

Vowels, consonants (continued)

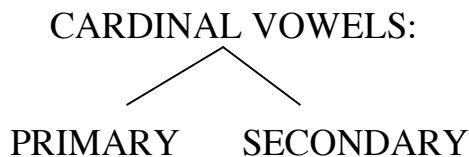
A. VOWELS

CARDINAL VOWELS: A set of *reference vowels* first defined by Daniel Jones (British phonetician).

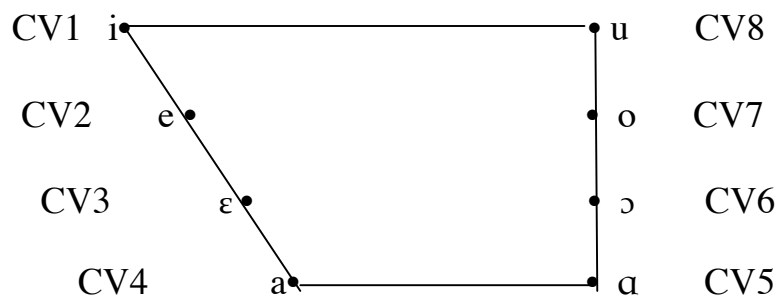
(Latin *cardo*, *cardinis* ‘a hinge’)

When preparing a vowel chart, the vowels on it must be plotted with reference to certain fixed points.

The space within the vowel chart represents a continuum of possible vowel articulation.



PRIMARY CARDINAL VOWELS:



Extreme left corner: The highest and most front vowel. If the tongue would move higher, a palatal fricative would be produced.

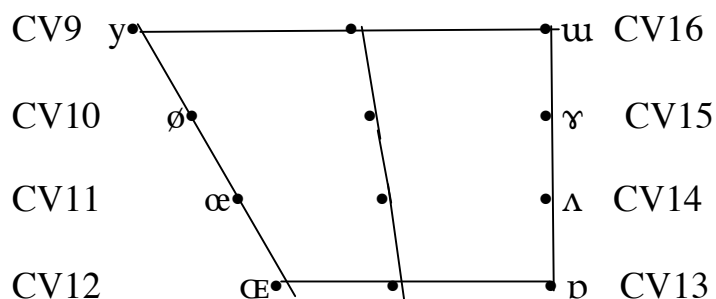
Extreme right corner: The tongue is pulled so far down and back that further movement down and back would produce a pharyngeal fricative.

[a] The jaw is in the lowest position.

[u] The highest, most back vowel.

In no case is the quality of a cardinal vowel exactly the same as that of an English vowel.

SECONDARY CARDINAL VOWELS: The secondary cardinal vowels have the *reverse rounding* from the primary cardinal vowels.



Front vowels: rounded

Back vowels: unrounded, except for [ɒ]

NOTE: the central vowels [ɪ] and [ʊ] [ə] do not have a fixed number of reference as do cardinal vowels;

there is no fixed number of reference for [æ]

} not cardinal vowels!

[ɪ] high, central, unrounded

[ʊ] high, central, rounded

Study the IPA chart for vowels! Compare it with the chart for the vowels in English!

Examples:

[y]	French	l <u>u</u> ne	<i>moon</i>
[ø]	French	pe <u>u</u>	<i>a few</i>
[œ]	German	zw <u>ö</u> lf	<i>twelve</i>
[ɒ]	Hungarian	a <u>l</u> ma	<i>apple</i>
[ʊ]	Norwegian	h <u>u</u> s	<i>house</i>
[i]	English	ros <u>e</u> s	[i]

Compare: Rosa's [ə]

B. CONSONANTS

1. STOPS:

1a. Bilabial stops: [p] [b]

1b. Dental stops: [t̪] [d̪]

The tip of the tongue makes a closure with the upper teeth.
e.g., French, Italian, Spanish have dental stops

In English, dental stops are *allophones* (see #5 in the Handout!)

Malayalam (a Dravidian language spoken in India, in Kerala):

mut̪t̪u	<i>pearl</i>	[t̪]	dental
muttu	<i>density</i>	[t]	alveolar

1c. Alveolar stops: [t] [d]

1d. Retroflex stops:

These stops are made by curling the tip of the tongue up and back so that the underside makes contact with the area around the border of the alveolar ridge and the palate.

[t] voiceless

[d] voiced

English as spoken in India: *retroflex* stops instead of alveolar stops.

Malayalam:

DENTAL

mutttu

pearl

ALVEOLAR

muttu

density

RETROFLEX

mutṭu

knee

In the English spoken here:

train [t^h]

drain [d]

Possible (and common) articulation before [ɹ].

Check your pronunciation!

1e. Palatal stops:

There is a closure between the front of the tongue (= anterodorsum) and the palate; the contact extends over a relatively large area.

[ç] voiceless

[j] voiced

Hungarian:

tyúk [ç]

hen

gyár [j]

factory

1f. Velar stops: [k] [g]

1g. Uvular stops:

The back of the tongue (=dorsum) makes contact with the uvula.

[q] voiceless

[G] voiced

Quechua (an Amerindian language spoken in South America):

VELAR

kara [k]

expensive

UVULAR

qara [q]

skin

1h. Glottal stop:

The vocal folds are pressed together and then released under pressure (glottal closure!)

[ʔ] voiceless

English: uh-uh [ʔ]

kitten, button [tʔ] or [ʔ] may occur

↓

glottalized stop (more common!)

Check your pronunciation!

2. NASALS

Nasals are articulated in the same way as oral stops (see details on places of articulation there), but <i>the velum is lowered!</i>
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2a. Bilabial nasal: [m]

2b. Labiodental nasal: articulated with a closure between the lower lip and the upper teeth.

emphasis, symphony, infant [ɱ]

2c. Dental nasal: The tip of the tongue makes a closure with the upper teeth.

tenth, ninth [ɳ]

2d. Alveolar nasal: [n]

2e. Retroflex nasal: [ɳ]

Malayalam:

DENTAL	RETROFLEX
enɳɳɳ	enɳɳɳ
<i>named</i>	<i>oil</i>

2f. Palatal nasal:

(?) canyon [ɲ]

Spanish: señor [ɲ]

2g. Velar nasal: [ŋ]

Malayalam:

PALATAL	VELAR
te:ɲɲɳ	te:ŋŋɳ
<i>worn out</i>	<i>coconut</i>

2h. Uvular nasal: [ɴ]

Inuit: enina [ɴ] *melody*

