Sounds of Human Language
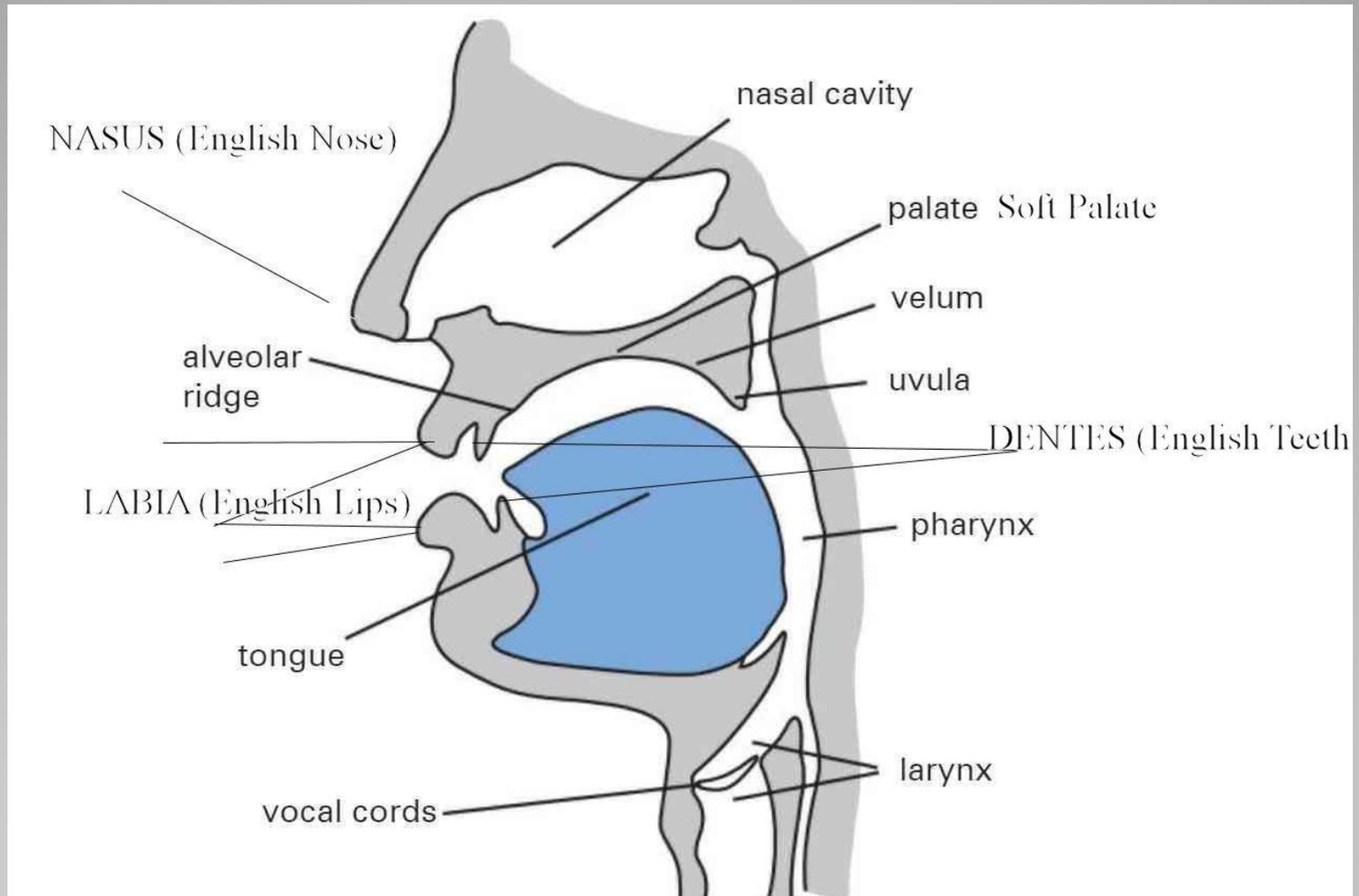