

FILOZOFSKA FAKULTETA

GLASOVNI SISTEM ANGLEŠKEGA JEZIKA

Oddelek za anglistiko

2009/2010

PHONETICS

A branch of science that studies sounds of human speech; studies the **physical** properties of sounds (phones), how we perceive the sounds.

Subfields:

- ◆ **ACOUSTIC phonetics** → acoustics of sound (sound waves, frequency,..)
- ◆ **ARTICULATORY phonetics** → articulation of sound
- ◆ **AUDITORY phonetics** → sound perception

↳ natural science

PHONOLOGY

A branch of science that studies sounds in their distribution in language (sounds of speech); studies the **functional** properties (aspects) of sounds. It studies phonemes (and allophones) of a particular language.

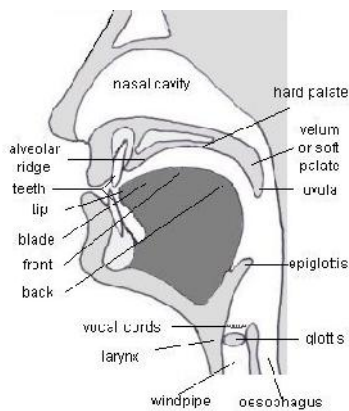
↳ linguistic science

Phonemes → sound unit; the smallest linguistic unit that can bring about change in meaning. They are sounds that every language has a limited number of, and if you change one sound you get a different word.

Allophones → distributional variant of a phoneme, which has a different phonetic realization.

The two branches coexist.

ORGANS OF SPEECH



The lungs → The most usual source of energy for our vocal activity is provided by an airstream expelled from the lungs. All the essential sounds of English need lung air for their production.

The trachea → the passage leading down from the throat, through which one breathes; also known as the windpipe. (*sapnik*)

The larynx → contains the vocal folds (*grlo*)

The vocal folds → produce the voice

The action of the vocal folds, which is most characteristically a function of speech, consists in their role as a vibrator set in motion by lung air - the production of voice, or phonation; this vocal fold vibration is a normal feature of all vowels and voiced consonants. In order to achieve

the effect of voice the vocal folds are brought sufficiently close together that they vibrate when subjected to air pressure from the lungs.

The opening between the vocal folds is known as **THE GLOTTIS**. The glottis may be held tightly closed, with the lung air pent up below it. This **glottal stop** [ʔ] frequently occurs in English; e.g. when it precedes the energetic articulation of a vowel in *apple* [ʔæpl] or when it reinforces /p, t, k/ as in *clock*

[clɒʔk] or even replaces them, as in *cotton* [kɒʔn]. The glottis may be held open as for normal breathing and for voiceless sounds like [s] in *sip* and [p] in *peak*.

THE RESONATING CAVITIES The airstream, having passed the larynx is now subject to further modification according to the shape assumed by the upper cavities of the pharynx and mouth, and according to whether the nasal cavities are brought into use or not. These cavities function as the principal resonators of the voice produced in the larynx.

The pharynx → the place at the back of the nose and mouth where the passages to the mouth and to the nose connect with the throat. (*žrelo*)

SECTIONS OF THE PHARYNX:

- laryngopharynx
- oropharynx
- nasopharynx

The escape of air from the pharynx may be effected in one of three ways:

1. The soft palate is lowered, as in normal breathing, in which case the air may escape through the nose and the mouth.
⇒ Articulation of French nasalized vowels (*õ, ã,..*) *un bon vin blanc*
2. The soft palate may be lowered so that a nasal outlet is afforded to the airstream, but a complete obstruction is made at some point in the mouth, with the result that, although air enters all or part of the mouth cavity, no oral escape is possible.
⇒ m, n, ŋ *ram, ran, rang*
3. The soft palate may be held in its raised position, eliminating the action of the nasopharynx, so that the air escape is solely through the mouth.
⇒ All normal English sounds, with the exception of the nasal consonants.

THE MOUTH → The shape of the mouth determines the quality of the majority of our speech sounds. Far more finely controlled variations of shape are possible in the mouth than in any other part of the speech mechanism.

The roof of the mouth:

- ALVEOLAR - moving backwards from the upper teeth, the teeth ridge
- PALATAL - the bony arch which forms the hard palate (the front part of the roof of the mouth)
- VELAR - the soft palate (the back part of the roof of the mouth)

Movable articulators (Articulators):
lips, tongue, soft palate, lower teeth

Immovable articulators (Points of articulations):
upper teeth, hard palate, alveolar ridge

The lips → LABIAL

Constitute the final opening of the mouth cavity whenever the nasal passage is shut off. The shape they assume affects the shape of the total cavity. They may be shut or held apart in various ways.

