1. **Goal.** This talk addresses the nature of verbal Classifiers (vCLSF) as a potential agreement phenomenon in SLs, and as potential locus for a modality effect.

Of the four components of agreement identified in Mathur-Rathman (2012) (controller, target, domain, features), the *controller* and the *target* constitute the main difference with vCLSF: in traditional agreement phenomena, the N/DP is the controller and the target is the dependent morphology (in either the verb or any other associated material such as A’s and D’s in (1)):

\[(1)\]  
\[\text{ki-kapu ki-kubwa ki-moja ki-li-anguka} \quad \text{[Swahili]}\]  
\[\text{cl7-basket cl7-large cl7-one cl7-PAST-fall} \]  
\[\text{‘One large basket fell’} \quad \text{(Aikhenvald 2000:2.13 ap. Corbett 1991:117)}\]

In (1), the class of the N *kapu* (*ki-*) determines and forces the use of certain markers on the A, D and V; if another marker is used, the output is ungrammatical. In cases of vCLSF, however, the situation is the opposite: the controller is not the N/DP but the vCLSF itself; the N/DP in this case becomes the target. We can see this because a change in the vCLSF (F+ or B+) results in a change of interpretation, not in ungrammaticality:

\[(2)\]  
\[\text{a. MONEY F+BE_LOC ‘Coins of money are (there)’} \]  
\[\text{b. MONEY B+BE_LOC ‘Bills of money are (there)’} \]

A mismatch in agreement results in *ungrammaticality*; a mismatch in vCLSF results in an *alternative interpretation*.

2. **We explore the following Hypothesis:**

\[(3)\]  
a vCLSF is the realization of an \([α\text{-CLASS}]\) feature parasitically bundled up, together with a \(uD\)-feature, into a functional head forming a complex functional head:

\[(4)\]

\[\text{The \([α\text{-class}]\) feature is a CLASS feature whose paradigmatic range is \(α\); the relevant functional head in SLs is the one above VP, namely v/Voice. A series of operations take place:} \]

[1] the \(uD\) feature acts as a PROBE to find a suitable GOAL (an element with an intrinsically valued D element) in its c-command domain, whose D-values can be copied thereby valuing its unvalued uninterpretable D-feature ([1] in (5) below);

[2] the PROBE finds and TARGETs such a potential GOAL in the internal argument DP\(_n\) selected by the V root ([2] in (5) next):

\[(5)\]

\[\text{[3] the \(uD\) PROBE AGREES with the DP\(_n\) TARGET and, as part of it, ATTRACTS /MOVES it to its Spec ([3] in (6) below), where} \]
[4] the unvalued _uD copies the D-value \( n \) of the DP\(_n\) now in the Spec of the v\textsubscript{voice}-head, thereby getting valued (COPY-a [4] in (6) next):

\[ \text{(6) AGREE} \]

\[
\begin{array}{c}
\text{DP}_n \\
\text{[4]COPY-a} \\
\text{\[4\]uD} \\
\text{\textalpha-class} \\
\end{array}
\]

\[ \begin{array}{c}
\text{v\textsuperscript{o}} \\
\text{VP} \\
\text{DP}_n \\
\end{array} \]

\[ \text{MOVE [3]} \]

[5] as part of this AGREE operation, the [\textalpha-class] features are reciprocally transferred to the DP (COPY-b), assigning the intended classifier-related interpretation to the DP:

\[ \text{(7) AGREE – COPY-b} \]

\[
\begin{array}{c}
\text{DP}_n \\
\text{[\textalpha-class]} \\
\text{\[5\]Copy-b} \\
\text{\textalpha-class} \\
\end{array}
\]

\[ \begin{array}{c}
\text{v\textsuperscript{o}} \\
\text{VP} \\
\text{DP}_n \\
\end{array} \]

The operation AGREE, thus, includes two COPY operations: the forward-looking COPY-a of [4] in (6), copying the D-value \( n \) onto the uD in v\textsubscript{o}; and the backward-looking COPY-b in [5] in (7) that reciprocally copies the [\textalpha-class] value in v back to the DP in its Spec.

The first transfer of features (COPY-a, [4]) of the formal operation AGREE, initiated by the uninterpretable unvalued uD-feature is, we claim, common to both agreement and vCLSF phenomena: it involves the copy of the \( n \) value of the D in DP onto the unvalued slot of the uD-feature in the corresponding functional head: T for subject verbal agreement; v\textsubscript{voice} for object verbal agreement; and v\textsubscript{voice} for vCLSF structures, too.

The second transfer of features (COPY-b, [5]) involves a reciprocal or backward transfer of [\textalpha-class] features from the host head v back to the DP in the Spec. This is indeed the characterizing property of vCLSFs: the copy of the interpretive CLASS features onto the argumental DP. This is the reason why a single DP may be associated with more than one CLSF: by virtue of its position in the Spec, a DP may receive the backward or reciprocal copy of whatever CLASS feature happens to be bundled in the corresponding host head.

Under this view, the argumentative properties (unergative, unaccusative, …) observed in previous work (e.g., Benedicto-Brentari, 2004) for Classifier predicates are the property of the functional head the vCLSF is bundled with, but not a property of the vCLSF itself.

3. Finally, the existence of similar patterns in Spoken Languages indicates that the vCLSF phenomenon is not per se a locus for modality effects: see kira [CL:rd] and nu [CL:sp] next.

\[ \text{(8) a. tatruni, kira-nu-sti terunukwa-rhu [P’orhépecha]} \]

\text{bean, CL:rd, CL:sp, PrS3s patio\textsubscript{1c}-P}

‘the (grains of) beans are in the patio’

\[ \text{b. xí kira-nu-ta-skan tatruni-n terunukwa-rhu PRN1s CL:rd, CL:sp, Tr-Pst1s bean, ACC patio\textsubscript{1c}-P} \]

‘I put the (grains of) beans in the patio’
More Evidence for an Iconic Mapping of Clausal Categories Onto the Body in German Sign Language (Deutsche Gebärdensprache)

Fabian Bross (University of Stuttgart)

Cross-linguistic research on spoken languages has found a strict ordering of inflectional categories in the clausal spine: The higher/wider the scope of a category is, the higher up it is located in the clausal hierarchy. This research has suggested that this hierarchy is probably universal and found in all languages of the world (Cinque 1999, 2006). For German Sign Language (Deutsche Gebärdensprache, DGS), it was recently argued that the hierarchical organization of clausal categories is mapped in an iconic way onto the body (Bross & Hole 2017): Categories taking high scope, such as speech-act-indicating expressions or epistemic modality, are expressed with the upper face (simultaneously with manual signs), mainly with the eye-brows. Categories with intermediate scope, e.g., scalarity, find expression via the lower face (again, layered onto manual expressions), i.e., the cheeks. Finally, categories with lower scope, such as volition, deontic or root modality, are produced manually, i.e., by concatenating manual signs in a temporal order. The categories taking low scope are, when descending the hierarchy, concatenated first from left-to-right (e.g., volitional markers) and finally from right-to-left (e.g., root modals). Bross & Hole’s findings are summarized in the left part of Figure 1. The figure shows a sample of Cinquean categories on the left and their expression in DGS on the right.

The aim of the present poster is to extend these findings by a whole bunch of additional categories from Cinque’s (1999, 2006) hierarchy in all three clausal domains (CP, TP, and VoiceP). Based on elicitations and judgments from five deaf native signers the expression of the categories depicted in Figure 1 (on the right) in German Sign Language will be discussed. The higher categories are extended by mirativity and evidentiality. Additionally, some data on alethic modality will be presented, which also finds layered expression, although it is located below tense in Cinque’s system. It will be argued that alethic modality actually takes scope higher than tense. The TP categories are extended by various aspectual categories, including habitual, celerative, and retrospective aspect. While DGS is assumed to be a tenseless language, data from other sign languages like Italian Sign Language (Lingua dei Segni Italiana, LIS) neatly fits into the picture, as tense in LIS is expressed via verbal inflection through shoulder movements (Zucchi 2009) thereby having a position vertically in between high/facial and low/manual operators. Finally, voice, celerative aspect II, and frequentative aspect II representing categories that are located inside the VoiceP, will be discussed.

The findings presented in this poster corroborate the idea that there is an iconic mapping of syntactic to bodily height (i.e., that descending the hierarchy means descending the body) in German Sign Language and probably in other sign languages as well. The data from the lower aspectual categories leads to an additional hypothesis: low aspectual categories inside the VoiceP layer are incorporated into the manual sign (while Cinque’s voice itself is produced via right-to-left concatenation). Of special interest are the comparisons between celerative aspect I and II and between frequentative I and II:

(1) a. PAUL FAST HAND-RAISE
   ‘Paul quickly raises his hand.’
   b. ?PAUL HAND-RAISE FAST
   ‘Paul quickly raises his hand.’
   c. PAUL HAND-RAISE<sub>fast</sub>
   ‘Paul raises his hand quickly.’

(2) a. PAUL PAM MARIA OFTEN INSULT
   ‘Paul often insults Maria.’
   b. ?PAUL PAM MARIA INSULT OFTEN
   ‘Paul often insults Maria.’
c. PAUL PAM MARIA INSULT++
   ‘Paul insults Maria often/many times in a row.’

While the examples in (1a), (1b), (2a), and (2b) show that the higher aspectual categories of
celerative I and frequentative I are left-headed (the right-headed structures were judged marked),
the aspects inside the VoiceP layer are produced by manipulating the manual operator.

Additionally, this poster will discuss the fact that most of the higher categories can find
expression not only via non-manual marking, but can also be expressed with manual markers. In
these cases, the non-manual marking still has to be present (in a slightly attenuated form). An
example for the expression of epistemic modality are the two sentences in (3a) and (3b).

(3) a. PAUL SATURDAY WORK
   ‘Probably, Paul works Saturdays.’

b. PROBABLY PAUL SATURDAY WORK
   ‘Probably, Paul works Saturdays.’

It will be argued that the meaning difference between such sentence pairs is that layered
information, as in (3a), is not-at-issue and concatenated material, as in (3b), is at-issue (see Simons
et al. 2010; Tonhauser et al. 2013). That means that concatenated sentences like (1b) actually mean
*It is probable that Paul works on Saturdays* (or: That Paul works on Saturdays is probable)
and therefore contain an additional clausal layer.

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Prosody and syntax of sentence topics in Italian Sign Language

Chiara Calderone

The tangled concept of topic in spoken languages was extensively discussed in the past from semantics [4][8][13], syntactic [7][14-17] and prosodic [18] perspectives. Although scholars disagree in definitions, in the current study I intend to investigate three types of sentence topics in Italian Sign Language (LIS): aboutness topics, scene setting topics and contrastive topics. Since in sign languages (SLs) there are cross-linguistic differences in the kinds of manual and non-manual markers involved in the identification of these sentence topics [1][9-11][20], I plan to contribute to the discussion with this preliminary study. In fact, no specific previous studies exist on topics types in LIS, and although Brunelli [3] studied the information structure in LIS, he did not investigated in detail the topic features; Thus, the purposes of this study are (i) to clarify whether any consistency exists among their phonological realization (or at least if it possible find some frequent tendencies in the combinations of the non-manual markers) and (ii) to account for the syntactic distribution of aboutness topics, scene setting topics and contrastive topics, comparing the results with the cartographic approaches [7][14].

