Impersonal reference in Catalan Sign Language (LSC)

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1. Introduction

Impersonal sentences constitute a broad category in description and typology. In this paper we focus on the kind of predications where one of the arguments (typically the subject) is labelled as impersonal because of its low referentiality and we offer a first characterization of such predications in Catalan Sign Language (*llengua de signes catalana*, LSC).[1] The literature has often referred to such cases as arbitrary interpretations, whether they are overtly marked for it or not. We will follow Siewierska (2011) and call this class R(eferential)-impersonals, in order to distinguish them from, for instance, quasi-arguments in weather verbs or in predications with expletive-like and clausal subjects.

The paper is organized as follows. Section 2 offers a brief overview of the forms that can convey an arbitrary interpretation cross-linguistically and we briefly present the two different analyses for non-referential subjects. Section 3 presents previous research on (non-)specificity and genericity marking in LSC relevant for the present account. Section 4 offers a description of the overt marking expressed by functional lexical elements to denote impersonal reference in LSC, as well as a characterization of anaphoric uses and the interaction of role shift in generic predications with arbitrary subjects. Section 5 presents the hybrid analysis underlying this paper according to which impersonal reference is instantiated by generic and indefinite pronouns. Finally, Section 6 summarizes the main findings.

2. Arbitrary interpretations as impersonal reference

Arbitrary interpretations have been mainly identified in the generative literature with empty subject positions in null subject languages like Catalan

or Greek that display overt agreement with the empty pronominal subject (Suñer 1983; Jaeggli 1986; Cinque 1988):

(1) a. Al   camp   *pro*   ho   aprofiten   tot.   (Catalan)
          in-the countryside   it   use.3PL   everything
          'In the countryside they use everything.'
     b. *pro*   skotosan   ton   Jani.   (Greek)
          kill.3PL   the   Yannis
          'They killed Yannis.'   (Condoravdi 1989: 79)

Under the relevant R-impersonal reading, the subject is [+human] and there is no concrete set of individuals it refers to, despite the 3rd person plural agreement on the verb: in (1a) the subject refers generically to people who live in the countryside; in (1b) no group of people is intended as author of the murder, but rather, a single individual is naturally understood as having carried out the murder. It is from this perspective that the empty subject category shows particular interpretive properties that clearly differ from the default referential interpretation of *pro* (notice that such interpretations are also available for the same sentences under the right contextual conditions, but we ignore them here for the sake of simplicity and we exclusively concentrate on the arbitrary ones). For this reason, pro_{arb} has been taken to be a distinct instance of the empty category *pro* in null subject languages.

Similarly, in a language like Spanish, an empty subject with second person singular agreement on the verb can yield an arbitrary interpretation as well, as in (2a) (Hernanz 1990). The overt expression of the pronominal *tú*, though, blocks this reading and only allows for the indexical one pointing to the addressee (2b).

(2) a. En   la   mezquita   andas   descalzo.
          in   the   mosque   walk.2SG   barefoot
          'In the mosque one walks barefoot.'
     b. En   la   sinagoga   tú   te   cubres   la   cabeza.
          in   the   synagogue   you   clitic.2SG cover   the   head
          'In the synagogue you (addressee) will cover your head.'

The same type of arbitrary interpretation is obtained through dedicated impersonal pronouns. They occur in non-null subject languages like English (*one*, see (3a)) or French (*on*, see (3b)), but also in null subject ones like Catalan (*hom*) or Spanish (*uno*, see (3c)):

(3) a. One tends to forget this.
    b. En   Espagne,   on   ignore   l'histoire   récente.
      in   Spain   ON   ignore.3SG the-history recent
      'In Spain, people don't know recent history.'
    c. Uno   no   debería   aceptar   eso.
      one   not   should.3SG accept.INF that
      'One shouldn't accept that.'