The tongue

The tongue is a complex muscular structure which does not show obvious sections; yet, since its position must often be described in considerable detail, certain arbitrary divisions are made:

When the tongue is at rest, with its tip lying behind the lower teeth, that part which lies opposite the hard palate is called the FRONT and that which faces the soft palate is called the BACK, with the region where

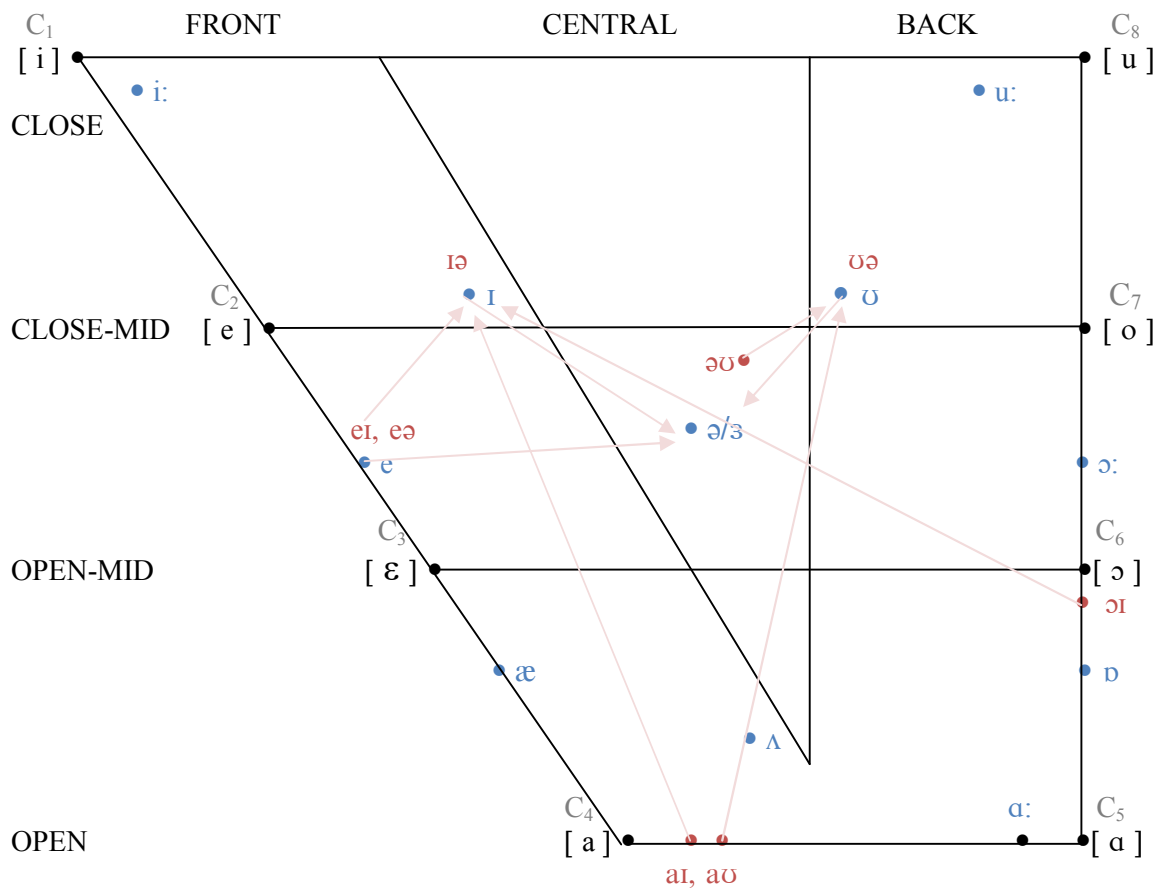
the front and back meet known as the CENTRE (adj. CENTRAL). These areas, together with the root, are sometimes collectively referred to as the body of the tongue. The tapering section facing the teeth ridge is called the blade (adj. LAMINAL) and its extremity the tip (adj. APICAL). The edges of the tongue are known as the rims.

