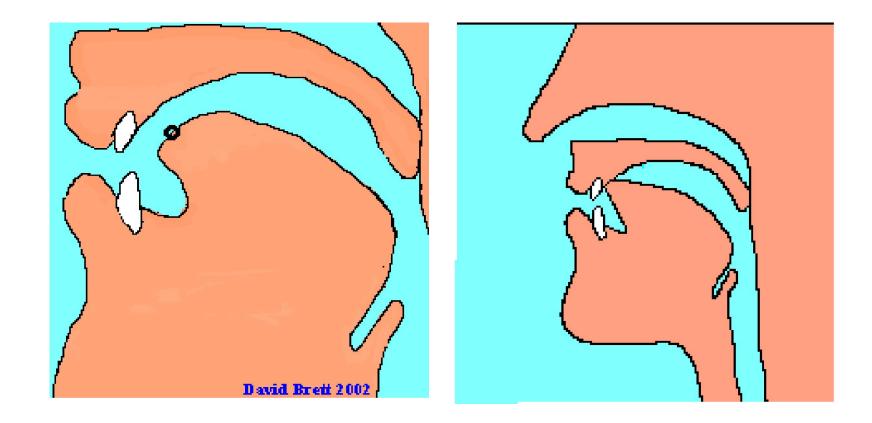
# Describing Vowels & Diphtongs

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phon/2011 12 November 2015

#### What differ vowels from consonants?

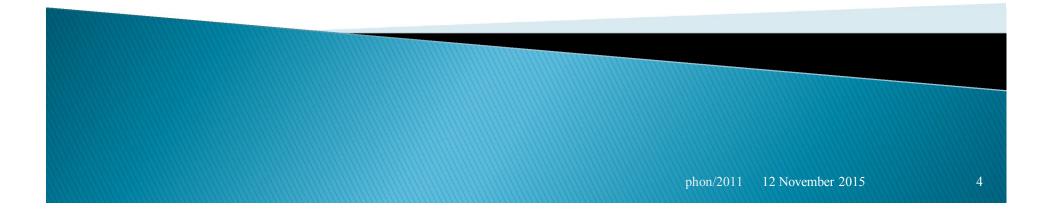


## **VOWELS VS CONSONANTS**

VOWELS	CONSONANTS
Produced with no oral obstruction	produced with a narrow or complete closure in the vocal tract
More sonorous	Less sonorous
syllabic	Non-syllabic



# VOWELS





are made by shaping the column of air rather than by obstructing it

Organs involved:

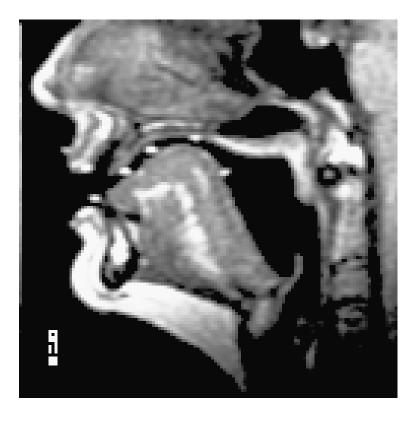
- 1. Tongue (forward, backward, up, and down)
- 2. Jaw (raised, lowered)
- 3. Lips (spread, rounded)