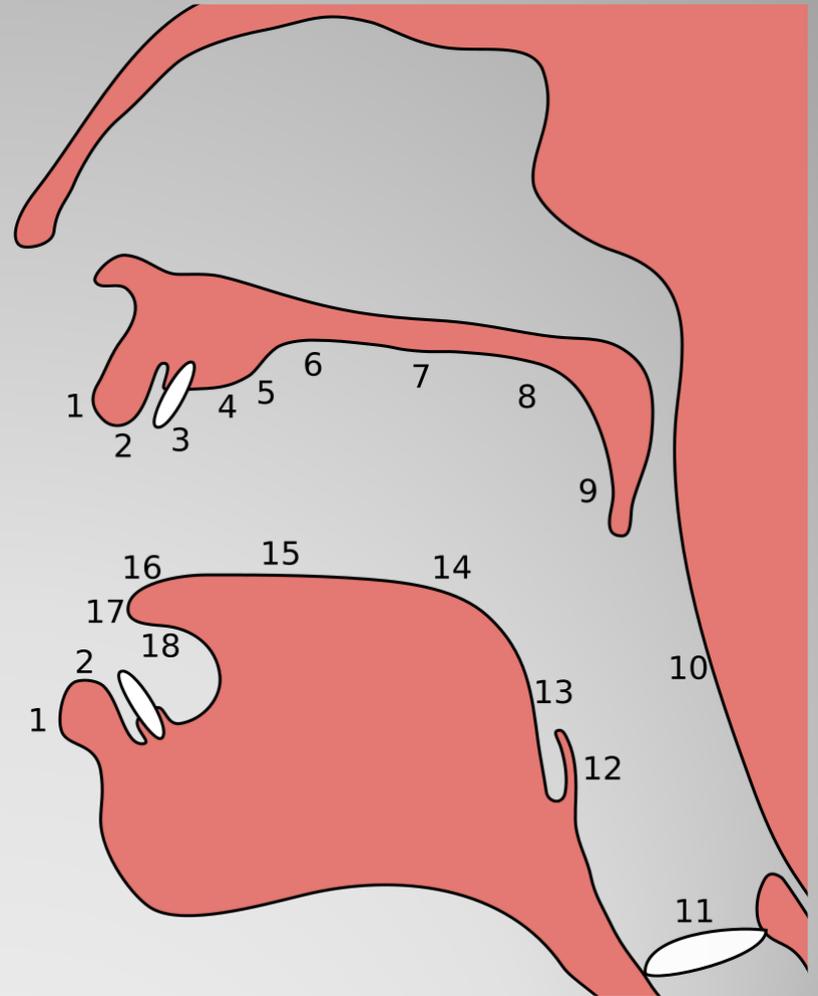
30-10-2020

