

CHAPTER II

AN EXAMINATION OF THE TWO SYSTEMS OF SOUND SEGMENTS : RUSSIAN AND BENGALI

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II.1 INTRODUCTION

It is widely accepted that spoken language is made up of successions of 'sounds' emitted by the organs of speech, together with certain 'attributes'. The methods of studying a foreign language involve the acquisition of certain skill, and in particular the ability on the part of the learner to listen to and remember the sounds of the target language(s), and to learn how to reproduce those sounds correctly both in isolation and in connected speech.

This chapter intends to examine the segmental features of the MT and the TL based on which a contrastive study of the segmental features of the two languages in contact could be done with a view to arriving at major assumptions of the study.

It is important to note that 'stress' is a subject under 'suprasegmentals' and is not a part of this study. However, considering the important role it plays in learning the Russian language from the very beginning, the most important aspects of 'stress' have been briefly discussed in this chapter after the Russian vowel phonemes.

II.2 A BRIEF ACCOUNT OF THE RUSSIAN SPEECH SOUNDS

By the 'Russian speech sounds', the speech sounds of the Modern Russian Literary Language, belonging to the eastern Slavic branch of the Slavic group of the Indo-European family of languages, founded on the Moscow dialect and incorporating and adopting certain peculiarities of other dialects (earlier referred to as 'attributes') are denoted.

The prime contrast in the system of phonemes in any language is seen in the systems of vowels and consonants. The vowels and consonants in the Russian language differ from each other by their functional, articulatory, and acoustic characteristics. That is to say that while in the pronunciation of vowels the outgoing air passes freely through the mouth cavity, which acts only as a resonator. In the pronunciation of consonants the outgoing air faces various obstructions formed in the oral cavity.

All Russian vowel phonemes are voiced, whereas the consonants may either be voiced or voiceless. All Russian vowels are generally syllabic, whereas the consonants are not. In the Russian language a syllabic sound is pronounced more vigorously than all other sounds of the syllable and, therefore, is more audible (peak of the syllable, like in any other sound system, is more audible).

II.2a THE SYSTEM OF VOWELS IN THE RUSSIAN LANGUAGE

The character of the Russian vowels depends primarily on the position of the tongue in the mouth-cavity. Hence vowels are classified on the basis of the part of the tongue that articulates them and the height of the tongue in the mouth.

In the Modern Russian Literary Language there are five vowel sounds /ɪ/; /e/; /a/; /o/; /u/ (R.jefor.matslɔj, A.A., Iz istorii otlichielno, fonologii, Avanesov, R.I., i Sidorov, V.I., Sistjema fonem russkogo jazyka, str. 249). However, the following allophonic variations of these phonemes make the complete set of phones in the Russian language: (ɪ:), (e:), (a:), (o:), (y:), (i), (a), (u), the 'hs' (the hard sign) and the 'ss' (the soft sign). These sounds are contrasted to each

other with three different characteristic features: row (horizontal position of the tongue)(r.jad), height (pødjom), and labialisation. In contrast to the phonetic systems of other languages (for example Hindi, English etc.) in the Russian language vowel sounds are distinguished not owing to length (except for /i/ and /a/), or by the strength of articulation but by timbre and shade. (o — u). Physiologically they differ from each other primarily by the position of the tongue, shape of the lip-opening, and by participation or non-participation of the velum.

By the characteristic feature of 'Height' of the tongue, the Russian vowels are classified into :

- a. Upper (close) /i/ and /u/ when the tongue is raised upward ;
- b. Middle (half open) /e/ and /o/ when the tongue is slightly raised upwards; and
- c. Lower (open) /a/ when the tongue assumes its natural position.

By the characteristic feature of row of the tongue, the Russian vowels are classified into:

- a. Front : /i/ and /e/ : the central part of the tongue is raised towards the front of the palate;
- b. Mid (central) : /a/ the mid or central part of the tongue is raised towards the central part of the palate; and
- c. Back : /u/ and /o/ the back part of the tongue is raised towards the back of the palate.

Owing to labialisation or non-labialisation, the Russian vowel sounds are divided into :

- 1) Labialised — /o/ and /u/, and
- 11) Nonlabialised — /a/, /i/, and /e/.

TABLE : 1 VOWEL SOUNDS OF THE RUSSIAN LANGUAGE

ROW (Articulating part of the tongue) ———>	FRONT	MID (Central)	BACK
Height of the tongue in mouth	Nonlabial (unrounded)		Labial(Rounded)
Upper (close)	i	(y)*	u
Middle (half close)	e		o
Lower (open)		a	

II.2b ARTICULATION OF THE RUSSIAN VOWEL PHONEMES IN STRONG
(UNDER STRESS) POSITIONS

/a/ – The vowel /a/ is of lower height, the middle row and non-labialised. In the articulation of the Russian sound [a] the mouth is wide open and the lower jaw is released. The tip of the tongue lies near the lower teeth.

/o/ – The vowel /o/ is of middle height, back row and labialised. In the articulation of the Russian Sound [o] the tongue is retracted and the back of the tongue is raised towards the soft palate. The lips are strongly protruded and moved forward, afterwards taking a neutral position.