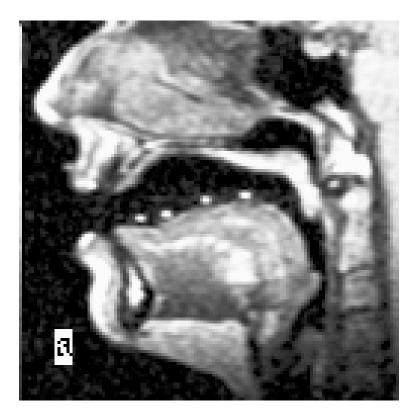
## WAYS TO DESCRIBE VOWELS

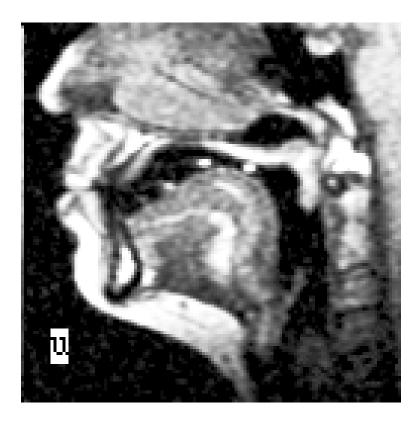
- Quality > determined by the particular configuration of the vocal tract (lips and tongue)
  - $^\circ$  the height of the tongue  $\rightarrow$  high/mid/low
  - $^{\circ}$  the part of the tongue  $\rightarrow$  front/central/back
  - $^\circ$  the position of the lips  $\rightarrow$  rounded/spread lips rounding
- Oral or nasal production
- Length: long vs short; tense vs lax

# These are x-rays of a person producing different vowels

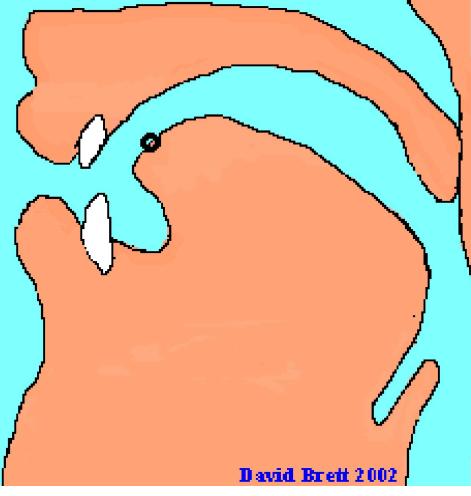




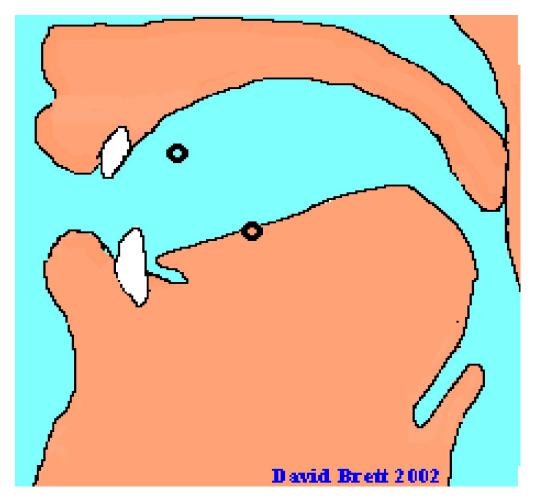




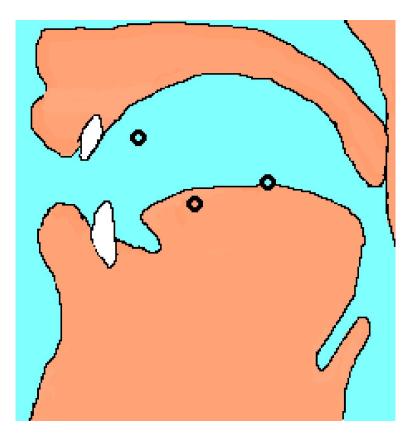
# In the close front position (unrounded) we produce /i/



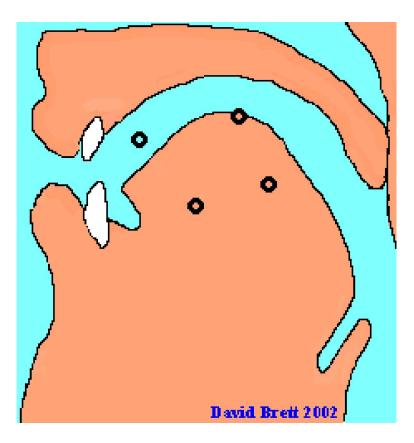
# In the open front position (unrounded) we produce /ʌ/



