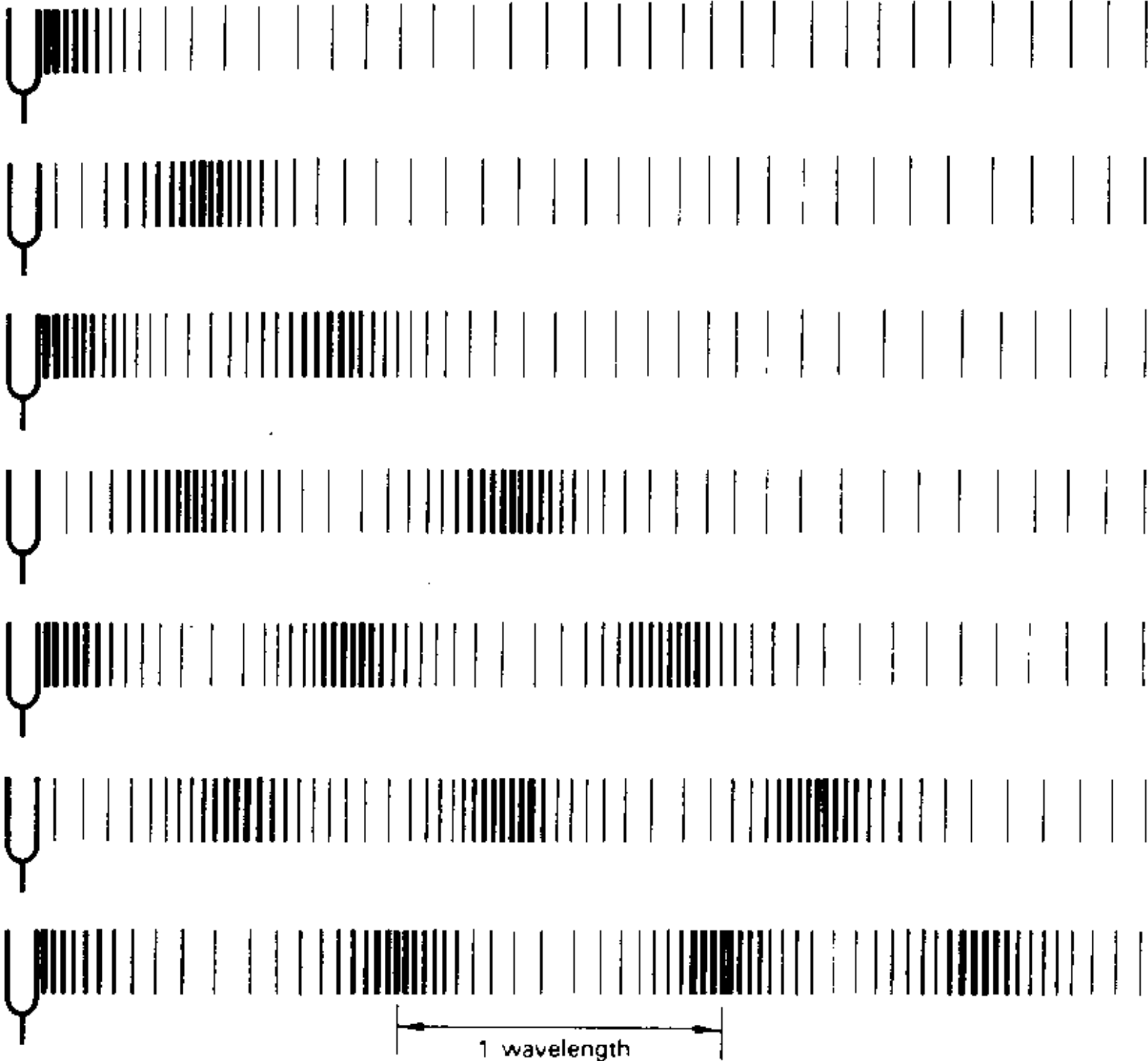


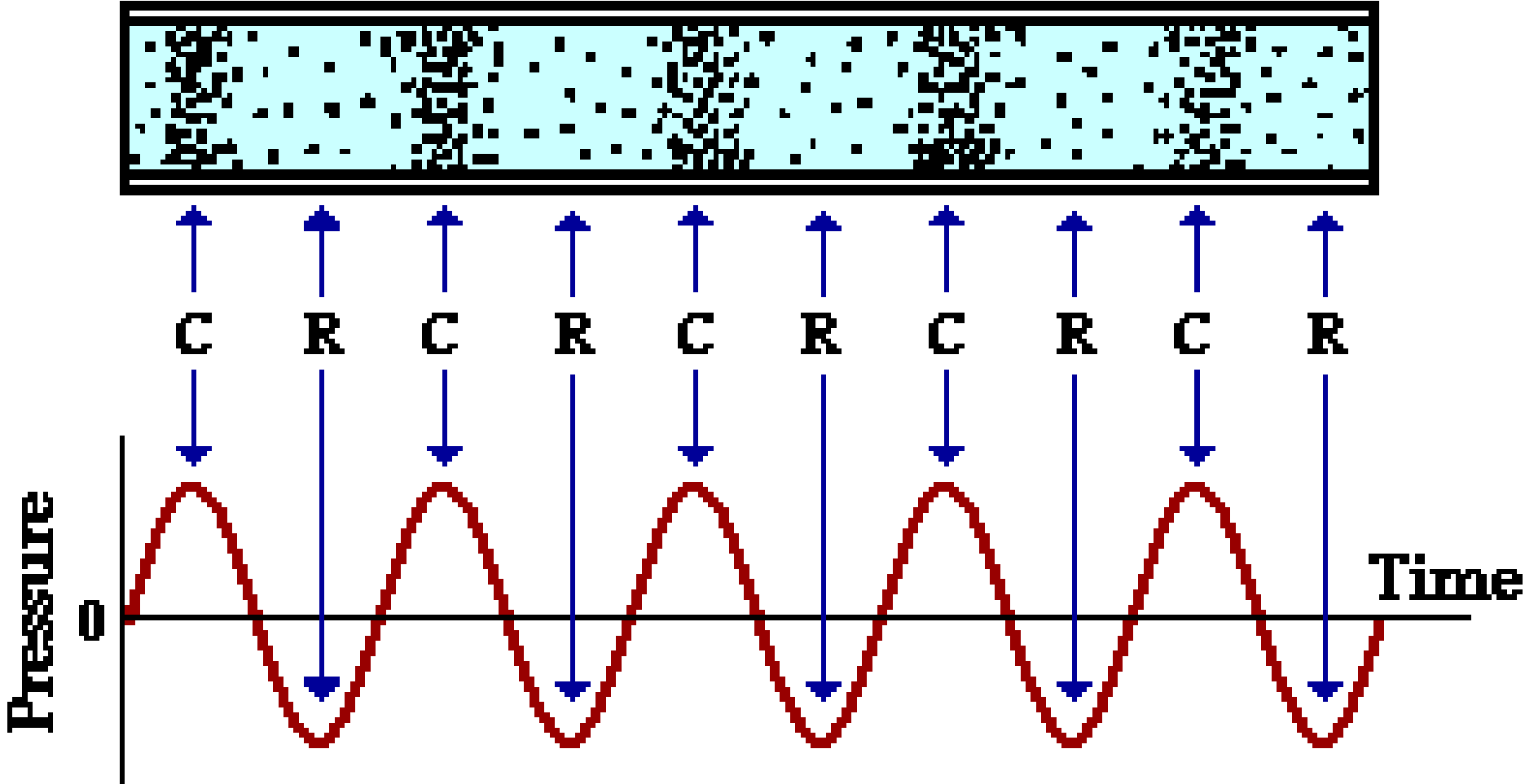
Phonetics, or the sounds of English

Propagation of Sound



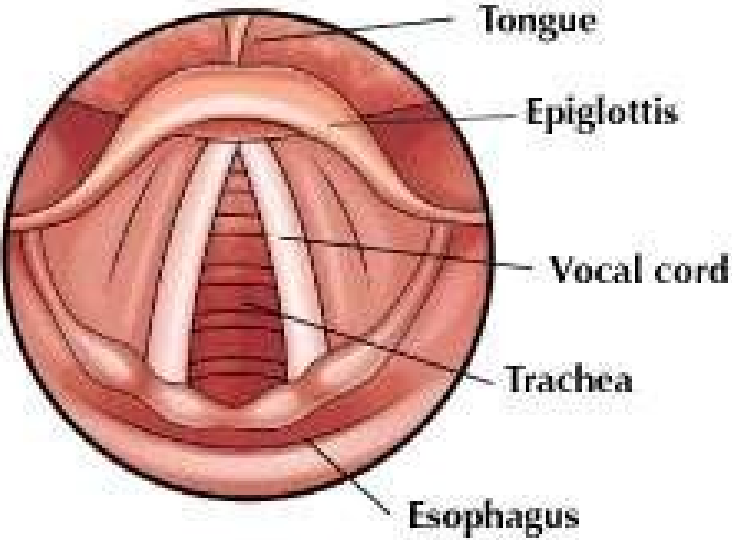
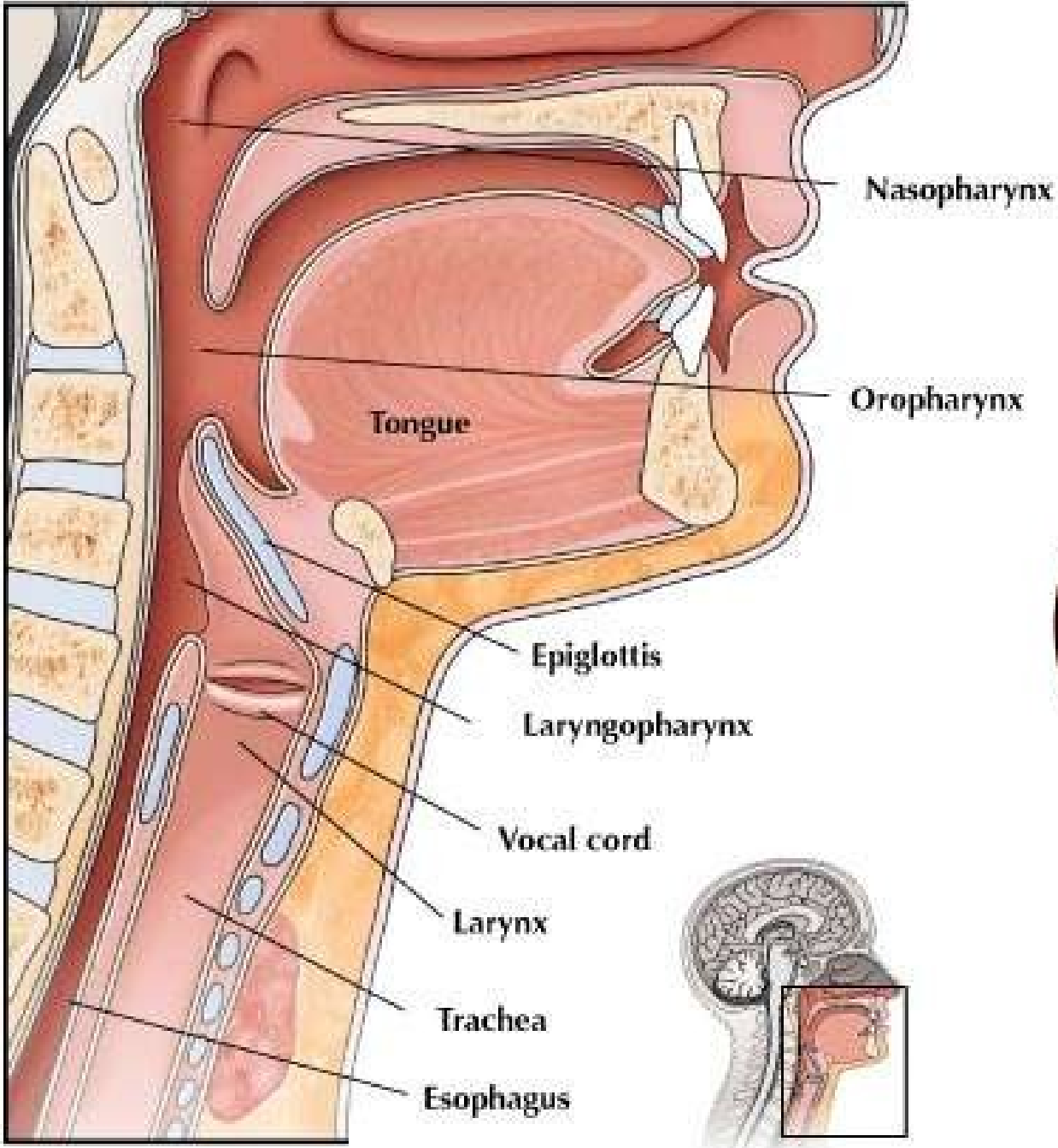
Sound Wave

