

ILLUSTRATIONS OF THE IPA

Russian

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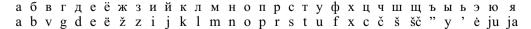
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Russian (ISO 639-3 rus) is an Indo-European East Slavic language spoken by about 162 million people as their first language and about another 110 million as their second language (Lewis, Simons & Fennig 2013), mainly in the Russian Federation (where it is the native language of about 80% of the population, see Berger 1998, Federal'naja služba gosudarstvennoj statistiki (Federal State Statistics Service) 2012: 228–232) and in the other former republics of the USSR (among which it is co-official in Belarus, Kazakhstan and Kyrgyzstan). Large groups of Russian speakers (so-called heritage speakers) also live in Europe (especially Germany: almost 3 million or 3.5% of the population, Brehmer 2007: 166–167), Israel (about 1 million or 20%, Glöckner 2008) and the United States (850,000 or 0.3%, Shin & Kominski 2010: 6).

Traditionally, two main pronunciation standards are recognised, those of Moscow and St. Petersburg (Comrie, Stone & Polinsky 1996, Verbickaja 2001). The differences between the two standards, while still fairly prominent in the first half of the 20th century, have greatly lessened in contemporary Russian. The emergence of a general pronunciation standard that integrates the features of both Moscow and St. Petersburg pronunciation is discussed in Comrie et al. (1996) and Verbickaja (2001).

The present Illustration is based on the recording of a male speaker in his early forties, born and college educated in St. Petersburg, whose pronunciation is representative of the St. Petersburg standard pronunciation. This illustration is thus representative of the younger pronunciation norm that has emerged in the past 30–40 years as opposed to the accounts of Russian phonetics found, for instance, in Jones & Ward (1969) and Avanesov (1972).

The examples below are transliterated according to the international scholarly system (see e.g. Kempgen n.d., Timberlake 2004) as follows:



The broad transcriptions given below in slant brackets are phonemic (within the framework of the St. Petersburg School of Phonology, e.g. Bondarko 1998, 2009), while the narrow

transcriptions in square brackets represent finer phonetic details, and are based on the actual pronunciation of our speaker.

Consonants

The system of consonants in Russian is characterised by the phonological opposition of palatalised ('soft') and non-palatalised ('hard') consonants that encompasses almost all consonants, with very few exceptions. Thus, /\(\int \) fs/ have no palatalised counterparts, while $f(\vec{y})'$ and $f(\vec{y})'$ have no non-palatalised counterparts. All non-palatalised consonants are realised with velarisation (e.g. Bolla 1981) which is particularly noticeable in /l/ [t] and $\int \sqrt{3} \left[\int_{1}^{\infty} 3^{\gamma} \right]$. The table below shows the consonant phonemes of Russian. Only the palatalisation of consonants is marked in transcription.

	Bilabial	Labio	dental	Dental/ Alveolar		Post- alveolar	Palatal	Ve	Velar	
Plosive	$\begin{array}{ccc} p & b \\ p^j & b^j \end{array}$			t t ^j	$\frac{\mathrm{d}}{\mathrm{d}^{\mathrm{j}}}$			k k ^j	g g ^j	
Affricate				ts		$\widehat{\mathfrak{t}\mathfrak{J}}^{\mathfrak{j}}$				
Nasal	m m ^j				n n ^j					
Trill					r r ^j					
Fricative		f f^j	$v \\ v^j$	s s ^j	Z Z ^j	$\int_{\int_{0}^{j}}$ 3		X X ^j		
Approximant							j			
Lateral approximant					1 1 ^j					