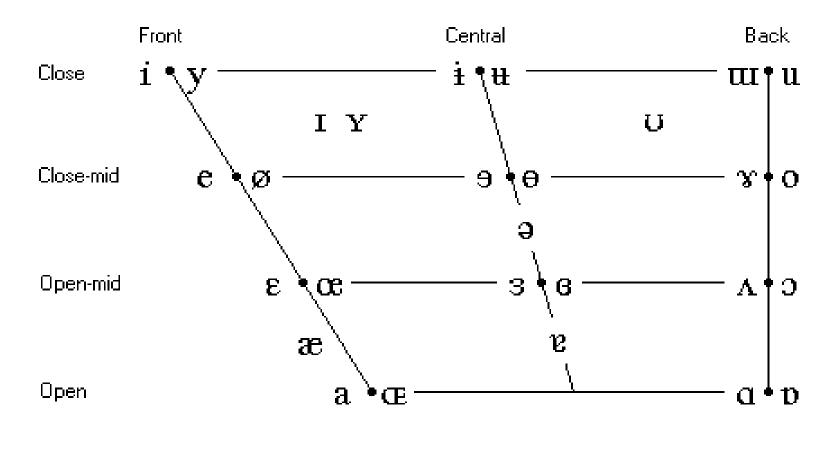
## Back open (unrounded) : /ɑ:/



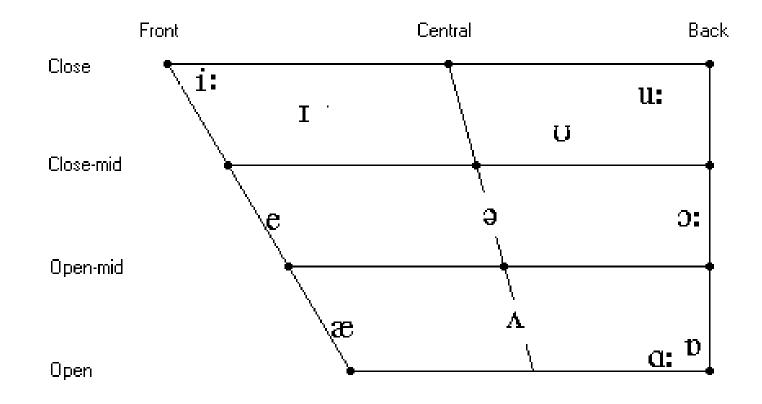
## Back close (rounded): /u/



#### This is the full set:



# These are the places of articulation of English short and long pure vowels



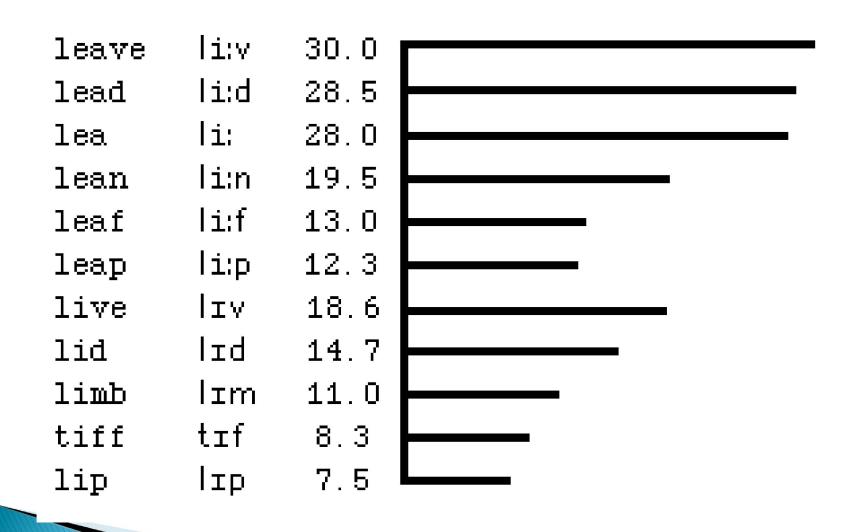
## Length

- English vowels differ in length as well as in quality
- These differences are as important to perception as quality
- English long vowels are far longer than Italian equivalents (e.g. /i:/, /u:/)