Following Reinhart [13], I considered as sentence topics those expressions which are found within the boundary of a sentence and in particular aboutness topics, scene setting topics and contrastive topics. An aboutness topic is what the sentence is about [13], and it must be familiar and identifiable for both the speaker and the addressee [8] (ex. 1 from LIS). Scene setting topics (ex.2) are elements which set a spatial, temporal or individual framework within which the main predication holds [4]. Contrastive topics consist of a combination of topics and focus, which indicate alternatives among given/old information, and they are marked by a specific intonation contour in spoken language [12] (ex.3).

(1) JOHN TODAY FISH BUY
   Today John bought a fish.

(2) YESTERDAY SUPERMARKET JOHN FISH BUY
    Yesterday at the supermarket John bought a fish.

(3) What Maria and Gianni feel for the cat?
    CAT, IX, MARY, LOVE, JOHN, HATE.
    As for the cat, Mary loves him, John hates him.

In SLs, these topics differ cross-linguistically because they are realized with different prosodic contours, namely manual and non-manual markers (NMMs). However, in the literature about SLs, the most frequent NMMs associated with topics are the raised eyebrows (which is indicated as a marker for dependency relations among phrases and clauses and was compared to the High Boundary tone in spoken languages [6]), the squint of the eyes (which has been considered a specific marker for the retrievability of constituents, [19]), the head and body tilt forward (both involved with the notion of contrast [5][21]) and finally the eye blinks and head nods (generally considered boundary markers). In previous studies about Hong Kong Sign Language (HKSL), Sze [20] argued that aboutness topics are not consistently marked by non-manuals and are not mandatory prosodically separated from the rest of the sentence. Scene setting topics in HKSL are mostly marked with more manual and non-manual features, as brow raise and specific head positions. On the contrary, contrastive topics seem to be not marked by the same non-manual markers of the other two kinds of topics. Unlike HKSL, in Sign Language of the Netherland (NGT) and in Russian Sign Language (RSL) [9-11] both aboutness and scene-setting topics are in sentence-initial position and could be marked by eyebrow raise and backward head tilt.

The data for this study has been collected from three native informants, in collaboration with the University of Venice. I collected two corpora: one based on spontaneous data and another one based on elicited sentences. As for this second kind of data, I differentiated two elicitation contexts: in the first, the stimuli were created to produce subject aboutness topics and in the second to produce object aboutness topics. I considered full DPs and strong pronouns, following [2].

The results show that no one-to-one relation between non-manual forms and topic types exists in LIS. In line with the studies on RSL and NGT, in LIS the same non-manuals mark both aboutness and scene setting topics (ex. 4) and they are: eyebrow raised (er), squint eye (sq), head (hf) and body forward (bf), eye blink (eb) and head nod (hn). Moreover, common tendencies of non-manuals can be identified, namely
eyebrow raised (that mostly marks subject and object aboutness topics), eyebrow raised + eye squint (which mark scene setting topics locations and subjects aboutness topics) and squint + head forward + blink after the topic (which consistently accompanied object aboutness topics). From a preliminary observations, I noted that scene setting time adverb topics behaves differently from the other topics, in fact they are less marked and very often they occur in the extreme left periphery of the sentence.

Differently from aboutness topics and scene setting topics, contrastive topics in LIS are only marked by the positions of the body to the right and to the left (ex. (5)).

(4) TODAY JOHN GARDEN CL-loc MUSHROOMS GATHER

Today, John gathers mushrooms in the garden.

(5) CAT IX MARY, LOVE, JOHN, HATE,

As for the cat, Mary loves him, Gianni hates him.

As for the syntactic account, in agreement with Rizzi[14]’s analysis for spoken languages, where the CP is split in [ForceP [TopP*[FocP[TopP[FinP[IP]]]]]]; LIS appear to have a dedicated left periphery with different topic positions. However, differently from Rizzi’s template the topics are not freely recursive. Indeed, according to the hierarchy of Frascarelli & Hinterölzl [7] (aboutness topics>contrastive topics>familiar topics) my data show a distribution of aboutness topics (FISH) in a higher position than contrastive topics (MARY). Note that in my data I only have contrastive subject topics which means that it is not possible to establish that their position is not the base position for subjects.

(6) FISH IX MARY, HATE, GIANNI LOVE

As for the fish, Mary hates it, John loves it.

Considering the more frequent order of topics in my data, I can assume the following hierarchy: SsTopTime>SsTopLoc>AbTop>ContrTop>[…IP…].

In conclusion, LIS does not show a straightforward consistency between form and topic functions, but similarly to HKSL, NGT and RSL, eyebrow raised and other NMMs optionally marks aboutness and scene setting topics. This study thus contributes to our understanding of the complex phenomenon of topic marking in SLs. Finally, from a generative perspective, this investigation can serve as a litmus test for validating specific theories of the syntax of information structure [7][14].

References
Nonmanual marking of polar interrogatives in Catalan Sign Language (LSC):
Approaching the puzzle through a feature-based theory of biases

Introduction. Cecchetto (2012) suggested that polar interrogatives (PIs) in sign languages (SLs) involve a combination of several of the following nonmanual markers (NMMs): eyebrow raise, eyes wide open, eye contact with the addressee, head forward position and forward body posture. Further, it has been shown that nonmanual features marking PIs “tend to be very similar across SLs” (Zeshan 2004). Despite these assumptions, it is quite common to find PIs in LSC marked with eyebrow furrowing, head upward position and backward body posture. Moreover, LSC optionally adds a question particle (YES-NO Q-sign). Therefore, this paper provides evidence from LSC showing an unexpected puzzle: different combinations of NMM can appear for PIs and, contrary to previous assumptions, eyebrow furrowing can be the most salient feature. I argue, based on Sudo’s (2013) feature-based theory of biases, that each combination of NMM features, as well as the appearance of the question particle, convey a different flavor of bias. Therefore, the NMMs, just as the YES-NO Q-sign, are shown to not only mark sentence type, but to encode pragmatic meaning.

Data. LSC uses a specific combination of NMMs, a characteristic device of gestural-visual modality languages, to perform a PI. It has been claimed that LSC most prominent feature for marking PIs is eyebrow raise (Quer et al. 2005). But further data examination shows that PIs in LSC can also be performed with a combination of features involving eyebrow furrowing as the most prominent feature. Thus, eyebrow position feature in PIs is not constant:

(1) \begin{tabular}{l}
 PARIS CAPITAL FRANCE
 \end{tabular}

(2) \begin{tabular}{l}
 PARIS CAPITAL FRANCE
 \end{tabular}

In addition, other nonmanual features can be combined with eyebrow positions, such as head forward or upward position, and forward or backward body posture. LSC also seems to optionally add a question particle, namely the YES-NO Q-sign, at the very end of the utterance:

(3) \begin{tabular}{l}
 IX-2 PARTY GO YES-NO
 \end{tabular}

This empirical picture draws a puzzle in LSC that falls far short from expectations and needs to be solved. According to Zeshan (2004), “it is common for the question particle to occur only in certain contexts that are often pragmatically constrained”, and, coincidentally, this applies to the YES-NO Q-sign. The question now is whether this statement can be extended to NMM combinations.

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1 This is supported by data from ASL (Wilbur & Patschke 1999; Neidle et al. 2000; Fischer 2006; Valli et al. 2011), AUSLAN (Johnston & Schembri 2007), BSL (Sutton-Spence & Woll 1999), FinSL (Savolainen 2006), HKSL (Tang 2006), HJSL (Šarac & Wilbur 2006), IPSL (Zeshan 2004), in ISL (Meir 2004), LIBRAS (de Quadros 2006), LSC (Quer et al. 2005), LSE (Herrero 2009), NS (Morgan 2006), NZSL (McKee 2006), ÖGS (Šarac et al. 2007), TID (Zeshan 2006) and VGT (Van Herreweghe & Vermeerbergen 2006).
**Theoretical background.** Sudo’s (2013) feature-based theory of biases, built up considering Büring and Gunlogson’s (2000) analysis, claims that PIs are associated with two major types of bias: one concerning the information available in the conversational context (evidential bias) and one concerning the speaker’s private beliefs or expectations (epistemic bias). Each bias can have positive or negative values and each resulting combination is performed by a different PI. Moreover, apart from being neither positive or negative, each bias can demand a specific value, gradually increasing the combinations that would end up triggering different PIs (positive PIs, outside-negation negative PIs, inside-negation negative PIs and a combination of these structures with question particles). Sudo’s (2013) theory successfully describes the inferences that affect the biases of at least the most basic kinds of PIs in English and Japanese.

**Analysis.** Given Sudo’s (2013) theory, I assume that NMMs, as well as the YES-NO Q-sign, can be a trigger for showing different kind of biases in LSC. The analysis relies on new elicited data obtained through different tasks that have been conscientiously designed to control the factors that can influence the consultants’ behavior. Slightly different contexts —regarding the knowledge of the participant about some fact and the evidence in the communicative context suggesting the negative or the positive answer— were proposed, and consultants were asked to perform a PI as an answer to the context. Here, I provide a table that shows how different NMM combinations are derived from the different variables ([positive, negative or required value](#)) applied to the two kinds of biases ([evidentiality and epistemicity](#)).

<table>
<thead>
<tr>
<th>Evidential Bias</th>
<th>Epistemic Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>I’m watching it in-situ</td>
<td>What I think (y): Expectation answer “YES”</td>
</tr>
<tr>
<td>Eyebrow furrowing + Head and body forward position</td>
<td>+ Positive</td>
</tr>
<tr>
<td>Eyebrow furrowing + Body backward position</td>
<td>What I think (y): Expectation answer “YES”</td>
</tr>
<tr>
<td>Eyebrow furrowing + YES-NO Q-sign</td>
<td>The opposite to what I think (n): Expectation answer “NO”</td>
</tr>
<tr>
<td>Eyebrow raise + Head and body forward position</td>
<td>Don’t expect a specific answer</td>
</tr>
<tr>
<td>Eyebrow raise + Body backward position</td>
<td>None</td>
</tr>
</tbody>
</table>

**Figure (1).** NMM combinations and the biases that triggers them.

**Conclusions.** This paper provides evidence from LSC showing that PIs can be performed with an unexpected combination of NMMs: eyebrow furrowing is also a common feature to signal this sentence type. Sudo’s (2013) novel feature-based description system can explain why LSC displays more than one combination of NMMs for PIs, and it predicts when to use some of the combinations. The same can be applied to the YES-NO Q-sign: far from being an optional question particle, it appears in very restricted contexts. Further data also points towards an analysis in which each combination of features in PIs conveys a different bias.

Wh-features as non-manual features in LIS
Carlo Cecchetto (University of Milan-Bicocca & SFL (CNRS and Paris 8)) & Caterina Donati (LLF-Paris 7)

The literature on the syntax of questions in sign languages has straightforwardly imported the notion of ‘wh-element’ into the signing modality, without really reflecting upon the validity of this extension. It is a fact, indeed, that in known sign languages interrogative elements do not appear to share any morphological (manual) feature: while wh-signs “look alike” in English and other spoken languages (e.g. in Italian and French ‘k’ recurs: chi/qui, cosa/quoi, quando/quand, come/comment etc), interrogatives elements, say, in LIS, LSF or ASL do not belong to a morphological family.

