Two indefinite pronouns in Catalan Sign Language (LSC)\(^1\)
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Abstract. This paper analyses two pronouns in Catalan Sign Language (LSC) that refer to unidentified human referents: WHO’SOME\(_{up}\) and ONE\(_{up}\). We first show that in contexts that discriminate between indefinite pronouns and existential readings of human impersonal pronouns, both pronouns pattern with indefinite pronouns. We then examine the semantic properties of the two pronouns. WHO’SOME\(_{up}\) and ONE\(_{up}\) contrast with respect to their number, compatibility with collective predicates, scope with respect to event iteration and domain restriction requirements. In terms of specificity, both pronouns are epistemically non-specific, but ONE\(_{up}\) is interpreted as scopally and partitively specific while WHO’SOME\(_{up}\) is neutral with respect to scopal and partitive specificity.

Keywords: Catalan Sign Language (LSC), semantics, indefinite pronouns, specificity distinctions

1. Introduction

This paper examines two expressions that refer to unidentified human referents in Catalan Sign Language (LSC, llengua de signes catalana): the pronouns WHO’SOME\(_{up}\) and ONE\(_{up}\).\(^2\)

(1) \quad \text{ONE\(_{up}\) HOUSE ENTER STEAL.}
   ‘Someone broke into the house.’

(2) \quad \text{WHO’SOME\(_{up}\) GO INDIA VACCINATE MUST.}
   ‘When one goes to India one must get vaccinated/
   When someone goes to India he must get vaccinated.’

The goals of this paper are two-fold. First, we will show that these expressions correspond to indefinite pronouns comparable to (3), rather than existential uses of impersonal pronouns as exemplified by German \textit{man} or French \textit{on} in (4).

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\(^2\)This article follows the usual glossing conventions in the sign language literature. Manual signs are represented 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 localisations in signing space: \textit{lo} (low), \textit{up} (up); lower indexed letters (a, b) mark lateral loci and coreference relations. Reduplication of signs is indicated by+++.
(3) **Someone** stole my bike.

(4) **On** a volé mon vélo. (Fr)
    Man hat mein Fahrrad gestohlen. (Ge)
    ON/MAN has (stolen) my bike (stolen)
    ‘They stole my bike.’

Secondly, we examine the profile of the two pronouns regarding epistemic, scopal and partitive specificity (see ??). We will show that both pronouns are epistemically non-specific. \(\text{WHO}^\hat{\text{SOME}}_{\text{up}}\) is neutral with respect to scopal and partitive specificity, while \(\text{ONE}_{\text{up}}\) is interpreted as scopally and partitively specific.

We proceed as follows. Section 2 provides some background on the referential use of space in sign languages in general and in LSC more specifically. In Section 3 we discuss the morphological composition of \(\text{WHO}^\hat{\text{SOME}}_{\text{up}}\) and \(\text{ONE}_{\text{up}}\). In Section 4 we examine the two pronouns in contexts that are characteristic for human impersonal pronouns and we show that both expressions pattern with indefinite pronouns, not with existential readings of impersonal pronouns. In Section 5 we present an array of semantic contrasts between the two pronouns. Section 6 concludes.

2. **Background: The use of space in sign languages**

In sign languages, space is used for grammatical purposes (see ? for a detailed overview). In Western sign languages, signing space is considered to be constrained to the space in front of the signer’s torso. The signing space can be divided into the horizontal plane and the frontal plane. The horizontal plane is perpendicular to the body of the signer and is the default plane where the majority of signs are localised (Figure 1). The frontal plane runs parallel to the body of the signer from the waist up (Figure 2).

![Figure 1: Sign localised on the horizontal plane](image1)

![Figure 2: Sign localised high on the frontal plane](image2)
The figures above illustrate signs associated with a lateral area in the horizontal plane (Figure 1) and in the high part of the frontal plane (Figure 2). The spatial area associated with a Noun Phrase (NP) in sign language is called R-LOCUS (?). Canonically, NPs are associated with a locus on the horizontal plane of signing space, for example by a pointing index sign glossed IX3 (as in Figure 3) or by signing the lexical sign in the area of the locus (as in Figures 4 below).

