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Backgrounded agents in Catalan Sign Language (LSC): passives, middles or impersonals?

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Abstract This article proposes that at least two agent-backgrounding operations with different syntactic and semantic properties have to be distinguished in Catalan Sign Language (LSC): the High locus construction and the Non-agreeing central construction. We show that the High locus construction is a transitive structure with a non-specific subject. We propose to analyze the High locus construction as involving a null *pro* subject, licensed by agreement and interpreted as an impersonal 3pl as in agent-backgrounding constructions with an impersonal 3pl subject, which are also cross-linguistically restricted to human interpretation. We propose that the Non-agreeing construction is an intransitivised verb-form that allows passive interpretations with agents and causes and anticausative interpretations comparable to middle voice.

Keywords Agent-backgrounding, Catalan Sign Language (LSC), middle, non-specificity, passive, R-impersonal, transitivity

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1 Introduction

Agent-backgrounding constructions have been studied extensively in the linguistic literature on spoken languages. The linguistic means expressing agent backgrounding include a wide variety of strategies, from verbal marking as in passives (see e.g. Siewierska 1984; Keenan & Dryer 2007 and references cited there) and middles (Kemmer 1993) to nominal strategies such as dedicated human impersonal pronouns (Koenig 1999, Zifonun 2000), null pronouns in partial pro-drop languages (Holmberg 2005, Cabredo Hofherr 2006), impersonal uses of personal pronouns (Bolinger 1979, Yule 1982, Kitagawa & Lehrer 1990) and generalizing nouns (*people/a person*) (Siewierska 2008, 2011; Malamud 2012, Gast & Van der Auwera 2013 for a discussion of nominal agent-backgrounding strategies). For sign languages it remains controversial which constructions should be analysed as passives (Kegl 1990, Janzen et al. 2001). Impersonal reference in sign languages has only recently become the subject of dedicated studies (Barberà & Quer 2013).

In this article we argue that for Catalan Sign Language (*llengua de signes catalana*, LSC) at least two agent-backgrounding operations with different syntactic and semantic properties have to be distinguished: the *High locus construction* and the *Non-agreeing central construction*. In the High locus construction the verb appears without a lexical subject with verbal subject agreement established with a high lateral locus (glossed *up* in (1)). In the Non-agreeing central construction, the verb is articulated in central signing space (glossed *c* in (2)) without a lexically introduced subject.¹

(1) BIKE _cSTEAL-3_{up} (LSC, High locus construction)
 ‘They stole the bike.’

(2) POT FLOWER BREAK_c. (LSC, Non-agreeing central construction)
 ‘The flower pot broke/was broken.’

Based on the syntactic and semantic properties of the construction in (1), we claim that this structure does not behave as a passive construction: it does not involve reduction of transitivity and there is no evidence that the object is promoted to subject. According to our analysis, the agent backgrounding effect in (1) is due to a referentially deficient subject without any change in transitivity, comparable to a transitive construction with an unspecified agent as in the Spanish example and the English translation in (3).

- (3) Robaron su bicicleta. (Spanish)
 stole.pfvpst.3pl poss.3sg bike
 ‘They stole his bike.’

The Non-agreeing central construction in (2) differs from the High locus construction in (1) in that it is compatible with a wide range of readings including anticausative, middle-stative and eventive-passive readings. We propose to analyse this structure as an intransitive non-active construction comparable to a middle verb allowing anticausative, stative middle and middle passive readings. Neither construction is therefore a passive proper: the High locus construction is a transitive construction with an R-impersonal subject while the Non-agreeing construction is an intransitive non-active construction comparable to a middle verb that may but need not imply an agent.

The article is structured as follows. Section 2 briefly summarises a number of salient properties of sign languages with respect to reference and argument structure that have been identified in the literature. Section 3 reviews the previous literature on potential passive structures in different sign languages, identifying a range of features associated with different agent-backgrounding constructions. Section 4 gives a summary of the contrasts found between passive constructions, middles and R(eferential)-impersonal subjects cross-linguistically in spoken languages. Section 5 analyses the syntactic and semantic properties of the High locus construction and the Non-agreeing central construction in Catalan Sign Language (LSC). Section 6 develops the syntactic analysis. Section 7 concludes.

2 Reference and argument structure in sign languages

Sign languages make use of the three dimensional space in front of the signer’s body for grammatical purposes. Signs are articulated in the signing space, which in Western sign languages is generally constrained to the horizontal and the frontal plane in front of the signer’s torso. The body of the signer is also a possible location for the articulation of signs and as such included in the extension of signing space. As Klima and Bellugi (1979) stress, signing space is not only used for articulatory reasons as a space where the hands and arms can move but, more importantly, signing space also carries linguistic meaning. At the

morphosyntactic level, for example, signs are modulated in space for grammatical purposes to express number, person, and also the arguments of the verb.

Determiner Phrases (DPs) are associated with an area on the horizontal plane called *locus* (Klima & Bellugi 1979). In a sentence like (4a) below, the locus of the subject is established in the ipsilateral area of signing space (the area located at the dominant hand of the signer, i.e. the right hand for right-handed signers, glossed with the subscript *ip*), while the locus of the object is in the contralateral area (the area located at the non-dominant hand, i.e. the left hand for right-handed signers, glossed with the subscript *cl*). The agreeing verb SEE in (4a) moves from the ipsilateral locus of the subject to the contralateral locus of the object. The direction of the movement component of the predicate has a grammatical meaning as it marks the syntactic functions of the arguments: for the verb SEE the movement path is from subject to object. Inverting the movement path associated with the verb as in (4b) inverts the function of the arguments. Furthermore, as illustrated in (4c), the loci of the arguments are also used to express coreferential relations.

- (4) a. JOAN_{ip} MARIA_{cl} 3_{ip}-SEE-3_{cl}. (LSC)
 ‘Joan saw Maria.’
- b. JOAN_{ip} MARIA_{cl} 3_{cl}-SEE-3_{ip}.
 ‘Maria saw Joan.’
- c. YESTERDAY JOAN_{ip} MARIA_{cl} 3_{ip}-SEE-3_{cl}. TODAY IX3_{cl} 3_{ip}-INVITE-3_{cl}.
 ‘Yesterday Joan saw Maria. Today she invited him.’

In many verbs, called *regular agreeing verbs*, the direction of movement is from the locus associated with the subject to the locus associated with the object. However, there is a small set of verbs, called *backward agreeing verbs*, which show the opposite pattern. With backwards verbs the direction of the movement path is from the locus of the object to the locus of the subject, as in the case of INVITE in (4c). Not all predicates show agreement with their arguments, however. Based on the patterns of modulation observed, Padden (1990) classifies American Sign Language (ASL) verbs into three different types: plain verbs, agreeing verbs and spatial verbs. Agreeing and spatial verbs use space to express agreement. According to Padden, the main difference between the two is that agreeing verbs inflect for person and number, with the locations in space indicating subject and object. In contrast,

spatial verbs make reference to locations; that is, to the initial and final location of the entity being moved or to the location where an entity is. Plain verbs differ from both agreeing verbs and spatial verbs in that the sign does not inflect for its arguments (cf. Mathur & Rathmann (2012) for an overview of several theoretical approaches to sign language agreement).

As for three-argument predicates, two options are possible. On the one hand, verbs may mark agreement with subject and indirect object (leaving aside the marking for the direct object), as shown in (5a) where the verb GIVE is articulated in its basic form (Figure 1). On the other hand, verbs may be expressed with classifier predicates, which consist in morphologically complex signs where all three arguments are incorporated in a single sign (5b, Figure 2). The direct object is instantiated by the handshape, while subject and object are instantiated by the initial and the final points of the movement path (as in the neutral form of the verb) (cf. Geraci & Quer (2014) for an overview of existing analyses of argument structure in sign languages).

- (5) a. JOAN_{ip} MARIA_{cl} BOOK 3_{ip}-GIVE-3_{cl}. (LSC)
 ‘Joan gave a book to Maria.’



FIGURE 1. Verb GIVE instantiated by its basic articulation form

- b. JOAN_{ip} MARIA_{cl} BOOK 3_{ip}-CL_{hand}·give-3_{cl}.
 ‘Joan gave a book to Maria.’

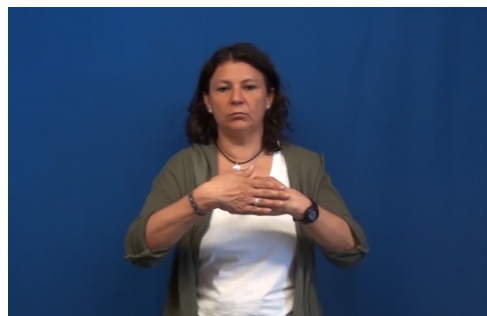


FIGURE 2. Verb GIVE instantiated by a classifier handshape

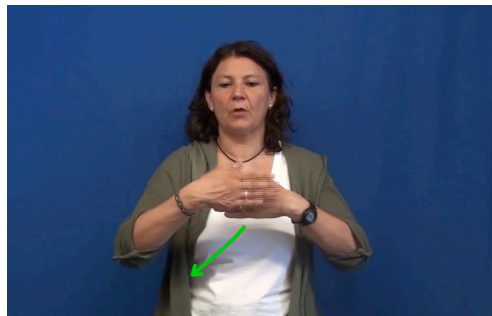
Classifiers are morphemes with an underspecified meaning. Classifiers are expressed by particular hand configurations and represent entities by denoting salient characteristics (Zwitserslood 2012). They occur in combination with verbs, specifically verbs that indicate: (i) a referent's motion through space and its location and existence in space (entity classifiers); (ii) the handling of referents (handling classifiers). While handling classifiers are considered to be transitive verbs, with an internal and an external argument instantiated in the handshape, entity classifiers correspond to intransitive unaccusative verbs, with one single internal argument only (Benedicto & Brentari 2004).

The examples below show the contrast in handshape between entity and handling classifiers. The instantiation of the intransitive verb OPEN in example (6) is shown in Figure 3b with an entity classifier expressed with a flat-handshape. The instantiation of the transitive verb OPEN in example (7) is shown in Figure 4b with a handling classifier expressed with a fist-handshape.

- (6) DOOR CL_{ent}-door-open.
'The door opened.'



