MORPHOLOGICAL COMPLEXITY AND SIGN LANGUAGES: RETHINKING VERB DIRECTIONALITY IN EMERGING AND ESTABLISHED SIGN LANGUAGES

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There has been a growing interest in the role emerging sign languages can play in our understanding of language evolution. In particular, work on home sign systems (e.g., Goldin-Meadow & Brentari, 2017), Nicaraguan Sign Language (e.g., Kocab et al., 2015) and Al Sayyid Bedouin Sign Language (e.g., Sandler, 2017) has provided a range of evidence about how grammar develops in new sign languages. Often this data is compared to current understanding of established sign languages, such as American Sign Language (e.g., Montemurro et al., 2019). However, existing assumptions about the grammar of established sign languages, such as British Sign Language (BSL) and its related variety Auslan (the majority sign language of Australia), are beginning to be challenged by new corpus data (e.g., Johnston, 2018; Fenlon et al., 2018). This paper will discuss concern that claims about language emergence need to be solidly grounded in a detailed understanding of the structure and use of both emerging and established sign languages. In particular, this paper will focus on the nature of verb directionality in sign languages. Indicating verbs in BSL, and other sign languages, can be directed towards locations in space associated with their arguments. This directionality has been widely analyzed as a form of person agreement marking (e.g., Lillo-Martin & Meier, 2011; Costello, 2016), although some scholars have rejected the agreement account (e.g., Corbett, 2006; Schembri et al., 2018). Indicating verbs have been considered an example of morphological 'complexification' in sign languages (e.g., Aronoff et al., 2005). The development of verb directionality has been studied in emerging sign languages, including Nicaraguan Sign Language, (Senghas & Coppola, 2001), as well as in artificial sign language studies (Motamedi et al., 2018). The data from both domains suggests that directionality develops over time from an initial stage in which arguments are represented by the signer's own body to one in which arguments are associated with abstract locations in space around the signer's body. Work drawing on spontaneous data has revealed, however, that the properties of indicating verbs in established sign languages are not as well understood as the literature might suggest. Fenlon et al. (2018) investigated a range of linguistic and social factors in 1,436 indicating verb tokens collected from a corpus of BSL, widely believed to be one of the oldest existing sign languages. Unlike previous claims based on elicited data (e.g., Morgan et al., 2006), the analysis shows that directionality in BSL is not obligatory (as had

also been reported for Auslan, see de Beuzeville et al., 2009). Directionality is, in fact, variable, and conditioned by several linguistic factors, such as constructed action (a type of enactment used to represent referents), animacy, and co-reference. Unlike what is reported for emerging sign languages (Padden et al., 2010), the study did not find evidence of constructional change in progress in the BSL indicating verb system. Moreover, the corpus data show that the use of abstract spatial locations away from the signer's body is not the preferred strategy in BSL (Cormier et al., 2015). Only 9 tokens (4%) involving the use of abstract locations were identified out of 238 indicating verbs in third person to third person marking contexts. In fact, there is a strong preference for one of the arguments to be represented by the signer's body. This paper reports additional factors that may influence when a BSL sign is modified directionally for argument reference. Using the BSL Corpus indicating verb dataset, the influence of definiteness and variable argument noun phrase presence was investigated. This was based on the suggestion that definite referents might be established with more specific locations in the signing space compared to indefinite referents, as suggested by work on Catalan Sign Language (Barberà, 2016), and thus be more likely to trigger indicating verbs being directed towards these locations. The study also explores whether the presence of an explicitly expressed argument in the clause may be significant, something not previously investigated. Results suggest that definiteness is indeed a significant factor, with definite arguments more likely to trigger directionality in indicating verbs than indefinite arguments. Variable argument presence was also important with modification more likely in clauses with null argument expression. Thus, there are a complex range of factors that influence the use of verb directionality in a 'mature' sign language. This has important implications for an understanding of the emergence and development of morphological 'complexification' in sign languages, as the use of abstract space is clearly not obligatory, and – unlike what is suggested in the emerging and artificial sign language literature – actually appears to be disfavored. We need to be mindful of this when making claims about emerging versus established sign languages in discussions of sign language emergence, and its contribution to language evolution more generally.

References

Aronoff, M., Meir, I., & Sandler, W. (2005). The paradox of sign language morphology. *Language, 81*(2), 301-344.

Barbera, G. (2016). Indefiniteness and specificity marking in Catalan Sign Language (LSC). *Sign Language and Linguistics* 19:1, 1-36.

Corbett, G. (2006). *Agreement*. Cambridge: Cambridge University Press

Cormier, K., Fenlon, J. & Schembri, A. (2015). Indicating verbs in British Sign Language favour motivated use of space. *Open Linguistics* 1(1), 684-707.

Costello, B. (2016). *Language and modality: Effects of the use of space in the agreement system of Lengua de Signos Española (Spanish Sign Language)*. LOT: Amsterdam.

de Beuzeville, L., Johnston, T., & Schembri, A. (2009). The use of space with indicating verbs in Australian Sign Language: A corpus-based investigation. *Sign Language and Linguistics* 12(1), 52-83.

Fenlon, J., Schembri, A., & Cormier, K. (2018). Modification of indicating verbs in British Sign Language: A corpus-based study. *Language, 94*(1), 84-118.

Goldin-Meadow, S. & Brentari, D. (2017). Gesture, sign, and language: The coming age of sign language and gesture studies. *Behavioral and Brain Sciences,* 40, E46.

Kocab, A., Pyers, J. & Senghas, A. (2015). Referential shift in Nicaraguan Sign Language: A transition from lexical to spatial devices. *Frontiers in Psychology,* 5: 1540.

Morgan, G., Barrière, I., & Woll, B. (2006). The influence of typology and modality on the acquisition of verb agreement morphology in British Sign Language. *First Language*, *26*(1), 19-43.

Motamedi, Y., Schouwstra, M., Smith, K., Culbertson, J., & Kirby, S. (2018, April 14). The emergence of spatial modulation in artificial sign languages. https://doi.org/10.31234/osf.io/p6zy4

Padden, C., Meir, I., Sandler, W., & Aronoff, M. (2010). The grammar of space in two new sign languages. In D. Brentari (Ed.), *Sign Languages* (pp. 570-592). Cambridge: Cambridge University Press.

Sandler, W. (2016). What comes first in language emergence? In N. Enfield (Ed.), *Dependency in Language: On the Causal Ontology of Language Systems* (pp. 67-86). Berlin: Language Science Press. 67-86.

Schembri, A., Cormier, K., & Fenlon, J. (2018b). Indicating verbs as typologically unique constructions: Reconsidering verb 'agreement' in sign languages. *Glossa: A journal of general linguistics, 3*(1).

Senghas, A. & Coppola, M. (2001). Children creating language: How Nicaraguan Sign Language acquired a spatial grammar. *Psychological Science* 12(4), 323-328.