In a sentence like (5) below, the two arguments are associated with two distinctive R-loci, indicated in the glosses by the subscripts a and b and shown in the pictures in Figure 4. The R-loci play a role for agreement and for anaphoric reference. As illustrated in Figure 5, the agreeing verb GIVE moves from the R-locus of the subject MARTÍ to the R-locus of the object JOANA. As shown by the continuation (6), R-loci may be used in coreferential contexts to refer to a previously introduced argument, for example by using a pronominal index sign IX3 a as in Figure 3.

(5) MARTÍa IX3a JOANAb IX3b BOOK 3a-GIVE-3b.
    ‘Martí gave Joana a book.’

Figure 3: Sign IX3 a pointing to R-locus a

Figure 4: Sign MARTÍ at R-locus a  Sign JOANA at R-locus b

Figure 5: Verb GIVE articulated from R-locus a to R-locus b
(6) **IX3a BOOK INTEREST.**

‘He (Martí) found the book interesting.’

In the examples in (5) the R-loci for the NPs are on the horizontal plane in front of the torso, as illustrated by Figure 4. It has been shown that the height of localization in the frontal plane is also relevant for the expression of reference. In American Sign Language (ASL) high R-loci trigger an indefinite interpretation (??). In LSC, the frontal plane is used to express specificity distinctions (??): NPs localised at a low R-locus are interpreted as epistemically specific (they are identifiable by the signer and belong to a restricted set), whereas NPs localised at a high R-locus are interpreted as epistemically non-specific (they are unidentifiable by the signer and do not belong to a restricted set).

The following examples provide a minimal pair for the interpretation of high vs. low R-locus for an NP in LSC. In (7a) the determiner SOME is localised at a low R-locus (indicated in the glosses with \( \text{lo} \), Figure 6) and corresponds to a reading where the signer is talking about a specific group of students, which he can identify. In (7b), in contrast, the determiner SOME is localised at a high R-locus (indicated in the glosses with \( \text{up} \), Figure 7) and a non-specific reading arises: the signer cannot identify the set of students.

(7) a. **STUDENT SOME\_lo DEMONSTRATION GO.** (LSC)

‘Some students (that I can identify) went to the demonstration.’

b. **STUDENT SOME\_up DEMONSTRATION GO.**

‘Some students (that I cannot identify) went to the demonstration.’

The two pronouns analysed in this paper are articulated in a high R-locus and trigger an epistemically non-specific interpretation, resembling the behavior of NPs in this respect. However, in some contexts, pronominal elements in LSC articulated in high R-loci may have a scopally and partitively specific interpretation, unlike lexical NPs (see Section 5 below).

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3In sign languages, signing space may be also used topographically. In topographical uses of space the spatial location of the sign provides information about the actual locations of entities, for example when referring to a book located on a high shelf (see [?](#) for discussion of different uses of signing space). In this article we leave the topographical use aside.
3. Morphological properties of the two pronouns

The pronoun WHO\(^{\text{SOME up}}\) is the concatenation of the sign for the interrogative pronoun WHO with the sign for the determiner SOME. The manual component of both uses of WHO is an arc-shaped movement of the wrist with the thumb pointing upwards, localized on the chin of the signer and with final contact.

The interrogative use of WHO (8) and the WHO forming part of the indefinite pronoun (9) differ in their non-manual components. While the interrogative particle co-occurs with furrowed eyebrows (Figure 8), the indefinite pronoun co-occurs with particular non-manuals that include sucking the cheeks in and pulling the mouth ends down, sometimes combined with a shrug (Figure 9).

(8) COME WHO?
   ‘Who came?’

(9) IX3 WHO\(^{\text{SOME up}}\) SEE.
   ‘She saw someone.’

Figure 8: The sign for the interrogative WHO

Figure 9: Sign for the pronoun WHO\(^{\text{SOMEup}}\)

The indefinite pronoun ONE\(^{\text{up}}\) is signed in a high locus (see Figure 10) with the handshape of the numeral ONE (see Figure 11). The non-manuals for the indefinite pronoun ONE\(^{\text{up}}\) resemble those for the indefinite pronoun WHO\(^{\text{SOME up}}\) (Figure 9): they also consist in sucking the cheeks in and pulling the mouth ends down (Figure 10).

(10) ONE\(^{\text{up}}\) HOUSE ENTER STEAL.
   ‘Someone broke into the house.’ (= (1))

(11) ONE GIRL HOUSE ENTER.
   ‘A/one girl broke into the house.’
Both pronouns are articulated in a high location of signing space (as indicated by the subscript \textit{up} in the glosses), rather than in the default lower area. Both receive an epistemically non-specific interpretation, as is generally the case for elements associated with R-loci in the higher plane in LSC (see \textit{?} and discussion of the example (7) above).