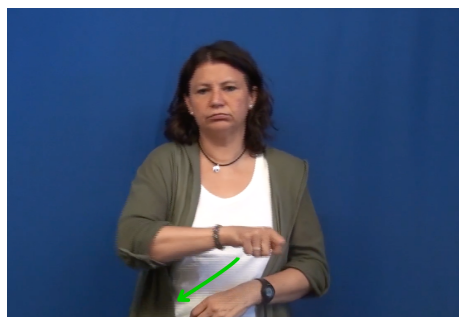
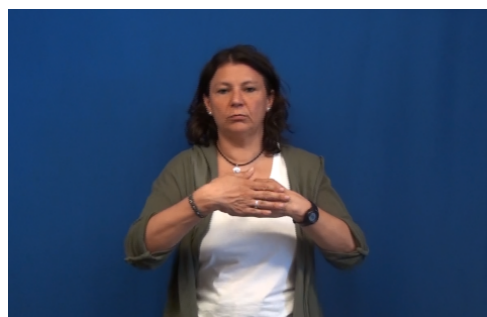
a. Lexical sign for 'door'



b. Entity classifier for 'door open'

FIGURE 3. Instance of entity classifier

- (7) DOOR CL_{hand}-door-open.
'Someone / they opened the door.'



a. Lexical sign for ‘door’

b. Handling classifier for ‘open door’

FIGURE 4. Instance of handling classifier

For the case of LSC, it has been shown that the frontal plane, which extends parallel to the signer’s body from the waist upwards, is used to express specificity distinctions (Barberà 2012). DPs localised at a low locus are interpreted as specific (they are identifiable by the signer and belong to a restricted set), whereas DPs localised at a high locus are interpreted as non-specific (they are unidentifiable by the signer and do not belong to a restricted set). In DPs containing a determiner the place of articulation of the determiner determines the locus of the overall DP. When the DP does not contain a manual determiner, non-manual markers such as direction of eyegaze or tilt towards a spatial locus suffice to establish the locus (as described by Baker & Cokely 1980 for ASL). The following examples provide a minimal pair for the interpretation of high vs. low locus for a DP. In (8a) the determiner **SOME** is localised at a low locus (indicated in the glosses with *lo*, Figure 5) and corresponds to a reading where the signer is talking about a specific group of students, which he can identify. This contrast with (8b) where the determiner **SOME** is localised at a high locus (Figure 6) and corresponds to a non-specific reading, where the signer does not identify the set of students.

- (8) a. **STUDENT SOME_{lo} DEMONSTRATION GO.** (LSC)
 ‘Some students_{spec} (that I can identify) went to the demonstration.’



FIGURE 5. Determiner **SOME** localised at a low locus

- b. **STUDENT SOME_{up} DEMONSTRATION GO.**
 ‘Some students_{non-spec} (that I cannot identify) went to the demonstration.’



FIGURE 6. Determiner SOME localised at a high locus

Examples (9a/b) contrast a (necessarily specific) proper name with a non-specific indefinite pronoun. In (9a) the DP corresponding to the proper noun is localised at a low locus (9a), while the non-specific indefinite pronoun WHO^{^IX3pl_{up}} ‘someone’ is associated with a high locus (9b). Notice that in both cases verb inflection with the backward agreeing verb STEAL is with the locus of the subject, but with different height: in (9a) it agrees with a low locus, while in (9b) with a high locus.

- (9) a. **JOANA**_{lo.ip} MONEY **STEAL-3**_{lo.ip}. (proper name)
 ‘Joana stole the money.’
- b. **WHO^{^IX3pl_{up}}** MONEY **STEAL-3**_{up.ip}. (non-specific indefinite pronoun)
 ‘Someone stole the money.’

Finally, sign languages have a variety of means to report the words, thoughts and actions of others. *Role shift* is a grammatical phenomenon in sign languages whereby signers may shift into the role of a character, conveying information from that character’s perspective (Lillo-Martin 2012). Under role shift, the signer’s body or head position and facial expression contributes to the marking of the point of view of a character of the story. Referential shift is indicated by a combination of non-manuals, including change in the position of the signer’s body, head, or shoulders, change in eyegaze direction and change in facial expression, as shown in Figure 7 (Engberg-Pedersen 1993; Quer 2011).

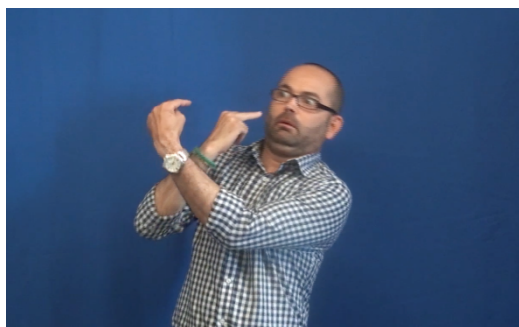


FIGURE 7. Instantiation of role shift

3 Previous studies of agent-backgrounding in sign languages

Previous studies have analysed a number of different agent-backgrounding structures in sign languages. For ASL, Kegl (1990) analyses the structure illustrated in (10) as a passive, taking the use of handling classifiers and role shift to be key features of the structure (Kegl 1990: 166).

- (10) POLICEMAN AT-HIT. (ASL, Kegl 1990: 166)
 ‘The policeman got hit.’

Kegl argues that the verb in (10) is detransitivised: the form AT-HIT² is articulated with the final configuration of the sign at the signer’s body, with role shift to the patient of the verb, while at the same time the locus associated with the subject disappears. This contrasts with the basic transitive use of HIT in (11), in which the verb is articulated with a path movement from the locus associated with the subject THIEF and towards the locus associated with the object POLICEMAN.³

- (11) POLICEMAN_{ip} THIEF_{cl} 3_{cl}-HIT-3_{ip} (ASL)
 ‘The thief hit the policeman.’

According to Kegl’s description, the construction exemplified in (10) contains a single spatial location associated with the object of the verb and lacks any path movement: the form is articulated entirely at the final object location. As there is role shift to the object argument, the articulating hands are directed towards the body of the signer with a reduced movement path close to the body of the signer. According to Kegl’s analysis, this final movement close to the

signer is not due to agreement with a subject locus as in the basic transitive use in (11) but a residual movement due to the articulation of the verb itself.

Following up on Kegl's study, Janzen et al. (2001) examine agent backgrounding in ASL (2001: 288). These authors explicitly adopt a semantic definition of transitivity taking weakly referential subjects to correspond to a reduction in (semantic) transitivity. Consequently, Janzen et al. consider sentences with subjects like "someone" or a semantically empty subject locus to be passives as the subject is backgrounded. This definition of *passive* is therefore independent of the *syntactic* properties of the grammatical subject. Janzen et al. take the prototypical passive in ASL to be characterised by the following properties (2001: 288-290). Firstly, the signer presents the clause from the point of view of the patient. In a transitive construction the point of view is that of the agent, while in the passive the signer shifts to the role of the patient and the agreement is marked with the final locus of the verb movement on the body of the signer, implying a shift in perspective towards the patient argument. Secondly, the agent is demoted, in one of two ways: (i) either the agent is expressed by a DP that is low in referentiality, expressed with the signs SOMEONE or WHO ('someone') or (ii) no lexical agent is specified, and the movement of the agreeing verb begins at a morphosyntactic, but semantically empty, locus. An example of agent demotion by a DP with low referentiality is given in (12) with the particle WHO functioning as an indefinite pronoun. Agent demotion with an empty locus for the subject is illustrated in example (13). The movement of transitive verbs still begins at a morphosyntactically marked locus (indicated by subscript *cl* on the glosses); however, this locus is not associated with any previous semantic content.

(12) **WHO** _{ip}APPROACH-1, CLERC, 1-LOOK-AT_{ip} FIRST DEAF TEACHER.

'Clerc was approached by someone; he was the first Deaf teacher.'

(ASL, Janzen et al. 2001: 303, ex 12)

(13) _{cl}GIVE-1 TROPHY.

'We were given the trophy.'

(ASL, Janzen et al. 2001: 293, ex 6)

For Janzen et al. (2001), the empty agent locus in passive constructions is overtly marked as the starting point of the agreement movement at a marked spatial location, but semantically unfilled since no agent is previously specified. According to this description, the movement of the verb in (13) is not reduced (in contrast with the structures like (10) studied by Kegl); the

verb is therefore not syntactically detransitivised, as a distal locus is overtly specified (if semantically empty).

Saeed & Leeson (1999) focus their analysis on Irish Sign Language (ISL) and identify two strategies for demotion of the agent. Demotion 1 is the more frequent type of demotion and limited to agreeing verbs. The locus for the agent is established at a syntactically marked but semantically empty locus (indicated in the glosses with *ip* for ispilateral) and the sign is articulated towards the locus for the patient (1999: 14), as illustrated in (14) below. In this example the locus for the agent of STARE has not been established and therefore a non-specified human entity is implied.

- (14) ip STARE_c
 ‘Someone was staring at me.’ (ISL, Saeed & Leeson 1999: 15, ex 13)

Like Janzen et al. (2001), Saeed and Leeson (1999) discuss examples where the movement path of the agreeing verb establishes a subject at a higher location in signing space. For example, in a backwards verb like TAKE (interpreted as ‘take-from’), the form is articulated with an onset point at the locus established for the bag, and an offset point at a higher plane in signing space.

- (15) BAG_cTAKE_{up}
 ‘The bag was stolen.’ (Demotion 1, ISL, Saeed & Leeson 1999: 16, ex 14c)

In Demotion 1 structures, eyegaze plays an important role in conveying perspective. Averted eyegaze of the signer towards a lateral location indicates role shift of the signer to take the role of the patient. When the eyegaze of the signer is directed towards the addressee or towards a particular location, it indicates that the signer assumes the role of the agent. Saeed and Leeson conclude that averted eyegaze marks lack of involvement in the event and lack of intentionality (1999: 18).

Saeed and Leeson (1999) describe a second kind of detransitivization they call Demotion 2. This structure is characterised by the use of canonical space (neutral central signing space) as the non-specified agent locus for agreeing verbs (1999: 23). This central neutral location seems to be serving as a default location for agent-type action and it is clear that the signer is not the actor (1999: 25).

(16) JAR SAME AGAIN 1-TAKE[move to c.]

‘Those same jars can be taken down again.’

(Demotion 2, ISL, Saeed & Leeson 1999: 23)

Finally, Saeed and Leeson also present a third facet of detransitivisation they term *promotion of the undergoer*. This strategy, which mainly co-occurs with Demotion 1, arises when the signer’s body functions as the undergoer. In example (17) the promotion of the undergoer is expressed with the palm orientation towards the signer, this being the opposite of the citation form of the sign. Averted eyegaze also plays a role in undergoer promotion showing lack of intention or awareness in the part of the undergoer, as also seen in Demotion 1 structures (1999: 29).

(17) ME BEFORE-BEFORE BEAT-UP_c.

(ISL, Saeed & Leeson 1999: 28)

‘I was beaten up.’

The two demotion strategies described by Saeed & Leeson (1999) clearly differ with respect to the locus of the unspecified actor (a high locus in Demotion 1 and a central locus in Demotion 2). Both demotion strategies co-occur with averted eyegaze. Both Demotion 1 and Demotion 2 involve a shift to the perspective of the undergoer for animate patients, while this shift is not necessary for inanimate undergoers (Saeed & Leeson 1999: 22).

Role shift and articulation in a neutral locus are also observed in studies of agent-backgrounding in other sign languages. In his study of French Sign Language (*langue des signes française*, LSF), Guitteny (2006: 311) identifies two strategies of agent demotion for transitive verbs that resemble Saeed & Leeson’s Demotion 1 and 2: one structure with role shift of the signer to the undergoer and a second structure without role shift and articulation of the sign from a neutral locus to the locus specified for the undergoer. For German Sign Language (*Deutsche Gebärdensprache*, DGS), Hansen (2007) explicitly argues that this language does not have a (syntactic) passive. However, like the preceding studies, she identifies role-shift and averted eyegaze as marking a backgrounded agent with two animate arguments.