Sound is a Pressure Wave



NOTE: 'C' stands for compression and 'R' stands for rarefaction

ANATOMY OF THE LARYNX



LARYNGOSCOPIC VIEW

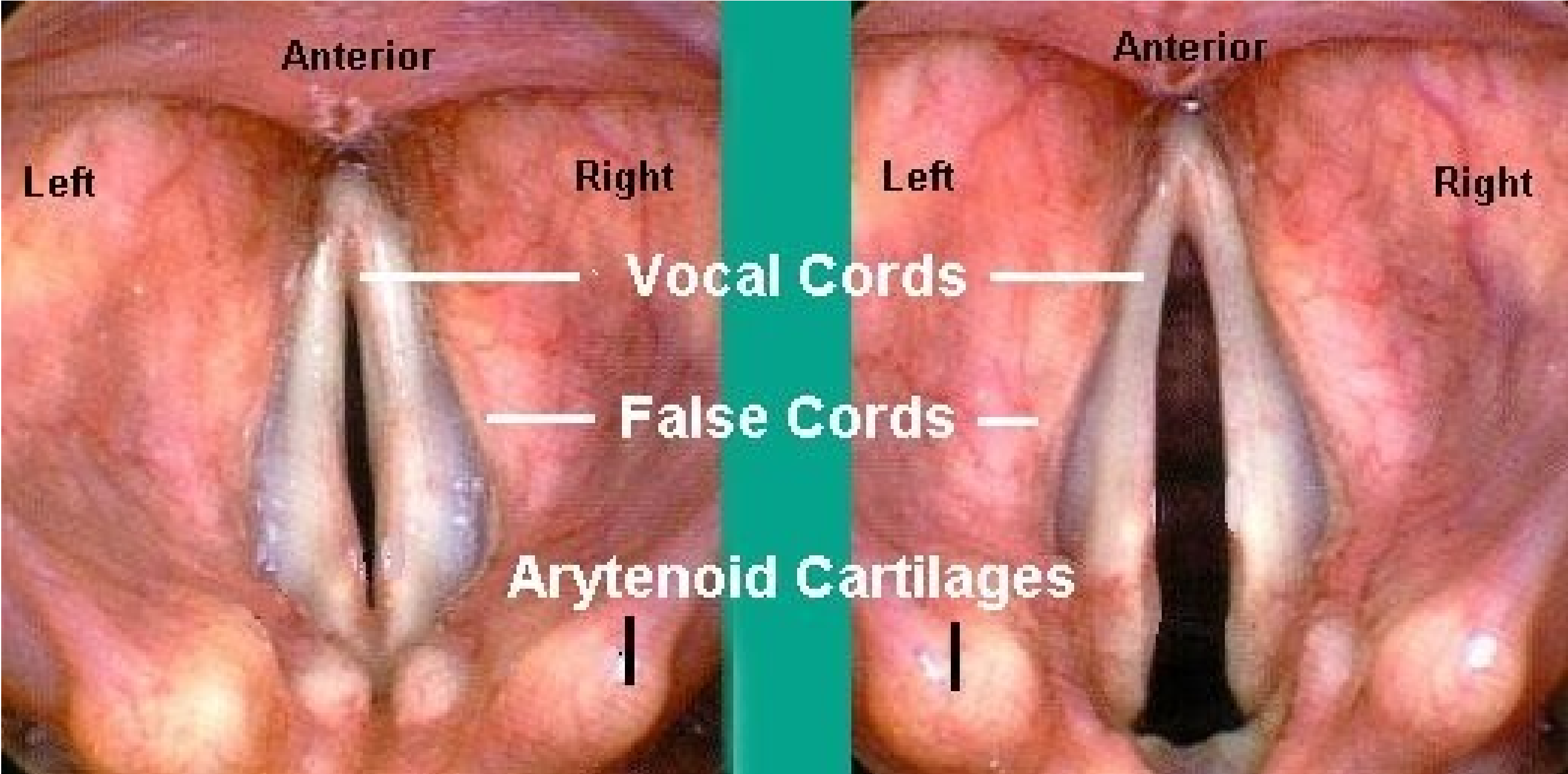
MID-SAGITTAL VIEW

FOR SAMPLE USE ONLY

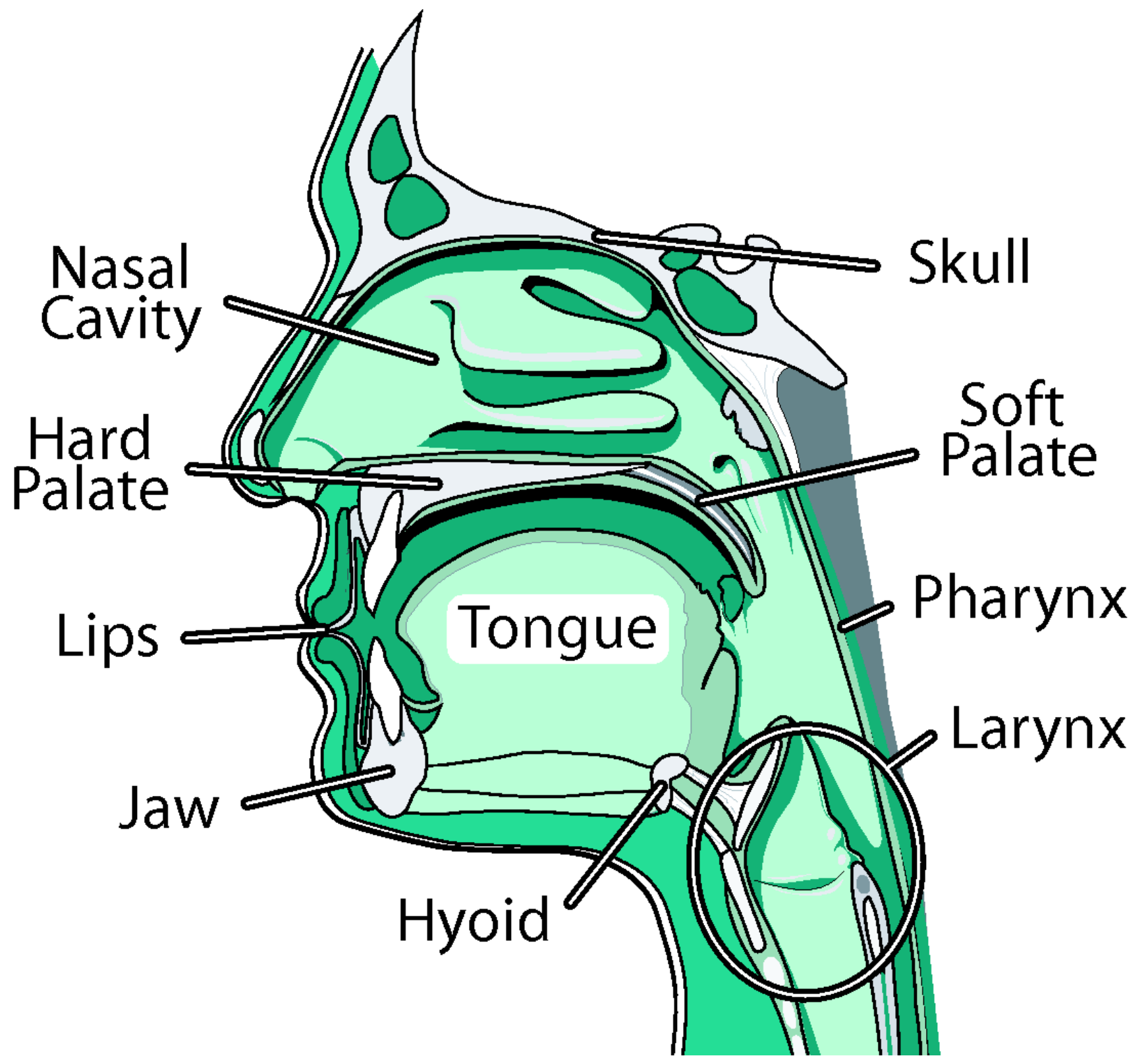
©2008 TRIALSIGHT MEDICAL MEDIA



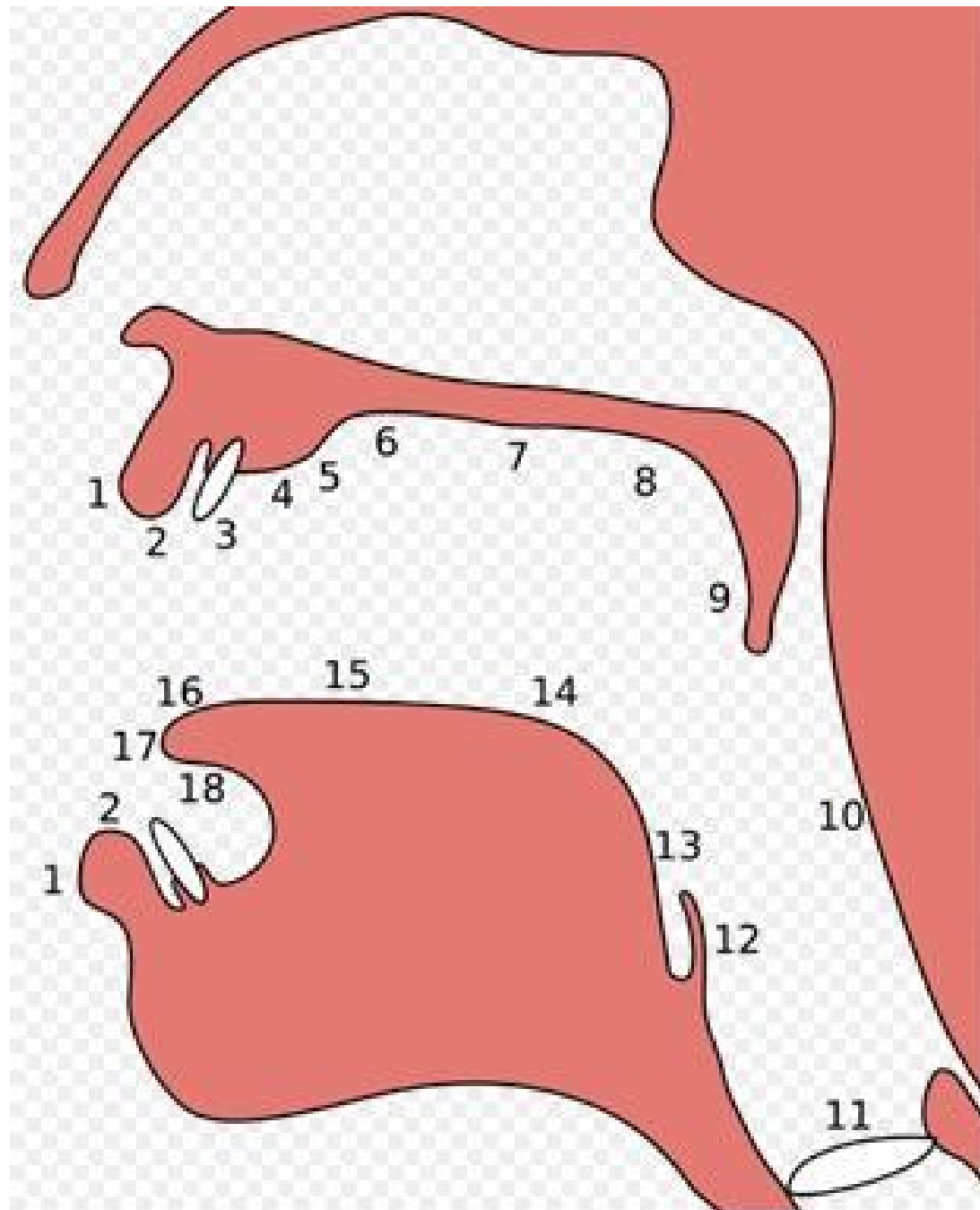
The Vocal Cords



The Vocal Tract



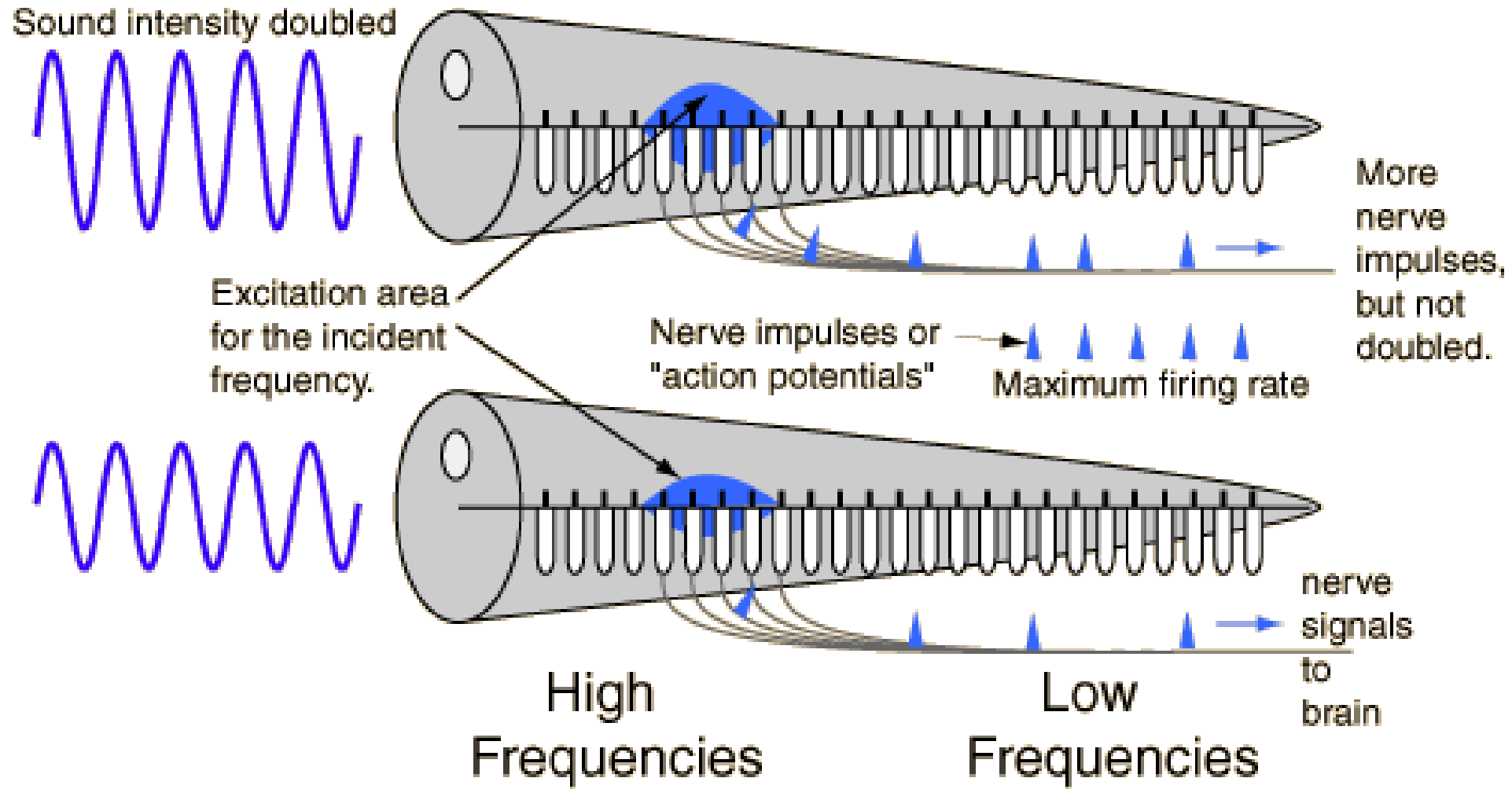
The Vocal Tract



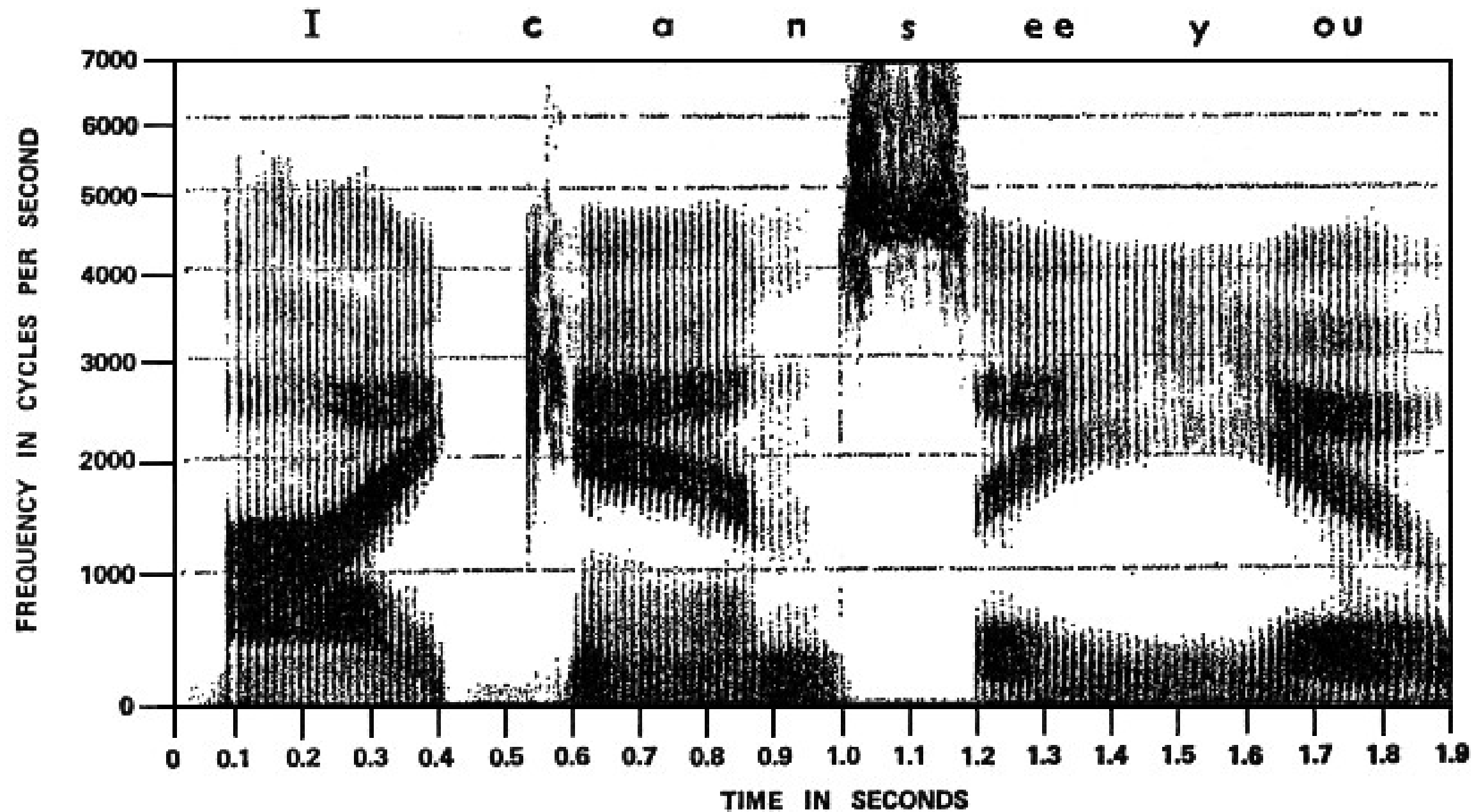
English: Places of articulation (active and passive)

1. *Exo-labial* (outer part of lip)
2. *Endo-labial* (inner part of lip)
3. *Dental* (teeth)
4. *Alveolar* (front part of alveolar ridge)
5. *Post-alveolar* (rear part of alveolar ridge & slightly behind it)
6. *Pre-palatal* (front part of hard palate that arches upward)
7. *Palatal* (hard palate)
8. *Velar* (soft palate)
9. *Uvular* (a.k.a. *Post-velar*, uvula)
10. *Pharyngeal* (pharyngeal wall)
11. *Glottal* (a.k.a. *Laryngeal*; vocal folds)
12. *Epiglottal* (epiglottis)
13. *Radical* (tongue root)
14. *Postero-dorsal* (back of tongue body)
15. *Antero-dorsal* (front of tongue body)
16. *Laminal* (tongue blade)
17. *Apical* (apex or tongue tip)
18. *Sub-laminal* (a.k.a. *Sub-apical*; underside of tongue)

