Sound Change(s)

Sound change(s) is the most thoroughly studied area of historical linguistics.

The study of sound change has rendered very significant results, and important assumptions that underlie historical linguistic methods, especially the comparative method.

An understanding of sound change is truly important for historical linguistics in general, and this needs to be stressed that it plays an extremely important role.

The role that it played in the comparative method and hence also in linguistic reconstruction, in internal reconstruction, in detecting loanwords, and in determining whether languages are related to one another.

The sound changes that show recurrence in the world's languages will be our main concern in this section.

The sound changes are organised in a particular manner, but there is nothing special about the arrangement, and different textbooks have different classifications, yet the essence is one and the same in all classification.

Kinds of Sound Change:

Sound changes are usually classified according to whether they are ***regular*** or ***sporadic/irregular***.

Sporadic/irregular changes affect only one or a few words, and do not apply generally throughout the language.

In other words, a sound change is considered sporadic if we cannot predict which words in a language it will affect.

This kind of sporadic change has not been able to draw the attention of the researchers in Historical linguistics because this is what they wanted to avoid or abandon.

A couple of examples of sporadic changes were mentioned in last class e.g. **Modern English** *speech* has lost the *r* of **Old English** *spræc* 'language, speech', but *r* is not generally lost in other words such as *spring, sprig, spree* and so on.

Glamour comes from *grammar* through the sporadic change of *r* to *l.*

But this change is not found regularly in other words; *graft*, *grain*, *grasp* and so forth did not change their *r* to *l*.

Regular sound changes take place uniformly wherever the phonetic circumstances in which the changes happen are available.

The regular sound changes draw lots of attention in historical linguistics, and they are extremely important to the methods and theories about language change.

So, a regular sound change takes place whenever the sound or sounds which undergo the change are found in the environment that conditions the change.

For example, original *p* regularly became *b* between vowels in Spanish (p > b/V__V).

It means that in this context between vowels, every original *p* became a *b* in Spanish.

This is called 'the *regularity principle*' or 'the *Neogrammarian hypothesis*'.

The Neogrammarians, beginning in about 1876 in Germany, became extremely influential in talking about language change, and about sound change in particular.

The Neogrammarians consisted of a group of young scholars who antagonized the leaders of the field at that time by attacking and challenging their older thinking.

They loudly proclaiming their own views, the view of language change, and sound changes in languages in particular.

The early Neogrammarians includes Karl Brugmann, Berthold Delbrück, August Leskien, Hermann Osthoff, Hermann Paul and others.

They were called *Junggrammatiker* 'young grammarians' in German.

The part of word, *'jung'*- had the sense of 'young Turks', originally intended as a humorous nickname for the rebellious circle of young scholars, although they adopted the term as their own name later.

English *Neogrammarian* is not a very precise translation for the term in German for the group.

Their slogan was: ***sound laws suffer no exceptions*** (Osthoff and Brugmann 1878).

The notion of the 'regularity of the sound laws' became fundamental to the comparative method later in historical linguistics.

By 'sound laws' they initially meant merely the 'sound changes' that take place in languages,

However, they linked up this with '***laws***' later because they wanted to connect linguistics with other rigorous sciences which dealt in laws (e.g. as in pure sciences).

Sound changes are also typically classified according to whether they are ***unconditioned*** or ***conditioned.***

When a sound change occurs generally and is not dependent on the phonetic context in which it occurs, it is termed as ***unconditioned.***

Unconditioned sound changes modify the sound in all contexts in which it occurs.

In other words, unconditioned changes take place irrespective of the phonological context in which the sound which changes may occur or be found.

However, when a sound change takes place only in certain context (when it is dependent upon neighboring sounds, upon the sound's position within words, or on other aspects of the grammar), this kind of change is called ***conditioned sound change***.

Conditioned changes are more restricted and affect the occurrences of some sounds which happen to be in particular contexts.

For example, the Spanish change of /p/ to /b/ intervocalically is conditioned.

So, only those /p’ˢ/which are between vowels become /b/, while other cases of /p’ˢ/ in other positions (for example, at the beginning of words) do not change.

On the other hand, most varieties of Latin American Spanish have changed /lʲ /to /j /unconditionally.

And thus every instance of an original /lʲ / has changed to /j/ regardless of the context in which the /lʲ /happens to occur.

