 English Phonemes

English R.P. has 44 phonemes. Twenty of these phonemes are vowel sounds and twenty four are consonant sounds. Again, twelve out of the twenty vowels are known as pure vowels or monophthongs and eight are vowel glides or diphthongs.

2.3.2 .1 R.P. Vowels

"Vowels are speech sounds in the production of which there is, in the pharynx and the mouth, no obstruction and no narrowing of a degree that would cause audible friction"(Sethi and

Dhamija, 2011, P. 28). Vowels are produced with a stricture of open approximation. The active articulators in the production of vowels are various parts of the tongue, mainly, the hard and soft palate. The main function of the vowels is its role as the nucleus or the peak of the syllable in all languages. According to the received pronunciation of English, there are twenty distinctive vowel sounds. Twelve of these are pure vowels or monophthongs and eight are vowel glides or diphthongs. All the vowel sounds are voiced as during their articulation vocal cords are held together and the air escapes causing vibration. Besides, for the description and classification of vowels, the criteria observed during their production are mentioned below. The three parameter criteria to describe the vowels was developed by Daniel Jones which was termed as Cardinal Vowel System (vowel. www. Wikipedia.com, 4 sept. 2008, para. 5).

Position of the tongue

According to this parameter, the parts of the tongue responsible for the production of vowels are identified and accordingly they are named. The parts of the tongue that are responsible for the articulation of vowels are the front, the back and the centre. These parts of the tongue are raised towards the roof during the articulation of respective vowels. According to position of the tongue the pure vowels can be as follows:

Front vowels   :   /iː, ɪ, e, æ/

 Back vowels   :   /ɑː, ɒ, ɔː, ʊ, uː/

Central vowels   :   /ʌ, ɜː, ə/

Height of the tongue

Vowels are also classified according to the height of the tongue during their articulation. In other words, the point up to which the tongue is raised towards the roof is also measured during the articulation of vowels. Accordingly, the pure vowels can be close vowels, half-close vowels, half-open vowels and open vowels.

Position of the lips

Position of the lips is another important criterion to describe the vowels. During the production of vowels the position of the lips can be rounded, unrounded and neutral.

2.3.2 .1.1 Monophthongs

There are twelve pure vowels or monophthongs in R.P. As discussed above, we can describe the monophthongs, using three term description level, namely, the part of the tongue raised during the articulation, the height to which it is raised, and the position of the lips. Further, the monophthongs are mainly articulated with eight tongue positions called Cardinal vowels. To indicate these tongue positions the following quadrilateral is used in phonetics (Balasubramanian, 2008, Pp. 39-41).
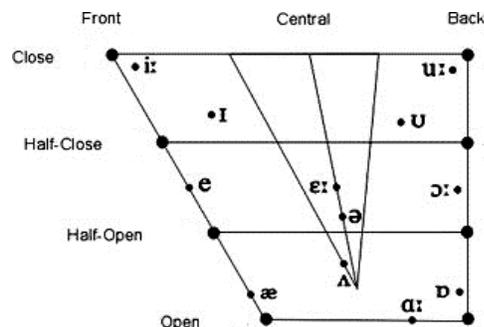
Quadrilateral of R.P. Vowel positions

Figure 2.1

Description of the Monopthongs

/i:/
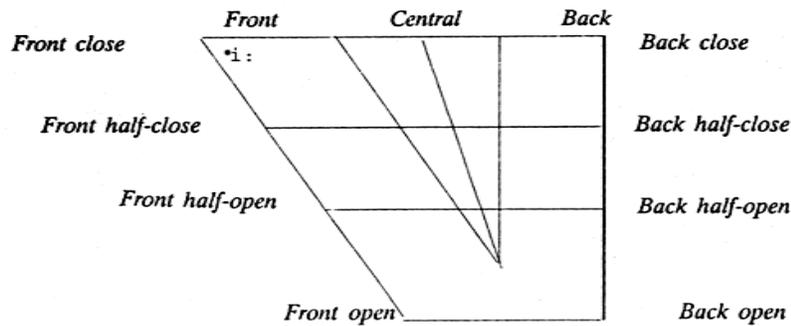
Figure 2.2

(Hosali and Parasher, 1996, p. 43)

In producing R.P. /i:/ the tongue is raised in the direction of the hard palate to an almost closed position. It is a long monophthong. During its articulation the lips remain unrounded. It occurs initially, medially and finally as in eager /ˈi:gə/, heat /hi:t/ and tea /ti:/.

/ɪ/
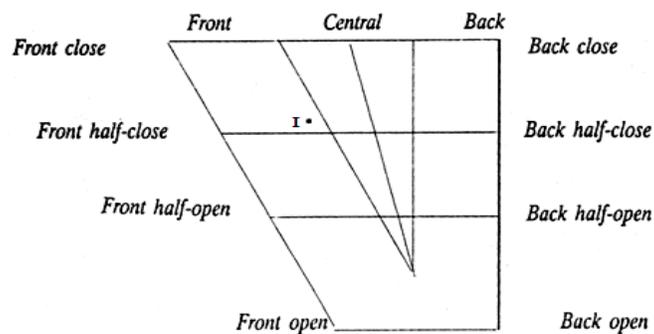
Figure 2.3

(Ibidem, p. 44)

While articulating R.P. /ɪ/ the hinder part of the front tongue is raised in the direction of the hard palate in between close and half-close position. The lips are unrounded during its production. /ɪ/ occurs initially, medially and finally, as in, it /ɪt/, kit /kɪt/ and city /sɪtɪ/

57

/e/
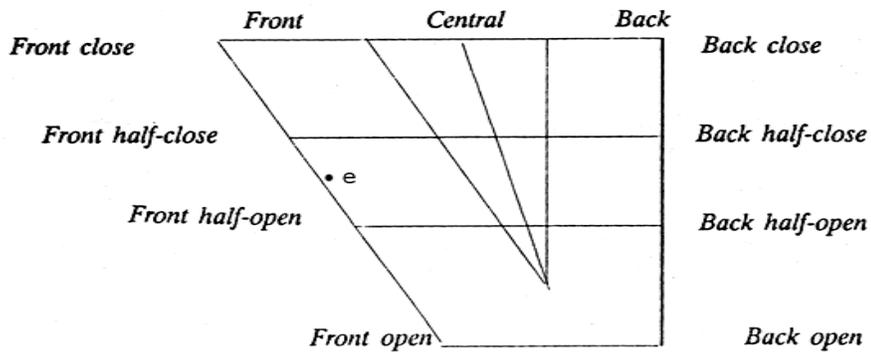
Figure 2.4

In producing R.P. /e/ the front of the tongue is raised towards the hard palate in between half-close and half-open position. The position of the lips is neutral. It can only occur initially and medially, as in, egg /eg/ and bed /bed/.

/æ/
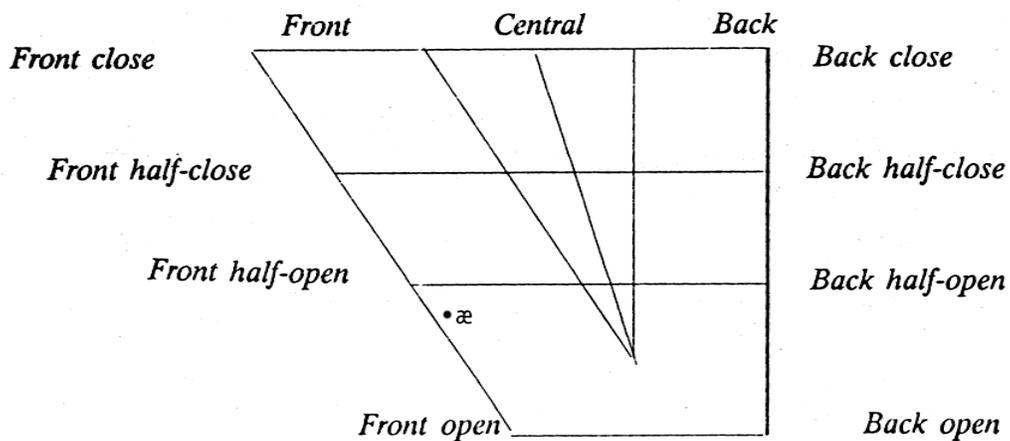
Figure 2.5

In the articulation of R.P. /æ/, the front of the tongue is raised below the half-open position. The lips are neutral. It occurs only initially and medially, as in, act /ækt/ and bat /bæt/.

/ɑ:/
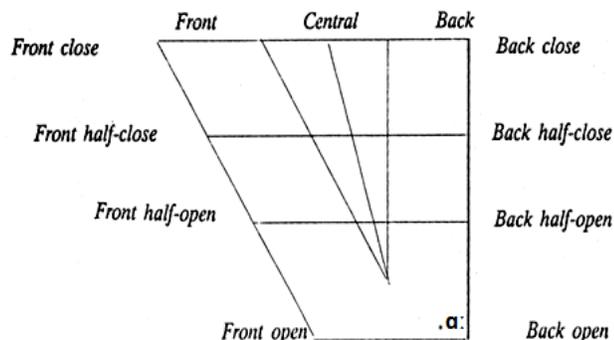
Figure 2.6

While producing R.P. /ɑ:/ the back of the tongue comes down forming an open position. The lips are neutral during its articulation. It occurs initially, medially and finally, as in, arm /ɑ:m/, part /pɑ:t/ and car /kɑ:t/.

/ɒ/
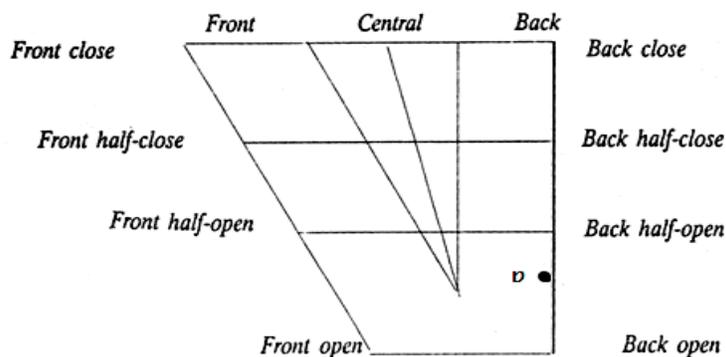
Figure 2.7

In the production of R.P. /ɒ/the back of the tongue is raised towards soft palate. However, the height of the tongue is fully in open position. The lips are rounded. It occurs initially, medially, as in, odd /ɒd/ and pot /pɒt/.

/ɔː/
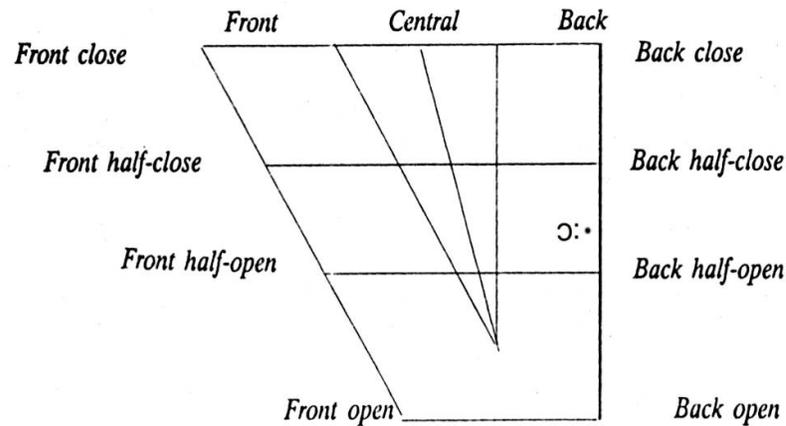
Figure 2.8

In the articulation of R.P. /ɔː/ the back of the tongue is raised towards the soft palate to a position between the half-close and half-open. The lips are rounded. It occurs initially, medially and finally, as in, oral /ˈɔːrəl/, caught /ˈkɔːt/ and law /lɔː/.

/ʊ/
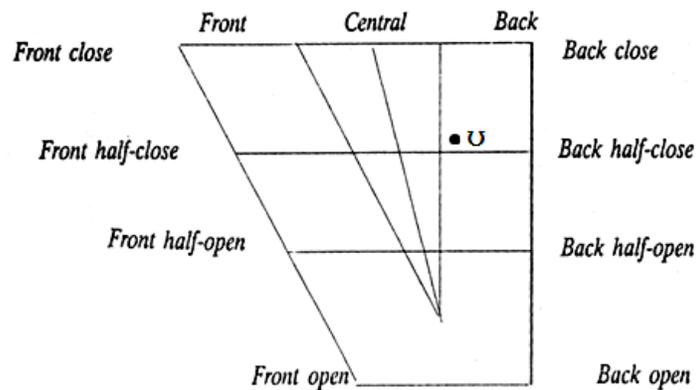
Figure 2.9

In producing R.P. /ʊ/ the back of the tongue is raised towards a position between close and half-close. The position of the lips is rounded. It occurs only medially and finally, as in, took /tʊk/ and book /bʊk/.

/uː/
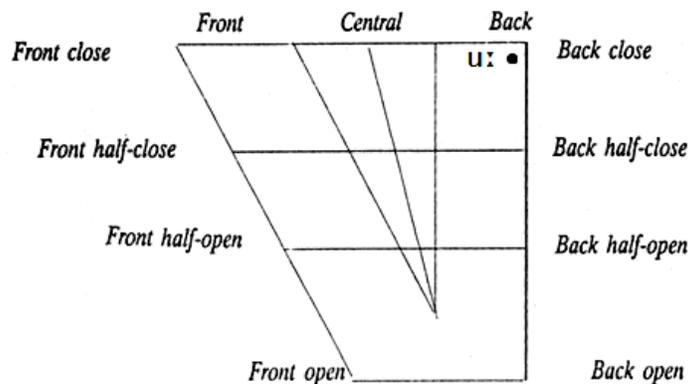
Figure 2.10

While articulating R.P. /uː/ the back of the tongue is raised towards the soft palate to a close position. The lips are rounded. It occurs initially, medially and finally, as in, oodles /ˈuːdl̩z/, fool /fuːl/ and shoe /ʃuː/.

/ʌ/
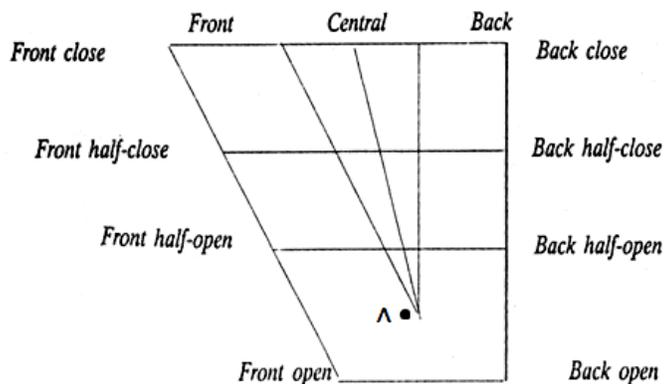
Figure 2.11

During the production of R.P. /ʌ/ the centre of the tongue is raised to a portion between open and half open. The lips are neutral during its articulation. It occur initially and medially, as in utter /ˈʌtə / and hut /hʌt/.

/ɜ:/
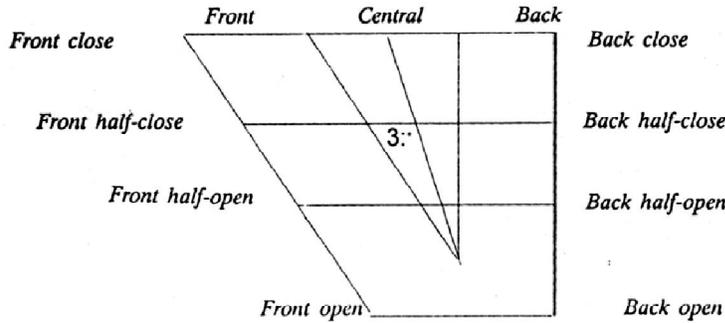
Figure 2.12

While producing R.P. /ɜ:/ the centre of the tongue is raised towards the half of the mouth at the juncture of hard and soft palate. During its articulation the height of the tongue is in between half close and half-open. The lips are neutral. It occurs initially, medially and finally, as in, earn /ɜ:n/, bird /bɜ:d/ and sir /sɜ:/.

/ ə/
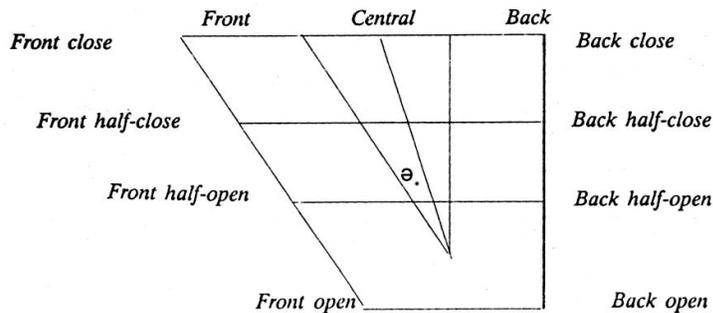
Figure 2.13

In the articulation of R.P. /ə/ the centre of the tongue is raised to a position in between half close and half open. The lips are neutral. It occurs initially, medially and finally, as in, ago /əˈgəʊ/, purpose /ˈpɜ:pəs/ and letter /ˈletə/.

2.3.2.1.2 Diphthongs

Diphthongs are vowel glides within the same syllable. During the articulation of diphthongs the tongue starts in the position of one vowel and then moves towards the position

required for another vowel. The movement is called glide for its smooth nature. Diphthongs are often divided into two types namely, closing and centering.

2.3.2.1.2.1 Closing Diphthongs

/eɪ, aɪ, ɔɪ, əʊ, aʊ / are closing diphthongs as the tongue glides to close vowels / ɪ / and / ʊ /.

/ eɪ/
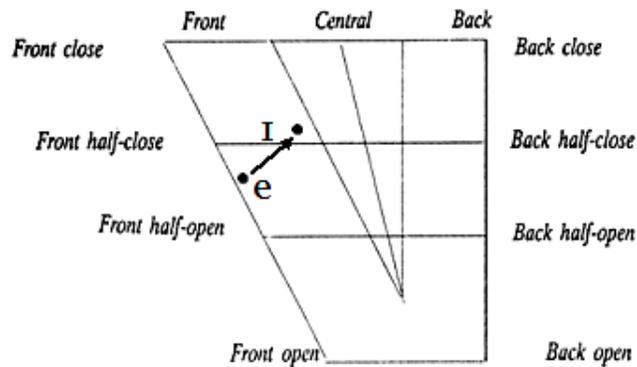
Figure 2.14

In producing RP dipthong /eɪ/ the glide begins below the front half close uunrounded position and moves towards the centralized front unrounded vowel just above the half close vowel /ɪ/. It occurs initially medially, and finally, as in, aid /eɪd/, date /deɪt/ and day /deɪ/.

/aɪ/

Figure 2.15

63
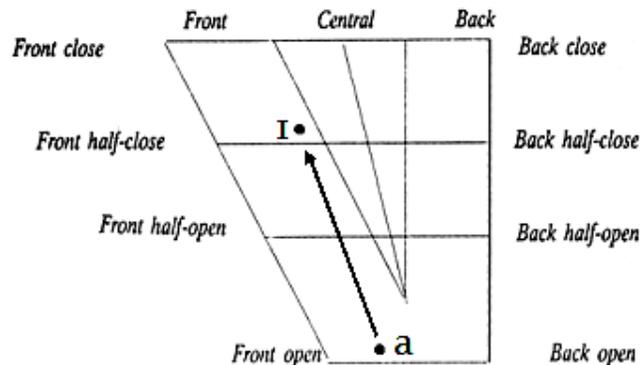
It is a vowel glide from front open and unrounded vowel /a/ to front unrounded just above half close vowel /ɪ/. It occurs initially, medially and finally, as in, ice /aɪs/ time /ˈtaɪm/ and shy /ʃaɪ/.

/ ɔɪ/
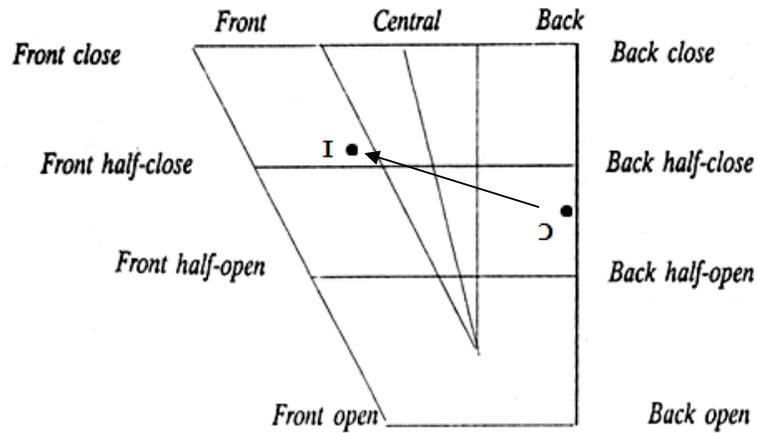
Figure 2.16

It is a vowel glide from the position between back open and half open position to front unrounded vowel just above the half close position. It occurs initially, medially, and finally as in, oil /ɔɪ/ boil /bɔɪl/ and boy /bɔɪ/.