1. Wh-feature is the NMM
It is possible that this is an example of an improper extension of a spoken language category to the signing modality. But the talk will explore another possibility, namely that there is indeed a morphological feature which is shared by interrogative elements, but that it is (usually) non manual: we claim that the NMM associated to content questions is not simply the signing correlate of prosody, but that it is rather a morphological feature instantiating the same abstract feature that is lexically realized as /k/ in Italian and as /wh/ in English. Crucially, we claim, this feature is not a clause typing particle merged in the complementizer area, but rather a component of the interrogative phrase (see Aboh and Pfau 2010 for a discussion).

2. Explaining the spreading pattern: interrogatives vs. relatives
The complementizer area is on the right in LIS (cf. Cecchetto et al. 2009): this is where interrogatives move and where the relativizer goes as well (Cecchetto et al. 2006; Branchini and Donati 2009). As shown by Cecchetto et al. (2009), the NMM is either realized on the interrogative sign itself, or it spreads over the path of the movement that displaced the interrogative, as in (1).

(1) PAOLO STEAL BOOKi WHi WHICHi
‘Which book did Paolo steal?’

Crucially, if the interrogative is extracted from the object position, as in (1), the spreading does not extend to the subject. This pattern of spreading is very different from the one observed in relative clauses, where the NMM is either located on the relativizer itself (PE), or spreads over the entire clause. Crucially, the spreading is not restricted to the movement path, but it can include the subject even in an object relative, as in (2).

(2) PAOLO MARiA IDEAi SUGGEST PEi IMPORTANT
‘The idea that Paolo suggested to Maria is important’

Cecchetto and Donati (2016) explain this by assuming that PE is a particle that moves to COMP and nominalizes the clause. Thus, the NMM associated to PE spreads over the entire constituent PE heads. In wh-questions, the NMM (wh-) belongs to the wh-phrase not to COMP, and is thus restricted to the Wh-phrase dependency in its spreading.

3. Evidence for the wh-head
The analysis we are proposing suggests that wh-phrases in LIS are made of two parts: a functional head marked –wh, which is only realized as a NMM in most cases, and its complement, corresponding to the interrogative sign. This analysis would receive great comfort if we had at least some instantiation of this abstract head. This is, we claim, what happens with the sign ARTICHOKE (Branchini et al. 2013).

4. The sign ARTICHOKE
The sign ARTICHOKE is typically found in LIS in two types of contexts we will discuss in details. It can occur alone; or it can occur together with another
interrogative sign. When ARTICHOKE occurs alone it is usually clause-final, and the sentence is interpreted as a content (not as a polar) question.

(3) IX-2 LEAVE ARTICHOKE
   *Are you leaving?" 
   'Why/when are you leaving?' 

This shows that ARTICHOKE is not a generic question operator (contrary to what we find in NGT, cf. Aboh and Pfau 2010) but rather a wh-operator. ARTICHOKE can act as a lexical variant for any wh-interrogative sign in any grammatical function. When this happens, ARTICHOKE may be coupled with a mouthing reproducing vowels or consonants present in the corresponding Italian wh-word, thus disambiguating the question.

(4) IX-2 LEAVE ARTICHOKE
   'Why are you leaving?' 

This is reminiscent of what is attested in IndSL (Aboh and Pfau 2010), with the crucial difference that LIS does not lack other interrogative elements, which it possesses in a full paradigm. But ARTICHOKE can also occur together with an interrogative sign. When this happens, we observe two possibilities. They can sit together at the right edge of the clause and when this happens they are strictly adjacent, and ARTICHOKE obligatorily follows the wh- interrogative:

(5) a. PRESENT SEE WHO ARTICHOKE
    b. *PRESENT SEE ARTICHOKE WHO
    'Who saw the present?' 

This, notice, is the typical position of heads with respect to their complement in LIS, which is head final and thus supports the analysis we propose, where ARTICHOKE heads the wh-phrase. Another possibility is that they split, with one sign occupying the left edge and the other sitting at the right edge : (6).

(6) a. ARTICHOKE GIFT SEE WHO
    b. WHO GIFT SEE ARTICHOKE 
    'Who saw the gift?' 

This double option confirms that ARTICHOKE is not a simple question particle typing the clause: given the constituency of the two signs, either can move (as in 5) or only one does, the other being focused (as in 6). This splitting is a general possibility for LIS syntax: see Branchini et al. 2013. Interestingly, mouthing, as illustrated in (4), is not possible when ARTICHOKE occurs together with an interrogative sign (7):

(7) *IX-2 LEAVE WHY ARTICHOKE
    'Why are you leaving?' 

This suggests that mouthing in (5) is to be interpreted as incorporation of the interrogative sign into ARTICHOKE, a morphological process that is known to be sensitive to head-complement constituents. Incorporation is of course incompatible with an independent realization of the incorporated sign/word.

Background. Various types of distance distributive (DD) items across natural languages received attention in recent linguistic works (Champollion 2012, Link 1983, Landman 2000, a.o.). As for Sign Languages (SL), the DD research is presented (among other topics) in Quer (2012), Kimmelman (2015), Kimmelman (2017) & Kuhn (2017) a.o. Following this work we focus on a specific type of reduplication in SL (reduplication on R-loci) which is claimed to be a marker of distributive quantification (i.e. by Kimmelman 2015): a 'distributive reduplication' from now on. By bringing new data from Czech Sign Language (CSL) we propose a new compositional semantics for DD structures.

Distributivity in CSL. To gather the judgments we directed a data survey in form of a truth-judgment task. Two native speakers of CSL (3rd generation Deaf) commented on the video-situation pairings and judged grammaticality/appropriateness of CSL sentences.

Observations: a) In accordance with the patterns known from spoken languages (Landman 2000) and SL as well (Kimmelman 2015, 2017), the most salient interpretation of a sentence with plurality denoting subject and object is cumulative – (1), formally in (1-a): a plural event of bathing with a plural agent \( a \sqcup b \sqcup c \) and a plural patient \( k \sqcup l \) of the event; weak-truth conditions, non-scopal reading. b) First example of a distributive reading is the case of individual distributivity. (2), formally in (2-a): there is an event \( e \) which consists of plurality of its subevents \( (e') \) where each \( e' \) has atomic Agent from \( e \) assigned to a plurality of Patients consisting of 2 dogs (cumulative interpretation of (2) rejected by the informants). In (2-a) we use Champollion’s (2012) modification of Link’s (1983) distributivity operator – D: 

\[
[D_e] = \lambda V \lambda e [e' \in^* e' \land \text{Atom}(\theta(e'))][j].
\]

Figure 1 shows distributive reduplication of the sign TWO modifying Patient share in (2) (anaphorically related to the Agent key). We follow Dotlačil (2012) a.o. in treating the DD as inherently anaphoric to the sorting key and Schlenker et al. (2013) by understanding R-loci as positions that can realize discourse referents/logical variables. The obligatory distributed Agens marked by R-loci can be seen in (2-a). Occasional reading. The crucial example comes in (3). The sentence was judged ambiguous between the individual distributive reading (like in (2-a)) and an occasional reading by both informants. The occasional reading is formalized in (3-a): the formalization requires one group-level atomic Agent (the three daughters) to be an agent of consecutive subevents (\( e' \)) where the same group-level agent was connected to Patients consisting of plurality of 2 dogs being bathed. And as such (3) was judged true in an exemplifying situation where all three daughters collectively bathed dogs two by two (the occasional reading was rejected for (2)). Distributive reduplication of the signs TWO and BATH in (3) is shown in detail in Figure 2. We analyze Agens modifying pronouns with incorporated numerals in (3) as introducing split key antecedents (following Schlenker et al., 2013) which are further anaphorically picked up by the DD. Notice in (3-a) that we interpret both occurrences of distributive reduplication in the formula: the first requires distribution over time traces, the second over Agent (collective) which results in the occasion reading (linearization in SL is reversed). DD on R-loci marks anaphoricity of D on verb’s \( \tau \) which results in the occasion interpretation (time trace of the event is the key). The atomicity of the occasional reading requires time trace atomicity of the subevents (\( e' \)). As both Ds are non-scopal, they result in 'conjunction' distributivity in (3-a). We assume that there’s a possibility of redundant distribution over the same \( \Theta \)-role which would yield truth-condition in effect same as (2-a) – individual distributive reading – and explain the ambiguity of (3) ↔ both
distributive reduplication (numeral + verb) take place at the same R-loci (indexes IJK).

Discussion and consequences. The analysis presented above shows that the distributive reduplication in CSL can be understood as a realization of the most general distributivity operator (Schwarzschild’s Part with the cover domain), like Champolion’s (2012) D but being anaphoric to the distributive key (either θ-role → individual or τ → occasional DD). The multiple DD marking is not a syntactic agreement, as proposed in some previous approaches but non-scopal anaphoric D operator. Both individual and occasional readings were attested for (3). We suggest that the interpretation of both reduplications in (3) leads to the occasional reading (as in (3-a)); the vacuous/redundant distributivity over the same Θ-role in (3) results in an individual distributive reading.

(1) DAUGHTER IXPL MY DOG IXPL BATH++ [CSL]
‘My daughters bathed the dogs.’
   a. $\exists e[\ast BATH(e) \land \ast Ag(e, a \sqcup b \sqcup c) \land \ast Pat(e, k \sqcup l) \land \ast Daughter(a \sqcup b \sqcup c) \land \ast Dog(k \sqcup l)]$

(2) DAUGHTER 3IJK THEY MY DOG TWOIJK-DISTR++ BATH [CSL]
‘My three daughters bathed two dogs each.’
   a. $\exists e[\ast Ag(e, a \sqcup b \sqcup c) \land e \in^* \lambda e'[\ast BATH(e') \land \ast 2Dogs('Pat(e') \land \ast Atom(Ag(e'))]]$

(3) DAUGHTER THEY-THREE MY DOG TWOIJK-DISTR++ BATHIJK-DISTR+++ [CSL]
‘My three daughters bathed two dogs.’
   a. $\exists e[\ast Ag(e, \uparrow (a \sqcup b \sqcup c)) \land e \in^* \lambda e'[\ast BATH(e') \land \ast 2Dogs('Pat(e') \land \ast BATH(\tau(e')) \land \ast Atom(Ag(e'))]]$

Figure 1: Distributive reduplication of TWO and one instance of BATH

Figure 2: Distributive reduplication of both: TWO and BATH

Glosses: pronouns ... IX (index), reduplication (with a total of 3 signs) ... ++; the difference between a simple reduplication and a distributive reduplication ... DISTR (for the latter).

