

## *Appendix I.*

### *Extending the main findings to LSF*

In order to assess the robustness of our findings, we sought to extend them to French Sign Language (LSF), which is historically related to ASL (both are descended from Old French Sign Language [Supalla and Clark 2015]), and shares with it numerous properties in the area of anaphora (e.g. Schlenker 2011b; 2016; to appear a; b; Schlenker et al. 2013). Our LSF data are less extensive and less stable than those we obtained from ASL, but they do suggest the following conclusions: (i) Locative Shift exists in LSF as well; (ii) it targets non-indexical loci more easily than indexical ones; (iii) it can be used with highly iconic loci; (iv) it can affect truth conditions; and (v) some locative specifications may be disregarded under ellipsis, although the precise conditions are not clear. Other questions addressed with respect to ASL will not be taken up for LSF, either because we have no data, or because our data are highly unstable, with judgments that radically changed from one session to the other.<sup>45</sup>

#### **A1. Basic examples: third and second person loci**

A simple instance of Locative Shift is displayed in (62)b, and it can be seen in the inferences obtained that it has interpretive consequences. It should be noted that *PIERRE<sub>b</sub>* is signed on the left, which makes it unlikely that no locus or a neutral locus is associated with it.

- (62) RECENTLY PIERRE<sub>b</sub> NEW-YORK<sub>a</sub> b-MOVE-a. FRIENDS POSS-\_\_ IX-1 CHAT.  
 “Recently Pierre moved to New York. I chatted with  
 POSS-\_\_ =  
 a. <sup>6.6</sup> POSS-b  
 his friends.”  
 => I chatted with Pierre's friends / Pierre's Paris friends
- b. <sup>6.4</sup> POSS-a (judgments: 7, 7, 7, 7, 4)  
 his New York friends.”  
 => I chatted with Pierre's New York friends  
 (LSF, 50, 18; 5 judgments)

Importantly, a similar example with a second person pronoun replacing *PIERRE<sub>b</sub>*, as in (63), suggests that Locative Shift does not like to target indexical pronouns. This replicates effects we saw in ASL. But this also provides a counterargument against an alternative interpretation of (62)b, according to which it means something like “the New York friends”: if this possibility is open in the third person case, one would expect it to be open in the second person case as well, contrary to fact.

- (63) RECENTLY IX-2 NYC<sub>a</sub> b-MOVE-a. FRIENDS POSS-\_\_ IX-1 CHAT.  
 “Recently you moved to New York. I chatted with  
 POSS-\_\_ =  
 a. <sup>7</sup> POSS-2  
 your friends.”  
 b. <sup>3</sup> POSS-a  
 (LSF, 50, 46; 3 judgments)

#### **A2. Iconic examples**

We turn to cases in which Locative Shift targets positions on an iconic representation that are not specifically introduced as loci. The paradigm in (64) pertains to a visit the Leaning Tower of Pisa.

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<sup>45</sup> The latter fact might suggest that there are contextual or pragmatic factors that we do not understand. The LSF consultant we worked with usually has stable judgments, and it is thus noteworthy that Locative Shift is an exception.

*Notation:* *PISA\_TOWER\_\\* transcribes a representation of the tower leaning to the left from the signer's perspective. *GO-UP-CL<sub>person</sub>-circ-\\* transcribes a circular motion of a person classifier along the path of the leaning tower. *top* represents a position towards the top of the tower sign *\\*.

- (64) ITALY *PISA\_TOWER\_\\* *PIERRE GO-UP-CL<sub>person</sub>-circ-\\*. IX-1  
 “Pierre went up the Leaning Tower of Pisa. I  
 a. <sup>6.8</sup> 1-SEE-top<sup>46</sup> IX-top.  
 saw him at the top.”  
 b. <sup>4.4</sup> 1-SEE-neutral IX-top.  
 c. <sup>6.6</sup> 1-SEE-top HAND POSS-top.  
 saw his hand while he was at the top.”  
 d. <sup>4.8</sup> 1-SEE-neutral HAND POSS-top. (Judgments: 3, 5, 7, 5 4)  
 (LSF, 34, 53; 5 judgments)

