Questions

Introduction

+ Lecture 1 Introduction

- **Summarise what is involved in the cognitive system of language.**

  The cognitive system of language involves the conscious and unconscious processes – as well as their content – in the knowledge of language.

- **Explain how language can be seen in terms of the mind, brain and body.**

  Language as a distinct system of knowledge in the mind; Linguistic knowledge is manifested in expression by the body, in speech, sign and writing; The physical basis of the linguistic cognitive system in the brain.

  we have the system of language in mind, we express the system of language through body, with brain involved storing and processing the language

- Major tasks of Linguistics are to
  - identify the knowledge of language that is a general phenomenon in human beings
  - identify the conscious and **unconscious** knowledge that speakers acquire of a given language
- Knowledge and perception

  Our knowledge affects our perception. We tend to classify speech sounds in ways that follow the pattern of the language we know.

- How is language stored and processed in the brain?
  - Evidence from direct monitoring or measuring of brain function during language-based activity;
  - the effect of physical disruption to the brain, including by injury.

+ Lecture 2 Language in the mind, brain & body

- **Describe the kinds of knowledge involved in knowing a language.**

  A knowledge of language involves a knowledge of how meaning is associated with linguistic form.

  Knowing a language involves knowing the forms and knowing the meanings associated with those forms.

- **Knowledge of Phonology: knowledge of sounds, and patterns of sounds**
- **Knowledge of Morphology: knowledge of meaningful parts of words, and their organisation.**
- **Knowledge of Syntax: knowledge of well-formedness according to the principles by which words are combined in the language.**
- **Knowledge of Semantics: knowledge of form-meaning pairings (knowledge of how form-meaning pairs work in a given language)**
- **Pragmatic knowledge. knowledge of the physical and social world, including guesses about what other people know, intend, expect etc.**

Language and Speech

- **Distinguish speech from language.**

  Distinct the physical processes of speech with the sound system

  - **physical process of speech is the physical manifestations of our knowledge of the sound system, i.e. how words and utterances are constituted;**
  - **physical process - anatomical function is generally common to all humans regardless of what language they speak; linguistically important aspects, such as a specific articulation, are different in different languages**

    sound system: some aspects are specific to each language, some fundamental aspects are general to language

- **Describe how a person's perception of speech sounds is influenced by the sound system of their language; and sometimes by the writing system used for it**

  Our knowledge affects our perception. We tend to classify speech sounds in ways that follow the pattern of the language we know. We hear a range of similar sounds as 'the same sound', selectively ignoring certain differences.

  e.g. English speakers typically still think of [n] ('plain' sound in ten, Anne …), and [ɳ] ('dental' n sound in tenth, anthem …) as the same sound. English speaking learners typically do not notice the difference because the difference between them is not an important difference in English.

  Influence of writing system (in Lecture 3): The physical expression of language in speech is a different thing to the physical expression of language in writing. Writing systems can interfere with phonetic awareness – letters/characters are not sounds

- Describe speech sound

- Understand the different body actions that produce them: Speech involves precisely orchestrated co-ordination of the body - lung function, larynx, tongue, soft palate, lips
- Learn to perceive auditory differences between speech sound: There is a definable range of speech sounds used in human languages. And some possible sounds aren't used in any language: Hiccups, Tooth grinding, Burps, 'Whistled languages' aren't independent languages.
- Recognise factors which affect how we do the above: phonetic illusions; This can be illustrated with the McGurk Effect. In an experiment, the video shows [f], while plays the audio of [b], the audience will heard the sound as [f] or [v]; This illustrates one's visual input influences auditory!

Physical expression of language - Phonetics

+ Lecture 3 Phonetics; Manner of articulation

- **Describe what phonetics is.**

  Phonetics is the physical properties of speech

  Phonetics therefore involves the study of:

  articulation: the action of the body to produce a speech sound

  acoustic properties of the sound wave in the air (intensity, frequency etc.)

  auditory properties perceived by hearers (i.e. how our hearing system processes speech)

  phone = a physical speech sound

- **Explain, in basic terms: basic parameter in describing phones**
  - **Airstream mechanism: What makes the airstream? English from lungs (but exotic have, clicks, implosives, ejectives) (breath going in and out) Which way is the air going?**
  - **State of the glottis (vocal folds): Are your vocal folds held open? or opening & closing rapidly? Voiced (when vocal fold holds together, quickly open and close) or voiceless (when vocal folds open, and air passes through quickly, while voice fold not vibrate)**
  - **Place of articulation: Where is the main constriction in the airflow?**
  - **Manner of articulation: What's happening with the major constriction to the airflow? the degree of obstruction of the airflow (stop, affricate, fricative, approximant), and the path of the airflow (nasal, lateral), action of articulator (taps/flaps, trills)**