Following up on the studies by Kegl and Janzen et al., Sze (2010) notes that these authors consider argument reduction for agreeing verbs using examples that typically include animate subjects and objects. In her study of Hong Kong Sign Language (HKSL), Sze (2010) therefore examines argument backgrounding with inanimate patients for both plain verbs and

agreeing verbs. Based on data from an elicitation task, Sze concludes that agreeing verbs with animate patients differ from examples with inanimate patients in HKSL. For animate patients the signer shifts to the role of the patient, while for inanimate patients the difference between an indefinite subject and an agentless structure is marked on the classifier. If the clause contains an agent (mostly expressed with the indefinite pronoun SOMEONE), there is a strong tendency for the handling classifier predicate to begin with a grasping action followed immediately by the predicate movement (18). In contrast, for agentless handling classifier predicates, there is no such grasping action and the movement path tends to be shorter (19).

- (18) **SOMEONE** CL_{hand}-**grasp-and-move-food-tray**
 ‘Someone moved the tray.’ (HKSL, Sze 2010: ex. 2a)
- (19) CL_{hand}-**move-food-tray**
 ‘The food tray was moved.’ (HKSL, Sze 2010: ex. 2b)

Sze notes that the agentless construction in HKSL is heavily constrained. Firstly, “the agent must not be known or seen” – if the agent can be seen in the pictures used for elicitation, the signers use SOMEONE to express the agent. Secondly, the interpretation in which the signer is the agent has to be clearly excluded by non-manual marking and contextual clues. Sze further points out that examples with inanimate patients often occur with a resultative marker glossed as FINISH or ALL-DONE (20a/b).

- (20) a. IX-that T-shirt WRING **FINISH**. (HKSL, Sze 2010: ex 4/5)
 ‘That T-shirt was wrung out.’
- b. IX-that (bicycle) REPAIR **ALL-DONE**.
 ‘That bicycle was repaired well.’

The studies discussed here examine a range of properties that play a role in agent-backgrounding constructions. The table below summarises the subset of properties taken to be definitional of agent backgrounding in the different investigations.

Kegl (ASL)	Janzen et al. (ASL)	Saeed & Leeson (ISL)		Guitteny (LSF)		Sze (HKSL)	
		Demotion	Demotion	Constr.	Constr.	Animate	Inanimate

			1	2	1	2		
Syntactically marked locus (semantically empty) – agreeing verbs		+	+	+		+		
Use of central neutral space				+		+		
Role shift	+		+(with animate)	+(with animate)	+		+	-
Averted eyegaze			+	+	+		+	
High location of agent		+	+	-			-?	-
Distance from body	+							
Perfective Marker								+ (for activities)

TABLE 1. Characteristic properties of agent-backgrounding constructions

Taking into account the whole range of properties presented above, we show in section 5 that LSC has at least two syntactically and semantically distinct agent-backgrounding constructions: the High locus construction and the Non-agreeing central construction. The High locus construction involves a verb agreeing with a high subject locus that has not been previously established. The Non-agreeing central construction, on the other hand, involves a verb that is articulated in neutral signing space in front of the signer’s body.

Before we develop our proposal, we briefly review the characteristic properties we use to distinguish between passives, R-impersonal subjects and middles.

4 Agent-backgrounding operations: Passives, R-impersonal subjects and middles

Agent-backgrounding is a semantic notion that may be expressed by a range of syntactic constructions, including passives and R-impersonal subjects. We adopt the definition of passives in Keenan and Dryer (2007:328-9), according to which passives reduce the valency of the underlying predicate by suppressing one of the arguments and include an implicit agent as part of their interpretation.⁴

- (21) a. Passive is a way of deriving n-place predicates from n+1-place predicates (Keenan & Dryer 2007:345).
 b. A passivised predicate entails the existence of an agent (Keenan & Dryer 2007:352).

Following Siewierska (2011), we define R-impersonal pronouns as pronominal subjects of R(eference)-impersonals:

- (22) R(eference)-impersonals are impersonals triggered by a reduction in referentiality. R-impersonals have the appearance of regular, personal constructions but feature a subject that is human and non-referential. The non-referential human subject may be expressed lexically, pronominally or by the whole construction. (Siewierska 2011: 57)

Syntactically, in prototypical passives the underlying verb is intransitivised while R-impersonal subjects do not change the syntactic valence on the underlying verb. R-impersonal subjects are exemplified by impersonal subject pronouns such as French *on* (23a) or antecedentless readings of 3pl pronouns as *they* in the English translation. (23b) exemplifies the copula passive in French that suppresses the syntactic realization of the agent argument.

- (23) a. **On** a volé mes vélos. (French, R-impersonal subject)
 on has stolen my bikes
 ‘**They** stole my bikes.’
- b. Mes vélos **ont été volés**. (French, passive)
 my bikes have been stolen.
 ‘My bikes have been stolen.’

In (23a) above, the impersonal subject pronoun *on* shows the characteristic properties of a subject of a transitive sentence: *on* occupies the same slot as other subject clitics and triggers 3sg agreement on the auxiliary *a* “has”. At the same time the DP *mes vélos* “my bikes” is in direct object position following the verb and can be replaced by an accusative clitic *les* (pron.acc3pl). In (23b), the syntactic object has been promoted to syntactic subject: the DP *mes vélos* “my bikes” precedes the verb, can be replaced by the subject pronoun *ils* “they” and

triggers 3pl agreement on the auxiliary *ont* (and agreement on the participle). Notice that the majority of the syntactic diagnostics distinguishing sentences with R-impersonal subjects from sentences with a passivised predicate bear on the lexical DP corresponding to the patient. With intransitive verbs - that lack such a DP - is therefore not always clear if an agent-backgrounding construction like (24) is to be analysed as a transitive construction with an impersonal subject as in (25a) or as a passive with a suppressed agent argument as in (25b).

- (24) Aquí **se** trabaja mucho. (Spanish)
 here REFL work.prs.3sg a-lot
 ‘Here a lot of work is done. / Here people work a lot.’
- (25) a. Hier arbeitet **man** viel. (German, R-impersonal subject)
 ‘Here people work a lot.’
- b. Hier **wird** viel **gearbeitet**. (German, impersonal passive)
 here aux.passive.prs3sg a-lot worked
 ‘Here a lot of working is done.’

This ambiguity between R-impersonal subjects and passives also arises for sign languages. For French Sign Language (LSF), Guitteny (2006) proposes to analyse agreeing verbs with a neutral actor locus as passives, in contrast with Cuxac (2000: 199), who analyses this type of construction as the equivalent of the R-impersonal subject pronoun *on* in French.⁵

Syntactic analyses of the passive differ with respect to the syntactic representation assigned to the demoted subject. Some analyses take the demoted agent to be represented in the syntactic structure (Jaeggli 1986, Baker, Johnson & Roberts 1989) while other analyses take the argument reduction of passives to be pre-syntactic and consequently do not have an element corresponding to the agent in the syntax (Chomsky 1981, Perlmutter & Postal 1984, Dobrovie-Sorin 1998).

Passives and R-impersonals differ semantically in the range of interpretations available for the backgrounded agent. Many passives can have animate and inanimate implicit agents (26a), while R-impersonal pronouns are limited to human interpretation (26b).

- (26) a. Passive:

The window **was opened** (by the woman / by the wind).

- b. R-impersonal subjects :
- i. Lexical impersonal pronoun :
On a ouvert la fenêtre. (French, human agent only)
 ON has opened the window
 ‘Someone opened the window.’
- ii. Impersonal use of 3pl pronoun:
They opened the window. (English, human agent only)

As some passive constructions are also limited to human implicit agents (e.g. the Icelandic *vera*-passive and the Romance reflexive passive), it is only the possibility of non-human implicit agents that is informative: if an agent-backgrounding construction allows implicit non-human agents and causes, this suggests that it does not involve an R-impersonal subject.

We further distinguish passives from middles. While passives have an implicit agent, middles reduce valency without requiring an implicit agent, thus allowing anticausative and non-agentive readings (Keenan & Dryer 2007: 352-253).⁶

- (27) Unaccusative *open*: Middle semantics
- a. No cause
 The window **opened** spontaneously.
- b. Underspecified cause
 The window **opened**.
 Felicitous continuations: John / The wind / A branch knocked it open.

In what follows, we will use the following properties to distinguish between R-impersonal subjects, middles and passives:⁷

	R-impersonal subject	Middle verb	Promotional Passive
Syntax			
transitivity	unchanged	argument reduction	argument reduction
patient DP	grammatical object properties	grammatical subject properties	grammatical subject properties
Semantics			
implicit agent obligatory	yes	no	yes

unexpressed agent can be natural cause or inanimate (continuations)	no	agentivity not necessary; continuations with natural cause/ inanimate cause possible	yes/no (depending on the passive)
---------------------------------------------------------------------	----	--------------------------------------------------------------------------------------	-----------------------------------

TABLE 2. Diagnostics distinguishing R-impersonal subjects, passives and middles

Notice that the distinction between transitive sentences with an R-impersonal subject, on the one hand, and intransitivised passives and middles, on the other hand, is syntactic. In contrast, the distinction between passives and middles is semantic as it depends on the range of available readings. With the distinction between passives, middles and R-impersonal subjects outlined here as a backdrop, we now turn to the syntactic and semantic properties of two agent-backgrounding constructions in LSC.

5 Two agent-backgrounding constructions in LSC

In our study of LSC we take into account the whole range of properties shown in Table 1. In what follows we provide evidence that for LSC at least two different agent-backgrounding structures have to be distinguished: the High-locus construction and the Non-agreeing central construction. The High-locus construction is characterised by the following properties:

- (28) High locus construction:
- a. agent is left unexpressed;
 - b. verb is inflected (agreeing verbs and plain verbs);
 - c. agreement between a high locus for the agent argument that has not been previously activated and
 - i. the body of the signer, which functions as the patient (with animate patients), or
 - ii. neutral signing space (with inanimate patients);
 - d. with animate patients: role shift of the signer to the patient, marked by averted eyegaze and body lean.

This construction shares properties with the construction considered in Kegl (1990), the

agentless construction in Janzen et al. (2001) and the construction termed Demotion 1 combined with promotion of the undergoer in Saeed & Leeson (1999). An example in LSC is provided in (29), adapted from the ASL example (10) taken from Kegl (1990).

- ___ averted eyegaze/body lean
___rs:police
- (29) POLICEMAN 3_{up}-HIT-1 (LSC)
'They/somebody hit the policeman.'

The Non-agreeing central construction in LSC is characterised by the properties listed in (30) and it is exemplified in (31).⁸

- (30) Non-agreeing central construction:
- a. the agent is left unexpressed;
 - b. the verb is not inflected;
 - c. inanimate patient;
 - d. the sign is articulated in neutral space in front of the signer;
 - e. often followed by the perfective marker ALREADY.
- (31) HOUSE BUY_c ALREADY. (LSC)
'The house was bought.'

