

Comparing cross-language phonological profiles

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presentation is available here: tinyurl.com/yj2tacek

How I decided to give this talk?

- During the talk in our Lab with Misha and Ezequiel

Jeff Good: How you came up with the idea of calculating phonological distances? Is it some established procedure?

Me: No, we thought that it is the most obvious step...

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- The second reason:



Johann-Mattis List

@LinguList



New preprint with Cormac Anderson, [@tresoldi](#), [@xrotwang](#), [@SimonJGreenhill](#), and Russell Gray: "Measuring Variation in Phoneme Inventories" doi.org/10.21203/rs.3...



Measuring variation in phoneme inventories

For over a century, the phoneme has played a central role in linguistic research. In recent years, collections of phoneme inventories, originally designed for cross-researchsquare.com

Overview

Materials for the analysis

Criticism by [Simpson 1999]

Complexity based approaches

Distance based approaches

Materials for the analysis

Materials for the analysis can be different:

- segment¹ inventory (and grammar, if you are lucky);
- dictionaries;
- parallel corpora;
- unparalleled corpora.

¹Lets leave the phonology vs. phonetics debate aside.

Overview

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Criticism by [Simpson 1999]

[Simpson 1999] attacks UPSID¹-like researches:

- phoneme masks allophones
 - Standard High German /ç/ stands for [ç], [x] and [χ];
 - “The allophone no longer represents the phoneme, it *replaces* it”;
- phonological relations between segments is lost
 - comparing just vowel inventories it is impossible to get information about e. g. vowel harmony

¹UPSID stands for UCLA Phonological Segment Inventory Database [Maddieson and Abramson 1987] which consists of the phonemic systems of a representative sample of 451 (this number changes from publication to publication) of the world's languages in machine-readable form. Now UPSID can be accessed via PHOIBLE database [Moran and McCloy 2019].

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[Pellegrino et al. 2009]



[Pellegrino et al. 2009]

- [Pellegrino et al. 2009]
 - [Chitoran and Cohn 2009]
 - [Ohala 2009]
 - [Maddieson 2009]
 - [Coupé et al. 2009]
- criticism of the complexity approach [Deutscher 2009]

Overview

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Distance based approaches

- [[Hoppenbrouwers and Hoppenbrouwers 2001](#)] (after [[Heeringa 2004](#)])
- [[Heeringa 2004](#)]
- [[Eden 2018](#)] — Hamming distance
- [[Anderson et al. 2021](#)] — Jaccard similarity

Thank you for your attention!

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