Other grammatical means may be used to encode the impersonal reading of the subject, like the Romance clitic SE-construction, as in the Italian example (4):

(4) Si   lavora   sempre   troppo.
    cl.SE work.3SG   always   too-much
    'One always works too much.'   (Cinque 1988: 522)

Despite the variation attested in the expression of arbitrary subjects across languages, what makes the phenomenon interesting is the shared interpretive core: a non-referential human subject. This is achieved either by recycled grammatical means that serve other functions (empty pronominal subject, clitic SE) or by specialized pronominal forms. From a theoretical point of view, arbitrary interpretations have attracted attention because of an apparent paradox: while pronominal forms display the properties of definite descriptions, with the typical properties thereof, arbitrary pronouns have a type of reading that brings them closer to indefinites and in some cases they support quantificational variability effects, much like typical indefinites. For this reason, arbitrary *pro* has received essentially two sorts of analysis, either as a definite (Alonso-Ovalle 2000, 2002; Malamud 2004, 2006) or as a special kind of non-anaphoric pronoun that shows a mixed behaviour between indefinites and definite plurals (Cabredo Hofherr 2003, 2006). However, the variation among the means to encode impersonal reference is significant, both intra- and cross-linguistically.

    This paper addresses the expression of arbitrary/impersonal reference in a sign language for the first time. On the basis of LSC data, we provide a first description of the mechanisms that the language recruits in order to convey this particular type of meaning. The data used in this study involved the building and annotation of a small-scale LSC corpus. The corpus includes data from seven native deaf signers (three women and four men), aged between 41 and 62 years old and living in the area of Barcelona. The small-

scale LSC corpus consists of three types of data, namely semi-spontaneous discourse, videos recorded for other purposes, and elicited data. The first two types of data were used at a preliminary stage in order to have a general sense of how LSC impersonal reference is used in different language situations. This provided a picture within which we would frame specific data questions and judgements. However, corpus work entails a drawback, since corpus data cannot be used exclusively when the aim is to describe and analyse a natural language thoroughly, since not everything that is in the language is precisely contained within the corpus. The observation of the restricted set of data can be a limitation once we want to obtain, for instance, negative evidence. Elicited data was thus also incorporated in order to test the structures under study that could confirm or falsify our preliminary hypothesis. The elicitation tasks and felicity judgements were based on the intuitions of two native deaf signers.

In this paper, we show that LSC overtly marks arguments that get interpreted arbitrarily through a distinctive spatial localization pattern that has been identified for encoding of non-specific referents, namely localization on the upper area of the frontal plane (Barberà 2011, 2012). Special agreement patterns in arbitrary sentences align with this characterization (Quer 2010). The empirical map becomes complete with the discussion of the functional lexical elements that can express an arbitrary subject, as well as the recruitment of role shift in the expression of generic arbitrary sentences. This latter piece of evidence is especially interesting for the discussion of the proper characterization of role shift as a grammatical or gestural means unique to sign languages because of their modality: their ability to encode arbitrary interpretations contributes a further argument in favour of its linguistic nature, as an integral part of sign language grammars.

3. (Non-)specificity and genericity in LSC

It is commonly assumed in the sign linguistics literature that entities introduced into the discourse model are identified with certain spatial locations established on the horizontal plane (Klima and Bellugi 1979), which is the plane that extends parallel to the floor (Brentari 1998). Interestingly, LSC has been shown to overtly mark the semantic-pragmatic notions of specificity vs. non-specificity contrastively by localizing the discourse referents associated with a referring expression in different regions of the signing space (Barberà 2011, 2012). The frontal plane, which extends parallel to the signer's body, is grammatically relevant for the encoding of specificity and the two areas of

the frontal plane, namely upper and lower, are associated with two different interpretations.

Indefinite Noun Phrases (NPs)[2] can be categorised with respect to specificity depending on the knowledge that the sender and addressee have about a discourse referent. Specific indefinites encode the fact that the discourse referent is known only by the sender, but not by the addressee. Non-specific indefinites encode the fact that the discourse referent is not known by the sender or the addressee (von Heusinger 2002). Some languages, like English or Catalan, do not overtly encode specificity. Indefinite NPs in Catalan and English are thus ambiguous between having a specific or a non-specific interpretation. It is only in coreferential chains that the resumptive pronoun disambiguates the two readings (Partee 1970). As shown below in example (5), under the specific reading, the indefinite NP refers to an identifiable book (5a), whereas under the non-specific reading, Elena is looking for an element of the kind 'syntax book', but there is no concrete book the speaker has in mind when uttering (5b).

(5) Elena wants to read a book about syntax…
   a. but she cannot find it.
   b. but she cannot find one.