The Ear Canal

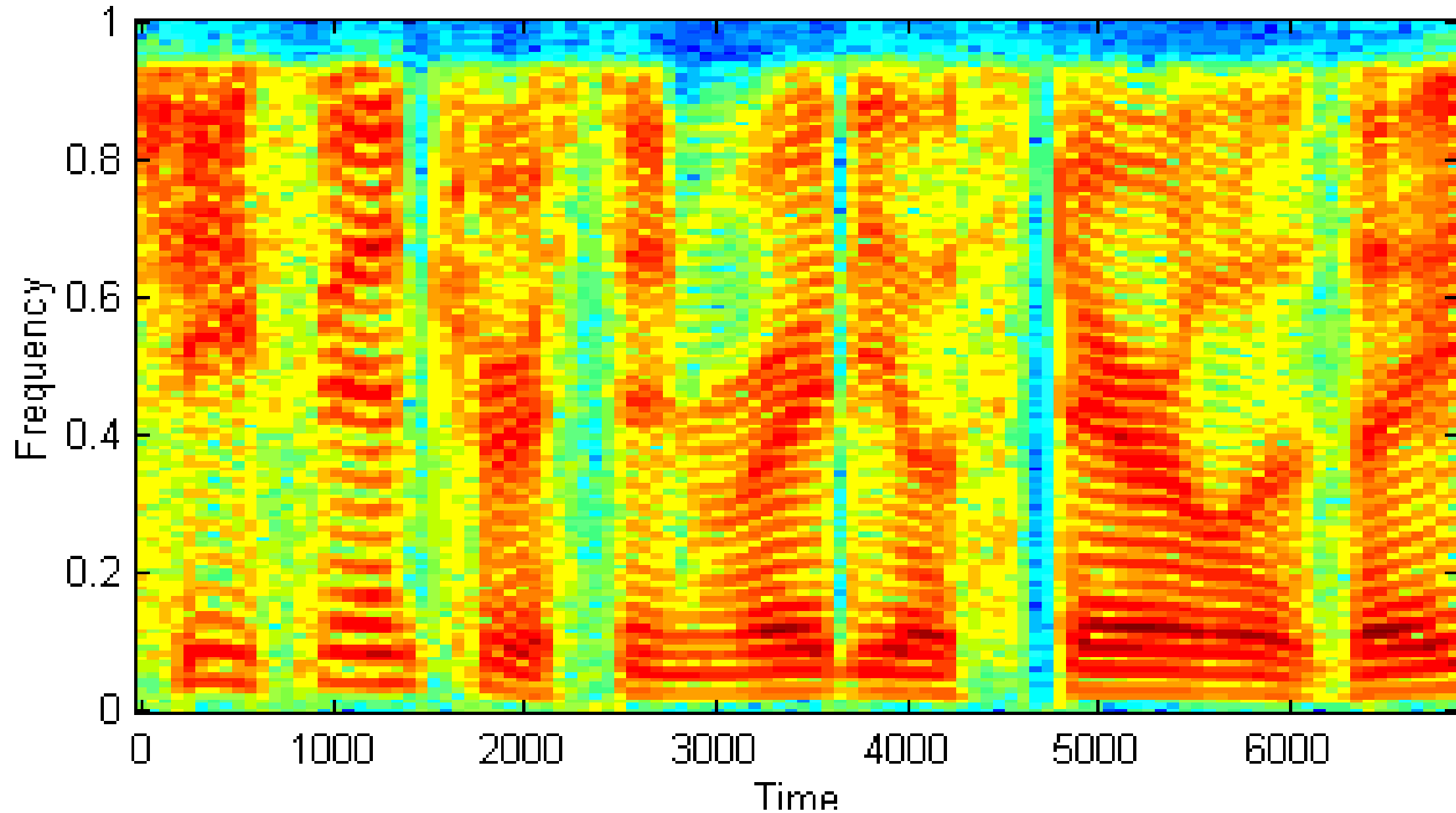


A Speech Spectrogram



A Modern Spectrogram

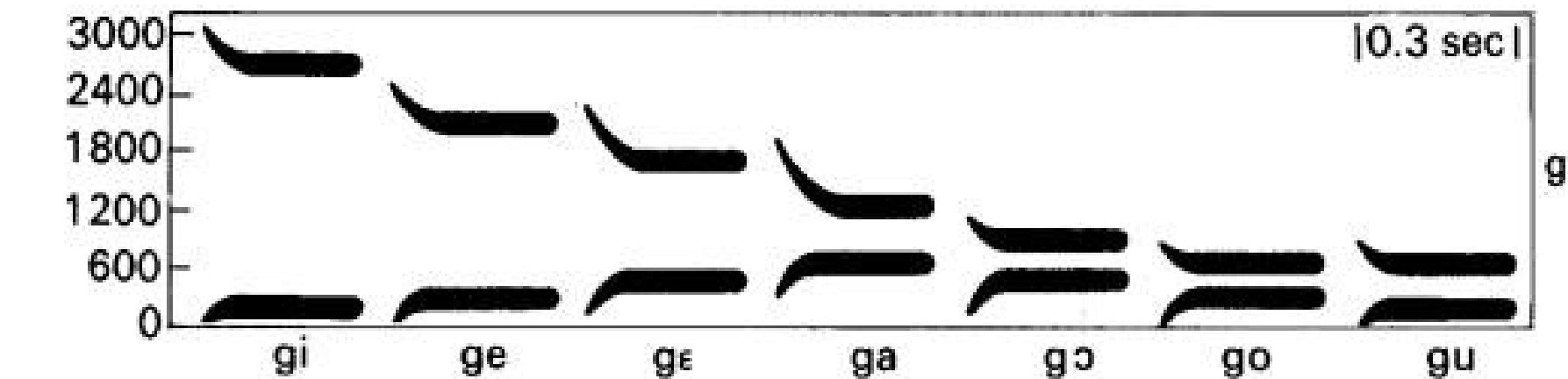
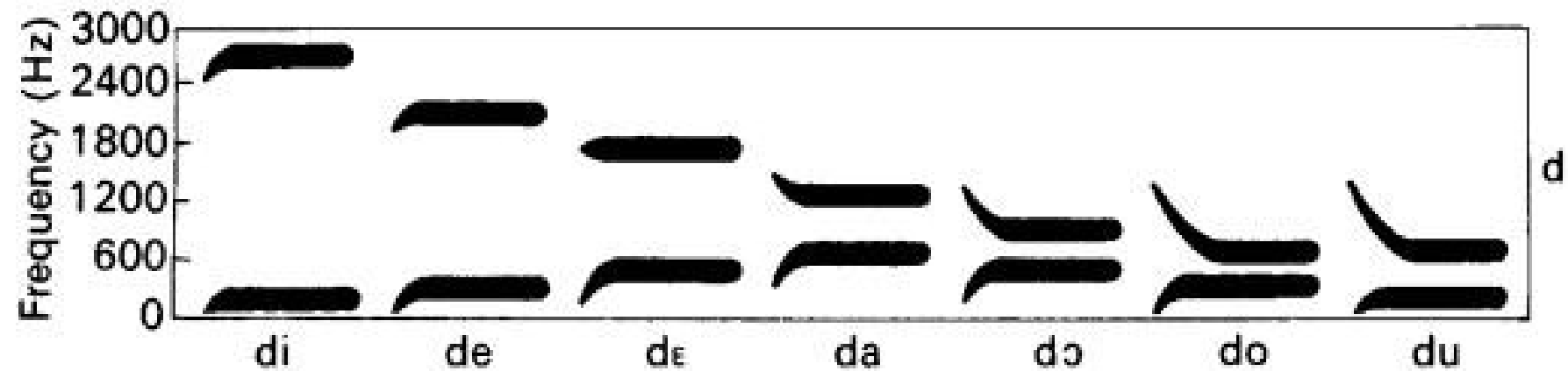