/əʊ/

Figure 2.17

64
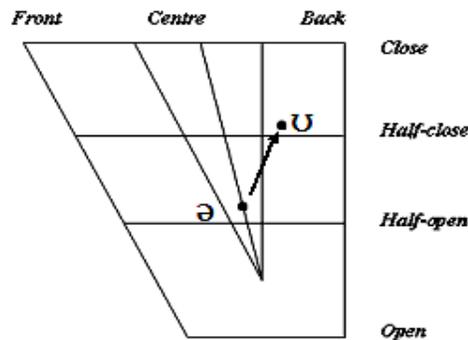
It begins at a central position between half-close and half open and moves in the direction of /ʊ/, the back rounded vowel between close and half close. It occurs initially, medially and finally, as in, owl /aʊl/ home /həʊm/ and no /nəʊ/.

/ aʊ/
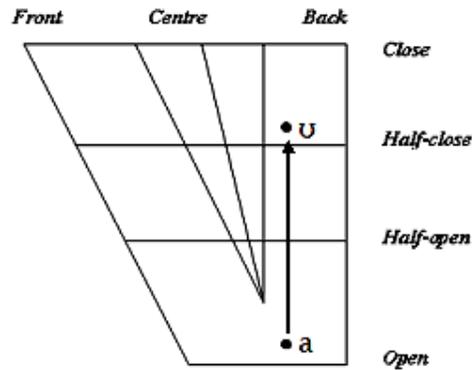
Figure 2.18 (Ibidem, p. 55)

It is a glide from the back open unrounded vowel /a/ to /ʊ/, the centralized back rounded vowel just above the half-close position. It occurs initially, medially and finally, as in, out /aʊt/, loud /laʊd/, and now /naʊ/.

2.3.2.1.2.2Centring Diphthongs

/ɪə, ʊə, eə/ are called centring diphthongs as the tongue glides to the central vowel / ə/.

/ɪə/
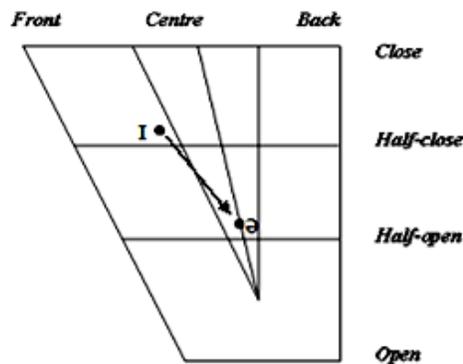
Figure 2.19 (Ibidem, p. 56)

65

It is a glide from front unrounded vowel just above the half –close position to /ə/, the central unrounded vowel between half close and half open position. It occurs initially, medially and finally, as in, ear /ɪə/, dearly /ˈdɪəli/ and here /hɪə/.

/ eə/
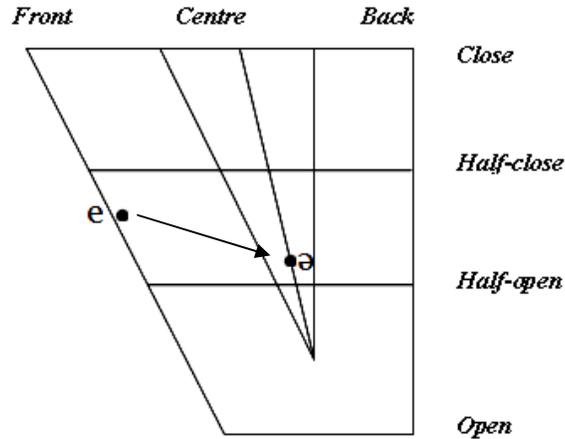
Figure 2.20

<div align="right">(Ibidem, p. 57)</div>

It is a glide from front just below half-close unrounded vowel /e/ to /ə/, the central unrounded vowel between half close and half open. It occurs initially, medially, and finally, as in, air /eə/, caring /ˈkeərɪŋ/ and there /ðeə/.

/ʊə/
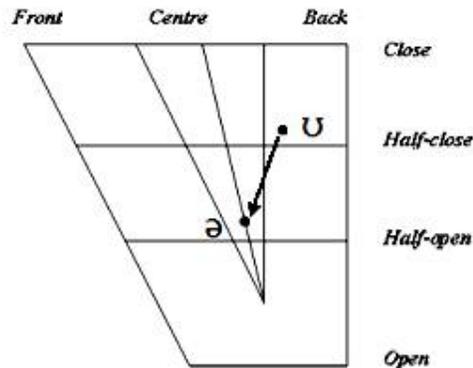
Figure 2.21

<div align="right">(Ibidem, p. 57)</div>

It is a glide from the back rounded vowel just above the half-close position to /ə/, the central unrounded vowel between half close and half open. It occurs medially and finally, as in, surely /ˈʃʊəli/ and poor /pʊə/.

2.3.2.2 RP Consonants

Consonants are speech sounds which are articulated with either complete or partial closure in the vocal tract. "The word consonant has been derived from the Greek *consonautem* which means the sound produced with the help of a vowel" (Prasad, 2009, p.24). In R.P. there are 24 consonant sounds against 21 consonant letters. These are /p, b, t, d, k, g, ʧ, ʤ, m, n, ŋ, h, l, r, w, j, f, v, θ, ð, s, z, ʃ, ʒ/. In English, consonant sounds are more than consonant letters as some letters represent more than one sound. In a syllable consonant is the marginal element. On the other hand, its counterpart, vowel plays the role of nucleus.

2.3.2.2.1 Classification of Consonants

Normally, consonant sounds are classified according to the following aspects:

1. The nature of the air-stream mechanism.
2. The state of the glottis.
3. The position of the velum.
4. The place of articulation.
5. The manner of articulation.

2.3.2.2.1.1 The nature of the air-stream mechanism

The nature of air stream used in the production of all the R.P. consonants sounds is pulmonic egressive. During their articulation the air is pushed out of the lungs.

2.3.2.2.1.2 The state of the glottis

R.P. consonants are described as voiced and voiceless. If the vocal cords are held wide apart during the articulation, the particular consonant is called voiced. On the other hand, if the vocal cords are in vibration, then the sound is called voiced. In R.P. / b, d, g, ʤ, g, m, n, ŋ, h, l, r, w, j, v, ð, z, ʒ / are voiced and /p, t, ʧ, k, f, θ, s, ʃ/ are voiceless.

2.3.2.2.1.3 The position of the velum

The position of the velum is responsible to make a consonant oral or nasal. If during the production of a consonant the velum is raised to block the nasal passage and the air passes through oral passage, it is called oral. On the other hand, if the velum is lowered to allow the air to pass simultaneously through nasal and oral passage, the sound is called nasal. In R.P. other than /m/, /n/, and /ŋ/, the rest of the consonants are oral.

2.3.2.2.1.4 The Place of articulation

The place of articulation of each consonant is determined by the active and passive articulators involved in the articulation of the particular consonant. The most common active articulators are the lower teeth, lower lip and the tongue. Similarly, the passive articulators are the upper lip, the upper teeth, parts of the roof the mouth like the teeth ridge, hard palate, soft palate, pharynx etc. Different consonants are named according to the point of contact between the active and passive articulators. Normally, they are named after the involved

passive articulator. Depending on the involved articulators consonants are classified in the following categories.

Bilabial

In R.P. /p, b, m, w/ are bilabial sounds as during their production the articulators involved are the two lips. In producing these sounds the upper and lower lip close together to make either complete or partial closure.

Labio-dental

During the production of labio-dental sounds the active articulator lower lip comes in contact with the passive articulator upper teeth. In R.P. /f/ and /v/ are labio-dental sounds.

Dental

In R.P. /θ/ and /ð/ are dental sounds. During their articulation the tip of the tongue comes in contact of the upper teeth.

Alveolar

In the articulation of alveolar sounds the tip or blade of the tongue is the active articulator and the teeth ridge is the passive articulator. In R.P. /t, d, n, l, r, s, z/ are alveolar sounds.

Post-alveolar

In the articulation of the post alveolar sound the tip of the tongue comes in contact with the back of the teeth ridge. In R.P. /r/ is the post-alveolar sound.

Retroflex

In the production of the retroflex sounds the curled back tip of the tongue comes in contact of the hinder part of the teeth ridge or hard palate. In American English /r/ is uttered as retroflex.

Palate-alvealor

In articulating the palato-alvealor sounds the tip, blade or front of the tongue touches the point between the hard palate and the alvealor ridge. In R.P. /tʃ, dʒ, ʃ, ʒ/ are the palato-alvealor sounds.

Palatal

In the production of palatal sounds the hard palate and the front of the tongue come in contact. In R.P. /j/ is the palatal sound.

Velar

Velar sounds are produced by the contact between the back of the tongue and the soft palate. In R.P. / k, g, ŋ / are the velar sounds.

Glottal

Glottal sounds are produced at the glottis. Here, the articulators are the two vocal cords. In R.P. /h/ is a glottal sound.

2.3.2.2.1.5 Manner of articulation

Manner of articulation explains the nature of stricture or closure caused by the articulators during the production of the consonants. The closure can be complete, partial or only a narrowing of articulators without friction. Based on the kind of stricture R.P. consonants can be categorized in the following kinds of manner of articulation.

Plosives

During the articulation of Plosives, the active and passive articulators come in contact to form a complete closure. The nasal passage is also closed by raising the soft palate. As a result, air compression is built behind the oral closure before the sudden release causing an explosive sound. In R.P., /p, b, t, d, k, g/ are plosive sounds.

Affricates

Almost like the plosives, during articulation of affricates, the air is blocked by simultaneous oral and nasal closures. But unlike the plosives, its release is slow, resulting in an audible friction. In R.P., the affricate sounds are / tʃ / and / dʒ /.

Nasal

Nasal consonants are produced with a complete oral closure and opening of the nasal passage. The nasal passage is opened by covering the soft palate allowing air to pass through the nasal passage. In R.P. /m, n, ŋ/ are the nasal consonants.

Trill or roll

Trills are produced by tapping the tip of the tongue several times against the teeth-ridge. The stricture involved here is called "a stricture of intermittent closure" (Sethi, J & Dhamija, P.V., 2011, P. 21). The R.P. /r/ is often uttered by some speakers as trill in word initial positions.

Flaps

Flaps are produced by momentary one time strike of the active articulator against the passive. In R.P., /r/ in the words like 'every' and 'very' is uttered as a flap.

Lateral

In the articulation of lateral consonant, there is a partial closure at some point in the vocal tract, but allowing the air to escape through the sides of the contact. It is a continuant since the air escapes continuously. In R.P. /l/ is a lateral sound.

Fricatives

Fricatives are produced with a stricture of closed approximation (Sethi, J & Dhamija, P.V., 2011, P. 21). The active and passive articulators narrow down the passage so much so that the air has to pass with an audible friction. In R.P. /ʃ, ʒ, s, z, f, v, θ, ð, h/ are the fricative consonants.

Frictionless continuant

Frictionless continuants are articulated with an open approximation of the articulators. Unlike the fricatives, during the articulation of frictionless continuants the articulators never come as close as to cause friction to the passing air. Thus, these are vowel like articulations but unable to form the nucleus of any syllable. In R.P. the common variety of /r/, as in 'red', is an example of frictionless continuant(Ibidem, p.22).

Semi vowel

These are short approximants. They are remarkable for their rapid glides from one vowel to another. They are unique for their momentary nature which also fails them to form the nucleus of any syllable. In R.P., /j/ and /w/ are the two semi vowels.

2.3.2.2.2 Description of the Various Consonant Sounds

Bilabial Plosives /p,b/
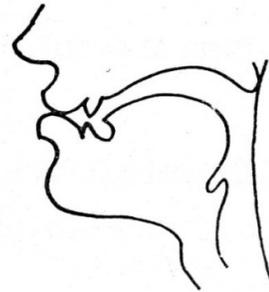
Figure 2.22

(Bansal and Balasubramanian, 2005, p. 88)

As is shown in the figure- , during the articulation of /p/ and /b/ the soft palate is raised to block the nasal passage. The two lips are closed to compress the air in the mouth. Then, there is a sudden release of the air causing an explosive sound. The two sounds differ in respect of voicing. Thus, /p/ is a voiceless and /b/ is a voiced bilabial plosive. Both occur initially, medially and finally in words as in picture, spirit, top and ball, rubber and hub.

Alveolar Plosives /t, d/
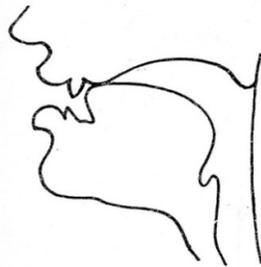
Figure 2.23

(Ibidem, p. 88)

In the articulation of alveolar plosives the soft palate is raised to block the nasal passage. The tip and blade of the tongue is raised against alveolar ridge to block the oral passage. The air is compressed before the sudden release to result an explosive sound. /t/ is voiceless and /d/ is voiced. Both the consonants occur initially, medially and finally as in ten, strong, pat and doll, sudden, mad.

Velar Plosives /k, g/
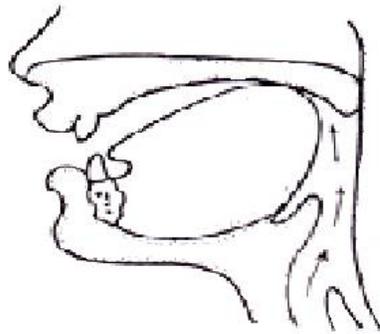
Figure 2.24

(Ibidem, p. 89)

During the production of /k/ and /g/ the soft palate plays double role. First of all, it is raised to block the nasal passage. Secondly, it is the passive articulator against which the back of the tongue is raised to block the oral passage to compress the air behind. Then, there is a sudden release causing an explosive sound. For the production of /k/ the vocal cords do not vibrate as they are held apart, whereas, for /g/ they vibrate to make it a voiced sound. Both the sounds occur initially, medially and finally in words like kill, skill, take, and game, eager, big.

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Palate-Alveolar affricates /tʃ, dʒ/
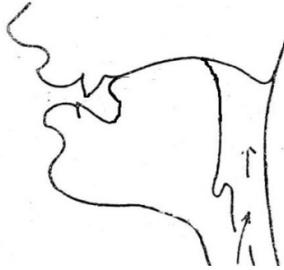
Figure 2.25

When producing /tʃ/ and /dʒ/ the soft palate is raised to close the nasal passage. The tip and blade of the tongue closes the oral passage against the teeth ridge. Front of the tongue is also raised towards the hard palate. Then there is a slow release of the compressed air by the tip and blade of the tongue from the teeth ridge resulting in the sound of friction. /tʃ/ is voiceless whereas /dʒ/ is voiced. Both the sounds occur initially, medially and finally as in chin, nature, pitch and jean, suggest, hedge.

Labio-Dental Fricatives /f, v/
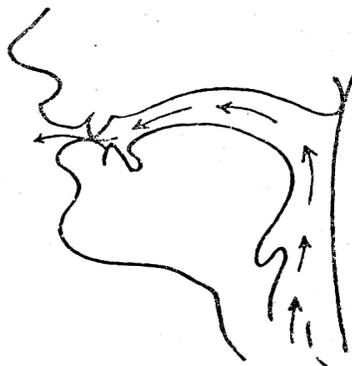
Figure 2.26

In the articulation of /f/ and /v/ the soft palate is raised to shut the nasal passage. The lower lip is raised towards the upper teeth leaving a narrow passage for the air to pass with audible friction. /f/ is voiceless and /v/ is voiced. Both occur initially, medially and finally in the words like fill, lofty, wife and vine, review, naive.

Dental-Fricatives /θ, ð/
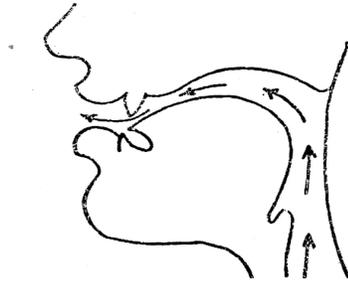
Figure 2. 27

<div align="right">(Ibidem, p. 104)</div>

In the articulation of /θ/ and /ð/ the soft palate is raised to close the nasal passage. Tip of the tongue is raised against the upper front teeth leaving a narrow passage for the air to leave with audible friction. /θ/ is a voiceless dental fricative and /ð/ is voiced dental fricative. Both the sounds occur initially, medially and finally in the words like thanks, paths, bath and there, rather, breathe.

Alveolar Fricatives /s, z/
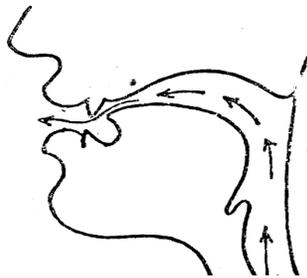
Figure 2.28

<div align="right">(Ibidem, p. 104)</div>

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During the articulation of /s/ and /z/ the soft palate is raised to close the nasal passage. The tip and blade of the tongue is raised towards the alveolar ridge leaving a narrow passage for the air from the lungs to pass with an audible friction. /s/ is voiceless and /z/ is voiced. Both occur initially, medially and finally in the words like sick, ask, ice and zebra, raised, legs.

Palato- Alveolar Fricatives /ʃ, ʒ/
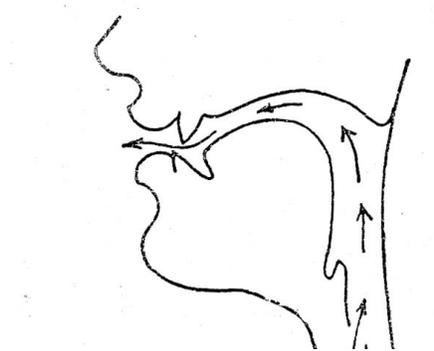
Figure 2.29

(Ibidem, p. 104)

For the production of /ʃ/ and /ʒ/ the soft palate is raised to shut the nasal passage. Tip and blade of the tongue is raised towards the alveolar ridge. Simultaneously, the front of the tongue is raised towards the hard palate. The air from lungs escapes through the narrow passage between the aforesaid active and passive articulators with audible friction. The vocal cords vibrate during the production of /ʒ/, but for /ʃ/ vocal cords are held apart. Hence, /ʃ/ is voiceless and /ʒ/ is voiced. /ʃ/ occurs initially, medially and finally, as in, she, ashes and clash. But /ʒ/ occurs only medially in English as in measure.

Glottal Fricative /h/

During the articulation of /h/ the soft palate is raised to close the nasal passage. The air from the lungs escapes through the narrow passage in the glottis with audible friction. In English /h/ occurs initially and medially, as in, home and behold.

Bilabial Nasal /m/
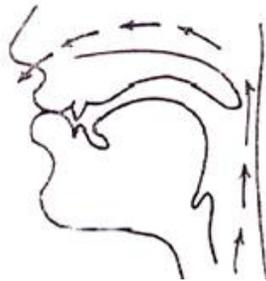
Figure 2.30

(Ibidem, p. 104)

For the articulation of /m/ the soft palate is lowered to allow the air to pass through the nasal passage. The oral passage is closed by the two lips. The vocal chords vibrate during its articulation. Hence, it is a voiced sound. In English it occurs initially, medially and finally, as in, manner, common and come.

Alveolar Nasal /n/
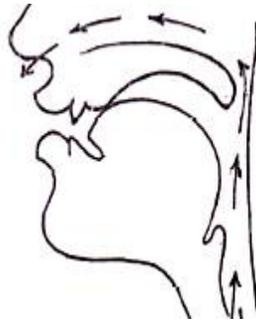
Figure 2.31

(Ibidem, p. 104)

In the articulation of /n/ the tip and blade of the tongue is raised against the teeth ridge to block the oral passage. The soft palate is lowered to allow the air to pass through the nasal passage. /n/ is a voiced sound. It occurs initially, medially and finally, as in, nose, dinner and man.

Velar Nasal /ŋ/
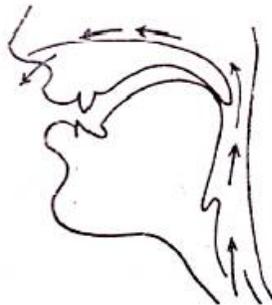
Figure 2.32

(Ibidem, p. 104)

During the articulation of /ŋ/ the back of the tongue is raised to make a firm contact against the soft palate to block the oral passage. The soft palate is lowered to allow the air to

pass through the nasal passage. It is a voiced consonant as the vocal cords vibrate during its articulation. In English it occurs medially and finally, as in, singer and sing.