Introduction. Among the categories of classifiers (henceforth: CLs) identified by Supalla (1982; 1986) in his analysis of American Sign Language (ASL), Size and Shape Specifiers (henceforth: SASSs) have received little attention, being merely defined as having adjectival functions. A formal analysis considering (i) the morphophonological features distinguishing SASSs from adjectives of size and shape, (ii) their distribution within the Determiner Phrase (DP) with respect to the other nominal elements and (iii) their typological classification with respect to classifiers conveying size and shape in oral languages, has not been developed yet. Despite their apparent simplicity, SASSs are morphologically complex signs, distinct from lexical adjectives, in which each finger serves as a separate morpheme. Moreover, they can fulfil different morphosyntactic functions: besides functioning as attributive adjectives within DPs, they can form compounds or convey evaluative features. SASSs have been detected in Italian Sign Language (LIS) as well, and classified as ‘descriptive classifiers’ (Corazza 1990; Mazzoni 2008). Considering that different SASSs appear together with attributive adjectives within DPs to convey information about the size and shape of nominal referents, they could be thought as really belonging to the adjectival class. Therefore, it could be argued that they are phrases generated in the specifier positions of dedicated functional projections (FPs), with which they are semantically related, as it has been proposed for attributive adjectives belonging to the DP (Cinque 1994, 2010; Scott 2002). The final order of modifiers belonging to the LIS DP results from successive pied-piping movement of the noun phrase (NP) within the DP, towards the specifier position where it checks referentiality (Bertone 2007; Mantovan 2015).

Goals. Through the analysis of the morphophonological and morphosyntactic properties of SASSs in LIS, the present paper attempts to improve the understanding of these complex signs, accounting for (i) their internal morphological structure, (ii) their actual function as adjectives within DPs, and (iii) their distribution within the DP, providing support or counter evidence for the cartographic analyses developed for oral languages (Cinque, Rizzi 2010). SASSs are further compared to classifiers devoted to size and shape in oral language, in order to check whether SASSs in LIS belong to the same classifications or they provide peculiar sign language-specific insights.

The study. In order to elicit the production of different SASSs and adjectives, I designed a picture-description task involving 4 native LIS signers. Participants were asked to describe 25 objects differing in size, shape, colour, material and quality, presented through drawings. Productions have been video recorded and annotated with ELAN.

Analysis. Considering the spreading of non-manual markers (NMMs) and the occurrence of indications or pauses as phrase-boundary markers, I have selected full DPs characterised by nouns followed by one or more SASSs, and nouns followed by both SASSs and adjectives (of colour, quality, origin or size). A preliminary analysis shows the following available orders among SASSs and adjectives in LIS:

1. N>APorigin>CLshape:
   HAT       MEXICAN       aug CLshape 'a big Mexican hat'

2. N>CLshape>CLsize:
   STICKER CLshape CLsize 'a not very big rectangular sticker'

3. N>CLshape>CLdepth>CLsize:
   BOOK      CLshape CLdepth CLsize 'a very big book'
Taking into account the morphosyntactic properties of the SASSs produced, it seems that they actually are adjectives because: (i) they occupy the portion of the DP dedicated to attributive adjectives, resulting in the following order: N>APorigin>CLshape>CLdepth>CLsize>APcolour>APsize>APquality; (ii) the order of SASSs dedicated to shape, depth and size respectively, matches the one identified by Scott (2002) for adjectives conveying the same features in oral languages, i.e. APshape>APdepth>APsize; (iii) they agree with the noun they modify; (iv) they cannot occur alone or function as pronouns (as entity classifiers, instead, do); (v) they are gradable; (vi) they do not classify referents but rather specify information of size and shape. However, the analysis of the morphophonological properties shows that SASSs differ from lexical adjectives to some extent: besides being distinct manual signs (see the CL for small size vs. the adjective SMALL in (6)), SASSs (i) can modify their phonological parameters to convey the meaning ‘bigger’ or ‘smaller’ (see CLshape in (2) vs. (3)); (ii) they display a high degree of iconicity but maintain their categorical status because they are selected considering the size and shape of the entity, but they do not reflect its real dimensions (Emmorey, Herzig 2003); (iii) they can convey more features simultaneously, which, however, follow an order of selection: shape first, conveyed through the handshape iconically selected for the entity, followed by depth, defined through the degree of openness of the handshape (example (3) vs. (4)), and finally size, specified through movement and distance between the hands. NMMs play a crucial role in these constructions, since they complete or modify the meaning of the manual sign (in (1) they complete the CLshape adding the meaning 'big'), confirming once again the morphological richness of sign languages, which can convey many information simultaneously through both hands and facial expressions. As for their pragmatic function, SASSs occur in strictly descriptive contexts in which it is important to be as precise as possible about the entity properties, even by employing lexical elements other than adjectives when adjectives are not enough. In this respect, LIS seems to belong to that group of languages with few adjectival lexical signs while displaying a rich set of classifiers defining size and shape, such as Tariana, an oral language spoken in the state of Amazonas (Aikhenvald 2000; 2003). However, SASSs in LIS differ from classifiers used by oral languages conveying size and shape, i.e. numeral and gender classifiers, because they are neither bound to numerals, nor define the gender (considered a semantic category by Aikhenvald (2000) and Bertone (2008)) of the entity. For instance, the CL defining shape in (3) is not a gender classifier, since the specific handshape for flat and wide entities in LIS is the ‘b’ configuration (Mazzoni 2008).

Conclusions. The analysis carried out considering different properties exhibited by SASSs in LIS suggests that they are morphologically complex lexical signs functioning as adjectives when occurring in strictly descriptive contexts; SASSs belong to the nominal domain and possibly occupy dedicated FPs within the DP, which are ‘silent’ in other languages. Therefore, they could be considered a peculiar class of adjectives exploiting the unique sign language-specific possibility of being iconic and changing their morphological features to specify and convey many information simultaneously. Despite this, SASSs respect the classifications defined for oral languages, like their occurrence in nominal domains when adjectives are not enough and their distribution within the DP, confirming once again the importance of the comparison with oral languages and the richness and universality of the language faculty.

An experimental study on the time window for acquisition of verb agreement in Brazilian Sign Language

Isaac Gomes/Puc-Rio, Cilene Rodrigues/Puc-Rio, Josep Quer/Icrea-UPF

Language acquisition proceeds through a series of specific sensitive periods (Martohardjono & Flynn, 1995; Dekeyser 2000; Harley & Wang, 1997; Long, 1990), and it has been claimed that morphosyntax is readily acquired in early childhood (Snow & Hoefnagel-Höhle, 1978; Newport, 1990). However, there are non-convergent results from sign languages (SL) with respect to the acquisition of verb agreement. Meier (1982) and Morgan et al. (2006): in American and British SLs, verb agreement is acquired late (it starts around age 3 and goes on well after that); Quadros, Lillo-Martin & Mathur (2001), Casey (2003) and Quadros & Lillo-Martin (2007): in American SL and Brazilian SL (Libras), acquisition of verb agreement starts before age 2. On the face of these results, it is rather unclear what the size of the time window for the acquisition of verb agreement in SL is.

We tackled this issue by conducting an acceptability judgment task with different groups of deaf signing adults of Libras, contrasting age of first systematic exposure to the language (Table 1). The following linguistic factors were manipulated: type of verb (regular/backward agreement), auxiliary (presence/absence), agreement on the verb (object agreement/no agreement). 32 experimental sentences (4 items per condition) with definite animate DPs/proper names in argument position (examples (1)-(8)) were distributed across 8 lists in a Latin Square design. 32 fillers were added, involving position of adverbs, coordination and position of wh-pronoun. The items were all presented as short sentence-videos signed by a native speaker of Libras. Participants judged, using a 1-5 Likert Scale, whether each sentence-video was an acceptable sentence that a signer of Libras might produce. In total 65 signers completed the experiment (40 men and 25 women, with age ranging from 18 to 63). These participants were then divided in 4 groups in accordance with the reported age of first exposure to Libras (Table 1). The First group was composed of signers with deaf signing parents (SDPs), being, thus, exposed to Libras since birth. The other three groups were composed of signers with hearing, non-signing parents (SNDPs), with different ages of first exposure to Libras.

The data were statistically analyzed (ANOVA, repeated measures), comparing the 4 groups. They all showed preference for verbs with regular agreement (p = .003), and (except for group 4), they also had a preference for sentences with no auxiliary (p = .001). SNDPs all together, as opposed to SDPs, had a greater acceptability of sentences without auxiliary and without agreement (p = .001), accepting Auxiliary and Object agreement only in the presence of a regular agreement verb (p = 0.037). Thus, age of first exposure affects the adults’ morphosyntactic competence in Libras. The similarities among the groups are compatible with the observations that: (a) backward agreement has low frequency in the language (Quadros & Quer, 2010). All signers independently of age of first exposure might have memorized backward agreement verbs, as exceptions to grammatical regularities might be fixed via memory routes (Zhang et al. 2006; Becker et al. 2011); (b) the auxiliary is a topic marker (Lourenço, 2014). Thus, given that sentences with topic and focus require specific discursive contexts (Wilbur, 2012), the lower acceptability of the auxiliary, might reflect the fact that our stimuli were presented in out of the blue contexts. Notice that group 3 was not sensitive to this pragmatic restriction. The general SNDPs’ preference for no agreement at all suggests that SNDPs simplify the agreement system of the language and this simplification results in low acceptance of the morphosyntactic complexity involved in backward agreement. Less than 5% of deaf children have at least one parent identified as deaf (Mitchell & Karchmer, 2004), and many SNDPs have late systematic access to a sign language,
Thus, criteria for including SNDPs as informants in research about I-language have been considered (Rathman & Mathur, 2008; Orfanidou et al. 2010). Our results clearly point in the same direction, and indicate the necessity of factoring in these criteria.

(1) C1 [Regular V, + AUX, + ObjAgr]: JOANA₁ ANDRÉ₁ AUX₂ SEE₂
(2) C2 [Regular V, + AUX, NoAgr]: BRUNA₁ SANDRO₂ AUX₂ CARE
(3) C3 [Regular V, -AUX, ObjAgr]: ANA₁ WATCH₂ CARLA₂
(4) C4 [Regular V, -AUX, NoAgr]: ABEL₁ PROVOCAR JAIR₂
(5) C5 [Backwards V, +AUX, ObjAgr]: LAURA₁ BRENDA₂ AUX₂ EXPLOIT₂
(6) C6 [Backwards V, +AUX, NoAgr]: ANDERSON₁ JANETE₂ AUX₂ EXERT
(7) C7 [Backwards V, -AUX, ObjAgr]: MARIA₁ IMITATE CARLOS₂
(8) C8 [Backwards V, -AUX, NoAgr]: CRISTINA₁ INVITE THAIS₂

Table 1. Participants

<table>
<thead>
<tr>
<th>Group</th>
<th>Age of systematic exposure to LSB</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDP₄₁</td>
<td>Since birth</td>
<td>20</td>
</tr>
<tr>
<td>SDP₄₂</td>
<td>Between 2-4 years old</td>
<td>15</td>
</tr>
<tr>
<td>SDP₄₃</td>
<td>Between 5-7 years old</td>
<td>15</td>
</tr>
<tr>
<td>SDP₄₄</td>
<td>at 8 years old &amp; above</td>
<td>15</td>
</tr>
</tbody>
</table>

References
Role Prominence in American Sign Language and the Proximate/Obviative Contrast in Algonquian Languages
Judy Kegl and Conor Quinn, University of Southern Maine

It is well-established that only one Algonquian Proximate is permitted per transitive clause (Goddard 1990:318, inter alia). American Sign Language (ASL) similarly only allows one Role Prominent element (RP) per transitive clause (1). Since the RP marker is realized by the signer’s body, two RPs are (also) phonologically precluded; the closest workaround is a biclausal, “double verb construction” (Kegl, 1985; Morgan, et al. 2002).