It seems that the sound changes in general have a great bearing with the well-established distinction that exists in many spheres of linguistics known as ***phonemic*** and ***non-phonemic***.

It is about the recognition of distinct levels of phonological analysis in linguistic theory i.e. *the phonetic level* and *the phonemic level*.

However, there might be some disagreement for a clear distinction and their concerns in linguistics.

Therefore, a distinct characterization might not be crucial, so long as we recognize that the sound change makes reference to these distinct levels.

In general, it is helpful to think of phonetics as representing the actual occurrence of physical sounds,

while the phonemes refer to the representation of speakers' knowledge or mental organization of the sounds of their language.

A non-phonemic change (or *allophonic* change) does not alter the total number of phonemes in the language.

It is thus also known as *shifts,* referring to the shift in pronunciation (at the phonetic level), with no change in the number of distinctive sounds.

A *phonemic* change is defined as one which does affect the inventory of phonemes by adding or deleting the total number of phonemes/basic sounds of the language.

Non-phonemic (Allophonic) Changes

Non-phonemic changes have not been considered as important as phonemic changes.

This is so, because they do not change the structural organization of the inventory of sounds.

Non-phonemic unconditioned changes

(1) In varieties of English, *u* > ʉ and in some dialects even on to /y/, as in 'shoe' [ʃu] > [ʃʉ], and in some even [ʃy].

(2) Pipil (an Uto-Aztecan language of El Salvador): In this language the change took place as: *o* > *u.*

Proto-Nahua, Pipil's immediate ancestor, had the vowel inventory /i, e, a, o/.

When Pipil changed *o* to *u,* this did not change the number of distinctive vowels, and therefore it is a non-phonemic change.

Since, the change affected all instances of *o,* turning them all into *u* regardless of other sounds in the context, it is an unconditioned change.

(3) Guatemalan Spanish: *r* >š̻ . The 'trilled' *r* found in most Spanish dialects has become the so-called 'assibilated' *r* (phonetically a voiceless laminal retroflex fricative) in rural Guatemalan Spanish.

In this change, one sound, /r̆̈ /, is substituted for /r/, but the number of distinctive sounds in the language has not changed; therefore, it is called a non-phonemic change.

Non-phonemic conditioned changes

(1) Many English dialects have undergone a change in which a vowel is phonetically lengthened before voiced stops, for example, /bɛd/ > [b ɛ:d] 'bed'.

(2) Spanish dialects: n > ŋ/__#. In many dialects of Spanish, final /*n*/ has changed to /ŋ/ so that it is no longer pronounced as [n], but rather as a velar nasal [ŋ], as in *son* 'they are' [son] > [son *]~ [soŋ] , *bien* 'well, very' [bjen] > [bjen*]~[bjeŋ].

This is a conditioned change, since/*n*/ did not change in all its occurrences, but only where it was at the end of words.

It is non-phonemic, since the change results in no change at the phonemic level.

Before the change, the phoneme /n/ had one phonetic form (allophone), [n].

After the change, /n/ came to have two non-contrastive variants (allophones), predictable from context, with [ŋ] word-finally and [n] when not in final position.

Phonemic Changes

Two main kinds of phonemic changes are mentioned in historical linguistics, i.e. *mergers* and *splits*.

Merger (A, B > B, or A, B > C)

Mergers are changes in which two (or more) distinct sounds merge into one, leaving fewer distinct sounds in the phonological inventory of language than those that were before the change.

(1) In the varieties of Latin American Spanish, sound change took place like this : *lʲ, j > j.*

Spanish had a contrast between palatalized /lʲ/ and /*j*/and the contrast is still in some dialects of Spain even today.

However, in most of Latin America and in many dialects of Peninsular Spanish, these two sounds have merged into one, i.e. / *j*/ such as *calle* /kalʲe/ > /kaje/ 'street', *llamar* /lʲamar/ > /jamar/ 'to call'.

As a consequence, for example, both *haya* /aja/ 'have (subjunctive)' and *halla* 'find' /alʲa/ have merged to /aja/, resulting in the two words being homophonous.

(2) In Latin American Spanish, the sound change took place like this: θ, s̻> s̪ .

Peninsular Spanish contrasts the two sounds, dental fricative /θ/ and apical alveolar fricative /s̻ /, which merged to /s̻ / in Latin American and some Peninsular dialects.