- **Classify English consonants in terms of voicing**

  The only difference between [s] and [z] is that your vocal folds make a voicing sound during [z] but not during [s]

  Always voiced: nasal, lateral, approximants, vowels

	voiced	voiceless
fricatives	[v] [ð] [z] [ʒ]	[f] [θ] [s] [ʃ] [h]
stops	[b] [d] [g]	[p] [t] [k]
nasals	[m] [n] [ŋ]	
approximants	[w] [j] [ɹ]	
lateral	[l]	
affricates	[dʒ]	[tʃ]

- **Explain the types of manner of articulation**
  - **Stop/plosive:**

    No airflow through mouth or nose, and the airflow is being stopped by the tongue; also known as plosives because of the effect when you release the stopping and allow the airflow through again.

    e.g. p t k, b d g
  - **Nasal:**

    airflow comes out through the nose. No airflow comes out the mouth. (lower the soft palate, letting air through the nasal cavity)

    Nasals are just like stops except that they have airflow through the nose. when you get a blocked nose, your attempts at nasals sound more

    like stops.

    e.g. m n ŋ
  - **Fricative:**

    Fricatives involve a narrow opening that causes turbulence in the airstream as it passes through which gives it a 'hissing' quality auditory.

    e.g. s z, f v, θ (thin, path), ð (that, breathe), ʃ (shin, ration), ʒ (vision, measure), h
  - **Affricate:**

    a sound that consists of a stop combined with a fricative.

    e.g. ʧ (church), ʤ (judge)

Some people have trouble identifying these affricates vs fricatives.

[ʒ]	[dʒ]
lesion	legion
beige	cage
pleasure	pledger

[ʃ]	[tʃ]
bash	batch
ship	chip
mashing	matching

- **Approximant**

  The airflow is not obstructed much (so there is none of the 'hissing' quality).

  e.g. w, ɹ (rhotic; in Australian English not after vowel), j

  - **Lateral (approximant)**

    airflows out through a side path, most people from left side

    e.g. l

- **Identify the appropriate IPA symbol for each English consonants**

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2005)

CONSONANTS (PULMONIC) © 2005 IPA

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	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.

Consonants

	Example word		Example word
[b]	**b**in	[p]	**p**in
[d]	**d**o	[t]	**t**o
[g]	**g**ill	[k]	**k**ill
[dʒ]	**j**ab	[tʃ]	**ch**at
[v]	**v**at	[f]	**f**at
[ð]	**th**at	[θ]	**th**in
[z]	**z**ip	[s]	**s**in
[ʒ]	mea**s**ure	[ʃ]	**sh**in
[m]	**m**at		
[n]	**n**o		
[ŋ]	ba**ng**		
[h]	**h**at		
[l]	**l**ift		
[ɹ]	**r**ow		
[j]	**y**ou		
[w]	**w**e		

- We must be conscious of the influences on the describer's perception. Perception of speech sounds in *other languages* and *their own language* is influenced by a person's knowledge of the sound system of their first/main/only language.

- phonetic transcription: representing speech sounds in writing, ideally using a standard symbol used to represent each sound; each symbol is a shorthand for a phonetic description of the sound

  cf. orthography: standard system of written representation of a language, but not necessarily a direct representation of speech sounds
- International Phonetic Alphabet (IPA): universal: applicable to any language;

  We use square brackets […] to indicate that a symbol is being used as a phonetic symbol
- Spectrogram - show the acoustic properties of some utterance
- Australian Englsih difference
  - Two different vowels in Australian English pronunciations of [ɔ] cot and [oː] caught, But, for some dialects, these two words are pronounced exactly the same!
  - r after vowel: AusEng is one of the non-rhotic (so-called 'r-less') dialects of English - no [ɹ] at end of syllable after vowel or before a consonant e.g. 'car', 'part'

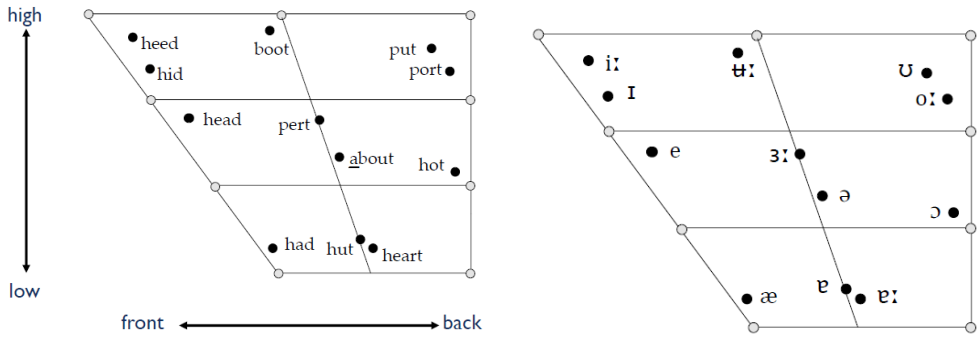
+ Lecture 4 Vowels

- **Describe the English vowels in terms of**
  - **Position of the tongue**

    High and low: We can characterise vowels in terms of the highest part of the tongue.

