
The PronSci Rectangle charts: Layout Diagrams

Annotated keys to the layout of the British and American English Rectangle charts
Versions with phonemic symbols for classroom use

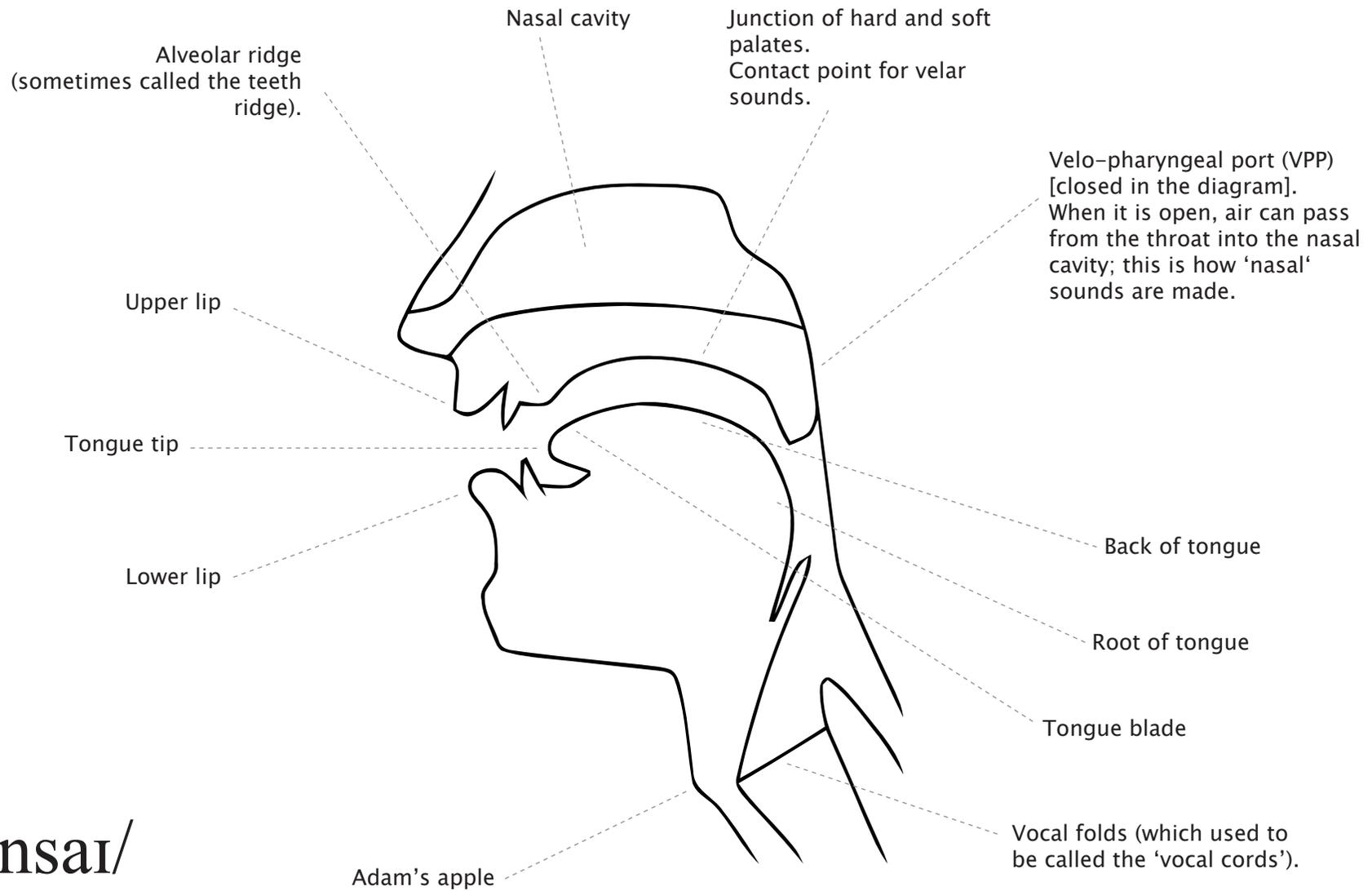
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On the American English phonemic chart, the alternative IPA symbols used by different authors for the vowels in mate and met are given.

