

## **The secret life of signs motivated by orthography**

This study proposes a new categorisation of signs motivated by orthography. It is the first examination of only non-letter based graphic influence on sign language. The current study shows that not only written words or letters influence the shape of PJM signs but also punctuation marks or mathematical symbols. The classification may be viewed as an attempt to investigate a largely understudied area of sign etymology, word formation and morphology. Various problems arise as signs primarily denoting graphic symbols change their form and also expand the meaning. The letter based categories have already drawn some attention in the literature like, initialized signs or lexicalized fingerspelling (Lepic 2015), and signs tracing the shape of a written character in their movement (Ktejik 2013).

The PJM Corpus material was examined to find PJM lexemes referring to written characters to answer the two main questions: 1) how the form of these signs relates to the form of written symbols, and 2) what the use of these signs is. The PJM Corpus is one of the biggest sign language corpora in the world. It includes over 550 hours of multi-tier annotated footage (iLex software), 75 recording sessions with 150 Deaf PJM signers from all over Poland, and 15,000 identified PJM lexemes (Rutkowski et al. 2017). All the lexemes were investigated in terms of fingerspelling motivation of the sign and other different relations to written text.

The present study proposes to recognise signs referring to punctuation marks and mathematical symbols as additional categories of signs beside the letter based ones (fingerspelling, initialized signs and lexicalized fingerspelling). The lexemes identified in the result of this overview are classified in terms of the function they serve (lexical or grammatical), how they correspond to written symbols (through their movement, handshape or both) and to what extent they should be viewed as arbitrary or iconic. The present proposal consists of three different relations that occur between script and sign language unit. Firstly, through sign movement mimicking the movement of writing a symbol (e.g. QUESTION-MARK). Secondly, through a handshape mimicking the shape of a symbol (e.g. PLUS). There are signs that can be both (e.g. EQUALS-SIGN). They are highly iconic, at least in the sign parameter which relates to the written symbol. Thirdly, it may happen that

sign language shape is not motivated iconically, for instance SZ letter. Although the handshape is not motivated by the shape of a letter it is used to refer to a written character. Various signs borrowed from written language to sign language change their form and obtain broader meaning. They not only denote the graphic signs but they are used as function or content words. They may be grammatical markers, sometimes functioning as calques of their grammatical equivalents (e.g. AŻ (eng. UNTIL)), nouns designating something else than the source symbol but based on metonymy (e.g. PUZZLE) or adjectives (e.g. POSITIVE). They can also evolve into independent metaphorical phrases (e.g. QUESTION-MARK-8). In these cases we might be able to assign meaning to specific sign parameters. This raises many questions and gives the opportunity to expand sign morphology and word formation studies.

#### Sources:

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