# Strong Pronominals in ASL and LSF ?*

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**Abstract:** Theories of pronominal strength (e.g. Cardinaletti and Starke 1999) lead one to expect that sign language, just like spoken language, can have morphologically distinct strong pronominals. We suggest that ASL (American Sign Language) and LSF (French Sign Language) might have such pronominals, characterized here by the fact that they may associate with *ONLY* even in the absence of prosodically marked focus.

**Keywords:** sign language, strong pronouns, pointing, focus

Many spoken languages display a morphological distinction between strong and weak pronouns. For instance, French distinguishes in the second person between the weak (clitic) object form *tu*, which comes in pre-verbal position as in (1)a, and the strong form *toi*, which has diverse uses, including in conjoined noun phrases as in (1)b, and in association with the focus particle *only* ('ne…que') as in (1)c.

(1) a. Je te / *toi déteste.
I you-sg-object-clitic / you-sg-strong hate
'I hate you.'

b. Je déteste Paul et toi / *te.
I hate Paul and you-sg-strong / you-sg-object-clitic.
'I hate Paul and you.'

c. Je ne déteste que toi / *te.
I NE hate only you-sg-strong / you-sg-object-clitic.
'I only hate you.'

Theories of pronominal strength such as Cardinaletti and Starke 1999 are stated in a modality-neutral fashion. Since there are morphologically strong pronouns in spoken language, one would expect that such pronouns could exist in sign language as well, but to our knowledge none have been described. While Bertone and Cardinaletti 2011 argue that strong pronouns in LIS (Italian Sign Language) display longer-than-normal duration, they treat this as a *prosodic* fact. Filling the typological gap, we suggest that ASL (American Sign Language) and LSF (French Sign Language) have *morphologically distinct* pronominals which might quality as being 'strong'.

While Cardinaletti and Starke have described a rich array of phonological, morphosyntactic and semantic facts that correlate with strength, in this squib we solely focus on one property: strong behavior is diagnosed semantically by the fact that these pronominals associate with *ONLY* even in the absence of prosodically marked focus; we thus leave an investigation of further diagnostics of strength for future research. For comparison, association of a French strong pronoun with *only* is illustrated in (2)a, with $_F$ marking focus in the translation: the strong pronoun *toi* ('you') naturally associates with *only*, while the clitic pronoun *la* ('her') does not. No such association asymmetry is found if both pronouns are clitics (without special intonation, association is with the verb or the VP, but not with one of the arguments to the exclusion of the other).[1]

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[1] We do not make strong claims about the prosodic realization of *à toi* in (2)a: it can definitely be realized with prosodic focus, but the sentence need not be impossible without it. Our point is that even in the latter case, an interpretive asymmetry naturally arises between the strong and the weak pronoun (see Cardinaletti and Starke 1999 for further discussion of the interaction between prosody and strong pronouns). In our ASL and LSF data, acceptability judgments given below do not suggest that strong pronominals *obligatorily* come with eyebrow raising, although the latter does mark focus on normal pronouns (strong pronominals *allow* for eyebrow raising, although it does not seem to affect inferential judgments).

(2) a. Je vais seulement la présenter à toi.
*I am-going-to only her-clitic introduce to you-strong.*
'I will only introduce her to [you]$_F$.'
=> likely inference: I will not introduce her to anybody but you
b. Je vais seulement te la présenter.
*I am-going-to only to-you-clitic her-clitic introduce.*
'I will only [introduce]$_F$ her to you.' or 'I will only [introduce her to you]$_F$.'
=> likely inference: I will not do anything else involving her and you than introduce her to you, or: I won't do anything but introduce her to you.

Our sign language data were elicited from one native Deaf ASL and one native Deaf LSF signer, each the child of Deaf, signing parents. We used the playback method and transcription conventions described in Schlenker 2017, Schlenker et al. 2016, involving minimal paradigms signed on a video and then assessed with quantitative acceptability judgments (7 = best, average score at the beginning of each example), detailed inferential questions, and a separate question about a possible English or French influence. Judgments were entered in a computer and (redundantly) signed on a video. The reference of each video and the number of judgments obtained (on different days) are found after each example, and raw data (including the signers' own description of means of focus marking) can be found in the Supplementary Materials.[2] (For clarity, we also provide below videos of the manual part of the relevant signs in LSF, as still pictures do not suffice to make the distinctions clear. Full videos are not included to respect the signers' privacy.)