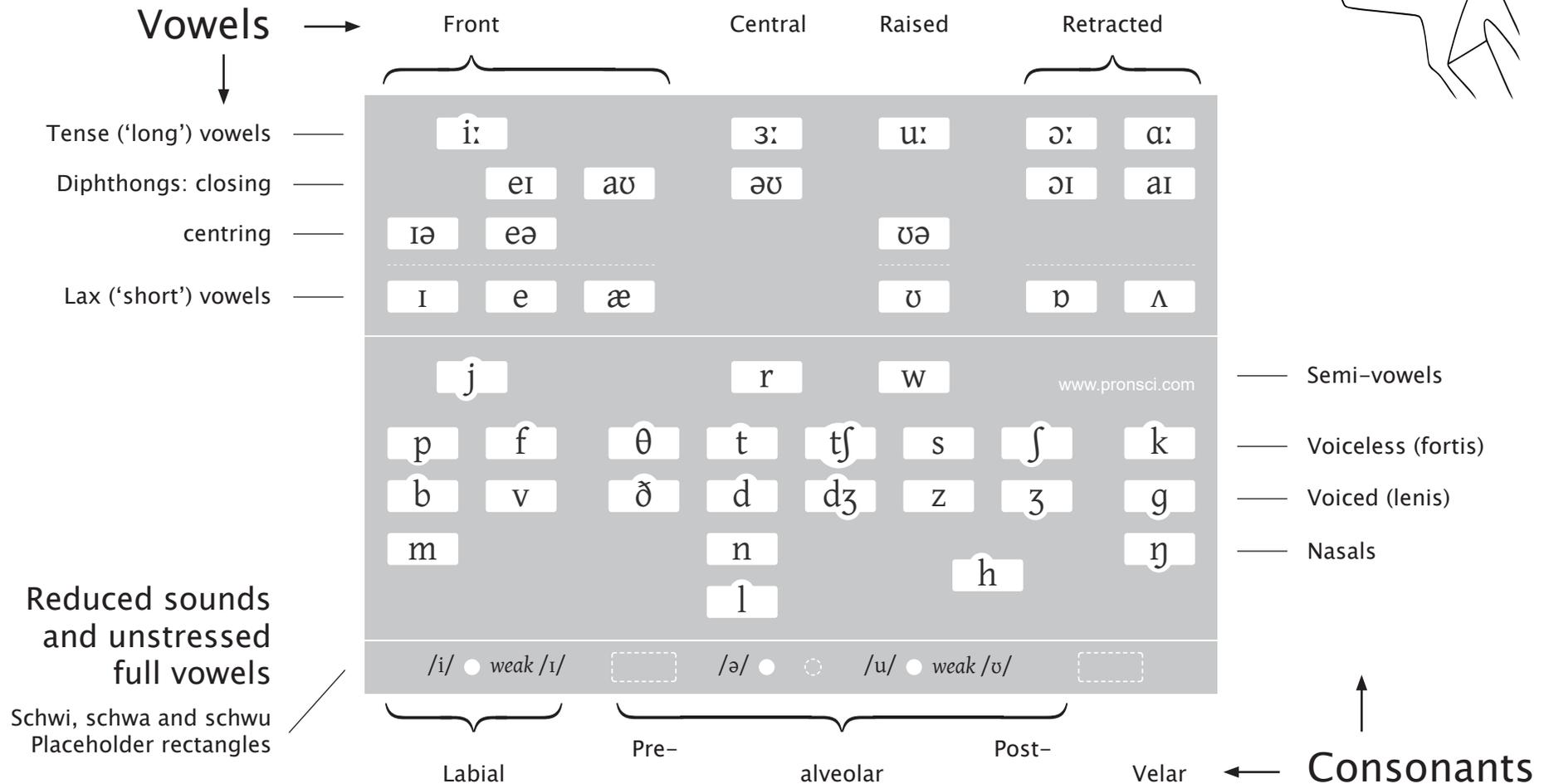
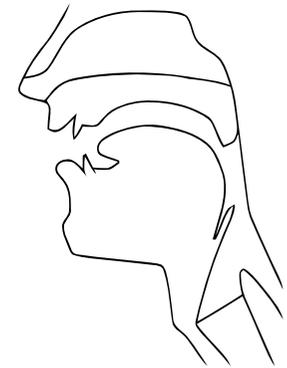
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Speech Articulators