and where do they come from...

Passive and active places of articulation:
(1) *Exo-labial*;
(2) *Endo-labial*;
(3) *Dental*;
(4) *Alveolar*;
(5) *Post-alveolar*;
(6) *Pre-palatal*;
(7) *Palatal*;
(8) *Velar*;
(9) *Uvular*;
(10) *Pharyngeal*; (11) *Glottal*;
(12) *Epiglottal*; (13) *Radical*;
(14) *Postero-dorsal*;
(15) *Antero-dorsal*;
(16) *Laminal*; (17) *Apical*;
(18) *Sub-apical* or *sub-laminal*.

and where do they come from…

What Is The International Phonetic Alphabet?

- The International Phonetic Alphabet (IPA) is an academic standard created by the International Phonetic Association.

- IPA is a phonetic notation system that uses a set of symbols to represent each distinct sound that exists in human spoken language.

- It encompasses all languages spoken on earth.

What Is The International Phonetic Alphabet?

- The system was created in 1886 and was last updated in 2005.

  It consists of
  - 107 letters,
  - 52 diacritics,
  - and four prosodic marks.

What Is The International Phonetic Alphabet?

- A "diacritical mark" or "diacritical point", "diacritical signis" is a glyph added to a letter, or basic glyph.

- **Diacritical marks** are added above, under or within a letter. They sometimes can also be placed in between two letters.

What Is The International Phonetic Alphabet?

- **Prosody** is a representation of the rhythm, stress, and intonation of speech.

↓	Downstep	↗	Global rise
↑	Upstep	↘	Global fall

Types of transcription

Phonetic transcription.
Diacritic Marks
~ - nasalized:
   [tẽn], [põnd], [mæ̃n].
ː - long: see [siː], [bɑːk].
˙ - half-long: seat [si˙t].
ʳ- rhotocised (i.e. r-coloured):
   [ˈsentəʳ], [kɑʳt].
 - fronted, i.e. velar is made with the back of the tongue moved forward close to the hard palate when it is followed by a front vowel as in key [kiː]
 ̯ - dental position of the alveolar consonants:
   ninth [naɪn̯θ], tenth [tʰen̯θ].

International Phonetic Alphabet

Promoting The Study Of Phonetics

A possible Definition:

- A phoneme is the smallest contrastive unit in the sound system of a language.

Phoneme

- **Discussion:**
  Phonologists have
  differing views of the phoneme.

  Following are the two major views considered here:
  a)   In the American structuralist tradition, a phoneme is defined according to its allophones and environments.
  b)   In the Generative tradition, a phoneme is defined as a set of distinctive features.

Phoneme

To determine the phonemic status of two sounds:

Are the sounds in complementary distribution?

Yes → Are the sounds phonetically similar?

No → Does substituting one sound for the other change meaning?

Are the sounds phonetically similar?

Yes → They are allophones of the same phoneme.

No → They belong to two separate phonemes.

Does substituting one sound for the other change meaning?

Yes → They belong to two separate phonemes.

No → They are in free variation.

Phonetics		
Phone	Phonology	Orthoepy
Articulatory	Sibilant	Cacoepy;
Alveolar	Plosive	Diphthong/ˈdɪf.θɒŋ/ /ˈdɪp.θɒŋ/
Palatal	Apophony	Assimilation
Nasalization	Trill	Syllabic Consonant
Aspiration	Schwa /ʃwɑː/	Onomatopoeic
Approximant	Flap	Unstressed
Palato-alveolar	Tap	Weak Form
Uvular	Vocal Fry	Suprasegmental
Velar	Twang	Inflection

(a) What do you call a substitution of a sound which requires less muscular effort to articulate?

(b) What do you call a consonant sound made when the tongue moves forward and down, and quickly touches the alveolar ridge?

(c) What do you call a quality of voice heard in some speakers that is related to the passing of air through the nose as they speak?

(d) What do you call a consonant sound that is made by stopping air flowing out of the mouth, and then suddenly releasing it?

(e) What do you call a consonant sound made when there is a little puff of air produced after the key sound?

(f) What do you call a phoneme which combines a plosive with an immediately following fricative or spirant sharing the same place of articulation?

(g) What do you call the fact of a speech sound being influenced by the sound that comes before or after it?

(h) What do you call a quality in someone's speaking voice that makes it sound rough and low?

Pronunciation /prəˌnʌn.siˈeɪ.ʃən/

	(a) Reduction [rɪˈdʌkʃ(ə)n]
	(b) Flap
	(c) Twang /twæŋ/
	(d) Plosive [ˈpləusɪv]
	(e) Aspirated
	(f) Affricate [ˈæfrɪkət]
	(g) Assimilation
	(h) Vocal Fry

Phonology versus Phonetics

- Phonology has been argued to relate to phonetics via the set of distinctive features, which map the abstract representations of speech units to articulatory gestures, acoustic signals or perceptual representations.