Some languages overtly mark the (non-)specificity of the entity the discourse is about. On the one hand, Samoan and Maori are two Polynesian languages which have an article system that distinguishes specificity rather than definiteness (Lyons 1999). Turkish, on the other hand, encodes specificity with an accusative affix. NPs with overt case morphology are specific, and NPs without case morphology are non-specific (Enç 1991). LSC behaves similarly to this latter group of languages and specificity is overtly encoded in the direction in signing space that referring expressions have. This is shown in the minimal pair below, where the NP has a different interpretation depending on the area of the frontal plane it is associated with. In (6) the determiner is directed towards the lower part of the frontal plane and the NP is associated with a lower location, which constitutes the overt manifestation of a specific discourse referent corresponding to the cat the signer is talking about.[3] The index sign appearing in Figure 1 is marked in boldface in the glossed sentence.

(6) IX1 CAT **IX3$_{cl-l}$** WANT BUY. IX3$_{cl-l}$ CHARACTER OBEDIENT
   'I want to buy a cat$_{spec.}$ It is very obedient.'

Figure 1. Singular index sign directed to the lower
frontal plane

This example contrasts with its minimal pair in (7) in which the signer is referring to a non-specific, unidentifiable cat. Non-specificity is overtly marked in the determiner sign directed to the upper part of the frontal plane, as shown in Figure 2. The upper location established by the NP constitutes the overt manifestation of a non-specific discourse referent.

(7)   CAT **IX3pl$_{\text{u-ipsi}}$** IX1 WANT BUY. MUST CHARACTER OBEDIENT.
       'I want to buy a cat$_{\text{nonspec}}$. It must be obedient.'

Figure 2. Plural index sign directed towards the
upper frontal plane

The properties related to the expression of specificity, such as narrow scope, non-partitivity and non-identifiability are overtly expressed with referring

expressions like nouns and determiner index signs with a direction towards the upper frontal plane. It is worth noting that the upper locations impose different constraints on the categories they can be uttered with. First, lexical categories cannot be localised on the upper part, and any attempt to spatially modify non-anchored nouns or plain verbs towards the upper frontal plane results in an ungrammatical construction, as shown in the ungrammatical examples in (8).

(8) a. *IX1 HOUSE$_u$ WANT
　　b. *IX1 SELF BUILD$_u$ WANT
　　c. *IXa THERE-BE$_u$

Rather, only a determiner co-occurring with a noun can be directed to an upper location, yielding an indefinite non-specific interpretation:

(9) IX3$_u$ HOUSE
　　'A house$_{nonspec}$'

As far as functional categories are concerned, the constraints added to agreement verbs are slightly different. In LSC, verb inflection can be associated both with the lower and the upper frontal planes, but a different interpretation is conveyed. The non-referentiality of an argument has also been shown to affect the agreement pattern of verbs that have the ability to agree morphologically (Quer 2010). When the argument of the agreement verb is associated with the lower frontal plane, it corresponds to a specific reading (10a). However, when the argument is associated with the upper frontal plane it corresponds to a non-specific one (10b).

(10) a. 3$_l$-ADVISE-1
　　　　'Some specific person advised me'.
　　 b. 3$_u$-ADVISE-1
　　　　'Some non-specific person advised me'.

A final argument in favour of the relation between indefinite NPs and weak localisations established on the upper frontal plane comes from *donkey sentences*. Donkey sentences, named after Geach (1962) because donkeys and farmers appeared in the typical examples, show contexts in which an indefinite NP and an anaphoric pronoun are co-referential, although the resumptive pronoun is outside the regular scope domain of the NP, as shown in (11).

(11) If a farmer owns a donkey, he certainly takes care of it.

In dynamic semantic theories, indefinite NPs are not treated as existential operators, but rather as variables, which correspond to discourse referents (Kamp 1980; Heim 1982). Donkey sentences are considered to include universal-like quantification which takes scope over the entire sentence, and unselectively binds all the free variables in it. The corresponding variable of the indefinite NP in the antecedent has no quantificational force. Instead, it is treated as a variable which occurs in the scope of the universal quantification and is thus bound by it. Interestingly, the embedding of the variables correlates with a lack of formal establishment of spatial location in actual signing. As shown in Quer (2010), in LSC donkey sentences, the NPs are hardly ever localised, and verb agreement is realised in a neutral articulation. In (12) the NPs in the antecedent are not localized and the agreement verb TAKE-CARE is realised in its citation form, without overt agreement marking.

