

Applying phonology in lexicography: variant-synonym classification in Czech Sign Language

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Sign language (SL) lexicography, as a young field of study within SL linguistics, faces a lot of challenges that have already been answered for the audio-oral language material. In this talk we present a method that is being applied in the ongoing process of data classification for the first Czech SL online dictionary (part of the platform Dictio).

Problem: For audio-oral languages, a dictionary entry standardly contains the citation form of a lexeme and all the variants (Čermák 1995). See for example the gender variants in Czech: *brambor* (potato-masculine) / *brambor-a* (potato-feminine), *hadr* (cloth-masculine) / *hadr-a* (cloth-feminine). However, two (or more) expressions of a different word-forming nature are not considered variants but synonyms (Filipec 1995). See the example pairs in Czech - the first expression comes from the traditional Czech lexicon and the latter originates in English/Latin: *jazykověda* (linguistics; Czech origin) / *lingvistika* (linguistics; foreign origin), *poradce* (consultant; Czech origin) / *konzultant* (consultant; foreign origin). The common ground of the variant- and synonym-pairs is their shared meaning (*brambor* has the same meaning as *brambora*; *jazykověda* has the same meaning as *lingvistika*) and in the lexicographic work it is essential to assign each of them the right place in the dictionary entry. What seems as a simple task for spoken languages (basically - common root for variants, different roots for synonyms) becomes a challenge for SLs (still ongoing discussion about the definition of morphemes and lexical roots; see e.g. Zwitserlood 2012). The question of the lexicographic processing of the variants (how to relate them to the representative form of the lexeme) in SL has been addressed in the canonical work of Johnston and Schembri (1999) for the Australian SL. However, the topic of synonyms is not elaborated. Our approach builds on the phonological Hand-Tier model (Sandler 2006; Figure 1) and contributes a set of clear criteria for distinguishing variants (2) from synonyms (1) and (3) in Czech SL (with possible extension to other SLs).

Analysis: We propose to classify a pair of lexemes as variants in case their (possibly multiple) differing features fall within only one of three main phonological categories: handshape, place of articulation or movement (examples (2a), (2b), (2c), respectively). (1) is a clear case of synonymy: the lexemes differ in all three main categories, there is no doubt that they do not share a morphological root. On the other hand, examples similar to (3) are challenging since they present two forms that are morphologically related. However, using the Hand-Tier model we conclude that they should be analyzed as synonyms, given that they differ in two of three main categories (handshape, movement; Figure 2).

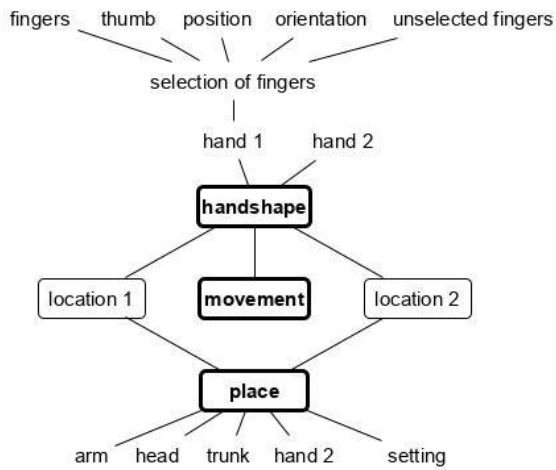
In our talk, using video-examples from Dictio, we will proceed from simple variant-pairs like (2) to more difficult cases to show that we are working with a scale rather than a binary distinction. However, the proposed solution (Hand-Tier model, one of three main categories) appears to be extremely useful for the lexicographic task at hand.

We apply for both, the talk or the poster.

References: *Dictio: Multilingual Online Dictionary* [online], Masaryk University, Brno [cit. 2020-01-27]. Available at: www.dictio.info ♣ SANDLER, Wendy, 2006. Phonology. SANDLER, Wendy and Diane LILLO-MARTIN. *Sign Language and Linguistic Universals*. New York: Cambridge University Press. ♣ FILIPEC, Josef, 1995. Teorie a praxe jednojazyčného slovníku výkladového. ČERMÁK, František and Renata BLATNÁ. *Manuál lexikografie*. Jinočany: H&H. ♣ ČERMÁK, František, 1995. Paradigmatika a syntagmatika slovníku: možnosti a výhledy. ČERMÁK, František and Renata BLATNÁ. *Manuál lexikografie*. Jinočany: H&H. ♣ JOHNSTON, Trevor and Adam SCHEMBRI, 1999. On Defining Lexeme in a Signed Language. *Sign Language & Linguistics*. 2(2), 115-185. ♣ ZWITSERLOOD, Inge, 2012. Classifiers. PFAU, Roland, STEIBACH, Markus and Bencie WOLL. *Sign Language. An International Handbook*. Berlin/Boston: De Gruyter Mouton, 158-186.

Figures and examples (including SignWriting notations for the manual part of the sign and links to videos on Dictio platform).

Figure 1: Simplified version of the Hand-Tier model



(1) Synonyms

[KITCHEN_1](#)

[KITCHEN_2](#)

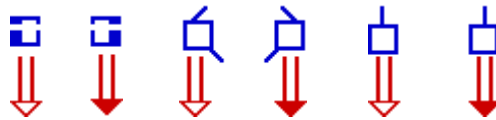


(2) Variants: a) handshape

[PRAGUE_1](#)

[PRAGUE_2](#)

[PRAGUE_3](#)



b) location

[COFFEE_1](#)

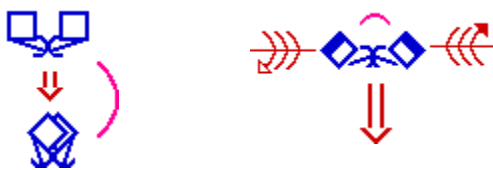
[COFFEE_2](#)



c) movement

[COMPLEX_1](#)

[COMPLEX_2](#)



(3) Synonyms

[MAY_1](#)

[MAY_2](#)

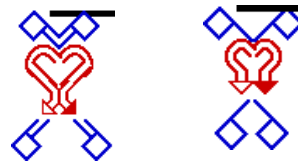


Figure 2: Simplified Hand-Tier model for MAY_1 and MAY_2