British English: Layout of the Rectangle chart



British English: layout notes

English is unusual in having two types of full **vowels**, and in having **diphthongs** (when a vowel sound glides towards one of the reduced sounds of English within a single syllable).

Tense vowels (which are felt to be 'long') can appear in syllables with or without a final consonant: *bee, beat, he, heed*

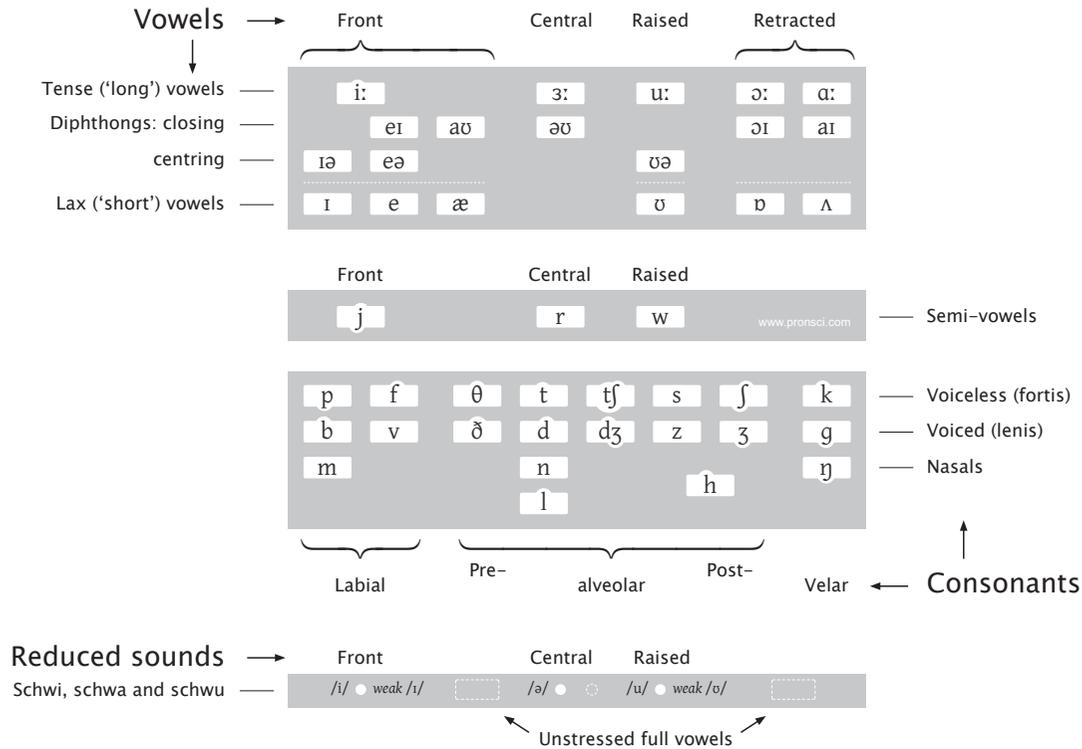
Lax vowels (which are felt to be 'short') only appear in syllables which have a final consonant: *bit, head*

There are two further distinctions portrayed: (1) between full vowels and **reduced sounds** (shown by rectangles and dots, respectively), and (2) between stressed and unstressed syllables (pointed at the top or bottom of the chart).

Examples of words using reduced sounds: **schwi**: *indeed, between, coming, happy*; **schwa**: *about, terrain, caterer, tuna*; **schwu**: *influence, to Italy*

Reduced sounds and the two placeholders for **unstressed full vowels** are found at the bottom of the chart, in an area used for pointing all unstressed syllables.

