

# Russian Phonology

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- . • The Russian language is a Slavic language which belongs to the Indo-European language family.
- . • Utilizing the written system of Cyrillic, the alphabet consists of thirty-three letters.
- . • There are five basic vowel sounds, similar to those in English (а, э, и, о, у/0 2 I o u), in addition to six other vowels (е, ё, я, ю, ы, й).
  - a. • The basic vowels of Russian fall on the same points of the vowel chart as their English correlates.
  - b. • The second set of vowels does not really have English correlates. The first vowel is most similar to the 'ye' in the English word 'yellow', the second vowel is most similar to the 'yo' in the English word 'yoke'.
    - The third and fourth vowels are considered semi-vowels. The third vowel is most similar to the 'ya' in the Spanish word 'manana', while the fourth vowel is most similar to the English word 'you'.
      - a. • The fourth and fifth vowels do not have any English correlate. The ы vowel is pronounced by elevating your tongue to the placement exactly between the sounds of the 'y' in myth and the 'ou' in should.
      - b. • The fifth vowel is similar to the и sound, but is followed by a glide 'j'. In addition, there are several Russian diphthongs. There are a few vowels which cannot form the first sound of a Russian diphthong; these are the semi-vowels

(я, ю) and the vowel з. Other than these exceptions, all vowels can be combined to create a diphthong. There are no naturally occurring triphthongs in Russian.

. • As with any other language, there are vowel modifications that are made in every-day speech.

. In Russian, there is vowel reduction if the vowel is in a non-stressed position in the word. Examples of this are found consistently throughout the language; in the 'o' sound changes to an 'a' sound, and when the vowel ё follows the letter ж, it is always pronounced as an 'o'. Aside from these phonological rules, the language experiences the same vowel reductions found in English with a trend to centralize vowels in rapid speech.

. • In addition to the eleven vowels, there are twenty consonants. Many of these are similar to consonants in English, however, they are produced in a different manner and thus the acoustical properties are different from those in English.

. • Additionally, there are two letters that are not present in English: Ъ (soft sound), Ь (hard sound). These letters modify the sounds of the consonants that they follow and by doing so they combine or derivationally change words. While the soft sound changes the formant properties of the preceding consonant, the hard sound simply creates harshness or aspiration and does not change the formant properties.

. • Therefore, in essence, there are forty consonant sounds present in Russian.

. • As with vowels, consonants are subject to

reduction modification; thus in an unstressed position in the word they often become voiceless if voiced and tend to centralize. Below is a chart of the Russian phonemes and their formant and spectral properties.

| Vowels | F1     | F2      |
|--------|--------|---------|
| А      | 900 Hz | 1800 Hz |
| И      | 300 Hz | 2900 Hz |
| Й      | 300 Hz | 2900 Hz |
| Э      | 650 Hz | 1800 Hz |
| Е      | 300 Hz | 2300 Hz |
| Ё      | 226 Hz | 2400 Hz |
| О      | 490 Hz | 800 Hz  |
| У      | 400 Hz | 770 Hz  |
| Ы      | 600 Hz | 2000 Hz |
| Ю      | 420 Hz | 1200 Hz |
| Я      | 350 Hz | 1180 Hz |

| Consonants | IPA | F1     | F2       |
|------------|-----|--------|----------|
| Б          | b   | 300 Hz | 2150 Hz  |
| Бь         |     | 200 Hz | 2100     |
| В          | v   | 300 Hz | 1700 Hz  |
| Вь         |     | 200    | 2100     |
| Г          | g   | 700 Hz | 1350 Hz  |
| Гь         |     | 175    | 2150     |
| Д          | d   | 250 Hz | 17500 Hz |
| Дь         |     | 150    | 2150     |
| Ж*         | ʒ   | 200 Hz | 1900 Hz  |
| З          | z   | 330 Hz | 1100 Hz  |
| Зь         |     | 300    | 400      |
| К          | k   | 725 Hz | 1325 Hz  |
| Кь         |     | 750    | 1600     |
| Л          | l   | 300 Hz | 2100 Hz  |
| Ль         |     | 300    | 2200     |
| М          | m   | 200 Hz | 1250 Hz  |
| Мь         |     | 250    | 2300     |
| Н          | n   | 200 Hz | 2100 Hz  |
| Нь         |     | 250    | 2300     |