RP Vowels

Vowel quadrilateral

English vowels can be divided primarily into **front vowels** (made with the front of the tongue raised towards the palate) and **back vowels** (made with the back of the tongue raised). If the tongue is close to the roof of the mouth, then the vowel is referred to as a **close vowel**, and if there is considerable open space in the mouth, i.e. with the mouth low, then we term it an **open vowel**.

1. Which **part** of the tongue is used? (front, centre or back?)
2. How **near** is the tongue to the palate? (close or open?)



- ⇒ CARDINAL VOWELS
- ⇒ RP MONOPHTHONGS

⇒ RP DIPHTHONGS (GLIDES)

Diphthongs are those phonemes which form a glide within one syllable. They may be said to have a first element (starting point) and a second element (the point in the direction of which the glide is made)

The diphthongs can be divided into 3 groups: əʊ, aʊ // ɪə, eə, ʊə // eɪ, aɪ, ɔɪ

*RP = Received Pronunciation → standard British-English pronunciation

Monophthongs (steady-state):

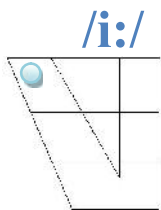
i:	seat, seed
ɪ	hit, hid
e	bet, bed
æ	mat, mad
ɑ:	heart, hard
ɒ	got, god
ɔ:	caught, cord
ʊ	put, wood
u:	root, rude
ɜ:	hurt, heard
ʌ	duck, dug
ə	about, father

Diphthongs (glides):

eɪ	late, laid
aɪ	ice, eyes
ɔɪ	choice, boys
aʊ	shout, loud
əʊ	coat, code
ɪə	fierce, fears
eə	scarce, scares
ʊə	bourse, cures

Description of individual vowels:

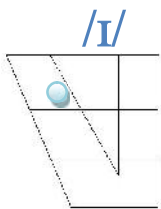
Monophthongs:



/i:/

The front of the tongue is raised to a height slightly below and behind the front close position; the lips are spread; the tongue is tense, with the side of rims making a firm contact with the upper back teeth.

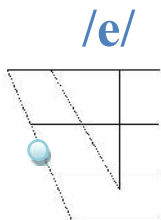
see, seed, seen, be, these, reason, sea, leaf, seat, piece, lease, beef



/ɪ/

A part of the tongue nearer to centre than to front is raised just above the close-mid position; the lips are loosely spread; the tongue is lax, with the side rims making a light contact with the upper back teeth.

city, lovely, lady, monkey, rich, sit, pretty, village, except, taxi, coffee



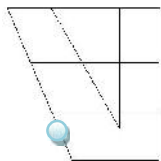
/e/

The front of the tongue is raised between the close-mid and open-mid positions; the lips are loosely spread; the side rims of the tongue make light contact with the upper back teeth.

bed, set, went, dead, head, Thames, again, any, many, bread, cleanse

/æ/

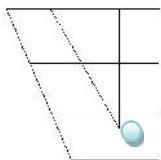
The front of the tongue is raised to just below the open-mid position; side rims making very slight contact with the back upper teeth; lips are neutrally open.



Bat, bad, hand, lamp, marry, rash, cat, travel, carry, comparison, barrel

/ʌ/

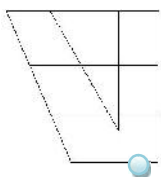
The centre of the tongue is raised to just about the fully open position; No contact between the tongue and the upper back teeth; Lips are neutrally open; considerable separation of the jaws



Run, uncle, front, nourish, does, come, flood, worry, London, thorough

/ɑ:/

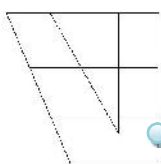
The tongue between the centre and the back is in the fully open position; no contact between the tongue and the upper back teeth; Lips are neutrally open; considerable separation of the jaws



Far, part, half, class, command, clerk, memoir, aunty, heart, sergeant

/ɒ/

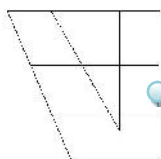
The back of the tongue is in the fully open position; no contact between the teeth and the upper back teeth; lips are lightly rounded; wide open jaws



Dog, often, want, because, knowledge, Australia, sausage, cough, gone

/ɔ:/

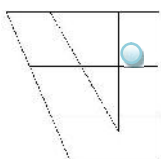
The back of the tongue is raised to between the open-mid and close-mid position; no contact between the tongue and the upper back teeth; Lips are loosely rounded.