Phonology versus Phonetics

- Phonology, on the other hand, is concerned with the abstract, grammatical characterization of systems of sounds or signs and how they pattern in and across languages.

Phonetics is the general study of the characteristics of speech sounds.

_____ **phonetics** is the study of how speech sounds are made / articulated.

_____ **phonetics** is the study of physical properties of speech as sound waves.

_____ **phonetics** /perceptual phonetics is the study of the perception of [speech] sounds via the ear.

Phonetics is the general study of the characteristics of speech sounds.

Articulatory phonetics is the study of how speech sounds are made / articulated.

Acoustic phonetics is the study of physical properties of speech as sound waves.

Auditory phonetics /perceptual phonetics is the study of the perception of [speech] sounds via the ear.

Phonetics is the general study of the characteristics of speech sounds.

Functional phonetics /=phonology!/ studies the functions of sounds in the language as a phonemes based system.

Phonological units

Phonemes possess the design feature of discreteness.
Thus the whole language is built on a finite number of consonants and vowels.

The minimal pairs test

needs a minimal pair in language, when there are two forms or two words with exact same except for one sound.

The minimal pairs test

shows if there are two different phonemes or more specifically two allophones of two different phonemes, belonging to two different words or word forms (with two different meanings).

Phonological units

allophone [ˈæləˌfəʊn]
is any of several speech sounds that are regarded as contextual or environmental variants of the same phoneme.

Phonetic insight is used in several applied linguistic fields such as:

- **Forensic phonetics:** the use of phonetics for legal purposes
- **Speech recognition:** the analysis and transcription of recorded speech by a computer system
- **Speech synthesis:** the production of human speech by a computer system

bilabial	labiodental	dental	alveolar	postalveolar	retroflex	palatal	velar	glottal
p b			t d				k g	
m			n				ŋ	
	f v	θ ð	s z	ʃ ʒ				h
(w)					r	j	(w)	
			l					
				tʃ dʒ				

Consonant Phonemes of English

	Bilabial		Labiodental		Interdental		Alveolar		Palatal		Velar		Glottal	
Stop	p	b					t	d			k	g		
Fricative			f	v	θ	ð	s	z	š	ž				
Affricate									č	ǰ				
Nasal		m						n				ŋ		
Glide	ʍ	w								y			h	
Liquid								l r						

= voiceless	= voiced

You may prefer to use the following alternative symbols for the palatal affricates and fricatives:
š = ʃ, ž = ʒ, č = tʃ, and ǰ = dʒ.

Forelingual consonants

- Interdental   θ   ð
- Dental
- Alveolar   **t d s z n l**
- Post-alveolar   **r**
- Palato-alveolar   ʧ ʤ ʒ ʃ

International Phonetic Alphabet
## Promoting The Study Of Phonetics

The International Phonetic Alphabet Keyboard(2005 revised edition)

Consonants (Pulmonic)

