

PHONETICS AND PHONOLOGY

Phonetics is the study of the sounds used in a specific language: its phones.

Phonology studies the phones that in a specific language have a distinctive function: its phonemes.

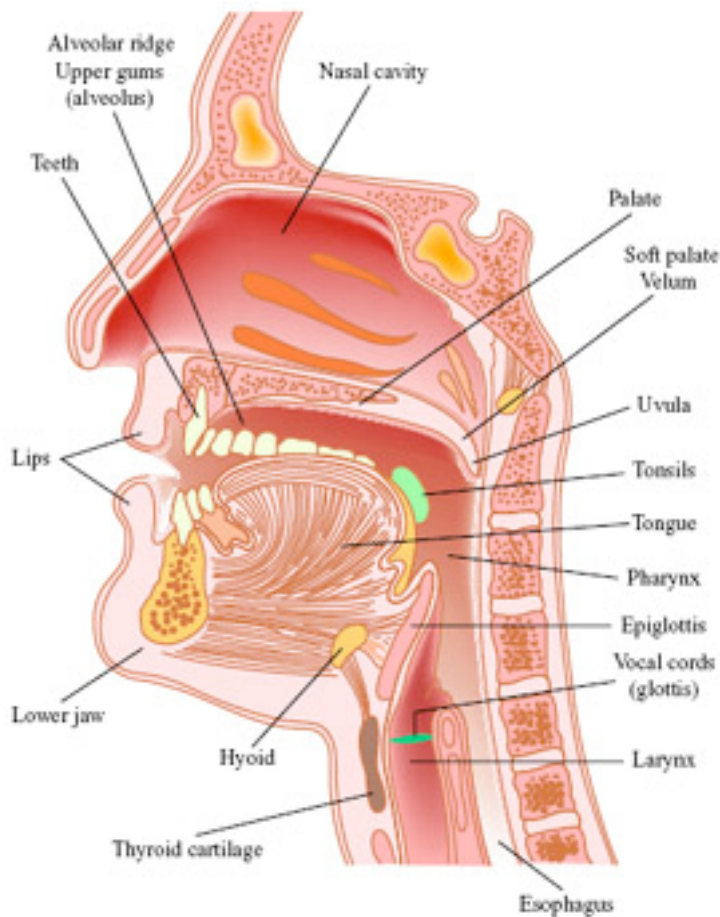
In order to find out whether a phone recorded from a language is a phoneme or a simple variant (allophone) one must try to build a **minimal pair**: a pair of words distinct in meaning whose only difference is a phoneme in the same position.

- (1) mad sad
 cat fat
 cat cut

English phonology is the study of the phonology of the English language. Like all languages, spoken English has wide variation in its pronunciation both diachronically and synchronically from dialect to dialect. This variation is especially salient in English, because the language is spoken over such a wide territory, being the predominant language in Australia, Canada, the Commonwealth Caribbean, Ireland, New Zealand, the United Kingdom and the United States in addition to being spoken as a first or second language by people in countries on every continent, and notably in South Africa and India. In general the regional dialects of English are mutually intelligible.

Although there are many dialects of English, the following are usually used as prestige or standard accents: Received Pronunciation for the United Kingdom, General American for the United States.

SOME BASIC ANATOMY : THE VOCAL TRACT



When speaking (or singing), air from the lungs first passes through the *larynx* (in everyday language *Adam's apple*). Inside the larynx are two tiny but very important membranes, commonly called *vocal cords*, but usually referred to as *vocal folds* by phoneticians. These membranes are set into vibration by the passing air, producing sound. They are controlled by a set of muscles and cartilage which allows them to change their shape, and consequently the quality of sound they produce, including changes in pitch. The vocal folds can also be kept from vibrating by keeping them completely open or completely shut. The vocal folds and the opening between them is called the *glottis*.

ENGLISH PHONEMES

The number of speech sounds in English varies from dialect to dialect, and any actual tally depends greatly on the interpretation of the researcher doing the counting.

