

영어 음운론

(ENGLISH PHONOLOGY)

1주차. Course introduction
Basic articulatory phonetics

홍성훈 교수

강의개요

- 강좌소개
 - What is phonology(as compared to phonetics)?
 - Basic facts about ‘articulatory’ phonetics
 - Articulatory organs
 - Aspects of speech production to consider
 - The airstream mechanism
 - The state of the vocal cords
 - The state of the velum
-
- The manner of articulation
 - The place of articulation

Basic Information

- Course title: English Phonology
- Instructor: 홍성훈
- Office: 제1교수연구동 202호
- Phone: 02-2173-2919,
010-5299-4384
- e-mail: hongshoon@hufs.ac.kr
- 강의 공지사항, 강의자료 등에 대해
학교 e-class (eclass.hufs.ac.kr) 참조

Course description

- This course introduces students to the concepts and the examples of English phonology.

Course description

- After reviewing basic phonetics, this course discusses three areas of English phonology: segmental phonology (phonological features, phonemes/allophones, phonological rules), suprasegmental phonology (syllable, stress), and morphophonology.
- Throughout the course, much emphasis will be placed on the application of the theoretical concepts to actual English examples.

Course materials

■ Textbook:

- Davenport Mike & S. J. Hannahs
2010. [DH] *Introducing Phonetics
and Phonology*, 3rd edition. Hodder
Arnold. (2nd edition is OK.)

Course materials

- Reading packet that include chapters from the following books:
 - Carr, Philip. 1999. [C] *English Phonetics and Phonology*, Blackwell. (chapters 8 and 9)
 - Katamba, Francis. 1994. [KA] *English Words*, Routledge. (chapter 6)
 - McMahon, April. 2002. [M] *An Introduction to English Phonology*, Oxford. (chapter 9)

Course materials

- Reading packet that include chapters from the following books:
 - Kreidler, Charles W. 1997. [KR] *Describing Spoken English*, Routledge. (chapter 12)
 - Yavaş, Mehmet. 2006. [Y] *Applied English Phonology*, Blackwell. (chapter 9)

Student requirements

- Midterm exam: 35%
- Final exam: 40%
- Attendance and participation: 10%
- Three homework assignments: 15%

Tentative class schedule

Week	Topics	Readings	HW
1	Course introduction Basic articulatory phonetics	DH 1, 2	
2	English consonants	DH 3	
3	English vowels	DH 4.1, 4.2	
4	Phonological features Natural classes	DH 7	HW 1 due
5	Phonemes, allophones 1: Contrast	DH 8.1, 8.2	
6	Phonemes, allophones 2: Distribution	DH 8.1, 8.2	
7	Phonological rules	DH 8.3 ~ 8.5 DH 9.1, 9.2, 9.4	
8	Rule interaction	DH 11	

Tentative class schedule

Week	Topics	Readings	HW
9	Midterm exam		
10	Phonotactics	DH 6.1	HW 2 due
11	Syllable	M 9	
12	Stress: Primary word stress	C 8, DH 6.2	
13	Stress: Stress above the word	C 9	HW 3 due
14	Phonology & morphology interaction: Morphophonological rules	KR 12	
15	Final exam		

What is phonology?

- Subdisciplines of linguistics
- Phonetics vs. phonology
- What does phonology do?

Subdisciplines of linguistics

- Pragmatics
- Semantics
- Syntax
- Morphology
- Phonology
- Phonetics
- Applied linguistics (computational linguistics, language education, language pathology ...)

Phonetics vs. phonology

- Phonetics is the *physical description* of the actual individual sounds used in human languages.
 - how the speech sounds are made (articulatory phonetics)
 - how the speech sounds are perceived (auditory phonetics)
 - the physics involved (acoustic phonetics)

Phonetics vs. phonology

- Phonology studies the sounds are organized into *patterns* (i.e. the relation among sounds) and *systems* (i.e. the inventory of 'truly significant' sounds).