/u/ – The vowel /u/ is of upper height, back row and labialised. In its articulation the lips are protruded and move more forward as compared to [o]; the tongue is retracted and raised high towards the soft palate.

/e/ – The vowel /e/ is of middle height, front row and non-labialised. In its articulation the mouth is slightly open, lips lightly stretched. The middle of the tongue is raised a little.

/i/ – The vowel /i/ is of upper height, front row and non-labialised. In its articulation the tongue moves forward. The mouth is slightly open and the lips slightly spread.

* (It is important to point out here the articulation of the Russian sound /y/ which is of middle height, mid(central) row and is non-labialised. As per the Moscow Phonological School, this sound is considered to be a variation of the Russian phoneme /i/).

11.2c STRESS AND REDUCTION OF RUSSIAN VOWEL SOUNDS

It is necessary to mention that the Russian vowel sounds undergo a considerable amount of change both in quality and quantity when they are unstressed, i.e. they undergo reduction of a variable degree (depending upon the distance from the stressed syllable), and what is most important is that in unstressed position some Russian vowels do not distinguish their characteristic features at all.

TABLE : 2 CHANGE / REDUCTION OF VOWELS IN UNSTRESSED POSITIONS AS CONTRASTED WITH STRESSED POSITIONS

STRESSED **	UNSTRESSED **	WORD	**	REDUCTION **	SOUND
1. /i/	—	[pi:tʰ]	nil	/i:/	
2. —	/ɪ/	[cita:tʰ]	[i]	/i/	
3. /e/	—	[e:ta]	nil	/e:/	
4. —	/e/	[eta:ʒ]	[i]	/i/	
5. /a/	—	[br.a:t]	nil	/a:/	
6. —	/a/	[ma:mä]	[ä]	/ä/	
7. —	/a/	[casɣ:]	[i]	/i/	
8. /o/	—	[po:ctä]	nil	/o:/	
9. —	/o/	[møskva:]	[ø]	/ø/	
10. /u/	—	[u:l.ytsa]	nil	/u:/	
11. —	/u/	[ur.o:t.]	[u]	/u/	
12. /y/	—	[my:]	nil	/y/	
13. —	/y/	[byl.a:]	nil	/y/	

Apart from the above six vowel phonemes there are another four combinations that deserve special mention. They are the so called four semi-vowels, i.e. combinations of the consonantal phoneme /j/ (According to Jones, Daniel, and Ward, Dennis, "The Russian language has only one semi-vowel, that is, the sound...written /j/", Jones, Daniel, et. al. The phonetics of Russian, Cambridge University Press, 1969, page 71) along with the four vowel phonemes /a/ , /e/ , /u/ , and /o/. It is quite appropriate to call them semi-vowels as they can replace vowels in the formation of syllables, as well as they undergo, like other vowels, change/reduction, when unstressed. The reduction of these sounds is indicated in the following table:

TABLE: 3 REDUCTION / CHANGE OF RUSSIAN SEMI-VOWELS

STRESSED **	UNSTRESSED **	WORD	** REDUCTION **	SOUND
1. ja	—	[jasna]	nil	/ja/
2. —	ja	[dʲevʲatʲ]	/i/	/i/
3. —	ja	[audito:r.iʲa]	/a/	/a/
4. je	—	[mʲestʲə]	nil	/je/
5. —	je	[mʲesta:]	/i/	/i/
6. ju	—	[jug]	nil	/ju/
7. —	ju	[l.jubl.ju]	/y/	/u/
8. jo	—	[mʲodʲ],[pʲotr.],[cʲjo]		/jo/
(/jo/ is always stressed)				

As a rule, in the Russian language, stress may fall on any syllable of the word. In some instances, the meaning of the word or its grammatical form will depend on the stressed syllables. For example [za:maʲ] 'castle' and [zəmo:ʲtʲ] locʲ ; [r.ukʲi:] (genitive singular of [r.uka:] — 'hand') and [r.u:ʲlʲi] (nominative plural of [r.uka:] — 'hand').

It is worth pointing out here that the position of the stress in the Russian language varies from word to word and also that a word may have different stresses in different meanings (grammatical or lexical).

Most of the Russian vowels are sounded clearly and distinctly only when they are stressed. Only the vowel /u/ is clearly distinguished from all the other vowels when unstressed, whereas the vowels /o/ and /a/ are indistinguishable in pronunciation, when unstressed. Similarly the vowels /e/ and /ɪ/ are also almost indistinguishable, in certain positions in the word, when unstressed.

(As stress in the Russian language falls under **suprasegmentals** and is not the subject of this study. A detailed remark on it from the theoretical point of view is being refrained from.)

II.2d THE SYSTEM OF CONSONANTS IN THE RUSSIAN LANGUAGE

In the modern Russian Literary language there are 35 consonantal phonemes: /b-b'/, /p-p'/, /v-v'/, /f-f'/, /d-d'/, /t-t'/, /z-z'/, /s-s'/, /Z/, /S/, /ts/, /c/, /g-g'* /, /k-k'* /, /x-x'* /, /m-m'/, /n-n'/, /l.-l.'/, /r.-r.'/, /j/. These consonants are classified according to the place of the obstruction to the outgoing breath; the manner of forming the obstruction and the state of the vocal cords.