We start with the initial ASL paradigm in (3), where the subscript $_F$ is used in the ASL transcription to indicate that prosodic focus was marked on the relevant pronoun, and in the English translations to indicate which element associates with *only*. Prosodic focus in ASL was marked very clearly by means involving in particular forward body shift, longer hold time, and eyebrow raising (see the Supplementary Materials for details); we do not transcribe prosodic focus more precisely because it is merely a control in the present squib: our aim is to show that strong pronouns can associate with *ONLY* in the *absence* of prosodic focus. This paradigm will have to be refined below because *IX-CL-a* in (3)c, which was intended to be produced without emphasis, still had a slight manual intensification, which we indicate by boldfacing this expression.

(3) IX-1 RECENTLY CONVERSATION JOHN$_a$ MARY$_b$. IX-1 ONLY ALLOW ___ TELL IX-b BILL FAIL.[3]
'I recently had a conversation with John and Mary. I only allowed __ to tell her that Bill failed.'

[2] As seen in the Supplementary Materials, consultants were asked to provide acceptability and inferential judgments on ASL and LSF videos, and also to describe differences of realization among the sentences. Our ASL consultant has considerable experience annotating videos, and thus his responses were particularly detailed.

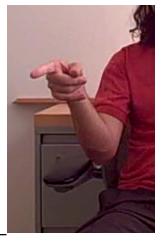
[3] In all judgments except one (the first judgment task for ASL 24, 76), the written context in (i) was included:

(i) *Context:* The speaker is the director of the school. He tells a group of teachers what they are allowed to say or to put in writing after the students took an exam.

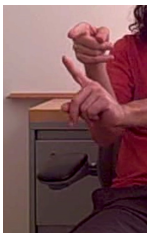
But as the consultant explicitly noted in the last of the four judgment tasks, this wasn't entirely felicitous, and it is likely that he disregarded or adapted it in the earlier tasks. As can be seen in the Supplementary Materials, he made the comment in (ii) [JL 17.05.06]:

(ii) "Note: context as listed is not accurate. Speaker is sharing what he already told two others about what is allowed, rather than telling the current group what is allowed for this group. Current judgments based on correct context. (I suspect that on previous judgments, I was thinking about this correct context rather than the inaccurate context that was present.)"

We do not know whether this change of context is related to the change of inferential judgments for (3)a: when the consultant made the remark in (ii), he read (3)a as if *ONLY* negated alternatives to *IX-b* (denoting Mary) and to *BILL*. In any event, this yields a completely different reading from ones in which John is denoted by a strong or a focused pronominal, and thus the distinct behavior of the latter is not affected.

a. [7] __ = IX-a_ 
him (ASL, 24, 76a, 4 judgments)[4]

b. [6.7] __ = IX-$a_F$
$him_F$ (ASL, 24, 75c, 4 judgments)

c. [7] __ = **CL-IX-a_** 
$him_F$ (ASL, 24, 76b; 4 judgments)

d. [6.7] __ = CL-IX-$a_F$
$him_F$ (ASL, 24, 76c; 4 judgments)

**Inferences:**
a. => [3/4 judgments] only the following is allowed: John will tell Mary that Bill failed (alternative individuals are disallowed, and similarly *writing* rather than *telling* is disallowed)
[1/4 judgment (= last of 4 judgment tasks)] what is not allowed is for John to tell someone other than Mary that Bill failed, and for John to tell Mary that someone other than Bill failed.
b., c., d. => what is not allowed is for someone other than John to tell Mary that Bill failed

When two pronouns are in the scope of *ONLY*, as in (3)a, no association asymmetry is found, and the reading obtained often suggests that the entire embedded proposition *IX-a TELL IX-b BILL FAIL* is in focus (or possibly that each of its component parts is in focus, i.e. that each triggers alternatives of its own). This was determined by asking whether any of the following was disallowed: (i) that someone other than John will tell Mary that Bill failed; (ii) that John will tell someone other than Mary that Bill failed; (iii) that John will tell Mary that someone other than Bill failed (iv) that John will write to Mary that Bill failed. A uniform 'yes' was obtained on all questions, showing that each of these was understood to be disallowed. By contrast, in (3)b prosodic focus was marked on *IX-a*, and the inferential judgments changed: only for question (i) was 'yes' obtained.