p	/ˈpal ^j t͡sɨ/	pal'cy	'fingers'	r	/'rat/	rad	'(am etc.) glad'
p^{j}	/ˈpʲalʲt͡sɨ/	pjal'cy	'embroidery hoop'	\mathbf{r}^{j}	/ˈrʲat/	rjad	'row'
b	/'bas/	bas	'bass'	S	/'sat/	sad	'garden'
b^{j}	/ˈbʲasʲ/	bjaz'	'calico'	S^j	/ˈsʲatʲ/	sjad'	'sit' (imperative)
m	/ˈmala/	malo	'little, not enough'	Z	/'zapax/	zapax	'smell' (noun)
m^{j}	/ˈmʲala/	mjala	'(she) crumpled'	\mathbf{Z}^{j}	/ˈzʲapkʲij/	zjabkij	'sensitive to cold'
f	/'fota/	foto	'photo'	\widehat{ts}	/ˈt͡sar ^j /	car'	'tzar'
$\mathbf{f}^{\mathbf{j}}$	/ˈf ^j odar/	Fëdor	'Fëdor' (name)	$\widehat{\mathfrak{t}\mathfrak{f}}^{\mathrm{j}}$	/ˈt͡ʃˈarɨ/	čary	'charms'
\mathbf{v}	/ˈval ^j ik/	valik	'bolster'	∫ ^j :	/ˈʃʲːuka/	ščuka	'pike'
$\mathbf{V}^{\mathbf{j}}$	/ˈvʲalʲit/	vjalit	'(s/he) dry-cures'	ſ	/'∫ar/	šar	'ball'
t	/'tapka/	tapka	'slipper'	3	/'3ar/	žar	'heat'
t^j	/ˈt ^j apka/	tjapka	'chopper' (tool)	j	/ˈjama/	jama	'pit'
d	/'dom/	dom	'house'	k	/'kot/	kot	'tomcat'
d^{j}	/'djorn/	dërn	'turf'	$\mathbf{k}^{\mathbf{j}}$	/'tk ^j ot/	tkët	'(s/he) weaves'
n	/'nos/	nos	'nose'	g	/'got/	god	'year'
$\mathbf{n}^{\mathbf{j}}$	$/^{I}n^{j}os/$	nës	'(he) carried'	g^{j}	/ˈg ^j ote/	Gëte	'Goethe'
1	/'lot/	lot	'plummet'	X	/'xunta/	xunta	'junta'
l^j	$/^{l}l^{j}ot/$	lëd	'ice'	$\mathbf{X}^{\mathbf{j}}$	$/ {}^{\rm l} x^{\rm j} ubner /$	Xjubner	'Hübner' (name)

Note that in the examples above the consonants are represented before non-front vowels. Only palatalised consonants and /j/ occur before [i], and in indigenous words only palatalised consonants and the non-paired consonants /fs $\int g$ j/ occur before /e/, whereas in loanwords non-palatalised consonants can occur before /e/, e.g. test ['test] 'test', tire [t^j I're'] 'dash'.

Non-palatalised dental consonants are laminal denti-alveolar, velarised. The affricate [ts] has no palatalised counterpart in the system of consonants, and its palatalisation, although evident in some regional accents of Russian, is considered emphatically non-standard.

The realisation of the palatalised ('soft') consonants involves the secondary articulation of palatalisation in its purest form (the rising of the front of the tongue to the hard palate) only in bilabials and labiodentals. In other consonants, palatalisation is accompanied by further articulatory adjustments that affect both place and manner of articulation (Bondarko 1998, 2005). For instance, the point of constriction of /ti/ and /di/ is retracted compared to non-palatalised laminal denti-alveolar /t/ and /d/ and they are normally affricated [tsi] [dzi]; /r/ is an alveolar trill in careful pronunciation, but its palatalised counterpart /ri/ is usually realised as a tap [ri]. In the palatalised counterparts of velar /k g x/ the point of constriction is fronted so that they are realised as post-palatal [ki gi xi] (see Keating & Lahiri 1993). Note that /ki gi xi/, while common in combination with front vowels (e.g. kislo ['ki stala'] 'sour', girja ['gi ri ti] 'weight', xitryj ['xi tala'] 'cunning'; kepka ['ki epka] 'cap', gercog ['gi ertsak] 'duke', sxema ['sxi ema] 'scheme') are rare before non-front vowels and occur in this position mainly in loanwords and foreign names, e.g. Gëte ['gi ztala'] 'Goethe', Kjaxta ['ki xtala'] 'Kyakhta' (a town in Buryatia, Russia), and a single indigenous verb: tkët ['tki ztala'] '(he) weaves'.

