Neuro, Socio, & Review

Thursday, 5 September 2019

Deictics

If you got the homework question wrong, I won't take off points.

A **deictic expression** or deixis is a word or phrase (such as *this*, *that*, *these*, *now*, *then*, *here*) that points to the time, place, or situation in which a speaker is speaking.

Deictics get their meaning from the context in which they are spoken.

They can be personal pronouns, demonstratives, adverbs, and tense

Examples:

- **I** like reading novels.
- **Yesterday** was fun.

Implicature vs. Entailment

Implicatures can be cancelled without causing a contradiction. (Cancellability)

- “Mae has five cats. In fact, May has six.”
- We cancelled the **implicature that Mae had no more than five cats** without contradiction.

Implicatures can be reinforced without sounding redundant. (Reinforcability)

- “Mae has five cats. In fact, Mae has four.”
- It sounds redundant because we reinforced an **entailment**.

How many segments?

1. at
2. math
3. cure
4. hopping
5. psychology
6. knowledge
7. mailbox
8. awesome

How many segments?

1.	at	æt	**2**
2.	math	mæθ	**3**
3.	cure	kjəɹ kjəˑ kjʊəˑ	**3** or **4**
4.	hopping	hɑpɪŋ	**5**
5.	psychology	saɪkɑlədʒi	**8**
6.	knowledge	nɑlədʒ	**5**
7.	mailbox	meɪlbɑks	**7**
8.	awesome	ɑsəm	**4**

Transcription

1. attain
2. elbow
3. haul
4. despise
5. thimble
6. wheeze
7. clinical
8. tube
9. Canada

Transcription

1. attain **əteɪn**
2. elbow **ɛlboʊ**
3. haul **hɑl**
4. despise **dəspaɪz**
5. thimble **θɪmbəl**
6. wheeze **wiz**
7. clinical **klɪnɪkəl**
8. tube **tub**
9. Canada **kænədə**

What’s that sound?

1. Voiceless velar stop
2. Voiced labiodental fricative
3. Voiced alveopalatal affricate
4. Voiced palatal glide
5. Voiced velar nasal
6. Voiceless interdental fricative
7. High back rounded vowel
8. Low front unrounded vowel

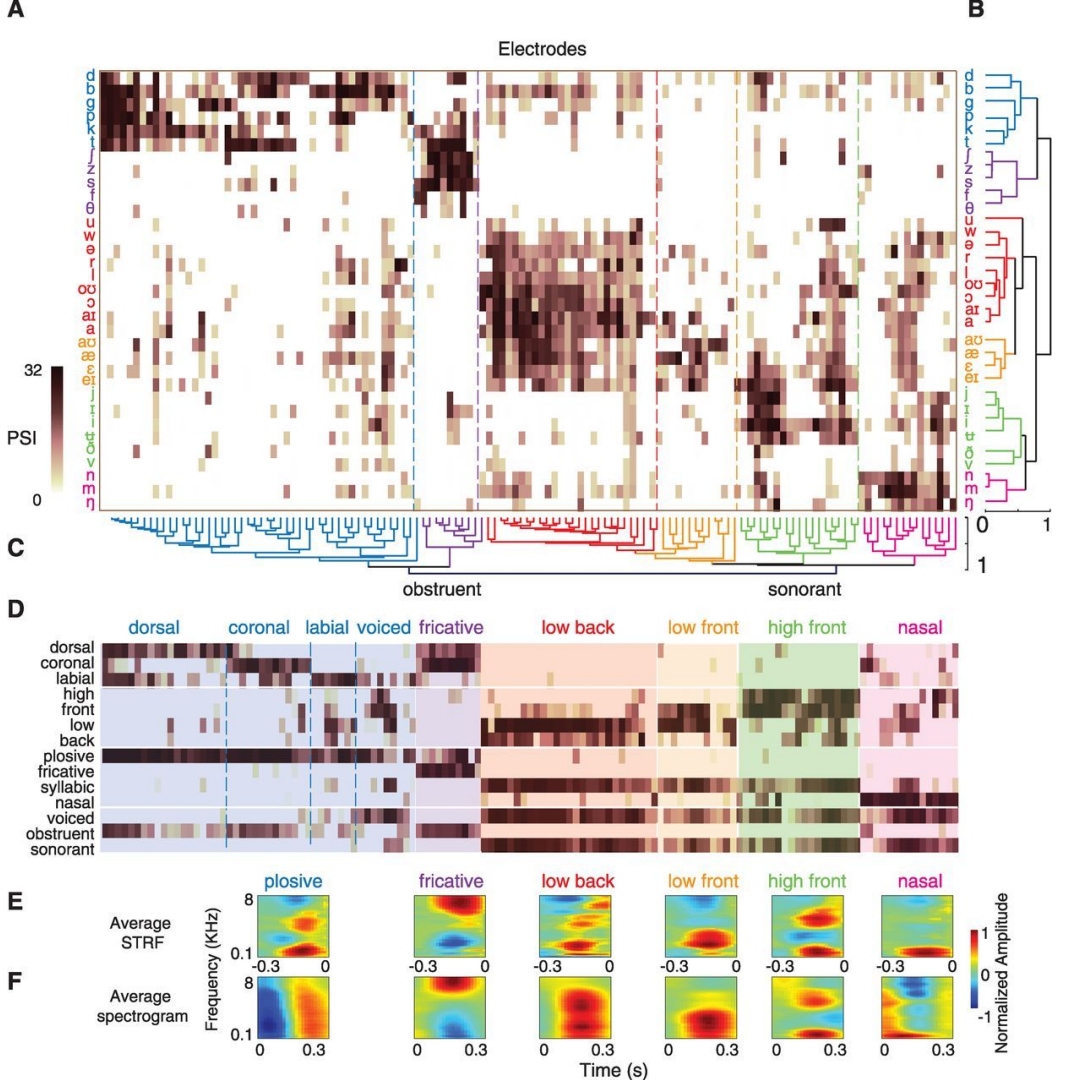
What's that sound?