4. Indefinite or Impersonal Pronouns?

In LSC non-specific human pronouns are a common strategy to encode an unspecified human referent (\textit{?}). Reference to an unspecified human referent is also part of the semantic domain of dedicated human impersonal pronouns that allow existential readings such as German \textit{man} or French \textit{on}.

We have shown above that morphologically \textit{WHO'SOME} \textit{up} looks like a wh-indefinite. The pronoun \textit{ONE} \textit{up}, however, could potentially be an impersonal pronoun derived from the numeral \textit{one}, as English \textit{one} or Spanish \textit{uno}.

To establish that \textit{WHO'SOME} \textit{up} and \textit{ONE} \textit{up} are indeed indefinite pronouns, we examined their behaviour in contexts that distinguish indefinites from existential uses of impersonal pronouns cross-linguistically (see \textit{?} and references cited there.) Indefinite pronouns are (i) incompatible with a generalizing reading in simplex sentences, (ii) incompatible with corporate readings, (iii) trigger disjoint reference when the pronoun is repeated in anaphoric chains, and (iv) have narrow and wide scope interpretations with respect to adverbs like \textit{twice}. Impersonal pronouns, in contrast, are (i) compatible with a generalizing reading, (ii) compatible with corporate readings, (iii) typically allow joint and disjoint reference when the pronoun is repeated in anaphoric chains, and (iv) have a narrowest scope interpretation in their existential uses. We consider each of the four contexts in turn.

4.1. Generalizing vs. episodic readings

Episodic contexts are contexts in which an individual or an event is anchored to a particular spatio-temporal context (\textit{Yesterday John had breakfast at 10am}). In contrast, in generalizing
contexts either the individuals or the events are not anchored to a spatio-temporal context and express either recurring properties of an individual (John has breakfast at 7am) or general properties not tied to particular individuals (Pandas are big/eat bamboo).

The French pronoun on has generalizing and episodic readings. The generalizing reading of on is exemplified in (12a). This reading is comparable to the English people or to non-anaphoric they, as in the translation of (12a). As (12b) shows, indefinite pronouns like someone do not allow generalizing readings over people in general.

(12) a. Au Mexique, on mange des grillons. (Fr)  
in Mexico on eats indef.pl grasshoppers  
‘In Mexico, they/ people eat grasshoppers.’  
(generalizing over people associated with Mexico)  
b. In Mexico, someone eats/ate grasshoppers.  
(not generalizing over people associated with Mexico, ≠ (12a))

The two LSC pronouns typically appear in episodic contexts (13). When inserted in generalizing contexts, the pronouns are interpreted on a par with (12b): (14) is understood as an habitual reading for an unspecified individual, but not as a generalization over individuals in Lleida in general.

(13) a. YESTERDAY ONE_up BIKE STEAL.  
b. YESTERDAY WHO’SOME_up BIKE STEAL.  
‘Yesterday someone stole a/the bike.’

(14) a. LLEIDA ONE_up SNAIL EAT.  
b. LLEIDA WHO’SOME_up SNAIL EAT.  
‘In Lleida, there is someone who eats snails.’  
(not generalizing over people associated with Lleida)

In locative universal contexts as in (15) the null subject triggers a generic reading in LSC, meaning something paraphrasable with people associated with location X in general. When WHO’SOME_up is used in this context the episodic reading arises (16). The insertion of ONE_up in the context triggers either an episodic reading (17a) or a habitual reading of the predicate, with an existential interpretation of the individual (17b).

(15) CHINA AREA EAT CAT. (null subject)  
‘In China they eat cats.’

(16) CHINA AREA WHO’SOME_up EAT CAT.  
‘In China someone ate a cat/some cats.’

(17) CHINA AREA ONE_up EAT CAT.  
a. ‘In China someone ate a cat/ cats.’  
b. ‘In China, there is someone who eats cats.’
4.2. Corporate readings: predicates with designated subjects

Corporate readings arise with predicates that have a designated subject such as deliver the mail, raise taxes (??). In French, the corporate reading is compatible with an existential reading of the impersonal human pronoun on. The impersonal on/they in (18) is interpreted as referring to the people charged with raising taxes. Indefinite pronouns like quelqu’un / someone, in contrast, do not receive an interpretation corresponding to the group prototypically associated with the predicate in (19).