Bought, call, more, port, horse, law, water, author, daughter, thought

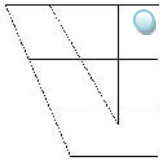
/ʊ/

The part of the tongue just behind the centre is raised just above the close-mid position; no contact between the tongue and the upper back teeth; The lips are rounded, but loosely so; the tongue is relatively relaxed.



Book, good, push, pull, wolf, Worcester, could, should, crook, gooseberry

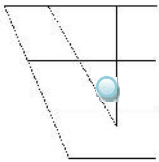
/u:/



The back of the tongue is raised just below the close position; no firm contact between the tongue and the upper back teeth; Lips are rounded; The tongue is tense.

Food, rude, true, who, fruit, soup, shoe, beauty, neutral, blue, whose

/ə/

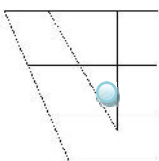


The centre of the tongue is between the close-mid and open-mid position; Lips are relaxed and neutrally spread.

About, father, banana, nation, colour, dinner, doctor, believe, bonus

Occurs only in unstressed syllables.

/ɜ:/



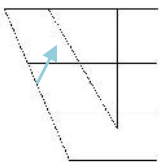
The centre of the tongue is raised between the close-mid and open-mid position; no firm contact between the tongue and the upper back teeth; Lips are relaxed and neutrally spread.

Shirt, her, word, further, pearl, serve, church, attorney, colonel, worship

Diphthongs:

► Closing diphthongs ending in /ɪ/ :

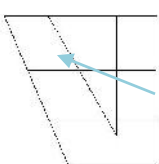
/eɪ/



The glide begins in the position for /e/ moving up and slightly back towards /ɪ/. The lips are spread.

Cake, way, weigh, say, pain, they, vein

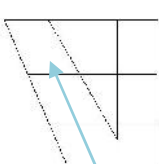
/ɔɪ/



The glide begins in the position for /ɔ:/, moving up and forward towards /ɪ/; The lips start open and rounded and change to neutral.

Toy, voice, enjoy, avoid, boy, noise, point, voyage

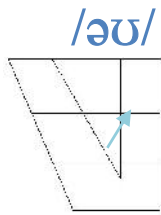
/aɪ/



The glide begins in an open position, between the front and the centre, moving up and slightly towards /ɪ/, The lips move from neutral to loosely spread.

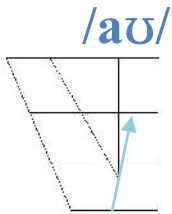
Hide, time, write, bite, climb, design, high, eye, pie, tried

► Closing diphthongs ending in /ʊ/ :



/əʊ/ The glide begins in the position for /ə/, moving up and back towards /ʊ/; the lips are neutral but changing to slightly rounded.

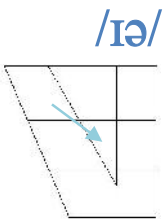
Toast, go, snow, home, hello, although, bone, soldier



/aʊ/ The glide begins at a point between the back and front open positions, slightly more fronted than the position for /ɑ:/, and moves in the direction of /ʊ/.

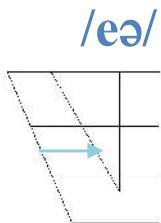
House, sound, out, council, ground, blouse, doubt, allow, cow

► Centring diphthongs:



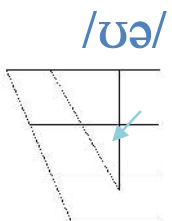
/ɪə/ The glide begins with a tongue position approximately that used for /ɪ/ and moves in the direction of the more open variety of /ə/; The lips are neutral but with a small movement from spread to open.

Hero, zero, here, interfere, sincere, dear, fear, year, nuclear



/eə/ The glide begins in the open-mid position and moves in the direction of the more open variety of /ə/; The lips are neutrally open.

Care, share, aware, parent, welfare, librarian, hair, stare



/ʊə/ Glides from a tongue position similar to that used for /ʊ/ towards the more open /ə/; The lips are weakly rounded at the beginning of the glide, becoming neutrally spread as the glide progresses.

