

## Phonetically-based sound change in dialects of Polish

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## Outline

- Phonetically-based sound change
- Grimm's Law
- Palatalized labials in dialects of Polish
- Word-final palatalized labials
- Depalatalization /dissimilation
- Underapplication/Paradigm Uniformity
- Conclusion

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## Phonetically-based sound change

- Main claims:
  - The great majority of regular sound changes in world's languages appear to be phonetically-motivated.
  - Language change results from errors in transmission of sound patterns.
  - Language change is diachronic (Blevins 2004)

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## Language change:

- The phonetic signal is misheard by the listener due to perceptual similarities of the actual utterance with the perceived utterance.
- Example:
  - Speaker says [anpa]
  - Listener hears [ampa]

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## Misperception

- Misperception arises from the intrinsic weakness of place cues of the nasal in contrast to those of the following pre-vocalic stop and results in change in pronunciation. (Ohala 1981)
- Change in pronunciation may cause phonological reanalysis.
  - S /anpa/ → [anpa]
  - L [anpa] → /ampa/

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## Grimm's Law

- Proto-Indo European → Early Germanic
  - \*p → f
  - \*t → θ
  - \*k → x
  - \*k<sup>w</sup> → x<sup>w</sup>
- Motivation?

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## Grimm's Law

- \*p: [p ~ p<sup>h</sup>] → [p<sup>h</sup> ~ pf] → [f]
- \*t: [t ~ t<sup>h</sup>] → [t<sup>h</sup>] → [θ]
- \*k: [k ~ k<sup>h</sup>] → [k<sup>h</sup>] → [x]
- \*k<sup>w</sup>: [k<sup>w</sup> ~ k<sup>hw</sup>] → [k<sup>xw</sup>] → [x<sup>w</sup>]
- Variable aspiration → fricative noise

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## Grimm's Law

- Aspiration of the voiceless stop is reinterpreted as fricative noise, which is perceived as a homorganic fricative, and is phonologized as part of an affricate with the preceding stop.
- [p ~ p<sup>h</sup>] → [p<sup>h</sup> ~ pf]
- The stop is dropped from its weakly cued pre-obstruent position (Jun 2004).
- [pf] → [f]

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## Grimm's Law

- Variable aspiration of voiceless stops was a prerequisite for the affrication and subsequent spirantization of the voiceless stops (Iverson & Salmons 2003).
- Similar tendencies have been observed in contemporary Liverpool English (Honeybone 2001).

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## Palatalized labials in Polish

- Symbols:
- /ç/ voiceless palatal strident fricative
- /ʑ/ voiced palatal strident fricative
- /ɲ/ palatal nasal
- /ç/ voiceless palatal non-strident fricative
- /j/ voiced palatal non-strident fricative

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## Palatalized labials in Polish

[pʲ]	[bʲ]	[ɸʲ]	[vʲ]	[mʲ]	Eastern Polish (EP)
[pj]	[bj]	[fj]	[vj]	[mj]	Standard Polish (SP)
[pç]	[bj]	[fç]	[vj]	[mɲ]	North Mazovian (NMD)
[pç]	[bʑ]	[ç]	[ʑ]	[ɲ]	Kurp dialect (KD)

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## Palatalized labials in Polish

- Eastern Polish (EP)
  - p<sup>j</sup>asek
  - b<sup>j</sup>awɨ
  - k<sup>f</sup>at
  - v<sup>j</sup>adrɔ
  - m<sup>j</sup>astɔ
- Standard Polish (SP)
  - p<sup>j</sup>asek ‘sand’
  - b<sup>j</sup>awɨ ‘white’
  - kfjat ‘flower’
  - v<sup>j</sup>adrɔ ‘bucket’
  - mjastɔ ‘town’

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## Palatalized labials in Polish

- |                        |                     |
|------------------------|---------------------|
| • North-Mazovian Dial. | • Kurp Dialect (KD) |
| – pçasek               | – pçasek ‘sand’     |
| – bjawɨ                | – bzawɨ ‘white’     |
| – kfçat                | – kçat ‘flower’     |
| – vjadro               | – zadro ‘bucket’    |
| – mpnastɔ              | – pnastɔ ‘town’     |

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## Kurp vs. Germanic

### Similarities:

- Release of stops phonologized as fricatives.
- Deletion of (some of) the original consonants.

### Differences (KD):

- The process applies to labials with secondary palatal articulation: stops, fricatives and a nasal.
- Emergent fricatives not homorganic, but palatal.
- No deletion of the original consonants after stops.