Pure Vowels		
Short	Long	
I	i:	
Ð	3:	
u	u:	
<b>^</b>	a:	
c \a	p:/s:	
е		
æ		

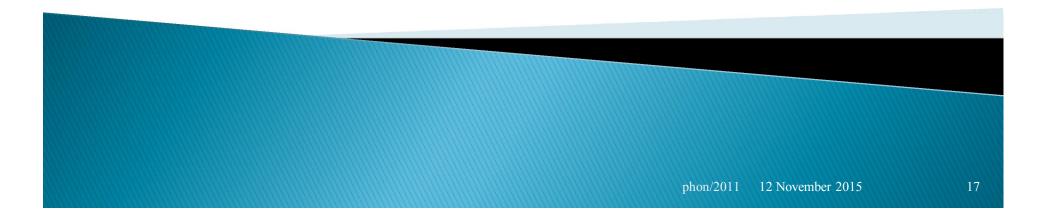
phon/2011

### Vowel length in centiseconds:



phon/Data2fromeGimson 1980:98)

# **DIPHTHONGS**



\* While the position of the tongue is more or less stable for a pure vowel, a diphthong is characterised by a graceful movement from one point to another.

\* For this reason they are also sometimes known as glides.

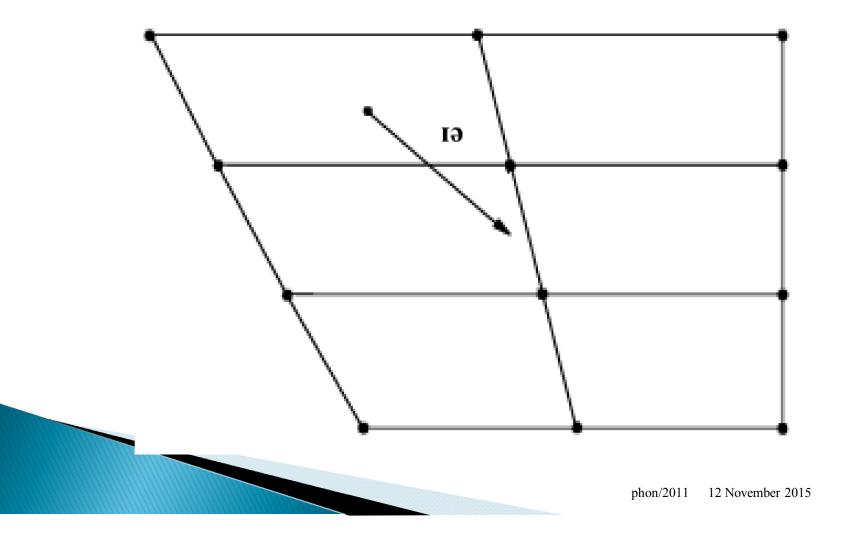
# Technically, English diphthongs are divided into two groups:

- There two types of diphthongs:
  - centring diphthongs → the tongue moves quickly toward the center of the mouth (the final phase of the articulation)
    e.g. i∂, e∂, u∂
  - 2. closing diphthongs  $\rightarrow$  the tongue starts in a relatively low position and ends up in a high position either in palatal area at the mouth or in the velar the back part of the mouth
    - e.g. ending in 1 : e1, a1, 31
      - ending in u : **Ju, au**

