

Expression of Number in the NP in Quebec Sign Language (LSQ)

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INTRODUCTION

This presentation deals with the role of space in the expression of Number in the NP in LSQ, focusing specifically on:

- four means used to indicate a spatial locus in sign languages (Wilbur, 1977 for ASL; Engberg-Pedersen, 1993 for DSL; Zeshan, 2000 for ISPL; Parisot, 2003 and Parisot and Rinfret, 2008, among others):
 - POINTER
 - localisation
 - eye gaze
 - body shift
- the absence of spatial association.

We show, using examples taken from our two corpora of LSQ productions, that the POINTER and localisation can be used to mark Number. In addition, eye gaze, body shift and absence of spatial association can appear both in multiple-quantity and single-quantity contexts.

SPATIAL ASSOCIATION IN LSQ

- Actualisation of a Noun in discourse can be accomplished through spatial association, using one of the four following means (Parisot, 2003; Parisot and Rinfret, 2008; Rinfret, 2009):
 - POINTER toward x MARY POINTER(x)
 - Direct Localisation on x MARY(x)
 - Eye gaze toward x MARY(EGx)
 - Body shift toward x MARY(BSx)
- A Noun can also be actualised in discourse without using spatial association.
- The referential content of the locus becomes identical to that of the Noun that is associated with it.
- The association between a locus and a Noun has a certain permanence in discourse. Re-use of the loci makes it possible to mark relations between elements of discourse.
- Marks of spatial association can be used alone or concomitantly, and the use of one mark rather than another can vary within the same syntactic context (Parisot and Rinfret, 2008; Rinfret, 2009).
- Spatial association plays a role in the expression of Noun specificity (Engberg-Pedersen, 2003; Parisot and Rinfret, 2008; Rinfret, 2009, among others) and Noun saliency (Parisot and Rinfret, 2008; Rinfret, 2009), in the construction of argument relations (Bahan, 1996; Parisot, 2003) and propositional relations (Daigle and Parisot, 2007), and in the expression of Number (Parisot and Bouchard, 2008).

NUMBER IN LSQ

- Quantity of individuals can be expressed in language in one of two ways, namely through the use of quantifiers or through inflectional markings of grammatical Number. The latter, which are more semantically restricted, can express values such as *singular*, *plural*, etc., and can appear on different elements (Corbett, 2006).
- It has been proposed for LSQ that the *singular* and *plural* values of grammatical Number are expressed by the form of the pointing sign when a noun is first associated with a spatial locus (Parisot and Bouchard, 2008):
 - the value *singular* is expressed by a pointing sign designating a point (x):
 - APPLE POINTER(x) JEAN GIVE(1-x)
'I give the apple to Jean.'
 - the value *plural* is expressed by a pointing sign designating a circular zone (X):
 - STUDENT POINTER(X) BOOK GIVE(X-1)
'The students give me a book.'
- In addition, in LSQ, Number can be expressed by pointing individually (x,y,z) at each referent included in the plural (3), or by using a linear movement sweeping (X-----) over a series of loci (4) (Parisot and Bouchard, 2008). This variation is due to the intimate link between Number and spatial locus.
 - MAGAZINE POINTER(x) POINTER(y) POINTER(z) JULIE BUY++(x, y, z)
'Julie buys some books'
 - CHAIR POINTER(X-----)
'Chairs (in a row)'

Given that ...

... space seems to play a predominant role in the marking of Number in LSQ, and ... there are other means besides the POINTER (body shift, orientation of eye gaze, localisation) that can be used to associate a Noun with a spatial locus;

We ask the following questions:

Can the other marks of spatial association be used to express the *singular* and *plural* values of grammatical Number just as the POINTER can?

What is the Number value of Nouns without a spatial association?

METHODOLOGY

Corpus 1

- Spontaneous productions
- Television interview (*La parole en mains*, 1993)
- 3 Deaf signers
- Occurrences of DEAF (n=111) and HEARING (n=34)

Corpus 2

- Elicited productions (*Marqspat* project)
- Depiction task
- 12 short silent videos in which characters perform actions and manipulate objects that vary in nature, number and arrangement
- 2 Deaf signers
- All Occurrences of Nouns (n=232)

We examined all occurrences of Nouns, which we described in terms of:

- Meaning
- Type of space (point vs. zone) associated with the Noun
- Means of association
- Indication of quantity in the environment of the Noun (quantifiers, numerals, classifiers)

3 Deaf informants corroborated our analysis. All occurrences of Nouns were checked by at least one of the informants.

Corpus 1

	POINTER	Localisation	Eye Gaze	Body Shift	No spatial association
TOTAL (n=145)	21 (5)	NA	35 (6)	25 (9)	63

Corpus 2

	POINTER	Localisation	Eye Gaze	Body Shift	No spatial association
Anchored (n=102)	12 (7)	NA	15 (4)	4 (1)	56
Non anchored (n=130)	6 (3)	42 (19)	22 (1)	0 (0)	64
TOTAL (n=232)	18 (10)	42 (19)	37 (5)	4 (1)	120

*Numbers in parentheses indicate the number of marks that were used alone.