Sound patterns

- Sound *patterns* may be simple as the fact that the velar nasal [ŋ] cannot begin a syllable in English, or as complex as why the *g* in *sign* is silent, but is pronounced in the related word *signature*. (cf. *autumn* vs. *autumnal*, *bomb* vs. *bombard*)
- divine, divinity
- electricu, electricity, electrician

Sound systems

- What are “truly significant” sounds in a language?
- tuck, stuck, cut, duck.

Sound systems

- How many different sounds are there *phonetically*?
 - tuck is aspirated [t^h]
 - stuck is unaspirated [t]
 - cut is glottalized [tʔ]
 - duck is voiced [d]
 - There are four *phonetically* different sounds, which differ only in pronunciation.

Sound systems

- How many different sounds are there *phonologically*?
 - tuck, stuck, cut are all variants of /t/
 - duck is /d/
 - There are two “truly significant” sounds, which *contrast* in meaning.

Phonetics vs. phonology (cont.)

- Phonetics studies the surface, physical aspects of sounds (the sounds that we actually use)
- Phonology deals with the underlying, mental aspects that control this usage
- Phonology concerns what's in our head.

Phonetics vs. phonology (cont.)

- Phonology involves formal analysis and abstract theorizing.
- Phonology is part of our linguistic competence (the unconscious knowledge a speaker has of his or her language), and phonetics is rather about performance (the actual use of language).

Some examples that phonology deal with

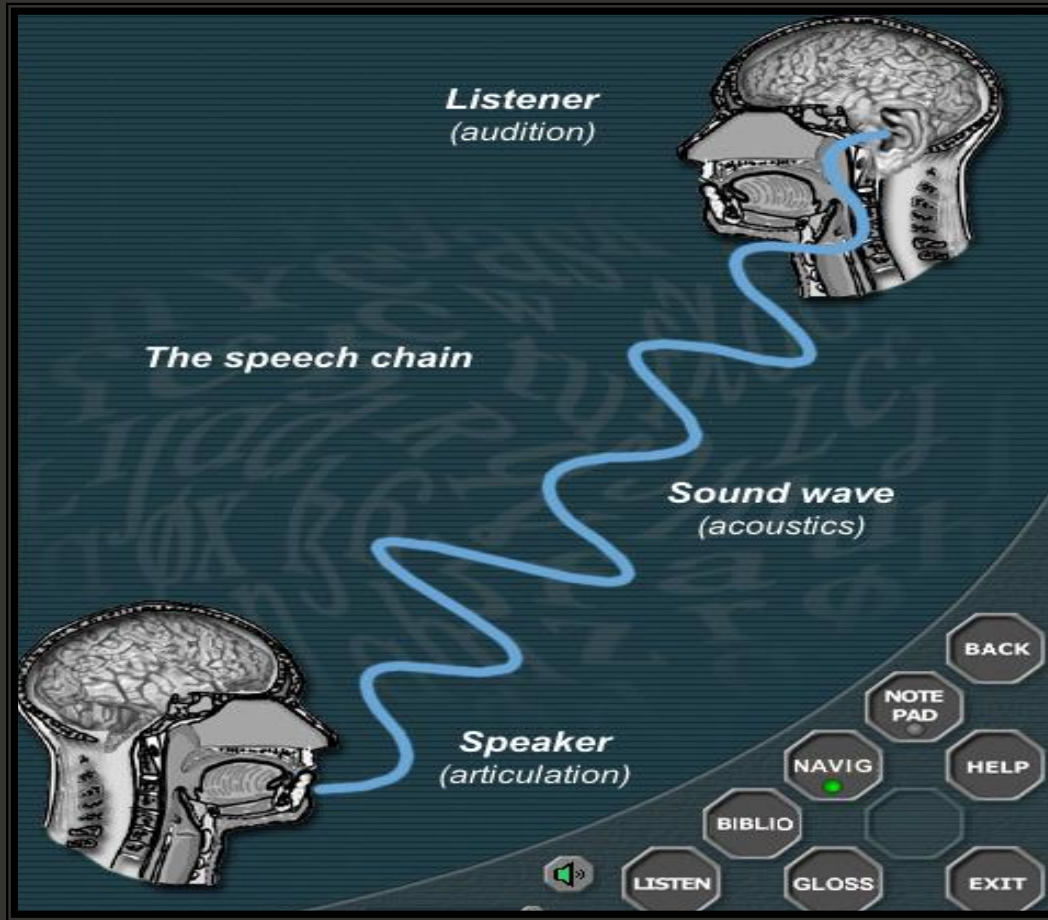
- The inventory of ‘truly significant’ sounds
 - [t^h], [t], [tʔ] vs. [d]
- Relations among sounds:
 - divine [aɪ], divinity [ɪ]
 - electric [k], electricity [s], electrician [ʃ]
- How sounds can be combined:
 - spr- vs. *srp-, *psr- *prs-, *rps-, *rsp-