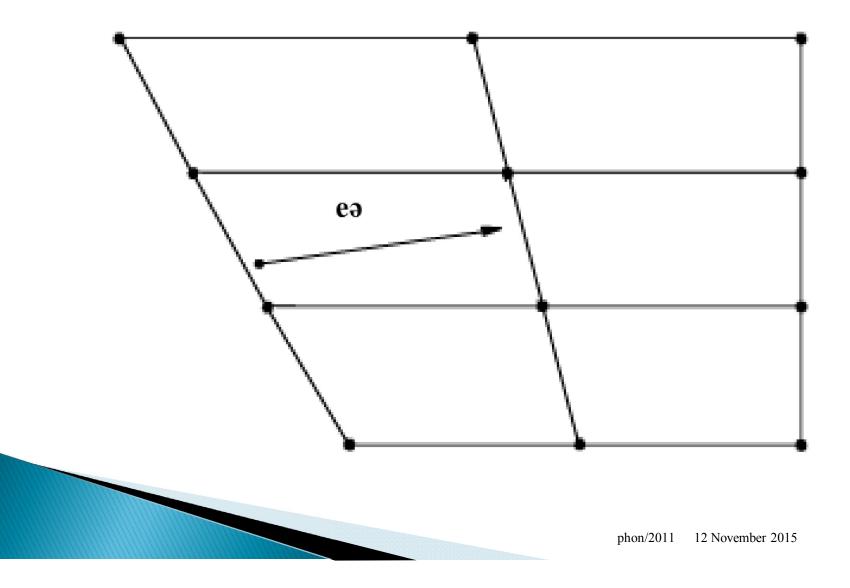
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#### **CENTRING GROUP**

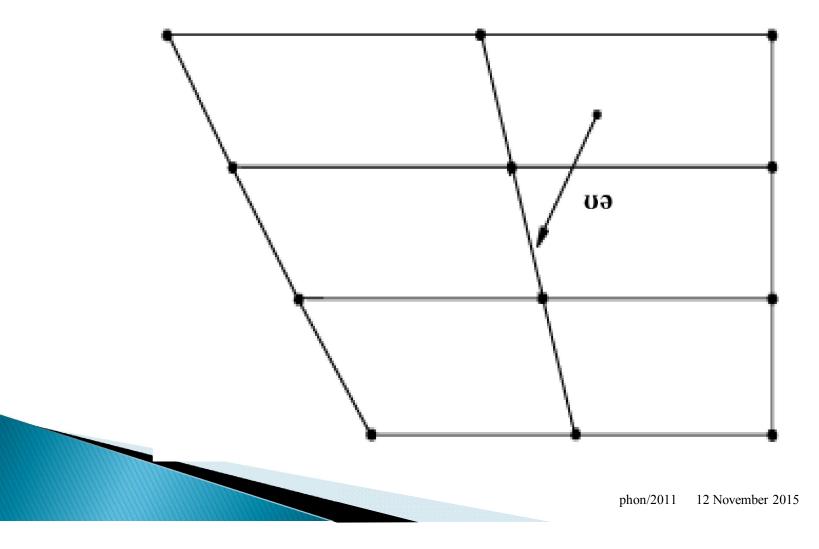
To start with the centring group, we have the most common, that of 'clear', 'deer', 'here', 'wierd':



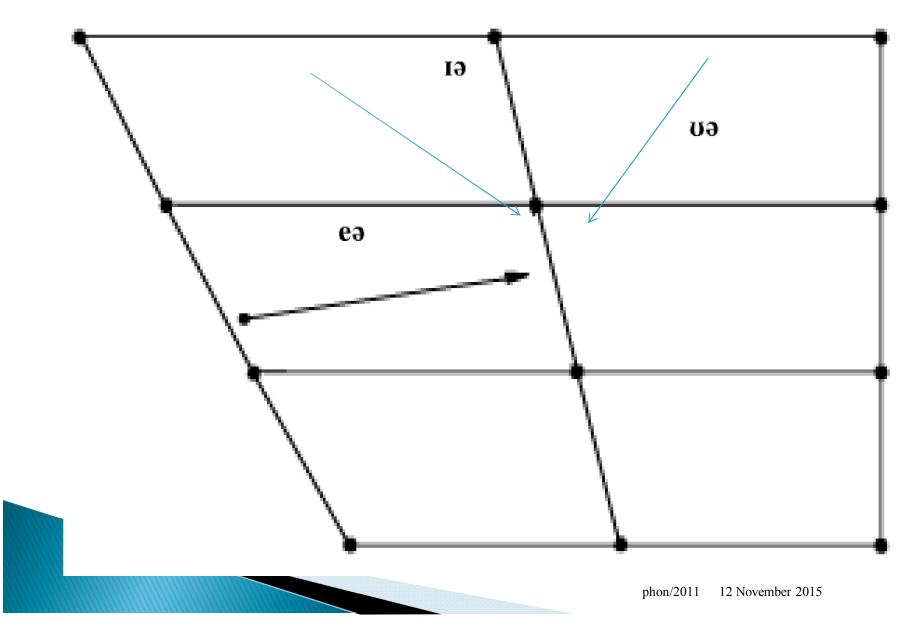
#### Then 'air', 'where', wear', 'care', 'heir':