(12) EXAMPLE/IF VILLAGE^FARMER HORSE THERE-IS, SURE 1-TAKE-CARE-3c.
'If a farmer owns a horse, he certainly takes care of it.'

Indefinite NPs in LSC are only associated with an upper location, as shown in non-specific contexts, or with a lack of location, as shown in donkey sentence contexts.

4. Encoding impersonal reference in LSC

Impersonal reference in LSC has a rich array of overt marking expressed by functional lexical elements. Below a description of the relevant markers is offered, as well as a characterization of how anaphoric contexts are implemented in impersonal reference.

4.1. Overt marking

One of the lexical functional elements denoting impersonal reference in LSC is a compound sign. This pronominal sign is formed by the interrogative Wh-sign WHO concatenated with the 3rd person plural pronominal form (Figure 3) or with the determiner SOME as well (Figure 4). Interestingly, the mouthing accompanying this sign is always the Spanish word *alguien* 'someone'.[4]

Figure 3. WHO^IX3pl$_u$ 'someone'

Figure 4. WHO^SOME$_u$ 'someone'

When the referent is a non-specific indefinite, the 3rd person plural pronoun or the determiner are associated with the upper part of the frontal plane. An example from our LSC data is found in (13). It is important to note that independently of the plural form of the pronoun, this functional element may refer both to a single and to a plural discourse referent.

(13) WHO^IX3pl$_u$ MONEY 3-STEAL-3$_u$.
      'Someone stole the money.'

Other pronominal forms are also used when denoting impersonal reference. For instance, the 3rd person plural pronoun alone may be used when referring to an impersonal argument. This pronominal form directed to the upper frontal plane is realised with an index finger and a circling movement. Besides pronominal index signs, localisation of impersonal reference in LSC can also be expressed by means of a sign that consists of a derived form of the lexical noun PERSON. This sign is articulated with a baby-C handshape and a vertical downward movement (Figure 5). It functions as a pronominal index which can be coreferentially used for the three person distinctions and which may have a singular or a plural form.

Figure 5. Plural form of the pronominal PERSON sign

The determiner glossed as ONE directed to an upper location may function as a determiner co-occurring with a noun, but it may also function pronominally, as exemplified in (14). The upper direction towards the frontal plane of this determiner is combined with concrete non-manuals which play a role in the encoding of indefiniteness. As noted in Barberà (2012), ONE$_u$ is co-articulated with a non-manual which consists in sucking the cheeks in and pulling the mouth ends down (Figure 6). This is sometimes combined with a shrug.

(14) **ONE$_u$** MOMENT HOSPITAL GO, ALWAYS THINK RESULT WORST.
'When one is admitted to hospital, one always fears the worst results.'

Figure 6. Pronominal ONE localised on the upper frontal plane

As previously mentioned, impersonal reference is also overtly marked with verb inflection. Agreement verbs denote the impersonality of the subject

argument when the manual verb is articulated towards certain spatial locations. With respect to agreement, different forms have been found in our LSC data, which we will explain in detail in what follows.

The most noticeable marking found in the LSC data is the use of an axis going from a location established amidst the 1st and 3rd person to a location established amidst the 2nd and 3rd person location. This impersonal axis marks the lack of referential encoding of a discourse referent through locations established in signing space, and it is illustrated in Figure 7 below.

Figure 7. Verb INSULT with agreement in the impersonal axis

As already mentioned, agreement verbs may also localise the subject argument of the sentence in an upper location on the frontal plane. When the argument is established in this upper location the interpretation corresponds to a non-identifiable discourse referent. The instance illustrated in Figure 8 may be paraphrased as 'someone$_{nonspec}$ explains to me'.

Figure 8. 3_u-EXPLAIN-1

Impersonal subjects are also realised in a neutral form. In such instances, verb inflection is not marked in signing space and no location is established. The verb in (15) is not inflected for subject argument and it is realized as a neutral form (Figure 9).

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                                   br             br
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(15)   HERE FACULTY UNIVERSITY THEME STRIKE TELL-1+++ NOTHING
        'At the faculty, they didn't tell me anything about the strike.'