In (64)a, the verb *SEE* takes an object agreement marker pointing towards the top of the tower, and the object pronoun also indexes the top of the tower. The meaning is that the signer saw Pierre at the top of the tower, not that he saw the top of the tower itself – which suggests that the object agreement marker denotes an individual rather than a spatial location. Results are degraded in (64)b, where a neutral rather than an agreeing version of *SEE* is used, while the object pronoun stays the same. (64)c,d are similar to (64)a,b, except that the object pronoun has been replaced with a possessive *HAND POSS-top*, with Locative Shift applied to the possessive. The result is rather acceptable (although the consultant once noted that he prefers the order object-verb to verb-object), and it becomes degraded again when the verb *SEE* fails to index the top of the tower. Certainly *HAND POSS-top* doesn't mean *the hand of the top of the tower*, or even *the hand associated with the top of the tower*, which strongly suggests that Locative Shift has indeed been applied. Still, these data, do not distinguish between three hypotheses. One is that Locative Shift can target both the object agreement of *SEE* and the possessive *POSS*. The other is that Locative Shift applies to the object agreement marker of *SEE*, and is then inherited by the possessive. The third is that there is only a weakened version of Locative Shift in this case, because the initial occurrence of *PIERRE* is signed in a potentially neutral position, hence may not introduce an explicit locus.

The same conclusions hold of the example in (65). Here too, *PIERRE* is arguably signed in neutral space. It is not clear for us whether the pointing sign that appears at the beginning of the second sentence of the discourse is location- or individual-denoting, but it is clear that in (65)b,c the possessive pronoun indexes a locus that is individual-denoting but corresponds to Pierre's position on the tower.

*Notation:* *PISA\_TOWER\_\\* transcribes a representation of the tower leaning to the left from the signer's perspective. *FILM-\\* transcribes an upward motion of the verb for *FILM* along the path of the leaning tower.

- (65) ITALY *PISA\_TOWER\_\\* *PIERRE GO-UP-CL<sub>person</sub>-circ-\\*. IX-1 *FILM\_\\*.  
 “Pierre went up the Leaning Tower of Pisa. I filmed his ascent.  
 a. <sup>2.3</sup> IX-a HAND POSS-a a-SHOW-1. (judgments: 1, 1, 5)  
 b. <sup>7</sup> IX-b HAND POSS-b b-SHOW-1.  
 He showed his hand in the middle of the tower.”  
 c. <sup>7</sup> IX-top HAND POSS-top top-SHOW-1.  
 He showed his hand at the top of the tower.”  
 (LSF, 34, 99; 3 judgments)

### A3. Ignoring locative specifications under ellipsis

It is a general fact that, under ellipsis, bound loci can be disregarded in some ways. In (66), the locus for subject *PIERRE* is re-established in various positions at the beginning of the antecedent clause,

<sup>46</sup> (64)a,b involved a hesitation after the verb.

with interpretive consequences. In three out of four judgments, pronouns in the VP give rise to bound variable readings, and these entail that the elided VP can disregard the locative specifications of the antecedent pronouns.<sup>47</sup> This is unsurprising since the identity of the antecedent loci presumably had to be disregarded to obtain a bound reading. The deviance of the control with an overt locus mismatch in (67)b is also expected. (Note that there is an infelicity in some of the examples: in (67)a, Pierre is understood not to be within the tower where he shows his hand.)

*Notation:* *PISA\_TOWER\_\* transcribes a representation of the tower leaning to the left from the signer's perspective. *FILM\_\* transcribes an upward motion of the verb for *FILM* along the path of the leaning tower.

- (66) ITALY *PISA\_TOWER\_\* PIERRE<sub>a</sub> YANN<sub>b</sub> THE-TWO-a,b GO-UP-CL<sub>person\_\</sub>-circ-\. IX-1 *FILM\_\*.  
 “In Italy, Pierre and Yann went up the Leaning Tower of Pisa (together). I filmed their ascent.

a. <sup>5</sup> PIERRE IX-a HAND POSS-a a-SHOW-1. YANN IX-top NOT. (Judgments: 7, 5, 4, 4)  
 “Pierre (outside the tower?) showed his hand. Yann, at the top, didn't.”

b. <sup>6,2</sup> PIERRE IX-bottom/middle HAND POSS- bottom/middle bottom/middle -SHOW-1. YANN IX-top NOT. (Judgments: 7, 7, 7, 4)  
 “Pierre showed his hand at the bottom (or middle) of the tower. At the top, Yann didn't.”

c. <sup>6</sup> PIERRE IX-top HAND POSS-top top-SHOW-1. YANN IX-top NOT.  
 (Judgments: 7, 6, 7, 4)  
 “Pierre showed his hand at the top of the tower. At the top, Yann didn't.”  
 (LSF, 35, 23; 4 judgments)

- (67) ITALY *PISA\_TOWER\_\* PIERRE<sub>a</sub> YANN<sub>b</sub> THE-TWO-a,b GO-UP-CL<sub>person\_\</sub>-circ-\  
 “In Italy, Pierre and Yann went up the Leaning Tower of Pisa (together).  
 IX-1 *FILM\_\*.  
 I filmed their ascent.

