

## Mismatch in gapping: $\phi$ -features in Catalan Sign Language (LSC)

Giorgia Zorzi (Universitat Pompeu Fabra)

**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  $\phi$ -features. In the resolution of ellipsis,  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -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.

**1<sup>st</sup> classification of  $\phi$ -features.** In LSC, some  $\phi$ -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  $\phi$ -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  $\phi$ -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  $\phi$ -feature contrast between the two conjuncts, especially when there is agreement with the object. As in the English example (1), gapping in LSC shows  $\phi$ -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 2<sup>nd</sup> 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<sub>[plural]</sub> JORDI WORKSHOP ONE ~~GO~~<sub>[singular]</sub> [LSC]  
 ‘Marina attended three classes and Jordi one workshop.’  
 b. JOAN<sub>[person]</sub> JORDI<sub>[person]</sub> WATCH<sub>[person]</sub> GIVE<sub>[person]</sub>  
 ‘Joan gave Jordi a watch.’  
 c. MARINA HOME<sub>[location]</sub> GO<sub>[location]</sub> JORDI SWIMMING-POOL<sub>[location]</sub> ~~GO~~<sub>[location]</sub>  
 ‘Marina went home and Jordi to the swimming-pool.’  
 d. NAME FORGET LAST YEAR SOMEBODY MATH<sub>[high/non-specific]</sub> TEACH-1<sub>[normal]</sub>  
 JORDINA CHEMISTRY<sub>[normal]</sub> ~~TEACH-1~~<sub>[normal]</sub>.  
 ‘I don’t remember the name but last year somebody taught me math and Jordina chemistry.’  
 e. MARINA BIRDS SKY<sub>[high location]</sub> LOOK<sub>[high location]</sub> JORDI DOGS ~~LOOK~~<sub>[low location]</sub>.  
 ‘Marina looks at the birds in the sky and Jordi at dogs.’
- (3) a. MARINA BALL BASKET CATCH-CL<sub>[size/shape]</sub> JORDI BALL GOLF ~~CATCH-~~  
~~CL~~<sub>[size/shape]</sub>.  
 ‘Marina caught basket balls and Jordi the golf balls.’  
 b. BOSS MONEY<sub>[high hierarchy]</sub> GIVE-1<sub>[normal]</sub> JORDI PLANT<sub>[normal]</sub> ~~GIVE-1~~<sub>[normal]</sub>.  
 ‘The boss gave me money and Jordi a plant.’  
 c. JORDI PEOPLE TALL HELP<sub>[high iconic]</sub> MARINA SHORT ~~HELP~~<sub>[low i.]</sub>.  
 ‘Jordi helps tall people and Marina short ones.’ (Jordi is short and Mary very tall).

**Final classification of  $\phi$ -features.** Following Bošković (2008), among others, I assume the need to have both un/valued and un/interpretable 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  $\phi$ -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  $\phi$ -features are ignored.

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

**Selected references.** Barberà, G. 2014. Use and functions of spatial planes in Catalan Sign Language discourse. *Sign Language Studies* 14. • Bošković, Ž. 2011. *On Unvalued Uninterpretable Features*. NELS 39. • Glück, S. and Pfau, R. 1998. *On classifying classification as a class of inflection in German Sign Language*. ConSOLE 6. • Merchant, J. 2006. *Rethinking the identity conditions in ellipsis*. Ealing 2006, Paris.