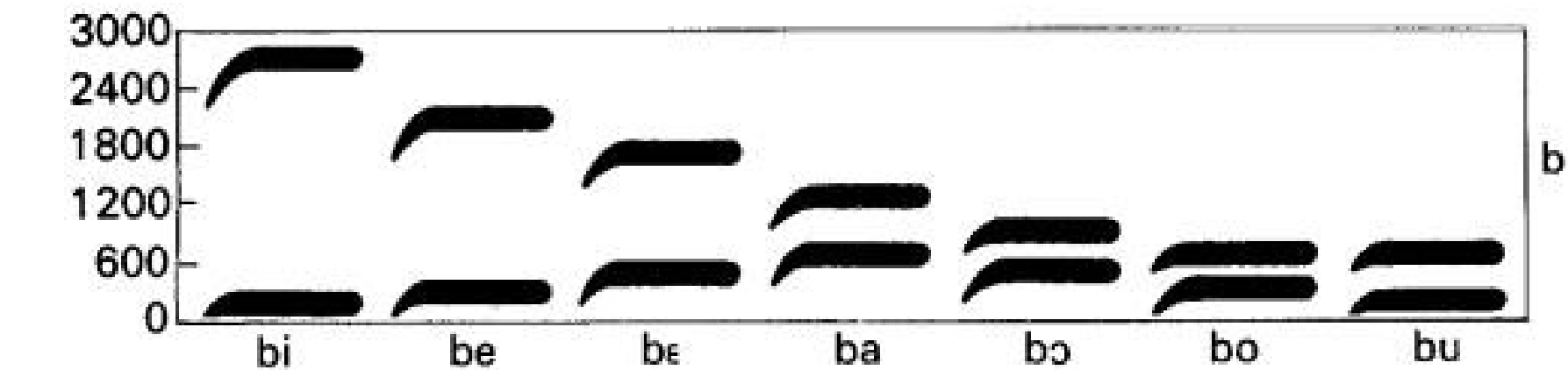
Spectrogram of the Speech Signal



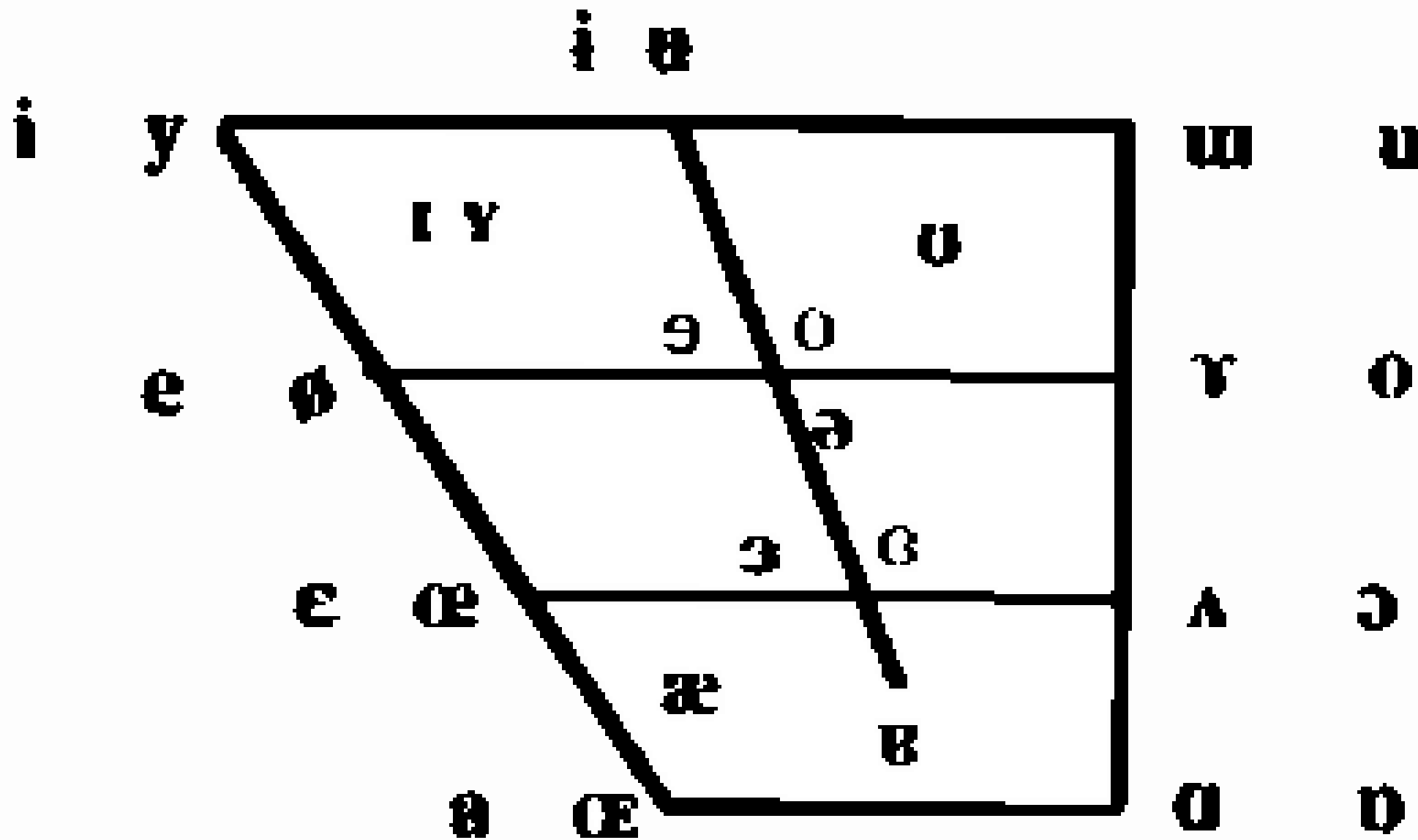
International
Phonetic
Alphabet
(English)