Alveolar Lateral /l/

Figure 2.33

(Ibidem, p. 122)

In the articulation of /l/ the soft palate is raised to block the nasal passage. The tip of the tongue firmly contacts against the alveolar ridge. But the sides of the tongue are lowered to allow the air to escape without any friction. It is a voiced sound. It occurs initially, medially and finally, as in, leap, belong and tall.

Post Alveolar Frictionless Continuant /r/
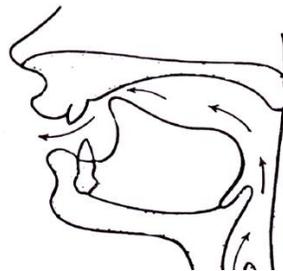
Figure 2.34   (Ibidem, p. 122)

In R.P. post alveolar frictionless continuant /r/ is the most common variety of /r/. During its articulation the soft palate is raised to block the nasal passage, the tip of the tongue is raised towards the passage between the tip of the tongue and the post alveolar area without any friction. It is a voiced sound. It occurs only initially and medially, as in, rather and strong.

Palatal Semi-Vowel /j/

During the articulation of /j/ the soft palate is raised to block the nasal passage. The front of the tongue assumes the position for a front half-close to close vowel and then quickly moves away towards the position of the following vowel. The vocal cords vibrate and the lips are normally narrowed during the articulation of /j/. It occurs initially and medially, as in, you and student (Sethi and Dhamija, 2011, p. 119).

Labio-Velar Semi Vowel /w/

For the articulation of /w/ the soft palate is raised to shut the nasal passage. The back of the tongue assumes the position for a back half close to close vowel and then quickly moves away to the position of the following sound. It is a voiced sound and the position of the lips is normally round. It occurs initially and medially, as in, world and lawyer (Ibidem, p. 118).

2.3.3 Bodo Phonemes

Like many other Tibeto-Burman tone languages Bodo doesn't have a greater number of phonemes. There are six monophthongs which occur in all six positions of words and sixteen consonants. However, the Bodo vowel system has a considerable number of diphthongs and triphthongs. Since Bodo is a tonal language, this feature enhances the dynamic aspect of the Bodo phonemes. The variability of tones can bring a change in the meaning of the word.

2.3.3.1 Bodo Vowels

Bodo vowels are of three types, namely, monophthongs, diphthongs and triphthongs. Unlike R.P. vowels, in Bodo, the number and use of diphthongs and triphthongs are far greater.

2.3.3.1.1 Monophthongs

There are six monophthongs in Bodo. They are /ɪ, ʊ, w, e, ɒ, ʌ/. Bodo does not have long monophthongs. These are used in all the positions of a word, namely, initial, medial and final. Bodo Monophthongs tend to become longer when occur in final stressed position of a word (Baro, 2008, p. 11). These vowels can be described according to the height and position of the tongue and the position of the lips. A description of each of the six monophthongs is given below.

/ ɪ /
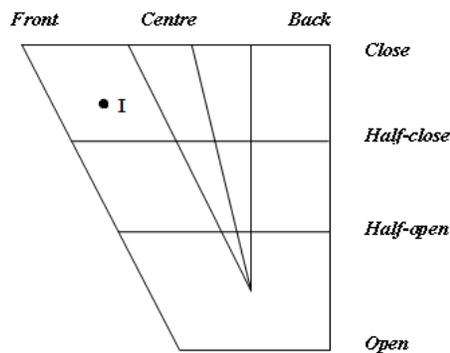
Figure 2.35

In the articulation of the Bodo /ɪ/, the front of the tongue is raised towards the position in between close and half close. The position of the lips is unrounded. It occurs initially, medially and finally, as in, /ɪswr/ God, /bɪr/ fly and /bɪ/ to beg.

/ʊ/
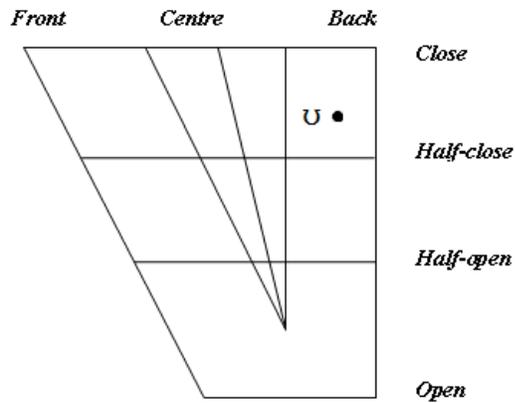
Figure 2.36

While articulating Bodo /ʊ/, the back of the tongue is raised towards the soft palate. The tongue is raised to the height in between close and half closed position. The position of the lips is round. It can occur in all the positions of a word, as in, /ʊn/ back, /bʊŋ/ speak and /nʊ/ to see.

/w/
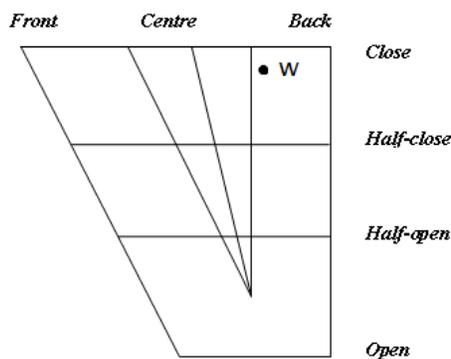
Figure 2.37

During the articulation of Bodo /w/ the part of the tongue in between central and back part is raised towards the back of the hard palate and soft palate. The position of the lips is unrounded. The height of the tongue is in between close and half close. It occurs initially, medially and finally, as in, [wŋgkʰʌm] rice, /zwŋ/ we and [hw] to give.

/e/
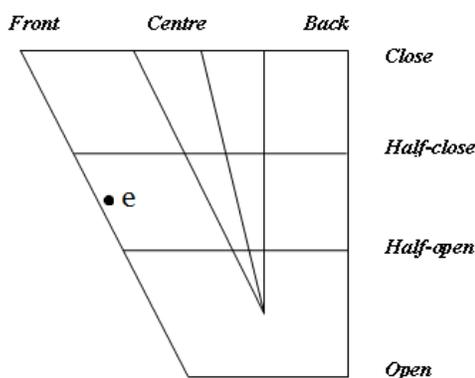
Figure 2.38

In the articulation of Bodo /e/, front of the tongue is raised in between half-close and half open position towards the roof. During its articulation the lips remain unrounded. It occurs initially, medially and finally in a word, as in, /embʊ/ (frog), /gele/ (to play), /be/ (this).

/ɒ/
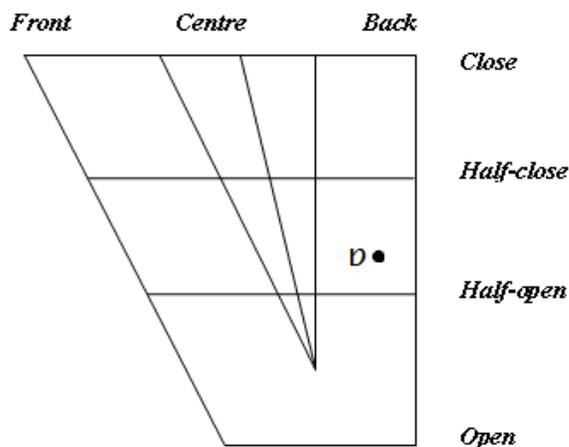
Figure 2.39

In the articulation of Bodo /ɒ/ back of the tongue is raised above half-open position towards the soft palate. The position of the lips is rounded during its production. It occurs initially, medially and finally, as in, /ɒn/ rice flour, /bɒn/ fire-wood and /nɒ/ house.

/ʌ/
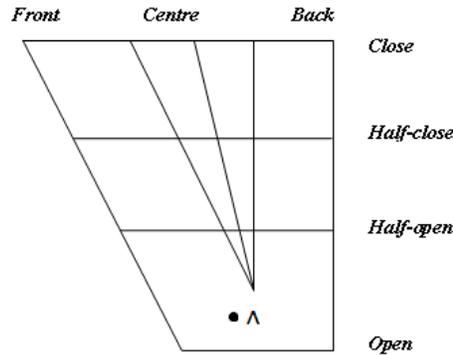
Figure 2.40

During the articulation of Bodo /ʌ/, the central part of the tongue is raised just above open position towards the roof of the mouth. The lips are unrounded. It occurs initially, medially and finally, as in, /ʌŋ/ (I), /bʌr/ (wind) and /nʌ/ (fish).

2.3.3.1.1.1 Feature Matrix for Bodo Monophthongs

		ɪ	e	ʌ	ʊ	ɒ	w
Major Class Features	[consonant]	-	-	-	-	-	-
	[sonorant]	+	+	+	+	+	+
Laryngeal Features	[voice]	+	+	+	+	+	+
Place Features	[labial]				+	+	-
Dorsal Features	[high]	+	-	-	+	-	+
	[back]	-	-	-	+	+	+
	[low]	-	-	+	-	-	
	[tense]	-	-	-	-	-	-
Manner Features	[continuant]	+	+	+	+	+	+

Table 2.3   Feature Matrix for Bodo Monophthongs

2.3.3.1.2 Bodo diphthongs

Bodo has considerable number of diphthongs. These are vowel glides from one vowel to another. Though the Bodo linguists Phukan Basumatary (2005, pp. 23-25) and Madhu Ram Boro (2008, P. 13) unanimously opine that there are considerable number of diphthongs but none give the specific numbers of the same. They list the following diphthongs as the most common in Bodo:

/aɪ/ as in /maɪ/   Paddy

/aʊ/ as in /daʊ/   bird

/eʊ/ as in [tʰeʊbw]   yet

/wɪ/ as in /pʰwɪ/   to come

/ʊɪ/ as in /dʊɪ/   to be small

/ɪʊ/ as in /zɪʊ/   life

/wʊ/ as in /zwʊ/   rice beer

/ɪw/ as in /bɪw/   he, she

/ʊa/ as in /bʊa/   not to beat

/ew/ as in /bew/   this one

/ɪa/ as in sɪaɪ/   to yawn

/ea/ as in /zeaɒ/   in net

/aɔ/ as in /baɔa/   not to forget

/ɔɪ/ as in /gɔɪ/   betel nut

/ɔa/ as in /zɔa/   not to tear

2.3.3.2 Bodo consonants

Bodo has relatively lesser number of consonants. There are only sixteen consonants in Bodo. They are /pʰ, b, tʰ, d, kʰ, g, m, n, ŋ, s, z, h, r, l, w, j/. These are described according to the place and manner of articulation and the position of the vocal cords.

/pʰ/
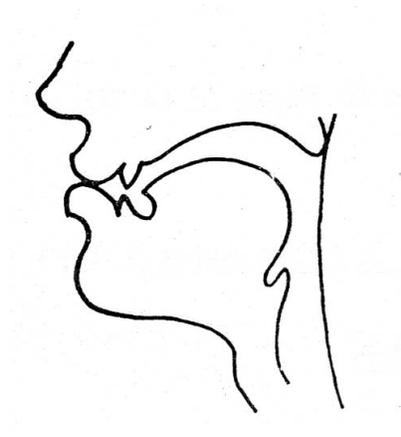
Figure 2.41

/pʰ/ is a voiceless bilabial aspirated plosive. During its articulation the soft palate is raised to block the nasal passage. The air is compressed in the mouth by the two lips followed by a sudden release. However, it has fricative nature when occurs before high vowels /ɪ, w, u/ (Baro, 2007, p.4). The vocal cords are held apart and hence it doesn't vibrate during the articulation of /pʰ/. It occurs initially and medially in Bodo, as in, /pʰu/ (to uproot) and /lʌpʰʌ/ (a kind of leafy vegetable). It doesn't occur in final position of the original Bodo word. However, they do use it in the final positions of loan words, as in, /lʌpʰ/ (jump).

/b/
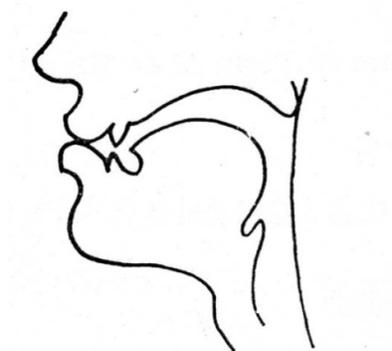
Figure 2.42

Bodo /b/ is a voiced bilabial plosive. During its articulation air is compressed in the mouth by the two lips followed by a sudden release. The soft palate is raised to block the nasal passage. The vocal cords vibrate during its articulation. It occurs in all the three positions of a word, as in, /bu/ (to beat), /hʌbsɪŋ/ (to enter) by force and /tʰʌb/ (soon).

/tʰ/
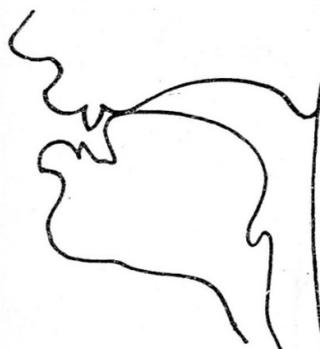
Figure 2.43

Bodo /tʰ/ is a voiceless alveolar aspirated plosive. During its articulation the soft palate is raised to close the nasal passage. The tip and blade of the tongue is raised against the alveolar ridge to block the air passage. The vocal cords are held apart during its articulation. It occurs initially and medially in Bodo, as in, /tʰʌŋ/ (go) and /bʌtʰrʌ/ (word). Though it has no existence in the final position of Bodo indigenous words, they use it in loan words like /gʌtʰ/ (bundle).

/d/
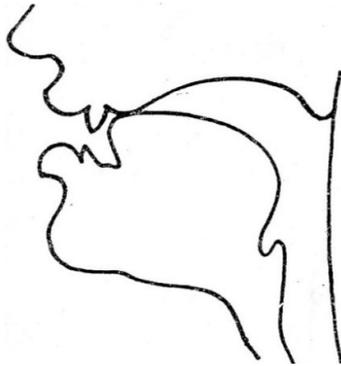
Figure 2.44

Bodo /d/ is a voiced alveolar plosive. During its articulation, soft palate is raised to close the nasal passage. The tip and blade of the tongue are raised against the alveolar ridge to block the air passage. The air is compressed followed by a sudden release. The vocal cords vibrate during its articulation. Hence, it is a voiced sound. It can occur in all the positions of a word, as in, /dʌ/ now, /gɪdɪŋ/ (to go round), and /ʌbʌd/ (cultivation).

/kʰ/
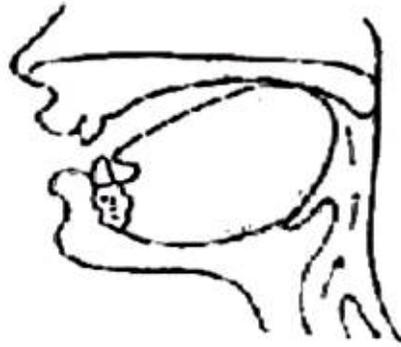
Figure 2.45

Bodo /kʰ/ is a voiceless aspirated velar plosive. During its articulation the soft palate is raised to block the nasal passage. The soft palate is also the passive articulator here against which the back of the tongue is raised to block the air. The compressed air is suddenly released resulting in the explosive sound. The vocal cords are held apart during its articulation. Hence, it is a voiceless sound. It occurs initially and medially in Bodo words, as in, /kʰʌ/ (to pluck) and /bɪkʰʌ/ (breast). It doesn't occur in word final position.

/g/
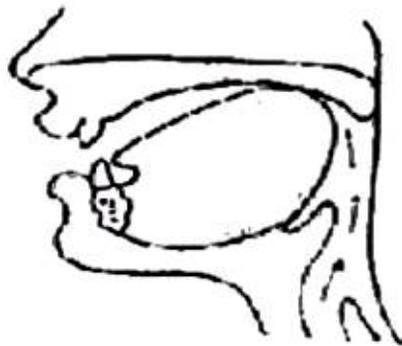
Figure 2.46

Bodo /g/ is a voiced velar plosive. In the articulation of /g/, the soft palate is raised to block the nasal passage. The back of the tongue is raised against the soft palate to compress

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the air before the sudden release. During its articulation the vocal cords vibrate. Hence, it is a voiced sound. It occurs in the initial and medial position of Bodo words, as in, /gʌb/ (to weep) and /sɪgɪ/ (to frighten).

/m/
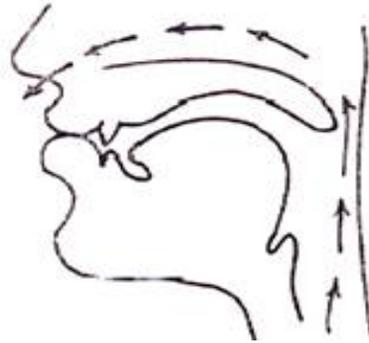
Figure 2.47

Bodo /m/ is a voiced bilabial nasal. While articulating Bodo /m/, the soft palate is lowered to allow the air to pass through the nose. The oral passage is blocked by the two lips. The vocal cords vibrate during its articulation. It occurs in all the positions of Bodo words, as in, /mʌ/ (what), /bɪmʌ/ (mother) and /hʌm/ (to be good).

/n/
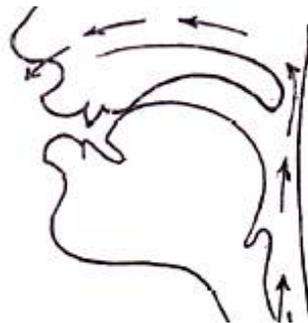
Figure 2.48

Bodo /n/ is a voiced alveolar nasal sound. During the articulation of /n/ the tip and blade of the tongue is raised against the alveolar ridge to block the oral passage. The soft palate is lowered to allow the air to pass through the nasal passage. The vocal cords vibrate during its articulation. It occurs initially, medially and finally in Bodo words, as in, /nʌ/ (fish), /mɪnɪ/ (to smile) and /bɒn/ (fuel).

/ŋ/

Figure 2.49

Bodo /ŋ/ is a voiced velar nasal. In the articulation of Bodo /ŋ/ the back of the tongue is raised against the soft palate to block the oral passage. The vocal cords vibrate during its articulation. It occurs only medially and finally, as in, /bɪŋi/ (harp) and /rʌŋ/ (money).

/s/
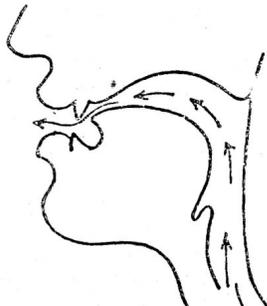
Figure 2.50

It is a voiceless alveolar fricative sound. In the articulation of /s/ the soft palate is raised to block the nasal passage. The tip and blade of the tongue is raised near the alveolar ridge leaving a narrow passage for the air to pass with friction. The vocal cords are held apart. Hence, it is a voiceless sound. It occurs initially and medially in Bodo, as in, /sɪ/ (cloth), /bɪsɪ/ (cloth).

/z/
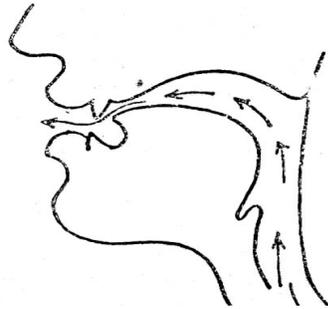
Figure 2.51

It is a voiced alveolar fricative. While articulating Bodo /z/, the soft palate is raised to block the nasal passage. The tip and blade of the tongue is raised near the alveolar ridge leaving a narrow passage for the air to pass with friction. The vocal cords vibrate. It occurs initially, medially and finally in Bodo words, as in, /zʌ/ (to eat), /gʊzʊ/ (to cough) and /ʌrɒz/ (prayer).

/h/

It is a voiceless glottal fricative sound. In the articulation of /h/ the soft palate is raised to close the nasal passage. The air from the lungs escapes through the narrow passage in the glottis with audible friction. In Bodo, /h/ occurs initially and medially in Bodo, as in, /hʌ/ (land) and /gwhw/ (strength).

/r/
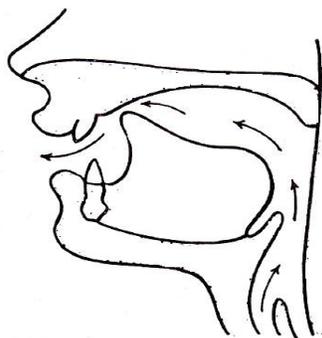
Figure 2.52

In Bodo, /r/ is uttered as a voiced alveolar trill. During its articulation the soft palate is raised to close the nasal passage. The tip of the tongue is raised to tap against the alveolar ridge a few times. The vocal cords vibrate during its articulation. It occurs in all the positions of Bodo words, as in, /rʊ/ (to boil), /sɪrɪ/ (line) and /bʌr/ (wind).