(18) On a augmenté les impôts.
‘ON raised the taxes.’ >‘They raised taxes.’
(corporate reading: the people in charge of raising taxes)

(19) Quelqu’un a augmenté les impôts.
‘Someone raised the taxes.’
(no corporate reading: agent not part of the designated subject of the predicate).

In LSC, neither WHOˆSOME_up nor ONE_up trigger the corporate interpretation in the parallel examples. Like (19), the examples in (20) are interpreted as saying that there was an unknown individual who raised the taxes but does not imply that this individual belongs to a designated group of people in charge of raising taxes.

(20) a. WHOˆSOME_up RAISE TAXES.
    b. ONE_up RAISE TAXES.
‘Someone raised the taxes.’ (∼ (19))

4.3. Scope with respect to adverbials

Existential uses of impersonal pronouns, like French on and German man, have obligatory narrow scope with respect to frequency adverbs like twice or always (ʔ for German; ʔ for French).

(21) On a volé mon vélo deux fois. (Fr)
‘ON stole my bike twice.’ (2 times >someone)

Neither of the two LSC pronouns takes obligatory narrow scope. WHOˆSOME_up allows wide and narrow scope readings with respect to the adverb, with wide scope for the pronoun preferred in examples like (22a). ONE_up differs from WHOˆSOME_up with respect to scope: the use of ONE_up only allows a wide scope reading (23).

(22) WHOˆSOME_up IX1 BIKE 1-STEAL-3_up++ TWO TIMES.
‘Someone stole my bike two times. / Two times someone stole my bike.’
   a. someone >2 times (preferred)
   b. 2 times >someone
However, the use of signing space introduces a complicating factor: The localization of the R-loci in signing space can disambiguate in favour of a reading with co-varying subjects for the different events. In LSC the establishment of two different R-loci for the subject explicitly marks distribution over the subject, resulting in a reading where the indefinite subject co-varies with the stealing event (narrow scope reading). In example (22), the iterated movement of the verb STEAL is twice to an unspecified R-locus, marked ++ in the gloss. In the example (24) below, in contrast, the agreeing verb STEAL is inflected with two distinct lateral R-loci (R-locus \( a \) and R-locus \( b \)) and this yields an interpretation according to which on two occasions my bike was stolen my bike by two different individuals.

\[(24)\quad \text{WHO}^\text{SOME}_{\text{up}} \text{IX1 POSS BIKE } 1\text{-STEAL-3}_{\text{up.a}} 1\text{-STEAL-3}_{\text{up.b}} \text{ TWO TIMES.} \]

‘They stole my bike two times.’

The availability of this explicitly distributing inflection for the verb may contribute to the preference for for examples (22) to be interpreted as not distributed.

We further tested the effect of adverb placement on interpretation. In order to avoid explicit distribution over different R-loci, we used the adverb ALWAYS in these examples.

With the pronoun ONE, the interpretation of the subject is a constant individual (~ specific indefinite) independently of the position of the adverb ALWAYS (see (25a)/(26a)/(27a)). For WHO’SOME, the position of the adverb ALWAYS makes a difference to interpretation. With an initial or final position of ALWAYS, the pronoun WHO’SOME is interpreted as (potentially) co-varying with the iterated events (25b)/(26b). A reading as a constant individual is forced when ALWAYS appears between WHO’SOME and the verb as in (27b).

We analyse the contrast with respect to WHO’SOME as indicating that WHO’SOME is interpreted inside the VP by default and only takes wide scope if it is overtly separated from the VP by the adverb ALWAYS.

\[(25)\quad \text{a. IX NEIGHBOURHOOD ONE BIKE STEAL ALWAYS.} \]

‘In this neighbourhood there is someone who always steals bikes.’

(constant agent of the stealing events)

\[(25)\quad \text{b. IX NEIGHBOURHOOD WHO’SOME BIKE STEAL ALWAYS.} \]

‘In this neighbourhood they always steal bikes.’

(agent of stealing events need not be identical, can co-vary with the events)

\[(26)\quad \text{a. ALWAYS IX NEIGHBOURHOOD ONE BIKE STEAL.} \]

‘In this neighbourhood there is someone who always steals bikes.’

