

Class 6

Distributions and Phonemic Analysis

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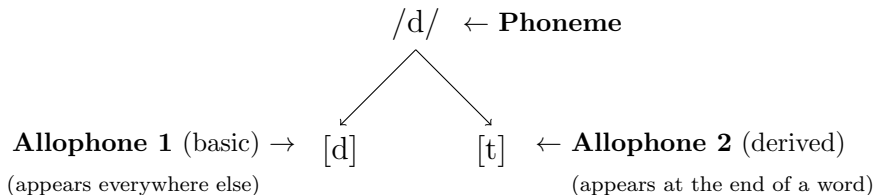
January 31, 2022

Phonemes, allophones, and distributions

Evidence from alternations

- In German, an underlying /d/ can surface either as [t] (when subject to the word-final devoicing rule) or as [d] (everywhere else).

/bʊnd/ → [bʊnt] vs. /bʊnd-ə/ → [bʊnd-ə]

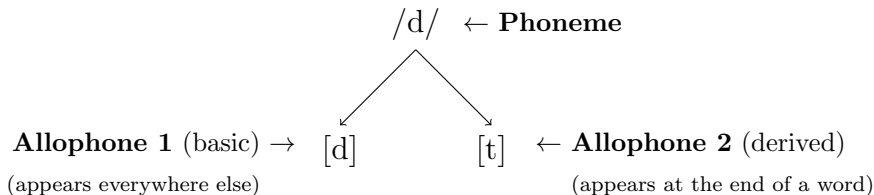


Phonemes, allophones, and distributions

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- When two allophones that belong to the same phoneme appear exclusively in **distinct, predictable environments**, we call that **complementary distribution**.

Phonemes, allophones, and distributions

Evidence from alternations

- By definition, **alternations** give you evidence of allophonic/complementary distributions.
 - The same underlying sound *alternates* between two surface variants.
- But we can also identify complementary distributions in the absence of alternations.

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ **Procedure for identifying complementary distributions:**

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.
2. For each sound, write out the environment that each instance of that sound appears in: **X_Y**
 - ↪ Which sound (or word boundary) comes *before*?
 - ↪ Which sound (or word boundary) comes *after*?

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.
2. For each sound, write out the environment that each instance of that sound appears in: **X_Y**
3. Identify natural classes in the environments of one of the sounds.
 - ↪ Does sound A always come after a sonorant?
 - ↪ Does sound B always come before a word boundary?
 - ↪ Does sound A always come after a high vowel?
 - ↪ etc...

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.
2. For each sound, write out the environment that each instance of that sound appears in: **X_Y**
3. Identify natural classes in the environments of one of the sounds.
4. Check whether that natural class appears in the same position in the environment of the other sound.

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.
 2. For each sound, write out the environment that each instance of that sound appears in: **X_Y**
 3. Identify natural classes in the environments of one of the sounds.
 4. Check whether that natural class appears in the same position in the environment of the other sound.
- If the answer is *no*, then you've identified a complementary distribution!

Phonemes, allophones, and distributions

Identifying complementary distributions (with or without alternations)

★ Procedure for identifying complementary distributions:

1. Identify each example that has the sounds you're interested in.
 2. For each sound, write out the environment that each instance of that sound appears in: **X_Y**
 3. Identify natural classes in the environments of one of the sounds.
 4. Check whether that natural class appears in the same position in the environment of the other sound.
- If the answer is *no*, then you've identified a complementary distribution!
 - If the answer is *yes*, then keep looking and try again. If you've exhausted your options (i.e., there's no way to consistently distinguish the environments of the two sounds), then you've identified a **contrastive distribution**.

Phonemes, allophones, and distributions

Identifying contrastive distributions

- ★ **Procedure for identifying complementary distributions:**

Phonemes, allophones, and distributions

Identifying contrastive distributions

★ Procedure for identifying complementary distributions:

1. Check for **minimal pairs**: two words that are exactly the same except for a single sound.

Phonemes, allophones, and distributions

Identifying contrastive distributions

★ Procedure for identifying complementary distributions:

1. Check for **minimal pairs**: two words that are exactly the same except for a single sound.
- * Tell me some minimal pairs from English involving the word *cat*:

Phonemes, allophones, and distributions

Identifying contrastive distributions

★ Procedure for identifying complementary distributions:

1. Check for **minimal pairs**: two words that are exactly the same except for a single sound.

* Tell me some minimal pairs from English involving the word *cat*:

2. If you can't find any minimal pairs or *near minimal pairs* (pairs of words that seem to be the same in the local environment of the sounds of interest), then go through the process for complementary distributions.

Phonemes, allophones, and distributions

Practice identifying distributions

- ★ **Work on the datasets from Spanish, German, and Kipsigis on the handout.**