(1) *3RP→3RP *(ungrammatical; indeed, phonologically unproduceable)
* [AT-LOC[i] [j-o-h-n]] [ATLOC[i] [RP]] [ATLOC[j] [b-i-l-l]] [ATLOC[j] [RP]] …
John at loc[i] role prominence[i] Bill at loc[j] role prominence[j]

[AT-LOC[i] [CL:1↑]]# LOC[i] AT+FROM-TO+ON-LOC[j] [CL:S]]
lto(person) at loc[j] rsol(fist)-goes from-loc[i]-to-loc[j]
*John (RP) hit Bill(RP).*

While Proximate has long been recognized as the default form in Algonquian, Role Prominent marking has often been misidentified as the marked case in ASL. From comparison to Algonquian Proximates, we now recognize that Role Prominent is in fact the default form in ASL, as it is a near-obligatory part of unergative intransitive and transitive clauses alike. The Role Prominence distinction is not meaningfully available in a 1→3 or 3→1 configuration: first person is obligatorily Role Prominent, such that the ASL structures look more like 1(RP)→3, 1(RP)←3, i.e. first-person-centric. This is precisely the same pattern observed in the same pronominal configurations triggering the Algonquian Inverse (Penobscot, Quinn 2006):

(2) nəthlhə
'I tell h/her'
1-tell.Dir-W

(3) nəthləkw
'S/he tells me'
1-tell.Inv-W

In both systems, the discourse contrast of Prox/RP is meaningfully available only between 3rd persons, where both ASL and Algonquian languages show transitive-verb morphology alternating to reflect which argument role is discourse-/perspectively primary (Proximate/RP), and which is secondary/dependent (Obviative/non-RP).

In Algonquian, this is the Direct (= (2), (4)) vs. Inverse (= (3), (5)) morphological contrast:

(4) wəthlhəl
'Prox told Obv'
3-tell.Dir-W-Obv

(5) wəthləkwol
'Obv told Prox'
3-tell.Inv-W-Obv
And in ASL, the Inverse conveyed by the change in the position of the RP marker relative to the motion of the verb:

(6) 3RP→3nonRP  (Direct)
\[\text{ATLOC}[i] [j-o-h-n] \quad \text{ATLOC}[i] [\text{RP}] \quad \text{AT-LOC}[j]\]
John-at-loc[i] \quad \text{role prominence}[i] \quad \text{lto(person)-at-loc}[j]

[CL:1↑]# LOC[j] AT+FROM+ON-LOC[j] [CL:S] \quad \text{ATLOC}[j] [b-i-l-l] \quad \text{Bill at loc}[j]
\text{rso(fist)-goes from-loc}[i]-to-loc[j]
'John (RP) hit Bill (nonRP).'

(7) 3RP←3nonRP  (Inverse)
\[\text{ATLOC}[i] [j-o-h-n] \quad \text{ATLOC}[j] [b-i-l-l] \quad \text{ATLOC}[j] [\text{RP}]\]
John-at-loc[i] \quad \text{Bill-at-loc}[j] \quad \text{role prominence}[j]

[AT-LOC[j] [CL:1↑]# LOC[i] AT+FROM-TO+ON-LOC[i] [CL:S]]
\text{lto(person)-at-loc}[i] \quad \text{rso(fist)-goes from-loc}[i]-to-loc[j]
'John hits Bill (RP).'

In sum, the ASL Role Prominence system tracks the Algonquian Proximate along several parameters:

• being limited to one RP/Prox per transitive configuration
• being the default 3rd-person form (as against nonRP/Obv = the explicitly marked of the two)
• not meaningfully contrasting between 1st and 3rd, only 3rd vs. 3rd
• connecting to an apparent (Direct-)Inverse contrast; and to an explicitly marked Obviative.

While Role Prominence marking in ASL is demonstrably parallel to the Proximate/Obviative marking system in Algonquin, it is notable that among spoken languages, such systems are rare, and nearly unique to the Algonquian family. (Typologically ASL and the Algonquian languages also share a host of polysynthetic properties, such as being verb-centric/strongly head-marking, with extensive noun and classifier incorporation.) While uncommon in spoken languages, this Proximate/Obviative distinction may be a more common occurrence in signed languages and so a promising candidate to focus on in seeking grammatical constructions more characteristic of signed than spoken languages.


On the nature of classifiers in Russian Sign Language
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Evgeniia Khristoforova (Russian State University for the Humanities)

Classifier predicates (CLPs) in sign languages (SLs) are predicates of movement/location; the handshape in such predicates is the classifier referring to some semantic properties of an argument of the predicate (usually the theme) [1]. Different types of classifiers are distinguished: whole-entity classifiers refer to the moving theme as a whole; body-part classifiers refer to body parts; handling classifiers refer to a hand holding and moving an object. Classifiers in SLs are clearly similar to verbal classifiers in spoken languages [1,2]. Within formal linguistics, classifiers have been analyzed in various ways (see [1] for an overview). In this paper, we assess analyses previously put forward in the literature as applied to whole-entity and body-part classifiers in Russian Sign Language (RSL) and argue against most of them and in favor of the predicate modifier analysis, with implications for other SLs.

Method: The RSL data were collected from the on-line RSL corpus [4], as well as through various elicitation tasks (picture description, acceptability/felicity judgements) with 5-7 native signers (depending on the task) in Moscow. We excluded handling classifiers as our previous research has shown that they behave differently from other types and should probably not be analyzed as classifiers at all.

Analyses: ① Classifiers in RSL are not incorporated nouns. The main argument developed by [5] also applies to RSL: the shape of the classifier does not coincide with the shape of non-incorporated nouns (compare the sign CAR and the classifier CL<sub>we</sub>(CAR), fig. 1-2). In addition, the classifier does not saturate the argument slot of the predicate (see next paragraph).

② Although no formal analysis in terms of Pronominal Argument Hypothesis [6-7] has been proposed, such an analysis, namely that classifiers themselves are arguments, is implied in [8]. We, however, argue that classifiers in RSL are not pronominal arguments because the full NPs that they cross-reference behave like arguments, not adjuncts. For instance, CLPs do not license a freer word order than plain verbs, the full NP can be a quantifier (1), and topicalization out of the full NP argument is possible (2) – all unexpected if the full NPs were adjuncts.

③ It has been suggested that classifiers in American SL (ASL) are argument-introducing functional heads [3]. The argument is partially based on the fact that whole-entity CLPs are unaccusative, body-part CLPs unergative and handling CLPs transitive in ASL. Disregarding the handling CLPs (see above), it is still clear that the generalization does not hold for RSL: both whole-entity and body-part CLPs can be intransitive or transitive (3,4).

④ Classifiers in RSL could be considered agreement markers, as suggested for other SLs [1]. However, this account faces some problems. First, the same noun can be used with different classifiers (5). Second, some verbal meanings are only expressed with certain classifiers (e.g. ‘to jump’ with the CL<sub>we</sub>(TWO-LEGGED), but not CL<sub>we</sub>(LONG)), even when the referent is compatible with different classifiers. Third, the classifier always cross-references the theme argument, and not the subject, which is typologically highly unusual [9].

⑤ We thus propose that classifiers in CLPs in RSL are predicate modifiers (see [10] for a similar account for ASL but without explicit motivation). Similar to some indefinites and some types of incorporation in spoken languages [11], the classifier is a predicate of the <e,t>
type which does not saturate the theme argument of the verb of movement, but restricts the reference of this argument (6). This explains why the same noun can occur with different classifiers (as long as the noun is semantically compatible with the meaning of the classifier, which can have a meaning like ‘long’, ‘two-legged’, ‘tree’, etc.). Morphologically, the classifier is a root which combines with the verbal root to form a compound. The verbal root selects the theme argument which explains why the classifier can only restrict this argument (see [12] for a very similar analysis of lexical affixes in Salish). A final advantage of this analysis is that we can unify the use of classifiers in CLPs with the use of classifiers in other lexical items (the so-called frozen lexemes containing the same handshapes). [3] analyzed the latter as root compounds and the former as agreement, but we argue that the same compound analysis is applicable to all cases, at least for RSL.

**Conclusion:** We have provided arguments for analyzing classifiers in RSL as predicate modifiers, and against other possible analyses of these morphemes. The same tests can be applied to other SLs in the future to test the generalizability of our arguments.

**Examples:** IX - pointing sign; POSS – possessive pronoun. CL<sub>we</sub>(LONG) – outstretched index finger; CL<sub>we</sub>(TWO-LEGGED) – bent index and middle fingers; CL<sub>bp</sub>(LEG) – bent index finger.

1. **NOBODY CL<sub>we</sub>(LONG)-MOVE**
   ‘Nobody is moving towards me.’

2. **GIRL IX-a, POSS-a SISTER IX-b CL<sub>we</sub>(TWO-LEGGED)-MOVE**
   ‘This girl, her sister is moving.’

3. a. **CHAIR CL<sub>we</sub>(CHAIR)-MOVE**
   ‘A chair moves.’ (unaccusative)
   b. **IX-1 CHAIR CL<sub>we</sub>(CHAIR)-MOVE**
   ‘I moved a chair.’ (transitive)

4. a. **POSS-1 LEG CL<sub>bp</sub>(LEG)-MOVE**
   ‘My leg moves.’ (unaccusative)
   b. **IX-1 LEG CL<sub>bp</sub>(LEG)-MOVE**
   ‘I move my leg.’ (transitive)

5. a. **GIRL CL<sub>we</sub>(LONG)-MOVE**
   ‘A girl moves.’
   b. **GIRL CL<sub>we</sub>(TWO-LEGGED)-MOVE**
   ‘A girl moves.’

6. **[[MOVE]] = λxλe[move(x,e) & theme(x)]**
   **[[CL<sub>we</sub>(TWO-LEGGED)] = λx[two-legged(x)]**
   **[[CL<sub>we</sub>(TWO-LEGGED)-MOVE]] = Restrict(λxλe[move(x,e) & theme(x)], λx[two-legged(x)]**
   = λxλe[move(x,e) & theme(x) & two-legged(x)] (Restrict defined as in [11: ch. 1])

I argue for the existence of the ClassifierP (CLP) in the nominal domain of American Sign Language (ASL); this projection is responsible for disambiguating between mass and count nouns in the language. However, ASL is not a generalized CL language: this phenomenon occurs only if an appropriate classifier exists – one that allows for ‘packaging.’