Figure 9. Verb TELL in a neutral subject agreement form

In some other cases, verb agreement is realised with a neutral articulation and neither the subject nor the object are localised in signing space. Thus verbal inflection is realised neutrally for both arguments, as shown in Figure 10.

Figure 10. Verb PUNISH in a neutral agreement form for subject and object

Moreover, it is possible to find a combination of different markings in the same sentence. The example in (16) is such an instance. The verb in the first clause shows agreement expressed with the impersonal axis (see the axis shown in Fig. 7). The verb in the second clause is realised as a neutral form.

(16) IF 1/3-INSULT-2/3, IGNORE.
    'If they insult you, you'd better ignore them.'

Finally, it should be added that a marking for plural indefinite NPs can be expressed with the bimanual form of the verb. As indicated in the glosses, in (17) the verb is articulated both with the active and the passive hands denoting plurality of the subject.

            _____br
(17) IX3 FACULTY 1-UNDERSTAND-3$_{bim}$++ NOONE
    'In the faculty, no one understands me.'

With the relevant markers identified and described, the next section focusses on the characterization of anaphoric contexts in LSC impersonal reference.

4.2. Anaphora to impersonal arguments

Anaphoric relations are found in subsequent sentences referring back to impersonal arguments. This may have the form of null elements which pick up an argument present in the previous sentence, or in some other contexts overt resumptive pronouns. Different overt markings are found in our LSC data. The most common one is the index finger in a singular (Figure 11) or plural form. Yet in some cases a thumb-handshape is also used, as typically used in reference to 3rd person-non-present discourse referent.

Figure 11. 3rd person singular pronoun

As previously mentioned, the sign PERSON may be used pronominally and as such it also functions as a resumptive pronoun in subsequent sentences.

In the second sentence in (18) the 3rd person singular pronoun is directed towards the upper frontal plane and refers to the impersonal argument established in the first sentence.

(18) MOBILE 3-CALL. SEEMS IX-mobile ENGLISH PERSON-3$_a$
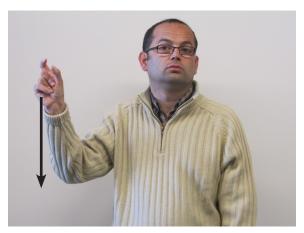   'Someone is calling me. I think it is some English person.'

Figure 12. Pronominal PERSON sign

As shown in Figures 11 and 12, these localised signs have a direction towards the upper part of the frontal plane, consistent with the non-specific interpretations of their R-impersonal antecedents.

4.3. Generic *one* and role shift

One of the most interesting features that came up in the study of impersonal reference in LSC was the appearance of role shift in generic predications with arbitrary subjects. This label refers to the means that sign languages typically use in order to report about the utterances or thoughts of other individuals. It is characterized by a series of nonmanual features (eye gaze break with interlocutor, body shift, change in facial expression, head tilt) that identify the reported segment. From the point of view of interpretation, role shift involves referential displacement to the reported context -where first and second person reference shifts to the speaker and addressee parameters of that reported context-, as well as other indexical parameters like place and time. At face value, role shift might just resemble the impersonation of the illocutionary agent one is reporting about. However, it has been shown that

its formal properties crucially interact with the grammar of the language, and it covers a broader domain than simply direct quotation (cf. Quer 2011).

Under a simplistic view of role shift, one would not expect it to occur in contexts where there is arbitrary reference that is not tied to specific individuals whose discourse or thoughts we report about. Interestingly, though, in the LSC data gathered for this study several instances of role shift appear in generic predications. Two representative instances are those in (19) and (20).

(19) MOMENT FUTURE TOCA[5] PERSON OLD, OFTEN EXPLAIN+++ $\overline{\text{IX1}}^{\text{rs}}$

$\overline{\text{PAST LIST1-4}_{\text{bim}}}^{\text{rs}}$

'When one gets old, one often tells stories about the past.'

(20) PERSON+++   SAME $\overline{\text{MISTAKE}}^{\text{rs}}$ LIST1-4 $_{\text{bim}}$ ADMIT NEVER.

ALWAYS   FRIEND   IX3pl$_{\text{a}}$ AUTHOR $\overline{\text{3-WARN-1}}^{\text{rs}}$ LIST1-4$_{\text{bim}}$

$\overline{\text{YES RIGHT}}^{\text{rs}}$

'One never admits one's own mistakes. It's always friends who tell you about them.'