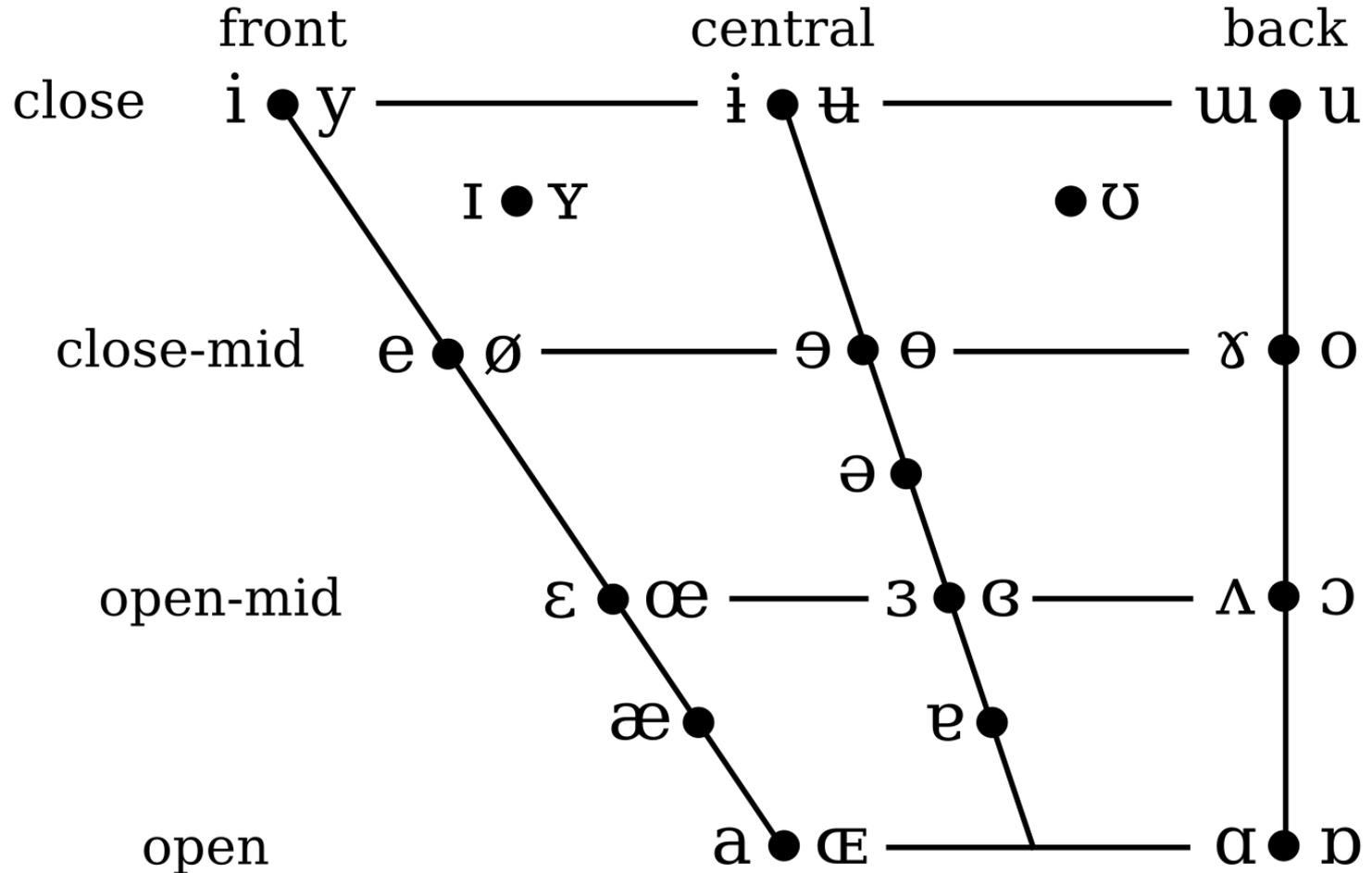Missing some symbols? Apply Doulos SIL font