At first glance, ASL appears not to encode countability: mass nouns behave like count nouns (1)-(2)

| (1) Mass nouns: SUMS (a-c), PARTS (d-e). | (2) a. WOW SHIT arc+>+>+ HERE    |
| a. Should not pluralize                  | lit. ‘Wow, shit.PL are all over here’ |
| b. Should not directly combine with     | b. IX1 WANT 3 / FEW BLOOD          |
| numerals                                | lit. ‘I want few blood’            |
| c. Should not combine with each,        | c. WOW NEED MANY OIL FOR FOOD      |
| many, fewer                             | lit. ‘Wow, I need many oil for food’ |
| d. Should not combine with ‘count       | d. IX6 GOLD SMALL                   |
| adjectives’/stubbornly distributive     | lit. ‘That gold a small.’           |
| predicates (Schwarzchild 2011, i.a.)    | e. Context: Mary’s wine barrel      |
|                                         | contains more wine than             |
|                                         | Peter’s 15 bottles                  |
|                                         | PETER HAVE MORE WINE                |
|                                         | ‘Peter has more wine’               |
|                                         | (true on number reading, false on   |
|                                         | volume reading)                     |

Additionally, ASL is a language that lacks definite articles and obligatory number marking. The first observation is evidenced by (3): the element argued to serve as the definite article (IX) cannot occur in the prenominal position in the environments associated with the definite article: encoding uniqueness and anaphoricity (Schwarz 2009); instead, the NP must be bare.

(3) TODAY SUNDAY. DO-DO. GO CHURCH, SEE (*IX) PRIEST. (*IX) PRIEST NICE
   ‘Today is Sunday. What to do? I’ll go to church, see THE priest. THE priest is nice.’

The second observation is evidenced by (4): neither NURSE (4a) nor STUDENT and TEACHER (4b) have overt number marking irrespective of the interpretation.

| (4) a- NURSE, 1-IX FINISH INFORM agreeing-a {[singular]/[dual]/[multiple]/[exhaustive]} | (5a) shows that the former cannot be the case: kinds resist anaphoric interpretations (unexpected if all nouns, including those in anaphoric contexts, were kinds, Despic 2017); also lexical plurals exist (5b). |
| ‘I informed {the nurse/two nurses/the nurses/all nurses}’ | a. POSS1 FAMILY GENERATION MAKE WINE. #DRINK AMAZING
   ‘My family has been making wine for generation. (This) drink is amazing’ |
| STUDENT FRUSTRATE, TEACHER UPSET | ➔ #if DRINK refers to WINE = no anaphoric reference to a kind |
| i. Context: The Mastery Test is generally not well liked: ‘Students are frustrated, teachers are upset’ | b. IX1 HAVE ONE {*CHILDREN / CHILD} NAME MARY ‘I have one child, her name is Mary’ |
| ii. Context: The argument between the teacher and the student needs to be resolved with a help of the Principal
   ‘The student is frustrated, the teacher is upset’ | Moreover, while ASL has noun class/sortal classifiers (Shembri 2003, Benedicto & Brentari 2004), they are clearly a very different element than the numeral classifiers used for partitioning (Borer 2005, i.a.). E.g., nothing can intervene between the noun and the numeral |
classifier, and the classifier and the numeral must be adjacent (Greenberg-Sanchez 1978, i.a.); this, however is violated in (6) with the addition of the adjectives CHA ‘huge’ and DRUNK.

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<td>(6) a.</td>
<td>THREE CAR CHA CL\textsubscript{vehicle} \textsubscript{&gt;}\textsubscript{&gt;}\textsubscript{&gt;}\textsubscript{&gt;} ‘Three huge cars standing side by side’</td>
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<tr>
<td>(6) b.</td>
<td>WOMAN DRUNK CL\textsubscript{person} \textsubscript{I} ‘A drunk woman’</td>
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**Account:** In languages without generalized classifiers and non-obligatory number marking, we turn to numerals (Chierchia 2008). Rothstein (2011) observes that numerical partitives take only count DPs as complements while some of the partitives can take either mass or count NPs. Since mass Ns can combine with numerals (2b), if all ASL nouns can be interpreted as count (as in Yudja), both mass and count should be grammatical in partitive cases (with Boster 1996, I assume that Q takes NP as complement and the NP moves above the quantifier). Yet, this is not possible (7a-b) unless CL is added (7c) (as in Boskovic & Sener 2014).

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<td>(7) a.</td>
<td>APPLE, IX, WANT 3 / FEW APPLE, \textit{lit:} ‘of apples, I want 3/a few’</td>
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<td>(7) b.</td>
<td>*BLOOD, IX, WANT 3 / FEW BLOOD, \textit{lit:} ‘of blood, I want 3/a few’ \textit{vs. (2b)}</td>
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<td>(7) c.</td>
<td>BLOOD, IX, WANT 3 / FEW CL\textsubscript{container}, ++\textsubscript{&gt;}\textsubscript{&gt;}\textsubscript{&gt;} \textit{BLOOD, lit:} ‘of blood, I want 3/few CL’</td>
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Additionally, some, though not all substance nouns in the sample resist pluralization without a CL.

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<td>(8) a.</td>
<td>JOHN MARY SEE SAND CL\textsubscript{all-object} \textsubscript{+++} ‘J. and M. saw tall sand objects’ =&gt; J: 5 sand castles, M: 5 #sandboxes / ok sand castles</td>
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<tr>
<td>(8) b.</td>
<td>JOHN MARY SEE SAND CL\textsubscript{box, box} \textsubscript{+++} / \textsubscript{SAND} \textsubscript{+++} ‘J. and M. saw box-shaped sand objects’ =&gt; J: 5 #sand castles / ok sandboxes, M: 5 sandboxes</td>
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Finally, generally, without a CL, quantifier stranding is also banned (9).

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<td>(9) * MARY REGISTER {FEW/3} STUDENT, JOHN DROP {MANY/5} ‘Mary registered [a few/3] students, John dropped [many/5]’</td>
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<tr>
<td>(9) b.</td>
<td>MARY REGISTER FEW STUDENT, JOHN CL\textsubscript{person.pl} DROP ‘Mary registered few students, John dropped CL’</td>
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The availability of the rescue operation appears contingent on the existence of just the right sortal classifier in the language: despite being able to be naturally individuated (Rothstein 2010, i.a.) along various other tests (1), mass nouns do not all behave ideally simply because classifiers are available for some N but not for others – the language provides no packaging solutions for some cases, and, thus, the ‘rescue operation’ may ((7b)-(8b), (10a)) or may not (10b) be possible.

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<td>(10) a.</td>
<td>AIR IX, WANT MANY/MUCH CL \textit{lit:} ‘of air, I want a lot CL (units)’</td>
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<tr>
<td>(10) b.</td>
<td>*IMAGINATION IX, WANT MANY/MUCH CL \textit{lit:} ‘Of imagination, I want a lot CL’</td>
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**Conclusions:** Despite what looks like the evidence to the contrary, ASL encodes mass-count distinction. This distinction is revealed in the application of CL which exposes the difference between nouns in terms of SUMS or PARTS (Deal 2017). At this point I leave open what the syntax and semantics of CT(p) is: literature has argued for their predicative analysis (Benedicto & Brentari 2004, Abner 2017, Davidson 2015), but the data presented here show that classifiers affect movement possibilities within the nominal domain alone (7). While ASL does not behave like a general classifier language, the data suggest something like Cheng & Sybesma (1998)’s CLP. Whether Ns generate there or arrive there by movement, the difference between mass/count Ns is ontological, not grammatical.

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Are agreement markers in Austrian Sign Language (ÖGS) really AUX?

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2 Linguistics Program, and Department of Speech, Language, and Hearing Sciences, Purdue University

In sign languages (SLs) argument structure can be indicated by a process often termed “verb agreement”, which is expressed by spatial modulation of path movement and/or hand orientation, in order to match the location of the core arguments. In the regular case, the agreeing verb moves from the location associated with the subject to the location of object and/or the palm/fingertips face the object’s locus. Plain verbs, however, are claimed to not be able to indicate agreement by themselves (but see Lourenço & Wilbur (Manuscript in preparation) for an alternative analysis), thus some, but not all, SLs make use of manual agreement markers. Like agreeing verbs, such agreement markers indicate argument structure by path movement and/or hand orientation that coincide with the location of the arguments. One point for interpreting at least some of these agreement markers as (agreement) auxiliaries was that they help the verb to overcome the agreement gap if it cannot indicate the argument structure (e.g. Steinbach & Pfau 2007).

However, considering these agreement markers as auxiliaries and thus labeling them like members of a specific functional category defined for spoken languages is not uncontroversial. According to a widely used definition from Akmajian et al. (1979, p.2), AUX is defined as a category that is “distinct in its syntactic behavior from the behavior of other syntactic categories - labeling a constituent that includes elements expressing the notional categories of Tense and/or Modality”. With this definition, SL agreement markers show untypical behavior for category AUX, because they do not mark tense or modality. Instead their primary and often sole function is to mark verbal agreement. For some SL agreement markers, arguments have been provided for or against describing them as auxiliaries, but their auxiliary status was not tested in more detail (but see Pavlič 2016 for an exception).

The present paper discusses the syntactic status of two agreement markers used in Austrian Sign Language (ÖGS). Using Akmajian et al.’s definition, the ÖGS markers also do not belong to category AUX because they primarily indicate argument structure, but do not mark tense or modality. We will present data from interviews with Deaf ÖGS signers as well as corpus data further arguing against auxiliary status of the ÖGS markers, even if we were to use a broader definition of AUX in which agreement marking would suffice for receiving auxiliary status. In particular, ÖGS markers often are used in the context of inflected agreeing verbs and thus may constitute redundant information. In many contexts, including with plain verbs, the markers are optional; in the context of plain verbs, basic sign order or specific non-manual markings (e.g. body shift, torso direction, eye gaze) may indicate argument structure. Additionally, there is great variability within signers with respect to usage. In our data the agreement markers can appear nearly everywhere in the sentence, with the restriction that they cannot occur in initial position or before S. Otherwise they may appear before or after the verb, before or after the object, and before or after a modal. Further comparison of ÖGS agreement markers with modal verbs, which are clearly considered AUX, reveals that agreement markers behave differently within ÖGS grammar.

Previous syntactic analyses for other agreement markers/auxiliaries (e.g. Rathmann 2003; Pfau & Steinbach 2013) cannot account for the various order possibilities of agreeing verbs and agreement markers (and modal verbs) observed for ÖGS. Also alternative analyses proposed for
some agreement markers [e.g. object pronouns (Börstell 2017), applicative morpheme (Pavlič 2016), emphasis (Steinbach & Pfau 2007)] cannot explain the observed behavior of the ÖGS markers.

We will present a possible syntactic approach for the ÖGS agreement markers that proposes an optional functional projection headed by the agreement marker which is placed in the tree above VP and below TP projections. The head of this agreement marker projection will bear the phonological features [path, facing, handshape]. The beginning and endpoint of the path movement is co-indexed with the spatial agreement features specified in the heads of AgrS/AgrO phrases respectively. This account captures the optionality of ÖGS agreement markers (the functional projection AgrMP is either available or not; Figure 1) as well as their redundancy (in combination with inflected agreeing verbs, the verbs can move to AgrO/AgrS). This analysis provides systematic derivations for all or nearly all documented orders in ÖGS.

Figure 1. Proposed syntactic tree for ÖGS

References


Lourenço, G., & Wilbur, R. B. (Manuscript in preparation). Are plain verbs really plain?: Location as the exponent of agreement in Brazilian Sign Language.