#### Finally, there is a diphthong which is quite rare and is often realised as /uə/ - 'tour', 'poor':



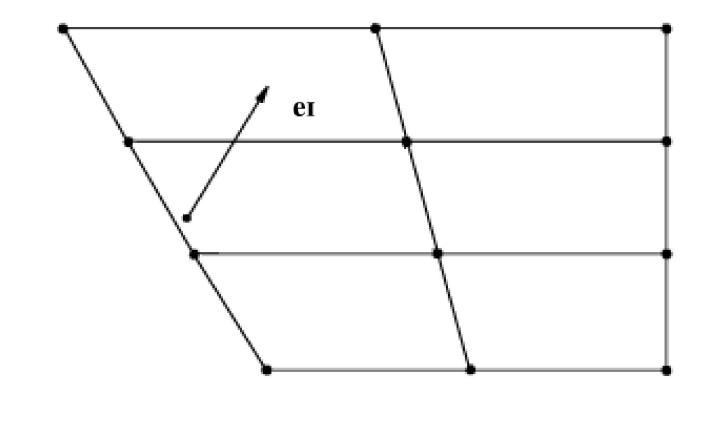
### **CENTRING DIPHTHONGS**



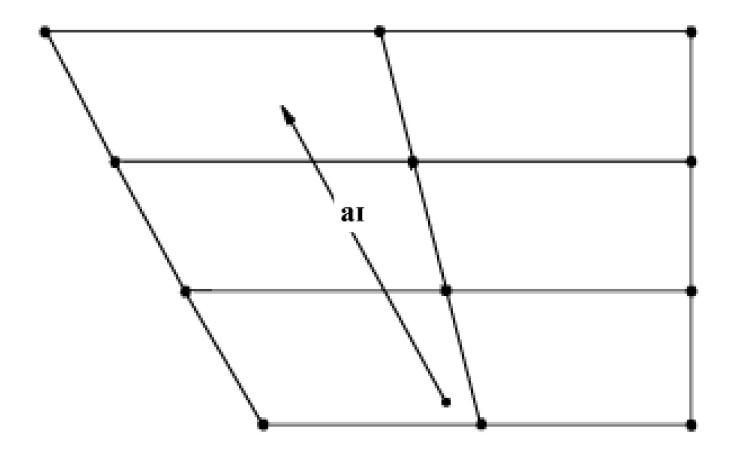
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#### Closing Group

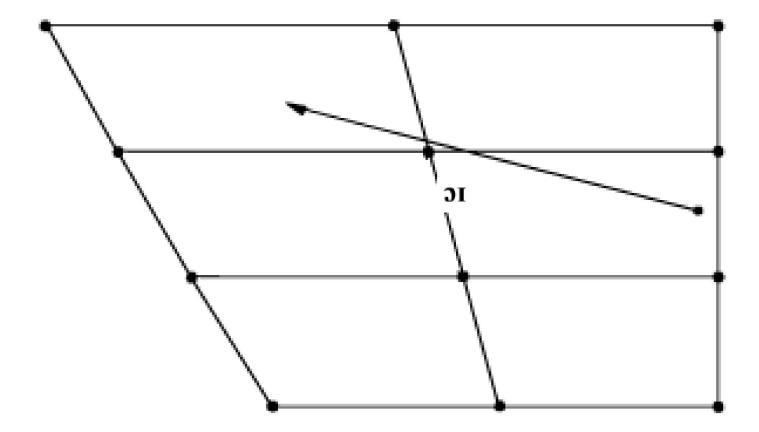
... the 'pay', 'made', 'maid', 'reign', 'obey', sound:



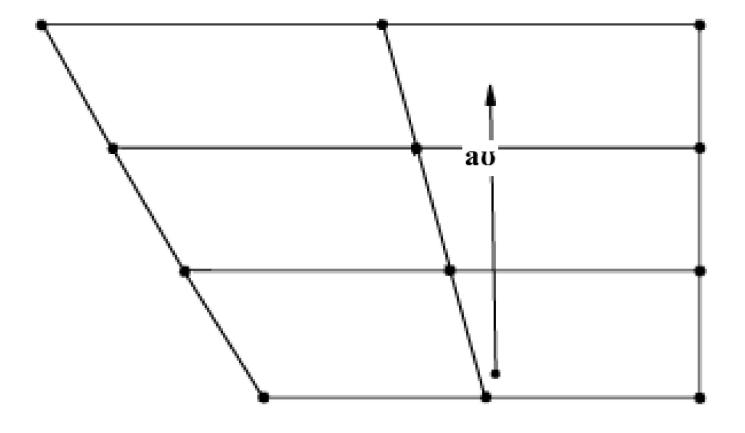
#### Then we have the 'l', 'my', 'tie', 'sigh', 'either', 'eye', 'Thai', sound:



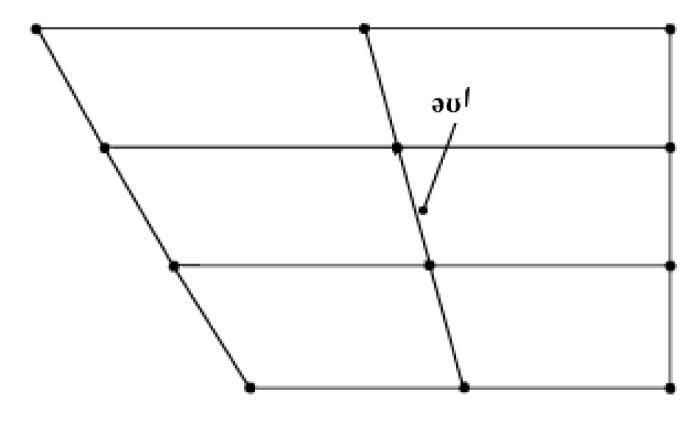
#### Then there is 'boy', 'joy', 'choice':