(constant agent of the stealing events)

\[(26)\quad \text{b. ALWAYS IX NEIGHBOURHOOD WHO’SOME BIKE STEAL.} \]
‘In this neighbourhood they always steal bikes.’
(agent of stealing events need not be identical, can co-vary with the events)

(27) a. IX NEIGHBOURHOOD ONE\textsubscript{up} ALWAYS BIKE STEAL.
b. IX NEIGHBOURHOOD WHO\textsuperscript{*}SOME\textsubscript{up} ALWAYS BIKE STEAL.
‘In this neighbourhood there is someone who always steals bikes.’

The data show that neither WHO\textsuperscript{*}SOME\textsubscript{up} nor ONE\textsubscript{up} has the scope behaviour with respect to adverbs observed for existential readings of impersonal pronouns. We will come back to this contrast in scope behaviour between the two pronouns in Section 5 below.

4.4. Anaphora

In coreferential chains, impersonal pronouns (such as English man, French on, German man) allow co-referent interpretation of repeated pronouns as in (28), while indefinite pronouns do not (29).

(28) a. When one\textsubscript{i} goes to hospital, one\textsubscript{i} / he \textsubscript{\textit{s/k}} always fears the worst.
b. One\textsubscript{i} goes to hospital, and one\textsubscript{i} / he \textsubscript{\textit{s/k}} worries.

(29) a. When someone\textsubscript{i} goes to hospital, someone\textsubscript{\textit{s/j}} / he \textsubscript{\textit{i/k}} always fears the worst.
b. Someone\textsubscript{i} goes to hospital, and someone\textsubscript{\textit{s/j}} / he \textsubscript{\textit{i/k}} worries.

With respect to this diagnostic, the two LSC pronouns again pattern with indefinite pronouns: the repetition of ONE\textsubscript{up} and WHO\textsuperscript{*}SOME\textsubscript{up} triggers disjoint interpretation (30)/(31). In LSC the equivalent of when-clauses is marked by the sign MOMENT as in example (30). Without MOMENT, the example corresponds to a paratactic coordination of two main clauses.

(30) ONE\textsubscript{up} MOMENT HOSPITAL GO, ONE\textsubscript{up} ALWAYS THINK RESULT WORST.
‘When one\textsubscript{k} is admitted to the hospital, one\textsubscript{j} always fears the worst results.’
(= different people in hospital and worrying)

(31) WHO\textsuperscript{*}SOME\textsubscript{up} HOSPITAL GO, WHO\textsuperscript{*}SOME\textsubscript{up} ALWAYS THINK RESULT WORST.
‘Someone\textsubscript{i} is admitted to the hospital; and someone\textsubscript{k} always fears the worst results.’
(= different people in hospital and worrying)

4.5. Summary

The diagnostics examined here show that neither WHO\textsuperscript{*}SOME\textsubscript{up} nor ONE\textsubscript{up} behave like episodic readings of impersonal human pronouns available for French on or German man.

Furthermore, there is evidence that WHO\textsuperscript{*}SOME\textsubscript{up} is not a relative pronoun introducing free relatives either. In LSC, relative clauses are marked with squinted eyes and, optionally, with
the particle MATEIX (?). The examples with \textsc{Who\textsuperscript{some}} up do not show either of these markings. The comparison of \textsc{Who\textsuperscript{some}} up with free relatives with a wh-pronoun as in (33) shows that the free relative is articulated with brow-raise with scope over the relative clause.

(32) \textsc{Who\textsuperscript{some}} up EXAM DONE LEAVE CAN.
   ‘When someone finishes the exam he can leave.

(33) \{EXAM DONE WHO\}_{brow\raise} LEAVE CAN.
    ‘Whoever has finished the exam may leave.’

We therefore conclude that both \textsc{Who\textsuperscript{some}} up and \textsc{One} up are indefinite pronouns in LSC that pattern with pronouns like *someone* in English. As we have seen in section 4.3 above, however, the two indefinite pronouns differ in their interpretation with respect to frequency adverbs. In the next section we examine the semantic contrasts between the two pronouns in more detail.

5. Contrasts between \textsc{Who\textsuperscript{some}} up and \textsc{One} up

In what follows, we show that \textsc{Who\textsuperscript{some}} up and \textsc{One} up differ with respect to a number of semantic properties: number specification, compatibility with collective predicates, co-variation of the referent with event pluralities and a requirement for domain restriction for the referent.