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## [pʲ] vs. [pç] & [pç]

- Different degree of gestural overlap results in the different perception of the palatal element in the SP, NMD and KD (Kochetov 1998).
- The palatal percept is reanalyzed as a separate consonant.
- Speaker: /pʲ/ → [pʲ ~ pç]
- Listener: [pç] → /pç/
- Diachronic change

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## /pʲ/ → [pç]

- The /pʲ/ → [pç] change is motivated by perceptibility.
- Labial stops have intrinsically weak acoustic cues. (Repp 1984)
- This results in low perceptibility of the palatality on [pʲ].
- A separate palatal fricative [ç] is a better carrier of the acoustic signal of palatality.

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## /vʲ/ → [ʒ]

- In KD the labial element is dropped completely and only the palatal segment remains.
- /vʲ/ →<sub>1</sub> /vʒ/ →<sub>2</sub> /ʒ/
- Both changes motivated perceptually:
- /vʲ/ → /vʒ/
- Palatality has better phonetic cues on a separate consonant.

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## /vʲ/ → /vʒ/ → /ʒ/

- /vʒ/ → /ʒ/
- A consonant has stronger cues before a vowel than before another consonant (Jun 2004).
- KD: /vʲ/ → [vʒ] → /ʒ/
- But why not:
- KD: /bʲ/ → [bʒ] → \*/ʒ/ ?

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## Word-final palatalized labials

- KD – palatality preserved
- [gɔwɛmbz+a] ‘pigeon’ gen.sg.
- [gɔwɔmpɕ] ‘pigeon’ nom.sg.
- The sibilant fricatives have strong internal cues even in non-prevocalic position.
- They are predictably preserved in the realization of word-final palatalized labials.

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## Depalatalization in KD

- /xʃila/ → [xʃila] → [xɕila] ‘moment’
- But:
- /ɕʃat/ → [ɕfat]
- \*[ɕʃat ~ ɕɕat] ‘world’
- cf. SP [ɕʃat]
- Unexpected contrast of /f/ and /ʃ/ in KD and SP.

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## Depalatalization in KD

- Motivation (phonetically-based sound change):
- The dissimilatory process of labial depalatalization is attributed to a misanalysis of speech signal.
- A feature that covers a sequence of segments may be interpreted as having a source in one segment.

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## Depalatalization in KD

- [C<sup>F</sup>C<sup>F</sup>V] → /C<sup>F</sup>CV/
- [ɕʃat] → /ɕfat/
- The listener assumes the coarticulatory nature of the second palatal fricative in [ɕʃat], which leads to the reinterpretation as /ɕfat/.
- False coarticulation.

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## Underapplication

Kurp	Standard Polish	gloss
kupɕɔ	kupjɔ	‘they will buy’
zrɔbɕɔ	zrɔbjɔ	‘they will do’

The words for ‘buy’ and ‘do’ show palatalized labials.

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## Underapplication

Kurp	Standard Polish	gloss
kup	kup	‘buy’ imper.sg.
*kupɕ		
zrup	zrup	‘do’ imper.sg.
*zrupɕ		

In KD imperatives show non-palatalized labials word-finally – underapplication.

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## Underapplication

Kurp	Standard Polish	gloss
kup + mɪ	kup + mɪ	'buy' imper. 1pl.
zrup + mɪ	zrup + mɪ	'do' imper. 1pl.
Depalatalization before a consonant.		

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## Underapplication

- [kuptɕɛ], [kupmɪ]
- Stops tend to be unreleased before consonants.
- [p̚tɕ], [p̚m]
- Release is a prerequisite for the emergence of a palatal fricative.
- Labials are depalatalized preconsonantly.

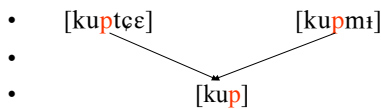
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## Underapplication

- Why [kup], not \*[kupɕ]?
- Possible explanation:
- Paradigm Uniformity
- Imperative



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## Underapplication

- Phonetically-based sound change alone cannot explain underapplication.
- Change is expected to occur whenever the phonetic context is met.
- We resort to paradigm uniformity.
  - \*[kuptɕɛ], [kupmɪ], [kupɕ]
  - [kuptɕɛ], [kupmɪ], [kup]
  - lexical access facilitated

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## Conclusion

- Diachronic phonetically-based sound change can explain the emergence of fricatives in Early Germanic and dialects of Polish.
- It can also account for depalatalization in KD.
- However, phonetically-based sound change alone cannot handle underapplication.
- Synchronic forces, such as paradigm uniformity, must be considered.

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