Some examples that phonology deal with

- How sounds affect each other:
 - indecent [n], impossible [m], inconclusive [ŋ]
 - bugged [d], picked [t], aided [ɪd]
- How sounds are ‘distributed’:
 - - feel, silk [ʃ]; light, slim [l]

Basic articulatory phonetics

- Subdisciplines of phonetics
 - Articulatory organs
 - Aspects of speech production to consider
 - The airstream mechanism
 - The state of the vocal cords
 - The state of the velum
-
- The manner of articulation
 - The place of articulation



Subdisciplines of phonetics

- **Articulatory phonetics:** how the speech sounds are produced by the speaker
- **Acoustic phonetics:** the physical properties of sounds transmitted through the air
- **Auditory phonetics:** how the speech sounds are perceived by the listener

Major aspects of speech production

- How are speech sounds produced?
 - By modifying the volume and the direction of a flow of air using various parts of the human articulatory system.

Major aspects of speech production

- Aspects of speech production to consider:
 - the airstream mechanism
 - the state of the vocal cords
 - the state of the velum
 - the manner of articulation
 - the place of articulation

Airstream mechanism

- The major initiator is the lungs.
 - trachea (windpipe)
 - larynx (in the Adam's apple)
 - vocal tract (pharynx + oral cavity + nasal cavity)

Airstream mechanism

- Types of airstream mechanism
 - pulmonic, velaric, glottalic
 - egressive, ingressive
- pulmonic egressive: used in all human languages
- pulmonic ingressive (not found)
- velaric egressive (not found)
- velaric ingressive: Zulu (S. Africa)
- glottalic egressive(=ejective): Navajo(N. America)
- glottalic ingressive(=implosive): Sindhi (India)
- <http://www.phonetics.ucla.edu/course/chapter1/clicks.html>

