

Lecture 04: Detailed Study of English Consonants

In this lesson, we will introduce the properties of English consonants and their force, place, and manner of articulation.

1. Consonants /'kɒnsənənts/

It can be defined phonetically as the sound made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, partially, or restricted with an audible friction.

- There are 24 consonantal phonemes classified in the table below into two general categories:
 - Those articulations in which there is a total closure or a stricture causing friction. In this class, there is a distinctive opposition between fortis and lenis.
 - Those articulations in which there is a partial closure or an oral or nasal escape of air. Such articulations, typically voiced and frequently frictionless may share many phonetic characteristics with vowels (Gimson, p.149).

		Place of Articulation								
		Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
A	Plosive	p, b			t, d				k, g	
	Fricative		f, v	θ, ð	s, z		ʃ, ʒ			h
	Affricate						tʃ, dʒ			
B	Nasal	m			n				ŋ	
	Lateral				l					
	Approximant ¹	w				r		j		

IPA table contains the **consonant phonemes** of the English language

2. Properties of English Consonants

A consonant is described in terms of **manner and place of articulation** and **voicing**.

2.1 Manner of Articulation

2.1.1. Plosive: formed by a blockage of the vocal tract, followed by an explosive release of air. As follows:

- 1- The CLOSING stage: the articulators move together to form the obstruction of the air breathed in.
- 2- The COMPRESSION stage: during which the lung compresses the air in the vocal tract.
- 3- The RELEASE stage: the organs forming the obstruction set apart rapidly, allowing the air to escape abruptly.

There are six *stops or* plosive consonants in English, as follows: / p, t, k, b, d, g /.

2.1.2 Affricate: formed by a blockage of the vocal tract like plosives and, followed by a gradual release of turbulent air, like a fricative. For instance: / tʃ, dʒ /.

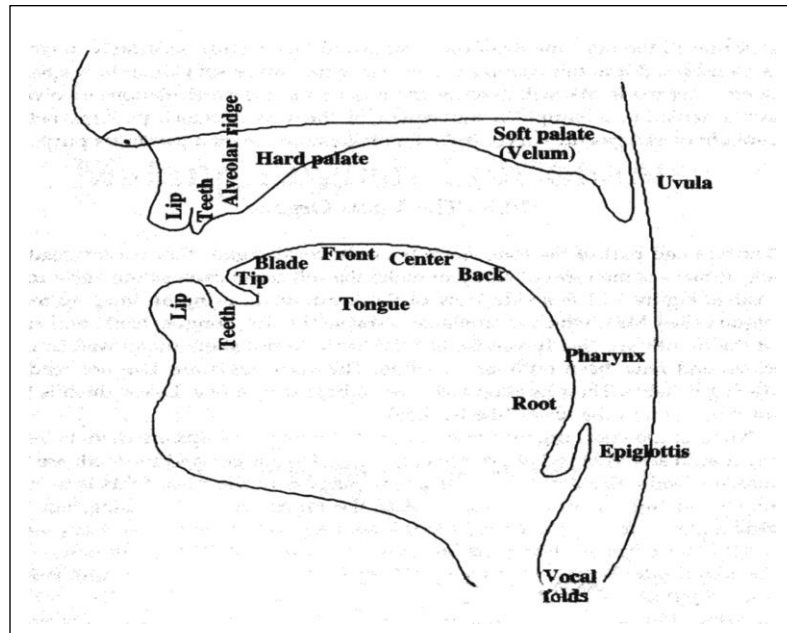
2.1.3. Nasal: formed by the lowering of the velum, allowing air to flow through the nasal cavity. i.e.: /m, n/.

2.1.4. Lateral (approximant): formed by an obstruction of the passage of the airflow in the centre of tongue meanwhile the air flows through both sides of the tongue where obstruction occurs. E.g.: /l/.

2.1.5. Approximant: formed by the constriction of the vocal tract, but with no blockage of the air. /w, r, j/.

2.2 Place of Articulation

The following figures represent the major **Places of Articulation for English Consonants:**



The term place of articulation classifies speech sounds in terms of where in the vocal tract the shape is altered. Hereafter, the main places of articulation of English consonants are shown as:

Bilabial:	bilabial sounds are those sounds made by the articulation of the lips against each other. i.e: /b, p, m, w/.
Labio-dental:	labiodental sounds are made by moving the upper teeth towards the lower lip. i.e.: /f, v/.
Dental:	interdental sounds are made by moving the tip of the tongue between the teeth. i.e.: /θ, ð/.
Alveolar:	alveolar sounds are made by moving the tip of the tongue towards the alveolar ridge. / t, d, s, z, n, l /.
Palato-alveolar:	sounds are made by pressing the front of the tongue towards the area between the alveolar ridge and the hard palate. Examples of such sounds in English are the following: /ʃ, ʒ, tʃ, dʒ/.
Post-alveolar:	is a place of articulation produced with significant raising of the front of the tongue toward the back of the alveolar ridge in a retroflex manner. For example: /r/.
Palatal:	palatal sounds are made by pressing the body of the tongue towards the hard palate. i.e.: /j/.
Velar:	velar sounds are made by pressing the body of the tongue towards the velum. i.e.: /k, g, ŋ/.
Glottal:	glottal sounds are made at the glottis by narrowing in the vocal tract. i.e.: /h/.

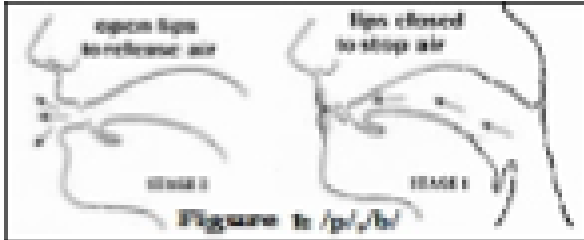
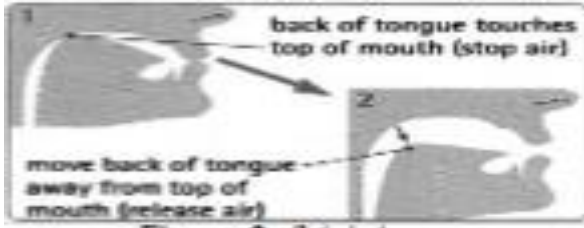

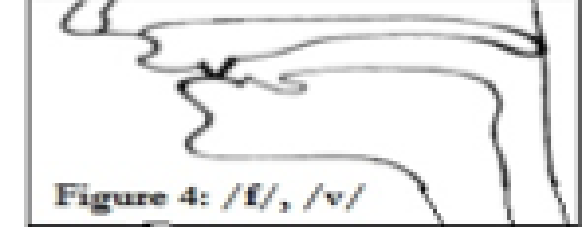

2.3. Force of Articulation/ Voicing

With regard to the *force of articulation*, we use the following terms: **fortis** (strong) and **lenis** (weak).

In phonetic terms, *fortis sound* means an unvoiced sound which requires more force to be articulated.

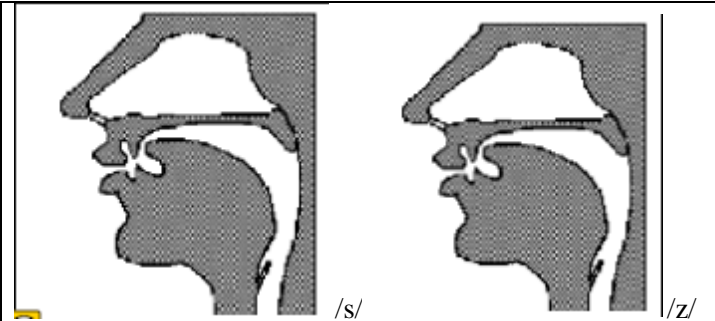
However, the *lenis sounds* are voiced sounds articulated with less force. For example: fortis /p/, lenis /b/.

3. Description of the Articulation of English Consonants

<p><u>3.1. Identification of the consonants /p/, /b/</u></p> <p>Those two bilabial sounds are made with total closure using the lips. The soft palate is raised to stop the air from escaping through nasal cavity. /p/ is unvoiced and fortis. /b/ is voiced and lenis. <i>Pay/peɪ/, bye/baɪ/</i></p>	
<p><u>3.2. Identification of the consonants /k/, /g/</u></p> <p>Those two velar sounds are made with total closure using the back of the tongue against the soft palate the suddenly Release the air. /k/ is unvoiced and fortis. /g/ is voiced and lenis. e.g: <i>can/kæn/, guess/ges/.</i></p>	
<p><u>3.3. Identification of the consonants /t/, /d/</u></p> <p>Those two alveolar sounds are made with total closure using the tongue blade against the alveolar ridge. Soft palate is raised to stop air from going to nasal cavity. /t/ is unvoiced & fortis. /d/ is voiced & lenis. <i>Tie/taɪ/, do/du/.</i></p>	
<p><u>3.4. Identification of the consonants /f/, /v/</u></p> <p>Labiodental sounds are made with partial closure in which an audible friction is heard. They are articulated with the front upper teeth against lower lip. /f/ is unvoiced & fortis. /v/ is voiced & lenis. <i>fit /fɪt/, vice /vaɪs/.</i></p>	
<p><u>3.5. Identification of the consonants /θ/, /ð/</u></p> <p>Dental sounds are made with partial closure or narrow opening using the upper front teeth against tongue-tip. The soft palate is raised. The consonant /θ/ is unvoiced & fortis. /ð/ is voiced & lenis. <i>Thin /θɪn/, that /ðæt/.</i></p>	