The combinations of non-palatalised velars and the /ɨ/ vowel /kɨ gɨ xɨ/ are rare and found only in a handful of loanwords and across word boundaries, e.g. kyš [ˈkɨʃ] 'shoo' (interjection), Arxyz [ʌrˈxɨs] 'Arkhyz' (a territory in Karachay-Cherkessia); k Igor'u [ˈkˌɨːgərʲu] 'towards Igor', dvuxėtažnyj [ˌdvuxɨˈtaːʒn̞ɨi] 'two-storeyed'.

Voicing is used contrastively in Russian; voiced consonants are fully voiced, voiceless plosives are always unaspirated, e.g. tok ['tuok] 'current', kot ['kuot] 'tomcat'. The distribution of consonants is such that only voiceless but no voiced obstruents occur word-finally, e.g. goda [ga'da'] 'years', god ['goot] 'year'.

In sequences of consonants, both within words and across word boundaries, various kinds of regressive assimilation take place. For example, if the second consonant is a voiced obstruent (other than $v v^{j}$), the preceding consonant is also voiced, e.g. *gorod* ['g"ɔrət] 'city' but *gorod bol'šoj* ['g"ɔrəd] bʌl]^jʃoʻi] '(the) city is big' (Verbickaja 2001). Under certain conditions, assimilation can also affect palatalisation or even the whole place and/or manner of articulation, e.g. *bandit* [bʌn]^jdl·rt] 'bandit', *bez šuma* [b¹rlʃ:u·mə] 'without a noise'. In such cases we can also find sounds that otherwise represent gaps in the phoneme inventory, e.g. [ɣ] as a voiced allophone of /x/ in *mox zelënyj* ['m"ɔrɣ z^jrll̞bˈnnij] 'the moss (is) green', [ɣ¹] as a voiced and palatalised allophone of /x/ in *drugix gimnazij* [d̞ruˈg¹i-ɣ¹ g³ mˈnarz¹ni] 'of other grammar schools', [d͡z] as a voiced allophone of /f͡s/ in *otec doma* [ʌ¹t̞¹erdz ˈdʊ-ɔrmə] 'father is at home', [ʃ³] as an allophone of /s/ in s čaem [ʃ¹ltʃ³æːim] 'with tea' (Kasatkin 2006: 44), [d͡ʒ³] as a voiced allophone of /f͡ʃ³/ in *doč bol'na* ['dʊ-ɔrdʒ¹ bʌl̞lʰna·] '(the) daughter is ill'. Sonorants can be realised as devoiced when word-initial and word-final in the vicinity of voiceless obstruents, e.g. *teatr* [t̞l¹rartʃ] 'theatre'.

Labiodental fricatives /v/ and /v^j/ are often weakly articulated [\dot{y} y^j] or are realised as approximants [\dot{v} v^j], particularly in spontaneous speech. The palatal /j/ can be realised as an approximant [j] (especially in the onset of a stressed syllable), a semivowel [i] (especially when unstressed), or emphatically as a fricative [j] or even a devoiced fricative [ç].

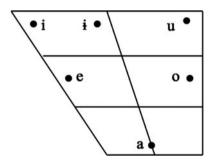
Fricatives $/\int 3/$, as in $\check{s}ar/\int 3r/$ 'ball' and $\check{z}ar/\Im 3r/$ 'heat', can be realised either as flat velarised postalveolars $[\int^x 3^y]$ or as retroflexes [s,z] (Ladefoged & Maddieson 1996, Hamann 2004) and tend to be slightly labialised even in the context of unrounded vowels. They have no palatalised counterparts in the system of consonant phonemes; their palatalisation is considered non-standard. This also precludes their assimilation to a following palatalised consonant, e.g. $ro\check{z}denie [r_{\Lambda}3'\dot{q}^ie\dot{r}_n^j\dot{r}_{11}]$ 'birth', $ba\check{s}nja ['b\dot{q}.\dot{r}_n^j\dot{r}_{1}]$ 'tower'. The long fricative $/\int^{\dot{r}_i}/$, as in $\check{s}\check{c}uka ['\dot{f}^i.u.kə]$ 'pike', $s\check{c}ast'e ['\dot{f}^i.a.s'\dot{f}^ij_{11}]$ 'happiness', is a laminal palatalised postalveolar (or alternatively, an alveolo-palatal [c:]). (The former bisegmental pronunciation of