Based on the place of obstruction to the outgoing breath, the Russian consonants are divided into:

a.Bilabial

b.Labio-dental

c.Dental

d.Palato-dental

e.Medio-palatal, and

f.Back-palatal

In the pronunciation of bilabial consonants /p/, /b/, /m/, the upper and lower lips press together to form the obstruction. In the pronunciation of the labio-dental consonants /v/, /f/, the outgoing breath passes between the lower lips and the upper teeth. The tip of the tongue is pressed against, or brought close to the upper teeth in the articulation of the dental consonants /t/, /d/, /s/, /z/, /ts/, /n/, /l./, and /r./. In the articulation of the palato-dental consonants /Z/, /S/, /ʃ/, /c/, the tip and the centre of the tongue are pressed against, or brought close to the upper teeth and the front of the palate respectively. The dental and palato-dental consonants are also called 'forelinguals'. The obstruction is formed between the centre of the tongue and the centre of the palate in the pronunciation of the medio-palatal consonants /j/. This is also called the medio-lingual consonant.

The back palatal consonants /k/, /g/, and /x/ are pronounced by an obstruction, formed between the back of the tongue and the back of the palate. They are also called 'back-lingual'.

* The corresponding soft consonants /k'/, /t'/ and /x'/ are not independent phonemes but they are allophonic variations of /g/, /k/ and /x/ respectively (Avanjesov, i Sidorov, sistjema fonjem russkogo jazyka, iz istorii otjecestvennoj fonologii, nauka, 1970).

The following table shows the Russian consonantal phonemes.

TABLE :4 CONSONANT SOUNDS OF THE RUSSIAN LANGUAGE**

		BILABIAL		LABIO-DENTAL		DEN-TAL	PALATO-DENTAL		MEDIO-PALATAL	BACK-PALATAL	
			Pala-ta-lised		Pala-ta-lised			Pala-ta-lised			Pala-ta-lised
PLOSIVE	VOICE-LESS	p	p'			t		t'		k	k'
	VOICED	b	b'			d		d'		g	g'
FRICATIVE	VOICE-LESS			f	f'	s	S \$	s'		x	x
	VOICED			v	v'	z	Z	z'	j		
AFFRICATE							ts	c			
SONANTS	NASAL	m	m'			n		n'			
	LATERAL					l.		l.'			
	ROLLED/FLAPPED						r.	r.'			

**Pul.kina, I.M., A Short Russian Reference Grammar, RLP, Moscow, 1978, p.14).

II.2e HARD AND SOFT CONSONANTS IN THE RUSSIAN LANGUAGE

One of the main peculiarities and characteristic features of the Russian pronunciation is marked by the 'hard' and 'soft' consonants. Most Russian consonants go in pairs according to hardness and softness (palatalisation). This feature of the consonants in the context of this study deserves a special mention as it is very important to distinguish between a hard consonant and its corresponding soft pair, since the meaning of a word may frequently change depending on the fact whether the consonant, in the word, is pronounced hard or soft. For example [u:gal.]—'corner', and [u:gal.ʲ]—'coal': are distinguished by the final sound [l.] or , which is hard in the former and soft (also known as the 'dark /l/' in the literature) in the latter word.

The Russian soft consonants differ from their hard counterparts owing to the position that the tongue assumes in the articulation of the consonants. In the pronunciation the soft /tʲ/, /dʲ/, /sʲ/, /zʲ/, /pʲ/, /bʲ/, /fʲ/, /vʲ/, /r.ʲ/, /l.ʲ/, /nʲ/, and /mʲ/, the centre of the tongue is slightly raised towards the front of the palate, unlike in the articulation of their hard counterparts.

A number of Russian consonants do not go in pairs of hard and soft. Some of them are always hard, e.g. /Z/, /S/, /ts/, while some others are always soft — /c/, /ʃ/, /j/. This is because these are palatal sounds and further palatalisation is not possible.

Table: 5 PAIRS OF HARD AND SOFT CONSONANTS OF THE RUSSIAN LANGUAGE

HARD CONSONANTS : ts/S/Z/k/g/x/t/d/s/z/p/b/f/v/l./r./m/n/

SOFT CONSONANTS : /k/g/x/t/d/s/z/p/b/f/v/l./r./m/n/c/ʃ/j/

It should be noted here that the soft consonants /tʃ/, /gʲ/, and /xʲ/ are not as independent as other soft consonants. They generally occur only before the front vowel /e/, or /ɨ/, a few proper names of foreign origin (e.g. [lʲa:xta]) etc. The other soft consonants may occur at the end of a word. For example [nʲos] - '(he) carried', [tʲosʲ] - 'rough-sawn timber', [tʲa:ʒʲestʲ] - 'weight', [sʲlo:ɫ.ʲkä] - 'how many', [øgo:nʲ] - 'fire' etc.

The Russian soft /j/ deserves a special mention as it along with the vowels /a/, /e/, /o/, /u/ form the so called semi vowels (Jones, Daniel, and Ward, Dennis., The Phonetics of Russian, Cambridge, 1969, pp. 71-73). In its articulation the centre of the tongue is raised towards the front of the palate, thus narrowing considerably the passage for the outgoing breath.

