

Spatial Anaphoric Mechanisms in British Sign Language

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Abstract

Early research in sign language linguistics was aimed at revealing universal structures in spoken and sign languages. More recent research has demonstrated that sign languages may differ from spoken languages in their organisation and manifestation of various systems. One such system is anaphora. British Sign Language (BSL) displays many similar anaphoric reference mechanisms to those previously described in spoken languages such as English. However the principles and organisation behind these mechanisms are strikingly different. Morpho-syntax in BSL is articulated in the space surrounding the signer as well as the space on the signer's own body. Referent maintenance through anaphora is also spatially bound, with signers performing various anaphoric strategies within and across sentences to achieve cohesion within spatial constraints. This paper will attempt to describe how anaphora is resolved through a hierarchy of spatial mechanisms in narrative. Some of these have their English counterparts; however others are orientated towards syntax articulated in space. We will then explore how these mechanisms may be accommodated into a discourse representation framework.

British Sign Language (BSL)

BSL is the language of deaf people in the UK, used by, between 20 and 60 thousand people (Kyle and Woll 1985). BSL has history of development and evolution, stretching back to the 17th Century (Bulwer 1644).

A spatial grammar

The most salient characteristic of BSL is its use of a signing space through which signs are articulated.

Description of forms used for person reference

BSL shares many referential forms with spoken languages such as English, however there use in discourse is often very different.

- *Full noun phrase* (FNP). This form works the same as in spoken language. It could be a name of a referent spelt out in the manual alphabet e.g. M-A-R-Y, or a sign name for a referent e.g. FLAT-NOSE¹ . Usually reference will exploit a horizontal platform at about chest height and three-quarters of an arms length away from the body.

¹ Individual signs in BSL will be glossed with cognate English words wherever possible. A horizontal line above the gloss indicates beginning and end points and marked orientation of referential eye gaze.

shared left shared


e.g. // SISTER # WANT SAME

'The sister decided she wanted to do the same...'

- *Index point.* An index point for reference functions like a pronoun. Its use is crucially spatial and gives referential as well as topographic information simultaneously.

shared left

e.g. THEN INDEX_d




'...then (he)...'

- *Verb inflection.* One class of verbs are inflected in space in BSL. Verbs such as GIVE, LOOK, PAINT supply syntactic information in their inflection simultaneously, if inflected correctly identifying subject and object of a verb.

left

e.g. #_dPAINT-OUT_e



'..(he) painted (her)...'

- *Person classifier.* Classifiers in BSL are multi-functional, for the purpose of person reference these are used for establishing referent identity and topographic information. Following Liddell (1995), these tokens can be animate and inanimate but for animate reference they remain sexless although they do appear to have distinguishable parts such as a head a body and limbs. They can also be manipulated into various positions such as SITTING, JUMPING, FLYING, CLIMBING etc.

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neutral

e.g. BROTHER SISTER SIT-DOWN_{ab}


'The brother and sister sat down facing each other'

Use of space in discourse for anaphoric reference of person

We continue at the level of discourse and look at how discourse could be represented by both speaker and addressee during discourse and explore the use of space for anaphoric reference in sign language. We use a theory of mental spaces developed by Fauconnier (1985) and applied to linguistic phenomena in the theory of cognitive grammar described by Langacker (1987). We concentrate on one area of Langacker's framework that of the Central discourse space (CDS).

A theoretical model of discourse representation in space: Langacker's CDS



The CDS can be characterised as a representation of discourse held by participants.

Within the CDS are the conceptual structures which will be negotiated and held between the interlocutors. These structures occupy what Fauconnier has termed mental spaces, those, "that we set up as we talk or listen and that we structure with elements, roles, strategies and relations" (Fauconnier 1985, p.1).

We can see the use of the CDS with a range of linguistic structures, for the present discussion we will concentrate on the use of the CDS for pronominalisation

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mechanisms and in particular pronominal anaphora. When a referent is located by a FNP with accompanying index point to a discreet locus in the spatial array this sets up a conceptual structure in the CDS. This can be referenced later in the discourse by a reduced form such as an index serving as pronomina or a verb inflection using that point as a syntactic marker e.g. an agent or patient of an action.

topic	left	shared
e.g. JOHN	ONE-WEEK-PAST	1SEE _a INDEX _a SMOKE
		

(repetition)

‘As for John, I saw him last week, he smokes a lot’

In terms of the use of a CDS in the above example, the signer sets up a referential locus for John with an index point to the front left side of the sign space . This allows the signer to refer to the referent later in the discourse first through the verb SEE inflected towards the same locus and immediately after an index point to indicate the subject of the subsequent verb. Within a mental spaces framework we look at a longer BSL text.