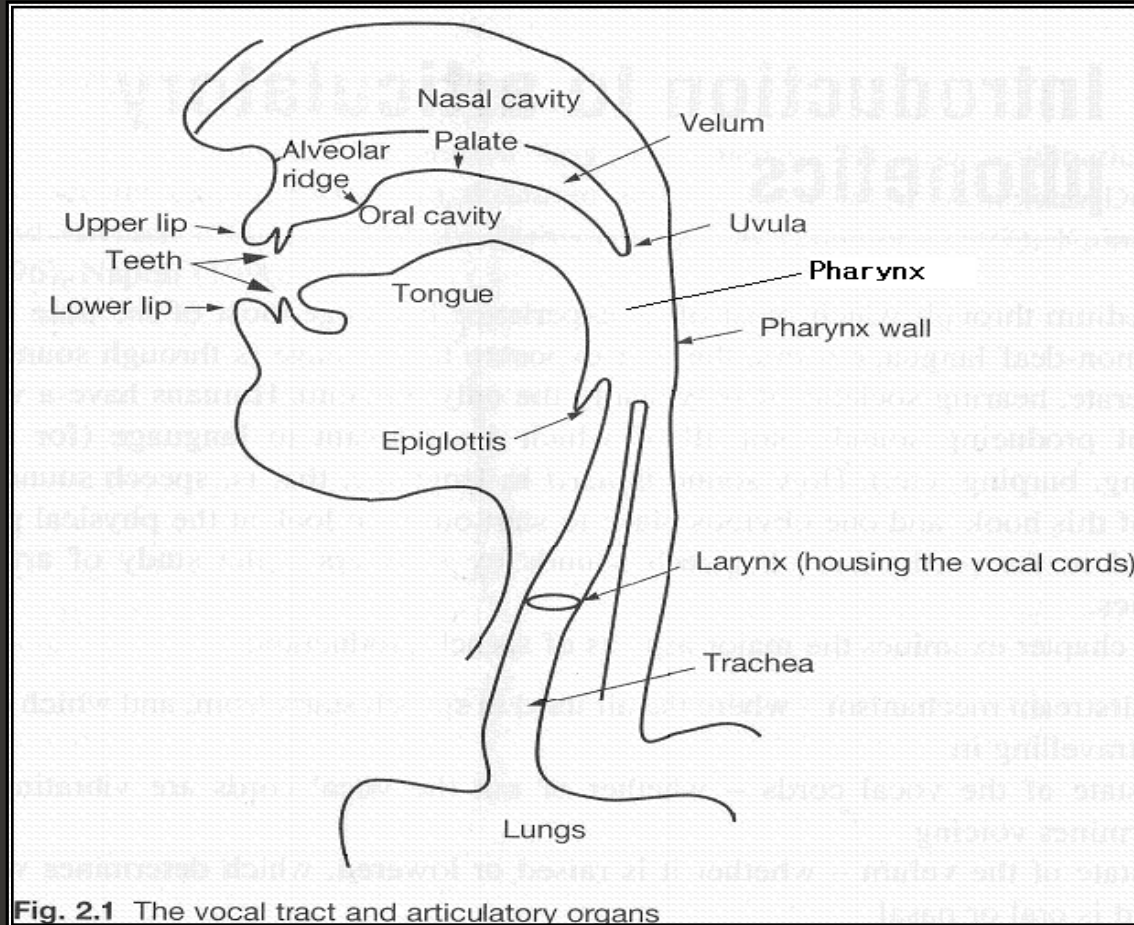
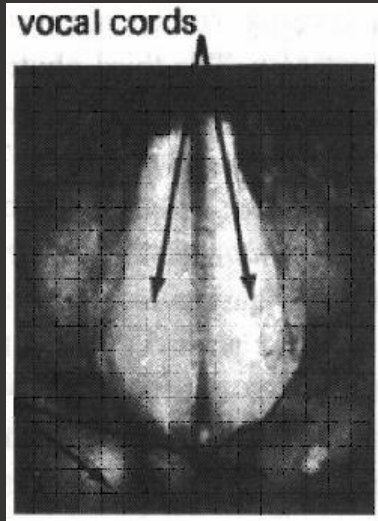


Fig. 2.1 The vocal tract and articulatory organs

The vocal cords



Voiced



Voiceless

What about the pitch?

How is the pitch related to vocal cords vibration?

The velum

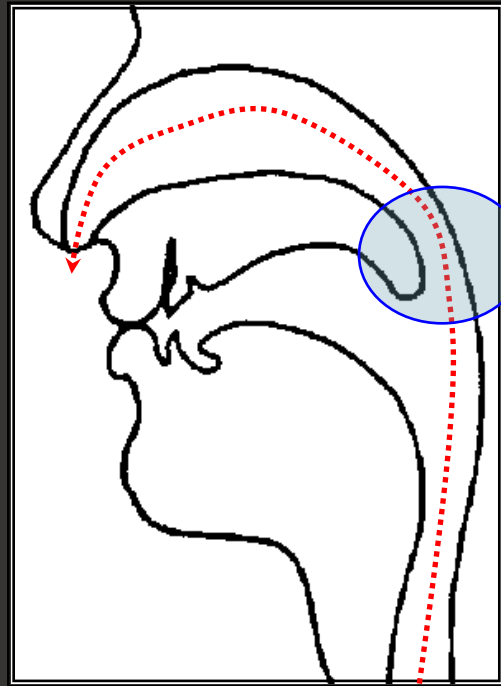
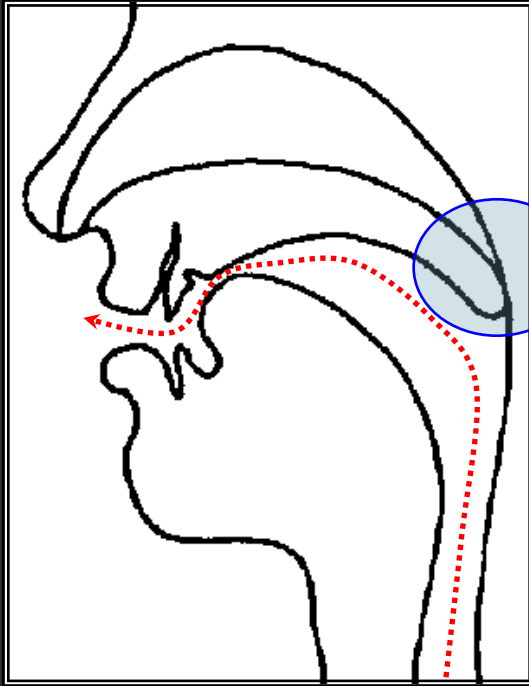
- The velum (or soft palate) is a muscular flap at the back of the roof the mouth
- When the velum is raised all the way to touch the back of the throat, the passage through the nose is cut off (velic closure) and air can escape only through the mouth.