For example, *caza* /kaθa/ 'hunt, chase' and *casa* /kas̻ a*/ 'house' are both /kasa/ throughout Latin America.

This change illustrates the rarer kind of merger where the two original sounds merge into some third sound which was not formerly present in the language.

(3) In Sanskrit the change is noticed as *e, o, a* > *a* (in most contexts, the *o* > *a* part is conditioned in some instances) (*e, o* > *a;* that is, *e* and *o* merging with existing *a*).

Some words which illustrate this merger are given below in the next slide in a tabulated form.

The Sanskrit examples (after merger) are compared with Latin cognates (which preserve the original vowel).

The original vowel before the merger taking place in Sanskrit is also seen in the Proto-Indo-European forms that are listed in the table, and from which both the Sanskrit and Latin words have been derived.

Table 1: Sanskrit merger of *e*, *o*, *a* > *a*

Sanskrit	*Latin*	*Proto-Indo-European*	
ad-	ed-	*ed-	'to eat'
danta	dent-	*dent-	'tooth'
avi-	ovi-	*owi-	'sheep'
dva-	duo	*dwo-	'two'
ajra-	ager	*agro-	'field' (compare *acre*)
apa	ab	*apo	'away, from'

An important *axiom* concerning mergers is: *mergers are irreversible.*

This means that when sounds have completely merged, a subsequent change, say some generations later, will not be able to restore the original distinctions.

Thus, for example, in the Sanskrit case in paragraph (3) above, after the merger, children would learn all the words in Table 1 with the vowel /*a*/.

There would be no basis left in the language for determining which of these words with *a* may have originally had *e,* or which had /*o*/ which became /*a*/, or which had retained original /*a*/ unchanged.

A language learner after the merger was completed would find no evidence to revert the change.

So, the language learner can not successfully change the vowel back to *e* where it had once been an ***'-e'*** in *danta* 'tooth' ~/d*ante*/* and an *o* in *dva*- 'two' ~/dvo*/.

Split (A > B, C)

To comprehend splits, we need to understand another axiom: *splits follow mergers*.

So, in case of splits, the sounds in question do not change in any physical way, rather they phonetically stay as they were;

And then it is the merger of other sounds in their environment which changes the phonemic status of the sounds involved in the splits

The change under such condition makes the predictable conditioned-variants of sounds to unpredictable, contrastive, distinctive sounds (allophonic to phonemic).

So, in one line, we would define that splits result from neutralization of conditioning environments - allophonic variants become phonemic.

1. **Split in English** connected with umlaut. 'Umlaut' is a kind of sound change in which a back vowel is fronted when followed by a front vowel (or *j*).

Umlaut initially created front-vowel allophones of back vowels, which became phonemic when the final front vowel of the umlaut environment was lost.

Note that for the purposes of splits and mergers, loss is considered to be merger with 'zero'.

Let us trace different stages of ‘Umlauting’ to see the developments and the split as a consequence of the merger.

STAGE:1

(Proto-Germanic), just phonemic /u/ and /o/, each with only one variant (allophone):

**mūs-* 'mouse', **mūs-iz* 'mice'; **fōt-* 'foot', **fōt-iz* 'feet'

STAGE: 2

(umlaut), /u/ and /o/ develop allophones, [ʏ] and [ø̄], respectively, before following /i, j/:

mūs-i > *mʏ̄si* 'mice'; *fōt* > *fø̄ti* 'feet'; *mūs-* 'mouse', *fōt-* 'foot'

STAGE: 3 (loss of final *i*):

mʏ̄si > *mʏ̄s* 'mice'; *fø̄ti* > *fø̄t* 'feet'; *mūs-* 'mouse', *fōt-* 'foot'

Since the final *-i* which was responsible for bringing the variants (allophones) was no longer present, and it was lost (merged with 'zero').

This loss of final -i made the /ū/ to contrast with /ʏ̄/ and /ō/ to contrast with /ø̄/, all four now as distinct phonemes.

At this stage, we see the split as a consequence of the merger, but let's complete the story.

After this, the front rounded vowels lost their rounding and a change took place like this: (ȳ > ī; ø̄ > ē).

Next, an unconditioned change in which the rounded front vowels merged with their unrounded counterparts: *mys* * > *mis** 'mice'; *føt** >*fet** 'feet'.