(3)c,d both have a complex pronominal *CL-IX-a* in embedded subject position. *CL-IX-a* is realized by signing the person classifier *CL* with the non-dominant hand, while pointing towards it with the dominant hand, as shown by the picture in (3)c. On an interpretive level, *CL-IX-a* in (3)c yields the same meaning *as if* it were focused, but overt focus, realized in (3)d, appears to be unnecessary to obtain this interpretation. The interpretive criteria are the very same we used in (3)b, involving the questions described in (i)-(iv) above about what is disallowed. The results tentatively suggest that *CL-IX-a* behaves as a strong pronominal which associates with *ONLY* even in the absence of prosodically marked focus. Tellingly, in one judgment task the consultant explained a non-maximal score (= 6) for (3)d by noting the redundancy between focus and *CL-IX-a*.[5]

This initial paradigm is imperfect, however. The intention was for the consultant to produce (3)c without focus and (3)d with focus. The *contrast* between the focused and unfocused forms of *CL-IX-a* was very clear, and

[4] The same sentence was included as part of another video, namely ASL 24, 75b. This other realization of the sentence gave rise to 4 further judgments, which were similar to those of ASL 24, 75a (including with respect to the last of the four inferential judgments; see the Supplementary Materials). The similarities are unsurprising since the two paradigms (ASL 24, 75 and ASL 24, 76) were tested as pairs.

[5] His comment can be found in the Supplementary Materials ([JL 14.08.26]): "unnecessary double emphasis - normally used sparingly, e.g. opposite IX than would be expected".

described by the consultant in the four judgment tasks (see the Supplementary Materials). But as the consultant noted upon checking the transcriptions, there might still be a slightly longer than normal hold time in (3)c; there is thus a risk that we are just comparing a 'slightly focused' and a 'very focused' version of *CL-IX-a*. In addition, while (3)a-d are highly acceptable (near the ceiling 7), the consultant discerned (in two judgments out of four) an English influence, which he attributed to the syntax (and possibly the presence of *ONLY*).

To start addressing both issues, we investigated additional paradigms that were produced with even greater care to avoid emphasizing *CL-IX* (focused *CL-IX* was left out of the new paradigm because its behavior is not informative). The clearest is displayed in (4), which compares the unmarked pointing sign *IX*, a focused version of it (with raised eyebrows and further manual and non-manual modifications that are described in the Supplementary Materials), and an unmarked version of *CL-IX*. The consultant did not discern an English influence in this paradigm. Here the inferential question was open rather than multiple choice: 'What can be inferred to be DISALLOWED?'.[6]

(4) POSS-1 GROUP HAVE 3 RESEARCHER JOHN$_a$ MARY$_b$ BILL$_c$. IX-1 ONLY ALLOW … WORK WITH __.
'My group has three researchers: John, Mary and Bill. I only allow … to work with__ .'

| | | | |
|---|---|---|---|
| a. [7] … = | IX-c | __ = | IX-a. |
| | Bill | | John |
| b. [7] … = | IX-c$_F$ | __ = | IX-a |
| | Bill$_F$ | | John |
| c. [6.8] … = | IX-c | __ = | IX-a$_F$ |
| | Bill | | John$_F$ |
| d. [6] … = | CL-IX-c | __ = | IX-a |
| | Bill$_F$ | | John |
| e. [5.5]… = | IX-c | __ = | CL-IX-a |
| | Bill | | John$_F$ |
| f. [6] … = | CL-IX-c | __ = | CL-IX-a |
| | Bill$_F$ | | John$_F$ |

(ASL 34, 4101; 4 judgments)