For LSC the High locus construction and the Non-agreeing central construction represent two distinct constructions, as shown by the minimal pair (32) and (33) involving the same predicate BREAK. Example (32) is an instance of the Non-agreeing construction (Figure 8). This example shows the default articulation of plain verbs in neutral signing space (in front of the chest of the signer, and indicated in the glosses with *c*), without movement between locations for agent and patient. In (32) there is no previously introduced lexical sign that would correspond to an agent of the event. The central articulation of the verb is often (but not obligatorily) followed by the resultative marker ALREADY. The uninflected default articulation for plain verbs in (32) contrasts with the inflected realisation of plain verbs in (33). In the High locus construction shown in (33) the plain verb BREAK is signed with the final hold at a lateral and high location in signing space (Figure 9). This articulation of the plain verb establishes a marked locus for the agent, yielding a univocally transitive predicate.

As the locus for the agent has not been previously activated, this configuration is interpreted as agentive with a non-specific human agent. The patient in (33) is inanimate and therefore there is no role shift.

- (32) POT FLOWER **BREAK_c** ALREADY. (Non-agreeing central construction)
 ‘The flower pot broke.’



FIGURE 8. Non-agreeing construction instantiated by the uninflected plain verb BREAK

- (33) POT FLOWER **BREAK-3_{up}**. (High locus construction)
 ‘They/somebody broke the flower pot.’



FIGURE 9. High locus construction instantiated by the inflected plain verb BREAK

The patient in the High locus construction may be animate or inanimate. With animate patients as in (34), the verb agrees with the body of the signer, which takes on the role of the patient through role shift. With an inanimate patient as in (35) and (33) above, no role shift is found: the verb agrees with a neutral location established in the center of signing space and with a high location established for the agent

- ____br _____rs:maria
 (34) MARIA MEETING PREPARE 3_{ip.up}-SUMMON-1. (animate patient with role shift)
 ‘Maria was preparing for the meeting and they summoned her.’

____br

- (35) BIKE, _cSTEAL-3_{up}. (inanimate patient without role shift)
 ‘They/somebody stole the bike.’

The types of verbs found in each construction do not correspond to the lexical classification between agreeing and plain verbs (cf. Padden 1990, Section 2 above). While the High locus construction may include both agreeing verbs and plain verbs with added inflection, the Non-agreeing central construction is limited to plain verbs. In the minimal pair in (32) and (33) we have a plain verb with and without inflection. When plain verbs are inflected in the High locus construction as in (33), the verb is articulated at the locus associated with the agent argument (see Costello 2016; Zwitserlood and van Gijn 2006 for a discussion of single argument agreement). As articulation at the agent locus is used as agreement, the inflected plain verb only allows for agreement with one argument. The High locus construction in LSC shows that single argument agreement can take place even if the argument has not been previously activated.

In what follows we examine the syntactic and semantic properties of the two constructions. We show that the High locus construction is interpreted as involving an implicit non-specific human agent while the Non-agreeing central construction allows readings with animate and inanimate agents as well as agentless anticausative readings (Section 5.1). Using diagnostics for agentivity, we show that the Non-agreeing central construction is compatible with an implicit agent on a par with the implicit agent of the High locus construction (Section 5.2). Section 5.3 provides evidence that the High locus construction is syntactically transitive. Finally, Section 5.4 examines the factors that distinguish the two agent-backgrounding constructions from reflexives.

5.1 Sortal restrictions on the implicit agent

In the High locus construction the backgrounded agent has to be interpreted as human. Consider example (33) repeated here as (36), in which the verb BREAK, which lacks path movement in its plain articulation, is articulated in a lateral and upper location, as shown in Figure 9. Excluding topographical and contrastive interpretations of the high locus,⁹ an inflected form gives rise to an R-impersonal interpretation with a human agent reading as shown by the continuation in (36a). The continuations in (36b/c/d) implying a dynamic, inanimate cause or an anticausative interpretation are not felicitous with this example, as indicated with the hashtag #.

- (36) POT FLOWER **BREAK-3_{up}**. (High locus construction)
 ‘They broke the pot.’
- a. JOHN CLUMSY. (human agent)
 ‘John is clumsy.’
- b. # WIND STRONG. (dynamic cause)
 ‘The wind is strong.’
- c. # WINDOW CL_{ent}.open. (inanimate cause)
 ‘The window opened.’
- d. # ALONE. (agentless)
 ‘It happened spontaneously.’

According to our informants, interpretations (36b), (36c) and (36d) are only possible if the context is derived from a topographic use of space in which the higher articulation of the verb reflects the mapping of the position of the object in space (in a high location to the left, for instance). When the use of signing space is not biased by the mapping of the actual position of the object in space, the interpretation is limited to a human agent (36a).¹⁰

The Non-agreeing central construction, on the other hand, is not limited to human agents. A transitive plain verb in LSC like BREAK is usually signed in neutral signing space (Figure 8 above). This articulation is compatible with continuations involving human agents (37a), natural causes (37b) (which is the preferred reading according to our informants), inanimate causes (37c) and agentless readings (37d).

- (37) POT FLOWER **BREAK_c** ALREADY. (Non-agreeing central construction)
 ‘The pot broke.’
- a. JOHN CLUMSY. (human agent)
 ‘John is clumsy.’
- b. WIND STRONG. (natural cause, preferred reading)
 ‘The wind is strong.’

c. WINDOW CL_{ent}.open. (inanimate cause)

‘The window opened’.

d. ALONE. (agentless)

‘It happened spontaneously.’

The examples above illustrate that in the High locus construction the agent is obligatorily human and unspecified while the Non-agreeing central construction is compatible with backgrounded agents corresponding preferentially to a natural cause, but also allowing inanimate and animate agents as well as agentless anticausative readings. Both constructions can appear with animate or inanimate patients. The following table summarises the semantic restrictions for the agent and the patient in the two constructions.

	Agent	Patient
High locus construction	Human agent	Animate (expressed with role shift) Inanimate (articulated in neutral signing space)
Non-agreeing central construction	Natural cause Inanimate cause Human agent Absent	Animate Inanimate

TABLE 3. Semantic restrictions on agent and patient in the two constructions

5.2 Agentivity

In what follows we apply two tests to establish the presence of an agentive external argument: modification by agent-oriented expression (like *deliberately*) and compatibility with purpose clauses.¹¹ We will examine each of these tests in turn, showing that the agent is semantically active in the High locus construction. The Non-agreeing central construction is compatible with expressions oriented towards a volitional agent. However, agentive modification blocks the otherwise preferred interpretation of the Non-agreeing central construction as involving a natural or inanimate cause.

5.2.1 Modification by agent-oriented particles

Agent oriented particles provide a test for the semantic presence of a volitional agent. The insertion of an agent-oriented particle such as WANT, translated as ‘deliberately/on purpose’,

is a diagnostic for the presence of an intentional agent associated with the action. The agent-oriented particle can be freely combined with the High locus construction, with the intention attributed to the implicit human agent as shown by the felicitous continuation (38a). When WANT combines with the Non-agreeing central construction the only felicitous interpretation is the human agentive one (39a); as expected agentive modification blocks the non-agentive interpretations (39b/c).

(38) POT FLOWER **BREAK-3_{up}** WANT. (High locus construction)

‘They broke the pot on purpose.’

a. PARTY KIDS MESS ATTITUDE BAD.

‘The kids at the party behaved badly.’

(39) POT FLOWER **BREAK_c** WANT. (Non-agreeing central construction)

‘The pot was broken on purpose.’

a. PARTY KIDS MESS ATTITUDE BAD.

The kids at the party behaved badly.

b. # WIND STRONG.

‘The wind is strong.’

c. # WINDOW CL_{ent}.open.

‘The window opened.’

5.2.2 Continuation with purpose clauses

A continuation with a purpose clause implies the semantic presence of an intentional agentive argument involved in the event. In the inflected version with a High locus construction (40) combines with the purpose clause attributing an intention to the agent of the breaking event. In the non-inflected version (41) the purpose clause is also felicitous showing that an interpretation with an implicit agent is possible. As in (39) above, the agentive modification blocks interpretations with natural and inanimate causes that are otherwise preferred for the Non-agreeing central construction.

- (40) PIGGY-BANK_{ip} **BREAK**_{ip.up} MONEY 3_{ip.up}-COLLECT-1. (High locus c.)
 ‘They broke the piggy-bank to collect the money.’
- (41) PIGGY-BANK **BREAK**_c MONEY COLLECT. (Non-agreeing central c.)
 ‘The piggy-bank was broken to collect the money.’
- a. IX3_{up} MONEY NEED.
 ‘They needed money.’
- b. # WINDOW CL_{ent}.open.
 ‘The window opened.’
- c. # WIND STRONG.
 ‘The wind was strong.’

The data discussed in this section show that the Non-agreeing construction allows an interpretation with a semantically active implicit volitional agent. As expected, the obligatorily human implicit agent of the High locus construction is compatible with agentive modification.

5.3 Transitivity

Several arguments show that the High locus construction does not reduce transitivity of the underlying predicate.¹² First, with an agreeing verb and with a transitivity plain verb, a location for the agent of the clause is clearly established in a lateral and high location in signing space in LSC.¹³ The high locus, which in LSC triggers a non-specific interpretation (Barberà 2012), contrasts with the low lateral locus associated with referential DPs. While (42) shows an instance of a sentence without a lexical agent with an agreeing verb inflected for a high locus, (43) is an instance of a referential subject and low agreeing verb.

- (42) 3_{up.ip}-SHOOT JOHN. (High locus construction)
 ‘They shot John.’



FIGURE 10. High locus for the agent of the predicate SHOOT

- (43) MARY_{ip} JOHN_{cl} 3_{ip.lo}-SHOOT-3_{cl}.
 ‘Mary shot John.’

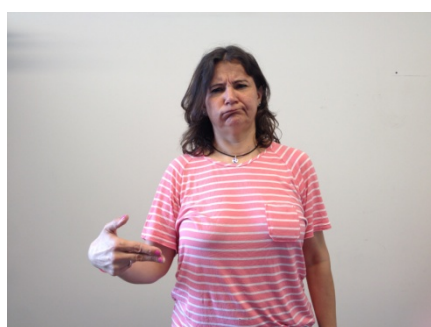


FIGURE 11. Low locus for the agent of the predicate SHOOT

Secondly, there is evidence that in LSC the high locus is a distinctive locus and cannot be analysed simply as the omission of an agent with the starting point of the path movement assimilated from a previous sign outside the referential signing space. We can exclude the possibility of the high locus being a phonological assimilation to the location used for previous signs by inserting an adverb that is articulated at a lower locus. In the example (44), the sign HERE has such a lower articulation: it is expressed at a lower and central location (Figure 8). The example in (44) shows that with the adverb HERE preceding, the verb SHOOT is not articulated at a low locus as would be expected if there was agent omission and assimilation to the locus of the preceding sign. Instead, the sign for the predicate is articulated by going from the lower location in the center to the higher lateral location, therefore showing that the high locus is independently established in signing space. The sign for the verb SHOOT in the High locus construction keeps its transitive structure from the distinguished high agent locus to the object.