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		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			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.
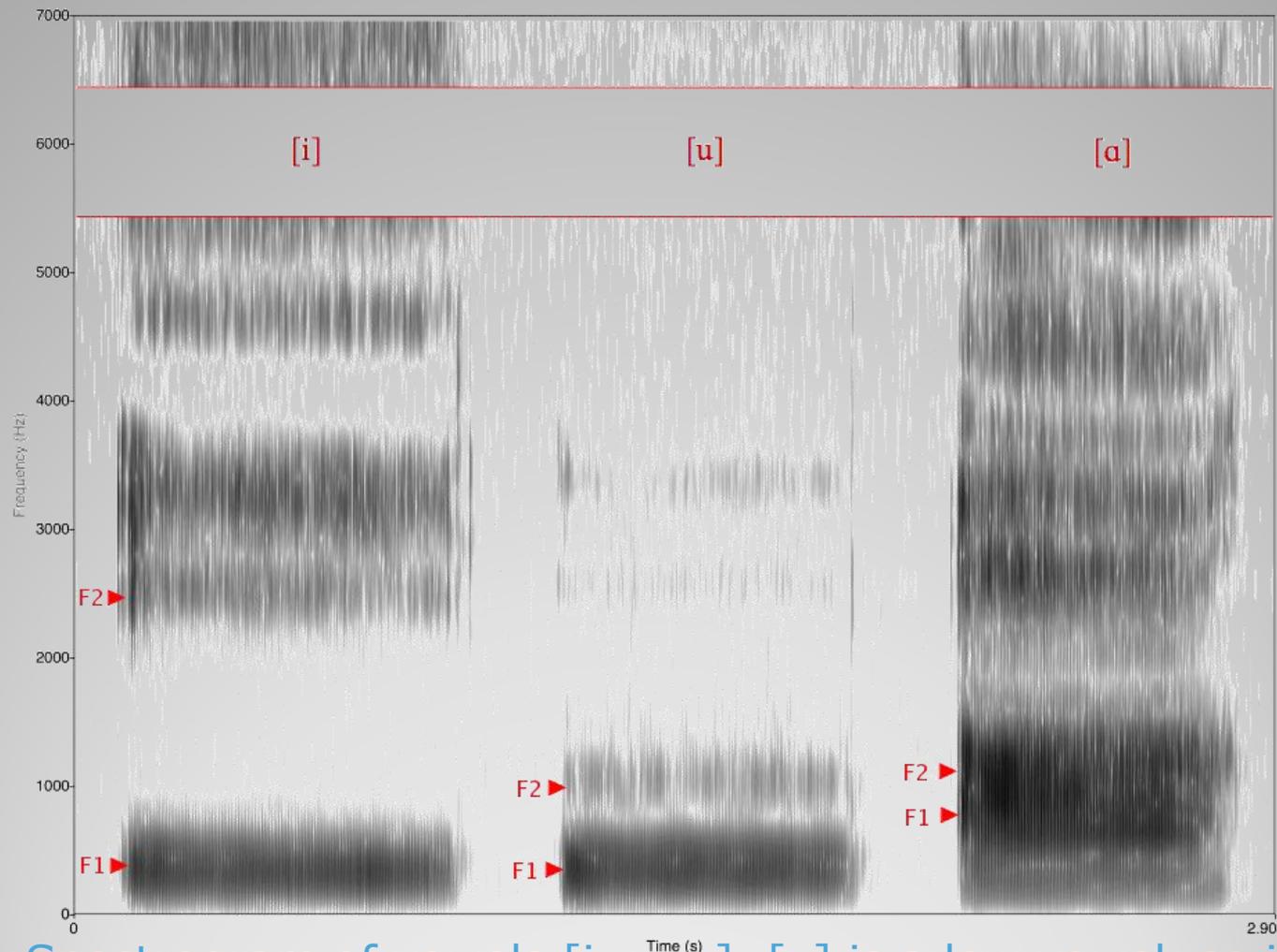
Spectrogram of vowels [i, u, ɑ]. [ɑ] is a low vowel, so its F1 value is higher than that of [i] and [u], which are high vowels. [i] is a front vowel, so its F2 is substantially higher than that of [u] and [ɑ], which are back vowels.

VOWELS

	front	central	back
close	i • y	ɨ • ʉ	ɯ • u
	ɪ • ʏ		• ʊ
close-mid	e • ø	ɘ • ɵ	ɤ • o
		ə •	
open-mid	ɛ • œ	ɜ • ɞ	ʌ • ɔ
	æ •	ɐ •	
open	a • ɶ		ɑ • ɒ

Symbols represent (unrounded • rounded) vowels.