//TABLE ROUND BROTHER SISTER SIT-DOWN_{ab} MOTHER THERE_c WASH-UP



THERE_c // BROTHER SISTER OK BORED WHAT PLAY PAINT SIT-



DOWN_{de} // # BROTHER PAINT PAINT THERE_e dLOOK_e # SISTER



CONCENTRATE # WAIT dPAINT-OUT_e # SISTER SHOCK_e PAINT-FACE_d GIRL



SHOCK // # ADMIRE WANT LIKE INDIAN dPAINT-OUT_e # ePAINT-FACE_d // # OK



PAINT GOOD SATISFIED GOOD // # SISTER WANT SAME dPAINT-OUT_e #



BROTHER ePAINT-FACE_d # NOT-PERFECT # ePAINT-FACE_d MESS



dPAINT-OUT_e GOOD LAUGH OVER // THEN HE_d # dTHROW_e # WET-HEAD #



WANT SAME dTHROW_e # WET-HEAD SPLASH // MOTHER # WASH-UP



VIBRATION FEEL SHAKE WHAT cLOOK-ROUND_f SHOCK BROTHER SISTER



SOAKED TABLE MESS # // TELL NO PLAY NO TELL-OFF BROTHER SISTER

fLOOK-UP_c HIDE HEAD FINISH



'A brother and sister were sitting at this big round table, mother was over there washing up. So the brother and sister were fine but they were a bit bored, so they played at painting sat down at the table, the brother painted away and just in front of him he watched his sister who was concentrating,. He waited a bit then he reached out and painted her all over the face the girl had quite a shock. He admired his work and decided he wanted her to look just like an Indian so he painted her again all over her face. That was fine he painted his paper quite satisfied. The sister decided she wanted to do the same so she painted the brother all over his face it wasn't perfect so she painted him again and made a real mess until it was right that was really funny. Then he threw water all over her head she wanted to do the same so she threw water all over his head and they both splashed around.. Mother was washing up and she felt some vibration, "what's that", she thought. She looked around and to her amazement she saw the brother and sister soaked and the table all messy. She told them off, "That's it no more play time", she told the brother and sister both off. They both looked up at her ashamed, that's the end'

Discussion

This adult signer dedicates the first several clauses of this narrative to the establishment of referential loci. This allows the signer to include participants via reduced referential forms.

e.g. neutral down+left neutral squint close
 SIT DOWN_de // # BROTHER PAINT PAINT THERE_e dLOOK_e # SISTER

'...sat down at the table, the brother painted away and just in front of him he watched his sister...'

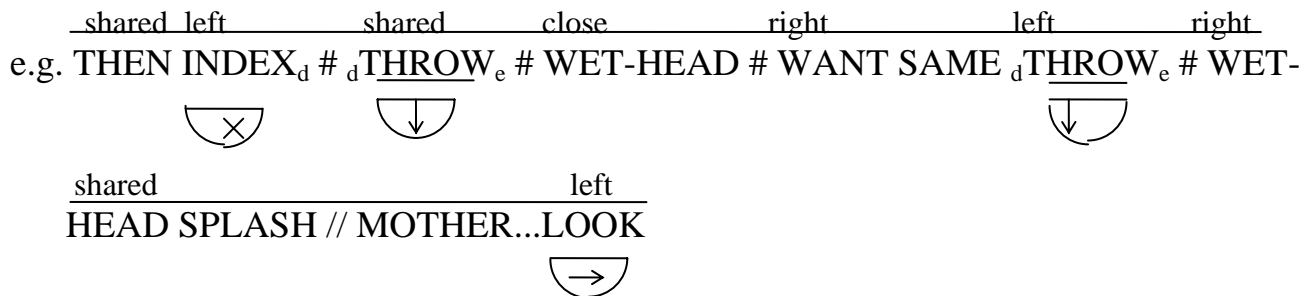
In this example the # coding indicates the signer shifted into a direct representation of the character. The verb dLOOK_e is articulated through the sign space with eye-gaze towards the previously location of the sister in SIT DOWN_de. The subject of the dLOOK_e is inferred from the signer taking a shifted first person role in the discourse and looking at the space previously identified as the sister.

In the next example a serial verb is discussed.

neutral right close neutral close
 WAIT dPAINT-OUT_e # SISTER SHOCK ePAINT-FACE_d GIRL SHOCK // # ADMIRE

'...he waited a bit then he reached out and painted her all over the face the girl had quite a shock. He admired his work...'

The signer uses spatial distinctions to identify referents, here the boy painting the girls face is performed with a direct representation of the action however the non-manual features adhere to the spatial constraints previously established. The boy is reintroduced into the discourse with only body orientation towards the sisters locus as an identifying feature. Once spatial syntactic information is established the signer uses increasingly reduced anaphoric reference.



'Then (he) threw water all over (her) head (she) wanted to do the same so (she) threw water all over (his) head and (they) both splashed around..mother turned around and saw them.'


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This example comes at the end of the narrative, reference is not supported with any explicit reference forms. The INDEX_d here functions as an anaphoric pronoun referring to the positioning of the brother four clauses previously. The agent of the action _dTHROW_e is interpreted by reference to the side of the signing space the verb is articulated within.

Conclusion

The use of sign space for referential purposes has been outlined and a description of anaphoric mechanisms offered. This brief description of discourse in space has concentrated on the use of space for verb and pronoun anaphora. It is apparent that the characteristics of a visual language call on very different resources to perform the same referential functions as in spoken language. For example the multiple perspective taking that is possible with the combined use of person classifiers and non-manual reference mechanisms.

e.g. # $\frac{\text{up+right} \quad \text{shared}}{\text{LOOK-UP}_c \text{ HIDE HEAD FINISH}}$



‘They both looked up at her...’

In terms of representation, is the same kind of mental space framework plausible for both types of language? With BSL discourse can we see a direct reflection of how a

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language may be represented cognitively in for example a central discourse mental space?

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