1. Voiceless velar stop **k**
2. Voiced labiodental fricative **v**
3. Voiced alveopalatal affricate **d͡ʒ**
4. Voiced palatal glide **j**
5. Voiced velar nasal **ŋ**
6. Voiceless interdental fricative **θ**
7. High back rounded vowel **u, ʊ**
8. Low front unrounded vowel **æ**

Feature encoding in the brain

Mesgarani et al. (2014)

- Intracranial EEG recordings
- Superior temporal gyrus
- Speech sounds organize by the acoustic features we studied in class



Basic Steps of Phonemic Analysis

1. Look at the glosses for the words in the dataset. Take stock of any words that have related meaning (= may be morphologically related)
2. Identify any minimal pairs.
    a. If you find a minimal pair differing in meaning, then the sounds are in contrastive distribution. They are independent phonemes.
    b. If you find a minimal pair not differing in meaning, then the sounds are in free variation. They are allophones of the same phoneme.
    c. Else, move on to (3).
3. Write down the environments where the sounds in question occur.
    a. If they have identical environments, you're looking at independent phonemes.
    b. If they have distinct, non-overlapping environments, they are in complementary distribution. They are allophones of the same phoneme.
        i. Select the phone with the more general distribution to be the phoneme, and write a rule describing how it alternates with the more restricted allophone.

Hindi (Indo-European; India)

Transcription	Gloss	Transcription	Gloss
bara	‘large’	b̤ɛd	‘disagreement’
b̤ari	‘heavy’	bais	‘twenty-two’
bina	‘without’	b̤əs	‘buffalo’
b̤ir	‘crowd’	bap	‘father’
bori	‘sackcloth’	b̤ag	‘part’

Are the sounds b and b̤ independent phonemes or allophones of the same phoneme?
If they are phonemes, what evidence leads to that conclusion?
If they are allophones, what rule describes their distribution?

Mokilese (Austronesian; Micronesia)

Transcription	Gloss	Transcription	Gloss
pi̥san	‘full of leaves’	uduk	‘flesh’
tu̥pu̥kta	‘bought’	kaskas	‘to throw’
pu̥ko	‘basket’	poki	‘to strike something’
ki̥sa	‘we two’	pil	‘water’
su̥pwo	‘firewood’	apid	‘outrigger support’
kamwɔki̥ti	‘to move’	ludʒuk	‘to tackle’

The phonemic vowels of Mokilese are /i e ɛ u o ɔ a/. In Mokilese, [i̥] is an allophone of /i/, and [u̥] is an allophone of /u/. No other vowels have voiceless allophones. State in words the conditioning factors that account for this distribution. Be as general as possible in referring to classes of sounds.

