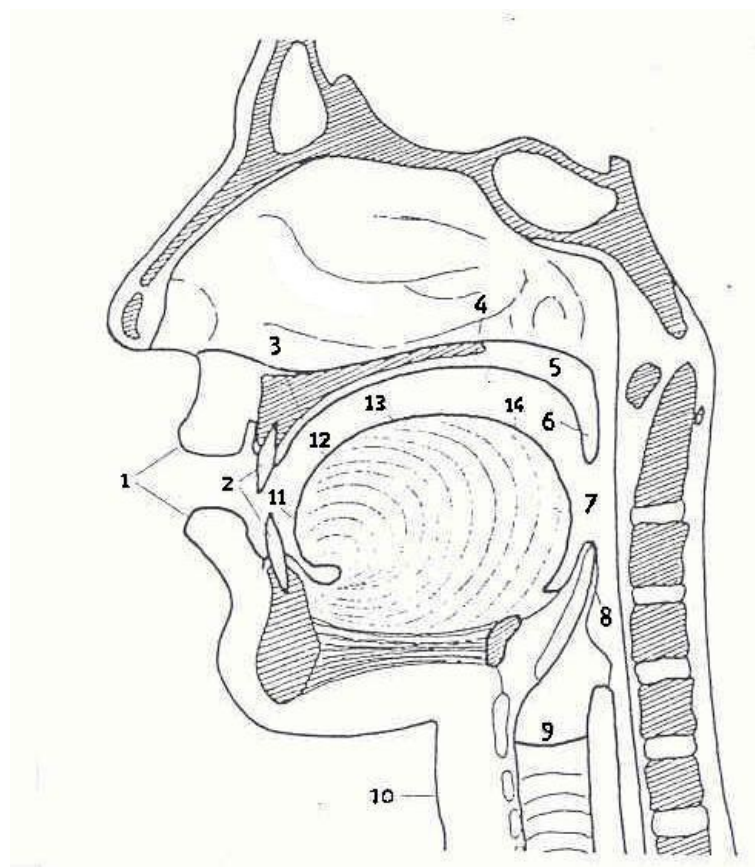


## Phonetics: The articulation of consonants

### 1 The vocal tract



- |     |                     |
|-----|---------------------|
| 1.  | LIPS                |
| 2.  | TEETH               |
| 3.  | ALVEOLAR RIDGE      |
| 4.  | HARD PALATE         |
| 5.  | VELUM/SOFT PALATE   |
| 6.  | UVULA               |
| 7.  | PHARYNX             |
| 8.  | EPIGLOTTIS          |
| 9.  | GLOTTIS             |
| 10. | LARYNX              |
| 11. | TIP OF THE TONGUE   |
| 12. | BLADE OF THE TONGUE |
| 13. | FRONT OF THE TONGUE |
| 14. | BACK OF THE TONGUE  |

### 2 The place of articulation

active articulator	passive articulator	technical term	ex.
lips	–	(BI)LABIAL	[p]
lower lips	upper teeth	LABIO-DENTAL	[f]
tip of the tongue	upper teeth	DENTAL	[θ] from
tip of the tongue	lower alveolar ridge	ALVEOLAR	[t] front
front of the tongue	upper alveolar ridge	POST-ALVEOLAR	[ɹ] to
front of the tongue	alveolar ridge/hard palate	PALATO-ALVEOLAR	[ʃ] back
back of the tongue	hard palate	PALATAL	[ç]
back of the tongue	soft palate/velum	VELAR	[k]
glottis	–	GLOTTAL	[h]

### 3 Manner of articulation

- PLOSIVES: (i) closure of vocal tract, (ii) air compression, (iii) release ([p], [k] etc.)
- FRICATIVES: constriction in the vocal tract ([f], [x], [s], etc.)
- AFFRICATE: plosive + fricative
- OBSTRUENTS: comprises PLOSIVES, FRICATIVES and AFFRICATES
- NASALS: closure of the oral cavity, velum is raised; air stream escapes through the nose ([m], [n], etc.)
- LATERAL: air escapes on both sides of the tongue ([l])
- APPROXIMANT (GLIDE): almost free air passage through the mouth; comprises SEMI-VOWELS ([w], [j]) and FRICTIONLESS CONTINUANTS ([ɹ])

### 4 State of the glottis

- VOICED: vocal folds vibrate, phonation is produced ([m], [b], [g], etc.)
- VOICELESS: vocal folds are apart, no phonation ([p], [k], [s], etc.)

### 5 The consonants of English

(German consonants in parentheses)

place \ manner	bilabial		labio-dental		dental		alveolar		post-alveolar	palato-alveolar	palatal	velar		glottal
plosive	p	b			t	d						k	g	ʔ
fricative			f	v	θ	ð	s	z		ʃ	ʒ	(ç)	(x)	h
nasal		m						n					ŋ	
lateral							l							
approximant		w							ɹ		j			

voiceless	voiced
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- on English /r/:  
 received pronunciation (RP): post-alveolar approximant [ɹ]  
 general American (GA): retroflex approximant [ɻ]

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**recommended reading: Davis (2002: 7-32)**