'**Labial**' means 'with the lips'; either lower and upper lips for /p b m/, or lower lip and upper teeth for /f v/.



For '**raised**' vowels, the back of the tongue approaches the roof of the mouth.

For '**retracted**' vowels, the root of the tongue approaches the back of the throat.

Semi-vowels are sounds which are produced like vowels but used like consonants.

Consonants are either **voiceless or voiced** depending on whether the vocal folds are at rest or vibrating while the consonant is being produced. The vibrations can be detected by putting a finger on your Adam's apple (the larynx) while making a long 'zzzz' sound. The noise the vibrations make can be heard by putting your fingers in your ears.

Nasal sounds are produced when air is directed through the nose instead of through the mouth.

Velar consonants are made by raising the back of the tongue to the area where the hard and soft palates meet. (The exact place varies depending on the vowel(s) the consonant occurs with.)

/l/ is a '**lateral**' consonant. The tongue tip touches the alveolar ridge and air escapes over the left and right sides of the tongue.

/h/ is a 'breathy onset' to the vowel which follows it: that is, the sound made by air coming through the mouth before the vocal folds begin to vibrate. It has no particular relation to the other consonants, so it is placed neither in a row nor in a column.

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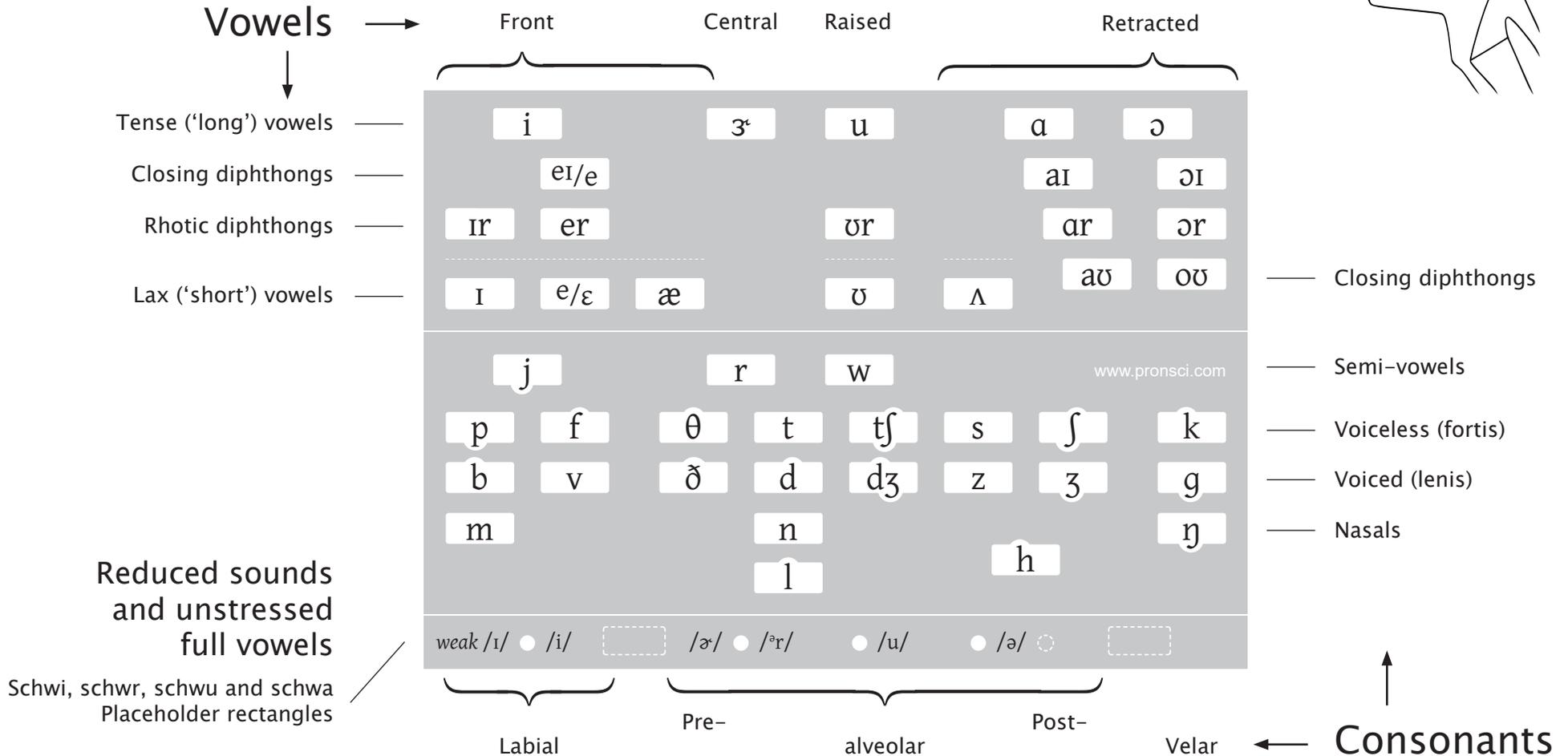
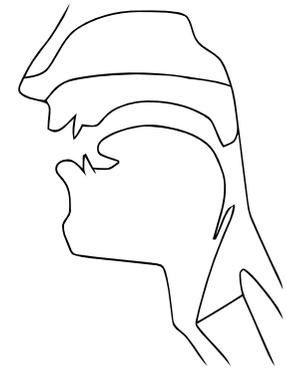
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American English: Layout of the Rectangle chart