5.1. Plural vs. singular interpretation

\textsc{Who\textsuperscript{some}} up and \textsc{One} up differ with respect to their number specification. When \textsc{Who\textsuperscript{some}} up is used, the subject need not be singular (34a). With \textsc{One} up the subject has to be singular (34b).

(34) a. CHINA AREA \textsc{Who\textsuperscript{some}} up EAT CAT.
    In China someone/some people ate a cat/cats.’
    (can be more than one person)

    b. CHINA AREA \textsc{One} up EAT CAT.
    ‘In China there is someone who eats cats.’
    (one person only)

The contrast between the pronouns with respect to number interpretation is further confirmed in contexts in which the plurality of the unknown agent is explicitly denied. In the context we tested, an office has been broken into and after the event, the footprints belonging to a single person were found outside the office. The singular interpretation of \textsc{One} up coincides with the information about the number of the unknown agent from the context, and our informant added a confirmation headnod corresponding to an expression like *as expected* to the example in (35). In contrast, as \textsc{Who\textsuperscript{some}} up is interpreted as ‘more than one’ by default, a context in which the footprints belong to the same person cancels the implicature that there is more than one agent of the event, leading to an expression of surprise by the informant *how weird!?* in (36).
Yesterday someone broke into the office. We checked the footprints afterwards and they belong to the same person, as expected.

Yesterday some people broke into the office. We checked the footprints afterwards and they belong to the same person. How weird!?

5.2. Collective and distributive readings

The analysis proposed here between WHO’SOME as preferentially plural and ONE as singular is further confirmed by the fact that WHO’SOME is compatible with collective predicates (37), while ONE is not (38).

They surrounded the city during the war.

They each surrounded a different city during the war.

In this neighborhood, there a number of (unidentified) people that each stole a bike/bikes.

However, an exception is found with body-anchored verbs (like EAT), that do not admit reduplication. Because of this phonological restriction, the verb is not reduplicated when combined with the plural distributive form of ONE but the sentence is still grammatical and we get the distributive reading.

Someone each ate (a piece of) the cake.

Not rather: ‘Some people had a piece of cake each.’
5.3. Co-variation with the event

As we have already seen in Section 4.3 above, the two pronouns differ with respect to their scoping properties with respect to adverbs. \( \text{WHO'SOME}_{\text{up}} \) triggers undetermined reference of subject and allows subjects to co-vary with the events.

In contrast, \( \text{ONE}_{\text{up}} \) does not co-vary with respect to the events, yielding a scopally specific interpretation. The referent of \( \text{WHO'SOME}_{\text{up}} \) can co-vary with quantification over the event (here with the adverb ALWAYS): a scenario with a plurality of stealing events with different subjects for each event is possible. In contrast, with the pronoun \( \text{ONE}_{\text{up}} \) there is not co-variation of the subject with respect to the events. Therefore the iterated thefts are perpetrated by the same unknown person.

\[ \begin{align*}
\text{(42) a. } & \quad \text{BUILDING IX POSS OFFICE DANGER. ALWAYS } \text{WHO'SOME}_{\text{up}} \text{ STEAL-3}_{\text{up}} \text{ MONEY} \\
& \quad \text{‘The building of my office is very dangerous. They always steal money.’}
\end{align*} \]

\[ \begin{align*}
\text{b. } & \quad \text{BUILDING IX DANGER. IX1 POSS OFFICE ALWAYS } \text{ONE}_{\text{up}} \text{ STEAL-3}_{\text{up}} \text{ MONEY} \\
& \quad \text{‘The building (of my office) is very dangerous. There is someone who always steals money in/from my office.’}
\end{align*} \]

5.4. Domain restriction

A restricted domain is compatible with both pronouns. However, while \( \text{ONE}_{\text{up}} \) strongly favours a reading in which there is a salient set that the referent belongs to, such a set is not required with \( \text{WHO'SOME}_{\text{up}} \).

