

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

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FFI012-3628 'Classificació'  
GrantRef:SC FFI012-3628-4  
2014 SGR 696

## Introduction

$\phi$ -features are those involved in predicate-argument agreement, typically person, number and gender (Adger and Harbor 2006).

In gapping and other types of ellipsis,  $\phi$ -features are considered to be irrelevant for the identity condition (Merchant 2006).

(1) Mary likes pancakes and her parents like French toast.

> In (1),  $\phi$ -feature [person] mismatch in ellipsis is grammatical.

Also in sign languages, the same phenomenon has been identified, e.g. in American Sign Language (ASL) (Schlenker 2014).

(2) IX-arc-a SIX FRENCH SWIMMER LIKE PEOPLE SUPPORT IX-arc-a. [ASL]  
IX-b GERMAN SWIMMER SAME-a,b.

'The six French swimmers like people who support them. The German swimmer does, too.'

> [plural] feature mismatch in ellipsis in ASL is grammatical.

> the [plural] feature remains uninterpreted.

> Schlenker (2014) uses this as a diagnostic to identify  $\phi$ -features.

## Goal

- Provide a classification for the types of  $\phi$ -features in Catalan Sign Language (LSC) and describe their derivation.
- Describe the  $\phi$ -features mismatch in gapping in LSC.

### Catalan Sign Language (LSC)

- LSC is the sign language of Catalonia (Spain).
- SOV language.



## Agreement in LSC

Assuming a minimalist approach to agreement which involves the movement of the verb to T via  $\phi$ -features checking (Pfau et al. 2017; Costello 2016):

> in LSC we can identify three verb classes:

- a) plain verbs, which do not overtly/spatially agree with the arguments;
- b) **agreement verbs**, which agree with subject and object;
- b') **spatial verbs**, where the verb agrees with a locative referent.

"Agreement is understood as the **movement between two points** associated with the arguments of certain verbs" (Quadros and Quer 2008).

> both agreement and spatial verbs use a morpheme that realizes agreement between subject-object loci or locations: **PATH**.

(3) JORDI SCHOOL<sub>k</sub> GO<sub>k</sub>. [LSC]  
'Jordi went to school.'

## Derivation of $\phi$ -features in LSC

In the minimalist program, Chomsky (2001) and others later (Pesetsky and Torrego 2007) describe  $\phi$ -features entering the derivation as **unvalued** and **uninterpretable**:

- if the lexical entry enters the derivation with the feature already lexically specified, this feature is **valued**, otherwise it is unvalued.
- if the feature contributes to the semantic of the lexical entry, this feature is **interpretable**, otherwise it is uninterpretable.

• Bošković: it is not obligatory to check valued uninterpretable features, they can be directly deleted. **Uninterpretable features do not need to be checked in general.**  
• only **unvalued features** function as **probes**, looking for valued features to check.

### • Obligatory agreement

[plural]/[singular], [person], [location] and [high]/[low/normal] for specificity and location - **valued interpretable on the NP**, unvalued uninterpretable on the verb:

- Valued on the NP, because the feature is already lexically specified
- Interpretable on the NP, because it affects the interpretation of the lexical item.

(11) PERSON+++ CATALAN PARLIAMENT GO<sub>[plural]</sub> [LSC]  
'Catalan people went to the parliament.'  
NP (PERSON+): [plural] --> valued interpretable  
VP (GO): [plural] --> unvalued uninterpretable  
> the verb functions as probe and the goal is the NP.  
> the goal's feature value (NP) is assigned to the probe's features (VP).

### • Optional agreement

[high]/[low/normal] for iconicity, hierarchy and [size/shape] -

A) If agreement: **valued uninterpretable on the NP**, unvalued uninterpretable on the verb

- Valued on the NP, because the feature is already lexically specified
- Uninterpretable, because they do not affect the interpretation of the the noun since they can be optionally expressed.

(12) BOSS MONEY<sub>[high hierarchy]</sub> GIVE-1<sub>[normal]</sub> [LSC]  
'The boss gave me money.'  
NP (BOSS): [high] --> valued uninterpretable  
VP (GIVE): [high] --> unvalued uninterpretable  
> the verb functions as probe and the goal is the NP.  
> the goal's features (NP) can be assigned to the probe's features (VP) via features checking.

B) If no agreement: **valued uninterpretable on the NP**, not present on the verb.

> **Valued uninterpretable features can be deleted without being checked** (Bošković 2011).

## Conclusions

>  $\phi$ -features mismatch is present also in LSC in gapping.