Poor, moor, curious, cruel, fluent, actual, mutual, usual, gradual

RP Consonants

p	pipe	b	babe	m	mime
t	tight	d	died	n	noon
k	cake	g	gag	ŋ	banking
tʃ	church	dʒ	judge	l	legal
f	fife	v	verve	r	rare
θ	thirteenth	ð	breathe	j	yo-yo
s	sauce	z	zoos	w	wigwam
ʃ	short	ʒ	pleasure	h	hitchhike

Consonants are usually classified in terms of:

1. Place of articulation
2. Manner of articulation
3. Voicing

Distinctive feature important for articulation and description of consonants:

1. VOCING

Voiced → vibration of vocal folds

Voiceless → no vocal fold vibration, the vocal folds are wide apart

Voiced: b d g v ð z ʒ dʒ m n ŋ w r l j

Voiceless: p t k f θ s ʃ h tʃ

2. PLACE OF ARTICULATION

Where in the oral cavity is the consonant articulated. The main articulation organ is usually the tongue.

- BILABIAL → the lips as the articulation organ / p b m/
- LABIAL-DENTAL → the lower lip articulates with the upper teeth /f v/
- DENTAL → the tongue tip and rims articulate with the upper teeth /θ ð/
- ALVEOLAR → the front part of the tongue articulates with the alveolar ridge /t d l n s z/
- POST-ALVEOLAR → the tip of the tongue articulates with the rear part of the alveolar ridge /r/
- PALATO-ALVEOLAR → the blade of the tongue articulates with the alveolar Ridge and there is at the same time a raising in the front of the tongue towards the hard palate /ʃ ʒ tʃ dʒ/
- PALATAL → the front of the tongue articulates with the hard palate /j/
- VELAR → the back of the tongue articulates with the soft palate /k g ŋ/
- GLOTTAL → an obstruction, or a narrowing causing friction but not vibration, between the vocal folds /h/
- LABIO-VELAR → lips+back of the mouth; the lips are rounded, the articulation resembles that of vowels (semi-vowel/semi-consonant) /w/

3. MANNER OF ARTICULATION

OBSTRUENTS:

- **PLOSIVES/STOPS** /p b t d k g/ → a complete closure at some point in the vocal tract, behind which the air pressure builds up and can be released explosively

According to the place of articulation, there are 6 plosives:

Bilabial /p b/

Alveolar /t d/

Velar /k g/

The articulation of plosives is carried out in 3 stages:

1. The **CLOSING STAGE** → during which the articulating organs move together to form a complete closure
2. The **COMPRESSION STAGE** → during which the complete closure is maintained, the lungs are releasing the air into the oral cavity, where it becomes compressed behind the closure. The vocal folds may or may not start to vibrate (depend on which consonant you are going to produce - voiced or voiceless)
3. The **RELEASE STAGE** → during which the oral closure is released quickly. The air escapes/bursts out.

► **Bilabial plosives / p b /**

For the articulation of the bilabial plosives the soft palate is raised, the lips move together and form a complete closure. Behind the closure the escaping air starts to pressure up. Then the closure is released quickly and the air escapes with force - producing a popping sound. (b - the vocal folds vibrate)

In connected speech they are affected by the surrounding phonemes.

Spelling: p, pp, b, bb

Note: *hiccough* /'hɪkʌp/

► **Alveolar plosives / t d /**

The soft palate is raised, a complete closure is forced between the tip of the tongue and the alveolar ridge. With /t/ the vocal folds are far apart, with /d/ they start to vibrate. Then air is quickly released.

When in combination with /r/ → affricate realization - the release is slow (*try, dry...*)

/t/

Spelling: t, tt

Note: /t/ is pronounced in some proper names with *th* (*Esther, Thames, Thomas, Thom(p)son, Thai(land)*), and in *-ed* verb forms after strong consonants other than /t/ (*ripped, locked, washed...*)

/d/

Spelling: d, dd

► **Velar plosives / k g /**

The back part of the tongue and the soft palate form closure.

/k/

Spelling: c, cc+a/o/u, k, ch

/g/

Spelling: g, gg, gh, gu

PHONETIC FEATURES OF PLOSIVES (/ALLOPHONES)

Phonetic features which affect the voice of plosives.

Voiced plosives / b d g / can in a particular surrounding become **devoiced** - the vocal folds start vibrating late/towards the end, or don't vibrate at all:

- ⇒ In an initial position (in a word)
- ⇒ In a final position (in a word)
- ↳ But they remain LENIS (WEAK) → still affect the length of the preceding vowel.