It is worth noticing that in the Russian language there are no special letters to mark hard and soft consonants. Hard and soft consonants are followed by the 'soft sign' (ss), by the vowel /i/, or the so called semi-vowels: /ja/, /je/, /jo/, and /ju/, whereas the 'hard sign' (hs), /a/, /e/, /ɨ/, /o/, /u/, and /y/ are written after hard consonants.

The Russian semi-vowels are syllabic and they undergo reduction in unstressed positions. For example [ja:ma] - 'pit', [r.jat] - 'row', [vju:gä] - 'snow storm', [l.ju:dɨ] - 'people', whereas: [pitɨ:] (ja - /ɨ/) - 'of five', [sɨstr.a:] (je - /ɨ/) - 'sister', [l.ubl.ʲju:] (ju - /u/) - 'I love', etc. The Russian /jo/ is always stressed.

II.2f VOICED AND VOICELESS CONSONANTS IN THE RUSSIAN LANGUAGE

The presence or absence of vibration of the vocal cords distinguish the voiced and voiceless consonants of the Russian language respectively. Some of these consonants go in pairs of voiced and their voiceless counterparts, whereas there are those which do not form pairs and are always pronounced as either voiced or voiceless sounds (consonants), as the case may be.

TABLE :6 VOICELESS AND VOICED CONSONANTS OF THE RUSSIAN LANGUAGE

VOICELESS CONSONANTS :	/ts/c/ʃ/x/k/t/s/S/p/f/
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VOICED CONSONANTS :	/g/d/z/Z/b/v/l./r./m/n/j/
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It is important to mention here that the hardness or softness of the consonants in the Russian language has nothing to do with the feature of the consonants' being voiced or voiceless.

As indicated by the above table it can be seen that /ts/, /c/, /ʃ/ and /x/ do not have their voiced counterparts and are always pronounced unvoiced, whereas /l./, /r./, /m/, /n/, and /j/ are always voiced, having no voiceless counterparts.

II.2a CHANGES IN VOICELESS AND VOICED CONSONANTS (VOICING AND DEVOICING) IN THE RUSSIAN LANGUAGE

In certain combinations and/or depending upon the position it occupies in a word, a voiced consonant (except j,n,m,r.,l.) changes into its voiceless counterpart. That is, when followed by a voiceless consonant (XYV+V-Z), the voiced consonant . (V+) changes into its voiceless (V-) counterpart, i.e. (XYV-V-Z), where 'XY' and 'Z' can be any sound unit. Similarly when a voiced consonant (V+) occurs at the end of a word (XYZV+) then the voiced consonant (V+) changes into its voiceless counterpart (V-), i.e. (XYZV-) as indicated in the following table.

TABLE : 7 THE INTERCHANGING OF CONSONANTAL PHONEMES OF THE RUSSIAN LANGUAGE (V+ .—V-)

WRITTEN	READ (PRONOUNCED)
1. (a v t o: b u s) ↓ ↓ ↓ — x v+v- yz	[ø f t o: b u s] ↓ ↓ ↓ — x v-v- yz
2. (g o:r. o d) — ↓ xyz v+	[g o:r. ä t] — ↓ xyz v-

Voiceless consonants (except ts, c, and x) change into their voiced counterparts when followed by a voiced (V+) consonant. That is (V-V+XYZ) = (V+V+XYZ). This happens not only in the initial position of the word but also in the middle position as well. When in a sentence two words stand next to each other, e.g. (XYZV and VXYZ) the final consonant of the former word may change into its voiceless counterpart, depending on the nature of the first consonant of the latter (and also the last consonant of the former).

For example :

TABLE:7a. WRITTEN :	READ (PRONOUNCED)
1. (s d e : l . a t ') ↓ ↓ _____ V - V + XYZ	[z d j e l . ä t '] ↓ ↓ _____ V + V + XYZ
2. (o t b o : r .) - ↓ ↓ _____ X V - V + YZ	[ø d b o : r . } - ↓ ↓ _____ X V + V + _____
3. (v o : t d o : m) _____- ↓ ↓ _____ XYZ V - V + XYZ	[v o : d d o : m] _____- ↓ ↓ _____ XYZ V + V + XYZ
4. (s a : d t u : t) _____- ↓ ↓ _____ XYZ V + V - XYZ	[s a : t t u : t] _____- ↓ ↓ _____ XYZ V - V - XYZ

The above phenomena of replacement of one by the other phoneme under the influence of a third phoneme is known as "assimilation". The above phenomenon illustrates the cases of regressive assimilation.

II.2h ALTERNATION OF SOUNDS IN THE RUSSIAN LANGUAGE

While using various words in sentences new forms or new words are made by the addition of derivational suffixes, some sounds (both vowels and consonants) are occasionally interchanged. Sometimes vowels of the root word or a suffix is dropped. The interchanging of sounds is called 'alternation', and vowels that can be dropped are called 'unstable vowels'. These changes or alternations follow a particular pattern.

The Russian language distinguishes more frequent alternation of consonants than vowels.