**Inferences**

a. => Mary is disallowed from working with John and from working with Bill [4/4 judgments] (stronger disallowance on working with Bill [1/4 judgments])
b. => Mary is disallowed from working with John (weaker inference that she is disallowed from working with Bill) [4/4 judgments]
c. => Mary is disallowed from working with Bill [4/4 judgments] (weaker inference that she is disallowed from working with John [3/4 judgments])
d. => Mary is disallowed from working with John [4/4 judgments] (weaker inference that she is disallowed from working with Bill [3/4 judgments])
e. => Mary is disallowed from working with Bill [4/4 judgments] (weaker inference that she is disallowed from working with John [3/4 judgments])
f. => Mary is disallowed from working with John and from working with Bill [4/4 judgments]

Importantly, when *IX-c$_F$* (denoting Bill) is focused but *IX-a* (denoting John) is not, as in (4)b, the strongest inference is that it is disallowed for John to work with someone other than Bill, i.e. with Mary. When *IX-a$_F$* (denoting John) is focused but *IX-c* (denoting Bill) isn't, as in (4)c, the strongest inference is that it is disallowed for Bill to work with Mary. Both results are expected if *ONLY* associates with focus: in (4)b, it has the effect of negating propositions of the form *I allow x to work with John* for $x \neq$ *Bill*, hence the inference that Mary is disallowed from working with John; and in (4)c, the effect is instead to negate propositions of the form *I allow Bill to work with y* for $y \neq$ *John*, hence the inference that Mary is disallowed from working with Bill. One can also

[6] A slightly less well controlled paradigm (ASL 34, 4091) involving different lexical choices (with *SEMINAR* instead of *GROUP*, *STUDENT* instead of *RESEARCHER*, *DISCUSS* instead of *WORK*) yielded approximately the same results.

For future research, an anonymous reviewer noted that environments involving *SELF* have been argued to yield focus-related readings without a focus prosody, and thus that on the present theory they would predict that *SELF* is in this respect interchangeable with *CL-IX*.

expect a weaker inference, due to an exhaustivity implicature rather than to the semantics of *ONLY*, to the effect that whatever collaborations are not explicitly authorized are prohibited; these weaker inferences do mostly show up in (4), but with a clearly distinguished status (= they are explicitly described as being weaker or just possible).

What is of interest for present purposes is that the unfocused strong pronominal *CL-IX* in (4)d,e behaves in essence like the focused pronouns in (4)b,c: the strongest inference triggered in (4)d is that Mary is disallowed from working with John, while in (4)e it is that Mary is disallowed from working with Bill. This is precisely the behavior that we expect if *CL-IX* is an intrinsically emphasized pronominal.[7] While more work would of course be needed, we conclude that *CL-IX* is a good candidate for a strong pronominal in ASL.

In LSF, a *simplex* pronominal with a distinct manual morphology , and produced with the labialization /*pi*/ (see the video in (5)c), displays this strong behavior as well (the same word also has uses as a relativizer, as is discussed in Hauser 2016, Hauser and Geraci 2017). We gloss this pronominal as *PI* because of the labialization, but its manual form is related to that of the simple pointing sign *IX*, with an important difference: the index finger is initially held by the thumb and then released, something that is not found with normal *IX*.

Focusing on the normal pointing sign, (5)a (without focus marking) yields a reading on which *ONLY* associates with the verb, while focus marking on *IX-b* in (5)b primarily yields the expected reading, on which the speaker doesn't want other people than Marie to help Pierre (these judgments are from 3 distinct paradigms; here and throughout our LSF data, focus seems to be primarily, although not exclusively, marked by eyebrow raising and eyegaze changes; as in our ASL paradigm, prosodic details are not encoded because the focused elements merely serve as a control for the behavior of the strong pronominals).[8] The interesting observation lies in (5)c,d: *ONLY* associates with *PI* irrespective of whether *PI* is prosodically focused. Throughout this paradigm, inferences were obtained by asking about what the signer does *not* want, with the following possibilities: (i) 'one doesn't know'; (ii) the signer 'doesn't want Marie to help someone other than Pierre'; (iii) the signer 'doesn't want someone other than Marie to help Pierre'; (iv) 'something else [say what]' (see the Supplementary Materials for raw data).