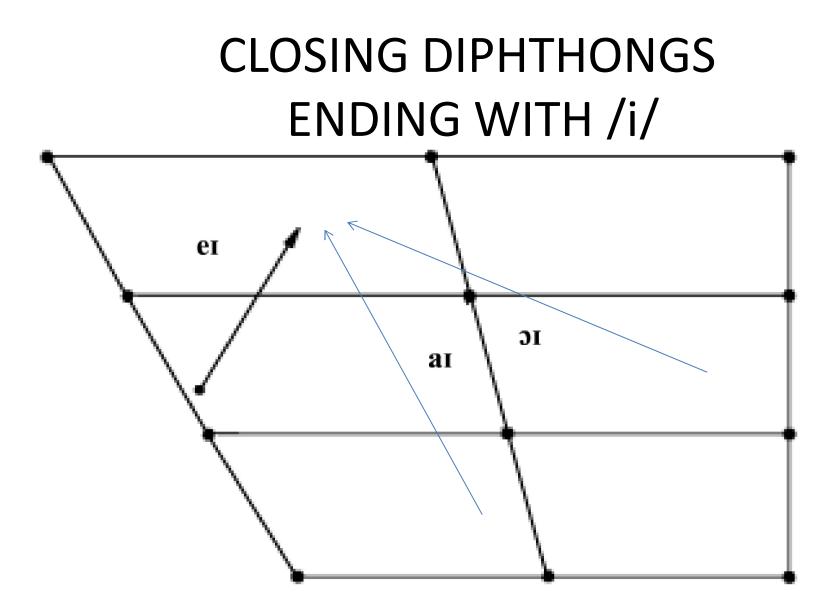


#### Then 'down', 'loud':

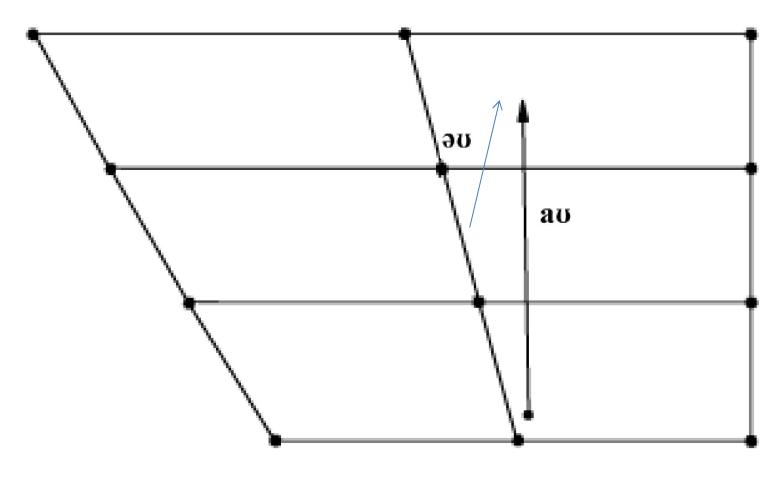


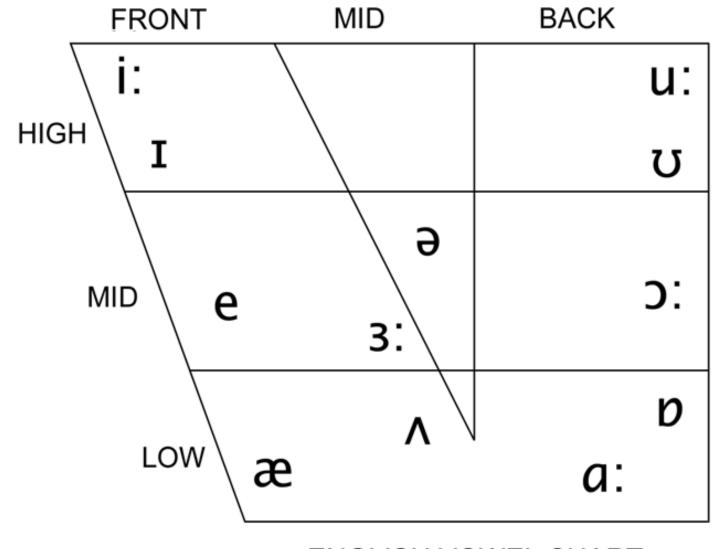
To end the closing group, the most common diphthong in English, that of 'no', 'know', 'bone', 'foam', 'though', 'don't', 'foe':





## CLOSING DIPHTHONGS ENDING WITH /u/





ENGLISH VOWEL CHART

VOWE	L NAME	VOWEL	NAME
/i:/	High front vowel	$/\Lambda/$	Low mid vowel
/I/	High-mid front vowel	/u:/	High back vowel
/e/	Mid front vowel	\ <b>0</b> \	High-mid back vowel
/æ/	Low front vowel	/ɔ:/	Mid back vowel
/ə/	Mid mid vowel	/ɒ/	Mid-low back vowel
/3:/	Mid-low mid vowel	/a:/	Low back vowel