- (44) MARIA HERE 3_{up}-SHOOT-1

‘They shot Maria here.’



a. Sign HERE

b. Sign 3_{up}-SHOOT-1

FIGURE 12. Central articulation for HERE and high lateral locus for SHOOT

In the example in (45) the empty agent of the high locus construction is preceded by the adverb YESTERDAY, a sign that is articulated outside central signing space on the dominant shoulder. If the empty locus were the result of agent omission with a non-distinct locus outside the referential signing space, we would expect the place of articulation of the agent of SHOOT to be assimilated to the locus of the sign YESTERDAY. This is not what we find, however, as the high agent locus is established by going from the location at the shoulder to the higher location, showing again that the high locus is independently established in the high plane of signing space.

(45) MARIA YESTERDAY 3_{up}-DRESS-1. (LSC)

‘Yesterday, they dressed Maria.’



a. Sign YESTERDAY

b. Sign 3_{up}-DRESS

FIGURE 13. Articulation with contact in the shoulder for YESTERDAY and high lateral locus for DRESS

For the Non-agreeing construction, on the other hand, there is no activation of a high locus. When preceded by a sign that has a lexical higher articulation, such as the sign MOUNTAIN in (46) the plain verb still keeps its articulation at a lower and central location in signing space.

(46) HOUSE MOUNTAIN BUY_c ALREADY. (LSC)

‘The house at the mountain was bought.’



a. Sign MOUNTAIN

b. Sign BUY

FIGURE 14. High articulation of preceding sign MOUNTAIN and central articulation of predicate BUY

The last argument showing that the High locus construction is a transitive structure comes from the possibility of inserting the auxiliary agreement sign. The auxiliary agreement sign in LSC has a trajectory movement that goes from the location established for the subject to the location established for the object (Quadros & Quer 2008; Steinbach & Pfau 2007). When inserted into the High locus construction, the auxiliary agreement sign has a trajectory moving from the empty high locus associated with the subject to the locus associated with the object. Moreover, the signer’s eyegaze is also directed to this initial point, additionally activating the spatial location. While the agent argument is not previously introduced, high articulation and activation by the signer’s eyegaze show that the unspecified argument has its own locus in space. In example (47) the final end point of the auxiliary agreement sign is on the body of the signer, which functions as the patient. As shown in (47), the agreeing verb moves from the ipsilateral to the contralateral area and the auxiliary agreement sign follows the same path.

____br ____eg:ip-up
 (47) CAT, CL_{limb}walk 3_{up,ip}-AUX-1_{cl up,ip}STEP-ON-1_{cl}
 ‘The cat was walking and they stepped on it.’



FIGURE 15. Auxiliary sign moving from high locus to the patient argument, co-articulated with eyegaze to the initial high locus

The insertion of the auxiliary agreement sign in the Non-agreeing central construction is only felicitous with an agentive interpretation (48a). When the agreement sign is overtly expressed, the other possible interpretations of the Non-agreeing central construction are excluded (48b/c). Example (49) shows that the auxiliary agreement sign cannot be felicitously combined with the sign ALONE ‘spontaneous’, providing further evidence that the transitive structure contributed by the auxiliary agreement sign forces an agentive interpretation.

(48) POT BREAK_c 3_{ip}-AUX-3_c. (LSC)

‘The pot was broken.’

a. JOHN CLUMSY.

‘John is such a clumsy guy.’

b. # WINDOW CL_{ent}.open.

‘The window opened.’

c. # WIND STRONG.

‘The wind was strong.’

(49) # POT BREAK_c ALONE 3-AUX-3.

5.4 Comparing reflexives and argument reduction in LSC

As is well known, reflexives are a common source of agent backgrounding constructions (e.g. Siewierska (1984) for Slavic and Dobrovie-Sorin 2005 for Romance). In what follows we show that the two agent-backgrounding constructions discussed here differ from reflexives in

LSC. The Non-agreeing central construction is clearly non-reflexive as reflexives in LSC are marked by agreement with the body of the signer. The High locus construction with animate patients, on the other hand, does involve agreement with the signer's body and therefore shares a formal property with the reflexive in LSC. In our LSC data, however, the high locus for the agent always corresponds to a reading with a non-specific human agent as in (50).

- (50) JOANA, 3_{up}-SHOOT-1. (LSC)
 ‘They shot Joana.’

To obtain a reflexive reading the verb has to be articulated in the lower referential plane as in (51). However, we found that in some contexts agreement with a low locus for the agent, as in example (51) allows both a reflexive reading (51a) and an impersonal reading (51b).

- (51) JOANA, 3-SHOOT-1. (LSC)
 a. ‘Joana shot herself.’
 b. ‘They shot Joana.’

The High locus construction is therefore not the only means of marking agent reduction with an agreeing verb in LSC. Examples like (51) show that it is also possible to express a non-specific human agent reading with an agreeing verb lacking a lexical agent without assigning a high locus to the agent. However, without a high locus for the agent an example like (51), with articulation of the predicate towards the signer, is not limited to an impersonal reading.

Contexts that combine a reflexive and an impersonal construction in the same sentence show that the two readings differ with respect to other contrastive markings. While the 1st person reflexive is articulated with eyegaze fixed on the addressee (52, Figure 16a), the non-specific agent reading appears not only with a high locus but also with averted eyegaze (53). The example in (53) further shows that the eyegaze can reinforce the activation of the high locus that is already established by agreement (Figure 17).

- (52) IX1 FINGER-CUT-1 **FINGER-STRIP-1**.
 ‘I cut my finger and I put a plaster on my finger.’



a. FINGER-CUT-1 with fixed eyegaze to addressee b. FINGER-STRIP-1

FIGURE 16. Two reflexive predicates in one sentence

- _____eg:up.cl
- (53) IX1 FINGER-CUT-1 $3_{\text{up.cl}}$ -FINGER-STRIP-1.
 ‘I cut my finger and they put a plaster on my finger.’



a. FINGER-CUT-1 with averted eyegaze b. $3_{\text{up.cl}}$ -FINGER-STRIP-1 at a high locus

FIGURE 17. Combination of reflexive and impersonal construction in one sentence

The pair of examples below illustrate a further marker that may contribute to disambiguation of examples like (51): the elicitation of the reflexive readings did not appear with body lean (54, Figure 18), while the patient DP in the High locus construction was articulated with body lean to the contralateral side (marked by the subscript *cl* in (55) and Figure 19).

- (54) _____br
 MARIA WASH-FACE-1.
 ‘Maria_i washed her_i face.’

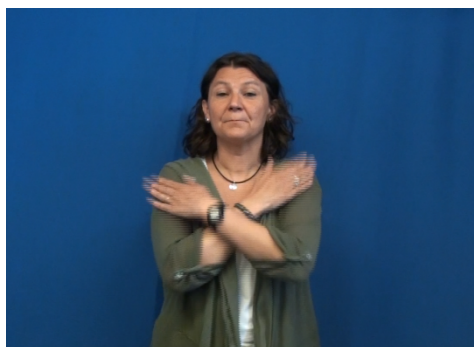


FIGURE 18. Sign for MARIA articulated without body lean

- _____br
 (55) **MARIA**_{cl} 3_{up}-WASH-FACE -1
 ‘They washed Maria’s face.’



FIGURE 19. Sign for MARIA co-articulated with body lean

Another minimal pair contrasting reflexive and non-specific human agent interpretation differed in the distance of articulation from the body of the signer. The reflexive sentence is articulated without averted eyegaze or body lean, and with articulation of the verb close to the body of the signer (56, Figure 20), whereas the non-specific agent interpretation is articulated with averted eyegaze, body lean and the verb is articulated at a distance with respect to the body of the signer (57, Figure 21).

- _____rs:joana
 (56) **JOANA**, CL_{ent}.shoot-shotgun-down-1.
 ‘Joana shot herself from below.’



FIGURE 20. Close articulation to the body of the signer

- _____rs:joana
 (57) JOANA_{ip}, 3-CL_{ent}.shot-gun-in-the-head-1.
 ‘They aimed at Joana with a shotgun.’

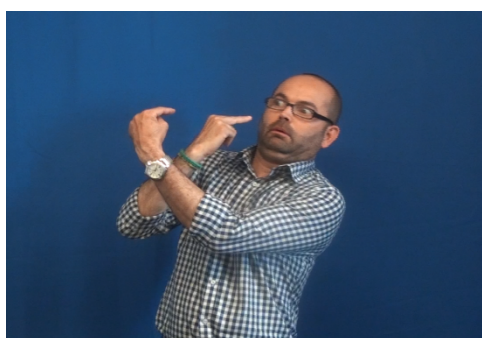


FIGURE 21. Distant articulation from the body of the signer

The minimal pairs differ in a number of features summarised in Table 4.¹⁴ However, the elicited examples with non-specific agents all combine more than one of these features at the same time. The only single factor disambiguating clearly in favour of an impersonal reading was the high locus for the agent. When we tested constructed minimal pairs that differed only on a single one of the features (averted eyegaze/ body lean/ distance of articulation), the examples remained ambiguous. We leave the study of the exact role of these features in the disambiguation of agentless examples to further research.

	Reflexive	Impersonal	Distinguishing criteria
MORPHOSYNTAX			
Averted eyegaze	-	+	
Body lean	-	+	
Distance from body	-	+	

TABLE 4. Distinguishing features between reflexive and impersonal structure

To summarise, we have shown that the High locus construction excludes a reflexive reading. However, there is a third type of configuration that allows agent-backgrounding in LSC consisting of an agreeing verb without a lexical agent, articulated in the lower signing space. A first exploration of this configuration suggests that averted eyegaze, body lean and distance of articulation from the body all play a role in the disambiguation between a reflexive and an impersonal interpretation. However, none of these factors allows disambiguation by itself.

6 Discussion and analysis

The discussion above has shown that the High locus construction preserves transitivity (section 5.3) and implies a human agent (section 5.1). Transitive predicates in the High locus construction remain transitive with a high empty locus corresponding to the implicit agent marked by agreement. The High locus construction therefore clearly differs syntactically from a passive since there is no reduction in transitivity for the underlying predicate. We propose to analyse the High locus construction as involving a pro-subject that is identified by agreement (as proposed for ASL by Lillo-Martin 1986, and Bahan et al. 2000) and interpreted as non-specific due to the semantic specialisation of the upper area in the frontal plane of the signing space for non-specific nominal referents in LSC (Barberà 2012).

As we have shown above, in LSC the agreement need not be part of the lexical verb as in (58a) but can be provided by the auxiliary sign (58b) or identification of the high locus by the place of articulation of a non-agreeing verb (58c).