Inflection or Derivation?

1. go, goes, going, gone
2. discover, discovery, discoverer, discoverable, discoverability
3. lovely, lovelier, loveliest
4. inventor, inventor’s, inventors, inventors’
5. democracy, democrat, democratic, democratize

Inflection or Derivation?

1. go, goes, going, gone **Inflection**
2. discover, discovery, discoverer, discoverable, discoverability **Derivation**
3. lovely, lovelier, loveliest **Derivation**
4. inventor, inventor’s, inventors, inventors’ **Inflection**
5. democracy, democrat, democratic, democratize **Derivation**

Chamorro (Austronesian; Guam / Marina Islands)

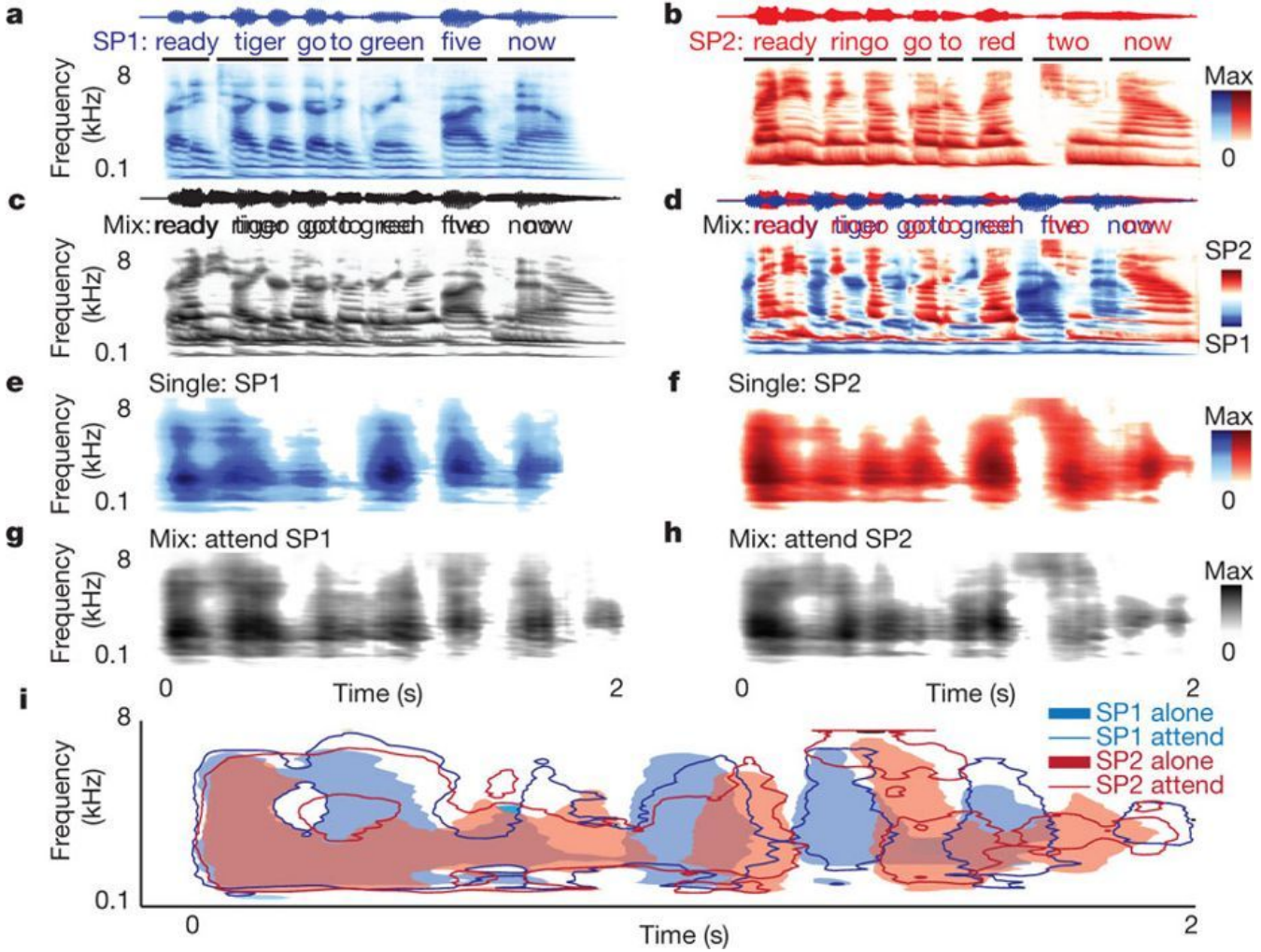
Transcription	Gloss	Transcription	Gloss
atan	‘look at’	atanon	‘nice to look at’
sangan	‘tell’	sanganon	‘tellable’
guaija	‘love’	guaijajon	‘lovable’
tulaika	‘exchange’	tulaikajon	‘exchangeable’
t͡ʃalek	‘laugh’	t͡ʃalekon	‘laughable’
ŋaŋas	‘chew’	ŋaŋason	‘chewable’