TABLE : 8 MAIN INSTANCES OF ALTERNATION OF VOWELS

ALTERNATING VOWELS	EXAMPLES	MEANINGS	REMARKS
o — a:	[l.o:mit]	— (he) breaks	Mostly in verb roots
	[l.a:myväjet]	— (he) breaks out	
	[smo:tr.it]	— (he) looks	
	[pr.øsmat:tr.ivajet]	— (he) looks through	
je -i- a:- o:	[zäpjer.je:t']	— to lock up	Verb roots and roots of nouns from verbs
	[zäpir.a:t']	— to lock	
	[zøpo:r.]	— bolt	
	[bjer.u:]	— I take	difference only in writing
	[säbir.a:t']	— to gather	
	[sbo:r]	— gathering	
o — y	[so:xnut']	— to dry	generally in verb roots or verbal nouns
	[zäsyxa:t']	— to dry up	
	[vzdo:x]	— sigh	
	[vzdyxa:t']	— to sigh	

TABLE: 8 a. MAIN INSTANCES OF UNSTABLE VOWELS (metathesis and deletion)

UNSTABLE VOWELS	EXAMPLES	MEANINGS	REMARKS
/o/	[son] — [sna] [r.ot] — [r.ta] [r.oZ] — [r.Zi] [str.je:l.äk] — [str.je:l.kä] [l.o:väk] — [l.o:vkä]	sleep mouth rye shot adroit	Most often vowels are dropped out. In oblique cases in the singular, and in all cases in plural.
/je/	[djen'] — [dnja] [l.jev] — [l.'va] [mä1.ødje:ts] — [mä1.ødtsa:] [bo:l.jen] — [bø1.'na:] [øtje:ts] — [øtsa:]	day lion fine fellow sick father	In the roots of a number of masculine, occasionally feminine nouns, ending in consonants, etc.
/jo/	[pør.jo:näk] — [pørjo:n'kä] [r.jebjo:näk] — [r.jebjo:nkä]	lad child	
/i/	[säbir.a:t'] — [säbr.a:t'] [näcina:t'] — [nøcat']	gather begin	Alternation of vowels in verbs.
etc.	etc. etc.	etc.	etc.

Apart from the above, there could be many other instances of unstable vowels and alternation of vowels.

TABLE: 8 b. MAIN INSTANCES OF ALTERNATION OF CONSONANTS

ALTERNATING CONSONANTS	EXAMPLES	MEANINGS
k — c	[r.uka:] — [r.us:ckä]	hand — small hand
k — c — ts	[mu:kä] — [mu:cit'] [r.yba:ci:t'] — [r.yba:tski:]	torture — to torture to fish — fishing
g — Z	[nøga:] — [no:Zkä]	foot — small foot
g — Z — z	[dr.ug] — [dr.uZo:k] [dr.u:Zjeski:] — [dr.uz'ja:]	friend — pal friendly — friends
ts — c	[øvtsa:] — [øvci:nä]	sheep — sheep-skin
x — S	[str.ax] — [stra:Sni:]	fear — fearful
s — S	[pisa:t'] — [piSu:]	to write — I write
z — Z	[vøzi:t'] — [vøZu:]	to carry — I carry
t — c	[xøtjet'] — [xøcu:]	to want — I want
t — c — \$	[svjetit:t'] — [svjecu:] [svjeca:] — [øsvje\$a:t']	to shine — I shine candle — to light
d — Z	[vi:djet'] — [vi:Zu:]	to see — I see
sk — \$	[iska:t'] — [i\$u:]	to search — I search
st — \$	[pusti:t'] — [pu\$u:]	to let — I shall let
p — pl.	[tøpi:t'] — [tøpl.ju:]	to drown — I drown
b — bl.	[l.jubi:t'] — [l.jublju:]	to love — I love

TABLE - 9 MAIN INSTANCES OF ALTERNATION OF CONSONANTS (contd.)

ALTERNATING CONSONANTS	EXAMPLES	MEANINGS
v — vl.	[l.øvi:t'] — [l.øvl.ju:]	to catch — I catch
f — fl.	[gr.øfi:t'] — [gr.øfl.ju]	to rule — I rule
m — ml.	[l.ømi:t'] — [l.øml.ju:]	to break — I break
etc.	etc. etc.	etc.

11.3 OTHER CHANGES OF SOUND VALUES IN THE RUSSIAN LANGUAGE

Apart from the above peculiarities and changes in sound values that the Russian vowels and consonants undergo owing to stress, hardness and softness, and being voiced and voiceless; the changes in the plosive, fricative and affricative consonants demand a special mention. This refers to the character of the obstruction formed in the articulation of a consonant that changes, though rarely, yet in certain instances it undergoes modifications.

For example:

TABLE : 10 OTHER CHANGES OF SOUND VALUES

WRITTEN	READ (PRONOUNCED)
1. (k o: <u>q</u> t i)	[k o: <u>x</u> t' i]
2. (m j a <u>q</u> k i j)	[m' j a <u>x</u> k' i j]
3. (k o n j e <u>c</u> n o)	[k ø n' j e <u>S</u> n ä]
4. (s k u: <u>c</u> n o)	[s k u: <u>S</u> n ä]
5. (<u>c</u> t o)	[<u>S</u> t o]

The above changes are explained by the rule that in some words, plosive and affricative consonants change when they occur before another plosive sound, because the articulating organs fail to form a complete obstruction, resulting into the plosive or the affricative consonant's turning into a fricative one.