- (58) a. pro_{up} PATIENT_i $_{up}$ VERB_i (agreeing verb)
 b. pro_{up} PATIENT_i $_{up}$ VERB $_{up}$ AUX_i (auxiliary agreement sign)
 c. pro_{up} PATIENT_i $_{up}$ VERB (high articulation of plain verb)

According to our proposal, the High locus construction is parallel to R-impersonal subject constructions with a 3pl subject like *They stole my bike* in English. This proposal is supported by the fact that (like 3pl R-impersonal constructions crosslinguistically, see Siewierska 2011), the High locus construction is limited to human agents (section 5.1).

As with a lexical subject, the patient DP in the High Locus construction can be in situ (59a/c) or topicalised (56b/d).

- (59) a. JOHN_j MARY_i 3_j-SEE-3_i (transitive + patient in situ)
 ‘John saw Mary.’
- _____br
- b. MARY_i JOHN_j 3_j-SEE-3_i. (transitive + topicalised patient)
 ‘Mary, John saw her.’
- c. pro_{up} MARY_i 3_{up,j}-SEE-3_i. (R-impersonal + patient in situ)
 ‘They saw Mary.’
- _____br
- d. MARY_i pro_{up} 3_{up,j}-SEE-3_i. (R-impersonal + topicalised patient)
 ‘Mary, they saw her.’

As we have seen in section 3, the analyses in Kegl (1990), Janzen et al. (2001) and Saeed & Leeson (1999) consider the shift of perspective to the patient by means of role shift to be a central property of agent-demoting constructions. However, we do not consider role shift a defining property of the High locus construction. Following Sze (2010) we propose that the use of role shift is an epiphenomenon triggered by animate patients. In general, sentences with inanimate themes/patients do not contribute to role shift structures (with the exception of poetical and storytelling contexts, that are also known to license animate interpretation for inanimate objects in spoken languages).

The shift in perspective cannot be taken as an analogue of the syntactic promotion of the patient typical of promotional passives, as in LSC the centre of perspective need not coincide with the agent. As example (60) shows, transitive structures can adopt the perspective of the patient of a transitive sentence.

- _____rs:pau
- (60) MARTÍ PAU SHOULDER GRAB-1. (LSC)
 ‘Martí grabbed Pau by the shoulder.’

Secondly, the centre of perspective is not necessarily associated with the grammatical subject cross-linguistically. In the following examples the centre of perspective is expressed as an object (61a) and as a prepositional phrase (61b). Shift of perspective to the patient can therefore not be analysed as an indicator of syntactic promotion of the object.

- (61) a. Thunder frightens me.
 b. For the child, the sweets in the jar were very tempting.

We have shown that the Non-agreeing central construction does not pattern with passives as it allows anticausative interpretations, which present the event as agentless. At the same time, the Non-agreeing central construction also has interpretations with a semantically active implicit agent as it allows agentive modification by purpose clauses and as complement to the predicate WANT (section 5.2). Furthermore, in the Non-agreeing central construction only the patient argument is associated with a locus in signing space. We propose to analyse the Non-agreeing central construction as an intransitivised middle verb that allows anticausative (62a), property middle (62b) and passive (62c) interpretations (i.e. interpretations with or without an implicit agent).

- (62) a. POT **BREAK**_c ALONE. (LSC, anticausative)
 ‘The pot broke spontaneously.’
- b. TABLE **CLEAN**_c EASY (LSC, property middle)
 ‘(This) table cleans easily / is easy to clean.’
 (For a table in a shop that was never cleaned).
 (also possible: passive: ‘(This) table was cleaned easily.’)
- c. TABLE **CLEAN**_c YESTERDAY (LSC, passive)
 ‘The table was cleaned yesterday.’

We propose that the Non-agreeing central construction is an instance of argument reduction by projection of an intransitive structure for a transitive predicate. This kind of argument reduction is exemplified by the mediopassive found in Basque (Trask 1985, Ortiz de Urbina 2003 and references there). Basque has two auxiliaries: *edun* aux_{trans} and *izan* aux_{intrans} (see e.g. Ortiz de Urbina 2003: 582) that combine with transitive (63a/b) and intransitive

predicates respectively (63c). Combining a *transitive* predicate with an *intransitive* auxiliary gives rise to passive (64a/b) interpretations and anticausative interpretations (64b) if the predicate is compatible with this reading:

- (63) a. Etxea bost hilabetetan eraiki **zuten** langileek
 house five months.LOC build AUX_{TRANS}3A/3E.PL workers.ERG
 ‘The workers built the house in five months.’
 (transitive verb and auxiliary, Ortiz de Urbina 2003: ex. 1275a)
- b. Haurrak liburuak galdu **ditu**.
 child-DET-ERG book-DEL-PL lose-PERF AUX_{TRANS}.3A.PL/3E
 ‘The child lost the books.’
 (transitive verb and auxiliary, Trask 1985:987, ex 8a)
- c. Gizona etxera joan **da**.
 man-DET house-to-go-PERF AUX_{INTRANS}.3A
 ‘The man went home.’
 (intransitive verb and auxiliary, Trask 1985:986, ex 1)

(64) Transitive predicate with intransitive auxiliary

- a. Etxea bost hilabetetan eraiki **zen**.
 house five months.LOC build AUX_{INTRANS}3A
 ‘The house was built in five months.’
 (Ortiz de Urbina 2003: ex. 1275b, passive interpretation)
- b. Liburuak galdu **dira**.
 book-DET-PL lose-PERF AUX_{INTRANS}3A.PL
 ‘The books got lost / were lost.’
 (Trask 1985:987, ex. 8b, anticausative interpretation preferred)

In many languages (Slavic and Romance), the middle semantics found with the Non-agreeing central construction is expressed by a weak reflexive clitic on the verb (reflexive middles). In LSC, however, the Non-agreeing central construction in LSC does not involve reflexive marking. As in (65a/b) below, canonical reflexive sentences are expressed by agreement with the body of the signer and role shift (together with averted eyegaze) (see Section 5.4), both features that are clearly absent in the Non-agreeing central construction.

- (65) a. JOHN IX3 FINGER FINGER-STRIP-1.
 ‘John put a plaster on his finger.’
 _____rs:1st
- b. IX1 FINGER IX1 FINGER-STRIP-1.
 ‘I put a plaster on my finger.’

The properties of the Non-agreeing construction resemble reflexive verbs in Romance semantically (66a-c) but not syntactically as there is no reflexive marking.¹⁵

- (66) a. El jarro se rompió. (Spanish, anticausative)
 the jar refl broke
 ‘The jar broke.’
- b. Este jarro se limpia fácilmente. (Spanish, property middle)
 this jar refl clean easily
 ‘This jar cleans easily / is easy to clean.’
- c. Ayer se repararon varias lámparas. (Spanish, passive)
 yesterday refl. repaired.3pl many lamps
 ‘Yesterday many lamps were repaired.’

An alternative analysis would be to claim that the Non-agreeing central construction is ambiguous between two underlying structures: a transitive structure with an empty 3pl subject comparable to (67a) and an intransitive structure with an anticausative reading comparable to (67b).¹⁶

- (67) a. They broke the vase.
 b. The vase broke.

This analysis would predict that the Non-agreeing central construction allows a transitive and an intransitive structure. We do not adopt this alternative analysis since the transitive use of the predicate BREAK with two lexical arguments clearly differs from an intransitive use of BREAK with respect to the locus of the patient DP. While with a transitively used predicate

- b. El jarro **fue** roto **a propósito**. (Spanish, auxiliary passive)
 det jar is.cop broken on purpose
 ‘The jar was broken intentionally.’

In LSC the Non-agreeing construction is furthermore compatible with aspectual inflection on the verb conveying the meaning *gradually*. In (71) the sign HUMID is modified with the bound inflectional morpheme ‘gradual’, further supporting the conclusion that it allows an eventive interpretation.

- (71) CLOTHES WATER HUMID_{c.grad}
 ‘The clothes are getting wet.’

The Non-agreeing central construction therefore patterns with a verbal middle voice as found in Basque obtained by projection of an intransitive syntactic structure and not with the reflexive middles found in Germanic, Romance and Slavic (Steinbach 2002, Dobrovie-Sorin 2005, Siewierska 1984).

7 Conclusions

We have examined two agent-backgrounding constructions in LSC: the High locus construction and the Non-agreeing central construction. Semantically, the two constructions do not have the profile of a passive since the High locus construction is limited to human implicit agents and the Non-agreeing central construction does not necessarily imply an agent, allowing anticausative as well as passive interpretations with human agents and inanimate causes.

In the High locus construction an agreeing verb or a plain verb establishes an empty but syntactically active locus by the agreement path and the backgrounded agent is obligatorily interpreted as human. With an animate patient the agreement in the High locus construction is with the body of the signer, which expresses the patient through role shift, while for inanimate patients agreement is with the locus established for the inanimate patient DP. As there are no known markers of grammatical role in LSC, it is not possible to use syntactic promotion of the patient to syntactic subject as a test for intransitivity. The role shift observed with animate patients in the High locus construction adds discursive prominence by

taking the perspective of one of the participants. However, role shift to the patient is not a plausible marker of syntactic promotion of the patient as in transitive sentences with fully referential animate arguments role shift can target agents as well as patients and role shift is furthermore only observed with animate patients. In LSC the high non-specific location is established as an independent locus as evidenced by the fact that it forces dissimilation with the preceding sign (see section 5.3 above). Furthermore, the auxiliary agreement sign in LSC agrees with a high agent locus, further confirming a transitive analysis of the High locus construction. Finally, it is worth mentioning that single argument agreement also takes place even when the argument has not been previously activated, as shown by the High locus construction contributed by plain verbs.

In contrast, the Non-agreeing central construction is limited to plain verbs and allows a range of interpretations including anticausative, stative-middle and passive. We have argued that the Non-agreeing construction corresponds to an argument-reducing construction by projecting an intransitive structure with a transitive predicate, as found for example in the mediopassive in Basque. This form is a non-active verb form (middle) that optionally, but not necessarily, includes an implicit agent, while the High locus construction corresponds to a transitive construction with an R-impersonal subject.

The present exploration of agent-backgrounding operations in LSC has shown that there are various agent-backgrounding structures, where different morphosyntactic features interact in order to express agentless structures. Recently, this domain has become the focus of attention of a number of other research projects (cf. Özkul & Kelepir 2015 for Turkish Sign Language (TID); Koulidobrova 2015 for ASL; Kimmelman 2015 for Sign Language of The Netherlands (NGT), and Herrmann & Steinbach 2015 for German Sign Language (DGS)). In preliminary research on agent-backgrounding structures and R-impersonal constructions, it has been shown that in some contexts Spanish Sign Language (LSE) and French Sign Language (LSF) also display the use of high loci for R-impersonal subjects (Costello 2015 for LSE, and L'Huillier, Sallandre, Garcia 2015 for LSF). However, it is as yet not clear whether this high location has a clear grammatical function in the grammar of these languages, e.g. by marking non-specificity as in LSC. In the agent-backgrounding constructions in other sign languages the empty agent need not be localised in a marked location in the upper plane, making these examples plausibly more similar to the low agentless construction in LSC that has not so far been analysed. In LSC the grammaticalisation of the high non-specific loci helps to make the transitive construction more visible in the case of high empty loci. If the other sign languages have agreement from a neutral lower locus, our argument about

assimilation to a previous low locus does not necessarily go through as the empty locus could stay at the same height in the signing space as the previous sign (contrary to what we see in LSC). The results reported here suggest that agent-backgrounding in LSC shows language-specific properties related to the expression of non-specificity, rather than modality specific properties. Comparative studies on other sign languages are clearly needed for a better understanding of omitted agents in sign languages.