 $/J^{i}$:/ as $[J^{i}J^{i}]$, often cited as a characteristic feature of the older St. Petersburg norm (e.g. Jones & Ward 1969), is now clearly obsolete (see Comrie et al. 1996, Verbickaja 2001, Timberlake 2004).) The $/J^{i}$:/ consonant has no voiced counterpart in the system of phonemes. However, in conservative Moscow standard and only in a handful of lexical items the combination /33/may be pronounced with palatalisation, e.g. drožži 'yeast' as $[^{i}dr^{u}o\cdot 3^{i}I]$ instead of $[^{i}dr^{u}o\cdot 3^{i}I]$, although this realisation is now also somewhat obsolete.

Long consonants are found as realisations of biphonemic sequences particularly across morpheme boundaries, e.g. *otdel* [\(\lambda'\d'\end{b}':\end{c}\d'\end{c}\d'\end{c}':\end{c}\d'\end{c}\d'\end{c}':\end{c}\d'\end{c}\d'\end{c}':\end{c}\d'\end{c}\d'\end{c}':\end{c}\d'\end{c}\d'\end{c}\d'\end{c}\d'\end{c}':\end{c}\d'\end{c}

Clusters of three or more underlying consonants are often simplified, e.g. *pozdno* ['po'ɔˈznə] 'late', *peterburgskij* [pjɪtjɪrˈbuˈrskjɪi] 'of St Petersburg'. Consonants and consonant clusters before /o/ and /u/ are labialised, e.g. *stul* [ˈswtwu-tl] 'chair'.

Vowels



	CVC			C ₁ VC ₁		
/i/				['p ^j i· <u>l</u> ^j ɪ]	pili	'(we, you, they) drank'
/ i /	[ˈpɨˈɫ]	pyl	'ardour'		-	•
/e/	[ˈʃɛ̞·st̪]	šest	'pole'	[ˈt͡ʃʲe·sʲt̪ʲ]	čest'	'honour'
/o/	[ˈst̪əˈpɨ]	stopy	'feet'	[ˈst̪ ^j o̞ˈp ^j ɪn̪]	Stëpin	'of Stëpa' (name)
/u/	[ˈɫuˈk]	luk	'onion'	[ˈl̪ˈu̞·kʲɪ]	ljuki	'hatches'
/a/	[ˈsa̞ˈt̪]	sad	'garden'	[ˈsʲæ·t̞ʲ]	sjad'	'sit' (imperative)

Russian has six vowels, /i i e a o u/ (the above chart is based on Bondarko 1998). Vowel quality varies substantially depending on whether the vowel occurs in stressed or in unstressed syllables: in unstressed syllables, all vowels are subject to reduction. Furthermore, the realisation of the vowels varies as a function of consonantal context: vowels are more fronted after or before and particularly between palatalised consonants than when surrounded by non-palatalised consonants. Thus, for example, the /a/ vowel gets progressively more front in CVC^j, C^jVC, and C^jVC^j contexts relative to CVC context. When adjacent to only one palatalised consonant (CVC^j or C^jVC), it is a diphthongoid because it accommodates both to the velarisation and to the palatalisation of the adjacent consonants, e.g. sad [ˈsa̞t] 'garden', brosat', [brʌˈsa̞-¹t̪i] 'to throw', vprisjadku [fprʲɪˈsʲi a̞-t̪ku] 'in squatting position', sjad' [ˈsʲaɐ-t̪i] 'sit down!'.

