

Japanese consonants, IPA

	Bilabial		Denti-alveolar		Post-alveolar		Retro-flex		Alveolo-palatal		Velar		Uvular		Glottal	
Plosive	p	b	t̚	d̚				[ɖ]			k	g				
Affricate			[t͡s]	[d͡z]					[t͡ɕ]	[d͡ʑ]						
Fricative	[ɸ]	[β]	s	z					[ɕ], [ç]	[ʑ]		[ɣ]			h	
Nasal		m		ɲ						[ɲ]		[ŋ]		[ɴ]		
Tap				ɾ				[ɽ]								
Lateral tap				[ɭ]												
Approximant		β̞						[ɻ]		j		[ɰ]				
Lateral approximant				[l]		[ɭ]		[ɭ]								

- Where symbols appear in pairs, the one to the right represents a voiced consonant.
- Where symbols appear singly, they are placed to the left within their column if they represent a voiceless consonant, and to the right if they represent voiced.
- Symbols enclosed in brackets represent non-phonemic consonants.
- Blacked-out cells indicate phones judged to be impossible.

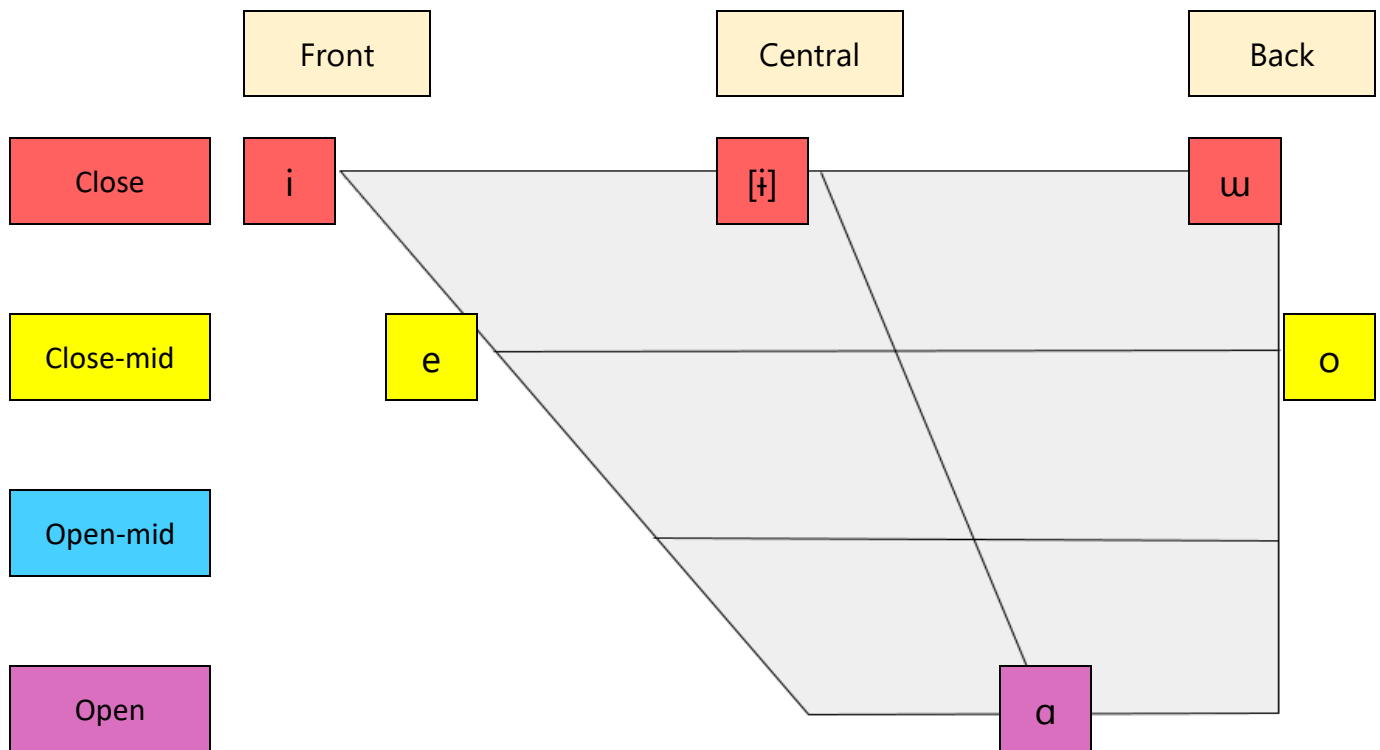
- The alveolo-palatal column contains one palatal phone: [ç].
- The voiced bilabial approximant is represented as [β̞], a “lowered” bilabial fricative, instead of [w], because this phoneme in Japanese is pronounced without lip rounding. It is also often represented as the voiced velar approximant [ɰ]. Between the two, the choice of [β̞] to represent the phoneme was arbitrary.
- Eight of the non-phonemic sounds are allophones of the /r/ “R” phoneme: the alveolar, post-alveolar, and retroflex lateral approximants; the alveolar tap and lateral tap; and the retroflex tap, approximant, and voiced plosive.

