Why do sign languages make prominent use of the sentence final position?

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Introduction: The right edge of a clause plays a special role in the grammar of sign languages. It has been observed that in many sign languages the sentence final position is used for prominent elements of a clause (Wilbur 1999; Davidson 2022), including wh-phrases (Petronio and Lillo-Martin 1997; Neidle, MacLaughlin, et al. 1998; Cecchetto et al. 2009, a.o.), the focused clause in a clausal Question Answer Pair (Wilbur 1996; Caponigro and Davidson 2011; Kimmelman and Vink 2017, a.o.), negative markers (Zeshan 2006; Quer 2012, a.o.), and focused phrases (Petronio 1991; Gan 2025). For example, in our survey of research on the syntax of wh-questions across sign languages (Table 1), all languages surveyed use a rightward strategy for wh-phrase: placing wh-phrases to occur alone at the right edge of a clause (N = 18/19, 95 %), or as a right-edge double of a clause internal wh-phrase (N = 16/19, 84 %). This holds in stark contrast to the common generalization that in spoken languages wh-phrases are either (i) left in situ or (ii) left-dislocated, but not right dislocated, cf. Richards (2014). Such a sharp distinction between signed and spoken languages is suggestive of a modality effect. In this abstract, we offer a preliminary novel account of why sign languages make more prominent use of the right edge of an utterance than spoken languages, suggesting potential future directions for processing studies.

Proposal: Our hypothesis is that the grammars of sign languages make use of a sentence-final position of prominence under pragmatic pressure created by the visual-gestural modality (c.f. Lambrecht 1994; Progovac 2015). More specifically, we hypothesize that there is a modality difference in the time required to establish a shift in attention and that this difference favors the right edge for prominence over the left in sign language grammars. In sign language conversation, the Addressee is responsible for consistent eye gaze to the floor holder. To claim the floor, a signer must *obtain the visual attention* of the current Signer and any other current Addressees, for both of whom re-orientation of attention typically requires shift of eye gaze. (Even in dyadic conversations, Signers often claim and hold the floor by averting eye gaze (Baker 1977)). Eye gaze typically requires precise saccadic eye movements. Saccades have a latency of approximately 200 ms (Purves 2004) and the saccade itself can last between 30 and 90 ms depending on its amplitude. If the gaze shift exceeds 25° a head turn may be required as well adding additional time to the process. No such physical re-orientation is required for auditory attention shift, since human hearing is nearly omnidirectional. In sign conversations, unlike spoken conversations, visual attention is required for accurate perception of linguistic content. Further, independent of eye gaze shift, there is evidence from reaction times and evoked potentials that the processing of visual stimuli takes longer than that of auditory stimuli (Purves 2004).

We propose that the greater time required for eye gaze shift and visual perception in a sign language creates the risk that signs at the beginning (i.e. left edge) of a sentence may not be fully perceived. This pragmatic risk makes the left edge unsuitable for the function of assigning prominence to a head or phrase in that position. Instead, the left edge is most suitable for presupposed or predictable components of the sentence (c.f Wilbur 1994). We speculate that, when the left edge is too risky, the right edge becomes a good option for assigning prominence due to recency and the possibility of final lengthening (Coulter 1993). In the case of sign languages, this pressure may cause the grammar to violate uniform headedness and place the spec and head of CP on the right (Neidle, Bahan, et al. 1998 on ASL; Cecchetto et al. 2009 on Italian SL; Gan 2022 on Hong Kong SL). There are precedents for the idea that implementation constraints can shape grammars. Consider Bellugi and Fischer's (1972) idea that signing rate creates a pressure that favors simultaneous morphology in sign languages or Steriad's (1997) proposal that knowledge of perceptibility shapes the grammar of phonological contrasts.

Discussion: This novel hypothesis motivates a research program to empirically verify the suggested modality difference and to further elaborate the grammatical mechanisms that support the shift to sentence final prominence. For example, one could compare between spoken and signed language users their reaction time of perceiving different types of information (new versus old) at the left and the right periphery of a sentence. Also, whether the effect of this pragmatic pressure is fully grammaticalized and stable or it is a synchronically active pragmatic principle in discourse requires further scrutiny. We will discuss the case of left-peripheral focus like (1) in the presentation.

Sign Language (SL)	Word order	In situ	Cl.-initial	Cl.-final	Doubling	Other	References
American SL	SVO	✓	(✓)	✓	✓		Petronio 1993; Petronio and Lillo-Martin 1997; Neidle et al. 2000
Australian SL	SVO		✓	✓	✓		Johnston and Schembri 2007
Austrian SL	SOV		✓		✓		Šarac et al. 2007
Brazilian SL	SVO		✓	✓	✓	✓	Quadros 2006
British SL	SVO			✓	✓		Sutton-Spence and Woll 1999
Catalan SL	SVO			✓	✓		Torre 2016
Crezch SL	SOV			✓	✓		Strachoňová 2022
Croatian SL	SVO		✓	✓	✓		Kuhn and Wilbur 2006; Šarac et al. 2007
Finnish SL	flexible		✓	✓	✓	✓	Savolainen 2006
Flemish SL	SOV		✓	✓	✓		Herreweghe and Vermeerbergen 2006; Vogt-Svendsen and Bergman 2007
Hong Kong SL	SVO	✓		✓	(✓)		Tang 2006; Gan 2022
Indo-Pakistani SL	SOV			✓	✗		Aboh et al. 2005
Italian SL	SOV	✓		✓	✗		Cecchetto et al. 2009
Japanese SL	SOV	✓		✓	✓		Morgan 2006
New Zealand SL	SVO		✓	✓	✓		McKee 2006
Quebec SL	flexible	✓		✓	unclear		Bouchard and Dubuisson 1995
SL of the Netherlands	SOV	(✓)	✓	✓	✓		Van Gijn 2004; Aboh and Pfau 2011
Trinidad & Tobago SL	SVO		✓	✓	✓		Bisnath 2018
Ugandan SL	SOV		✓	✓	✓		Lutalo-Kiingi 2014

Note: (✓) means inconsistent report between different studies.

Table 1: Syntactic positions of wh-phrase in different sign languages

(1) (As the answer to 'What did you read?')
BOOK$_F$ STOKOE I READ. 'I read Stokoe's book.' (Lillo-Martin and Quadros 2008, ex. 17)

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