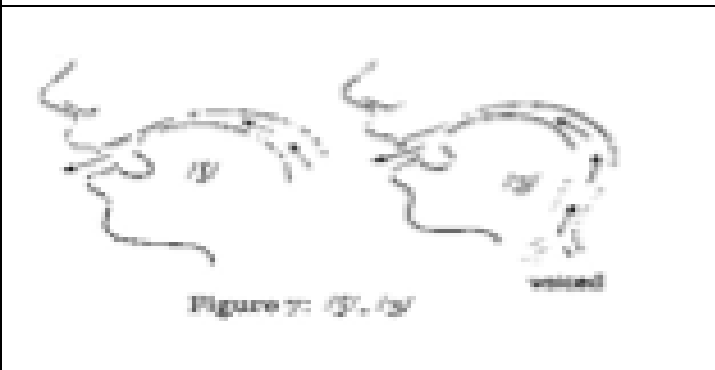
3.6. Identification of the consonants /s/, /z/

Those alveolar sounds are made with partial closure. The soft palate is raised to stop air from going thru nasal cavity. The tip of the tongue contacts alveolar ridge. /s/ is voiceless & fortis. /z/ is voiced & lenis. See /si:/, zoo /zu:/.



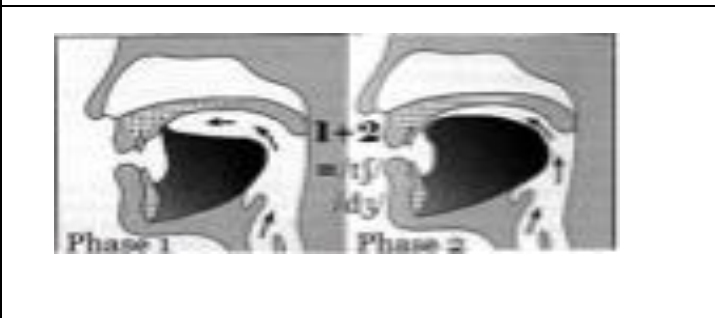
3.7. Identification of the consonants /ʃ/, /ʒ/

Fricative consonants are formed by a narrowing of the air passage then the air escapes making a kind of hissing sound with an audible friction. The blade of the tongue contacts the palato-aveolar slightly. The soft palate is raised. /ʃ/ is unvoiced & fortis. /ʒ/ is voiced & lenis. Shake /ʃeɪk/, beige /beɪʒ/.



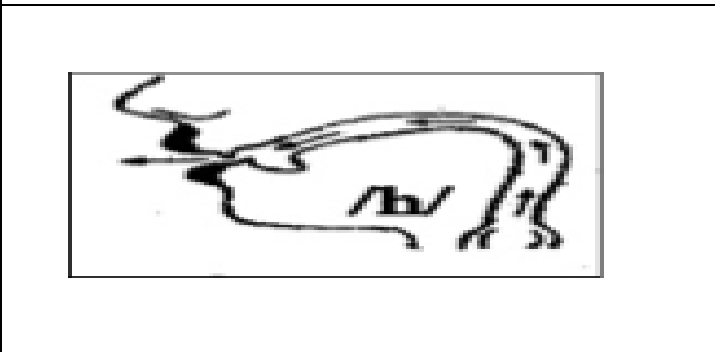
3.8. Identification of the consonants /tʃ/, /dʒ/

The English affricative sounds /tʃ/ and /dʒ/ are described as a transition from the plosives /t, d/ into the fricatives /ʃ, ʒ/ rapidly to get one phoneme. /tʃ/ is unvoiced & fortis. /dʒ/ is voiced & lenis. Chief /tʃi:f/, Jack /dʒæk/.