References

- ACKEMA, PETER and MAAIKE SCHOORLEMMER. 2005. Middles. *The Blackwell Companion to Syntax*, ed. by Martin Everaert and Henk van Riemsdijk, vol. III, 131-203. Oxford: Blackwell.
- BAHAN, BENJAMIN, JUDY KEGL, ROBERT LEE, DAWN MACLAUGHLIN and CAROL NEIDLE. 2000. The licensing of null arguments in American Sign Language. *Linguistic Inquiry* 31: 1-27.
- BARBERÀ, GEMMA. 2012. *The meaning of space in Catalan Sign Language (LSC). Reference, specificity and structure in signed discourse*. Doctoral dissertation, Universitat Pompeu Fabra [Published as a monograph in 2015, Berlin & Nijmegen: De Gruyter Mouton & Ishara Press].
- BARBERÀ, GEMMA and PATRICIA CABREDO HOFHERR (in preparation) Two indefinite pronouns in Catalan Sign Language (LSC). Proceedings of Sinn und Bedeutung 21 2016, University of Edinburgh.
- BARBERÀ, GEMMA and PATRICIA CABREDO HOFHERR. 2016. Une structure de mise en arrière-plan de l'agent en langue des signes catalane (LSC): Passif ou impersonnel? *L'information Grammaticale* 149: 55-60.
- BARBERÀ, GEMMA and JOSEP QUER. 2013. Impersonal reference in Catalan Sign Language (LSC). *Sign Language Research Uses and Practices: Crossing Views on Theoretical and Applied Sign Language Linguistics*, ed. by Laurence Meurant, Aurélie Sinte, Mieke van Herreweghe & Myriam Vermeerbergen, 237-258. Berlin/Boston: De Gruyter Mouton and Ishara Press.
- BAKER-SHENK, CHARLOTTE LEE and DENNIS COKELY. 1980. *American sign language a teacher's resource text on grammar and culture*. Silver Spring, Md: T.J. Publishers.
- BAKER, MARK, KYLE JOHNSON, and IAN ROBERTS. 1989. Passive arguments raised. *Linguistic Inquiry* 20:219–251.
- BENEDICTO, ELENA, and DIANE BRENTARI. 2004. Where did all the arguments go? Argument-changing properties of Classifiers in ASL. *Natural Language and Linguistic Theory* 22(4):743-810.
- BENEDICTO, ELENA, SANDRA CVEJANOV and JOSEP QUER. 2007. Valency in Classifier Predicates: A Syntactic Analysis. *Lingua* 117. 1202-1215.
- BLEVINS, JAMES. 2003. Passives and impersonals. *Journal of Linguistics* 39.473-520.
- BOLINGER, DWIGHT. 1979. To catch a metaphor: You as norm. *American Speech* 54.194--209.

- CABREDO HOFHERR, PATRICIA. In press. Impersonal passives. *The Blackwell Companion to Syntax*, ed. by Martin Everaert and Henk Van Riemsdijk. Oxford: Blackwell.
- CABREDO HOFHERR, PATRICIA. 2006. 'Arbitrary' pro and the theory of pro-drop. In P. Ackema, P. Brandt, M. Schoorlemmer & F. Weerman (eds), *Agreement and Arguments*. 230-258. Oxford University Press, Oxford.
- CHOMSKY, NOAM. 1981. Lectures on Government and Binding. Dordrecht: *Foris*.
- COSTELLO, BRENDAN. 2015. How do you/we/they get impersonal in Spanish Sign Language (LSE)? A first look. Paper presented at the Workshop Langues des signes et R-Impersonnels, Université Paris 8, February 6.
- CUXAC, CHRISTIAN. 2000. La langue des signes française. Les voies de l'iconicité. *Faits de langue*, vols. 15-16. Paris, Ophrys.
- DOBROVIE-SORIN, CARMEN. 2005. The *se* anaphor and its role in argument realization. *The Blackwell Companion to Syntax*, ed. by Martin Everaert and Henk van Riemsdijk, vol. 4, 118-179. Oxford, UK: Blackwell.
- DOBROVIE-SORIN, CARMEN. 1998. Impersonal *se* Constructions in Romance and the Passivization of Unergatives. *Linguistic Inquiry* 29: 399-439.
- ENGBERG-PEDERSEN, ELISABETH. 1993. *Space in Danish Sign Language. The Semantics and Morphosyntax of the Use of Space in a Visual Language*. Hamburg: Signum-Verlag.
- GAST, VOLKER and JOHAN VAN DER AUWERA. 2013. Towards a typology of human impersonal pronouns, based on data from European languages. *Languages Across Boundaries: Studies in Memory of Anna Siewierska*, ed. by Dik Bakker and Martin Haspelmath, 119--158. Berlin: de Gruyter Mouton.
- GERACI, CARLO. 2014. Spatial syntax in your hands. *NELS 44: Proceedings of the Forty-Fourth Annual Meeting of the North East Linguistic Society*, ed by Jyoti Iyer and Leland Kusmer, vol 1, 123–134. Amherst: GLSA.
- GERACI, CARLO and JOSEP QUER. 2014. Determining argument structure in sign languages. *Structuring the Argument: Multidisciplinary research on verb argument structure*, ed by Asaf Bachrach, Isabelle Roy and Linnaea Stockall, 45–60. Amsterdam/ Philadelphia: John Benjamins.
- GUITTENY, PIERRE. 2006. *Le passif en langue des signes*. Doctoral dissertation, Université Bordeaux III.
- HANSEN, MARTJE. 2007. Why can German Sign Language (DGS) do without a passive construction? Ways of marking semantic roles in DGS. Dissertation abstract. *Sign Language and Linguistics*. 10 (2): 213-222.

- HERRMANN, ANNIKA and MARKUS STEINBACH. 2015. Impersonal reference in German Sign Language. Paper presented at the Workshop Langues des signes et R-Impersonnels, Université Paris 8, February 6.
- HOLMBERG ANDERS. 2005. Is there a little pro? Evidence from Finnish. *Linguistic Inquiry* 36: 533-564.
- JAEGGLI, OSVALDO. 1986. Passive. *Linguistic Inquiry* 17: 587-622.
- JANZEN, TERRY; BARBARA O'DEA; and BARBARA SHAFFER. 2001. The Construal of Events: Passives in American Sign Language. *Sign Language Studies* 1 (3): 281-310.
- KEENAN, ED and MATTHEW DRYER. 2007. Passive in the world's languages. *Clause structure, language typology and syntactic description*, ed. by Timothy Shopen, Vol. 1, 325–361. Cambridge: Cambridge University Press.
- KEGL, JUDY. 1990. Predicate Argument Structure and Verb-Class Organization in the ASL Lexicon. *Sign Language Research: Theoretical Issues*, ed. by Ceil Lucas, 149-175. Washington, DC: Gallaudet University Press.
- KEMMER, SUZANNE. 1993. *The middle voice*. Amsterdam/ Philadelphia, John Benjamins.
- KEYSER, SAMUEL J. and TOM ROEPER. 1984. On the middle and ergative constructions in English. *Linguistic Inquiry* 15: 381–416.
- KIMMELMAN, VADIM. 2015. R-impersonals in Sign Language of The Netherlands. Paper presented at the Workshop Langues des signes et R-Impersonnels, Université Paris 8, February 6.
- KITAGAWA, CHISATO and ADRIENNE LEHRER. 1990. Impersonal uses of personal pronouns. *Journal of Pragmatics* 14: 739 –759.
- KLIMA, EDWARD and URSULA BELLUGI. 1979. *The signs of language*. Cambridge, MA: Harvard University Press.
- KOENIG, JEAN-PIERRE. 1999. 'On a tué le président!' Ultra-indefinites and the nature of passives'. In *Cognition and Function in Language*, 235-251. Stanford: CSLI publications.
- KOULIDOBROVA, HELEN. 2015. Searching for the person in ASL impersonals. Paper presented at the Workshop Langues des signes et R-Impersonnels, Université Paris 8, February 6.
- L'HUILLIER, MARIE-THERESE, MARIE-ANNE SALLANDRE and BRIGITTE GARCIA. 2015. Impersonal reference to humans in LSF: a first glance. Paper presented at the Workshop Langues des signes et R-Impersonnels, Université Paris 8, February 6.
- LILLO-MARTIN, DIANE. 1986. Two kinds of null arguments in American Sign Language. *Natural Language and Linguistic Theory* 4: 415-444.

- LILLO-MARTIN, DIANE. 1995. The point of view predicate in American Sign Language. *Language, Gesture, and Space*, ed. by Karen Emmorey & Judy Reilly, 155-170. Hillsdale, NJ: Lawrence Erlbaum Associates.
- LILLO-MARTIN, DIANE. 2012. Utterance reports and constructed action. *Sign language: An international handbook*, ed. by Roland Pfau, Markus Steinbach and Bencie Woll, 365-386. Berlin: de Gruyter.
- KULIKOV, LEONID. 2013. Middles and reflexives. In Silvia Luraghi & Claudia Parodi (eds), *The Bloomsbury companion to syntax*, 261–280. London: Continuum.
- MALAMUD, SOPHIA. 2012. Impersonal indexicals: one, you, man and du. *Journal of Comparative Germanic Linguistics* 15, 1--48.
- MATHUR, GAURAV and CHRISTIAN RATHMANN. 2012. Verb agreement. *Sign language: An international handbook*, ed. by Roland Pfau, Markus Steinbach and Bencie Woll, 136-157. Berlin: de Gruyter.
- ORTIZ DE URBINA, JON. 2003. Impersonal clauses. In Hualde, José Ignacio/ Ortiz de Urbina, Jon (eds.), *A Grammar of Basque*, 572-591. Berlin, Boston: De Gruyter Mouton.
- ÖZKUL, ASLI and MELTEM KELEPIR. 2015. Passive-like constructions with inanimate themes in Turkish Sign Language (TID). Poster presented at *Formal and Experimental Approaches to Sign Language Theory*. Barcelona, 4 May 2015.
- PADDEN, CAROL. 1990. The relation between space and grammar in ASL morphology. *Proceedings of the Second International Conference on Theoretical Issues in Sign Language Research*, ed. by Ceil Lucas (ed.), 118-132. Washington, DC: Gallaudet University Press.
- PERLMUTTER, DAVID M. and PAUL M. POSTAL. 1984. Impersonal passives and some relational laws. *Studies in relational grammar 2*, ed. by David M. Perlmutter and Carol G. Rosen, 126-170. Chicago: Chicago University Press.
- QUADROS, RONICE and JOSEP QUER. 2008. Back to backwards and moving on: on agreement, auxiliaries and verb classes in sign languages. *Sign Languages: spinning and unraveling the past, present and future (TISLR9)*, ed. by Ronice Müller de Quadros, 530-551. Petrópolis/RJ. Brazil: Editora Arara Azul.
- QUER, JOSEP. 2011. Reporting and quoting in signed discourse. In *Understanding Quotation*, Elke Brendel, Jörg Meibauer, and Markus Steinbach (eds.), 277–302. Berlin, New York: Mouton de Gruyter (Mouton Series in Pragmatics).
- SAEED, JOHN I. and LORRAINE LEESON. 1999. Detransitivisation in Irish Sign Language. Paper presented at the European Science Foundation Intersign Meeting on Morphosyntax. Siena,

March 1999.