There are conflicting views on the phonological status of the [i] and [i] vowels in Russian linguistics. As the two vowels [i] and [i] are in near-complementary distribution, with [i] occurring after palatalised consonants and [i] after non-palatalised consonants, they may be seen as one phoneme /i/ only, having two allophones [i] and [i] (Avanesov 1972, 1974;

Cubberley 2002) or (as they are treated here) as two separate phonemes (Halle 1959, Plapp 1996, Bondarko 1998, Verbickaja 2001), see also discussion in Bernštejn (1996), Cubberley (2002) and Timberlake (2004). Both vowels can be realised word-initially in identical context, e.g. in the letter names i ['i] for u vs. y ['i] for u or in the dialectological terms ikan'e ['i·kən'jɪ] 'merger of unstressed /e/ and /i/ after palatalised consonants' vs. ykan'e ['i·kən'jɪ] 'merger of unstressed /a/ and /i/ after /ʃ 3 fs/'. The /i/ vowel tends to be diphthongised, with a glide towards a more front close vowel, particularly when word-final, e.g. my ['m'\frac{1}{4}'] 'we', sady [sh'\frac{1}{4}' gardens'.

The /a/ vowel is an open central or back-advanced [a] in the context of non-palatalised consonants and gets markedly fronted to [a] between palatalised consonants, e.g. palka ['parke] 'stick', pjal'cy ['piarke] 'embroidery hoop'. Similarly, the /e/ vowel is more retracted and centralised in the context of the non-palatalised consonants, e.g. šest ['sest] 'pole', and is realised as front in the context of the palatalised consonants, where it is also more close, e.g. čest' ['tresite] 'honour'.

The /o/ vowel is a diphthongoid, with a closer lip rounding at the beginning of the vowel that gets progressively weaker [0 o] or even [0 o $^{\Lambda}$], particularly when occurring word-initially or word-finally under the stress, e.g. $o\check{c}en'$ [10 o $^{\Lambda}$ [\tilde{f}^{j} I \tilde{n}^{j}] 'very', okna [10 o $^{\Lambda}$ k \tilde{n} o] 'windows', moloko [$m\partial_{\Lambda}{}^{l}k^{0}$ o $^{\Lambda}$] 'milk'.

In standard pronunciation, /e/ and /o/ do not occur in unstressed syllables; /e/ is replaced with /i/ or /i/, and /o/ is replaced with /a/ (with exceptions in only a handful of loanwords, e.g. *radio* ['rq·q¹iɔ] 'radio', *èmbolija* [ɛmbʌ¹l²i·iɪ] 'embolism'). Vowels in unstressed syllables are subject to reduction. Generally, there are two degrees of vowel reduction, depending on the location of the vowel relative to the stressed syllable (see Cubberley 2002: 68). The first-degree reduction is realised in the syllable immediately before the stressed syllable and when the word begins with the unstressed vowel. It is also found (variably) in phrase-final open syllables. The second-degree reduction applies to all other unstressed syllables. This is most striking for the /a/ vowel, which is realised as [ʌ] or [ɐ] in the first degree of reduction (the former is characteristic of St. Petersburg and the latter of Moscow pronunciation, see Kasatkina 2005), and as [ə] in the second, e.g. *moloko* [məṭʌˈkuða] 'milk', *katastrofa* [kəṭʌˈstruða-fə] 'catastrophe'. Unstressed /a/ after palatalised consonants merges with /i/ and is realised as [i] or [ɪ], e.g. *djadja* ['djˈæ·dj¹ɪ] 'uncle', *časy* [t͡ʃj¹ɪˈsɨ·] 'clock'. The qualitative differences between the respective allophones of /i i u/ in stressed and unstressed syllables are less perspicuous.

Furthermore, unstressed vowels in Russian tend to be shorter than stressed vowels (and the second-degree unstressed vowels are shorter than first-degree ones), e.g. *govorit* '[gɔ̞̄vʌ¹rʲi't̞ʲ] 'to speak', particularly under phrasal stress. (Outside that context lexically stressed vowels are not necessarily longer than unstressed ones, see Knjazev 2006.)

Stress and intonation

The prominence of the stressed syllable in Russian is achieved primarily through the duration and quality of the stressed vowel; the vowels in the stressed syllables are full quality /i i e a o u/ and usually half-long whereas the unstressed vowels (only /i i a u/ are possible in this position) are subject to various degrees of qualitative and quantitative reduction (see above). The stress is free and can fall on any syllable in a word. In the majority of cases, the stress is stable, that is it falls on the same syllable in the word within its paradigm or in its derivatives, e.g. brat 'ja ['brant'ja] 'brothers', brat 'jami ['brant'jami] 'brothers (instrumental case)', bratskij ['brantskija] 'brotherly', bratstvo ['brantstvo] 'brotherhood'. There is, however, a large number of common words where the stress moves within the word's paradigm or in derived forms, e.g. gorod ['gont] 'city' but goroda [gant'da'] 'cities', gorodskoj [gant'tsk'oni] 'of (the) city (ADJ), urban' (Bondarko 1998).

