# Making Sign Language Corpora Comparable: A study of Palm-Up and Throw-Away in Polish Sign Language, German Sign Language, and Russian Sign Language section for sign linguistics Anna Kuder

## Introduction

This paper provides a description of the preparation phase of a large-scale comparative study based on naturalistic linguistic data drawn from multiple sign language (SL) corpora in the context of a current project comparing the use of two manual activities, palm-up and throw-away, in Polish SL, German SL, and Russian SL.

# **Scope of the Study**





### **Data Sources & Samples**



palm-up – a multifunctional manual activity taking the form of rotating one's forearms so that the palms of the hand face upward (Cooperrider et al., 2018)

### **The Annotation Schema**

This schema was build based on the Literature reports concerning the features important during studying manual gestural elements in SLs (e.g., Cooperrider et al., 2018) and personal experience in building and using SL Corpora, and implemented consistently in all annotated files.



throw-away - the action of an open
hand going downward having
a common meaning of "never mind"
or "not important"
(Bressem and Müller, 2014)







<u>Full sample</u>: 16 informants from each corpus; sample is balanced out with respect to gender (8 M & 8 F), and age (4 informants – 2 M & 2 F – from each of the age groups: 18-30; 31-45; 46-60; 60+).

<u>Annotated so far</u>: 9 informants from each corpus. PJM: 43 texts (05:37:32, with 20,851 signs); DGS: 27 texts (02:47:03, with 11,048 signs); RSL: 35 texts (01:00:59, with 6,313 signs).

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#### **Some Observations About Corpora Comparability**

#### **Preliminary Findings**

The process started with the assessment of the differences and similarities between the three data sources,

which was needed to establish the pre-existing comparability between them.

- Following this, the three main steps in assuring further comparability were undertaken:
- choosing a software: ELAN is recommended in single-annotator setting; iLex in team projects (where at least one member has suitable IT background);
- choosing the adequate, representative data samples: balancing out the gender, age, text-types, text lengths (both in terms of time and produced signs);

Preparing the data using the chosen apparatus has provided results which are adequate for performing both cross-linguistic and cross-modal comparisons.

#### **1. Frequency**

The results are in line with literature reports about the palm-up frequency in other SLs (e.g. Fenlon et al., 2014 for BSL and Auslan; McKee & Wallingford, 2011 for NZSL); and throw-away

	no. of p-ups (and %)	no. of t-aws (and %)
PJM	729 (3.49%)	310 (1.49%)
DGS	734 (6.64%)	133 (1.20%)
	269	86

(1.36%)

(4.26%)

KSL

creating an annotation schema that builds on the annotations already present in all three corpora and grasps all relevant articulatory features of the investigated elements.

### **Next Project Phases**

The annotation schema was created in a way that in the future will allow for:

analysis of co-occurrence of both gestures' types and subtypes with specific nonmanual markers;
analysis of the correlation between the gestures' types and subtypes and their function;
sociolinguistic analyses of the usage of the gestures across genders and age groups;
CLU (sentential) coding and analysis;

more detailed comparison of the gestures' usage between SLs and co-speech gesture

targeting the issue of the conventionalisation of the elements and explaining the similarity of the functions of palm-up and throw-away observed in both signed and spoken modality.

**Bressem, J. and Müller, C.** (2014). The family of Away gestures: Negation, refusal, and negative assessment. In C. Müller et al. (Eds.), *Body – Language – Communication*, Berlin: De Gruyter Mouton, pp. 1592–1604; **Burkova, S.** (2015). Russian Sign Language Corpus. Novosibirsk; **Cooperrider, K., Abner, N. and Goldin-Meadow, S.** (2018). The Palm-Up Puzzle: Meanings and Origins of a Widespread Form in Gesture and Sign. Frontiers in Communication, 3(23); **Ferré, G.** (2012). Functions of three open-palm hand gestures. Multimodal Communication, 1(1):5–20; **Konrad, R., Hanke, T., Langer, G., Blanck, D., Bleicken, J., Hofmann, I., Jeziorski, O., König, L., König, S., Nishio, R., Regen, A., Salden, U., Wagner, S., Worseck, S., Böse, O., Jahn, E. and Schulder, M. (2020). MY DGS – annotated. Public Corpus of German Sign Language, 3rd release [Dataset]. Universität Hamburg; <b>Lepic, R.** (2019). A usage-based alternative to "lexicalization" in sign language linguistics. *Glossa: a journal of general linguistics*, 4(1):23:1–30; **Schmid, H.-J.** (2020). The Dynamics of the Linguistic System: Usage, Conventionalization, and Entrenchment. Oxford Scholarship Online; **Wójcicka, J., Kuder, A., Mostowski, P. and Rutkowski, P.** (2020). Open Repository of the Polish Sign Language Corpus. Warsaw: Faculty of Polish Studies, University of Warsaw.

frequency in SpLs (Müller, 2004).

#### 2. Functions

Almost all annotated cases of palm-up and throw-away fall under one of the functional categories also used to describe the functions of palm-up in co-speech gesture (cf. Ferré, 2012): <u>Expressing modal meanings</u>:

- positive (e.g., agreement; revelation; surprise);
- negative (e.g., lack of knowledge, lack of understanding, lack of interest, lack of ability; negation, surprise; annoyance; disappointment);
- neutral (e.g., hesitation; hypotheticality; reinforcement of the stance);
   <u>Discourse regulation</u>: e.g., turn/topic opening or ending; response to the interlocutor's question/stance; connecting sentences;

<u>Conveying coherence</u>: e.g., meta-comment; rhetorical question; self-correction.

There is a recurring cooccurrence of palm-up and throw-away with some lexical glosses in all three datasets, which raises a question about the level of conventionalisation of the two manual activities (Lepic, 2019; Schmid, 2020).

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