Background. Almost all sign languages (SLs) we know of distinguish between verbs that display person agreement properties (agreement verbs) and verbs that do not (plain verbs), which appears to be a modality-specific peculiarity (Padden 1988; Meir et al. 2007). Moreover, SLs generally allow null arguments to occur with both verb types (see e.g. Lillo-Martin 1991 for American SL (ASL); Bos 1993 for SL of the Netherlands (NGT); Glück & Pfau 1998 for German SL (DGS)).

Lillo-Martin (1986, 1991) argues that the null arguments that occur with agreement verbs and with plain verbs in ASL are not of the same kind. She proposes that the former type of verb licenses the empty category pro, while the latter type licenses nonpronominal empty topics. The analysis is supported by examples such as (1) (Adapted from Lillo-Martin 1991; ‘t’ = non-manual topicalization marker). (1a) includes an agreement verb (LOOK-OVER), and does not require a resumptive pronoun for the left dislocated subject, while (1b) with a plain verb (TEETH-BRUSH) does. Bos (1993) and Glück & Pfau (1998) back Lillo-Martin’s analysis, describing comparable patterns for NGT and DGS, respectively.

(1) a. BROTHER_a JULIE_b THINK (INDEX_a) aLOOK-OVER_c CAR_c FINISH
   ‘My brother, Julie thinks he already looked over the car.’

b. BROTHER_a JULIE_b THINK *(INDEX_a) BRUSH-TEETH c FINISH
   ‘My brother, Julie thinks he already brushed his teeth.’

Objective. This study reassesses the licensing conditions for null subjects in clauses with plain verbs in DGS. I show that it is necessary to distinguish plain verbs that are articulated on or near the body (body-anchored verbs, e.g. FEAR, EAT, THINK) from plain verbs that are articulated in neutral space in front of the signer (neutral verbs, e.g. BUILD, PLAY, SING) – a distinction not made in previous studies. I argue that iconic properties of body-anchored verbs affect the licensing conditions for null subjects.

The data. 794 examples were extracted from 8.5 hours of annotated naturalistic corpus data (DGS Corpus: www.sign-lang.uni-hamburg.de/dgs-korpus), involving 40 body-anchored (594 tokens) and 25 neutral verbs (200). The verbs represent verb meanings from the ‘ValPaL’ list, which has been used in the study of argument structure in spoken languages (www.valpal.info).

Results. Analysis of the data reveals that non-overt subject arguments are commonly found in both clauses with neutral verbs and body-anchored verbs. However, only for the latter verb type, we observe a restriction related to grammatical person: only 7% of the sentences with a body-anchored verb and a non-first person referent include a null subject (these exceptions will be discussed in the presentation). In contrast, 36% of the clauses with a body-anchored verb and a first person referent contain a null subject, and in clauses with neutral verbs, a null subject occurs in 43% and 25% of the examples with a first person and non-first person referent, respectively.

Analysis. Signers of DGS thus appear to disfavor a non-overt, non-first person subject in sentences with a body-anchored verb. Given that (a) body-anchored verbs typically iconically refer to a mental or physical location in or on the body through their articulation on the body (Meir et al. 2007), and (b) the signer’s body is also the locus for first person pronouns, I suggest...
that the articulation of a body-anchored verb automatically leads to a default first person interpretation of a null subject.

Formally, I propose that body-anchored verbs introduce a variable \( x \), which enters into a co-indexing relation with the subject. The variable is situated in a locative adjunct that is introduced when a body-anchored verb is articulated; the adjunct conveys where in the body the event denoted by the verb takes place or which part(s) of the body it involves. \textsc{worry} takes place in the head, for instance, while \textsc{eat} involves the mouth.

The variable \( x \) receives either one or two featural specifications. The feature ‘\( b \)’ is always present and indicates iconic body-anchoring. The second feature is a first person feature ‘\( 1 \)’. Depending on other elements in the numeration, either \( x_b \) or \( x_{b+1} \) is selected. That is, \( x_b \) is selected when there is a lexical element in the numeration with a non-first person feature (2a), but \( x_{b+1} \) is selected in case of a first person element (2b), or when there is no item with person features (2c). Note that the assumption that elements can be affected by other elements in the numeration is in line with \textsc{chomsky} (1995:294). The first person feature specification on \( x \) leads to a non-overt subject being interpreted as first person, thus ruling out non-first person interpretations.

\begin{equation}
\begin{array}{l}
\text{(2) a. } N = \{ \text{INDEX}_{2/3} \ x_b \ \text{AFRAID} \ldots \}
\text{ b. } N = \{ \text{INDEX}_1 \ x_{b+1} \ \text{AFRAID} \ldots \}
\text{ c. } N = \{ x_{b+1} \ \text{AFRAID} \ldots \}
\end{array}
\end{equation}

**Discussion and conclusions.** Analysis of the corpus data reveals that, at least in DGS, a more fine-grained distinction between verb types is necessary in order to account for the observed subject drop patterns. In contrast to previous studies, we find that subject drop is generally not allowed in clauses with body-anchored verbs and non-first person referents, but it is permitted in clauses with body-anchored verbs and first person referents, and in clauses with neutral verbs – independent of person. The contrast between body-anchored verbs and neutral verbs is not adequately explained by an empty topic analysis alone (Lillo-Martin 1986, 1991), since there is no a priori reason to assume that non-first person subjects are less likely to be topics (and therefore less likely to be dropped) in clauses with body-anchored verbs than in clauses with neutral verbs.

I have argued that iconic aspects of body-anchored verbs explain why non-first person drop is disfavored: the iconically motivated place of articulation of body-anchored verbs coincides with that of first person, leading to a default first person interpretation of a null subject. Formally, this is represented with a variable with a first person feature coindexed with the subject, which licenses subject drop in case of a first person referent. With this analysis, I align myself with recent efforts to reconcile formalist and iconic views on sign language structure (e.g. Schlenker et al. 2013; Wilbur 2003). Still, an empty topic approach is not precluded; future research should further investigate the interaction between topichood and grammatical person of the subject, iconic aspects of verbs, and verb types to arrive at a more comprehensive picture of the licensing conditions for null subjects that are at play in DGS and other sign languages.

Spatial terms and conditions of Slovenian Sign Language Agreement

Matic Pavlič, Slovenian Sign Language Research Center

1. Introduction. In sign languages, arguments are associated with specific individual points in signing space—r(eferential)-locations—that enable signers to keep track of the referents within the same discourse. Agreement verbs adapt their form (movement) to the r-locations of their arguments, but spatial verbs do so, too (Padden 1983). In sign language literature, a number of notable attempts was made to construct a theory that would explain spatial verbs as instantiation of agreement—or a consequence of iconicity (Janis 1995, Liddell 2000, Meir 2002, Rathmann and Mathur 2002, Lillo-Martin and Meier 2011). This paper explores whether the movement component of classifier versus non-classifier agreeing verbs in Slovenian Sign Language (SZJ) may change the position of r-locations that their arguments are assigned in signing space.

2. R-location of internal argument

2.1 (Di)transitive agreeing predicates start at r-location associated with the Subject and end at r-location associated with the Indirect Object (1). The majority of agreeing verbs across sign languages assign Agent theta role to the Subject and Experiencer/Receiver theta role to the Indirect Object. If Internal Argument (Direct Object) is present, too, it gets signed in the neutral signing space. In case of non-classifier verb, it is not assigned r-location, while in case of classifier verb, it seems to be assigned its r-location— but not in neutral signing space but at the end point of verb movement.

2.2 Unergative agreeing verbs of motion start at the r-location associated with Source and end in r-location associated with Goal (2). Internal argument is signed in neutral signing space and does not seem to be assigned r-location. In case of a classifier predicate, however, it is also referred to by a Whole Entity classifier during the production of the predicate and can be retrieved at the Source’s r-location in the subsequent discourse.

(1) (Di)transitive scheme (a=non-classifier verb; b=classifier verb)

(2) Motion predicate scheme (a=non-classifier verb; b=classifier verb)
3. Experiments
My aim in this study is to shed light on the differences between classifier and non-classifier predicates: in (di)transitive structures and unergative structures of motion they both denote transfer—but do they “literally” transfer the r-locations of their internal arguments?

**Grammaticality judgements task:** Five SZJ native signers were presented with 48 randomized pre-filmed sentences, each corresponding to one of the types presented in (3). Half of the sentences included classifier and half non-classifier predicates. They were all signed from right to left and licensed two arguments. Participants were asked to evaluate one of the three possible continuations of a discourse that differed with respect to the direction of an index sign. Index was intended to pick up a reference to the Internal Argument of the previous sentence. The participants’ judgements suggest that the reference to the Internal Argument cannot be established by pointing to its original location in neutral signing space both in case of classifier and non-classifier verbs. It can be established, however, by pointing to a ending location of a classifier predicate. In order to further explore these results, two follow-up experiments—picture-sentence matching task and picture description task—will be conducted and presented.

\begin{align*}
\text{top} & \quad \text{CHILD}_{\text{ass}} \text{ SCHOOL-BUILDING}_a \text{ aGO}_b \text{ HOME}_b \quad \ldots \quad \text{IX}_n/\text{IX}_a/\text{IX}_b \text{ TIRED}. \\
& \quad \text{‘A child came home from school. He was tired.’} \\
\text{top} & \quad \text{CHILD}_n\text{SS} \text{ SCHOOL-BUILDING}_a \text{ aWALK-CL(V)}_b \text{ HOME}_b \quad \ldots \quad \text{IX}_n/\text{IX}_a/\text{IX}_b \text{ TIRED}. \\
& \quad \text{‘A child walked home from school. He was tired.’} \\
\text{c.} & \quad \text{NEIGHBOUR}_a \text{ aGIVE}_b \text{ BOOK}_n\text{SS} \text{ CHILD}_b \quad \ldots \quad \text{IX}_n/\text{IX}_a/\text{IX}_b \text{ FAIRY-TALE}. \\
& \quad \text{‘A neighbour gave a book to a child. It was a book of fairy-tales.’} \\
\text{d.} & \quad \text{NEIGHBOUR}_a \text{ BOOK}_a \text{ aGIVE-CL(C)}_b \text{ CHILD}_b \quad \ldots \quad \text{IX}_n/\text{IX}_a/\text{IX}_b \text{ FAIRY-TALE}. \\
& \quad \text{‘A neighbour gave a thick book to a child. It was a book of fairy-tales.’}
\end{align*}

**References**


Reduplication revisited: verbal plurality and exhaustivity in the
visual-gestural modality

Josep Quer (ICREA-Universitat Pompeu Fabra)

Background. From the very early stages of sign language research (cf. Klima & Bellugi 1979 for ASL) and in subsequent descriptions of unrelated sign languages (SLs), a reduplicative morpheme in verbal morphology has been identified as encoding exhaustive distribution over a plural argument in agreement verbs (1). It consists in a sideward reduplication of the verb sign on the horizontal plane, where the repeated endpoints match the referential locus of a plural argument (Fig. 1). It is often labelled as [+distributive/exhaustive] and considered a mark of plural argument agreement. However, in Klima & Bellugi (1979: 284) it was called “distributional aspect”, highlighting the link to inflectional aspectual properties.

\[1\] IX-1 BOOK STUDENT 1-GIVE-3-dist.