However, in some words, changes are accounted for by the fact that such was its sound in the old Russian, and not a plosive one — e.g. the word [b o g] does not change to / b o k / as a rule but changes into /b o x /.

Following is a brief account of the Bengali Speech Sounds.

II.4 A BRIEF ACCOUNT OF THE BENGALI SPEECH SOUNDS

Being one of the Indo-European languages, the Bengali language belongs to the eastern group of new Indo-Aryan languages. The modern Bengali language is based on the Calcutta dialect. The Navadwip dialect accounts for another trend. The two trends gave rise to two different styles : the classical style (Sādhū-bhāṣā : further referred to as the SB) that stemmed from the Navadwip dialect, and the spoken and literary language (calit-bhāṣā : further referred to as the CB), founded on the Calcutta dialect.

This study is based on the CB due to convenience of availability of data and its acceptance as the modern Bengali language, which is widely used by native Bengalis, both in speech and writing.

The main difference between SB and CB rests upon the difference between the phonological and morphological structures of the word in these styles of Bengali. However, from the typological point of view both CB and SB are to be treated as subsystems (or variants) of a single language system. Their difference lies also in the sphere of functioning.

II.4a THE SYSTEM OF VOWELS IN THE BENGALI LANGUAGE

The modern Bengali language distinguishes seven vowel phonemes : /ə/, /ā/, /i/, /u/, /e/, /æ/ and /o/ and their nasalised counterparts: /ə~/, /ā~/, /i~/, /u~/, /e~/, /æ~/ and /o~/ making a total of 14. The difference between them is conditioned by the difference in the functioning and positioning of the tongue, lips, and the palate. They are also opposed to each other according to the degree of openness (varying

size of the aperture between articulating organs of speech or the height to which the tongue is raised) and the zone of articulation, besides, nasal correlation is of phonological importance. Nasal correlation in Bengali includes all the vowels, i.e. every pure vowel sound is opposed to that pronounced with nasal resonance.

"For Bengali it is essential to distinguish between dependent or phonological nasality. Positional nasality of a vowel appears under the influence of the neighbouring consonant; it can be the vowel of either the next or, partly, of the preceding syllable. Such nasality should be treated as an attendant feature, as an echo of the nasal sound; and it plays no phonological part" (Bykova, E.M., Bengal. shi. jazyk, Nauka, Moskva, 1981).

The pronunciation of the above vowel phonemes may be described with the following examples :

TABLE :11 BENGALI VOWEL PHONEMES:

Serial No.	The Bengali letter	Phonetic Symbol	In the English word	In the Russian word
1.	<u>অ</u>	@	h <u>o</u> t	x x x
2.	<u>আ</u>	ā	p <u>a</u> lmistry	[møskv <u>ā</u> :]
3.	<u>ই</u>	i	m <u>i</u> st	[i:l. <u>i</u>] .
4.	<u>উ</u>	u	p <u>u</u> t	[<u>u</u> r.o:k]
5.	<u>এ</u>	e	x x x	[v konts <u>e</u> :]
6.	<u>ঐ</u>	æ	m <u>a</u> n/c <u>a</u> t	x x x
7.	<u>ও</u>	o	x x x	[p <u>o</u> :l.ka]

One of the main characteristic features of the Bengali vowels is the presence of long and short vowels, i.e. the above seven vowel phonemes may have their corresponding pairs, which are distinguished in length. They are :

1. /ə/ - /ə:/ — [Jə:l], 'water', and [Jəlâ], 'marshy land';
2. /â/ - /â:/ — [pâ:], 'leg' , and [pâR.e:], 'on the bank',
or — [mâ], 'mother', and [câlâ:e], 'drives';
3. /i/ - /i:/ — [bhitər], 'inside', and [bhi:Sən], 'very';
4. /u/ - /u:/ — [bhul], 'mistake , and [bhu:mi], 'land';
5. /e/ - /e:/ — [ke:S], 'hair', and [ponero:], 'fifteen';
6. /æ/ - /æ:/ — [bæ:ñ], 'frog', and [bæthâ:], 'pain';
7. /o/ - /o:/ — [notun], 'new', and [So:r], 'noise', and so on.

TABLE :12 CHARACTERISTIC FEATURES OF THE BENGALI VOWEL PHONEMES

	FRONT	CENTRAL	BACK
	NONLABIAL (Unrounded)		LABIAL (Rounded)
CLOSE	i~ i		u u~
HALF-CLOSE	e~ e		o o~
HALF-OPEN	æ~ æ		ə ə~
OPEN		â â~	

(As opined by E.M.Bykova, in her book: bengal.'shij jazyk, the juxtaposition of the Bengali vowel phonemes in terms of length does not have a phonological nature, because she argues: "... they are conditioned, first of all by the positional factors". p. — 20)

The length of the vowel in the Bengali language depends upon the quantity of syllables in a word. Hence in the monosyllabic

words, vowels sound longer. For example:

[Jə:l] — 'water'; [pā:] — 'leg'; [kā:l] — 'time', etc.

