# COURSE TITLE:BASIC PHONETICS AND ENGLISH PHONOLOGY

ARTICULATORY PHONETICS: MANNER OF ARTICULATION

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# Description of consonants

- They are described using three parameters:
- Voice
- Place of articulation
- Manner of articulation,
- We shall focus on manner this week.

# MANNER OF ARTICULATION

The nature of the action that the tongue performs in the place of articulation

-The feature has a classificatory as well as a descriptive function:

it is needed for:

- The purpose of a precise phonetic description of what happens in the production of a given sound

-The purpose of telling two different sounds apart

- Manner of articulation refers to the vertical relationship between the active and passive articulators.
- The distance between them is known as stricture:
- They can be close together; preventing air from escaping.
- They can be wide apart; allowing air to flow through unhindered.

# INTERNATIONAL PHONETIC ALPHABET (IPA) CHART

CONSONANTS (PULMONIC)

| | Bilabial | Labiodental | Dental | Alveolar | Postalveolar | Retroflex | Palatal | Velar | Uvular | Pharyngeal | Glottal |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Plosive | p b | | | t d | | ʈ ɖ | c ɟ | k g | q ɢ | | ʔ |
| Nasal | m | ɱ | | n | | ɳ | ɲ | ŋ | ɴ | | |
| Trill | ʙ | | | r | | | | | ʀ | | |
| Tap or Flap | | | | ɾ | | ɽ | | | | | |
| Fricative | ɸ β | f v | θ ð | s z | ʃ ʒ | ʂ ʐ | ç ʝ | x ɣ | χ ʁ | ħ ʕ | h ɦ |
| Lateral fricative | | | | ɬ ɮ | | | | | | | |
| Approximant | | ʋ | | ɹ | | ɻ | j | ɰ | | | |
| Lateral approximant | | | | l | | ɭ | ʎ | ʟ | | | |

From Roach, P. 2009. English phonetics and phonology. Cambridge University Press.

# STOPS AND CONTINUANTS

- The first broad distinction is between STOPS and CONTINUANTS
- A **stop -** a sound that involves complete closure of the oral cavity.
- Articulators come so close together that no air can escape between them. /p//d/
- Continuants are produced where the air stream is not totally blocked in the oral cavity - it can escape continuously through the mouth.
- /s/ /z/ , vowels

# STOPS AND CONTINUANTS

- Definitions of stops and continuants are mutually exclusive:
- Any sound that is not a stop is a continuant, and vice versa.
- Hence you may find descriptions such as ‘continuant’ and ‘non-continuant’

# OBSTRUENTS AND SONORANTS

- For obstruents, the airflow is noticeably restricted, with articulation in complete closure or close approximation.
- Fricatives, stops, and affricates are called **obstruents:**
- They share the phonetic property of constricting or obstructing the airflow through the vocal tract.

# OBSTRUENTS AND SONORANTS

- For sonorants, either, there is no restriction in the oral cavity, or the nasal tract is open.
- Either way, the air has free passage through the vocal tract.
- Sonorant consonants are divided into: nasals, liquids and glides.

- Note:
- While the various obstruent subtypes may have both voiced and voiceless counterparts in most languages, sonorant subtypes are typically only voiced.

# stops

- A plosive/stop- a consonant which stops air from escaping.
- A closure is made at some point in the vocal tract and air is compressed behind this.
- There is a brief period of complete or almost complete, silence and the compressed air is released.
- When the air is released, there is a short explosive noise called plosion.
- This may be followed by a [h] like sound known as aspiration [p[ [b] [t] [d] [k] [g]

- They may be oral (velum raised) or nasal (velum lowered) allowing air to pass through the nose.
- Pulmonic egressive oral stops are known as plosives and can be either voiced or voiceless.
- Nasal stops, being  sonorants, are in most languages voiced only.

| Stop | Example |
| --- | --- |
| /p/ | pen |
| /b/ | bear |
| /t/ | tin |
| /d/ | din |
| /k/ | cut |
| /g/ | get |
| /ʔ/ | Glottal stop in such words as button as produced by accents like Cockney /bʌʔn/ |

# Fricatives

- They are produced when  the active articulator is close to, but not actually in contact with the passive articulator.
- This means that air is forced through a narrow passage between the articulators, resulting in considerable friction, hence the term ‘fricative’
- They can be voiceless or voiced.

# fricatives

- Fricatives are characterized by forcing of air in a continuous stream through a narrow opening.
- To pronounce the alveolar fricatives [s] and [z], air is forced through a narrow opening between the tip of the tongue and the alveolar ridge.
- Consider pronouncing the first sound in the words *thin*, *three*, and *theta* and the final sound in *teeth*, *bath*, and *breath*:
- The tongue tip is placed between the upper and lower teeth, where the airstream is most constricted and makes its articulation.
- Represented by [θ], the sound in these words is a voiceless interdental fricative.