    Front and back: We can characterise vowels in terms of frontness or backness.

    the vowel space represented in the vowel quadrilateral



    - **Front vowels**

      High: [iː] as in pizza, she, meat; [ɪ] as in hidden, if

      Mid: [e] as in get, red, said, bury; [eː] as in bared, cared

Low: [æ] (ash) as cat, match, back, ash

- **Central vowels**

  High: [ʉː] as in boot, shoe, you

  Mid: [ɜː] as in perfect, hurt, bird; [ə] (schwa) as in *unstressed syllables* like teacher(er), about(a)

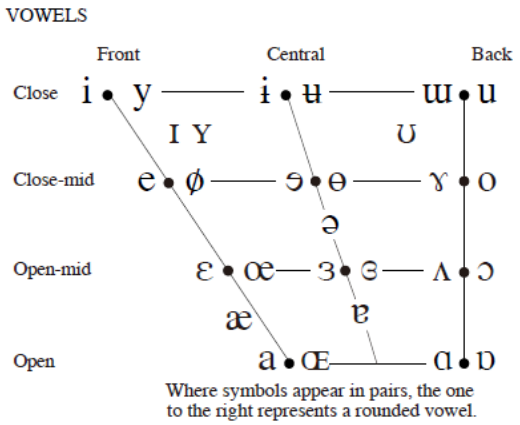
  Low: [ɐ] (turned a) as in hut, none; [ɐː] as in car, father

- **Back vowels**

  High: [ʊ] (hooked U) as in push, good, should; [oː] as in caught, port, warm

  Mid: [ɔ] (open O) in hot

- **Lip rounding (protrusion)**



- **Monophthongs and diphthongs**

  - **Monophthongs**

  - **Diphthongs: two vowels target - start and end of transition**

    [ɑe] as in pie, high, pie, lie, I

    [æɪ] as in bay, gate

    [æɔ] as in how, mouth

    [əʉ] as in no, toe, O

    [oɪ] as in boy, join

    (non-rhotic) AusEng has diphthongs that move towards [ə] in certain contexts instead of the [ɹ]

    [ɪə] as in 'fear, beer'

    [eə] as in 'air, fare, mayor' (for some speakers)

    [eː] for other speakers

    [ʉə] as in 'tour, lure' (for some speakers)

[ɔə] as in 'score, four' (for some speakers)

[o:] for other speakers

- Vowel length (duration): diacritics

- **Identify the appropriate IPA symbol for English vowels**

Using the HCE scheme of average Australian English

sample words for Australian vowels - video 14:34

average AusEng vowels as proposed by Harrington, Cox & Evans

Vowels

Monophthongs		*Diphthongs*	
[i:]	**bee**	[æɪ]	**bay**
[ɪ]	**bit**	[ɑe]	**buy**
[e]	**bet**	[oɪ]	**boy**
[e:]	**cared**	[æɔ]	**how**
[æ]	**bat**	[əʉ]	**go**
[ɐ:]	**father**		
[ɐ]	**but**	[ɪə]	**here**
[ɔ]	**cot**		
[o:]	**caught**		
[ʊ]	**put**		
[ʉ:]	**boot**		
[ɜ:]	**pert**		
[ə]	**about, teacher**		

5. I don't get why the HCE system is different from the way you see English words transcribed in some books or online.

Short answer: The HCE 'system' uses the standard methods of phonetic transcription to choose symbols that are closest to a kind of *average* pronunciation of words in Australian English. Two points are important here:

- Australian English is pronounced differently from other dialects, so it makes sense that a *phonetic* transcription should capture *how* it is different.
- There's actually quite a range of pronunciation within Australian English, and what's special about the HCE system is that it represents roughly speaking *their* call on what the average is like.

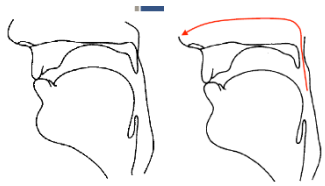
[More advanced answer that you should probably ignore: Actually most of the transcriptions we see in textbooks, and in the Macquarie Dictionary for example, are not *phonetic* transcriptions but *phonemic* transcriptions, and for phonemic transcriptions the actual choice of symbols is not so important. This is a more advanced topic which we get to after we've learnt about the physical properties of the different speech sounds.]