Notice that (19) could be argued to represent a case of quotative role shift, as it is preceded by the verb EXPLAIN, but that does not apply to (20). The striking feature of these examples is that the role shift is bound to the impersonal subject PERSON preceding it (in the second sentence of (20) this link is mediated by the object of WARN with first person feature). Given the generic interpretation of that subject, this sign is taken to constitute the overt manifestation of an arbitrary subject, as we have seen in 4.1 above. The role shift fragments appearing in these examples cannot possibly be interpreted indexically with respect to a shifted context. Rather, they instantiate the perspective of the generic subject.

However paradoxical these examples might seem, Moltmann (2006) offers an account of generic *one* in English that unexpectedly draws a very similar setting. According to her analysis, generic *one* in sentences like (21) realizes first-person-genericity, "which is based on generic simulation: a property is attributed to anyone in the relevant class on the basis of the speaker's attributing that property as if to himself, while abstracting from the peculiarities of his own situation" (Moltmann 2006: 269).

(21) One can see the picture from the entrance.

Putting the details of her analysis aside for the time being, it is important to highlight the similarity of the type of interpretation conveyed by the sentences in the two languages, English and LSC. An additional interesting fact is that role shift makes the first-person character of the interpretive process visible through overt morphological marking and use of a *shifted* first person.

Related cases like (22), where a role shift segment is bound by a quantifier, were discussed in Quer (2005):

$$\underline{\hspace{6cm}}\text{rs-i}$$
(22) NOONE$_i$ SAY   IX1$_i$ AGR-1 SCARED DARKNESS
'Noone says he is scared of darkness.'

Whether it is the whole role shift fragment or the actual embedded pronoun that is bound by the main quantified subject, it is clear that the interpretation of indexicals within role shift is not only mediated by the indexical parameters of a shifted context. Clearly, they can be quantified over, either by the main clause quantificational subject, as in (22), or indirectly by the generic operator that binds the impersonal subject in (19)-(20). The formal details of an account that covers the whole set of cases remains to be worked out, but the relevance of the data discussed here in the context of impersonal reference further confirm that role shift is deeply rooted in the grammar of sign languages, despite its apparent transparency for interpretation.

5. Generic and indefinite pronouns

The data shown in the previous section motivates a hybrid analysis according to which R-impersonal interpretation in LSC is instantiated by *pro*$_{arb}$, as well as by generic and indefinite pronouns. Generic statements express general claims and propositions which denote general properties, rather than claims about particular individuals and moments. Following the general view (Cinque 1988), *pro*$_{arb}$ and its overt counterparts receive a quantified interpretation when inserted in generic and characterizing sentences as shown below. The semantic interpretation of (23) denotes a characterizing context in which all the afternoons are such that a person eats biscuits.

$$\underline{\hspace{3cm}}\text{br}$$
(23) AFTERNOON, FREQUENT ALWAYS CL$_{entity}$:crowd ONE$_u$ BISCUIT EAT++
'In the afternoon, there is always one who eats biscuits.'

This is triggered by the quantificational adverb *always*, which acts as an operator unselectively binding the variable introduced in the restrictor of the tripartite structure by the indefinite expression ONE$_u$:

(24) *always* [afternoon (t) ∧ person (x)] [eat-biscuit (x)]

Similarly, in a context like (25) the pronoun ONE$_u$ is inserted in a generic-like context such that it is always the case that a person who enters high-school for the first time misses the good times previously enjoyed at school. This context is not linked to any particular moment of any particular individual.

$$\overline{\hspace{9cm}} \text{br}$$

(25) MOMENT ONE$_u$ PERSON HIGH-SCHOOL FIRST-TIME, ALWAYS REMEMBER MISS PREVIOUSLY SCHOOL OTHER PAST.
'When one enters high school, one always misses the good times enjoyed previously at school.'

In the corresponding semantic representation, the variable introduced by ONE$_u$ is bound by the adverbial operator ALWAYS and thus receives a quantified interpretation.