In the examples (43a) and (44a) with \( \text{WHO'SOME}_{\text{up}} \), the unidentified human referent can but need not belong to a contextually salient set. With \( \text{ONE}_{\text{up}} \), however, the referent is interpreted as belonging to a particular set, as shown in examples (43b) and (44b).

\[ \begin{align*}
\text{(43) a. } & \quad \text{BUILDING IX FIRE FIREMEN ARRIVED. } \text{WHO'SOME}_{\text{up}} \text{ CL:GO-UP-ROOF} \\
& \quad \text{‘The building was on fire and the firemen arrived. One (fireman or normal person) went up to the roof.’}
\end{align*} \]

\[ \begin{align*}
\text{b. } & \quad \text{BUILDING IX FIRE FIREMEN ARRIVED. } \text{ONE}_{\text{up}} \text{ CL:GO-UP-ROOF} \\
& \quad \text{‘The building was on fire and the firemen arrived. One (fireman) went up to the roof.’}
\end{align*} \]

\[ \begin{align*}
\text{(44) a. } & \quad \text{LIBRARY WOMAN PERSON RETIRE. } \text{WHO'SOME}_{\text{up}} \text{ SUBSTITUTE} \\
& \quad \text{‘The librarian is getting retired. Someone (from a non-restricted set) will substitute her.’}
\end{align*} \]

\[ \begin{align*}
\text{b. } & \quad \text{LIBRARY WOMAN PERSON RETIRE. } \text{ONE}_{\text{up}} \text{ SUBSTITUTE}
\end{align*} \]
‘The librarian is getting retired. One (of her team) will substitute her.’

Further evidence that $\text{ONE}_{\text{up}}$ explicitly favours a reading with a salient set is provided by continuations with the sign $\text{DE}$ (meaning ‘belong’). In this context a continuation with a typical group inferred is more felicitous (45a) than a continuation with unexpected information (45b).

\[(45)\]  
\noindent \begin{tabular}{l} 
$\text{ONE}_{\text{up}} \text{ DEAN INFORM}$  
\end{tabular} 
\hspace{1cm} ‘Someone informed the dean.’
\begin{itemize}
  \item \begin{tabular}{l}
    $\text{PERSON}_{\text{up}} \text{ DE FACULTY.}$
  \end{tabular} \hspace{1cm} ‘He is someone from the faculty.’
  \item \begin{tabular}{l}
    $\# \text{PERSON}_{\text{up}} \text{ DE GYMNASIUM.}$
  \end{tabular} \hspace{1cm} ‘He is someone from the gym.’
\end{itemize}

5.5. Interpretation of object and telicity

We found some evidence that the two pronouns seemed to correlate with a difference in telicity.

With a telic predicate like $\text{EAT}$, $\text{WHO}'\text{SOME}_{\text{up}}$ triggers a specific interpretation of the object, an episodic context and the event is interpreted as punctual (perfective) (46a). With $\text{ONE}_{\text{up}}$ as a subject, the interpretation of the object was non-specific, with either habitual interpretation (imperfective) or an episodic interpretation that did not have a salient individual as an object (46b).

\[(46)\]  
\noindent \begin{tabular}{l} 
\begin{tabular}{l}
  a. $\text{WHO}'\text{SOME}_{\text{up}} \text{ CAT EAT.}$
\end{tabular} 
  \hspace{1cm} ‘Someone ate a/the cat.’
  \hspace{1cm} Informants added: IX SEE DISAPPEAR ‘I see it disappeared.’
  \hspace{1cm} (the (relevant) cat is no longer there)
  \begin{tabular}{l}
  b. $\text{ONE}_{\text{up}} \text{ CAT EAT.}$
  \end{tabular} 
  \hspace{1cm} ‘There is one who eats cats.’
  \hspace{1cm} Informants intuition: a/the salient cat has not disappeared
\end{tabular}

In future work we will explore the hypothesis that the effect of the pronoun on the object is indirect. According to our working hypothesis, $\text{WHO}'\text{SOME}_{\text{up}}$ is not interpreted as a topic, and the interpretation of the object as specific is triggered by the fact that it is interpreted as the most plausible topic. $\text{ONE}_{\text{up}}$, on the other hand corresponds to a constant, if unidentified, individual and as such can be interpreted as a topic itself, favouring an interpretation in which the object is semantically incorporated comparable to $\text{eat cats}$.

5.6. Summary

Using the specificity distinctions discussed by ??, the properties discussed in this section can be summarised as follows.
Both WHOˆSOME_up and ONE_up are epistemically non-specific: the referent of the pronoun is unknown to the signer and to the addressee. The two pronouns differ with respect to their scopal properties: WHOˆSOME_up is preferentially interpreted as having a narrow scope reading and co-varies with iterated events, while ONE_up is interpreted as having wide scope with respect to event iteration. ONE_up is scopally specific while WHOˆSOME_up allows both wide and narrow scope interpretations. Finally, the two pronouns differ with respect to partitivity. WHOˆSOME_up can, but need not, be part of a salient group while ONE_up is interpreted as belonging to a contextually salient group: ONE_up is partitively specific while WHOˆSOME_up is compatible with partitive or non-partitive interpretations.