ɪ R <u>E</u> AD	ɪ S <u>I</u> T	ʊ B <u>O</u> OK	uː T <u>O</u> O	ɪə H <u>E</u> RE	eɪ D <u>A</u> Y	John & Sarah Free Materials 1996	
e M <u>E</u> N	ə A <u>M</u> ERICA	ɜː W <u>O</u> RD	ɔː S <u>O</u> R <u>T</u>	ʊə T <u>O</u> UR	ɔɪ B <u>O</u> Y	əʊ G <u>O</u>	
æ C <u>A</u> T	ʌ B <u>U</u> T	ɑː P <u>A</u> R <u>T</u>	ɒ N <u>O</u> T	eə W <u>E</u> AR	aɪ M <u>Y</u>	aʊ H <u>O</u> W	
p P <u>I</u> G	b B <u>E</u> D	t T <u>I</u> M <u>E</u>	d D <u>O</u>	tʃ C <u>H</u> UR <u>CH</u>	dʒ J <u>U</u> D <u>G</u> E	k K <u>I</u> L <u>O</u>	g G <u>O</u>
f F <u>I</u> V <u>E</u>	v V <u>E</u> R <u>Y</u>	θ T <u>H</u> I <u>N</u> K	ð T <u>H</u> E	s S <u>I</u> X	z Z <u>O</u> O	ʃ S <u>H</u> OR <u>T</u>	ʒ C <u>A</u> S <u>U</u> AL
m M <u>I</u> L <u>K</u>	n N <u>O</u>	ŋ S <u>I</u> NG	h H <u>E</u> L <u>L</u> O	l L <u>I</u> V <u>E</u>	r R <u>E</u> AD	w W <u>I</u> N <u>D</u> OW	j Y <u>E</u> S

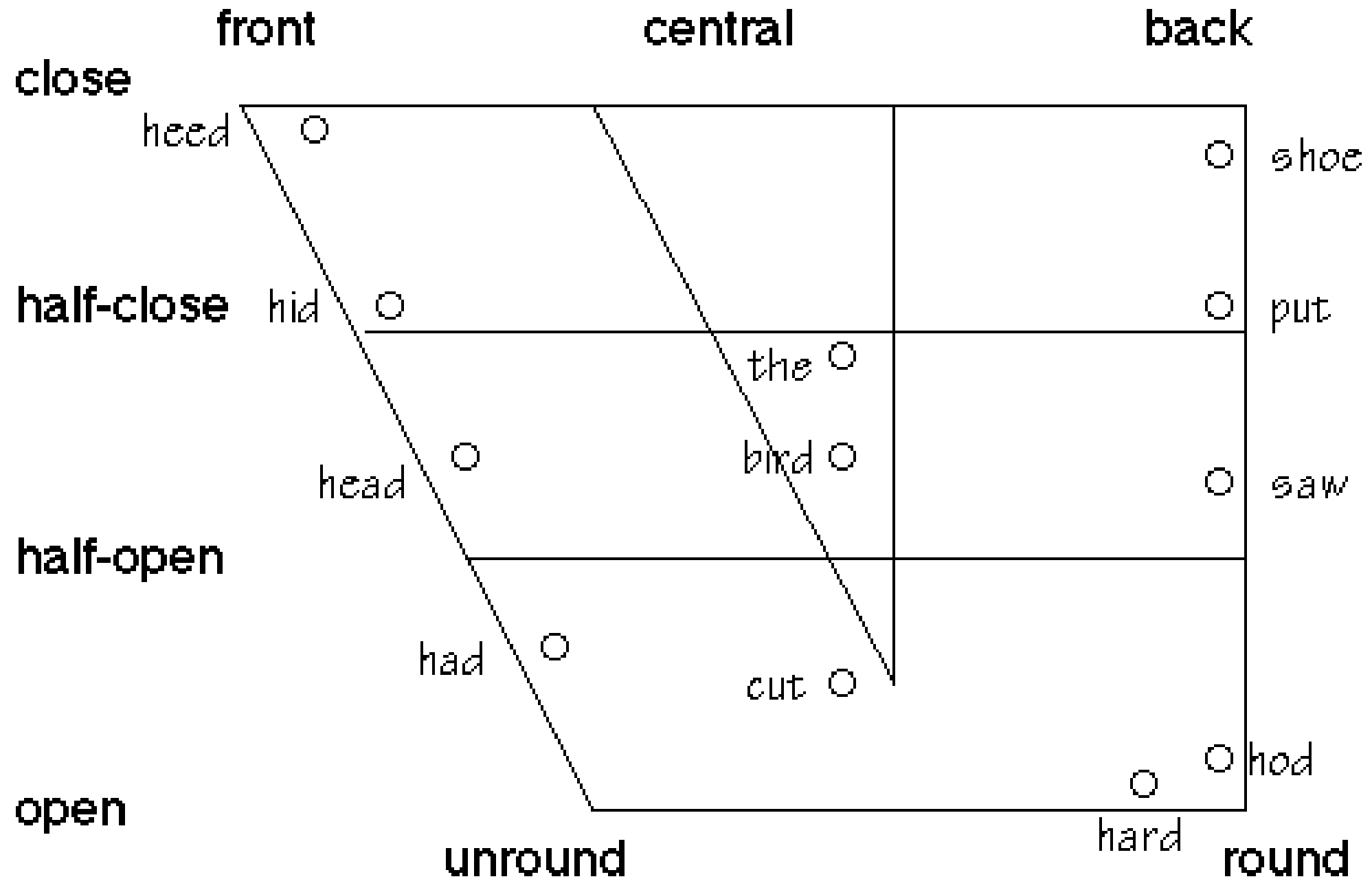
Vowel Formants



Cardinal Vowels



English Vowels



Vowel Length

insider (short) <> in cider (long)

wood (short) <> wooed (long)

/i:/ as in "beat"