/l/
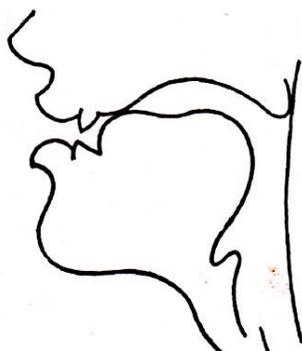

Figure 2.53

Bodo /l/ is a voiced alveolar lateral sound. During its articulation the soft palate is raised to block the nasal passage. The tip of the tongue makes a firm contact against the teeth ridge. But the sides of the tongue are lowered to allow the air to escape without any friction. Vocal cords vibrate during its production. It occurs initially and medially in Bodo indigenous words, as in, /lwŋ/ (to drink) and /sʌlʌɪ/ (tongue).

/w/

/w/ is a voiced bilabial semi-vowel. During its production the soft palate is raised to shut the nasal passage. The back of the tongue assumes the position for a back half close to close vowel and then quickly moves away to the position of the central vowel in between half-close and half-open. The vocal cords vibrate. It occurs medially and finally in Bodo, as in, /zɒwʌ/ (does not sit) and /zʌw/ (to winnow).

/j/

Bodo /j/ is a voiced palatal semi-vowel. In the production of /j/ the soft palate is raised to shut the nasal passage. The front of the tongue assumes the position for a front half-close to close vowel and then quickly moves away towards the position of central vowel in between half-close and half-open. The vocal cords vibrate. It occurs medially and finally in Bodo, as in, /zʌjw/ (eats) and /sɪjɪ/ (no wet).

2.3.3.2.1 Feature Matrix for Bodo Consonants

		pʰ	b	tʰ	d	kʰ	g	s	z	m	n	ŋ	l	r	j	w	h
Major Class Features	[consonant]	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
	[sonorant]	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	-
Place Features	[labial]	+	+							+						+	
	[coronal]			+	+			+	+		+		+	+			
	[anterior]			+	+			+	+		+		+	+			
	[strident]			-	-			+	+		-		-	-			
	[distributed]			-	-			-	-		-		-	-			
	[dorsal]					+	+					+			+		
	[radical]																
Laryngeal Features	[voice]	-	+	-	+	-	+	-	+	+	+	+	+	+	+	+	-
	[CG]																+
	[SG]															+	
Manner Features	[nasal]									+	+	+					
	[continuant]	-	-	-	-	-	-	+	+	-	-	-	+	+	+	+	+
	[lateral]												+	-			
	[delayed release]																

Table 2.4   Feature Matrix for Bodo Consonants

2.3.4.1 Difference between the vowel system of English R.P. and Bodo

There are considerable differences between the vowel systems of Bodo and English. A discussion in this regard is given below.

<u>Monophthongs</u>

<u>R.P.</u>	<u>Bodo</u>
1. English R.P. has twelve numbers of monophthongs.	1. Bodo has six numbers of monophthongs.

2. There are seven short and five long vowels.	2. Only six short vowels but no long vowels
3. R.P. has two unrounded front close vowels, namely, /ɪ/ and /iː/. Their distinctive nature is realized in the minimal pairs like /ɪt/ it and /iːt/ eat.	3. Bodo has only one unrounded front close vowel, namely, /ɪ/ as is realized in the word /sɪgɪ/- to frighten.
4. R.P. has two rounded close back vowel /ʊ/ and /uː/. Their distinctive nature is realised in the minimal pairs like /fʊl/ full and /fuːl/ fool.	4. Bodo doesn't have the long high back vowel /uː/. It has short rounded back vowel just above half-close /ʊ/ as realized in /ʊn/- back.
5. R.P. does not have the vowel /ɯ/ in its vowel system.	5. Bodo has the unique centralized unrounded high back vowel /ɯ/, as in, /nwŋ/. This vowel has a very frequent use in Bodo.
6. The R.P. has two distinctive back vowels /ɒ/ and /ɔː/, their distinctive nature being proved by the existence of minimal pairs like cot /kɒt/ and caught /kɔːt/.	6. Bodo doesn't have long rounded mid vowel /ɜː/. It has only rounded short back mid vowel /ɒ/, as in, /zɒ/ -to be torn.
7. The R.P. has two distinctive and rounded open vowels /ʌ/ and /ɑː/, their distinctive nature being proved by the existence of minimal pairs like cut /kʌt/ and car /kɑː/.	7. Bodo doesn't have the long back open unrounded vowel /ɑː/. Rather, it has short low unrounded centred /a/, as in, /naŋ/- to touch.
8. The R.P. has two distinctive	8. Bodo doesn't have /æ/ in its system. It

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unrounded front mid vowels /æ/ and /e/, their distinctive nature being realised in the existence of minimal pairs like bat /bæt/ and bet /bet/.	has only unrounded front mid vowel /e/, as in, /lem/ -to peel.
9. The R.P. has two more distinctive mid central vowels /ɜ:/ and /ə/ as in, bird /bɜ:d/ and about /əbaut/.	9. Bodo doesn't have these two vowels in its system.
10. English has only eight diphthongs.	10. Bodo has a larger number of diphthongs. Not less than 15 diphthongs are there in Bodo. But there are no opening diphthongs. /ɪə/, /ʊə/ and /eə/and closing diphthong /əʊ/ in Bodo. On the other hand, Bodo diphthongs are not available in English.

2.3.4.2 Difference between the consonant systems of English R.P. and Bodo

Bodo has far lesser number of consonant sounds than the English R.P. English R.P. has twenty four consonants, whereas, Bodo has sixteen. Bodo consonant system lacks not less than eleven consonant sounds of R.P. They are/p/, /t/, /k/, /tʃ/, /dʒ/, /f/, /v/, /θ/, /ð/, /ʃ/and /ʒ /. Some of the points that further differentiate the two consonant systems are enlisted below.

R.P.	Bodo
1. In English R.P. the aspirated plosives [pʰ] [tʰ] and [kʰ] are the allophones of	1. Bodo does not have /p/, /t/ and /k/ in their consonant system. They only

their root phone /p/, /t/ and /k/. They are used only when /p/, /t/ and /k/ are in the stressed position, as in, /pʰen/ pen, /tʰen/ ten and /kʰaʊ/ cow.	have aspirated plosives [pʰ], [tʰ] and [kʰ] as the basic consonants. Hence, they pronounce them as aspirated plosives both in stressed and unstressed positions.
2. The R.P. has two distinctive voiceless fricatives in /s/ and /ʃ/. /s/ is a voiceless alveolar fricative and /ʃ/ is a voiceless palato-alveolar fricative. Their distinctive nature being proved by the existence of minimal pairs like sea /si:/ and she /ʃi:/.	2. Bodo has only voiceless alveolar fricative /s/, as in, /sɪ/ cloth. It does not have the voiceless palato alveolar fricative /ʃ/.
3. In the R.P. /tʃ/ and /s/ are distinctive in nature. /tʃ/ is a voiceless palato alveolar affricate and /s/ is a voiceless palato alveolar fricative. Their distinctive nature is realized in the existence of minimal pairs like chain /tʃeɪn/ and sane /seɪn/.	3. Against these two distinctive R.P. consonants Bodo has only one in /s/.
4. In R.P. /f/ and /p/ are two distinctive consonants. /f/ is voiceless labio-dental fricative, whereas /p/ is voiceless bilabial plosive. The aspirated [pʰ] is the allophone of /p/. The distinctive nature of these two phonemes is realized in the existence of minimal pairs like full /ful/ and pull /pʰul/.	4. Bodo does not have the voiceless labio-dental fricative /f/. The replacement of both /f/ and /p/ in Bodo is the aspirated bilabial plosive /pʰ/, as in, /pʰalw/- crowd.
5. The English R.P. has two distinctive	5. Against these two R.P. consonants

voiced consonants in /b/ and /v/. /b/ is a voiced bilabial plosive and /v/ is a voiced labio-dental fricative. Their distinctive nature is realized in the minimal pairs like, ban /bæn/ and van /væn/.	Bodo has only one, namely, the voiced bilabial plosive /b/, as in, /bʌ/-carrying on back.
6. In R.P. /θ/ and /t/ are distinctive in nature. Here /θ/ is a voiceless dental fricative and /t/ is a voiceless alveolar plosive.	6. In Bodo, against these consonant sounds, there is the use of the aspirated bilabial plosive /tʰ/.
7. R.P. has two distinctive sounds in /ð/ and /d/. /ð/ is a voiced dental fricative and /d/ is a voiced alveolar plosive. Their distinctive nature is realized in the minimal pairs, like, thy /ðaɪ/ and die /daɪ/.	7. Bodo does not have the voiced dental fricative /ð/ in its consonant system. However, it has the voiced alveolar plosive /d/.
8. The English R.P. has distinctive consonants in /ʒ/, as in pleasure and /dʒ/. /ʒ/ is a voiced palato alveolar fricative sound, whereas /dʒ/ is a voiced palato alveolar affricate sound.	8. Bodo does not have voiced palato alveolar fricative /ʒ/. It has the voiced alveolar fricative /z/, as in, /gwzw/ high.

2.3.5 Pronunciation of Various English words by Indians

To be an effective speaker of English it is expected to utter the forty four phonemes with proper place and manner of articulation despite the adherence to the other supra segmental elements like stress and intonations. But it has been observed that most of the Indian speakers in English confuse in pronouncing the same properly. This happens mostly due to the difference of phonological systems of English R.P. and the mother tongue of the respective Indian English speaker. Some of the confusions of this kind are given below.

R.P.				Indian English	
/ eɪ/	as in	take	/ teɪk/	[e:]	[te:k]
/ ɜ:/		shirt	/ ʃɜ:t/	/ ə /	/ʃərt/
/əʊ/		go	/gəʊ/	/ɔ:/	/gɔ:/
/ʌ/		but	/bʌt/	/ə/	/bət/
/θ/		thin	/θɪn/	[t̪ or t̪ʰ]	[t̪ɪn] or [t̪ʰɪn]
/ð/		that	/ðæt/	[d̪]	[d̪et]
/f/		fat	/fæt/	[pʰ]	[pʰet]
/ʃ/		shine	/ʃaɪn/	/s/	/saɪn/
/ʒ/		leisure	/leɪʒə/	/dʒ/	/leɪdʒə/

2.3.5.1 Pronunciation of English phonemes by the Bodos

Bodo, being a language of Tibeto-Burman family, and English, being a language of Germanic Indo-European family, differ considerably in their respective phonological systems. Hence, a Bodo speaker is often expectedly confused while pronouncing English

phonemes. Bodo vowel and consonant systems lack a number of R.P. vowels and consonants. It does not have the following phonemes of R.P.

/ iː, uː, ɜː, ɔː, ɑː, æ, p, t, k, tʃ, dʒ, f, v, θ, ð, ʃ, ʒ /.

Hence, many of the traditional Bodo speakers find it difficult to pronounce these phonemes according to R.P. rules of pronunciation. To meet the purpose of analyzing the pronunciation of English phonemes by the Bodos we have met a number of Bodo informants hailing from four districts of BTAD, namely, Kokrajhar, Baksa, Chirang and Udalguri. We have given them the list of phonemes given below to utter and recorded their performances followed by an analysis of the same in the computer. During the entire process Mr. Gwgwn Brahma Kachari has been our model speaker. He is a 46 years old traditional Bodo gentleman serving as a lecturer in the Department of Bodo in Bijni College, Bijni, Dist. Chirang, Assam, India. He hails from Batabari, Dist. Chirang, BTAD, Assam.

2.3.5.1.1 List of Phonemes Given to the Informants for Pronunciation

Vowels that are absent in Bodo

/i/   as in   eat

/uː/   as in   cool

/ɜː/   as in   bird

/ɔː/   as in   all

/ɑː/   as in   art

/æ/   as in   bat

Distribution

Phoneme	initial	medial	final
/iː/	eat	meat	tea
/uː/	ooze	stool	shoe
/ɜː/	earth	turn	fur
/ ɔː/	order	bought	law
/æ/	ass	man	-----
/ɑː/	art	heart	far

List of R.P. dipthongs given to the informants for pronunciation

Phoneme	initial	medial	final
/ eɪ/	aim	date	day
/ aɪ/	ice	nine	my
/ əʊ/	own	coat	no
/ aʊ/	out	doubt	now
/ ɔɪ/	oil	boil	toy
/ ɪə/	ear	dearly	here
/ eə/	air	caring	there
/ ʊə/	--------	poorly	poor

Consonants that are Absent in Bodo

/p/   as in   pair.

/t/   as in   ten.

/k/   as in   kite.

/f/   as in   fire.

/v/   as in   victim.

/ θ/   as in   think.

/ð/   as in   there.

/ʃ /   as in   she.

/ʒ /   as in   measure.

/tʃ/   as in   chain.

/dʒ /   as in   hedge.

Distribution

Phoneme	initial	medial	final
/p/	pin	spin	cup
/t/	top	stop	hat
/k/	king	maker	mimic
/f/	fine	after	life

/v/	vine	ravishing	revive
/θ/	thin	paths	bath
/ð/	then	rather	bathe
/ʃ/	sugar	ashes	push
/ʒ/	-------	pleasure	--------
/tʃ/	chip	actually	reach
/dʒ/	jam	suggest	bridge

2.3.5.1.2 The pronunciation of R.P. long monophthongs by the Bodos

During our research, it has been observed that, in general, Bodos have a tendency to shorten the long R.P. monophthongs. However, the problem is not uniform. Particularly, the higher educated Bodos often pronounce them accurately. But mostly, they articulate them as short vowels. A large number of informants pronounced them as chronemes, that is, the length is in between long and short vowels. After an analysis of their performance in pronouncing the long vowels we have observed the following difference with R.P.

/i:/

The R.P. /i:/ is a long close unrounded long vowel, as in, eat. But Bodos have a tendency to shorten it and pronounce it as short unrounded centralized vowel just above half-close position.

R.P.   / iː /

Figure 2.54

Bodo   / ɪ /
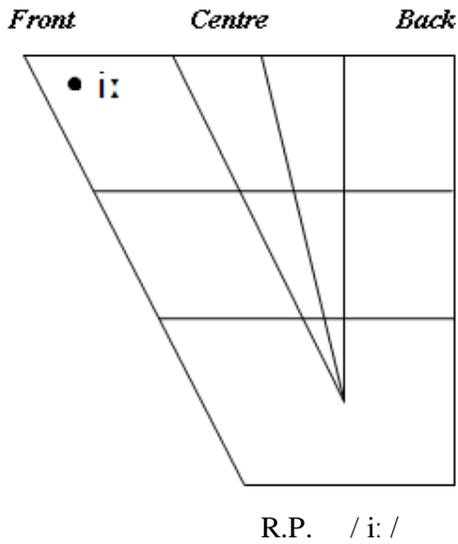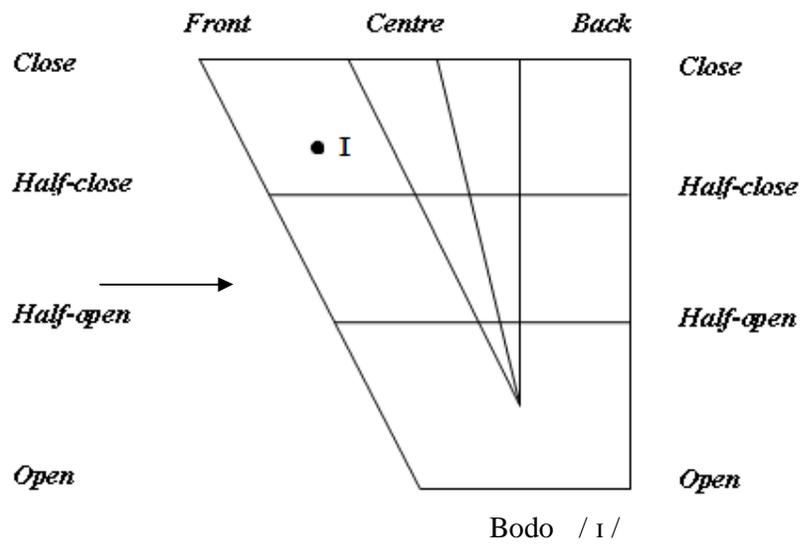
Figure 2.55

/u:/

R.P. /u:/ is a long rounded close back vowel, as in, cool. But Bodos have a tendency of

pronouncing it as short centralized back rounded vowel just above half-close position.

R P   / uː /

Figure 2.56

Bodo   / ʊ /
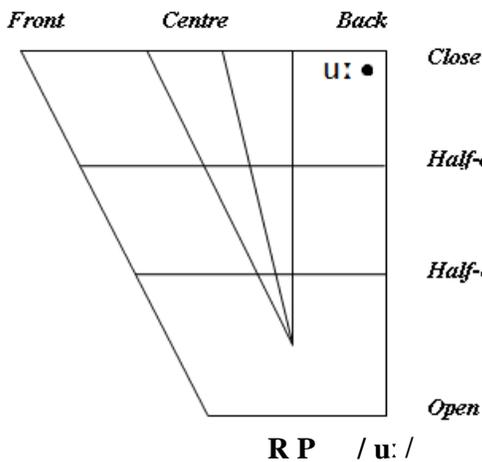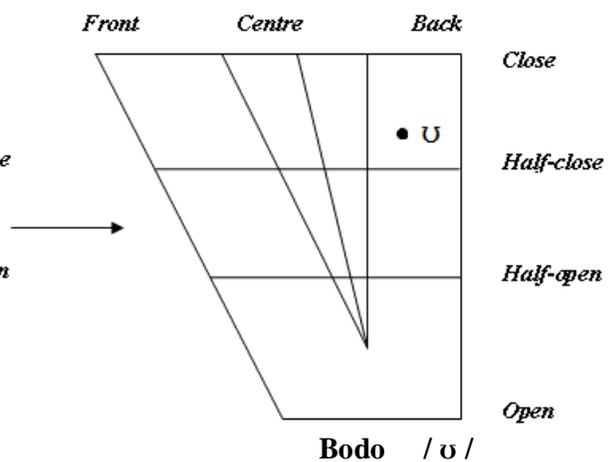
Figure 2.57

/ɜ:/

In R.P. /ɜ:/ is a long unrounded central vowel just below the half close position, as in, bird. But Bodos pronounce it as /ʌ/, the short unrounded centralized vowel just above open position.

Front	Centre	Back		Front	Centre	Back

R P   / ɜ: /   Bodo   / ʌ /
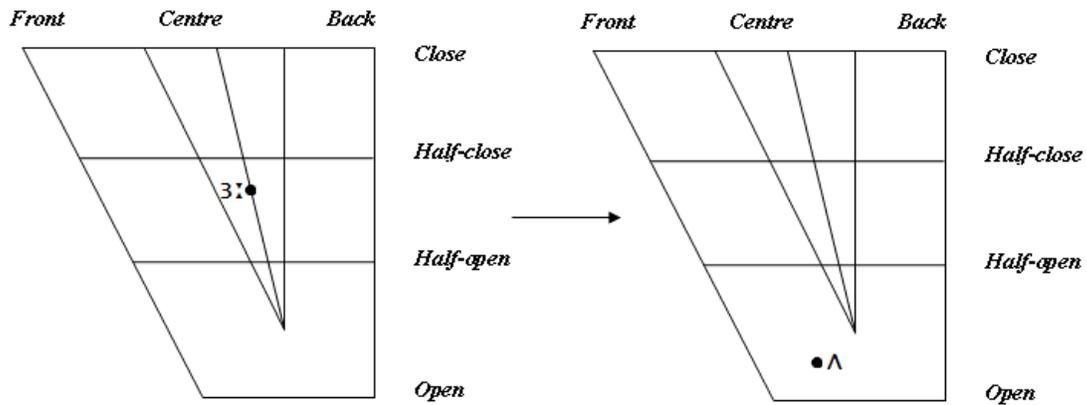
Figure 2.58   Figure 2.59

/ɑ:/

In R.P. /ɑ:/ is a back open long vowel. The lips are neutral during its utterance, as in, car. But the Bodos pronounce it as /ʌ/, the unrounded short front open vowel as is shown below.