|    |    |        |         |
|----|----|--------|---------|
| П  | P  | 200 Hz | 1500 Hz |
| Пь |    | 150    | 2150    |
| Р  | R  | 350 Hz | 1880 Hz |
| Рь |    | 250    | 2250    |
| С  | S  | 300 Hz | 2050 Hz |
| Сь |    | 300    | 2350    |
| Т  | T  | 250 Hz | 1975 Hz |
| Ть |    | 200    | 2200    |
| Ф  | F  | 200 Hz | 1600 Hz |
| Фь |    | 250    | 2100    |
| Х* | H  | 930 Hz | 1600 Hz |
| Ц* | Ts | 200 Hz | 1600 Hz |
| Ч* | .  | 200 Hz | 1900 Hz |

|    |   |        |         |
|----|---|--------|---------|
| Ш* | c | 200 Hz | 2100 Hz |
| Щ* |   | 250 Hz | 2200 Hz |

\*These letters are not modified by Ъ

The consonants are broken up into the same distinctive features as other languages; sibilant, palatal, dental, alveolar, strident, etc. Below is a chart of how the Russian consonants are characterized.

| Place/manner | Bilabial | Labio-dental | Dental | Alveolar | Alvelopalatal | Palatal | velar |
|--------------|----------|--------------|--------|----------|---------------|---------|-------|
| Stops        |          |              |        |          |               |         |       |
| Voiced       | Б бь     |              | Д ль   |          |               |         | Г гь  |
| Voiceless    | П пь     |              | Т ть   |          |               |         | К кь  |
| Fricatives   |          |              |        |          |               |         |       |
| Voiced       |          | В вь         | З зь   |          |               | Ч       | Ъ     |
| Voiceless    |          | Ф фь         | С сь   |          |               | Ш       | Х     |
| Affricates   |          |              |        |          |               |         |       |
| Voiced       |          |              |        | Ж        |               |         |       |
| Voiceless    |          |              |        | Ш        |               |         |       |
| Nasals       |          |              |        |          |               |         |       |
| Voiced       | М мь     |              | Н нь   |          |               |         |       |
| Laterals     |          |              |        |          |               |         |       |

|        |  |  |      |  |      |  |  |
|--------|--|--|------|--|------|--|--|
| Voiced |  |  | Л ль |  |      |  |  |
| Trills |  |  |      |  |      |  |  |
| Voiced |  |  |      |  | Р рь |  |  |

## Rules of Stress:

- . • One characteristic of the Russian language that makes its acquisition difficult for deaf and hard-of-hearing individuals and individuals learning it as a second language is the abundance of consonant clusters and the rules of stress.
- . • Russian is a language that is fraught with a multitude of consonant clusters, and in addition, each word can have only one stress.
- . • If the word is stressed incorrectly, it either becomes a nonsense word or it becomes a word with a different meaning.
- . • Additionally, suffixes and prefixes play a very important part in the language. Prefixes are placed into three different classes: 1) prefixes which are based on prepositions, 2) simple nominal and adjectival prefixes which are added to independent words, and 3) verbal prefixes.
- . • Examples of the first class of prefix are: **вгорода** ‘in a/the city’ (**в**-in **города** –a city), or: **настул** ‘on the table’ (**на**-on **стул**-a table).
- . • Examples of the second class of prefix are: **безлюдье** ‘vacant’ (**без**-without **людье**-people), or: **нехороший** ‘not good’ (**не**-not **хороший**-good).
- . • Examples of the third class of prefix are: **сиграют** ‘to play with’ (**с**-with **грают**-play), or: **приход** ‘arrival’ (**при**-before **ход**-enter).