(26) *always* [person (x) ∧ enter-high-school (x)][previous-good-times (y) ∧ miss (x, y)]

Furthermore, *pro*$_{arb}$ in LSC may also be resumed by an overt pronominal. As shown in Section 3, the association of the NP with an upper location yields an indefinite non-specific interpretation. The fact that there is no need to either accommodate the discourse referent or presuppose that it is present in the discourse model is a further argument for an indefinite analysis. When used anaphorically, an overt pronoun referring back to an arbitrary argument does not trigger the accommodation of a discourse referent and in such cases the pronominal form is analysed as an E-type anaphor (Heim 1990). In (27) the resumptive pronoun appearing in the second sentence does not need an antecedent previously established and in such context the pronominal form is interpreted as 'people who may insult you'.

(27) IF 1/3$_a$-INSULT-2/3, BETTER IGNORE. REALITY RUDE IX3$_a$
'If they insult you, you'd better ignore them. Actually, it's they who are rude.'

In an episodic sentence as in the previous example in (13), repeated here as (28) for convenience, pro_{arb} has an existential interpretation which can be paraphrased as 'there is someone such that this person steals money', as the semantic representation in (29) shows.

(28) WHO^IX3pl$_u$ MONEY 3-STEAL-3$_u$.
     'Someone stole the money.'

(29) ∃x [person (x) ∧ money (y) ∧ steal (x, y)]

The hybrid analysis that impersonal reference in LSC imposes is further motivated by the fact, noted in Condoravdi (1989), that it is not always the case that arbitrary subjects only yield a quantificational interpretation, since an existential reading may also obtain under Existential Closure. This is shown in the generic context in (30) where two interpretations are possible.

         _____br
(30) SEASON SUMMER, IX$_a$ CORNER IX$_a$ ICE-CREAM SELL$_a$++
    a. 'In summertime, they sell ice-cream at that corner.'
    b. 'In summertime, there is someone who sells ice-cream at that cor-
       ner.'

The interpretation in (30a) corresponds to a bound reading of the subject in which the variable, appearing in the restrictor, is bound by the covert operator, as represented below.

(31) *Usually* [afternoon (t) ∧ people (x)] [sell (x, i)]

The existential interpretation in (30b) has a semantic representation as in (32), where the variable only appears in the nuclear scope and is bound by existential closure, similar to (28) above. The interpretation in (30b) shows a generic context which leads to an existential reading.

(32) *Usually* [afternoon (t)] [people (x) ∧ sell (x, i)]

6. Conclusions

The first exploration of impersonal reference in a sign language has proven to be a very rich domain, where the expression of (non-)specificity through spatial contrasting locations, overt and covert pronominal forms and role shift interact in order to convey arbitrary interpretations for arguments.

Although some elements like role shift might look modality-specific, the overall picture that emerges is that the resources put to work by LSC in this domain rely on the same basic ingredients that have been identified for a range of spoken languages in the encoding R-impersonality. Comparative data in other sign languages is clearly needed in order to further substantiate the claims put forth here, as well as a deeper inquiry into several of the phenomena that have only been briefly touched upon in this paper, such as the expression of genericity and (non-)specificity.

Acknowledgements

Notes

1. Catalan Sign Language (LSC) is the natural language used by deaf and deaf-blind signers in Catalonia, the north-eastern autonomy in Spain. Although the statistics are not fully clear, it is estimated that around 25,000 people use LSC in their daily lives, according to the Catalan Federation of the Deaf (FESOCA).

2. In this paper, we use the term 'Noun Phrase' (or 'NP') broadly to refer to the unit that contains a noun and a determiner.

3. We follow the usual glossing conventions in the sign language literature, according to which manual signs are represented by the capitalized word corresponding to the translation of the sign. The relevant abbreviations for the purposes of this paper are the following: IX# (index pointing sign; the numbers refer to the grammatical person); #-VERB-# (verb agreeing with subject and object); subindices mark direction towards sign space: l (low), u (up), ip (ipsilateral); cl (contralateral); ce (centre); a (spatial location establishment) and also binding relations (i). A line above the glosses indicates the scope of nonmanuals: br (brow raise); rs (role shift). Reduplication of signs is indicated by +++.

4. Due to historical reasons, LSC mouthing of signers aged more than 30 years old is in Spanish.

5. We leave the Catalan gloss of this lexical sign, which conveys spatial and temporal coincidence.

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