‘I gave a book to each of the students.’

Figure 1

Goal. On the basis of Catalan Sign Language (LSC) data, this paper reconsiders the status of the alleged [+distributive/exhaustive] morpheme under the light of verbal plurality marking and argues for a broader analysis of reduplication in the verbal domain built on the category of pluractionality. This change in vantage point allows for a better understanding of reduplication in sign languages as a grammatical marker of plurality cutting across the parameters of event participants, event times and event locations.

Pluractional marking, cross-modally. Mainly beyond the domain of European languages, event plurality (multiple subevents conveyed in a single predication) is widely encoded by pluractional markers. The morphological exponent of pluractionals is often reduplication (next to other means like stem alternation or other suffixes), as illustrated in (2) for Hausa.

\[2\] Mutänée sun fir-fitoo

people 3pl.perf RED-come.out

‘Many people came out.’ (Hausa, Součková 2011)

The interpretation that the pluractional form triggers in (2) is that there was a plurality of events, either because people came out one by one, or in small groups, or if the subevents happen to be simultaneous, people must have come out of different houses. The multiplicity of events conveyed by pluractionals can thus derive from the plurality of (i) participants involved, (ii) repetitions across time of the subevents, or (iii) locations of the subevents (Součková 2011, a.o.).

Recent work on French SL (LSF) by Kuhn & Aristodemo (2017) has shown that pluractionality is instantiated in the language and is realized by two distinct reduplicative morphemes, /rep/ and /alt/, which appear productively with a broad range of verbs, both agreeing and plain. However, they show that the differences in the form of the repetition are paired with different interpretations: /rep/, articulated as an exact repetition of the predicate on the vertical midsagittal axis, entails that the subevents with the same participants are distributed over time; /alt/, realized as a repetition alternating among the
dominant and the non-dominant hand, entails that the subevents are distributed over participants. An important piece of evidence for this distinction is the unacceptability of (3) in LSF: (3a) is out because /alt/ requires a plural argument, and variation across time, as facilitated by the quantificational adverb OFTEN, cannot rescue it (3b).

(3) a. *JEAN ARRIVE-alt
   (Intended: ‘John arrived.’)

b. *OFTEN ONE PERSON FORGET-alt ONE WORD.
   (Intended: ‘One person often forgot one word.’)

**Pluractionals in LSC.** Despite the striking similarities in the form of the pluractional morphemes between LSF and LSC, it is noticeable that we also find cross-linguistic variation in certain respects. Next to the shared core meaning, the following differences arise: (i) /alt/ in LSC does not anchor the distribution of the subevents to the plurality of participants, and allows it over the time and space parameters (compare (3a) and (4a)); (ii) the combination of /rep/ with an arc lateral displacement (/rep-arc/) ties the subevents to different participants or locations; (iii) /rep/ and /alt/ yield degree interpretations (also attested for spoken language pluractionals) when accompanied by the non-manual marker puffing mouth.

(4) a. IX-1 DATE FORGET-alt.
   ‘I forgot the date on different occasions/at different locations.’

b. INSPECTOR SCHOOL GO-rep-arc.
   ‘The inspector went to different schools (in different locations).’

c. NIGHT YESTERDAY JOHN EAT-rep/alt.
   ‘Last night John ate a lot.’

**Aspectual inflections and exhaustivity.** From this new perspective, we are compelled to reanalyze as instances of pluractionals (a) the aspectual inflections [habitual] and [iterative] (not illustrated here), which instantiate variants of /rep/ with meaningful differences in the properties of the path between repetitions (cf. Wilbur 2008), and (b) the so-called [distributive/exhaustive] marker discussed at the outset. The latter is argued to be a simple case of pluractional /rep-arc/ with accompanying specific non-manual markers (puffing and brow furrow) that compose with it to yield the exhaustive reading. This additional layer of exhaustively distributive meaning is not inherent to the pluractional, as the felicity of (5) without it demonstrates.

(5) INSPECTOR SCHOOL GO-rep-arc, OTHERS NOT.
   ‘The inspector went to several schools (#each school), to others he didn’t.’

**Conclusion.** The reinterpretation of a range of reduplicative forms in verbs in SLs from the perspective of pluractionality provides a highly coherent interpretation of the facts having to do with verbal plurality, and it points at the overt composition of meaning of complex forms in the visual-gestural modality.

Mismatch in gapping: φ-features in Catalan Sign Language (LSC)

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Introduction. In the analysis of the identity relation between an elided phrase and its antecedent, several cases of feature mismatches have been identified in ellipsis, also involving φ-features. In the resolution of ellipsis, φ-features have been commonly considered irrelevant for the identity condition (Merchant, 2006), contrary to categorial and selectional ones. For American and French Sign Languages (ASL and LSF), Schlenker (2014) analyses two specific feature types on loci, namely locations in signing space corresponding to discourse referents. As φ-features in spoken languages, they remain unspecified in ellipsis constructions. The ones he considers are [plural] and [high]. The former is used to agree with a plural argument and the latter with referents whose height is relevant in the context and marked in the signing space for the verb to agree with. This paper aims to describe the φ-features mismatch in gapping in Catalan Sign Language (LSC), considering also classifier (CL) constructions, in order to draw an across-modality parallelism. Moreover, following Bošković (2008), I will provide a classification for the types of φ-features that undergo mismatch in LSC.

Agreement and features in Sign Languages (SL). Recent accounts of agreement in SL follow a minimalist approach (Pfau et al., 2017; Costello, 2016) and they assume that in SL the verb moves to T via φ-feature checking, independently of the verb class. In SL three main classes of verbs have been identified: a) plain verbs, which do not agree in space with the arguments, b) agreement verbs, which agree with subject and object, and b’) spatial verbs, which agree in space with locative referents. The main φ-features considered in SL are [number], [person] and [location]. I consider [location] as realized on the horizontal plane and separated from [person], in opposition to Costello (2016). Moreover, [person] will be realized in the agreement with both animate and inanimate referents. In turn, Schlenker (2014) specifies the presence of [plural] and [high] in ASL and LSF. They are considered φ-features because they are not interpreted in ellipsis resolution. Barberà (2016) confirms the presence of these two features also in LSC and she argues that also specificity and hierarchical position are marked in space in LSC. The activation of a high portion of the signing space on the vertical plane can mark lack of specificity and a high position in the social hierarchy. Following Barberà (2014), [high], then, marks iconicity, non-specificity, hierarchical position and location, when agreeing with a referent located on the vertical plane. [High] is in contrast with [low] or [normal], depending on the context. [Plural] is opposed to [singular]. [Person], instead, takes different indexes.

Classifiers as agreement in LSC. Other features are claimed to be markers of agreement when using verbal classifiers (CL) in SL. There are different types of CL that can be used as verbal CL adding movement to them: a) whole entity, where the handshape stands for a whole entity, b) handling, where the handshape represents the way of holding a referent, and c) body part, where the hand refers to a part of the body. For the first two types, Glück and Pfau (1997), looking at German Sign Language (DGS), argue that they are not a case of noun incorporation as previously claimed for Israeli Sign Language by Meir (1999), but instances of agreement. Following Glück and Pfau (1997), I argue the same also for verbal CL in LSC considering that the φ-feature involved is [size/shape]: the handshape of the verbal CL gives information about the dimension and the shape of the arguments it agrees with.

1st classification of φ-features. In LSC, some φ-features are not necessarily expressed on the verb: a) [size/shape], since a citation form of the verb can be used; b) [high]/[low/normal] for hierarchy and iconicity do not need to be expressed since the relation between the arguments is still kept by the feature [person]. [plural]/[singular], [person], [location] and [high]/[low/normal] for specificity and location, instead, need always to be expressed on the verb. It is then possible to identify two classes of φ-features, the ones that are optionally expressed on the verb and the obligatory ones. All these features can be expressed agreeing with the subject, the object or a directional argument.
Gapping in LSC and φ-features mismatch. In LSC, despite being an SOV language, the verb can only gap forward (SOV-SO). In gapping in SLs, the presence of an overt NP argument in the second conjunct makes clear the φ-feature contrast between the two conjuncts, especially when there is agreement with the object. As in the English example (1), gapping in LSC shows φ-features mismatch for all the features listed in the section above, for both categories. See in (2) and (3) the mismatch present independently of the category. In (2) there are [plural]/[singular], [person], [location] and [high]/[low/normal] for specificity and location, for the obligatory class. In (3), [size/shape], [high]/[low/normal] for hierarchy and iconicity are presented for the optional class. The feature(s) unexpressed in the 2nd conjunct in (2) and (3) is interpreted also thanks to the context and world knowledge, especially with CL.

(1) Mary likes pancakes and her parents like French toast.
(2) a. MARINA CLASS THREE GO[plural] JORDI WORKSHOP ONE GO[singular] [LSC]
   ‘Marina attended three classes and Jordi one workshop.’
   ‘Joan gave Jordi a watch.’
   c. MARINA HOME[location] GO[location] JORDI SWIMMING-POOL[location] GO[location]
   ‘Marina went home and Jordi to the swimming-pool.’
   d. NAME FORGET LAST YEAR SOMEBODY MATH [high/non-specific] TEACH-1[normal]
   JORDINA CHEMISTRY [specific] TEACH-1[specific]
   ‘I don’t remember the name but last year somebody taught me math and Jordina chemistry.’
   e. MARINA BIRDS SKY [high] LOOK [high] JORDI DOGS LOOK [low]
   ‘Marina looks at the birds in the sky and Jordi at dogs.’
(3) a. MARINA BALL BASKET CATCH-CL [size/shape] JORDI BALL GOLF CATCH-CL [size/shape]
   ‘Marina caught basket balls and Jordi the golf balls.’
   ‘The boss gave me money and Jordi a plant.’
   c. JORDI PEOPLE TALL HELP [high iconic] MARINA SHORT HELP [low]
   ‘Jordi helps tall people and Marina short ones.’ (Jordi is short and Mary very tall).

Final classification of φ-features. Following Bošković (2008), among others, I assume the need to have both unvalued and uninterpretable features in the derivation. In Bošković analysis, valued uninterpretable features do not need to be checked and they can be deleted anyway. Moreover, only unvalued features can function as probes. Therefore, for LSC, I argue that obligatory φ-features enter the derivation as valued interpretable features on the argument NP since they contribute to its semantics and they need to be checked by the verb, where they are marked as unvalued interpretable features. The optional ones, instead, enter the derivation on the argument NP as valued uninterpretable features, since they do not contribute semantically to the interpretation of the NP and they can get deleted without being checked. I assume that in gapping, the verb moves to T and the internal and external arguments move to the left periphery. Once the arguments are moved, the whole TP gets deleted and the φ-features are ignored.

Conclusion. In LSC, like in spoken languages, verbs do not require morphological identity in gapping. φ-features get ignored in the resolution of gapping and their interpretation is supported also by context and world knowledge. Finally, the underspecification of φ-features in ellipsis results to be a cross-linguistic and cross-modal property.