- SANDLER, WENDY. 1989. *Phonological Representation of the Sign: Linearity and Nonlinearity in American Sign Language*. Dordrecht: Foris.
- SIEWIERSKA, ANNA. 1984. *The passive: A comparative linguistic analysis*. London: Routledge.
- SIEWIERSKA, ANNA. 2008. Introduction: impersonalization from a subject-centred vs. agent-centred perspective. *Transactions of the Philological Society*, 106: 115–137.
- SIEWIERSKA, ANNA. 2011. Overlap and complementarity in reference impersonals: ‘Man’-constructions vs. third person plural-impersonals in the languages of Europe. *Impersonal Constructions: A Cross-linguistic Perspective*, ed. by Anna Siewierska and Andrej Malchukov, 57-89. Amsterdam: John Benjamins.
- STEINBACH, MARKUS. 2002. *Middle Voice: A comparative study in the syntax-semantics interface in German*. Amsterdam: John Benjamins.
- STEINBACH, MARKUS and ROLAND PFAU. 2007. Grammaticalization of auxiliaries in sign languages. *Visible variation: Comparative studies on sign language structure*, ed. by In Pamela Perniss, Roland Pfau and Markus Steinbach, 303-339. Berlin: de Gruyter Mouton.
- SZE, FELIX. 2010. Is there passive in Hong Kong Sign Language? Poster presented at TISLR 10, Purdue University, USA, 30 September – 2 October 2010.
- TRASK, LARRY. 1985. The Basque passive: a correct description, *Linguistics* 23: 985-991.
- YULE, GEORGE. 1982. Interpreting anaphora without identifying reference. *Journal of Semantics* 1: 315-322.
- ZIFONUN, GISELA. 2000. "Man lebt nur einmal." Morphosyntax und Semantik des Pronomens *man*. *Deutsche Sprache* 3/2000: 232-253.
- ZWITSERLOOD, INGE. 2012. Classifiers. *Sign language: An international handbook*, ed. by Roland Pfau, Markus Steinbach and Bencie Woll, 158-185. Berlin: de Gruyter.

¹ This article follows the usual glossing conventions in the sign language literature, representing manual signs by the capitalized word corresponding to the translation of the sign. The abbreviations used in the glosses are the following (# is a placeholder for the loci in signing space corresponding to 1st, 2nd and 3rd person referents): IX# (index pointing sign); #-VERB-# (verb agreeing with subject and object); sub-indices mark localisation in signing space: lo (low), up (up), ip (ipsilateral); cl (contralateral); c (centre); lower indexed letters (i, j...) mark coreference relations; CL for classifier construction, followed by the kind of classifier (*ent* for entity classifier; *hand* for handling classifier; *limb* for limb classifier), the handshape in parentheses and a rough meaning description. A line above the glosses indicates the scope of non-manuals: br (brow raise), eg (eyegaze), rs (role shift). Reduplication of signs is indicated by +++.

² See Kegl (1990) for details on her notational conventions.

³ The examples taken from the literature have been adapted to our own notation system, as presented in note 1.

⁴ Keenan & Dryer (2007:328-329) point out that the most widespread type of passives (their *basic passive*) is agentless. Cross-linguistically, many passive constructions do not allow the demoted agent to be expressed as an oblique DP (Keenan & Dryer 2007:331).

⁵ Cuxac (2000: 199) claims that “*On* has a corresponding form in LSF, namely to make the movement of the verb INFORM start from a neutral locus that is independent of the presence of a concrete person.” (cited in Guitteny 2006: 312).

⁶ In the literature, the term *middle* is not defined uniformly. The term *middle voice* originates in the Ancient Greek grammatical tradition for the non-active verb form that allowed passive, anticausative, reflexive, reciprocal and auto-benefactive interpretations (Kulikov 2013:274). Ancient Greek middle verb forms are non-active verb forms that do not necessarily imply an agent but have a grammatical subject that is affected by the event. The exact range of meanings of the middle form varies across languages (Kulikov 2013:273). The cognate verb form of the Ancient Greek middle voice in Sanskrit, for example, was mainly used for anticausative readings (Kulikov 2013:274). The Russian reflexive middle marked by *-sja/ -s'* covers passive, anticausative, reflexive and reciprocal, interpretations (Kulikov 2013:273). For variation of the interpretation of reflexive marked verbs in Romance see Dobrovie-Sorin (2005). Other definitions of the term middle include an active form of the transitive verb with the patient in subject position and an implicit agent as in the English *this books reads easily*

(Keyser & Roeper 1984), while yet another use of the term middle refers to the stative property use with an implicit agent independently of whether or not the verb is morphologically marked or identical to the active form (see e.g. Ackema & Schoorlemmer 2005).

⁷ For a detailed discussion of agent-reducing devices see Keenan & Dryer (2007), Blevins (2003) for the distinction between passive verbs and impersonal verb forms and Cabredo Hofherr (in press) for the distinction between passive verbs, impersonal verb forms and impersonal subjects.

⁸ Saeed & Leeson (1999: 27) take central subject locus as a characteristic of Demotion 2. However, the examples that the authors discuss in detail involve agreeing verbs and it is not clear from the discussion whether they analyse agentless non-agreeing verbs articulated in the c-locus as instances of Demotion 2.

⁹ In sign languages signing space can be interpreted topographically or contrastively (Barberà 2012; Klima & Bellugi 1979). In a topographical interpretation, a high locus in signing space is interpreted as a high location as in “The pot on the upper left shelf was broken”. In contrastive uses of space, placement can express contrast with another individual of the same type as in “That particular pot, not the other, was broken”. In LSC, contrastive spatial locations do not have access to high locations without a topographical use of space.

¹⁰ A single locus may correspond to an abstract use of space and to a topographic one. In these contexts in LSC the abstract use overrides the topographic one (see the discussion in Barberà 2012, chapter 3).

¹¹ We do not use classifiers as a test for argument structure in LSC. Previous literature on handling classifiers has shown that these complex structures incorporate an agentive external argument and an internal one (Benedicto & Brentari 2004, for ASL; Benedicto, Cvejanov & Quer 2007, for LSC and Argentinian Sign Language). According to these authors, handling classifiers preserve a transitive structure (both subject and object are incorporated in the handshape), while entity classifiers are considered intransitive unaccusative structures (with a single internal argument). However, Zwitserlood (2012) argues that the type of classifier is predictive of argument structure only for verbs of motion and location, while for other verbs it is not reliably correlated with argument structure. In LSC both types of classifier are compatible with an agentive interpretation: the High locus construction is compatible with modification by WANT with both types of classifier, showing that entity classifiers in LSC

are compatible with implicit agents (and therefore not obligatorily interpreted as unaccusatives).

- (i) a. TRAY **up.ipCL_{hand}TURN-OVER** WANT. (handling classifier)
 b. TRAY **up.ipCL_{ent}TURN-OVER** WANT. (entity classifier)
 ‘They turned over the tray on purpose.’

In the Non-agreeing central construction, however, in the absence of a syntactic locus for the agent, the choice of classifier disambiguates between an agentive and a non-agentive reading.

- (ii) a. DOOR **CL_{hand}.door-open_c** GO PARK IX **CL_{ent}.crowd-go-out**. (handling classifier)
 ‘They opened the door to go out to the park.’
 b. DOOR **CL_{ent}.door-open_c** GO PARK IX **CL_{ent}.crowd-go-out**. (entity classifier)
 ‘The door opened and the people went out to the park.’

¹² LSC has no marking of grammatical relations. In contrast, Italian Sign language (*lingua dei segni italiana*, LIS) marks grammatical relations using lateralization (Geraci 2014): controlling for topographical use of signing space, subjects are localised in the ipsilateral side, while objects are localised in the contralateral side. In previous work, we argue that lateralization provides further evidence that the equivalent of the high locus construction in LIS is transitive (Barberà & Cabredo Hofherr 2016). In the equivalent of the High locus construction in LIS, the lateral consistency is kept, suggesting that the construction does not involve syntactic promotion of the object to subject. The object is kept in the contralateral area, as evidenced by the path of the agreeing verb. When the sentence is continued by a coreferential pronoun referring to the agent, the index pronoun is also directed to the ipsilateral side. For the Non-agreeing construction in LIS, in contrast, the object is articulated in the centre of signing space without lateralization.

¹³ Moreover, LSC allows the establishment of two different loci for the high agent, explicitly marking distribution over the subject (Barberà & Cabredo Hofherr, in preparation). A sentence like (i) the agreement verb STEAL is inflected with two high loci, one ipsilateral, one contralateral, and it results in a reading where the indefinite subject co-varies with the stealing event, namely “there have been two times in which someone stole my bike”.

- (i) WHO[^]SOME_{up} IX1 POSS BIKE **1-STEAL-3_{up,a}** **1-STEAL-3_{up,b}** TWO TIMES.
 ‘They stole my bike two times.’ (2 times > someone)

¹⁴ We also tested compatibility with markers of intentionality or lack thereof. However, these markers do not discriminate between reflexive and R-impersonal interpretations. Under both interpretations intentionality or lack thereof is attributed to the agent of the sentence.

-
- _____br
- (i) JOANA SHOOT-1 **WANT**. (LSC)
- a. ‘Joana shot herself intentionally.’
- b. ‘They shot Joana intentionally.’

- _____br
- (ii) JOANA SHOOT-1 **WANT-NOT**. (LSC)
- a. ‘Joana shot herself unintentionally.’
- b. ‘They shot Joana unintentionally.’

¹⁵ For discussion of the different uses of the term *middle* see section 4 above. The Non-agreeing central construction in LSC is clearly not comparable to the construction that has been called *middle* in the literature on English. The English middle is limited to a stative property interpretation (Keyser & Roeper 1984 and others) while the Non-agreeing central construction has punctual eventive interpretations.

- (i) a. This vase cleans easily. (English middle)
- b. He cleaned this vase.
- (ii) a. VASE IX CLEAN_c EASY. (LSC)
- ‘This vase cleans easily.’
- b. VASE IX CLEAN_c ALREADY YESTERDAY. (LSC)
- ‘This vase was cleaned yesterday.’

¹⁶ A uniform transitive analysis of the Non-agreeing central construction with a null 3pl subject is not possible: the construction allows an anticausative, agentless interpretation and a passive interpretation with an inanimate cause while crosslinguistically impersonal 3pl subjects impose an interpretation with a human implicit agent (Siewierska 2011).