In the words comprising of more than one syllable only the last vowel is long. For example :

[b@R.o:] — 'big'; [tāhārā:] — 'they'; [didi:] — 'sister', etc.

In combination of words and thereby word formations the vowels sound longer. For example:

[bidḍəṣ: + śl@:j] = [bidḍəṣ:l@j] — 'educational institution'.

Length in the Bengali language depends as well on metre, rhythm, etc. However, in the modern Bengali language such minimal pairs are random, which comprise of both monosyllabic and polysyllabic units, where vowels juxtapose in length.

For example:

[mən] — [mon]
[b@S] — [boS]
[p@R.e] — [poR.e]

[r@kkhā] — [rokkhito]
[k@lləṣ:n] — [kolləṣ:n]
[nārke:l] — [narko:l]

[benāmi:] — [benā:m]
[æ:k] — [æka:]

It is important to note here that all the Bengali vowels are distinguished by their nasal correlation. Distinction of vowels according to their nasal feature is combined with some difference in the size of aperture : nasal vowels are either less open (ā~, ə~, @~), or more close (i~, u~, e~, o~) than the corresponding pure ones. The frequency of the nasal vowels in Bengali is much less than that of the pure ones (Ferguson, A., Chowdhury, Muneer., — The phonemes of Bengali, pp. 50 — 51).

Examples of nasal vowels:

[kā~Sā] — 'bronze'
[ḡā~dā] — 'donation'
[kā~dā] — 'crying'

[bā~S] — 'bamboo'
[p@~ḡāSi] — 'eighty five'
[phu~pije kâ~dā] — 'sob', etc.

11.4b ARTICULATION OF THE BENGALI VOWEL PHONEMES: (NON NASAL)

/ə/ — short, rounded, of the back row, and half open.

In the articulation of /ə/ the tongue is slightly taken affront, the tip of the tongue almost touches the back of the lower teeth and is almost totally relaxed, and the distance between the upper and lower teeth is small, the lips are protruded.

/ā:/ — long, tense, unrounded, of the central row, and open.

In the articulation of /ā:/ the tongue lies in almost a neutral position. The tip of the tongue rests at the base of the lower teeth, or even a little lower; the lower lip is taken slightly inwards.

/i/ — short, unrounded, of the front row, and close.

In the articulation of /i/ the tongue is moved affront, the tip of the tongue lies at the lower teeth, the middle of the tongue is raised towards the hard palate but the passage is not narrow, and the lips are wide open. Compared to the long /ī / this sound is less tense.

/u/ — short, rounded, of the back row, and close.

In the articulation of /u/ the tongue is taken a little backwards, the back of the tongue is also held low as compared to the long /ū /, the tip of the tongue is let loose, the tongue lies behind the lower teeth, and the lips are rounded.

/e:/ — long, tense, unrounded, of the front row, and half close.

In the articulation of the /e:/ the middle part of the forwarded tongue is raised a little, the tip of the tongue lies at the lower teeth and the lips are slightly widened.

/æ:/ — long, tense, unrounded, of the front row, and half open.

In the articulation of /æ:/ the tongue is taken aback, the back of the tongue is raised high towards the soft palate, the lips are wide open.

The following common features of the Bengali vowel phonemes may be noted :

1. All the long vowels of the Bengali language, irrespective of stress and position in a word, are tense and are distinguished by a clear and sharp timbre, especially when they are unstressed.
2. The vowels of the Bengali language are pronounced equally without any glide and change in tension from beginning till the end. (except /ə/).
3. At the end of a word long vowels are somewhat shorter as compared to other positions, but they do not lose their characteristic features.
4. In spontaneous speech the long vowels, in their absolute length, certainly do shrink, but all other vowels (including the short ones) do proportionately shrink too; hence, a relative length of the long vowels is maintained.
5. Stress in the Bengali language is not a distinctive feature and does not serve as a means of singling out a syllable in a word. It only serves as a syntagmatic segmentation of a sentence.

II.4c A BRIEF ACCOUNT OF THE SYSTEM OF CONSONANTS IN THE
BENGALI LANGUAGE

In the Bengali language there are 31 consonantal phonemes:
/k/, /kh/, /g/, /gh/, /ʈ/, /ch/, /ʃ/, /ʒh/, /t./, /t.h/, /d./, /d.h/, /R./,
/R.h/, /t/, /th/, d/, /dh/, /p/, /ph/, /b/, /bh/, /ñ/, /n/, /m/, /y/, /r/,
/l/, /S/, /h/, and /w/.

These consonantal phonemes differ from each other depending upon:

- (a) Place of articulation.
- (b) Manner of articulation.
- (c) Opposition of voiced and voiceless.
- (d) Aspiration.

Following Table shows the Bengali segments at a glance.