	Front	Front	Central	Back
High	i			u
		ɪ		ʊ
Mid		e	ə	o
		ɛ	ʌ	ɔ
Low		æ		
			a	ɑ

Phonemes and phonological systems in simplistic representation

	Language	Consonants	Vowels	Total
1	Russian	36	6	42
2	English	24	20	44
3	French	17	15	32
4	German	22	18	40
5	Abkhazian	68	3	71
6	Finnish	13	8	21

Vocalization in *Arabic Writing*

Arabic vocalization (Ali by Mathieu Réguer)

Phonological units

allophone [ˈæləˌfəʊn]

In English the aspirated initial (p)
(in 'pot' or 'pin')
and the unaspirated (p)
(in 'spot' 'or spin') are *allophones* of the
phoneme /p/, as well as /t/ in 'top' and
'stop', whereas in ancient Greek the
distinction was phonemic

Orthoepy [ˈɔːθəʊˌɛpɪ]

The OED recognizes the variants: /ˈɔːθəʊˌiːpi/, /ˈɔːθəʊˌɛpi/, /ˈɔːθəʊ ɨpi/, and /ɔːˈθəʊ ɨpi/ for BrE, as well as /ɔrˈθoʊəpi/ for AmE.

is the study of correct or standard pronunciation Etymology: from Greek orthoepeia, from ORTHO- straight + epos word

What is the difference between just animal sounds and the sounds of human language?

Speak out your mind!

Paralinguistics [ˌpærəlɪŋ'gwɪstɪks]

Paralanguage ['pærəˌlæŋgwɪdʒ]
is the non-lexical component of communication by speech,
for example intonation,
pitch and speed of speaking,
hesitation noises…
When at large – pieces of non-verbal semiotics, such as body language included (e.g. gesture and facial expression).

Inflection, Root, Morphs, regular sound correspondences, morphophonology

a) CORPUS,
b) GENUS,
c) IUS,
d) CUSTOS,
e) AETAS,
f) PLEBS,
g) LEX,
h) LUX,

Nominative case

Inflection, Root, Morphs, regular sound correspondences, morphophonology

a) CORPORIS,
b) GENERIS,
c) IURIS,
d) CUSTODIS,
e) AETATIS,
f) PLEBIS,
g) LEGIS,
h) LUCIS

Genetive case

Read about Phonetic Elision in English

A glossary of linguistic terms
https://glossary.sil.org/term

**Watch the video
and check yourself!**

Check yourself!

- **Approximant** (noun) is a consonant produced by bringing one articulator (the tongue or lips) close to another without actually touching it, as in English /r/ and /w/ Approximants are speech sounds that involve the articulators approaching each other but not narrowly enough nor with enough articulatory precision to create turbulent airflow. Therefore, _____ fall between fricatives, which do produce a turbulent airstream, and vowels, which produce no turbulence.

Check yourself!

- alternation [ˌɔːltəˈneɪʃ(ə)n

   is the phenomenon of a morpheme exhibiting variation in its phonological realization.

Each of the various realizations is called an alternant [ɔːlˈtɜːnənt].

The variation may be conditioned by the phonological, morphological, and/or syntactic environment [ɪnˈvaɪər(ə)nmənt], [en-] / in which the morpheme finds itself.

- Sandhi (/ˈsʌndi, ˈsæn-, ˈsɑːn-/; Sanskrit: संधि saṃdhí [sɐndʱi]   is is a cover term for a wide variety of **sound changes** that occur at morpheme or word boundaries. Examples include:
  - ✓ Movable nu - *ν* (in Ancient Greek);
  - ✓ Crasis (/ˈkreɪsɪs/ a type of contraction in which two vowels or diphthongs merge into one new vowel or diphthong, making one word out of two.;

- Sandhi (/ˈsʌndi, ˈsæn-, ˈsɑːn-/; Sanskrit: संधि saṃdhí [sɐndʰi]) is a cover term for a wide variety of **sound changes** that occur at morpheme or word boundaries. Examples include:
  - ✓ Elision - is the omission of one or more sounds (such as a vowel, a consonant, or a whole syllable) in a word or phrase.
  - ✓ Liaison (French: [ljɛ.zɔ̃] is the pronunciation of a latent word-final consonant immediately before a following vowel sound.
  - ✓ Linking and intrusive R.