What morphological process is illustrated here?

Write a general statement as to how the derived words are formed.

Write a rule that describes the distribution of allomorphs.

CAPE


a
SP1: ready tiger go to green five now
Frequency (kHz)
8
0.1
b
SP2: ready ringo go to red two now
Max
0
c
Mix: ready tiger go to green five now
d
Mix: ready ringo go to red two now
SP2
SP1
e
Single: SP1
f
Single: SP2
g
Mix: attend SP1
h
Mix: attend SP2
0
Time (s)
2
i
SP1 alone
SP1 attend
SP2 alone
SP2 attend

McGurk Effect

Linguistic Stereotyping

Stereotypes associated with particular ways of speaking are called **linguistic stereotypes**.

When our beliefs about how a speaker will sound affect our judgements of their speech, it's called **reverse linguistic stereotyping**.

Linguistic Stereotyping → Profiling

Does reverse linguistic stereotyping impact speaker perception or speaker judgements?

Rubin & Smith (1990): show static images of a white or asian woman while participants listen to a short lecture.

- Two lecture conditions:
  - moderate accent (a Mandarin-English bilingual speaking English as she typically would)
  - high accent (the same speaker asked to caricature a style of English that they felt Americans would typically associate with Chinese speakers)
- Results: Participants were more likely to rate the lectures they heard accompanying an image of an asian woman as being more accented
- Initial Conclusion: Reverse linguistic stereotyping impacts speaker perception

Does reverse linguistic stereotyping impact speaker perception or speaker judgements?

Zheng & Samuel (2017): replicate results from Rubin & Smith (1990), plus extend the paradigm to dubbed videos (reducing task demand)

- Results:
  - with dubbed videos, the shift in reported accentedness largely disappeared.
  - with mixed rather than blocked design, so that the ethnicity of the videos varied from trial to trial, the shift disappeared
  - using a selective adaptation paradigm: established that an auditory-only accented adaptor shifted the perception of how accented test words are, then added video and found that no adaptation effect occurred when the adapting sounds relied on visual information
- Current Conclusion: Reverse linguistic stereotyping is not changing what you hear, but how you hear it. (changing judgements, not perception)

Let’s build some boughs

1. Into the small brown house
2. Fixed the telephone
3. A film about pollution
4. That argument with Owen
5. The success of the program

Let’s build some trees

1. Those loud guests should leave.
2. A professional wrestler will speak to the group.
3. Emile thought that he liked asparagus until today.
4. The reporter said that the eclipse occurs this morning.

Entailment, Contradiction, or Implicature

1. A. Jules is Mary's husband.
   B. Mary is married.

2. A. My pet cobra frequently finds and eats my chocolate.
   B. My pet cobra likes chocolate.

3. A. Vera is an only child.
   B. Olga is Vera's sister.

4. A. My cousin Nabilah teaches at the community college.
   B. My cousin Nabilah is a teacher.