TABLE : 13 BENGALI CONSONANTAL PHONEMES AND THE ALLOPHONIC VARIANTS.**

MODE OF ARTI- CULATION —> PLACE OF ARTICULATION \		Occlusive-plosives and affricates				Occlusive-fricative			Non- Occlusive and Fricative
		Voiceless		Voiced		Nasal	Late- ral	Rolled & Flapped	
		Un- as- pi- ra- ted	As- pi- ra- ted	Un- as- pi- ra- ted	As- pi- ra- ted				
Glottal									h
L	Back- Lingual velar	k	kh	g	gh	ṅ			
I	Medio- lingual paltal	ç	ch	j	Jh				S,(y)
N	Retro- flexive cerebral	t.	t.h	d.	d.h			R.,R.h	
G	Fore- lingual alveolar						l	r	s,(z)
U	Fore- lingual apical dental	t	th	d	dh	n			
A									
L									
Labial (Bilabial)		p	ph	b	bh	m			(f),(v), (w)

() allophonic variations.

** (Bykova, E.M., — "Bengal. 'skij jazyk'", Moscow, 1981, p.24)

In her book, Bykova (ibid p. 23 —25) points out that :
 "With the group of occlusives and their subgroups
 of plosives and affricates, there are oppositions
 of: voiceless — voiced, and unaspirate — aspirate
 consonants. The oppositions are phonetically
 realised only in the initial and intervocalic
 positions in the middle of the word. In a closed
 syllable, occurring in the middle or the end of
 the word, the opposition of voiced — voiceless
 consonants is lost due to assimilation; aspirate
 consonants in the same positions are apt to lose
 aspiration.:
 /lat.hrâ/ — /lât.râ/ — 'wooden house or cabin',
 'fenced-in place', /go~ph/ — /go~f/ — /go~p/ —
 'moustache'. Labial aspirates, especially plosive

/ph/, less frequently /bh/, can be free variants of bilabial spirants /f/ and /v/, respectively; so the words 'flower' and 'fruit' are pronounced in two different ways: /phul/ - /ful/ and /phəl/ - /fəl/.

The allophonic variations (y) and (w) are rather close to the vowels /e/ and /o/ in terms of their acoustic characteristics. By their function (y) and (w) are alike and like any other consonant can be the initial and final units of a syllable, e.g. [dē-yā] — 'kindness' or 'mercy', [de-wāl] — 'wall', [lu-wā] — 'well', [Jāy-gā] — 'space', [fey-lā] — 'coal', [Səñ-Səy] — 'doubt', [pori-ŋəy] — 'introduction', etc., or [Sə-wā] — 'tolerate', [Jā-wā] — 'going', and so on. It is important to note that the above semi-vowels perform the function of an intervocal glide, and is important in the position of the intermorpheme glide: eg.: [pā] (receive) + [wā] = [pāwā]; [bhāi] (brother) + [er] = [bhāiyer] — 'of the brother'; [khā] (eat) + [wā] = [khāwā] and so on.

It is worth noting that the consonantal phonemes /s/, /z/, /f/, and /v/ and also the aspirate resonant phonemes /nh/, /mh/, /rh/, /lh/ exist in the periphery of the Bengali phonological system and like the diphthongs /oi/ and /ou/, they owe their existence to contacts with other languages, mainly to Sanskrit and Arabic-Persian loan words, and to the loan words of the English and other languages.

The sibilants /s/ (voiceless) and /z/ (voiced) exist as allophonic variants of /S/ and /J/ respectively, and are not opposed to each other, as they never occur in similar positions. /s/ occurs in Sanskrit and other words, and /z/ in Arabic-Persian words.

For example :

SANSKRIT/OTHERS	ARABIC-PERSIAN
[b@stā] — 'sack'	[roz] — 'daily'
[S@stā] — 'cheap'	[zaruri] — 'important'
[bisleS@n] — 'explanation'	[zor] — 'power'
[snān] — 'bathing'	[zabardasti] — 'forcefully'

Some other examples of the spirants /f/ and /v/ and the aspirate resonants, i.e. /h+n/, /h+m/, /h+r/, /h+l/, /r+h/, /n+h/ are as follows:—

1. [fəSād] or [feSād] — 'difficulty' (Arabic)
2. [fouJ] — 'army' (Arabic)
3. [fəS@n] — 'fashion' (English)
4. [vot] or [bhot] — 'vote'
5. [Çinh@] — 'mark' (Sanskrit)
6. [brāhm@n] — 'brahmin' (Sanskrit)
7. [āhlād] — 'joy' (Sanskrit)
8. [rhid@y] — 'heart' (Sanskrit) , and so on.

It is also important to note the phonological variations in the Bengali language. Following are a few of them :—

1. [āSte] — [āste] (S → s) — 'slowly'
2. [phul] — [ful] (ph → f) — 'flower'
3. [nebu] — [lebu] (n → l) — 'lemon'
4. [nun] — [lun] (n → l) — 'salt'

It is equally important to make a note of the combinatory variations, like :—

1. [pā~Ç] + [So] (five + hundred) = [pā~SSo]
2. [S@t] + [J@n] (good + people) = [S@JJ@n]
3. [mār] + [lum] (I beat) = [mallum]
4. [kor] + [le] (did) = [kolle], and so on.

In the following chapter an attempt has been made to describe the major factors involved in the process of teaching Foreign Languages, with special reference to the Russian language.