> Following Merchant (2006) for English, it is possible to confirm the irrelevant nature of  $\phi$ -features in gapping resolution in relation to the identity condition also in LSC.

> **No need to have morphological identity: the syntactic identity is met before the inflection of the verbs** (Lasnik 1995).

> The obligatory and optional distinction in checking  $\phi$ -features supports Bošković (2011). It shows that it is not necessary to check valued uninterpretable features, like in the case of optionally expressed  $\phi$ -features in LSC.

>  $\phi$ -features mismatch in ellipsis is a cross-linguistic and cross-modal property.

## $\phi$ -features classes in LSC

### • Obligatory agreement

• [plural]/[singular], as specifications of [number]  
(4) PERSON+++ CATALAN PARLIAMENT GO<sub>[plural]</sub>  
'Catalan people went to the parliament.'

• [person]  
(5) JOAN<sub>i</sub> JORDI<sub>i</sub> WATCH<sub>i</sub> GIVE<sub>i</sub>  
'Joan gave Jordi a watch.'

• [location] for locative referents

(6) MARINA HOME<sub>i</sub> GO<sub>i</sub>  
'Marina went home.'

• [high]/[low/normal] for specificity on the **vertical plane** (Barberà 2014)  
(7) SOMEBODY<sub>[high]</sub> BIKE<sub>[normal]</sub> STEAL<sub>[high]</sub> - specificity  
'Somebody stole the bike.'

### • Optional agreement

• [high]/[low/normal] for hierarchy and iconicity (Barberà 2014)

(8) BOSS MONEY<sub>[high hierarchy]</sub> GIVE-1<sub>[normal]</sub> - hierarchy  
'The boss gave me money.'

(9) JORDI PEOPLE SHORT<sub>[low iconic]</sub> HELP<sub>[low iconic]</sub> - iconicity  
'Jordi helps short people.'

• [size/shape] (with verbal CL)

(10) MARINA BALL BASKET PICK-UP-CL<sub>[ball-big]</sub><sup>+</sup>  
'Marina picked up basket balls.'

## Gapping in LSC and $\phi$ -features mismatch

Following Schlenker's (2014) diagnostic: if there is features mismatch in ellipsis, we can confirm that the ones involved are  $\phi$ -features.

In **gapping in LSC**, the verb gaps forward despite LSC being a head-final language.

(13) a. John ate a doughnut and Mary, a croissant. (SVO-SO) English  
b. MARINA COFFEE PAY JORDI CHOCOLATE. (SOV-SO) LSC  
'Marina paid for a coffee and Jordi for a chocolate.' (Zorzi 2018)

### $\phi$ -features mismatch.

English

(14) Mary likes pancakes and her parents like French toast.

LSC

### • Obligatory agreement

• [plural]/[singular], as specifications of [number]

(15) MARINA CLASS THREE GO+++<sub>[plural]</sub> JORDI WORKSHOP ONE GO<sub>[singular]</sub>  
'Marina attended three classes and Jordi one workshop.'

• [person]  
(16) MARINA<sub>i</sub> JORDI<sub>i</sub> WATCH<sub>i</sub> GIVE<sub>i</sub> MARC<sub>k</sub> JORDINA<sub>y</sub> PLANT<sub>y</sub> GIVE<sub>y</sub>  
'Marina gave Jordi a watch and Marc a plant to Jordina.'

• [location] for locative referents

(17) MARINA HOME<sub>i</sub> GO<sub>i</sub> JORDI SWIMMING-POOL<sub>y</sub> GO<sub>y</sub>  
'Marina went home and Jordi to the swimming-pool.'

• [high]/[low/normal] for specificity on the vertical plane (Barberà 2014)

(18) NAME FORGET LAST YEAR SOMEBODY<sub>[high/non-specific]</sub> MATH<sub>[high]</sub> TEACH-1<sub>[normal]</sub>  
JORDINA CHEMISTRY<sub>[normal]</sub> TEACH-1<sub>[normal]</sub>  
'I don't remember the name but somebody taught me math and Jordina chemistry.'

### • Optional agreement

• [high]/[low/normal] for hierarchy and iconicity (Barberà 2014)

(19) 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.'

(20) JORDI PEOPLE TALL HELP<sub>[high iconic]</sub> MARINA SHORT HELP<sub>[low]</sub>  
'Jordi helps tall people and Marina short ones.'

• [size/shape] (with verbal CL)

(21) MARINA BALL BASKET PICK-UP-CL<sub>[ball-big]</sub><sup>+</sup> JORDI GOLF BALL  
PICK-UP-CL<sub>[ball-small]</sub>  
'Marina picked up basket balls and Jordi golf balls.'

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