3.9. Identification of the consonant /h/

This consonant is articulated with the narrowing of the airflow in glottis. It is a kind of breathing out with an audible friction in the vocal cords. /h/ is voiceless when produced alone, but voiced when followed by a vowel. Example words: Heat /hi:t/, who /hu:/, perhaps /pə'hæps/, adhere /əd'hɪə/.



3.10. Identification of the consonant /m/


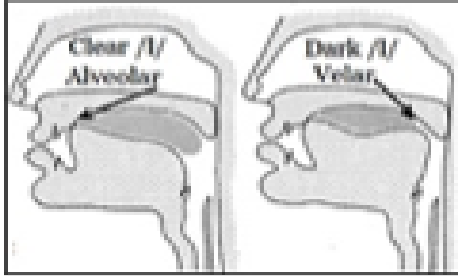



In the nasal consonants the air escapes through nose. To do this, the soft palate is lowered to let air go to nasal cavity. /m/ is articulated with closed lips (bilabial) then air goes through nasal cavity. /m/ is voiced. Mike /maɪk/.



3.11. Identification of the consonant /n/

In the nasal sound /n/ the velum is lowered so that the air can escape thru nasal cavity. /n/ is articulated with tongue tip pressing the alveolar ridge. /n/ is voiced. Nile/naɪl/, snow /snəʊ/, fallen /'fɔ:lən/, none /nʌn/.



<p><u>3.12. Identification of the consonant /ŋ/</u></p> <p>This voiced nasal sound is made with the back of the tongue against velum. e.g.: <i>Ring</i> /rɪŋ/, <i>link</i> /lɪŋk/, <i>singer</i> /'sɪŋə/, <i>hanger</i> /'hæŋə/, <i>hunger</i> /'hʌŋɡə/.</p>	
<p><u>3.13. Identification of the consonant /l/</u></p> <p>This voiced alveolar lateral consonant is articulated with tongue centre and the alveolar ridge in which the air flows around both sides of the tongue. There are two types of laterals:</p> <ul style="list-style-type: none"> - The clear /l/ is voiced alveolar lateral as: <i>let</i> /let/, <i>wallet</i> /'wɒlɪt/, <i>elite</i> /'li:t/ - The dark /l/ is voiced velar lateral as: <i>well</i> [weɫ], <i>milk</i> [mɪɫk], <i>little</i> ['lɪtɫ]. 	
<p><u>3.14. Identification of the consonant /r/</u></p> <p>This post-alveolar consonant is pronounced with the articulators approach each other without a plosive or fricative sound as an approximant. The tip of the tongue approaches further back to the alveolar ridge somehow like /t, d/. the lips are slightly round. /r/ is voiced. <i>Right</i> /raɪt/, <i>free</i> /fri:/, <i>writer</i> /'raɪtə/.</p>	
<p><u>3.15. Identification of the consonant /w/</u></p> <p>This glide or semivowel is made like back close vowel /u:/ but it is very short. This bilabial approximant is articulated with rounded lips. /w/ & /j/ never occur in word final position. e.g.: <i>waste</i> /weɪst/, <i>require</i> /rɪ'kwaɪə/.</p>	
<p><u>3.16. Identification of the consonant /j/</u></p> <p>This glide or semivowel is made like front close vowel /i:/ but is very short. This palatal approximant is articulated with the back of the tongue raised to the velum (soft palate). /j/ is voiced. <i>Yes</i>/jes/, <i>tube</i>/tju:b/, <i>new</i>/nju:/</p>	

Time for practice

Practice 01: Mention the consonant sounds described and their Voicing, Place, Manner of Articulation (VPM):

1. The vocal cords vibrate. The soft palate is raised. A narrowing is formed between the tip and the blade of the tongue with alveolar ridge. A friction occurs.
2. The vocal cords do not vibrate. The soft palate is raised. A complete closure is made between the blade of the tongue and the alveolar ridge. Meanwhile, the front of tongue is raised towards the hard palate. The closure is released slowly with a friction heard.
3. The vocal cords vibrate. The soft palate is lowered. A complete closure is made by the lips. The closure is released abruptly.