Japanese consonants, Hiragana

	Bilabial		Denti-alveolar		Post-alveolar		Retroflex		Alveolopalatal		Velar		Uvular		Glottal	
Plosive	パ	ば	た	だ				(ら)			か	が				
Affricate			(つ)	(ざ)					(ち)	(じ)						
Fricative	(ふ)	(ば)	さ	ざ					(し), (ひ)	(じ)		(が)			は	
Nasal		ま		な						(に)		(ん)		ん		
Tap				ら				(ら)								
Lateral tap				(ら)												
Approximant		わ						(ら)		や		(わ)				
Lateral approximant				(ら)		(ら)		(ら)								

- Symbols enclosed in parentheses represent non-phonemic consonants.
- Because hiragana characters represent syllables (or morae), the character representing the given consonant plus the vowel /a/ was chosen, with exceptions as noted below.
- The character ん represents a completely underspecified nasal mora, whose place of articulation depends on the preceding vowel. The choice of having the uvular nasal as the phoneme is based on tradition in Japanese linguistics.
- The alveolo-palatal affricates and fricatives are palatalized allophones of the corresponding denti-alveolar plosives and fricatives, respectively. Therefore, these hiragana represent the syllables /tɕi/, /dɕi/, /çi/, and /zi/.
- The denti-alveolar affricates are allophones of the corresponding plosives, occurring before the vowel /u/. Therefore these hiragana represent the syllables /tsu/ and /dzu/.

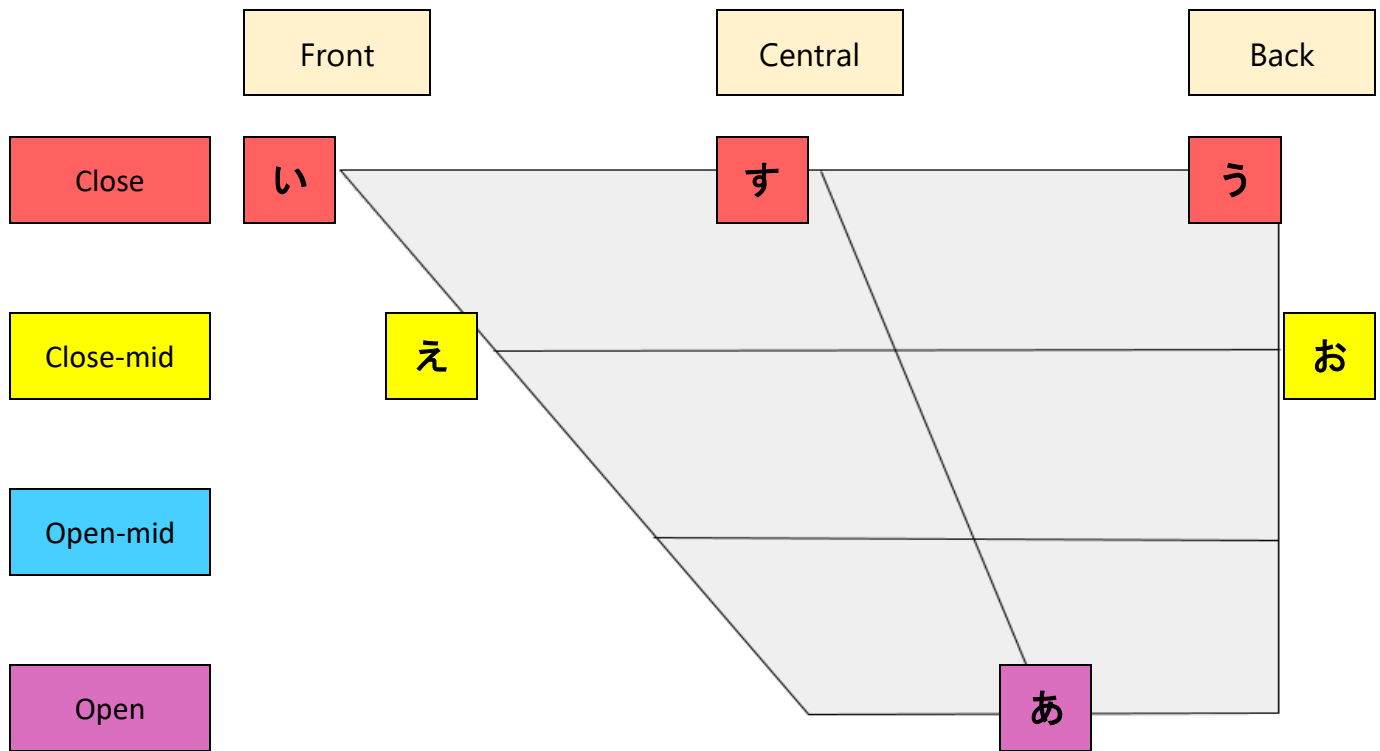
Japanese vowels, IPA



- Front and central vowels are unrounded. Of the back vowels, some sources argue that /u/ is unrounded; others, that it is a “compression-rounded” vowel, without lip protrusion.
- Instead of the front vowel /a/ or the back vowel /ɑ/, Japanese has a low central vowel, represented by either of these symbols. The choice of /a/ here is arbitrary.



Japanese vowels, Hiragana



- Front and central vowels are unrounded. Of the back vowels, some sources argue that /ɯ/ is unrounded; others, that it is a “compression-rounded” vowel, without lip protrusion.
- Instead of the front vowel /a/ or the back vowel /ɑ/, Japanese has a low central vowel, represented by either of these symbols. The choice of /a/ here is arbitrary.
- The high central vowel [ɨ] is an allophone of /ɯ/, occurring only after certain consonants. For that reason, it does not have a stand-alone hiragana character, so it is represented here by す, the hiragana for [si].



References

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