Front Centre Back
Close
Half-close
Half-open
● ɑː Open

R. P. / ɑː /

Figure 2.60

Front Centre Back
Close
Half-close
Half-open
● ʌ Open

Bodo / ʌ /

Figure 2.61

/ɔː/
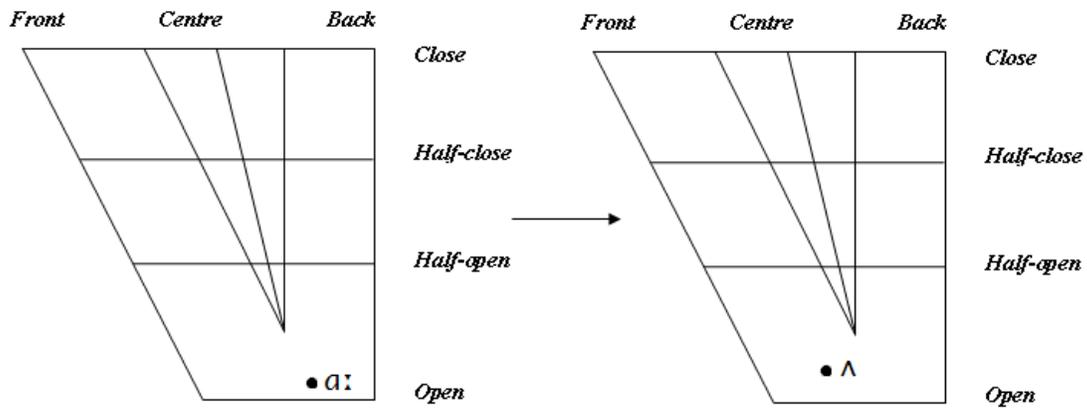
In R.P. /ɔː/ is a rounded long back vowel above the half open position, as in, all. But Bodos have the tendency to pronounce it as /ɒ/, the short rounded back vowel just below the half open position.

Front Centre Back
Close
Half-close
ɔː●
Half-open
Open

R P / ɔː /

Figure 2.62

Front Centre Back
Close
Half-close
Half-open
ɒ ●
Open

Bodo / ɒ /

Figure 2.63

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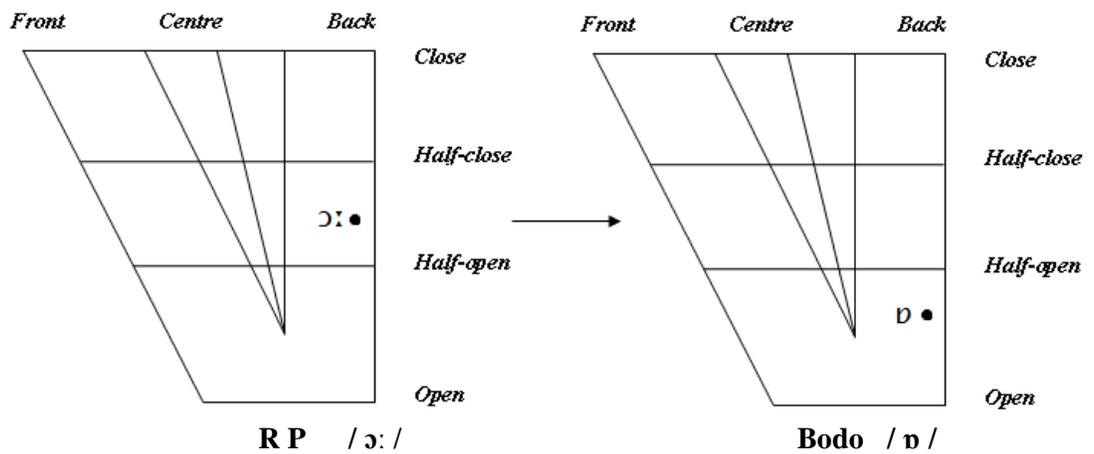
2.3.5.1.3 The Pronunciation of Short Vowels that are Absent in Bodo

/æ/

In R.P. /æ/ is an unrounded front vowel below the half-open position, as in, cat. Most of the Bodos pronounce it accurately in isolation but they often confuse in words. They make it /e/, unrounded front vowel in between half-close and half open as is shown below.
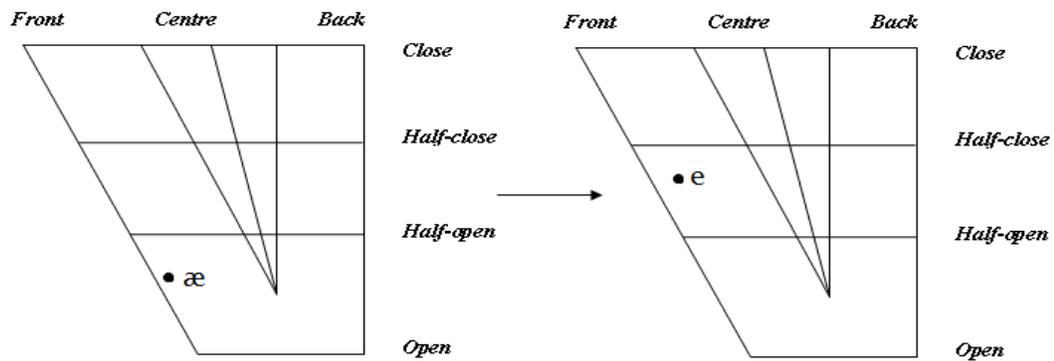
R P   / æ /   **Bodo /e/**

Figure 2.64   Figure 2.65

/ə/

In R.P. /ə/ is an unrounded central vowel in between half-close and half-open position, as in, ago. But the Bodos pronounce it as /e/, the unrounded front vowel in between half-close and half-open position. In some words like *conduct* (v), they pronounce the /ə/ as /ɒ/, the rounded back vowel in between open and half-open.
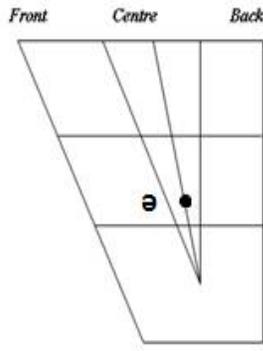
R P   / ə /

Figure 2.66
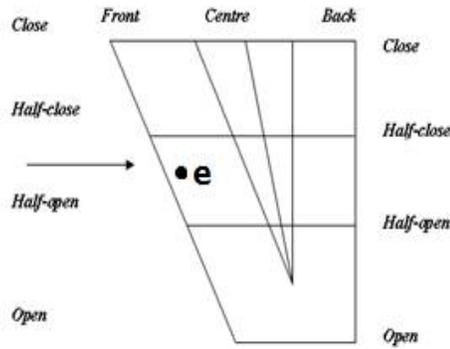
Bodo   /e/

Figure 2.67
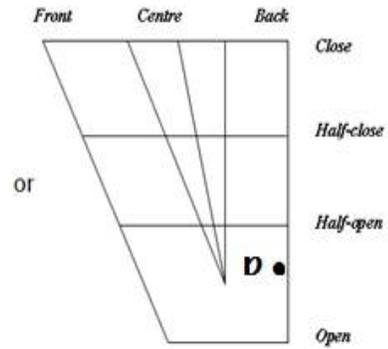
Bodo / ɒ /

Figure 2.68

2.3.5.1.4 The Pronunciation of Dipthongs that are absent in Bodo

/eɪ/

In R.P. /eɪ/ is a vowel glide from /e/, the unrounded front vowel in between half-close and half-open, to /ɪ/, the unrounded centralized front vowel just above half close position, as in, gate /geɪt/. But Bodos have a tendency to pronounce it as /e/, the unrounded front vowel in between half-close and half-open.
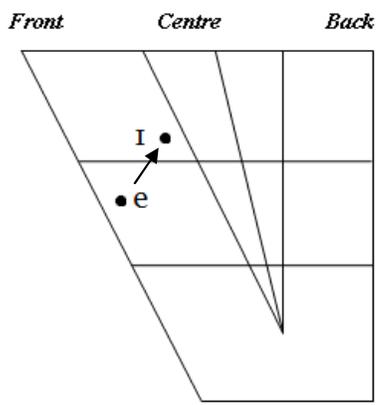
R. P.   / eɪ /

Figure 2.69
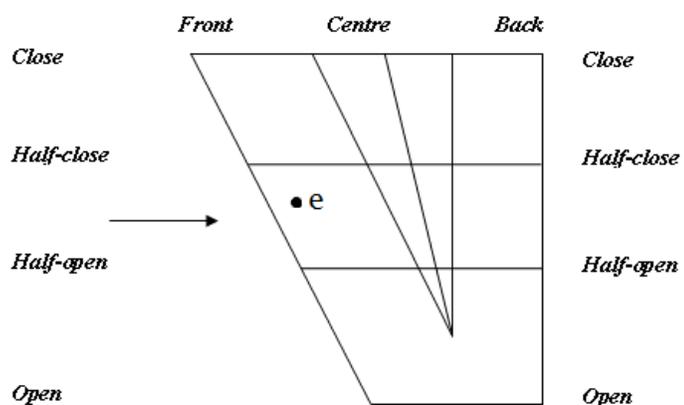
Bodo /e/

Figure 2.70

/ɔɪ/

In R.P. /ɔɪ/ is a vowel glide from /ɔ/, the rounded back-vowel just below half-open position to /ɪ/, the centralized front vowel just above the half-close position. But Bodos have a tendency to utter it as a vowel glide from /ɔ/, the rounded back vowel just below half open position, to /e/, the unrounded front vowel in between half close and half open position.
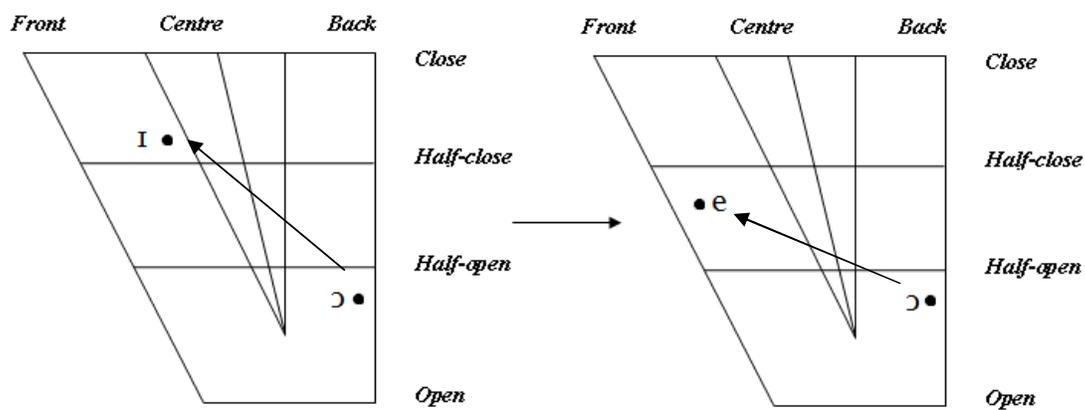
R P   / ɔɪ /

Figure 2.71

Bodo / ɔe /

Figure 2.72

/əʊ/

In R.P. /əʊ/ is a vowel glide from /ə/, the unrounded central vowel in between half-close and half-open position, to /ʊ/, the unrounded centralized back vowel just above half-close position, as in, go. Bodos pronounce is as /ɒ/, the rounded back vowel just below half-open position.

R P   **/ əʊ /**   **Bodo** **/ ɒ /**
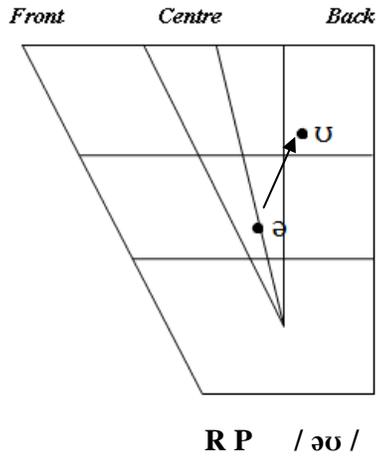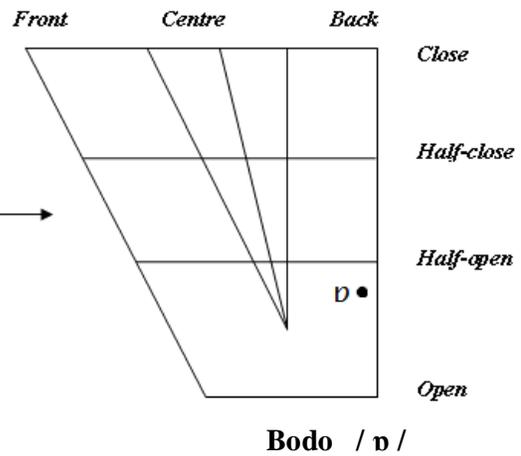
Figure 2.73   Figure 2.74

/ɪə/

In English /ɪə/ is a vowel glide from /ɪ/, the unrounded centralized front vowel, to /ə/, the unrounded central vowel in between half-close and half-open, as in dear /dɪə/. Bodos pronounce it as the vowel glide from /ɪ/, the unrounded centralized front vowel, to /a/, the central front vowel.

R P   **/ ɪə /**   **Bodo** **/ ɪa/**
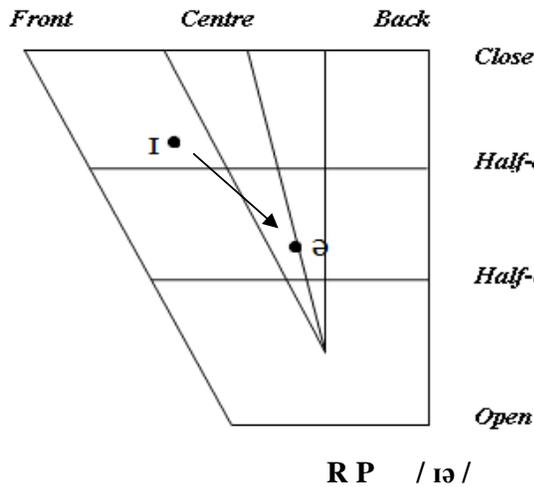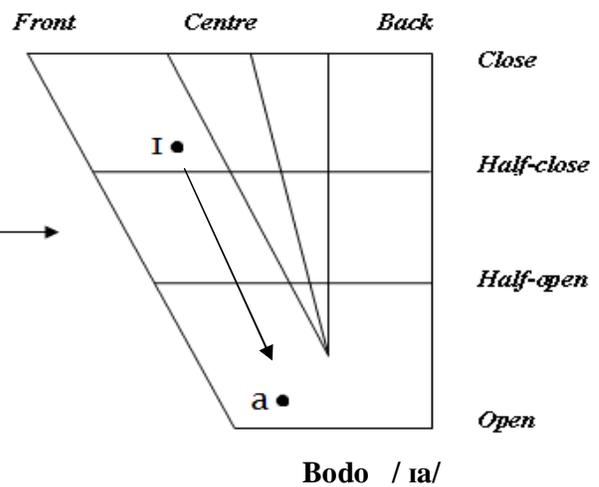
Figure 2.75   Figure 2.76

/eə/

In English /eə/ is a vowel glide from /e/, the unrounded front vowel in between half-close and half-open, to /ə/, the unrounded central vowel in between half-close and half-open, as in, area /eərɪə/. But Bodos pronounce it either as /e/, as in, area /erɪə/ or as /ea/, the vowel glide from the unrounded front vowel in between half-close and half-open to unrounded front just above open position, as in, hare /heə/, caring, [kʰearɪŋ].
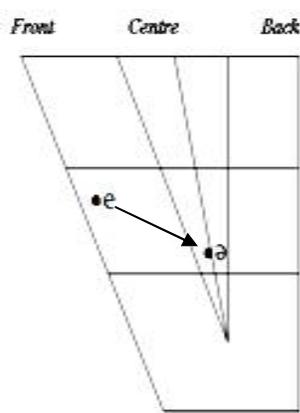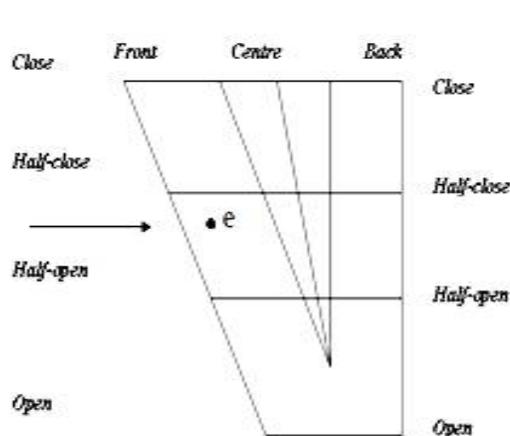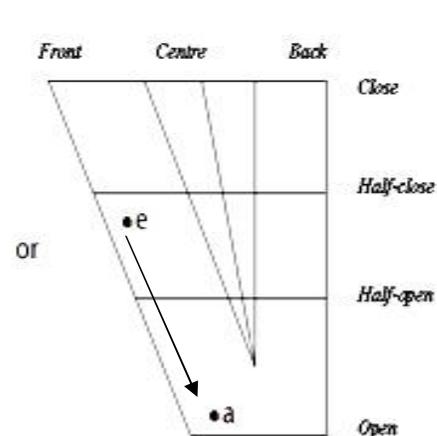
R. P. / eə /	Bodo /e/	Bodo / ea /
Figure 2.77	Figure 2.78	Figure 2.79

/ʊə/

In R.P. /ʊə/ is a vowel glide from unrounded centralized back vowel /ʊ/ to /ə/, the unrounded central vowel in between half-close and half-open positions, as in, poor /pʊə/. Bodos have the tendency to pronounce it as either /ʊ/ or /ɒ/, as in, tour [tʰʊr] and poor [pʰʊr].

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R. P. / ʊə /   **Bodo / uː /**   **Bodo / ɔː /**
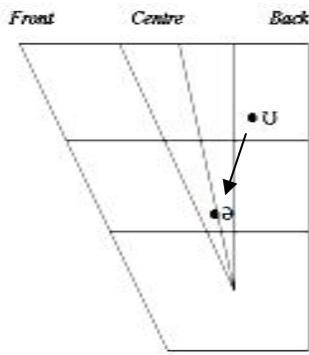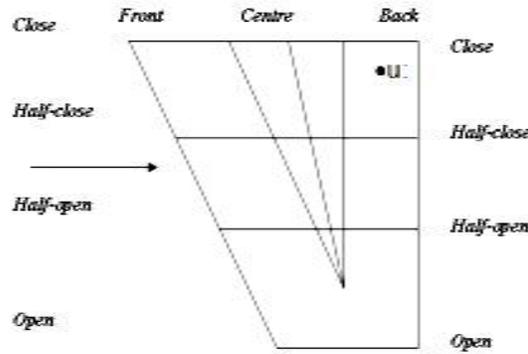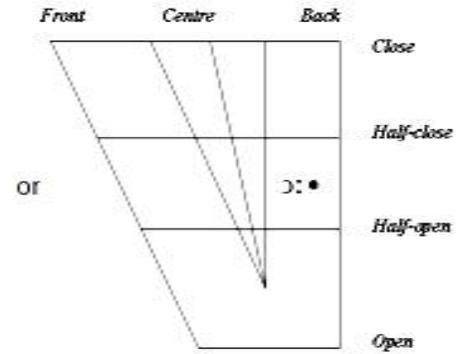
Figure 2.80   Figure 2.81   Figure 2.82

2.3.5.1.5 Pronunciation of R.P. consonants that are absent in Bodo

Bodo has 16 consonant sounds in comparison to the 24 of English R.P. Bodo does not have the following consonants in its consonants system.

/p/, /t/, /k/, /tʃ/, /dʒ/, /f/, /v/, /θ/, /ð/, /ʃ/and /ʒ /.

Hence, they are often confused in regard to the accurate pronunciation of these consonants.

/p/

In R.P. /p/ is a voiceless bilabial consonant. [pʰ] is one of its allophones. But Bodos have the tendency to pronounce /p/ as [pʰ], the aspirated voiceless bilabial plosive. They do so when /p/ is in isolation as well as in various positions of words. Their confusion continues even when /p/ is in an unstressed position of a word, as in, spin [spʰin].

/t/

In R.P. /t/ is a voiceless alveolar plosive and [tʰ] is one of its allophones. Bodos mostly use /t/ as the aspirated voiceless alveolar plosive [tʰ] almost in every position of a word, as in, top [tʰɒp], stop [stʰɒpʰ], and hat [hætʰ].

/k/

In R.P. /k/ is a voiceless velar plosive and the aspirated voiceless velar plosive [kʰ] is an allophone of /k/. But Bodos use /k/ as [kʰ] both in isolation and in words, as in, king [kʰɪŋ], maker [mekʰar], mimic [mɪmɪkʰ].

/f/

In English /f/ is a voiceless labio-dental fricative, as in, fine /faɪn/. Bodos use it as voiceless aspirated bilabial plosive [pʰ], as in, five [pʰaɪb].

R P   /f/   **Bodo   [pʰ]**

Figure 2.83   Figure 2.84

/v/

In R.P. /v/ is a voiced labio-dental fricative, as in, van /væn/. Bodos pronounce it as /b/, the voiced bilabial plosive. Some have also been found using /v/ as voiced aspirated bilabial plosive /bʰ/, as in, five [pʰaɪbʰ], vine [bʰaɪn], and victim [bʰɪktʰɪm].