The following table summarises the contrasts between the two indefinite pronouns:

<table>
<thead>
<tr>
<th>Types of specificity</th>
<th>WHOˆSOME_up</th>
<th>ONE_up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epistemic</strong></td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>unknown to signer</td>
<td>(16)</td>
<td>(17)</td>
</tr>
<tr>
<td><strong>Scopal</strong></td>
<td>+/-</td>
<td>+</td>
</tr>
<tr>
<td>wide scope with TWICE</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>wide scope (sentence final/initial ALWAYS)</td>
<td>(25a) &amp; (26a)</td>
<td>(25b) &amp; (26b)</td>
</tr>
<tr>
<td>wide scope (pre-verbal ALWAYS)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>(27a)</td>
<td></td>
<td>(27b)</td>
</tr>
<tr>
<td>scope over event plurality (co-variation with events)</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>(42a)</td>
<td></td>
<td>(42b)</td>
</tr>
<tr>
<td><strong>Partitive</strong></td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>interpreted as part of a salient group</td>
<td></td>
<td>(45)</td>
</tr>
<tr>
<td><strong>Other properties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cardinality</strong></td>
<td>1 or more</td>
<td>singular</td>
</tr>
<tr>
<td>punctual event vs. habitual</td>
<td>(34a)</td>
<td>(34b)</td>
</tr>
<tr>
<td>(46a) punctual</td>
<td></td>
<td>(46b) habitual</td>
</tr>
</tbody>
</table>

6. Conclusions

We have shown that the expressions WHOˆSOME_up and ONE_up pattern with indefinite pronouns like someone, not with existential readings of impersonal human pronouns like on in French. Both pronouns are epistemically non-specific since the referent of the pronoun has to be unknown to the speaker. Future work has to establish how WHOˆSOME_up and ONE_up fit into the typology of epistemic indefinites discussed in the recent literature (??).

The data presented further show that the two pronouns differ with respect to a range of semantic properties. First, while WHOˆSOME_up is number neutral, ONE_up is interpreted as referring
to a singular referent. For reference to a multiplicity, the sign $\text{ONE}_{up}$ needs to be reduplicated yielding a form $\text{ONE}_{up}+++$ that forces a distributive reading. Secondly, $\text{WHO}^{\text{SOME}}_{up}$ is preferentially interpreted has having a narrow scope reading with respect to unbounded event iteration, i.e. a reading in which the agent co-varies with the event, while $\text{ONE}_{up}$ is interpreted as having wide scope. We found that $\text{WHO}^{\text{SOME}}_{up}$ only gets a wide scope reading if it is overtly separated from the VP by the adverb ALWAYS. With a bounded adverb like TWICE, $\text{WHO}^{\text{SOME}}_{up}$ takes wide scope. Finally, $\text{WHO}^{\text{SOME}}_{up}$ need not have a partitive interpretation, while $\text{ONE}_{up}$ has a partitive interpretation as belonging to a salient set. These observations suggest that $\text{ONE}_{up}$ is a strong indefinite, whereas $\text{WHO}^{\text{SOME}}_{up}$ is a weak indefinite.

In future work we will explore the hypothesis that $\text{WHO}^{\text{SOME}}_{up}$ and $\text{ONE}_{up}$ contrast with respect to their information structure status. Unless it is moved out of the VP, $\text{WHO}^{\text{SOME}}_{up}$ does not function as a topic in a way comparable to the implicit agent of passives: a sentence containing it will be interpreted as thetic unless an alternative topic is available. We will explore the hypothesis that $\text{ONE}_{up}$ on the other hand is scopally specific and interpreted as part of a group that is contextually salient. If this hypothesis is correct, the contrast between the two pronouns would resemble the contrast in English between the following two examples:

(47) a. They repaired the lift.
    b. There is someone who repaired the lift.

Finally, the data discussed here show that in LSC the role of high loci in signing space is different for pronouns and for lexical NPs, suggesting that the structured use of signing space can be modulated depending on the grammatical category of the NP. Lexical NPs associated with a high locus are associated with an epistemically and partitively non-specific interpretation. In contrast, the pronoun $\text{ONE}_{up}$ is partitively specific despite the fact that it is associated with a high locus.