Phonetics IV Phonemes and allophones Ling 301 (Spring 2021) Joseph Pentangelo The College of Staten Island

Quiz #2 Review

1. Write the following in English: [pastisəpeit]

participate

2. Transcribe the following into IPA symbols: "shabby"



3. Write the following in English: [daɪnəsəɹ]

dinosaur

4. Transcribe the following into IPA symbols: "chapel"



5. Give a word that starts with a voiced bilabial nasal and ends with a voiceless alveolar fricative. Transcribe the word into IPA and write it out in standard English orthography. (An example would be [maks] = mocks.)

Phonemes and allophones

We'll be discussing...

- What is a phoneme?
- What is a minimal pair?
- What is contrastive distribution?
- What is complementary distribution?

Phonemes and allophones

• What sound does <t> make?



















- All these examples contain the phoneme /t/
- But /t/ is realized differently depending on its context.
- [t], [t^h], [?], [r], [tʃ], and [t[¬]] are all *allophones* of /t/.
- This allophony is predictable and consistent.
- We're going to focus on four of these allophones, [t], [t^h], [?], and [r].

What is a phoneme?

- Your mental representation of a given sound.
- This is less complicated than it seems. You have an idea of the "t sound," for example. But in different contexts, it's pronounced differently.

| top | stop | little | kitten |
|--------|--------|--------|--------|
| [thap] | [stap] | [lɪɾļ] | [kı?ņ] |

- You think of all these words as containing a "t sound," even though it's pronounced differently in them.
- /t/ is a phoneme. (Note the slashes.)

What is an allophone?

- An allophone is the way a phoneme is actually spoken. (Since phonemes are *mental* representations, they're inaudible.)
- The phoneme /t/ is represented by four different sounds in these four words:

[thap][stap][lɪrl][kɪ?n]

- These four sounds, [t^h] [t] [r] and [?], are all allophones of /t/.
- The appearance of a given allophone is predictable.

Phonemes go between slashes, as in /t/.



Allophones go between square brackets, as in [ɾ].

What is an allophone?

- Allophones sound different from one another, but when we know a language, we automatically recognize them as all being part of the same phoneme.
- Each language has its own set of phonemes and allophones.
- In English, [t] and [t^h] are both allophones of /t/. In Hindi, they are allophones of separate phonemes, /t/ and /t^h/.
- In English, [t] and [d] are allophones of separate phonemes, /t/ and /d/. In Kanien'kéha (Mohawk), they are allophones of the same phoneme, /t/.

What is an allophone?



- Earlier, I said "in English, [t] and [d] are allophones of separate phonemes, /t/ and /d/." How do we know that /t/ and /d/ are separate sounds?
- They **contrast**. [bit] and [bid] are two different words.
- **Contrastive distribution:** "Two sounds occur in the same phonetic environment, and using one rather than the other changes the meaning of the word" (*Language Files* p. 118)
- Two words that show this contrast are a **minimal pair**. [bit] and [bid] are a minimal pair, showing /t/ and /d/ are different phonemes.

- **Contrastive distribution:** "Two sounds occur in the same phonetic environment, and using one rather than the other changes the meaning of the word" (*Language Files* p. 118)
- Two words that show this contrast are a **minimal pair**.
- Let's practice finding minimal pairs for other sounds.
- How do we pronounce these sounds?
- Can we get five minimal pairs for each of them?

1. [g] vs. [k] 2. [m] vs. [n] 3. [s] vs. [z] [] vs. [] 4. [∫] vs. [f] 5. [a1] vs. [31]

- 1. [g] vs. [k] 2. [m] vs. [n] 3. [s] vs. [z] 4. [J] vs. [l] 5. [∫] vs. [f] 6. [ai] vs. [ɔi]
- Success! /g/ and /k/ are different phonemes! Success! /m/ and /n/ are different phonemes! Success! /s/ and /z/ are different phonemes! Success! / and / l/ are different phonemes! Success! $/\int$ and /f are different phonemes!

Success! / and / oi/ are different phonemes!

If you can find a minimal pair, you have identified two different phonemes.

- We've talked about contrastive distribution, which is the case when you have two different phonemes.
- **Complementary distribution** is the second type of distribution.
- Sounds in complementary distribution never occur in the same phonetic environment. They have no minimal pairs, and their appearance is predictable.
- Sounds in complementary distribution are allophones of the same phoneme.
- The allophones of /t/ mentioned earlier [t^h] [t] [r] [?] are in complementary distribution.

Quick review

- 1. A **phoneme** is an abstract mental representation of a sound. A phoneme is written between slashes, like /t/.
- 2. An **allophone** is the physical articulation of a given phoneme. An allophone is written between brackets, like [t] or [t^h].
- 3. Allophones of different phonemes are in **contrastive distribution**. You can show contrastive distribution by finding a minimal pair.
- **4. Minimal pair:** Two words (with different meanings) whose pronunciations differ by exactly one sound.
- 5. Allophones of the same phoneme are in **complementary distribution**. They have no minimal pairs.



For next week...

- File 4.1, on morphology, in *Language Files* (pp.155–162)
- Reading will be posted to the website, along with these slides, shortly.