NUMBER IN THE TWO CORPORA

POINTER



Handshake /1/

- All Nouns associated with a point in space (n=27) are singular (5)
- All Nouns associated with a series of points in space (n=2) are plural (6)
- One Noun associated with a zone in space is plural (7)
Handshake variant /1/ seems more salient than /5/ (Rinfret, 2009)
- One Noun associated with a zone in space is singular (8)
The Noun is interpreted as a surface, an extent in space
The zone is then re-used to place new elements
Comparable to Geographic Nouns (as described by Rinfret (2009))
 - SPACE ROOM WAITING POINTER(ax) MAN(a) SIT
'In a waiting room, a/the man sits (on a chair).'
 - BEFORE THERE-ARE DEAF(a) POINTER++(ax¹, ax², ax²)
THERE-ARE SEE GROUP++(ax¹, ax², ax³)
'There used to be Deaf people here and there, you could see groups of them.'
 - MEAN [PERCEIVE-BY-EARS DEAF(c) POINTER(cY)](EGy)(BSy) NO / FEEL VIBRATIONS
'That doesn't mean Deaf people hear sound, no! They feel the vibrations.'
 - MEAN BE-OVER GAME(d) POINTER(dX)
'That means that the game [that they are playing on the table] is over.'



Handshake /5/

- Some Nouns (n=7) that are associated with a zone in space are plural (9)
- One N associated with a zone in space is singular (10)
The Noun is viewed as a surface, an extent in space
 - [DEAF(a)(BSx) POINTER(aX)](EGx) MEAN PERFECT ONE-HUNDRED PERCENT NO
'That doesn't mean they (read lips) 100% perfectly, no.'
 - SEEM LIKE ROOM(a) POINTER(aY)
'It looks like a room.'

Localisation

- All Nouns associated with a point in space (n=29) are singular (11)
- Some Nouns (n=13) associated with a zone in space are singular (12)
The Nouns (TABLE, WALL, FLOOR, DESK) are used as surfaces, an extent in space

(11) SECOND(y) SHOE(ay) 3a-DISAPPEAR(y)
'Second, the shoe disappears.'

(12) WALL(X)(Rx) HANGING(x) WHAT CALENDAR YEAR [...]
'There is a wall, with a calendar of the year [...] hanging on it.'

Eye Gaze

- Point eye gaze do not assign a Number value (13)
- Can occur in both single (14) and multiple (15) quantity contexts
- In our corpus, zone eye gaze occurs only within plural NPs which contain a POINTER designating a zone (9)
 - NO-PROBLEM FOR HEARING(EGx) BECAUSE POINTER(x)(EGx) POSS(x)(EGx) CULTURE(x) POSS(x)(EGx) LIFE
'There is no problem for the/a Deaf people/person, that's their/his culture and life.'
 - BEFORE DEAF(a) POINTER(ax)(EGx) HIMSELF(ax) NOT-BE-ABLE TALK MEAN NOT-INTELLIGENT
'It used to be that if a Deaf person couldn't talk, it meant he wasn't intelligent.'
 - BOOK(a) CL-PILE(ax) TRIP
'There is a pile of books (on the ground). (The man) tripped over it.'

CONCLUSION

Means of spatial association used to mark Number in the two corpora

Spatial Association Shape	Means of Spatial Association			Value
	POINTER /1/	POINTER /5/	Localisation	
Point	√	NA	√	Singular
Series of points	√	NA	?	Plural
Zone	√	√	√	Singular Plural

Body Shift

- The body shift cannot be used to attribute a Number value to the NP (16)
- The body shift can occur in NPs containing an indication of single quantity (17) or multiple quantity (18)
 - FOR [DEAF(b) CALL(bw-ax)(EGx)](BSw) CONTACT(ax-cy)(EGcy, BSax) HEARING(c)
'A Deaf person/Deaf people has/have to call (the Bell Relay Service) to contact a hearing person/hearing people.'
 - [ONE(a) WOMAN(a) PERSON-COME(z-w)](BSz) BOOK READ 'One woman comes, she's reading a book.'
 - POINTER(x) ONE-WEEK [MANY(b) DEAF(b) PARTICIPATE(x)](BSx)
'There, for a week, several Deaf people participated.'

Absence of spatial association

- The absence of spatial association cannot be used to assign a Number value (19)
- Can occur in NPs containing an indication of single quantity (20) or multiple quantity (21)
 - BELIEVE BEFORE USELESS DEAF DON'T-HAVE LANGUAGE
'People used to believe that Deaf people don't even have a language.'
 - MAN(a) ONE(b) WOMAN(b) EXCITED(a)
'The man is all excited that there is a woman.'
 - 1-SEE POINTER(screen) POINTER(screen) APPEAR+ FOUR(b) OBJECT(b) DIFFERENT+(b)
'I saw four different objects appear on the screen.'

- The POINTER and localisation can be used to attribute a Number value to the referents of discourse according to the form (point or zone) of the space that they associate with the Noun.
- A Noun associated with a point in space using either a POINTER or localisation is singular.
- A Noun associated with a zone in space using a POINTER is generally plural. However, certain Nouns that have the property of being viewed as a surface can be associated with a zone in space and receive a singular interpretation.
- A Noun associated with a series of points in space using a POINTER is plural.
- When spatial association is achieved by means of body shift and eye gaze or when a Noun has no spatial association, interpretation is indeterminate with respect to Number.