- Q-01. English I have   /aɪ ˈhæv/ /aɪv/ (I've) is a sample of
  a) disfix;
  b) epenthesis (/ɪˈpɛnθəsɪs, ɛ-/;
  c) elsion [ɪˈlɪʒ(ə)n];
  d) excrescence [ɪksˈkres(ə)n(t)s], [eks-]
  e) svarabhakti or anaptyxis (/ˌænəpˈtɪksɪs/;

Check yourself!

- **Q-01.** Ablaut grades
- In Proto-Indo-European, the basic, inherent vowel of most syllables was a short *e*.
- Ablaut is the name of the process whereby this short *e* changed, becoming short *o*, long *ē*, long *ō* or sometimes disappearing entirely to leave no vowel at all.

- Q-01. Ablaut grades

Thus, ablaut turned short *e* into the following sounds:		
zero	short	long
ø	e	ē
	o	ō

- Ablaut grades
- If a syllable had a short *e*, it is said to be in the "e-grade" or "full grade". When it had no vowel, it is said to be in the "zero grade". Syllables with long vowels are said to be in "lengthened grade". (When the *e*-grade or the *o*-grade is referred to, the short vowel forms are meant.)

Ablaut grades in Greek

Ablaut grade	PIE (reconstruction)	Greek	(Greek transliterated)	Translation
e-grade or full grade	*ph$_2$-**tér**-m̥	πα-**τέρ**-α	pa-**tér**-a	"father" (noun, accusative)
lengthened e-grade	*ph$_2$-**tér**	πα-**τήρ**	pa-**tér**	"father" (noun, nominative)
zero-grade	*ph$_2$-**tr**-és	πα-**τρ**-ός	pa-**tr**-ós	"father's" (noun, genitive)
o-grade	*n̥-péh$_2$-**tor**-m̥	ἀ-πά-**τορ**-α	a-pá-**tor**-a	"fatherless" (adjective, accusative)
lengthened o-grade	*n̥-péh$_2$-**tōr**	ἀ-πά-**τωρ**	a-pá-**tōr**	"fatherless" (adjective, nominative

- Ablaut grades

In this unusually neat example, the following can be seen:

- A switch to the zero-grade when the word stress moves to the following syllable.
- A switch to the o-grade when the word stress moves to the preceding syllable.
- A lengthening of the vowel when the syllable is in word-final position.

- Ablaut grades

In PIE, there were already ablaut differences within the paradigms of verbs and nouns. These were not the main markers of grammatical form, since the inflection system served this purpose, but they must have been significant secondary markers.

In the daughter languages, these came to be important markers of grammatical distinctions. The vowel change in the Germanic strong verb, for example, is the direct descendant of that seen in the Indo-European verb paradigm.

- **Ablaut grades:** Examples in modern English are the following:

Infinitive	Preterit	Past participle
sing	sang	sung
give	gave	given
strive	strove	striven
break	broke	broken

ГОТОВИМСЯ К ТЕСТУ!

30-10-2020

- Q-01.
- Umlaut ['ʊmlaʊt] (esp in Germanic languages) the change of a vowel within a word brought about by the assimilating
- influence of a vowel or semivowel in a preceding or following syllable

  a) disfix;

  b) epenthesis (/ɪˈpɛnθəsɪs, ɛ-/;

  c) elision [ɪˈlɪʒ(ə)n];

  d) excrescence [ɪksˈkres(ə)n(t)s], [eks-]

  e) svarabhakti or anaptyxis (/ˌænəpˈtɪksɪs/;

Check yourself!