American English: layout notes

English is unusual in having two types of full **vowels**, and in having **diphthongs** (when a vowel sound glides towards one of the reduced sounds of English within a single syllable).

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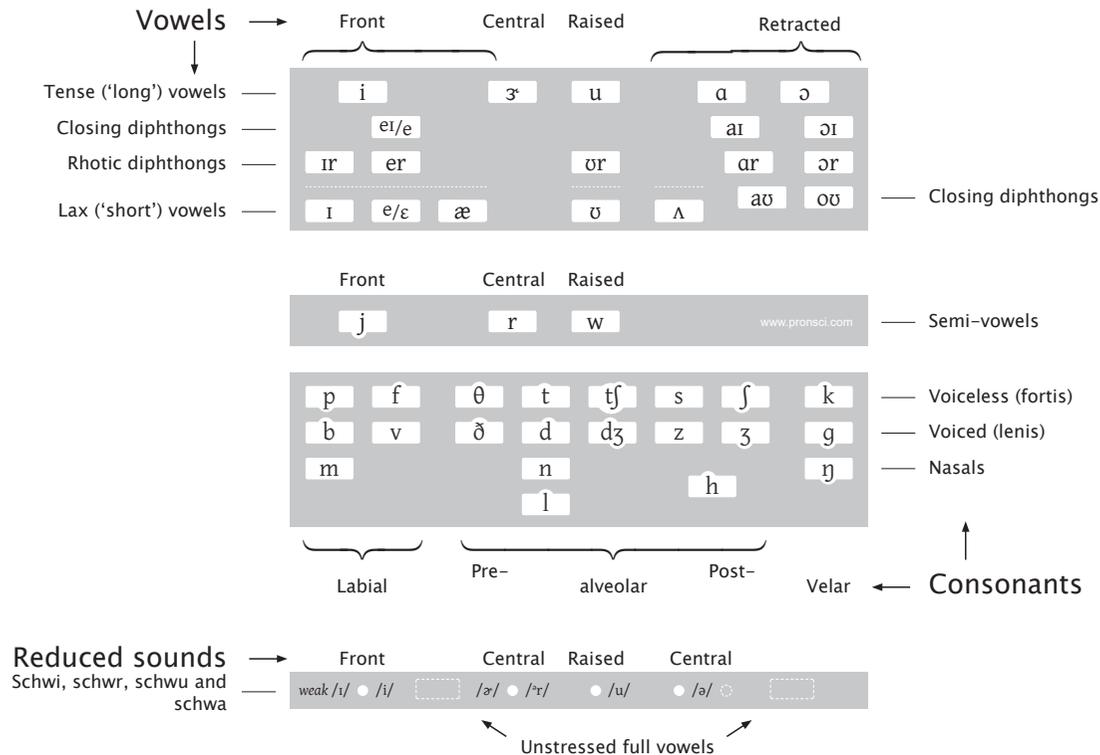
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Reduced sounds and the two placeholders for **unstressed full vowels** are found at the bottom of the chart, in an area used for pointing all unstressed syllables.