- vowels have the least degree of obstruction to the airflow, airflow going through freely
- Australian English variation: average, board

+ Lecture 5 Consonants of world languages

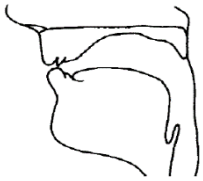
- **Explain the types of place of articulation.**
  - **Bilabial**

    Constriction involving both lips; Lips closed to prevent airflow

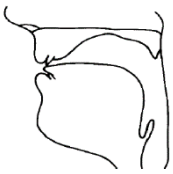


- **Stop: Lips closed to prevent airflow; Soft palate raised to stop nasal airflow. e.g. b p**
- **Nasal: With lips closed to prevent airflow and soft palate lowered to allow nasal airflow e.g. m**
- *Fricative: [ɸ] [β]*

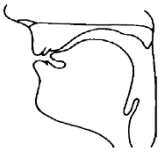
- **Labiodental: Any constriction between the lower lip and upper teeth**
  - **Labiodental fricative: small gap between lower lip and upper teeth, e.g. f v**
  - *Nasal: [ɱ] - 'TV-host-smile' effect: labiodentals instead of bilabials!*



- **Dental: The tip or blade of the tongue makes a constriction with the upper teeth**
  - **Fricative: θ, ð**
  - *Stop: [t̪]*
  - *Nasal: [n̪]*



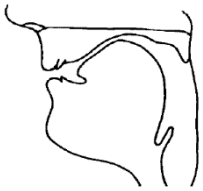
- **Alveolar: Constriction made by the tongue and the ridge above and behind the upper teeth (alveolar ridge), especially with the tip of tongue**
  - **Stop: t d**
  - **Fricative: small gap between tongue (tip) and alveolar ridge; s z**
  - **Nasal: n**
  - **Lateral: l**



- **Retroflex: Constriction made by curling the tongue tip back so that it makes a constriction above the alveolar ridge**

  Nasal: [ɳ]; stop: [ʈ]; lateral [ɭ]; fricative [ʂ]
- **Postalveolar/alveopalatal: Constriction made by the blade of tongue and the area just behind alveolar ridge**
  - **Fricative: ʃ ʒ**
  - **Affricate: tʃ dʒ**

- **Palatal: Constriction made by raising the tongue body to the high point of the hard palate**
  - **Approximant: j**
  - *Fricative: [ç]; nasal: [ɲ]; lateral: [ʎ]*



- **Velar: Constriction made by raising the tongue body back up to the soft palate (or velum)**
  - **Stop: k g; nasal: ŋ**
  - ***Fricative: [x]; [ɣ]***
- **Uvular: Constriction between the body of the tongue and the uvula**
  - ***Stop: [q]; fricative: [ʁ] [χ]***

+ Lecture 6 Sounds of the world's languages

- **Pharyngeal: Constriction made by the root of the tongue and the back wall of the pharynx**
  - ***Fricative: [ʕ]; no stop or nasal***
- Epiglottal: Constriction made by the epiglottis and root of the tongue against the back wall of the pharynx (very rare)
  - Stop: [ʜ]; fricative: [ʢ]
- **Glottal: Constriction made by the vocal folds**
  - **Fricative: voiceless h, voiced [ɦ]**
  - **Stop: [ʔ]**

bilabial	lips come together	[p] [b] [m]
labiodental	lower lip against upper teeth	[f] [v]
dental	tip or blade of tongue against upper teeth	[θ] [ð]
alveolar	tip or blade of tongue against alveolar ridge	[t] [d] [s] [n] [l]
post-alveolar	blade of tongue behind alveolar ridge	[ʃ] [ʒ] [tʃ] [dʒ]
retroflex	tip of tongue curled back behind alveolar ridge	[ɳ] etc.
palatal	body of tongue towards the (hard) palate	[j]
velar	body of tongue towards the soft palate (velum)	[k] [g] [ŋ]
uvular	body of tongue towards the uvula	French [ʁ]
pharyngeal	root of tongue against back wall of the pharynx	Arabic [ʕ]
glottal	constriction made by the vocal folds	[ʔ] [h]

- **Explain the manner of articulation terms:**

  Manner of articulation: degree of constriction; path of airflow; action of articulator

  - **Tap made when one articulator briefly taps against the other**
    - **Alveolar tap: [ɾ] butter**
  - **Flap made when one articulator contacts another in passing**
    - **Retroflex flap: [ɽ] mara**
    - **labiodental flap** ⱱ