R P   /v/   **Bodo   [bʰ]**

Figure 2.85   Figure 2.86

/θ/

In R.P. /θ/ is a voiceless dental fricative, as in, thanks /θæŋks/. Bodos almost uniformly pronounce it as the voiceless aspirated plosive /tʰ/, as in, thin [tʰɪn].

R P   / θ /   **Bodo   [tʰ]**
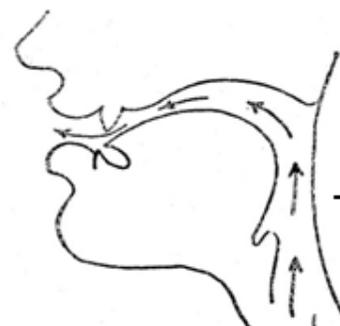
Figure 2.87   Figure 2.88

/ð/

In R.P. /ð/ is a voiced fricative, as in, they /ðeɪ/. Bodos use it as /d/, the voiced alveolar plosive, as in, [dæn].

R P   / ð /   **Bodo   /d/**
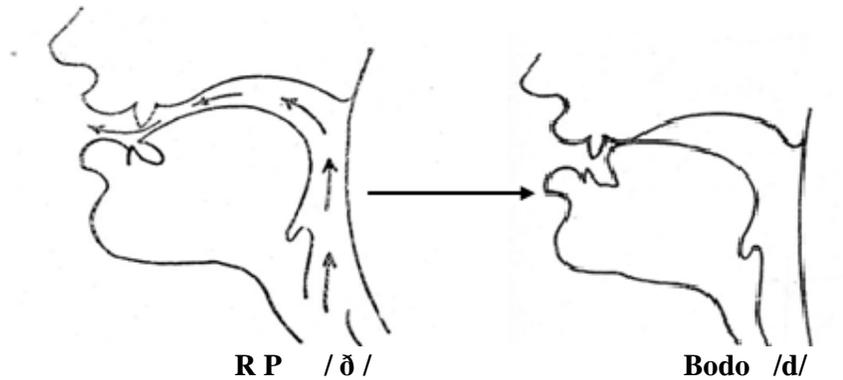
Figure 2.89   Figure 2.90

/ʃ/

In R.P. /ʃ/ is voiceless palato-alveolar fricative, as in, she /ʃiː/. But Bodos pronounce it as /s/, the voiceless alveolar fricative, as in sugar [sʊgar], and push [pʰʊs].

R P   / ʃ /   **Bodo   /s/**
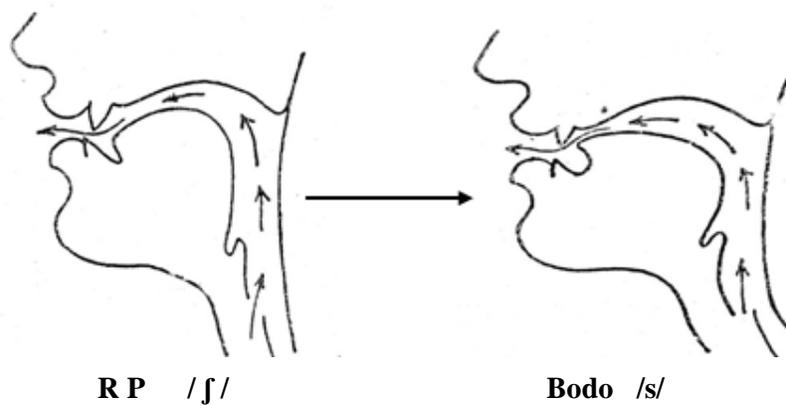
Figure 2.91   Figure 2.92

/ʒ/

In R.P. /ʒ/ is a voiced palato alveolar fricative, as in, measure /meʒə/. Bodos pronounce it as /z/, the voiced alveolar fricative, as in, pleasure [pʰlezʌr].

R P / ʒ /   **Bodo /z/**
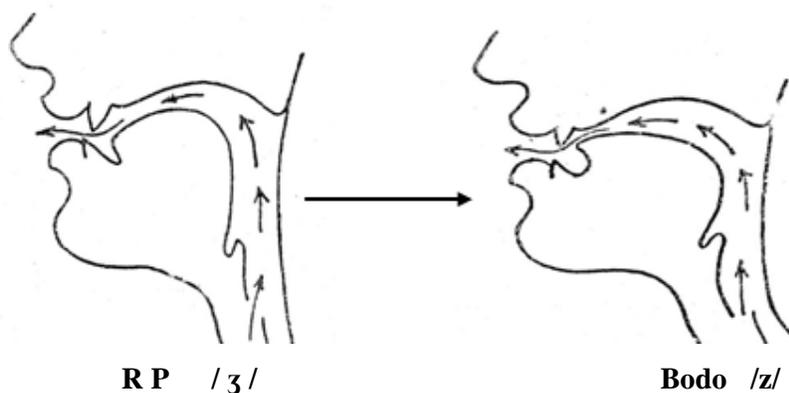
Figure 2.93   Figure 2.94

/ʧ/

In R.P. /ʧ/ is a voiceless palato-alveolar affricate, as in, chair /ʧeə/. Bodos make it voiceless post-alveolar fricative. Some also pronounce it as /s/, the voiceless alveolar fricative, as in, chin /sɪn/, nature /nesʌr/.

R P / ʧ /   **Bodo /s/**
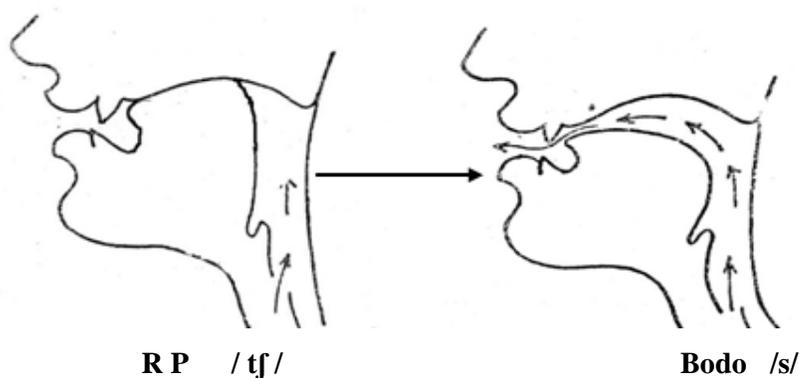
Figure 2.95   Figure 2.96

/ʤ/

In English /ʤ/ is a voiced palato alveolar affricate, as in, jam /ʤæm/. Bodos pronounce it as /z/, the voiced alveolar fricative, as in, bridge /brɪz/, suggest /sʌzes/.
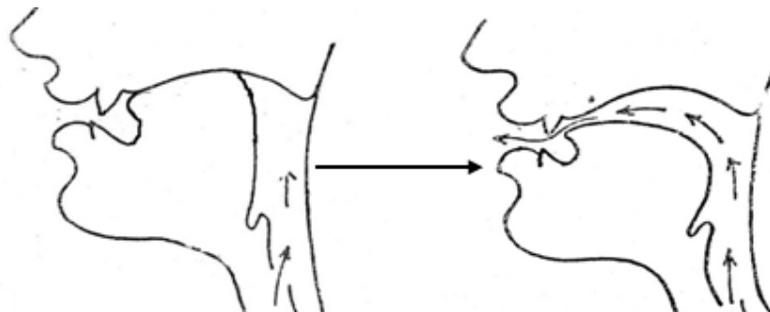
R P /ʤ/   **Bodo /z/**

Figure 2.97   Figure 2.98

2.4 Conclusion

The Bodo and English vowel and consonant systems do have considerable differences. Bodo vowel system does not have a single long vowel. Hence, they largely confuse in uttering the long vowels of R.P. Besides, Bodos also confuse in pronouncing /æ/ and /ə/ as they are absent in Bodo. They can hardly differentiate the use of /u/ and /u:/, /ɒ/ and /ɔ:/, /ʌ/ and /ɜ:/, /ʌ/ and /ɑ:/, /e/ and /æ/ and /ʌ/ and /ə/. Mostly, they go with the first option of the given pairs wherever such alternative use is applicable. It leads to another problem, namely, the use of stress, as the use of stress often requires the use of long vowels and /æ/, the unrounded front vowel below the half open position. As far as the use of vowels is concerned, Bodo has a frequent use of /ɯ/, the centralized back close vowel. It provides the language a unique stamp.

Being a tonal language, expectedly, Bodo has lesser number of consonants in comparison to the R.P. The tonal characteristic makes Bodo consonants more dynamic as to have two to three uses as far as the shift of meaning of homograph is concerned. The number of Bodo consonant is only 16 against the 24 of English R.P. The consonants of R.P. that are absent in Bodo are /p/, /t/, /k/, /tʃ/, /dʒ/, /f/, /v/, /θ/, /ð/, /ʃ/and /ʒ /. Hence, when they have to use them while speaking English, often they are confused to use them accurately. Mostly, they falter in the proper use of place and manner of articulation while uttering these consonants. Here again, they are often confused to differentiate the use of /p/ and [pʰ], t and [tʰ], /k/ and [kʰ], /f/ and [pʰ], /v/ and /b/ or [bʰ], /θ/ and [tʰ], /ð/ and /d/, /ʃ/ and /s/, /ʒ/ and /z/, /ʧ/ and /s/, and /dʒ/ and /z/. Mostly, they pronounce the second option of the given alternatives.

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CHAPTER IV

The Consonant and Vowel Clusters of Bodo and English

4.1 Introduction

The study of phonemic clusters is one of the most important aspects of linguistic analysis of any language. English has a long list of clusters, particularly, consonant clusters, which often cause considerable problem for a non native speaker of English. Many languages in the world are considerably restrictive in using consonant clusters. The same is visible in many East and West Asian languages like Chinese, Vietnamese and Indian. Hence, these people find it difficult to pronounce the various clusters of English. Often they develop the tendency to simplify the consonant clusters by inserting a vowel. Thus, for example, a Punjabi speaker tends to insert /ə/ in uttering /sk/ cluster in the word *school*. They often pronounce /sku:l/ as /səku:l/. Similarly, some Bangladeshi speakers insert the vowel /ɪ/ before /s/ while uttering /sl/ clusters in the words like *sleep*. They make it sound /ɪslɪp/. Bodos are not an exception when it comes to uttering the clusters of English, particularly, the word ending clusters. In comparison to English, Bodo has lesser number of complex clusters of greater phonemic combinations. However, the number of their vowel cluster exceeds English by far.

4.2 Hypothesis

The hypothesis for this chapter is listed below.

1. The patterns of consonant and vowel clusters of Bodo and English differ considerably.

2. Bodos struggle to utter some of the complex combinations of English phonemic clusters. Particularly, they struggle to utter some of the initial and most of the final consonant clusters of English.

4.3 The Findings

4.3.1 Cluster: definition

When more than one phoneme is clustered together, they are called phonemic clusters. Some linguists divide clusters as intra syllabic and inter syllabic. If the cluster belongs to a single syllable, it is called intra syllabic cluster. Thus, /k/ and /l/ form a cluster in the word *class* as they make a sequence within the same syllable. On the other hand, when more than one phoneme belonging to different syllables make a cluster, they are called inter syllabic clusters. Thus, in the word import /m/ and /p/ are making a cluster despite belonging to two different syllables – 'im' and 'port' (Baral, 2014, Para. 1).

Clusters should not be confused with diagraphs. Diagraphs are the sequence of more than one letters but pronounced as one. Though these are a group of successive letters, but their phonemic value is of a single sound. Thus, for example, in English, *sh* in *shame* and *ch* in *charm* are the examples of diagraphs. Similarly, *oa* in *baord* and *ea* in *meal* are examples of diagraphs of vowels.

In linguistics, clusters may broadly be divided as vowel clusters and consonant clusters. But before we go to the details of these divisions, we must discuss the definition and structure of syllables as phonemic cluster is related to syllables of a language.

4.3.1.1 Syllable

Definition

In phonology, the sound unit next in hierarchy to phoneme is the syllable. It is the unit of sound made of an obligatory vowel and with or without the consonant surrounding it. According to the Pulse theory, a syllable is the result of the Chest Pulse, each chest pulse producing the syllable (as cited in Hosali and Parasher, 1996, p. 2).

Division

A word might consist of one or many syllables. Accordingly, they are called monosyllabic, disyllabic, tri-syllabic and polysyllabic. The syllables in a word are separated either by hyphens (-) or dots (.).

Examples:

Monosyllabic word : rat, day, a, I

Disyllabic word : re-mark, so-rry

Tri-syllabic word : ci-vi-lise, po-ta-to

Polysyllabic word : Po-pu-la-tion, e-lec-tri-ci-ty.

Marking the syllable boundary sometimes might be relatively complex affair. Thus, the word 'teacher' can be divided either as *tea-cher* or *teach-er* (Balasubramanian, 2008, p. 65). Similarly, the words with consonant clusters can be divided into two different ways. For example:

Escape   :   /ɪ-skeɪp/ or /ɪs-keɪp/

Extra   :   /ek-strə/ or /eks –trə/

Thus, there is no such hard and fast rule in dividing such words into syllables as long as the divisions do not violate the phonological rules of language (Ibidem, p. 65).

Structure

A syllable is the larger segment of speech sound than phonemes. As is stated above, it is made of consonant and vowel. Thus, it might consist of one or more phonemes. Vowel is the obligatory element in a syllable. It is also the central element or nucleus. On the other hand, consonants are the marginal elements in a syllable. If the consonant is in the beginning of a syllable, it is called releasing consonant. Similarly, if the consonant is in the end of a syllable, it is called arresting consonant. *V* is the symbol that represents vowel and *C* represents consonants in a syllable structure. However, sometime, even a consonant might be represented by V if it is a syllabic consonant. The sonorant consonants /m/, /n/ and /l/ often function as syllabic consonant, as in,

Sudden   :   /sʌ-dn/

Prism   :   /prɪ-zm/

Brittle   :   /brɪ-tl/

Here, like vowels, these phonemes have inherent sonority and are able to form the nucleus. Syllables are also named as closed syllables, if it is ended with a consonant. On the other hand, it is called an open syllable, if it is ended with a vowel.

Traditionally, a syllable structure is divided in a following way.

```
                    ┌──────────┐
                    │ Syllable │
                    └──────────┘
                   ┌──────┴──────┐
              ┌─────────┐   ┌─────────┐
              │  Onset  │   │  Rhyme  │
              └─────────┘   └─────────┘
                          ┌──────┴──────┐
                     ┌────────┐    ┌────────┐
                     │  Peak  │    │  Coda  │
                     └────────┘    └────────┘
```
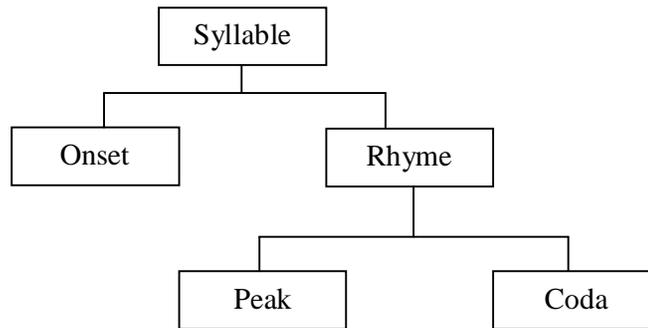
Syllable Structure   (Roach, 2000, pp. 76-77).

Table 4.1

Initially, a syllable is divided into an onset and a rhyme. The sound that occurs before the nucleus is called *onset*. The *rhyme* consists of the vowel which is termed as peak and the sound that follows the nucleus is termed as *coda*. As stated earlier, the *onset* and *coda* are optional elements, whereas, the *peak* is the obligatory element in a syllable.

Examples of various syllable structures in English

V

I   /aɪ/

Are   /ɑ:/

A   /eɪ/

CV

Day   /deɪ/

Know   /nəʊ/

Tea   /tiː/

VC

eat   /iːt/

us   /ʌs/

all   /ɔːl/

CVC

Phone   /fəʊn/

Cut   /kʌt/

Cat   /kæt/

CVCC

Bags   /bægz/

bold   /bəʊld/

CCVC

Stream /striːm/

Scream /skriːm/

CCVCC

stops /stɒps/

CCCVC

Strong /strɒŋ/

Splash /splæʃ/

CVCCC

Fixed /fɪkst/

tempt /tempt/

CVCCCC

texts /teksts/

Tempts /tempts/

CCVCCCC

twelfths   /twelfθs/

4.3.1.2 Vowel Cluster

When more than one vowel occurs next to each other in sequence, then it is called a vowel cluster. However, a vowel cluster should not be confused with diphthongs. Diphthongs are considered as a single vowel whereas vowel clusters are sequence of more than one vowel. In this sense vowel clusters can't be intra syllabic. However, they might be inter-syllabic. Some examples of such inter syllabic vowel clusters are mentioned below (Baral, 2014, Para. 3)

Inter syllabic vowel clusters within the word

/aɪ+ə/   :   Buyer, flyer, iron

/ aʊ +ə /   :   Bower, flower, tower

/ eɪ+ə /   :   player

/əʊ+ə /   :   follower, grower

/ɔɪ+ə /   :   employer, royal

Inter syllabic clusters in connected speech

/aɪ+ə / :   I am

/əʊ+aʊ/:   go out

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/aɪ+əʊ/ :   my own

/eɪ +aɪ/ :   gray eyed.

4.3.1.3 Consonant clusters

Consonant clusters are defined as the sequence of consonants without any intervening vowels. A group of linguists limits cluster within one syllable, whereas, some opine that consonants can form clusters across the syllable boundary. In this sense, consonant clusters might be intra-syllabic and inter syllabic. As we have already mentioned earlier, the consonant group of /vm/ in the word *movement* can be cited as the example of inter syllabic consonant cluster. But the consonant clusters that are uniformly accepted are the ones that occur within the same syllable, that is, the intra syllabic clusters.

In our discussion of syllable structure, it is noticed that a syllable might have up to three consonants before and up to four consonants after the nucleus. Such sequence of two or more consonants before or after the nucleus is popularly known as the consonant cluster (intra). When two or three consonants occur at the beginning of a syllable, the sequence is called an initial consonant cluster, for example, /pl-/ in the word *play*. On the other hand, if two or four consonants occur at the end of a syllable, the sequence is called the final consonant cluster, as in, /-st/ in the work *test*.