The *Longman Pronunciation Dictionary* by John C. Wells (1886), for example, using symbols of the International Phonetic Alphabet, denotes 24 consonants and 23 vowels used in Received Pronunciation, plus two additional consonants and four additional vowels used in foreign words only.

For General American it provides for 25 consonants and 19 vowels, with one additional consonant and three additional vowels for foreign words.

CLASSIFYING PHONEMES

Phonemes can be classified from an articulatory point of view: on the basis of how they get articulated.

Speech sounds are of two major types - *vowels* and *consonants*. Here we look at each of these major types in a bit more detail.

CONSONANTS

Consonants are speech sounds that involve a momentary interruption or obstruction of the air flow. Consonants can be described and differentiated from each other by using three main classifications: *voice*, *place*, and *manner* of articulation..

1. Voice: Are the vocal cords vibrating when they are produced? Both /p/ and /b/ are made by closing the lips briefly to stop the flow of air and then releasing it. The only difference between them is that /b/ is voiced while /p/ is not.

2. Place of articulation: Where in the vocal tract is the air flow obstructed? The vocal tract extends from the lips all the way back to the glottis. (See Figure 1 above) The main places of articulation that are used to contrast phonemes in English, starting from the front of the vocal tract, are:

labial (lips) - as in the first and last consonants of **pip**

labio-dental (teeth and lips) - as in first consonant of **fish**

dental (sometimes called **linguo-dental** since in English these consonants are formed by placing the tongue between the teeth) - as in the first consonant of **this** (Note that even though in the written form of **this**, that sound is spelled with two letters, **t** and **h**, it is a single phoneme)

alveolar (the bumpy ridge just behind your upper teeth) - as in the first and last consonants of **ten**

post-alveolar (sometimes called **palato-alveolar** since it is the area between the alveolar ridge and the hard palate) - as in the first consonant of **ship**. (Again, note that this is a single

phoneme although in the written form it is often spelled with two letters, **s** and **h**.)

palatal (hard palate, or 'roof' of the mouth') - as in the first consonant of **yet**

velar (soft palate or velum which can open or close to control airflow into the nasal cavity) - as in the first consonant of **cat**.

glottal (glottis, the vocal cords and the opening between them) - as in the first consonant of **hen**

3. Manner of articulation: To what degree is the air flow obstructed? Consonants can involve a complete obstruction of the airflow as in /p/ or /k/ all the way down a very minimal obstruction as in /w/ or /j/. The main manners of articulation that are used to contrast phonemes in English, starting with those requiring the most obstruction, are:

plosive (complete obstruction followed by release) - as in the first consonant of **ten**

nasal (complete obstruction of the air flow in the mouth but with the velum open so that air can escape from the nose producing a humming sound) - as in first and last consonants of **man**

	bilabial	alveolar	velar	glottal
voiceless	p pit	t tin	k cut	ʔ bottle
voiced	b bit	d din	g gut	
nasal	m map	n pan	ŋ sing	

fricative (very close but not complete obstruction involving friction) - as in the first consonant of **set**

	labiodental	linguodental	alveolar	alveopalatal	glottal
voiceless	f fat	θ thin	s sap	ʃ she	h ham
voiced	v vat	ð then	z zap	ʒ measure	

affricate (very close obstruction where the consonant begins as a plosive and ends as a fricative – the double symbol indicates both the quality it starts with the quality it ends with) - as in the first and last consonants of **church** (Again, note that although in the written form of **church**, that sound is spelled with two letters, **c** and **h**, this is a single phoneme).

	alveopalatal
voiceless	tʃ cheap
voiced	dʒ jeep

approximant (some obstruction but not enough to cause friction). These consonants are sometimes further divided into two types:

liquids - as in the /l/ of **let**, where the tongue touches the alveolar ridge but the air is allowed to flow freely past the sides of the tongue and the /r/ of **ride** where the tongue approaches the palate. They are all alveolar in English.

	lateral	retroflex
voiced	l left	/r/ rum

glides (a very slight closure, almost like a vowel) - as in the /w/ of **wet**, **which is labiovelar**, and the /j/ of **yet**, **which is palatal**. Glide consonants are sometimes called semi-vowels or semi-consonants.