Fully voiced only in a voiced surrounding:

Vowel/ C_{voiced} + vocal plosive + C_{voiced} / vowel

baby [b̥e:ɪbi]

bag [b̥æ:g̥]

↳ the only short vowel that gets longer in front of voiced consonants bag [æ:] vs. back [æ]

Voiceless plosives / p t k /

1. Aspiration: Voiceless plosives are aspirated in a stressed syllable initial position followed by a vowel; They are followed by a short [h]-like puff of air, termed aspiration (= a voiceless interval consisting of strongly expelled breath between the release of plosive and the onset of a following vowel). It's most obvious at the beginning of the strongly stressed syllables, e.g. *pie* [p^haɪ], *tea* [t^hi:], *become* [bi^hk^hʌm]

2. Glottal reinforcement of the release stage in the articulation of the voiceless plosives - the two vocal folds form a complete closure. It occurs with the voiceless plosives when they occur in a word-final position before another consonant or silence, with a preceding vowel.

V + word-final /p t k/ + C / Ø

shop [ʃɒ²p]

shoplifter [ˈʃɒ²plɪftə]

shop in town /'ʃɒp ɪn 'taʊn/ [ʃɒp̃ɪn]

PLOSIVES IN CONNECTED SPEECH

How the release stage of plosives is affected when they occur in connected speech;

1. Inaudible release in final positions (before a pause)

The first two stages of the articulation of a plosive are executed and the third is not (the distinction is in the length of the preceding vowel)

map /mæp/

mad /mæd/

mack /mæk/

2. Inaudible release in stop (affricates, plosives) clusters (cluster of two plosives, or plosive + affricate)

The first plosive has inaudible release:

Locked /lɒkt/ ← velar closure for /k/, pressure builds up, alveolar closure for /t/, both consonants
[lɒ²kt] released together

White post, big boy

3. Inaudible release for homorganic plosives / gemination

No separate release of the first plosive is made in cases of gemination, i.e. sequences of identical stops; *top people, good dog, big girl*, in such cases one closing stage and one release stage are involved together with an approximately double-length compression stage.

Good day /gʊd deɪ/
[d:]

Much the same applies when plosives which are homorganic but different in voicing occur in sequence, e.g. *white dog, top boy, big car*.

Homorganic consonants = the same place of articulation

4. Nasal release

The plosive is not released orally, but through the nose

PLOSIVE + NASAL - the plosive and the nasal must have the same place of articulation (homorganic)

p/b + m	topmost /'tɒpməʊst/	submerge /sʌb'mɜ:dʒ/
t/d + n	cotton /'kɒtn/	madness /'mædnəs/
(k/g + ŋ)		

5. Lateral release

Plosive + lateral consonant (l) (=homorganic) t, d + l → alveolar place of articulation

/t/ and /d/ are released laterally, i.e. one or both sides of the tongue are lowered to allow the air to escape, the tongue tip contact remaining. Such a release occurs whether the following /l/ is syllabic, or if it is initial in the next syllable or word.

cattle /'kætl/ at last /ət 'lɑ:st/ regardless /rɪ'gɑ:dləs/

6. Affricate release / Affrication and weakening of plosives

If the release of plosive closures is not made rapidly, a fricative sound, articulated in the same area of articulation as the plosive, will be heard; plosives made with this slow, fricative release are said to be affricated.

/t/, /d/ time /taɪm/ [t^ha:ɪm] =aspiration [t^sa:ɪm]
day /deɪ/ [d^zeɪ]

- **AFFRICATES /STOPS /tʃ dʒ/** → the soft palate being raised and the nasal resonator shut off, the obstacle to the airstream is formed by a closure between the tip, blade and rims of the tongue and the upper alveolar ridge and side teeth. At the same time, the front of the tongue is raised towards the hard palate in readiness for the fricative release. The closure is released slowly, the air escaping in a diffuse manner.

Affricates begin like plosives, but their release stage is different (with affricates it is slow, with plosives it is sudden)

NOTE: glottal reinforcement of /tʃ/ after a vowel before silence or another consonant

match /mætʃ/ [mæ̃²tʃ] matched //mætʃt/ [mæ̃²tʃt]

Voiced affricate /dʒ/ remains fully voiced only between voiced sounds

► **Palato-alveolar affricates / tʃ dʒ /**

Spelling:

/tʃ/

ch, tch, ti, tu

Note: *righteous, cello, concerto*

/dʒ/

j, g, dg, dj

Note: *soldier, suggest, exaggerate, grandeur, arduous*

- **FRICATIVES / f θ s ʃ v ð z ʒ /** → in the articulation of a fricative consonant, two organs are brought and held sufficiently close together for the escaping airstream to produce local air turbulence

Voiced fricatives /v ð z ʒ/ tend to be fully voiced only when occurring between voiced sounds

► **Labiodentals fricatives / f v /**

The soft palate being raised and the nasal resonator shut off, the inner surface of the lower lip makes a light contact with the edge of the upper teeth, so that the escaping air produces friction.

love /lʌv/ [lʌv]

vowel /vəʊl/ [vəʊl]

Spelling:

/f/

f, ff, ph, gh

Note: *sapphire*

/v/

v, ve

► **Dental fricatives / θ ð /**

The soft palate being raised and the nasal resonator shut off, the tip and rims of the tongue make contact with the upper teeth.

