

Reading for next week: Wolfram & Johnson Chapter 3
Homework 1 is due next Thursday Sept 4 at the beginning of class.

Review

Phonemes are the basic sound units of a language.

Sounds that **contrast** are separate phonemes.

Sounds that are in **complementary distribution** are **allophones** of the same phoneme.

A pair of words that differ in only one sound is called a **minimal pair**.

Minimal Pairs

Find minimal pairs contrasting the following pairs of phonemes (where possible):

- | | <u>Initial</u> | <u>Final</u> |
|--------------|----------------|--------------|
| 1. /p, b/ | pie, buy | rope, robe |
| 2. /t, d/ | | |
| 3. /k, g/ | | |
| 4. /f, v/ | | |
| 5. /θ, ð/ | | |
| 6. /s, z/ | | |
| 7. /m, n/ | | |
| 8. /n, ŋ/ | | |
| 9. /r, l/ | | |
| 10. /tʃ, dʒ/ | | |
| 11. /ʃ, ʒ/ | | |
| 12. /p, f/ | | |
| 14. /t, θ/ | | |
| 15. /d, ð/ | | |
| 16. /ʃ, tʃ/ | | |
| 17. /s, θ/ | | |

Sometimes an exact minimal pair contrasting two phonemes does not exist in a language. Linguists then look for near minimal pairs.

In a **near minimal pair** only the sounds surrounding the phonemes are identical. Could you come up with a minimal pair for /ʃ, ʒ/?

A near minimal pair for these phonemes is *mission*, *vision*.

/mɪʃən/ /vɪʒən/

Phonemic Analysis

How do we determine if sounds are phonemes or allophones?

STEP 1: collect and transcribe a representative set of data

STEP 2: set up an inventory of sounds, noting similar pairs of sounds

STEP 3: look for (near) minimal pairs contrasting similar sounds

STEP 4: look at the distribution of other similar sounds looking for allophones

What does *similar* mean?

Linguists like to refer to a concept in language they call “naturalness.” There is no way to explicitly define naturalness, simply one tends to get a feel for it the more one works with languages.

That said, the basic idea is that certain sound alternations occur more often than others across languages. These alternations tend to involve sounds that differ only in one aspect of articulation (consonants: place, manner, voicing; vowels: height, backness, rounding, length). For example:

	<u>Similarities</u>	<u>Differences</u>
/p, b/	labial stops	voiceless/voiced
/t, s/	voiceless alveolars	stop/fricative
/b, g/	voiced stops	labial/velar
/u, o/	back rounded vowels	high/mid

Recall the examples of allophonic variation in Russian and English from last lecture. Are the allophones similar? How so?

Russian: [i, i]

English: [p^h, p]

[t^h, t]

[k^h, k]

Example 1: /h/ and /ŋ/ in English, complementary distribution?

A word cannot end in /h/.

A word cannot start with /ŋ/.

happy	thing
hereditary	paying
horse	sang

Word-medially, /h/ is always followed by a stressed vowel (vehicle, vehicular).

Word-medially, /ŋ/ is always followed by an unstressed vowel.

ahead	hanger
behave	singing

/h/ and /ŋ/ never occur in the same environment. However, we don't want to say that they are allophones of the same phoneme because they are just too different.

	/h/	/ŋ/
<i>place</i>	glottal	velar
<i>manner</i>	fricative	nasal
<i>voicing</i>	voiceless	voiced

Example 2: German /ç/ and /x/

bu:x	<i>book</i>	nax	<i>after</i>
lɪçt	<i>light</i>	hɔx	<i>high</i>
bax	<i>stream</i>	bɔɔɪçtə	<i>I would use</i>
zi:ç	<i>infirm</i>	ʃtɔaʊx	<i>shrub</i>
ʃpɔa:xə	<i>language</i>	psy:çɪʃ	<i>psychological</i>
ʃvax	<i>weak</i>	laɪçə	<i>corpses</i>
bɔa:x	<i>broke</i>	mɪlç	<i>milk</i>
çi:nə	<i>China</i>	fɛnçəl	<i>fennel</i>
by:çə	<i>books</i>	mançə	<i>some</i>
lœçə	<i>holes</i>	çemi:	<i>chemistry</i>
bɛçə	<i>streams</i>	bɔaʊxtə	<i>I used</i>
ʃtɔɪçə	<i>shrubs</i>	lɔx	<i>hole</i>
ʃpɔɛçən	<i>to speak</i>	ɾɛçt	<i>right</i>
la:xən	<i>to laugh</i>	laɪçt	<i>easy, light</i>
bɔɛçən	<i>to break</i>	laʊx	<i>leek</i>
bu:xən	<i>to enter</i>	ʃvɛçə	<i>weaker</i>
naxt	<i>night</i>	zu:xt	<i>looks for</i>
vɔxə	<i>week</i>	ɔɪç	<i>you (plural)</i>
flɔxt	<i>flight</i>	mœnç	<i>monk</i>
ɔaʊxən	<i>to smoke</i>	p ^h ɛç	<i>bad luck</i>
ziçt	<i>sight</i>	mɪç	<i>me</i>
kʏçə	<i>kitchen</i>	nɔx	<i>still</i>