'**Labial**' means 'with the lips'; either lower and upper lips for /p b m/, or lower lip and upper teeth for /f v/.



For '**raised**' vowels, the back of the tongue approaches the roof of the mouth.

For '**retracted**' vowels, the root of the tongue approaches the back of the throat.

Six diphthongs start from a retracted position.

Semi-vowels are sounds which are produced like vowels but used like consonants.

Consonants are either **voiceless or voiced** depending on whether the vocal folds are vibrating during their production.

The vibrations can be detected by putting a finger on your Adam's apple (the larynx) while making a long 'zzzz' sound, and the result can be heard by putting your fingers in your ears.

Nasal sounds are produced when air passes through the nose instead of through the mouth.

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American English: layout notes

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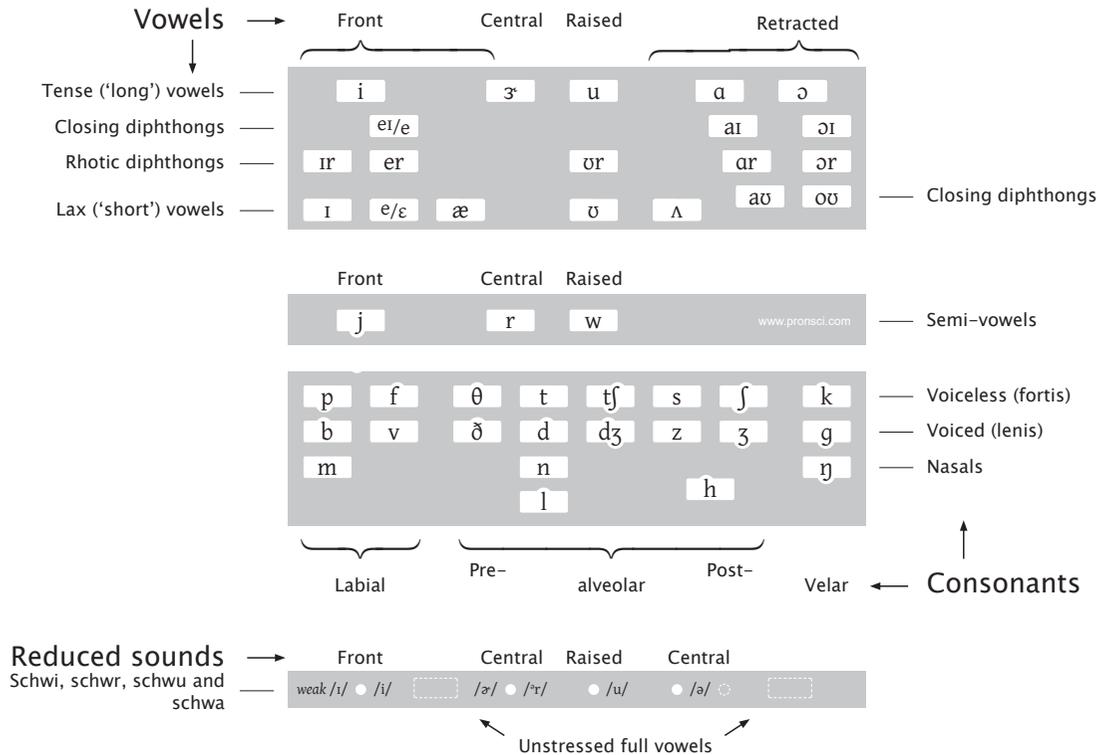
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