Initial Clusters

Structure	First Member	Cluster	word	RP formation
CC-	/p/	/pj-/	Pupil	/pju:pl/
		/pl-/	place	/pleɪs/

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/b/	/bj-/	beautiful	/bju:tɪfl/
	/bl-/	blade	/ bleɪd/
	/br-/	bright	/braɪt/
/t/	/tj-/	Tube	/tju:b/
	/tr-/	train	/ treɪn/
	/tw-/	twinkle	/twɪŋkl/
/d/	/dj-/	dew	/dju:/
	/dw-/	dwell	/dwel/
	/dr-/	dream	/dri:m/
/k/	/kj-/	curious	/kjʊrɪəs/
	/kw-/	Quote	/kwɒt/
	/kl-/	clea	/kli:n/
	/kr-/	cream	/kri:m/
/g/	/gl-/	glad	/glæd/
	/gr-/	grain	/greɪn/
/f/	/fj-/	funeral	/fju:nərəl/
	/fl-/	fly	/ flaɪ/
	/fr-/	frame	/freɪm/
/v/	/vj-/	view	/vju:/

/θ/	/θr-/	thrice	/θraɪs/
/s/	/sp-/	spoon	/spuːn/
	/st-/	state	/steɪt/
	/sk-/	sky	/skaɪ/
	/sm-/	small	/smɔːl/
	/sn-/	snake	/sneɪk/
	/sl-/	sleep	/sliːp/
	/sw-/	sweet	/swiːt/
/h/	/hj-/	hue	/hjuː/
/m/	/mj-/	music	/mjuːzɪk/
/n/	/nj-/	new	/njuː/

CCC-	/s/	/spl-/	splash	/splæʃ/
		/str-/	straight	/streɪt/
		/spr-/	sprain	/spreɪn/
		/stj-/	student	/stjʊdənt/
		/skr-/	Scream	/skriːm/
		/skw-/	square	/skweə/

(Hosali & Parasher, 1996, pp. 9-10)

The final clusters

Structure	First Member	Cluster	word	RP formation
-CC	/p/	/-pt/	Adapt	/ədɒpt/
		/-pθ/	depth	/depθ/
		/-ps/	caps	/kæps/
	/b/	/-bd/	robbed	/rɒbd/
		/-bz/	rubs	/rʌbz/
	/t/	/-tθ/	Eighth	/eɪtθ/
		/-ts/	cats	/kæts/
	/d/	/-dθ/	width	/wɪdθ/
		/-dz/	heads	/hedz/
	/k/	/-kt/	fakt	/fækt/
		/-ks/	fix	/fɪks/
	/g/	/-gd/	begged	/begd/
		/-gz/	eggs	/egz/

/tʃ/	/-ʧt/	Reached	/riːʧt/
/dʒ/	/-dʒd/	judged	/dʒʌdʒd/
/f/	/-ft/	soft	/ sɒft /
	/-fθ/	fifth	/fɪfθ/
	/-fs/	laughs	/lɑːfs /
/v/	/-vz/	Lives	/laɪvz/
	/-vd/	loved	/ lʌvd/
/θ/	/-θs/	fourths	/ fɔːθs/
/ ð /	/-ðd/	breathed	/briːðd/
	/- ðz/	breathes	/ briːðz /
/s/	/-sp/	clasp	/klæsp/
	/-st/	test	/test/
	/-sk/	ask	/ɑːsk /
/z/	/-zd/	confused	/ kən.ˈfjuːzd /
/ʃ/	/-ʃt/	pushed	/ pʊʃt/
/m/	/-mp/	stamp	/stæmp/
	/-mθ/	warmth	/wɔːmθ/
	/-mz/	names	/neɪmz/
	/-md/	blamed	/bleɪmd /

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/n/	/-nθ/	month	/mʌnθ/
	/-nt/	tent	/tent/
	/-nd/	hand	/ hænd/
	/-ntʃ/	lunch	/ lʌntʃ /
	/- ndʒ/	change	/tʃeɪndʒ/
	/-ns/	chance	/ tʃɑːns/
	/-nz/	fans	/ fænz/
/ŋ/	/-ŋd/	hanged	/ hæŋd/
	/-ŋk/	tank	/tæŋk/
	/-ŋθ/	length	/leŋθ/
	/-ŋz/	hangs	/hæŋz/
/l/	/-lp/	help	/help/
	/-lb/	bulb	/bʌlb/
	/-ld/	cold	/ kəʊld/
	/-lk/	milk	/mɪlk/
	/-lt/	belt	/belt/
	/-lf/	self	/self/
	/-lv/	solve	/sɒlv/
	/-lθ/	health	/helθ/

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| | /-lθ/ | health | /helθ/ |

		/-ls/	false	/fɔ:ls/
		/-lm/	film	/fɪlm/
		/-ln/	kiln	/ kɪln/
		/-lz/	balls	/bɒlz/

Structure	Last Member	Cluster	word	RP formation
-CCC	/t/	/-dst/	midst	/mɪdst/
		/-kst/	fixed	/fɪkst/
		/-spt/	clasped	/klæspt/
		/-skt/	asked	/ɑ:skt/
		/-mpt/	attempt	/ ətempt/
		/-ntʃt/	launched	/lɔ:ntʃt/
		/-nst/	against	/ əgenst/
		/-ŋkt/	thanked	/ θæŋkt/
		/-lpt/	helped	/helpt/
		/-lkt/	milked	/mɪlkt/
	/d/	/ ndʒd/	changed	/ tʃeɪndʒd/
		/-lvd/	solved	/ sɒlvd/
	/ θ/	/-ksθ/	sixth	/sɪksθ/
		/-lf θ/	twelfth	/twelfθ/

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/s/	/-pts/	adopts	/ədɒpts/
	/-pθs/	depths	/depθs/
	/-tθs/	eights	/eɪtθs/
	/-fts/	lifts	/lɪfts/
	/-fθs/	fifths	/fɪfθs/
	/-sps/	clasps	/klæsps/
	/-sts/	beasts	/bɪsts/
	/-sks/	asks	/ʌsks/
	/-mps/	lamps	/læmps/
	/-nθs/	tenths	/tenθs/
	/-ŋks/	banks	/bæŋks/
	/-lps/	helps	/helps/
	/-lts/	belts	/belts/
	/-lks/	silks	/sɪlks/
/z/	/-ndz/	hands	/hændz/
	/-lbz/	bulbs	/ bʌlbz/
	/-ldz/	builds	/ bɪldz /
	/-lvz/	solves	/ sɒlvz /

		/-lmz/	films	/filmz/
		/-lnz/	kilns	/ kɪlnz/
-CCCC	/s/	/-ksts/	Texts	/teksts/
		/-ksθs/	Sixths	/sɪksθs/
		/-mpts/	prompts	/prɒmpts/
		/-mpst/	glimpsed	/ glɪmpst /
		/-lfθs/	Twelfths	/twelfθs/

(Bansal & Balasubramanian, n.d., pp. 115-120)

From the above examples we can conclude that English doesn't allow all kinds of potential combinations of its consonants in words or syllables. Thus, /ʧ, ʤ, ð, z/ don't combine with any consonant in initial position of syllables, /r, j, w/ occur in clusters only as the final element, in initial ccc- clusters the first consonant is always /s/ and in –cccc clusters /s/ or /t/ occurs as the last consonant (Sethi & Dhamija, 2011, pp. 125-130).

4.3.1.4 Bodo Syllable Structure

Since Bodo is a tonal language each syllable in Bodo co-occurs with a tone which may bring about a change in meaning. Hence, the variety of syllable structure is relatively limited in comparison to English. Besides, the lesser number of consonant clusters also limits the syllable structure variety of Bodo. Normally, the Bodo syllable structures can be divided in the following manner.

Syllable structure	Bodo word	Meaning
V	/aɪ/	mother
	/eʊ/	to try
CV	/dʌ/	now
	/hɯ/	to give
	/be/	this
	/bʊ/	to beat
	/rʊ/	to boil
	/nʊ/	to see
	/gɪ/	to fear
CCV	/brwɪ/	four
	/srɪ/	silent
	/srʌ/	completely
	/sraɪ/	orderly
CCVC	[mawpʰrʌmdɒn]	doing partially
	/slɪm/	polished
CVCC	/gʊndlʌ/	man of ugly face

CVC	/bʌr/	wind
	/gɒŋ/	horn
	/lɪr/	to write
	/sʌn/	the sun
	/dwn/	to keep
	[tʰʌr]	surely
	/lʌm/	to open
	/bɒn/	fuel
	/kʰɒn/	to pick up
VC	/em/	mat
	/ʊn/	to sharpen
	/ɒr/	to bite
	/ʌŋ/	I
VCC	/mɪzɪŋk/	hope

From the above discussion it is noticed that the syllable options of Bodo are relatively limited. It takes maximum two consonants as onset and two as coda.

4.3.1.5 Phonemic Clusters in Bodo

Bodo has a considerable number of vowel clusters. However, the numbers of consonant clusters are relatively limited in Bodo.

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4.3.1.5.1 Bodo vowel clusters

If more than one vowel is used together in a word, they are called vowel clusters. Bodo vowel clusters may be divided into intra syllabic vowel clusters and inter syllabic vowel clusters. However, here we will not discuss the intra syllabic vowel clusters as they have already been termed and explained as diphthongs in chapter II. Other than diphthongs as intra syllabic vowel clusters, Bodo also have a considerable number of three vowel clusters which Madhu Ram Boro (2008) terms as triphthongs (p. 13). The Bodo linguists are not unanimous if these are clusters or triphthongs. To be a triphthong, the clusters must have the intra-syllabic nature. They must be used as the nucleus of the same syllable. But if analyzed closely, they tend to belong to two separate syllables. Hence, we have grouped them as inter syllabic vowel clusters in our study. Most of these three vowel clusters seem to occur either independently or in word final positions (Basumatary, 2005, p. 25). The most common Bodo inter syllabic three vowel clusters of Bodo are mentioned below.

Cluster	**Bodo**	**Meaning**
/aʊa/	/baʊa/	not to forget
/wʊa/	/wʊa/	bamboo
/wɪw/	/tʰwɪw/	dies
/aɪw/	/zaɪw/	eats
/ʊɪw/	/bʊɪw/	beats
/ɪaɪ/	/sɪaɪ/	to yawn
/ɪaɔ/	/sɪaɔ/	in cloth
/ɔʊw/	/kʰ ɔʊw/	open

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/eaɔ/	/zeaɔ/	in net
/waɔ/	/dwaɔ/	in the pot
/ɔaɔ/	/nɔaɔ/	in the house
/ʊaɪ/	/rʊaɪ/	to feel fatigued

4.3.1.5.2 Bodo consonant clusters

Bodo has both inter syllabic and intra syllabic consonant clusters. Besides, they also have consonant clusters resulted from germination. However, unlike English Bodo certainly have lesser consonant combinations in their consonant cluster system. They have only two to three consonant clusters.

Germination or identical two consonant clusters

Cluster	**Bodo Word**	**Meaning**
/bb/	/zɒbbɒ/	with slash
/dd/	[pʰwddʌ]	in vain
/ɡɡ/	/ɡwɡɡʌ/	proud
/zz/	/ɡwzzʌ/	red
/kʰkʰ/	/ɡwkʰkʰa/	bitter
/ll/	/zʌllʌ/	trouble
/mm/	/zɒtʰʊmmʌ/	conference

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| /nn/ | /ɒnnaɪ/ | affection |

(Basumatary, 2005, p. 26)

Bodo inter syllabic consonant clusters

Structure	Cluster	Bodo Word	Meaning
CC	[pʰn]	[dʌpʰna]	thigh of beasts
	/bn/	/bɪbnʌn/	wife's younger sister
	/sm/	/zʌsmaɪ/	to eat properly
	/gm/	/bɪgmʌ/	ower
	[ltʰ]	[sʌltʰɪ]	addressing sister's husband
	[ztʰ]	[gʊztʰɪ]	lip
	/ld/	/sʌldʌŋ/	a kind of children's game
	[kʰtʰ]	[bw kʰtʰʌb]	to embrace
	/zn/	/ʌznaɪ/	sty on eyelid
	/nz/	/ʌnzʌd/	examination
	/ntʰ/	[kʰɒnntʰaɪ]	poem
	/ns/	/ɒnsaɪ/	to remember
	/bz/	[tʰwbzʌ]	clustered
	/mb/	/zʌmbʌ/	fool

CCC	[kʰmn]	[hʌkʰmn]	hidden land
	/nsr/	/sɒnsrʌ/	empty
	/mbr/	/dʌmbrʌ/	young bull
	[mpʰl]	[dʌmpʰlʌ]	flat
	/nzl/	/ʌnzled/	indistinct
	/nbr/	[pʰʌnbre]	to coil up inextricably
	[nkʰr]	[hʌŋkʰraɪ]	to call
	[ntʰl]	[kʰʊtʰlaɪ]	flying cotton fibre
	/rsl/	[kʰʊrslɪ]	ladle
	[bkʰl]	[kʰebkʰlʌb]	to pinch
	/ŋsl/	[kʰeŋslʌ]	slant
	[ŋkʰl]	[sɒŋkʰlɒ]	to jerk
	[ŋkʰr]	[kʰeŋkʰrʌ]	bent
	/ŋgr/	/dʊŋbrʊd/	slightly warm
	/ŋbr/	/dʊŋbrʊd/	slightly warm
	/ŋsr/	/sɪŋsrɪ/	backbone
	/mbl/	/sʌmblaɪ/	to control
	[mpʰr]	[sʊmpʰrʌm]	guava

(Basumatary, 2005, pp. 28-29)

Bodo intra syllabic consonant cluster

Structure	Cluster	Bodo Word	Meaning
CC	[kʰr]	[zwkʰʊb]	to kick and break
	[kʰl]	[bwkʰlʌ]	to pull out separately
	/ gr/	/zɪgrwn/	expert orator
	/gl/	/gʌglwb/	to attack
	/zr/	/gʌzrɪ/	bad
	/zl/	/dwɪzlʌ/	rainy season
	[tʰr]	[tʰrwb]	completely
	/dl/	/dlʌm/	abundant
	/dr/	/ʌdrɪ/	spoiled
	[pʰr]	[pʰrɪ pʰrɪ]	drizzling
	/br/	/brwɪ/	four
	/bl/	/ɒblʌ/	then
	/sn/	/snɪ/	seven
	/sr/	/sreŋ/	together
	/sl/	/slɪm/	smooth

(Ibidem, pp. 28-29)

4.3.2 Comparison of Bodo and English Clusters

A comparison of the vowel and consonant cluster patterns of Bodo and English brings some basic difference to our notice. Whereas English has a greater number of consonant clusters, Bodo has larger number of vowel clusters. Bodo has a number of word medially used clusters. Infact, they don't use consonant clusters in word final positions. Another distinctive feature of Bodo consonant cluster is that they don't have more than two intra syllabic consonant clusters. However, they do have up to three inter syllabic consonant clusters. /ŋ/ makes greater number of three syllabic inter syllabic clusters in Bodo.

One of the interesting differences of the vowel cluster pattern of Bodo and English is that none of the language has the three syllables inter syllabic vowel clusters in their respective vowel cluster patterns.

4.3.2.1 The Three Vowel inter syllabic R.P. Vowel Clusters Absent in Bodo

/aɪ+ə/   :   Buyer, flyer, iron

/ aʊ +ə /   :   Bower, flower, tower

/ eɪ+ə /   :   player

/əʊ+ə /   :   follower, grower

/ɔɪ+ə /   :   employer, royal

/aɪ+ə /   :   I am

/əʊ+aʊ/   :   go out

/aɪ+əʊ/   :   my own

/eɪ +aɪ/   :   gray eyed.

4.3.2.2 The Three inter syllabic Bodo Vowel Clusters Absent in R.P.

Cluster	**Bodo**	**Meaning**
/aʊa/	/baʊa/	not to forget
/wʊa/	/wʊa/	bamboo
/wɪw/	/tʰwɪw/	dies
/aɪw/	/zaɪw/	eats
/ʊɪw/	/bʊɪw/	beats
/ɪaɪ/	/sɪaɪ/	to yawn
/ɪaɔ/	/sɪaɔ/	in cloth
/ɔʊw/	/kʰɔʊw/	open
/eaɔ/	/zeaɔ/	in net
/waɔ/	/dwaɔ/	in the pot
/ɔaɔ/	/nɔaɔ/	in the house
/ʊaɪ/	/rʊaɪ/	to feel fatigued

4.3.2.3 List of the common R.P. initial consonant clusters absent in Bodo

/j/ as one of the member of the cluster

/pj-/ Pupil

/bj-/ beautiful

/hj-/	hue
/fj-/	funeral
/sj-/	suit
/vj-/	view
/kj-/	curious
/mj-/	music
/dj/	Dew
/nj-/	new

/w/ as one of the member of the cluster

/dw/	dwindle
/kw/	quote
/sw/	swear

/f/ as the first member of the cluster

/fl/	flight
/fr/	fry
/fj/	future

/v/ as one of the member of the cluster

/vj/   view

/θ/ as one of the member of the cluster

/θ/   thrice

/s/ one of the member of the cluster

/sp/   spoon

/st/   state

/sk/   sky

/sk/   split

/str/   strong

/spr/   spring

/stj/   stupid

/skr/   scream

/skw/   square

4.3.2.4 The list of Bodo consonant clusters absent in English

Unlike Bodo, English does not have the use of any two identical consonant clusters or germination. Besides, English also does not have many of the intra-syllabic consonant clusters of Bodo. Some such Bodo clusters are mentioned below.

Cluster	**Bodo word**	**meaning**
/zr/	/gʌzrɪ/	bad
/zl/	/dwɪzlʌ/	rainy season
/dl/	/dlʌm/	abundant

4.3.2.5 Some other noteworthy differences of Bodo and English clusters are:

1. Unlike English Bodo does not have any word final consonant clusters.
2. English does not have any of the-inter syllabic three vowel clusters of Bodo.
3. English lacks most of the inter-syllabic consonant cluster of Bodo.

4.3.3 Pronunciation of English clusters by the Bodos

Bodos are often confused in uttering the English clusters accurately. The influence of MT and lack of awareness of rule and practice of the English clusters result them to pronounce most of the English clusters after the process of simplification either by inserting a vowel before or in between the consonant clusters or by dropping or rearranging the phonemes.

Some examples of the initial RP consonant cluster as pronounced by the Bodos

Structure	Cluster	word	RP pronunciation	Bodo pronunciation
CC-	/pj-/	Pupil	/pju:pl/	[pʰi:pʰl]
	/bj-/	beautiful	bju:tɪfl/	[bi:tʰi:fl]
	/tj-/	Tube	/tju:b/	[tʰi:b]
	/dj-/	dew	/dju:/	/dɪʊ/
	/kj-/	curious	/kjʊrɪəs/	[kʰɪʊrɪas]
	/kw-/	Quote	/kwɒt/	[kʰɔ:tʰ]
	/fj-/	funeral	/fju:nərəl/	[pʰi:nʌrel]
	/θr-/	thrice	/θraɪs/	[tʰraɪs]
	/sp-/	spoon	/spu:n/	[ɪspʰʊn]
	/st-/	state	/steɪt/	[ɪstʰeɪtʰ]
	/sk-/	Sky	/skaɪ/	[ɪskʰaɪ]
CCC-	/spl-/	splash	/splæʃ/	[ɪspʰles]
	/spr-/	sprain	/spreɪn/	[ɪspʰreɪn]
	/stj-/	student	/stjʊdənt/	[ɪstʰʊdent]
	/skr-/	Scream	/skri:m/	[ɪskʰrim]
	/skw-/	square	/skweə/	[ɪskʰʊer]

The List of Some of the Final RP Consonant Clusters as Pronounced by the Bodos

Structure	Cluster	word	R.P. pronunciation	Bodo pronunciation
-CC	/-pt/	Adapt	/ədɒpt/	[edɒpʰ]
	/-pθ/	depth	/depθ/	[deptʰ]
	/-bd/	robbed	/rɒbd/	[rɒbtʰ]
	/-bz/	rubs	/rʌbz/	/rʌbs/
	/-tθ/	Eighth	/eɪtθ/	[ɔɪtʰ]
	/-dθ/	width	/wɪdθ/	[wɪtʰ]
	/-dz/	heads	/hedz/	/heds/
	/-gd/	begged	/begd/	[begtʰ]
	/-ʧt/	Reached	/riːʧt/	/rɪst/
	/-dʒd/	judged	/dʒʌdʒd/	/dʒʌst/
	/-vz/	Lives	/laɪvz/	[laɪpʰs]
	/-ðd/	breathed	/briːðd/	[briːtʰ]
	/-mp/	stamp	/stæmp/	[ɪstʰem]
	/-mθ/	warmth	/wɔːmθ/	[wʌrmtʰ]
	/-mz/	names	/neɪmz/	/nems/
	/-nθ/	month	/mʌnθ/	[mʌntʰ]
	/-nθ/	month	/mʌnθ/	[mʌntʰ]

	/-lθ/	health	/helθ/	[heltʰ]
	/-lz/	balls	/bɒlz/	/bɒls/
-CCC	/-dst/	midst	/mɪdst/	[mɪstʰ]
	/-kst/	fixed	/fɪkst/	[fɪkʰs]
	/-spt/	clasped	/klæspt/	[kʰlespʰ]
	/-skt/	asked	/ɑːskt/	[ʌkʰst]
	/-ntʃt/	launched	/lɔːntʃt/	[lʌnst/
	/-ksθ/	sixth	/sɪksθ/	[sɪsktʰ]
	/-pts/	adopts	/ədɒpts/	/edɒps/
	/-pθs/	depths	/depθs/	[depʰs]
	/-tθs/	eights	/eɪtθs/	[eɪtʰs]
	/-fts/	lifts	/lɪfts/	[lɪpʰs]
	/-sps/	clasps	/klæsps/	[kʰlæpʰs]
	/-sts/	beasts	/bɪsts/	/ biːs/
	/-sks/	asks	/ʌsks/	/ʌks/
	/-mps/	lamps	/læmps/	/lems/
	/-nθs/	tenths	/tenθs/	[tʰentʰs]
	/-ndz/	hands	/hændz/	/hens/
	/-lmz/	films	/fɪlmz/	/fɪlms/

-CCCC	/-ksts/	Texts	/teksts/	[tʰekʰs]
	/-ksθs/	Sixths	/sɪksθs/	[sɪkʰs]
	/-mpts/	prompts	/prɒmpts/	[pʰrɒmpʰs]
	/-lfθs/	Twelfths	/twelfθs/	[twelpʰs]

4.4 Conclusion

English and Bodo indeed greatly differ as far as their phonemic cluster patterns are concerned. English is a language dominated by a larger number of complex clusters. Thus, it can have up to three consonant initial clusters and up to four consonant final clusters. On the other hand, Bodo, like most other West Asian languages, is quite restrictive in using clusters. Mostly, it can have two consonant into its intra syllabic cluster system. Besides, they also do not have final consonant clusters. Hence, they are often inaccurate while uttering English consonant clusters. Particularly, they are mostly confused in uttering the final R.P. consonant clusters. As discussed above, they often go for deletion by dropping one or two consonants in three or four consonant clusters. They also insert an extra vowel to simplify the cluster, particularly in the clusters with /s/ and voiceless plosives. However, Bodo is quite rich in its variety of vowel clusters.