Spelling: both dental fricatives are always spelled with *th*

Unstressed /ð/ at the beginning of words often has assimilation to the preceding consonant; this is especially true of the article *the*. When this word follows /n l s z/, it often produces a doubly long /n l z s/

In the corner /m_nə 'kɔ:nə/ What's the use /'wɒts_sə 'ju:s/

► **Alveolar fricative / s z /**

The soft palate being raised and the nasal resonator shut off, the blade (or the tip and blade) of the tongue makes a light contact with the upper alveolar ridge, and the side rims of the tongue make a close contact with the upper side teeth. The air escapes through the groove that the tongue shapes, with friction.

In the final position /z/ becomes devoiced, but not fortis

Bees /bi:z/ [b̥i: z̥]

Spelling:

/s/

s, ss, c/cs (+e/i/y), x (ks)

/z/

s, ss, z, zz x /gz/

► **Palato-alveolar fricatives / ʃ ʒ /**

The soft palate being raised and the nasal resonator shut off, the tip and blade of the tongue make a light contact with the alveolar ridge. The escape of air is diffusive.

Spelling:

/ʃ/

sh, ch, sch, ss, s, ti, sci, ci, ce, x (kʃ)

/ʒ/

Si, s/z + u, j or g + e/i

► **Glottal fricative / h /**

Since English /h/ occurs only in syllable-initial, pre-vocalic positions, it may be regarded as a strong, voiceless onset of the vowel in question. The air is expelled from the lungs with considerable pressure, causing some friction throughout the vocal tract, the upper part of which is shaped in readiness for the articulation of the following vowel.

Spelling: h, wh

SONORANTS:

- **NASALS / m n ŋ /** → resemble oral plosives in that a total closure is made within the mouth; they differ from such plosives in that the soft palate is in its lowered position, allowing an escape of air into the nasal cavity and giving the sound the special resonance provided by the naso-pharyngeal cavity. Since the airstream may escape freely through the nose, nasal consonants are continuants.

► **Bilabial nasal / m /**

The lips form a complete closure (as for /p b/), the soft palate is lowered, vocal folds are vibrating, the air escapes through the nose.

Spelling:

m, mm, mb, mn

bomb /bɒm/ autumn /'ɔ:təm/ bombing /'bɒmɪŋ/ smile /smaɪl/ [smã:l]

Note: When followed by a labiodental sounds /f, v/, the front closure may be labiodental [m̥] rather than bilabial.

nymph /nɪmf/ [n̥ɪmf]

► **Alveolar nasal / n /**

A complete closure is made between the tip of the tongue and the alveolar ridge (as for /t d/), vocal folds vibrate, soft palate is lowered, air escapes through the nose.

Spelling: n, nn, kn, gn, pn

sniff /snɪf/ [sn̥ɪf]

Syllabic n when:

- ən
- Unstressed

BUT: 'V C C → schwa is necessary London /'lʌndən/

cotton /kɒtən/

► **Velar nasal / ŋ /**

Closure formed between the back part of the tongue and the soft palate (as for /k g/), the soft palate is lowered, air escapes into the nasal cavity, vocal folds start vibrating

Spelling:

ng, nk, n + /k, g/

anger /'æŋgə/ singing /sɪŋɪŋ/

- **APPROXIMANTS / l j r w /** → the airstream escapes through a relatively narrow opening in the mouth without friction but with voice.

► **Alveolar lateral approximant /l/**

The soft palate being in its raised position, shutting off the nasal resonator, the tip of the tongue in contact with the upper teeth ridge, allowing the air to escape. For clear [l], the front of the tongue is raised in the direction of the hard palate at the same time as the tip contact is made, this giving a front vowel resonance to the consonant. For dark [ɫ], the tip contact is again made on the teeth ridge, the front of the tongue being somewhat depressed and the back raised in the direction of the soft palate, giving a back vowel resonance.