Finally, these underwent the Great Vowel Shift, in which the long vowels got raised (for example, ē > **ī**) and the long high vowels became diphthongs (for example, **ī** > *ai*).

As a result in Modern English, we have : *mis** > /mais/ 'mice' and *fet** > /fit/ 'feet'.

This series of changes is shown graphically in Table 2, where / / represents the phonemic status of these forms, and [ ] shows the phonetic status.

Table 2: Historical derivation of 'mouse', 'mice', 'foot', 'feet'

	mouse	*mice*	*foot*	*feet*
Stage 1 (no changes)	/mu:s/ [mu:s]	/mu:s-i/ [mu:s-i]	/fo:t/ [fo:t]	/fo:t-i/ [fo:t-i]
Umlaut	/mu:s/ [mu:s]	/mu:s-i/ [my:s-i]	/fo:t/ [fo:t]	/fo:t-i/ [fø̄:t-i]
Loss of *-i* (= split after merger)	/mu:s/ [mu:s]	/my:s/ [my:s]	/fo:t/ [fo:t]	/fø̄:t/ [fø̄:t]
Unrounding	/mu:s/ [mu:s]	/mi:s/ [mi:s]	/fo:t/ [fo:t]	/fe:t/ [fe:t]
Great Vowel Shift	/maus/	/mais/	/fu:t/	/fi:t/

2) **Palatalization in Russian**: In Old Russian, palatalization of consonants was predictable (allophonic).

It was conditioned by a following front vowel, as in krovi̯* [krovʲi*] 'blood' in comparison with krovu* [krovŭ*] 'shelter'.

Later, however, the short/lax final vowels/i̯ / and /ŭ/ were lost (i̯ , ŭ> Ø /__#), as a merger with Ø ('zero').

So, /i̯ /and /ŭ/ merged with Ø ('zero'), leaving /vʲ/ and /v/ in contrast and therefore as distinct phonemes.

Thus a new minimal pairs such as *krovʲ* 'blood' and *krov* 'shelter' which come about as a result of the merger with Ø (actually loss) of the final vowels.

One of the processes of sound change (palatalization with the front vowel) which had originally conditioned the allophonic palatalization so that the palatalized and non-palatalized versions of the sound were merely variants of a single basic sound.

Thus, in this example, *vʲ*and *v* split as a result of the merger with Ø which affected these final vowels.

3) In English [n] and [ŋ] were predictable allophones which occurred only before /*k*/ and /*g*/.

Later, final *g* got lost in these forms (g > Ø / ŋ__#); that is, final /*g*/ merged with Ø, leaving /n/ and /ŋ/ to contrast as two phonemes.

Since both nasals can now occur at the end of words where they formerly depended on the presence of /g/ which is no longer there, as in /sin/ 'sin' and /sin */ 'sing' (from earlier [sing*] before the g was lost).

Thus /n/ split into /n/ and /ŋ/ when the merger of another sound (g with Ø in this case) left the two in contrast.

So far so good, there are some more examples of splits in Campbell and other books too, however, I guess we understand the concept know and thus could move forward for the other types of changes.

Unconditioned phonemic changes

We have already seen several examples which exemplify this category.

For example, the merger of Spanish /lʲ/ and /j/ to /j/ in most of Latin America was unconditioned.

It happened in every environment in the language and it resulted in fewer contrasting phonemes in the language.

In South Island Maori, the sound change took place like: ŋ> *k* (also ŋ, *k* > *k*).

This means that ŋ became *k* everywhere, with no limits and thus exemplified as unconditioned.

The merger of /ŋ/ with former /*k*/ resulted in fewer contrastive sounds. Examples of this sort are quite common in languages of the world.

Conditioned phonemic changes

The conditioned phonemic changes are easily attestable from different languages.