There are several descriptions of Russian intonation. The classic is by Bryzgunova (1977), who impressionistically differentiates five basic 'intonational contours'. Further descriptions include Odé (1989) and Svetozarova (1998). Odé's (2008) ToRI (Transcription of Russian

Intonation) project is an attempt at a comprehensive description of Russian intonational phonology within the autosegmental-metrical framework. One of the main functions of Russian sentence intonation is to mark the information structure of a sentence. A conspicuous feature of Russian is that *wh*-questions have a falling contour similar to statements, and even yes/no-questions are not characterised by a final rise but rather a rise-fall (H*L) on the focally accented syllable.

Transcription of the recorded passage

In the transcriptions below, stressed syllables are marked, but intonation is not marked.

Broad transcription

a'dnazdi 's'ev'irnij 'v'et'ir i 'sontsi pa'spor'il'i | 'kto iz' 'n'ix s'i'l'n'eji | kak 'ras 'v eta 'vr'em'a | a'n'i za'm'et'il'i za'kutanava 'f plaf': 'put'n'ika | ka'torij 'fol pa da'rog'i | i r'i'fil'i | 'fto 'tot iz 'n'ix 'bud'it f':i'tatsa 'samim 's'il'nim | ka'mu 'ran'fi u'dastsa za'stav'it' 'put'n'ika 's'n'at' 'plaf': || 'tut 's'ev'irnij 'v'et'ir 'pr'in'ils'a 'dut' iza 'fs'ex 's'il || 'no 'ff'em s'i'l'n'eji 'on 'dul | 't'em s'i'l'n'eji 'kutals'a 'put'n'ik 'f svoj 'plaf': || 'tak 'fto f kan'tse kan'tsof | 's'ev'irnij 'v'et'ir 'dolzin 'bil atka'zatsa at sva'jej za't'eji || ta'gda zas'i'jala 'solnifka || 'put'n'ik pan'i'mnogu ata'gr'els'a | i 'fskor'i 's'n'al 'svoj 'plaf': || ta'k'im 'obrazam | 's'ev'irnij 'v'et'ir 'vinuzd'in 'bil pr'i'znat' | 'fto 'sontsi s'i'l'n'eji ji'vo

Narrow transcription

\(\lambda'\) \(\la

Orthographic version

Однажды северный ветер и солнце поспорили, кто из них сильнее. Как раз в это время они заметили закутанного в плащ путника, который шёл по дороге, и решили, что тот из них будет считаться самым сильным, кому раньше удастся заставить путника снять плащ. Тут северный ветер принялся дуть изо всех сил; но чем сильнее он дул, тем сильнее кутался путник в свой плащ, так что в конце концов северный ветер должен был отказаться от своей затеи. Тогда засияло солнышко, путник понемногу отогрелся и вскоре снял свой плащ. Таким образом, северный ветер вынужден был признать, что солные сильнее его.

Transliteration

Odnaždy severnyj veter i solnce posporili, kto iz nix sil'nee. Kak raz v ėto vremja oni zametili zakutannogo v plašč putnika, kotoryj šël po doroge, i rešili, čto tot iz nix budet sčitat'sja samym sil'nym, komu ran'še udastsja zastavit' putnika snjat' plašč. Tut severnyj veter prinjalsja dut' izo vsex sil; no čem sil'nee on dul, tem sil'nee kutalsja putnik v svoj plašč, tak čto v konce koncov severnyj veter dolžen byl otkazat'sja ot svoej zatei. Togda zasijalo solnyško, putnik ponemnogu otogrelsja i vskore snjal svoj plašč. Takim obrazom, severnyj veter vynužden byl priznat', čto solnce sil'nee ego.

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