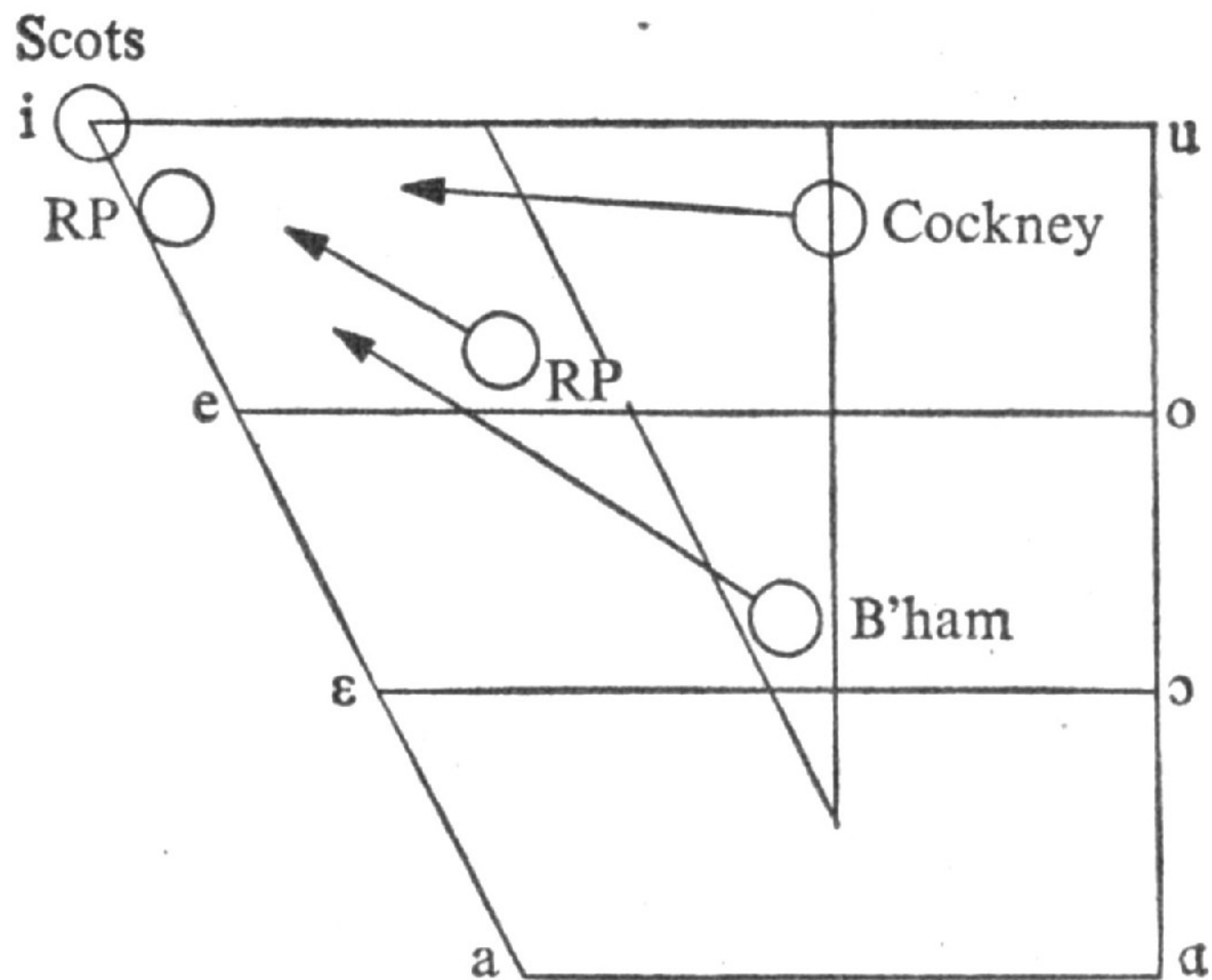


Figure 56: /i:/ variants

/o:/ as in "boat"

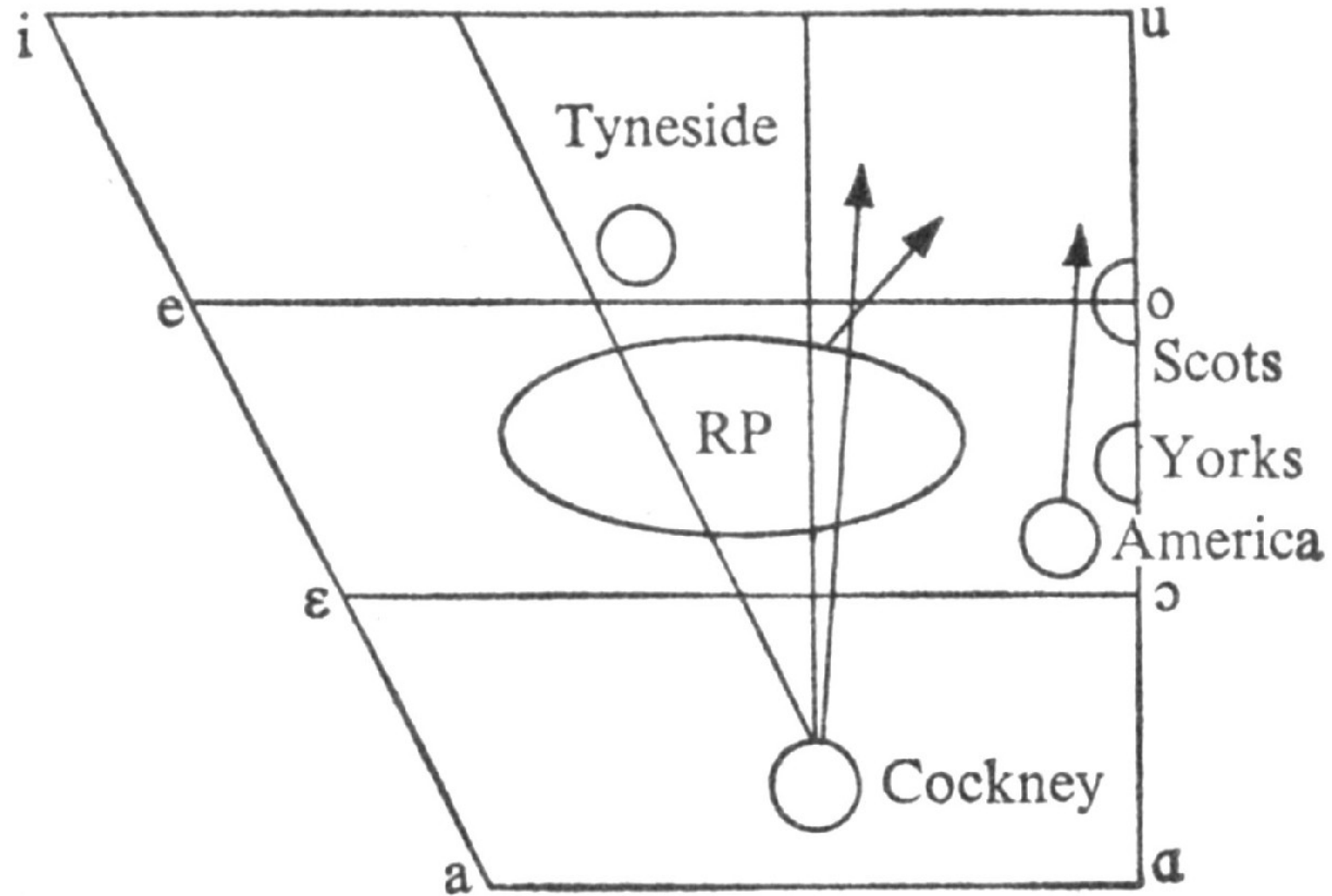


Figure 69: /əʊ/ variants

/aʊ/ as in "bout"

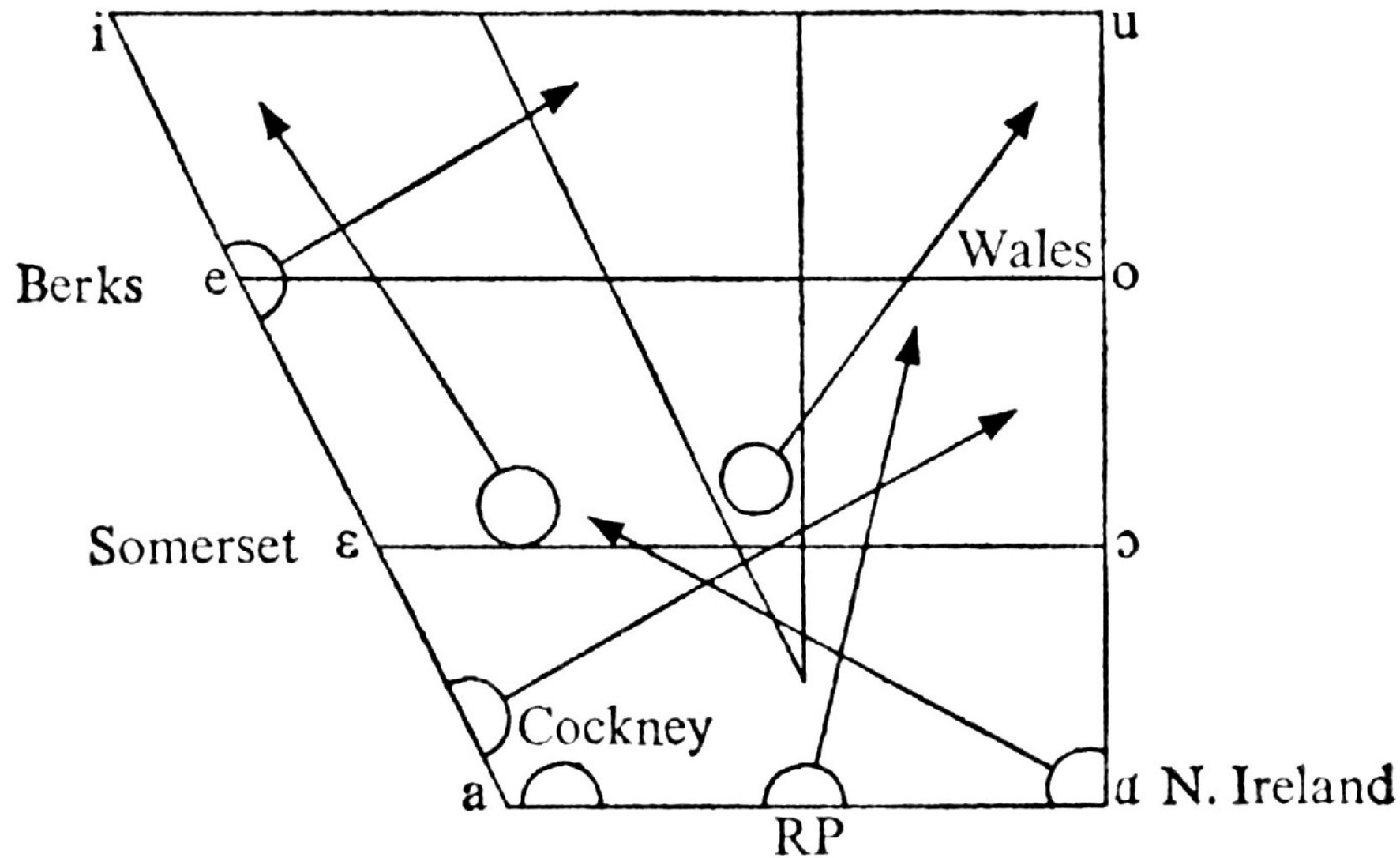


Figure 71: /aʊ/ variants

Stop Consonants

	Unvoiced	Voiced
Labial	/p/ peat	/b/ beat
Alveolar	/t/ tire	/d/ dire
Velar	/k/ cut	/g/ gut