Spelling: l, ll

Clear [l] → before vowels and /j/

Leave, let, lock, look, blow, yellow, fell it, all over, will you

Devoiced clear [l] → following voiceless consonants, C_{voiceless}+ l +V - [l̥]

play, please, sleep, fling, cling, butler, dark lane

Dark [l] → in all other positions - [ɫ]

Feel, pile, owl, oil, royal, real, cruel, table, middle, uncle, bulb, salt, cold, film

► **Post-alveolar approximant / r /**

The soft palate being raised and the nasal resonator shut off, the tip of the tongue is held in a position near to, but not touching, the rear part of the upper teeth ridge; the back rims of the tongue are touching the upper back teeth; the central part of the tongue is lowered, with a hollowing and slight retroflexion of the tip.

Spelling: r, rr, wr, rh

► **Palatal approximant (semi-vowel) / j /**

The soft palate is raised, the tongue assumes the position for a front close-mid to close vowel and moving away immediately to the position of the following sound.

When preceded by a voiceless consonant, /j/ is devoiced.

Spelling: y, i, u, ue, ew, eu

► **Labial-velar approximant (semi-vowel) / w /**

The soft palate is raised, the tongue assumes the position for a back close-mid to close vowel and moving away immediately to the position of the following sound.

When preceded by a voiceless consonant, /w/ is devoiced.

Spelling: w, wh, q/g + u

	PLOSIVE	AFFRIC.	FRICATIVE	NASAL	APPROX.
BILABIAL	p, b			m	(w)
LABIODENTAL			f, v		
DENTAL			θ, ð		
ALVEOLAR	t, d		s, z	n	l
POST-ALVEOLAR					r
PALATO-ALVEOLAR		tʃ, dʒ	ʃ, ʒ		
PALATAL					j
VELAR	k, g			ŋ	
GLOTTAL			h		
LABIO-VELAR					w

Phonemes in connected speech

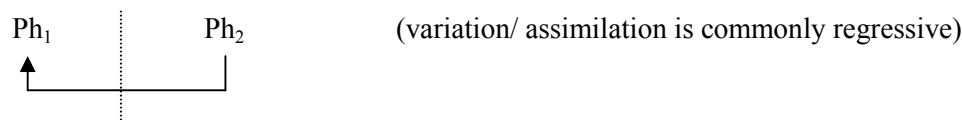
1. ALLOPHONIC VARIATION → Change/variation on the level of allophones

- ▶ Variation of the **place of articulation** Tenth [n̥] ← dental nymph [ŋ]
- ▶ Variation of **voice**
- ▶ Variation of the **lip position** (consonants) e.g., /pi:z/ : /pa:s/ (lip position for /p/ depends on the following vowel)
- ▶ **Nasalization**

2. PHONEMIC VARIATION → Change/variation on the level of phonemes

- ▶ **Assimilation** of word-final phoneme (consonant) which takes characteristics of the first phoneme of the following word.

Regressive / anticipatory assimilation



= assimilation of the place of articulation (voicing and manner remain the same). Not all consonants are affected by assimilation.

Ph₁ Ph₂

⇒ / t d n / + / bilabial p b m /

The first phoneme adopts its place of articulation;

	[p:] !
/t/ + bilabial C = /t/ → /p/	that pen /'ðæt 'pen/ → /ðæppen/
/d/ + bilabial C = /d/ → /b/	bad boy /'bæd 'bɔɪ/ → /bæbbɔɪ/
/n/ + bilabial C = /n/ → /m/	ten miles /'ten 'maɪlz/ → /temmaɪlz/

⇒ / t d n / + / velar k g /

/t/ + velar C = /t/ → k	that car /'ðæt 'kɑ:/ → /ðækkɑ:/
/d/ + velar C = /d/ → g	good concert /'gʊd 'kɒnsət/ → /gʊgkɒnsət/
/n/ + velar C = /n/ → ŋ	ten cups /'ten 'kʌps/ → /teŋkʌps/

⇒ / s z / + / ʃ tʃ dʒ j /

/s/ + / ʃ tʃ dʒ j / = /s/ → /ʃ/	this shop /'ðɪs 'ʃɒp/ → /'ðɪsʃɒp/	this year /ðɪs 'jɪə/ → /ðɪʃjɪə/
/z/ + / ʃ tʃ dʒ j / = /z/ → /ʒ/	cheese shop /'tʃi:z 'ʃɒp/ → /'tʃi:ʒɒp/	