- Its voiced counterpart is the initial sound in the words *there* and *then*, the middle consonant sound in *either*, and the final sound of *bathe* and *breathe*.
- In English the spelling <th> is used for two distinct sounds: [θ], as in thin, ether, and breath, and [ð] as in then, leather, and smooth

| Sound | Example in words |
| --- | --- |
| /f/ | fox |
| /v/ | van |
| /θ/ | thief |
| /ð/ | this |
| /s/ | Self |
| /z/ | zebra |
| /ʃ/ | show |
| /ʒ/ | measure |
| /h/ | hand- *voiceless sound* |

# Affricate

- They combine a stop consonant and a fricative to produce what is called an affricate.
- In the pronunciation of an affricate, air is built up by a complete closure of the oral tract at some place of articulation and then released (like a stop) and continued (like a fricative).

- The consonant sound at the beginning and end of church is a combination of the voiceless stop [t] and the voiceless fricative [ʃ] and is represented as [t͡ʃ] or [tʃ].
- The consonant sound at the beginning and end of judge is a combination of the voiced stop [d] and the voiced fricative [ʒ] and is represented as [d͡ʒ].
- English has only one pair of affricates, and to identify their place of articulation they are called **postalveolar affricates**.

- Practice
- Focusing on the initial consonant sounds in choke and joke and the final consonant sounds in batch and badge, pronounce these words slowly until you recognize that they begin with stop and end with a fricative- (hence, affricates).

| Sound | Example of a word |
| --- | --- |
| /tʃ/ | chimpanzee |
| /dʒ/ | jaguar |

# Approximants

- Produced by two articulators approaching one another almost like fricatives but not coming close enough to produce friction.
- English has four approximants: [j], [r] (IPA [ɹ]), [l], and [w].
- The sound that begins the word you is the palatal approximant [j], while cute begins with the consonant cluster [kj].

- Because [r] is pronounced by channeling air through the central part of the mouth, it is called a **central approximant**.
- To pronounce [l], air is channeled on one or both sides of the tongue to make a lateral approximant.
- To distinguish them from the other approximants, [r] and [l] are sometimes called **liquids.**

- In pronouncing the approximant [w], the lips are rounded, as in wild or wow.
- In certain dialects, [h] precedes [w] in words such as which, whether, or when.
- When [w] is the second element of a consonant cluster (as in twine [tw] or queen [kw]), the initial sound (here, [t] or [k]) is rounded in anticipation of the [w]- process of labialization.
- Practice in order to appreciate by focusing on the shape of your lips while you pronounce time and twine and keen and queen.

# Nasals

- Nasals are a variety of stops; they are formed with a comlete closure in the oral tract.
- pronounced by lowering the velum, thus allowing the stream of air to pass out through the nasal cavity instead of through the oral cavity.
- They are sonorants hence voiced.
- English has three nasals: [m] as in mad, drummer, cram; [n] as in:
- new, sinner,ten; and a third, pronounced as in the words sing and singer and symbolized by [ŋ].
-

| Sound | Example of words |
| --- | --- |
| /m/ | moth |
| /n/ | net |
| /ŋ/ | wing |

# LIQUIDS

- Liquid is a cover term given to many /l/ and /r/ sounds or laterals and rhotics respectively.
- They are produced with unhindered airflow and this makes them different from obstruents but nonetheless involve some kind of obstruction in the oral tract.
- They are sonorants and, as such, are typically voiced.

# Laterals

- There is contact between the tongue and the roof of the mouth.
- Only the central part of the tongue is involved in this contact (mid –sagittal contact).
- There is no contact for the sides of the tongue- air is free to exit along the channels  down the sides of the oral tract, hence the term laterals.

# Rhotics

- A wide variety of articulation are subsumed under the general term ‘rhotics’.
- The alveolar trill /r/ in which the tongue blade vibrate repeatedly against the alveolar ridge.
- The alveolar tap, a single tap on the tongue blade against the alveolar ridge. /**ɾ**/
- The **retroflex / ɻ /** produced  with the back of the tongue blade curled back to a post-alveolar position.

# Glides

- In articulatory terms, glide are more like vowels than like consonants since there is no contact of any kind between the articulators.
- They are also called semi-vowels.
- They behave like consonants as they do not form a syllabic nuclei, rather they appear at the edge of the syllable.

| Sound | Example in words |
| --- | --- |
| /j/ | yes |
| /w/- labio-velar | weight |

# English consonants

| Place / Manner | Bilabial | Labio-dental | Dental | Alveolar | Palato-Alveolar | Velar | Glottal |
|---|---|---|---|---|---|---|---|
| Stops | p b | | | t d | | k g | |
| Nasals | m | | | n | | ŋ | |
| Fricatives | | f v | θ ð | s z | ʃ ʒ | | h |
| Affricates | | | | | tʃ dʒ | | |
| Laterals | | | | l | | | |
| Approximants | | | | | r | | |
| Glides | w | | | | j | | |

Diagram of IPA English consonants.

# References


- Davenport, M. & Hannahs, S.J. (2010). *Introducing phonetics and phonology*. London: Routledge.
- Giegerich, H. 1992. *English phonology: An introduction*. UK: Cambridge University press.
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