a. <sup>1,8</sup> PIERRE IX-a HAND POSS-a a-SHOW-1. YANN IX-top HAND POSS-a a-SHOW-1 NOT.

b. <sup>1,8</sup> PIERRE IX-bottom HAND POSS- bottom bottom-SHOW-1. YANN IX-top HAND POSS-bottom bottom-SHOW-1 NOT.

c. <sup>6,2</sup> PIERRE IX-top HAND POSS-top top-SHOW-1. YANN IX-top HAND POSS-top top-SHOW-1 NOT.  
 At the top of the tower, Pierre showed his hand. At the top, Yann didn't show his hand.”  
 (LSF, 35, 29; 5 judgments)

The paradigm in (68) shows that a locative mismatch between a second person subject and an overt pronoun it binds is unacceptable. This may be because such mismatches are generally unacceptable for our consultant, and/or because second person loci cannot undergo Locative Shift. Strikingly, the locative mismatch becomes far more acceptable under ellipsis, as seen in the paradigm in (69). Most of the inferential judgments are compatible with the view that the spatial specifications are preserved under ellipsis, since the locative features that apply to Pierre also yield inferences about the position of the addressee in the relevant situation. This finding could suggest that the prohibition against locative-shifted indexical pronouns is obviated under ellipsis, something we also found in ASL. But our data do not prove this: a plausible alternative is that the preceding discourse suggests that Pierre and the addressee were together (due to the expression *THE-TWO*) when they had the opportunity to show their hands, in which case the reading obtained is compatible with the view that

<sup>47</sup> As see in the Supplementary Materials, the consultant noted on the last trial that the order of *PIERRE IX-a* was suboptimal, and that *IX-a PIERRE* would have been better.

the elided pronouns are entirely devoid of locative specifications.<sup>48</sup> More work will be needed to tease apart these two possibilities.

- (68) ITALY PISA\_TOWER\_\\ PIERRE IX-2 THE-TWO-neutral,2 GO-UP-CL<sub>person</sub>-circ-\\.  
 “In Italy, Pierre and yourself went up the Leaning Tower of Pisa (together).  
 IX-1 FILM-\\.  
 I filmed your (i.e. your and his) ascent.
- a. <sup>6.5</sup> PIERRE IX-a HAND POSS-a a-SHOW-1. IX-2 HAND POSS-2 2-SHOW-1 NOT.  
 Pierre showed his hand. You didn't show your hand.”
- b. <sup>2.7</sup> PIERRE IX-bottom HAND POSS-bottom bottom -SHOW-1. IX-2 HAND POSS- bottom 2-  
 SHOW-1 NOT.
- c. <sup>2.7</sup> PIERRE IX-top HAND POSS-top top-SHOW-1. IX-2 HAND POSS-top 2-SHOW-1 NOT.  
 (LSF, 41, 28; 4 judgments)
- (69) ITALY PISA\_TOWER\_\\ PIERRE IX-2 THE-TWO-neutral,2 GO-UP-CL<sub>person</sub>-circ-\\.  
 “In Italy, Pierre and yourself went up the Leaning Tower of Pisa (together).  
 IX-1 FILM-\\.  
 I filmed your (i.e. your and his) ascent.
- a. <sup>6.5</sup> PIERRE IX-a HAND POSS-a a-SHOW-1. IX-2 NOT.  
 Pierre showed his hand. You didn't.
- b. <sup>6.2</sup> PIERRE IX-bottom HAND POSS- bottom bottom -SHOW-1. IX-2 NOT.  
 At the bottom Pierre showed his hand. You didn't.”  
 => you didn't show your hand at the bottom of the tower (4/6 judgments)
- c. <sup>6.3</sup> PIERRE IX-top HAND POSS-top top-SHOW-1. IX-2 NOT.  
 At the top Pierre showed his hand. You didn't.”  
 => you didn't show your hand at the top (4/6 judgments)  
 (LSF, 34, 117; 6 judgments)

To conclude, some essential properties of ASL Locative Shift can be replicated in LSF, but our data are not sufficiently fine-grained or stable to license strong inferences about the more subtle points of the discussion. Still, they suggest that Locative Shift exists in LSF (with constraints that we do not understand very well), that it targets non-indexical loci more easily than indexical ones, that it can be used with highly iconic loci, that it can affect truth condition, and that some locative specifications may be disregarded under ellipsis.

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<sup>48</sup> This remark was explicitly made on two separate days by our consultant about (69)b, c (see Supplementary Materials, [LD 15.02.12]; [LD 15.02.18]).