Practice 02: Transcribe the words then write out the common sound for each set of words:

1. Chest, cheap, chain, attach, fetch, wretch, question, suggestion, century, nature
2. Job, juice, eject, major, magic, pigeon, fragile, adjacent, exaggerate, judge
3. They, though, clothes, leather, feather, worthy, breathe, smooth

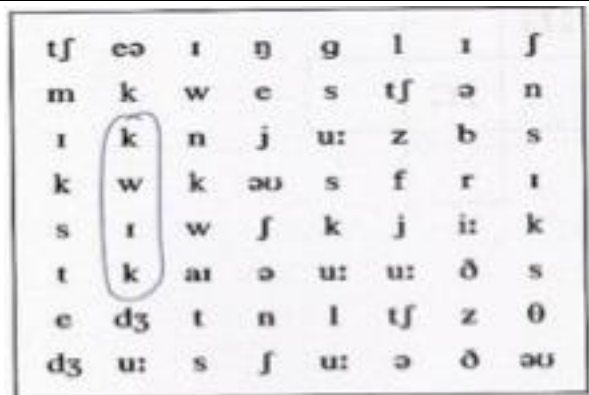
Practice 03: Find two minimal pairs for each consonant sound of the following:

/p/ /b/ /s/ /z/ /n/ /ŋ/ /k/ /g/

.....
.....

Practice 04: Find the spelling form of the following:

- | | |
|-----------------|-----------|
| 1- Quick /kwɪk/ | 9- |
| 2- | 10- |
| 3- | 11- |
| 4- | 12- |
| 5- | 13- |
| 6- | 14- |
| 7- | 15- |
| 8- | 16- |



Practice 05: Write words' spelling for the transcribed utterances in the given instances:

- | | | | | | |
|-----------|-------------|-------------|-------------|--------------|-----------|
| /ˈpleɪst/ | /ˈɔ:lweɪz/ | /wʌns/ | /ˈeksəsaɪz/ | /ˈrɪtʃəd/ | /ˈmeɪzəd/ |
| | | | | | |
| /kɒfs/ | /əˈlaʊ/ | /ˈlæŋgwɪdʒ/ | /ˈeəriə/ | /ɪgˈzɑ:mp / | /wɔ:nz/ |
| | | | | | |
| /ˈθi:sɪs/ | /ˈpeɪntɪŋz/ | /ˈdɪfɪkəlt/ | /ɪˈnʌf/ | /mʌnθ/ | /ˈtraɪŋ/ |
| | | | | | |

Practice 06: Transcribe the following words phonemically (consider the final “ s ”):

1. Plays –Flees – Goes –News –Employees –Ours –Others –Stories –Eyes –Thighs –Theses
2. Grabs –Goods –Dogs –Loves –Breathes –Fails –Comes –Earns –Burns –Songs –Paintings
3. Stops –Pets –Maths –Coughs –Tricks –Weeks –Books –Intellects –Hurts –Topics –Attracts
4. Places –Houses –Story’s –Chooses –Sizes –Watches –Wishes –Pages –Measures –Equals

Practice 07: Transcribe the following words phonemically (consider the final “ed”):

1. Tried –Skied –Stayed –Lied –Hoed –Died –Buried –Hurried –Obeyed –Slowed down –Carried
2. Honoured –Wailed –Clothed –Moved –Clubbed together –Hugged –Used –Pleased –Resumed
3. Banged –Messaged –Learned –Pulled –Bored –Sealed –Banged –Logged –Dared –Fired –I’d
4. Added –Decoded –Guarded –Assisted –Doubted –Wanted –Embedded –Warded –Naked
5. Stopped –Classed –Fixed –Pushed –Stuffed –Looked–Packed –Marched–Preached –
Danced

Practice 09: Write the words for the transcribed utterances in the following instances:

-/ðæt/ - /haʊˈevə/ - /əˈnʌðə/ -/ˈdɪfɪkəlt/ - /wɜːld/ - /ðeə/ -/ˈθɪlə/

- /wɪtʃ/ -/ˈeəriə/ - /kɔːs/ -/ˈʌndə/ - /fʊd/ -/ˈnevə/ - /brɪˈtwiːn/ -

/ˈsʌmθɪŋ/ - /pɔɪnt/ - /hɪə/ - /prəˈvaɪd/ - /lɑːdʒ/ -/ˈnʌmbə/ -/ˈɔːlweɪz/

-/ˈkwɛstʃən/ -/ˈpaʊə(r)/ - /tʃeɪndʒ/ -/ˈkʌlə(r)/ -/ˈdʒʊərəɪŋ/ - /jeə/ -

/huː/ - /ɪˈnʌf/ -/ˈlæŋɡwɪdʒ/ -/ˈræðə/ - /wʌns/ - /mʌnθ/ - /vjuː/ -

/ɪɡˈzɑːmpl/ - /rɪˈzʌlt/ - /muːv/ -/ˈwɔːtə/ - /əˈlaʊ/