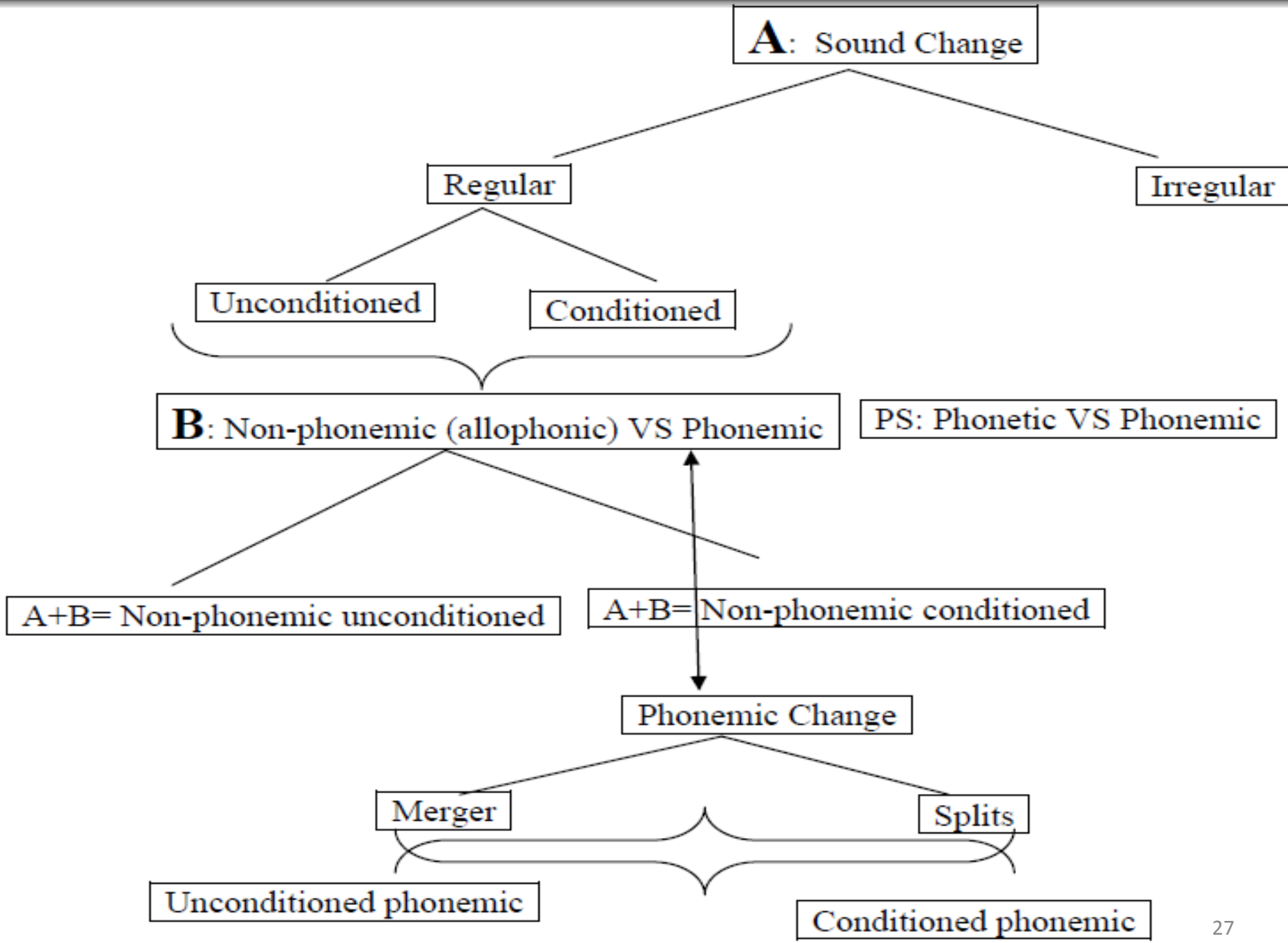
This, however, happens in some definite phonetic environments or in certain circumstances.

For example, the well-known ‘Ruki' rule of Sanskrit is a conditioned change in which original */s/* becomes retroflex /ʂ / after the sounds *r, u, k,* and *i* or *j.*

The rule should look like this: s > ʂ / i, j, u, k, r_____).

For example *agni-* 'fire'+ *-su* 'locative plural' > *agniʂu** 'among the fires‘. And, *vak** 'word' + *-su* > *vakʂu** 'among the words'.

There is a version of this rule also in Avestan and Lithuanian in which *s* > ʃ and in Old Church Slavonic in which *s* > χ in contexts similar to that of the Sanskrit rule.


A: Sound Change
Regular
Irregular
Unconditioned
Conditioned
B: Non-phonemic (allophonic) VS Phonemic
PS: Phonetic VS Phonemic
A+B= Non-phonemic unconditioned
A+B= Non-phonemic conditioned
Phonemic Change
Merger
Splits
Unconditioned phonemic
Conditioned phonemic