⇒ oral sound

- When the velum is not in its raised position, air escapes through both the nose and the mouth.

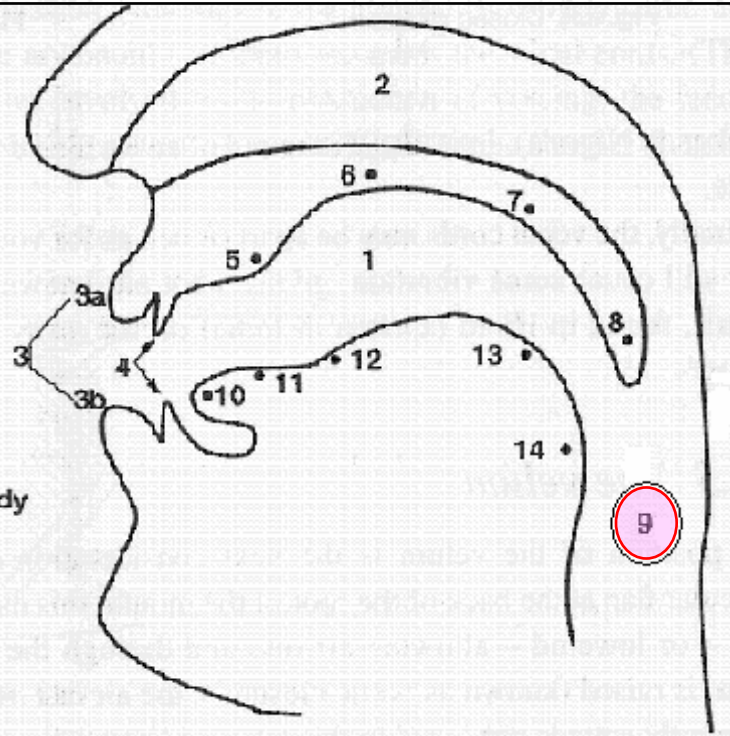
⇒ nasal sound

The velum (cont.)



Articulatory organs

- 1 Oral cavity
 - 2 Nasal cavity
 - 3 Lips-labial
 - 3a Upper lip
 - 3b Lower lip
 - 4 Teeth-dental
 - 5 Alveolar ridge-alveolar
 - 6 Palate-palatal
 - 7 Velum-velar
 - 8 Uvula-uvular
 - 9 Pharynx-pharyngeal
 - 10 Tongue tip
 - 11 Tongue blade
 - 12 Tongue front
 - 13 Tongue back
 - 14 Tongue root
- 10, 11, 12, 13 } = Tongue body



Articulators

- The *active* articulators are the parts that move: the lower lip and the tongue.
 - The tongue consists of the tip, blade, front, back, and root (cf. front+back=body).

Articulators

- The *passive* articulators are the non-mobile parts: the upper surfaces of the oral tract (the upper lip, the teeth, the roof of the mouth and the pharynx wall)
 - The roof of the mouth is subdivided into alveolar ridge, hard palate, soft palate (or velum) and uvula.

강의 요약

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**The next time
you will learn about the
English consonants**