- . • Suffixes are also important in Russian grammar because they not only indicate plurality; they also define whether the word is nominal, adjectival, or verbal.
- . • In combination with the prefix, they indicate whether a word is present, past, future, who is indicated in the speech, and (in verbs) whom an action is directed at or in which direction the action is occurring.
- . • In addition, they indicate size and emotion associated with the object or event.
- . • When used in conjunction with verbs, suffixes indicate whom is being addressed.
- . • For example, each verb must be conjugated based upon who is being discussed; (Я) I/me, (Вы) formal you (including plural you), (Ты) informal you (including plural you), (Мы) we, (Он/Она) he/she, (Они) they.
- . • Additionally, suffixes can change a verb to a noun, as in учить/ учитель (to teach/ teacher).
- . • In nouns, however, suffixes play a different but equally important role. For example, suffixes indicate plurality: стакан/ стаканы (drinking glass/drinking glasses), книга/книги (book/books); or, a suffix may convert a noun to an adjective as in книга/книжный (book/bookish).
- . • Another characteristic of suffixes used in conjunction with nouns is the ability to convey size and emotion about a noun. For example, река/речка (river/little river or creek), кот/котик/кошка/кошечка (male cat/little brave male cat/female cat/ female cat who is loved very much).
- . • These are all very important parts of the Russian

language which are in many ways similar to English, but which pose a great difficulty for the deaf and hard-of hearing population.

- . • Many of the prefixes are single sounds and, being unstressed, are difficult to hear or distinguish from one another. For examples, refer to the table of prepositions.

- . • Despite all of the inherently difficult sound combinations within the Russian language, there are a few properties which make aural rehabilitation less challenging.

- . • One of these is the presence of each of the Ling six sounds (a, i, u, m, s, sh). Additionally, there are many sounds (like in English) which are cognates making minimal pairs possible.

- . • While many of the words in Russian are complex, below is a list of first words. Starting here, aural rehabilitation should then be able to follow the same course as in English, understanding that many of the phonemes will be later developing.

Suffixes:

| English preposition | Russian preposition |
|---------------------|---------------------|
| On                  | На                  |
| In                  | В                   |
| Around              | Вокруг              |
| With                | С                   |
| Towards             | К                   |
| Away from           | От                  |
| Over                | над                 |

People/Family Russian word  
 Mom мамы/мату/мат Dad  
 папи/папу Brother брат Sister сестёр Aunt тётя  
 Uncle дядя

Animals Russian word Dog/puppy собака/шенок  
Cat/kitten кот/котёнок Bird/chick птица Horse/foal  
лошадь Sheep/lamb овца/ягнёнок Cow/calf  
корова/телёнок Goat/kid коза/козёнок Fox/kit  
лиса/лисёнок Wolf/pups волк/волчёнок Bear/cubs  
медвед Fish/little fish рыба/рыбёнок Mouse/little  
mouse мышка/мышёнок Rat/little rat  
криса/крисынь Duck/duckling утка/утёнок  
Goose/goslings гус/гусёнок Donkey/foal осёл  
Rabbit/bunny заяц/зайчёнок Chicken/chicks петух/  
ЦЫПЛЕНОК Rooster (no babies) куриц Lion  
лев/лвёнок Hippopotamus вигимоти Elephant слон  
Turtle черепаха

Colors Russian word Red красная Blue синий Green  
зелёный Yellow жёлтый White белый Black чёрное  
Purple пурпурный Pink розовый Orange оранжевый  
Brown коричневый

Minimal Pairs (from Hamilton, 1980)

б/бь был/бил (past/ the beaters) б/п были/пыли (dust/of  
the dust) т/ть мат/мать (mother/violence) д/дъ  
ходы/ходи (gaits/walk) т/д там/дам (there/ladies) ть/дь  
тень/день (shadow/day) г/к год/кот (year/tomcat) ф/фь  
кров/кровь (shelter/the blood) з/зь зал/взял (into the  
hall/took) с/сь вес/весь (weight/entire) в/вь вол/вёл (ox/  
was leading) л/ль полка/полька (shelf/polka) р/рь  
рат/ряд (rat[anglicized]/ a number) н/нь нос/нёс (nose/it  
bore)