Fricative Consonants

	Voiced	Unvoiced
coronal sibilant	/s/ sip	/z/ zip
palatal-alveolar sibilant	/ʃ/ fission	/ʒ/ vision
labio-dental	/f/ fine	/v/ vine
dental	/θ/ thick	/ð/ that
	/h/ hat	
velar	/x/ loch	

Affricative Consonants

/tʃ/ church

/dʒ/ judge

Nasal consonants

Corresponding stops	Nasal
/p/ /b/	/m/ mum
/t/ /d/	/n/ nan
/k/ /g/	/ŋ/ gang

Other consonants

/l/ little

/r/ rat

/j/ you

/w/ Wales

/ɹ/ whales

Syllable

0 to 3 consonants

1 vowel

0 to 4 consonants

Examples: O three string eighths strengths twelfths

Syllables?

Twin-kle twin-kle li-ttle li-ttle star

Stress

photograph

photography

photographic

Rhythm

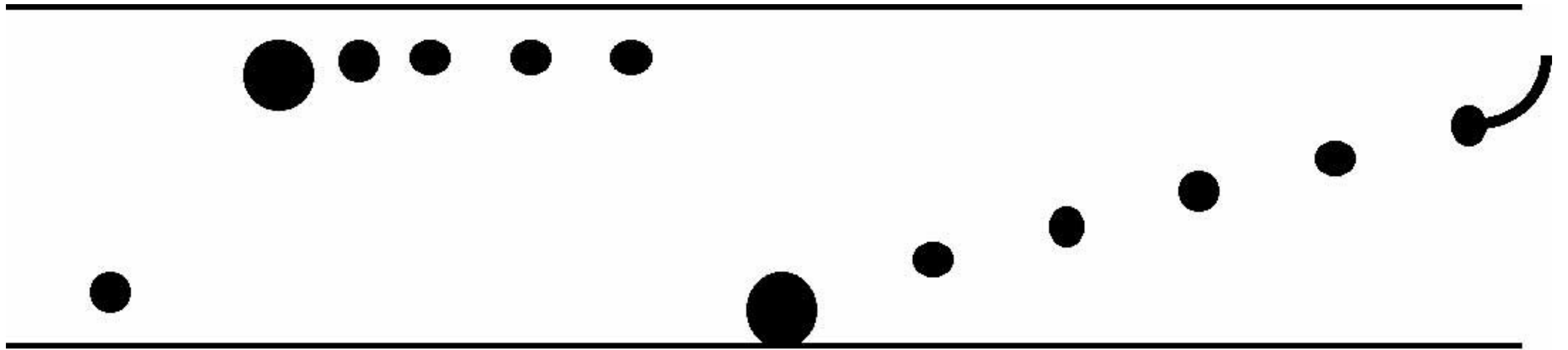
a good boy (zero syllables)

as good as gold (one syllable)

as quick as a flash (two syllables)

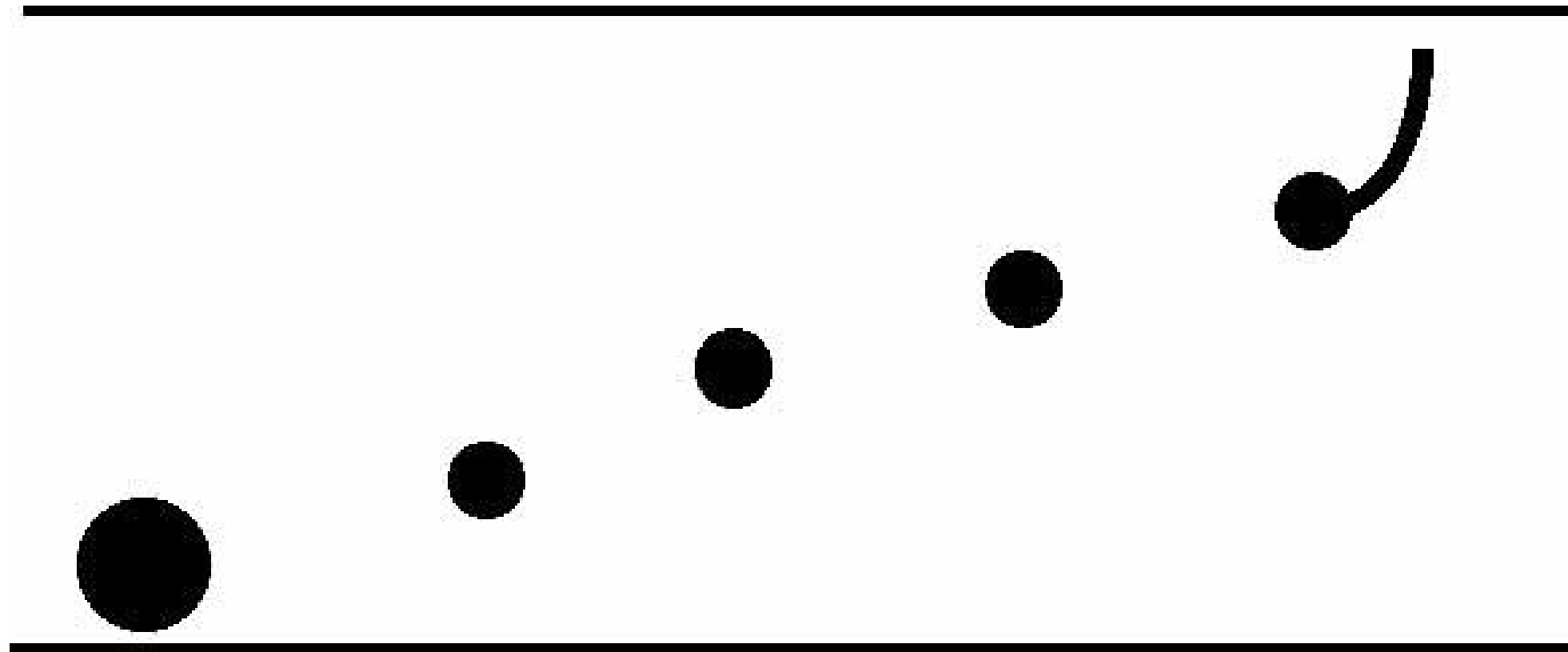
as nutty as a fruit cake (three syllables)

Intonation



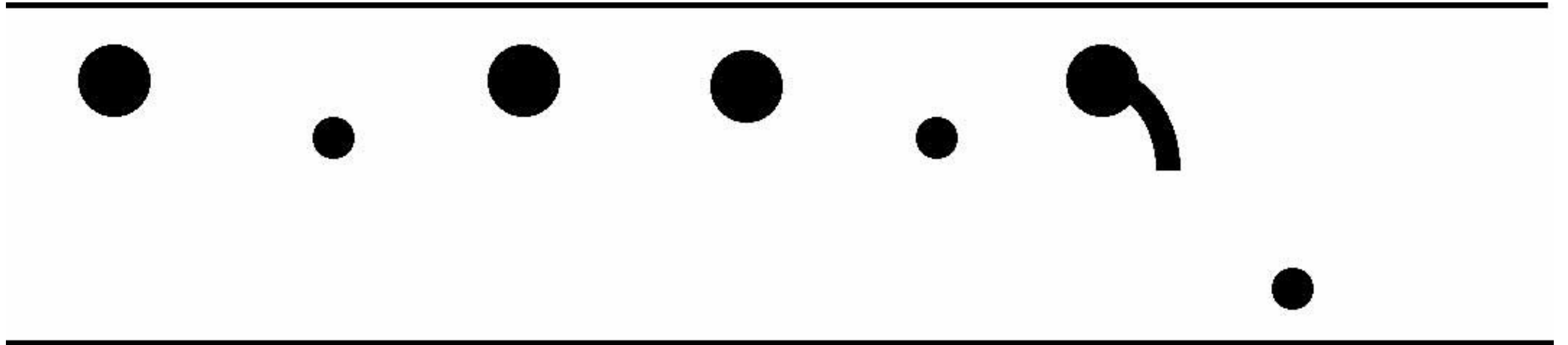
Are you going to the carnival tomorrow?

Intonation



What did he tell you?

Intonation



When's the next train to Portsmouth?