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CHAPTER-V

Summary and Conclusion

5.1 Findings

Despite having some commonality, Bodo and English differ considerably in their respective phonological systems. The former is a tonal language of Tibeto-Burman language group. Here, tone plays the key role in changing the lexical meaning (Baro, 1990, p.19). Hence, it has relatively lesser number of phonemes. On the other hand, English is a phonetic and syllable stressed language of Germanic Indo-European family. It has a greater variety of phonemes and consonant clusters. Being a syllable stressed language, the stress and intonation patterns of English are also very complex. Hence, influenced by the mother tongue, expectedly, Bodos are often confused in pronouncing English accurately. The concluding chapter makes an effort to summarize the common phonological errors of the English spoken by the Bodos followed by an analysis of the reasons and their likely solutions.

5.1.1 Various Errors Committed by the Bodos in Speaking English

Errors of Pronunciation of R.P. Phonemes by the Bodos

Bodo has only six monophthongs and sixteen consonants against the twelve monophthongs and twenty four consonant sounds of R.P. Hence, a Bodo speaker is not habituated in uttering many of the phonemes of R.P.(Basumatary, 2005, p.15). As a result, when speaking English, they tend to commit the errors that are mentioned below.

Audible aspirated release of the plosives in the word final position

In R.P., when the plosives are in word final positions, normally, there is no audible release of the phoneme in question. The symbol of such allophonic variant is marked as [$^>$], as in, [p$^>$]. But Bodos were observed to release them fully and with aspiration. Thus, when they speak, /p/ and /b/ becomes [p^h], as in, cap [kæp^h], /t/ and /d/ becomes [t^h], as in meat [mɪt^h], and /k/ and /g/ becomes [k^h], as in, make [mek^h].

Faulty or no aspiration

In R.P. /p, t, k/ are aspirated and pronounced as [p^h, t^h, k^h] when they occur initially in stressed syllables. However, after /s/ they are not aspirated even in stressed positions. But Bodos were noticed to have a uniform rule of aspiration in uttering voiceless plosives in every position. Thus, they tend to aspirate them even in unstressed positions and after /s/.

Shortening of long vowels

Since Bodos do not have long vowels in their mother tongue, they are often confused in differentiating the short and long vowels of English. They tend to utter the following pairs of words with short and long vowels in the same manner.

Pull   fool

Fill   feel

Cot   caught

Bud   bard

They mostly confuse the long vowels /iː,æ,ɜː,ɔː,ɑː,uː/ with the short vowels /ɪ, ʌ, e, ə, ʊ, w/.

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Shortening of the Diphthongs

Bodos are also found to have a tendency to shorten some of the diphthongs by dropping the second element of the vowel glide. Thus, they pronounce /eɪ/ as /e/, /əʊ/ as /ɒ/, /ʊə/ as /ʊ/ etc.

Assimilation of labio-dental fricatives and bilabial plosives

Bodos have difficulty in uttering the labio-dental fricatives /f/ and /v/. They have a tendency to pronounce them as aspirated voiceless plosive [pʰ] and aspirated voiced plosive [bʰ]. The following graph exemplifies the difference.
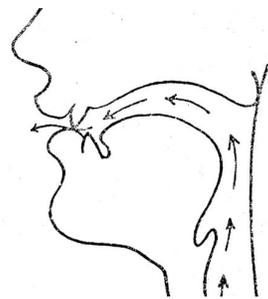
R.P. /f/ /v/ → Bodo [pʰ] [bʰ]
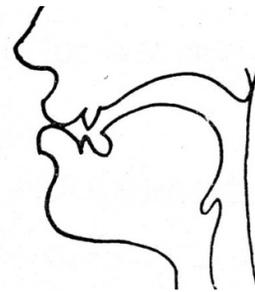
Figure 5.1 Figure 5.2

Assimilation of dental fricatives and alveolar plosives

Bodos are confused in differentiating the pronunciation of the dental fricatives /ð, θ/, and the alveolar plosives /t/ and /d/. They pronounce them as voiceless aspirated alveolar plosive [tʰ] and voiced alveolar plosive /d/.

R.P. /θ/ /ð/ → Bodo [tʰ] /d/

Figure 5.3 Figure 5.4

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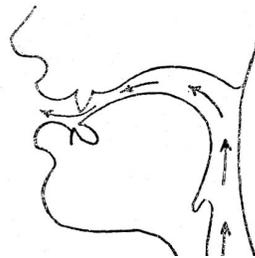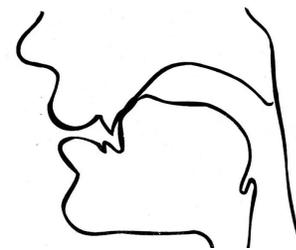
Assimilation of palato-alveolar affricates, fricatives and alveolar fricatives

Bodos are irregular in pronouncing the palato alveolar fricatives /ʃ/ and /ʒ/ and palato alveolar affricates /ʧ/ and /ʤ/. They mostly pronounce them as alveolar fricatives /s/ and /z/.
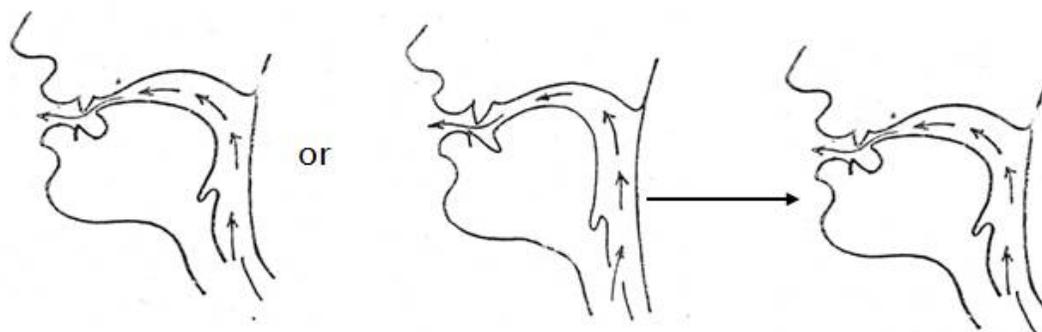
R.P. /tʃ/,/dʒ/   and   /ʃ/ /ʒ/   Bodo /s/ /z/.

Figure 5.5   Figure 5.6   Figure 5.7

Random Use of Stress

Bodos are relatively inaccurate in using the stress of English. They have a tendency to use stress almost uniformly on the first syllable of every word. Even in connected speech every word is equally stressed. The demarcation of content and function word in relation to stress is not always followed properly. That the shift of stress can also change the grammatical function (*parts of speech*) of a word is also lost in the English spoken by the Bodos. In brief, due to the inaccurate or random use of stress, Bodos lose much of the rhythm and implications of the English they speak. Similarly, in connected speech they hardly differentiate the difference of weak and strong form of grammatical words. They mostly use the strong forms of these words.

Random Use of Intonation

Most of the Bodos do not have the clear idea regarding the rules of intonation patterns of English. They have a tendency to use falling tone almost uniformly in most kinds of sentences. But they are mostly inaccurate and irregular in using rising, fall-rise and rise-fall tones while speaking English. Hence, their English often lose the characteristic rhythm besides compromising with most of the attitudinal and grammatical functions. Hardly do they shift the nucleus on any other word other than the last word of the sentence or clause.

Simplification of Consonant Clusters

Unlike Bodo, English has a complex pattern of consonant clusters. It has up to three consonants before and up to four consonants after the nucleus in a syllable (Balasubramanian, 1981,p.117). Moreover, there are many consonant combinations in English which are unavailable in Bodo. Hence, a Bodo speaker often fails to utter many of the English vowel and consonant clusters accurately. In such situations, a Bodo speaker of English has tendencies of diluting the cluster either by inserting a vowel before the cluster or by dropping one or more phonemes from the cluster in question. Such tendency leads them in uttering the English clusters inaccurately.

5.1.2 An analysis of the probable reasons of the errors

Our investigation has led us to enlist some of the major reasons of the confusions of a Bodo speaker in the pronunciation of English. These are analyzed below.

Lack of awareness of the rules

The proper pronunciation of English demands awareness and considerable grasp over the rule of English phonology. It was observed that the average Bodo speakers of English were not properly trained or aware regarding the rules of English pronunciation. Hence, they often apply the rules of the pronunciation of their mother tongue in pronouncing English. This often causes faulty pronunciation.

Lack of Exposure

BTC lacks enough networking and communication with the National or International platforms. As a result, the Bodo speakers are born and brought up mostly in a mono-linguistic environment. Here, Bodo is the dominant language and they grow up using Bodo most of the time. However, they use English in some rare occasions like academic exposures, professional demands, and entertainments. Thus, a Bodo English speaker hardly meets with adequate exposures to English speaking environments. Though the latest growth of English medium schools has to some extent helped the cause, but even in these schools English is not regularly used. In most such schools two or three languages are used. Hence, a Bodo student hardly gets the desired English speaking environment even in most such English medium schools.

Lack of Properly Trained English Language Teachers

Another major reason of the errors of English pronunciation of a Bodo English speaker is the unavailability of the well trained English language teachers in the schools of B.T.C. One needs specialization to master the rules of English pronunciation to be a good teacher in

English language. But most of the English teachers lack adequate training in this regard and they suffer from faulty pronunciations of English. A good number of such teachers do not have even the basic knowledge of phonetics. Hence, a Bodo student often grows up copying the faulty pronunciation of such teachers of English language.

Influence of Mother Tongue

Like the other parts of India, in BTC also English is learned under the shadow of mother tongue. Hence, influence of mother tongue is the leading reason of the error of the pronunciation of the Bodo speakers of English. Bodo is a word stressed tonal language belonging to Tibeto-Burman language group, whereas, English is a syllable stressed language of Germanic Indo-European family. Hence, both differ considerably in their respective phonological systems. As a result, when a Bodo speaker tends to apply the phonological rules of Bodo in their pronunciation of English, they are most likely to commit errors. Besides, the lesser number of phonemes, consonant clusters, and intonation patterns in Bodo also limit a Bodo speaker in his/her pronunciation of English accurately. The absence of some of the English phonemes in Bodo often causes trouble for a Bodo speaker of English. It often causes them to pronounce those sounds either inappropriately or assimilate the sounds into another sound for the sake of simplification. They suffer from the same problem in uttering the English consonant clusters. Since Bodo has far lesser variety and combinations of consonant clusters, they often commit errors in pronouncing the English consonant clusters.

Lack of appropriate syllabus

To train the students properly in speaking English, the school syllabus should be designed accordingly. Particularly, the syllabus should have provisions for enough speaking exposures and study materials emphasizing the skills of language. But it has been noticed that the government run schools of B.T.C. lack such syllabus providing impetuous to English language acquisition. The syllabus hardly includes sufficient oral drills or study materials consisting the practice and lessons of English pronunciation. Most of the schools suffer from lack of well defined and appropriately planned text materials.

5.1.3 Probable solutions to reduce the Errors

The recent acceptability of G.I.E. (General Indian English) has given an acceptance of the local accents in pronouncing English(Bansal &Balasubramanian,2006,p.2). Thus, the Tamil English or the Punjabi English is well accepted in most parts of India. In this sense, Bodo English may also be welcomed. But for a common national and international intelligibility the pronunciation of English should be close to the R.P. pronunciation. To reach such a goal there should be proper planning and their sincere implementation. Some of the corrective measures that can be undertaken to modify the average pronunciation of the English spoken by the Bodos are analyzed below.

The classroom

Environment always plays a crucial role in the quality of acquisition of one's second or third language. But mostly BTC is a rural area which lacks sufficient English speaking environment. In such a region the classroom and its English language teacher is often the

most important source of English. Hence, the teacher of English should be well trained in English phonology and the methods of teaching English language emphasizing the proper pronunciation. The teacher of English language should be appointed according to their specialization in English language teaching. Besides, they should occasionally be given training or orientations to upgrade the skills and methods of teaching English. The classes should be student oriented. It should provide the students ample opportunity to speak in English through different oral drills. The evaluation must have separate test and mark for speaking English accurately. The syllabus should have sufficient well planned text materials related to the pronunciation of English according to the R.P. rules. The text materials and drills should emphasize the development of language skills, namely, reading, writing, listening, and speaking. Particularly, the text materials should gradually contain phonetic transcriptions and the uses of English stress, intonation, and clusters from an early level. The classroom infrastructure should have listening devices like recordings, radios and TV's to provide the students an exposure to the R.P. pronunciation. However, these steps are easy said than to be implemented in most of the poverty stricken schools of B.T.C. which lacks basic facilities like adequate classroom and teachers. But sincere willingness of the government and proper planning might make the goals easily achievable.

Overcoming the MT influence

Since Bodos learn English in a strongly Bodo dominated environment, a Bodo learner of English should be guided properly in an early stage. Particularly, the teachers should explain to them the basic phonological difference of Bodo and English. Accordingly, a Bodo student should be trained in developing the extra skills required to sharpen a Bodo speaker's English pronunciation. An awareness and appropriate practice of the phonological properties that are

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absent in Bodo and different from Bodo might genuinely help a Bodo speaker of English to overcome the MT influence in his/her English pronunciation.

Exposure Tours

Besides the classroom and its infrastructure the students should also be given real life exposures to sharpen the skills of speaking English. In this sense, it s ideal to arrange exposure tours to the places dominated by English language like Goa or to the other countries outside India. Such exposure tours are most likely to sharpen the pronunciation of English of a Bodo speaker for the necessity of comprehensibility. Infact, it has often been found that the Bodos going outside pursuing higher studies or for professional purposes returning with considerable improvement in their pronunciation of English.

Some tips to the Bodo learners of English

1. Bodos should maintain a qualitative and quantitative difference between the long vowel glides and short vowels as shown below.

/iː/ /ɪ/

/uː/ /ʊ/

/ɔː/ /ɒ/

/æ/ /e/

/ɜː/ /a/

/ɑː/ /a/

/əʊ/ /ɒ/

/eɪ/ /e/

/ʊə/ /ʊ/

/ɪə/ /ɪa/

/eə/ /ea/

2. Bodos should maintain a qualitative and quantitative difference between the voiceless bilabial plosives /p, t, k/ and their allophonic variants aspirated voiceless bilabial plosives [pʰ, tʰ, kʰ].

3. Bodos should maintain a qualitative and quantitative difference between the following consonant phonemic or allophonic pairs.

/f/ [pʰ]

/v/ [bʰ]

/θ/ [tʰ]

/ð/ [d]

/ʃ/ /s/

/ʒ/ /z/

/ʧ/ /s/

/ʤ/ /z/

4. They should practice the pronunciation of three initial consonant clusters and final consonant clusters. Since such consonant clusters are absent in Bodo, they might have a tendency to simplify them through dilution, substitution, and insertion.

5. They should have a long term practice to learn the stress patterns of English. They should remember that unlike Bodo, English is stress timed language. Its stress shifts according to the syllable of the word.

6. They should carefully learn the intonation patterns of English and the attitudinal function associated with intonation. They should also learn to divide the long utterances into tone groups.

7. Bodos should also learn the qualitative and quantitative difference between the strong and weak forms of the grammatical words. They should learn to rapidly utter the weak forms in connected speech.

8. They should follow the IPA recognized dictionary with proper phonological and phonetic transcription regularly.

5.2 Final Words

The problems of pronunciation of English by the Bodos discussed in the thesis are nothing but a generalized documentation of the complicacies, mainly, as a result of the phonological difference of Bodo and English. Though a number of problems of pronunciation of the English of Bodos and their reasons are extensively discussed, of late, B.T.C. and Bodos have witnessed some positives in this direction. After the prolonged political movement, Bodos have been given the right of self-governance through the formation of B.T.C. in 2003. Since then, they have been observed progressing in different directions including professional and academic fields. Hence, they have been receiving better exposures in regard to using English more than ever before. They have been noticed going to other states and countries in larger numbers. As a result, they have realized the need for better English pronunciation. The recent media explosion, rising use of technology, and internet have also helped the cause of improved English pronunciation of the Bodos. However, still there is ample room for the improvement of their English pronunciation to be a better communicator in English in the national and international platform.

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Appendix I

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Appendix II

<u>List of Tables</u>

Table 2.1   Feature Matrix for R.P. Consonants

Table 2.2   Feature Matrix for R.P. Vowels

Table 2.3   Feature Matrix for Bodo Monophthongs

Table 2.4   Feature Matrix for Bodo Consonants

Table 4.1   Syllable Structure

Appendix III

Practical performance sheet of the informants

Name of the informant   :

Address   :

Age   :

Profession   :

    Signature   :

List of vowel sounds that are absent in Bodo

/i:/ as in eat.

/u:/ as in cool.

/ɜ:/ as in bird.

/ ɔ:/ as in all.

/ɑ:/ as in art.

/æ/ as in bat.

Distribution

Phoneme	Initial	Medial	Final
/i:/	eat	meat	tea
/u:/	ooze	stool	shoe
/ɜ:/	earth	turn	fur
/ ɔ:/	order	bought	law
/æ/	ass	man	-----
/ɑ:/	art	heart	far

List of consonant sounds that are absent in Bodo

/p/ as in pair.

/t/ as in ten.

/k/ as in kite.

/f/ as in fire.

/v/ as in victim.

/ θ/ as in think.

/ð/ as in there.

/ʃ/ as in she.

/ʒ /   as in   measure.

/tʃ/   as in   chain.

/dʒ /   as in   hedge.

Distribution

Phoneme	Initial	Medial	Final
/p/	pin	spin	cup
/t/	top	stop	hat
/k/	king	maker	mimic
/f/	fine	after	life
/v/	vine	ravishing	revive
/θ/	thin	paths	bath
/ð/	then	rather	bathe
/ʃ/	sugar	ashes	push

Phoneme	Initial	Medial	Final
/ʒ/	-------	pleasure	--------
/tʃ/	chip	actually	reach
/dʒ/	jam	suggest	bridge

Voiceless plosives pronounced in accented and unaccented syllables

Phoneme	Accented	Unaccented
/p/	aʹpply	opeʹration
	suʹpport	ʹsupper
/t/	opʹtician	ʹsatire
	guiʹtar	ʹpractice
/k/	volʹcano	ʹmarket

re′covery   co′llection

Change of pronunciation according to the word-accentual patterns

Word	Noun / Adjective	Verb
Absent	/′æbsent/	/∂′bsent/
Concert	/′kɒnsə t/	/kən′sɜ:t/
Conduct	/′kɒndʌkt/	/k∂n′dʌkt/

Word	Noun/Adjective	Verb
Contrast	/′kɒntrɑ:st/	/k∂ntrɑ:st/
Desert	/′dez∂t/	/dɪzɜ:t/
Perfect	/′pɜ:fɪkt/	/pə′fekt/

List of Sentences in Falling Tone

1. I liked it very much.

2. What is the matter?

3. Take it away.

4. Splendid.

5. Isn't that kind of her?

List of sentences in rising tone

1. Its seven o'clock (and she has not got up yet.)

2. Will you do it?

3. Take it away.

4. It was a good film, wasn't it?

5. Thank you.

6. One, two,three,four,five.a

7. Hello.

Weak and strong forms of the structural words

Words	Strong Forms	Weak Forms	Examples
A	/eɪ/	/ə /	a girl
An	/æn/	/∂n/	an apple
The	/ði:/	/ðɪ/	the orange
		/ðə/	the pen
Are	/ ɑː /	/ə/	we're coming
Had	/hæd/	/həd/,/ əd/,/d/	we'd finished
Is	/ɪz/	/z/,/s/	she's coming
will	/wɪl/	/1/	I'll go
would	/wʊd/	/ əd/,/d/	she'd be there
and	/ænd/	/ ənd/,/ən/,/n/	father and mother
as	/æz/	/əz/	try as hard as possible
at	/æt/	/ət/	look at them
him	/hɪm/	/ɪm/	let him do it
her	/hɜ:/	/hə/,/ɜ:/,/ə/	let her do it

Consonant clusters

Scheme	/skiːm/
Cream	/kriːm/
Next	/nekst/
Texts	/teksts/
Twinkle	/twiŋkl/
Straight	/streit/
Midst	/midst/
Laughs	/lɑːfs/
Beasts	/biːsts/
Tasks	/tasks/
School	/skuːl/