

- 1 Spreken en verstaan
 - De spraakketen
 - Fonetiek en fonologie
 - Spreken
 - Verstaan
 - Spraakklanken

Van idee naar geluid naar perceptie naar idee naar geluid...

- Fonetiek:
 - fysieke proces van spreken en verstaan
productie, signaaleigenschappen, verschillen...
 - analyse spraaksignaal
- Fonologie: klanken onderdeel van systeem
 - welke zijn betekenisonderscheidend
 - hoe is het klanksysteem?
 - welke combinaties mogen?

Fonetisch: [a]

Fonologisch: /a/

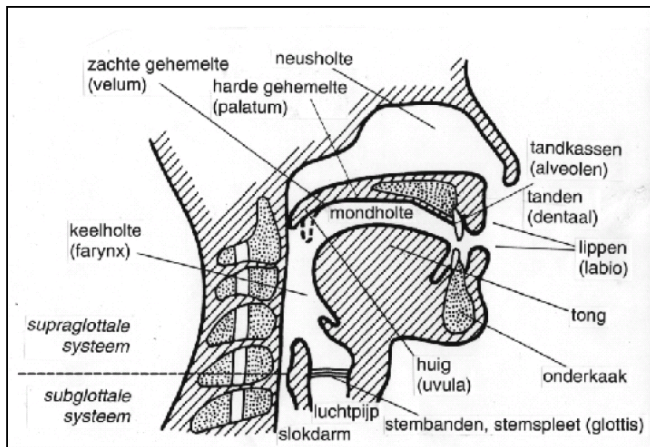
De spraakorganen

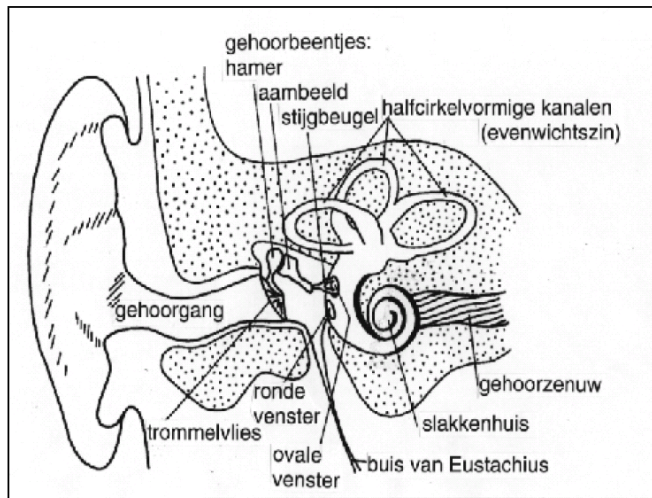
Speech recognition
and synthesis

Spoken en
verstaan

De spraakketen
Fonetiek en fonologie

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Two categories

- vowels / gliders
narrowly narrowing in mouth-throat channel
- consonants / medegliders
Well narrowing

Further distinction on basis of

- Manner of articulation
- Place of articulation
- Voicing

- plosieven (plofklanken): p, t, k
volledige afsluiting met overdruk, release
- fricatieven (wrijfklanken): f, s
bijna volledige vernauwing
- liquidae (vloeiklanken): r, l
lucht langs zijkant tong
- nasalen (neusklanken): m, n
lucht door de neus
- halfklinkers (glijklanken): w, j
nauwelijks vernauwing

p, t, k zijn verschillend

- labiale klanken: b
bij de bovenlip
- dentale klanken: d
bij de boventanden
- alveolaire klanken: s
tandkas achter de boventanden
- palatale klanken: j
harde gehemelte
- velaire klanken: k
zachte gehemelte
- uvulaire klanken: huig-r
bij de huig
- glottale klanken: h
bij de stemspleet

dentaal+alveolair+palataal = coronale klanken

velair+uvulair+glottaal = dorsale klanken

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- stemhebbend: b, d, g
- stemloos: p, t, k

Manier en plaats van articulatie:
Consonanten/medeklinkers

<i>plaats</i> →	labiaal	coronaal		dorsaal
		dentaal, alveolair	palataal	
<i>stemgeving</i> →	-stem +stem	-stem +stem	-stem +stem	-stem +stem
<i>manier</i> ↓				
plofklank	p <i>paal</i> b <i>baal</i>	t <i>taal</i> d <i>dop</i>	tʃ <i>checken</i> (E) tʃ <i>tjalk</i> dʒ <i>jeep</i> (E) dʒ <i>Jakarta</i>	k <i>kok</i> g <i>goal</i> (E) ʔ <i>aap</i>
fricatief	f <i>fiets</i> v <i>vies</i>	s <i>sier</i> z <i>zier</i>	ʃ <i>sjaal</i> ʒ <i>rouge</i> (F)	x <i>acht</i> y <i>gele</i> h <i>huis</i>
nasaal	m <i>maar</i>	n <i>naar</i>	ɲ <i>oranje</i>	ŋ <i>ring</i>
liquida		l <i>leuk</i> r <i>reuk</i>		ʀ <i>reuk</i>
halfklinker	w <i>week</i>		j <i>jeuk</i>	

Articulatieplaats

- positie van de tongrug
 - voor-achter: /i/, /u/
 - hoog-laag of gesloten-open: /u/ - /a/
- lippen: /i/, /y/

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<i>plaats van vernauwing</i> →	voor		midden		achter	
<i>lipvorm</i> → <i>mate van vernauwing</i> ↓	gespreid	ongerond	gerond	ongerond	gerond	ongerond
hoog	i kies		y fuut		u toen	
midden		ɪ kɪp e: keet	ʏ hut ø: peuk ə de		ɔ top o: pook	
laag		ɛ tel		a: taak		ɑ tak

Manieren

- nabootsing van menselijke articulatie
- recorder: opslag van alle zinnen
- opbouw uit kleinere stukjes
 - difoonsynthese extra = $[\# \epsilon][\epsilon k][ks][st][ra:] [a: \#]$
beregeling van luidheid, foneemduur (beklemtoonde
wordt langer) en toonhoogte (vraagzin)
- totaal via synthesesregels

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Speech recognition
and synthesis

Version 2, June 1991
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