(5) YESTERDAY IX-1 1-MEET MARIE$_b$ PIERRE$_a$. ONLY IX-1/IX-1 ONLY/ONLY[9] WANT __ b-HELP-a IX-a.
'Yesterday I met Marie and Pierre. I only want(ed) __ to help him.'

a. [6.7] __ = IX-b
her (LSF, 57, 2482a; 3 judgments; LSF, 57, 2492a; 3 judgments; LSF, 57, 2498a, 3 judgments)

b. [6.9] __ = IX-b$_F$
her$_F$ (LSF, 57, 2482b; 3 judgments; LSF, 57, 2492b; 3 judgments; LSF, 57, 2498b, 3 judgments)

c. [7] __ = PI-b
her$_F$ (LSF, 57, 2482c; 3 judgments) **video of *PI-b*:** https://drive.google.com/file/d/0B7Mz-VKVeYNKVGNZZzVIT2VNUWM/view?usp=sharing

d. [7] __ = PI-b$_F$
her$_F$ (LSF, 57, 2482d; 3 judgments)

e. [6.3] __ = CL-IX-b
her$_F$ (LSF, 57, 2492c; 3 judgments) **video of *CL-IX-b*:** https://drive.google.com/file/d/0B7Mz-VKVeYNKaEg5dHd3MjZzaUU/view?usp=sharing

f. [6.7] __ = CL-IX-b$_F$
her$_F$ (LSF, 57, 2492d; 3 judgments)

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[7] When both pronominals are strong, as in (4)f, the inference obtained is also expected: the effect of *ONLY* is to negate propositions of the form *I allow x to work with y* for $x \neq$ *Bill* and $y \neq$ *John*, hence the inference that Mary is disallowed from working with John and also from working with Bill. When two normal unfocused pronouns are used instead, it is not clear what is predicted, but the facts seem to be that *ONLY* also negates propositions of the form *I allow x to work with y* for $x \neq$ *Bill* and $y \neq$ *John*, as seen in (4)a.

[8] The consultant noted in one judgment task [LL 18.03.12] that she gave (5)a,b (but not (5)c,d) a slightly degraded acceptability rating (= 6) because *ONLY* was 'unnecessary'.

[9] The position of *ONLY* slightly varied from one example to the next, as did the presence of the first person pronoun, hence the summary transcription *ONLY IX-1/IX-1 ONLY/ONLY*.

g. [7] __ = CL-PI-b $her_F$ (LSF, 57, 2498c; 3 judgments) **video of *CL-PI-b*:** https://drive.google.com/file/d/0B7Mz-VKVeYNKanBJRVlILVhpZDQ/view?usp=sharing

h. [6.7] __ = CL-PI-$b_F$ $her_F$ (LSF, 57, 2498d; 3 judgments)

**Inferences:**

a. => the speaker doesn't want Mary to take any action other than helping in relation to Pierre

b., c., d., e., f., g., h. => the speaker doesn't want anyone other than Marie to help Pierre

(b. yielded an unexpected inference [in one case out of three] in LSF, 57, 2482b[10] but not in LSF, 57, 2492b and LSF, 57, 2498b)

(5)e-f shows that, for this consultant at least, the same semantic result can be obtained by using the ASL strategy in (3)c, with *CL-IX-b*, a person classifier simultaneously signed with a pointing sign (see the video in (5)e). Finally, (5)g,h shows that, using this strategy, we can replace the pointing sign *IX* with *PI* (thus yielding *CL-PI-b,* as in video in (5)g). The semantic result remains the same.

We conclude that a simple semantic test suggests that the ASL complex pronominal *CL-IX* displays a strong semantic behavior, and that the LSF simplex pronoun *PI* (as well as our LSF consultant's version of *CL-IX*) does as well. On an empirical level, these data should be tested with further consultants in the future. On a theoretical level, they should be integrated with the prosodic study conducted by Bertone and Cardinaletti 2011, as part of a more general investigation of pronominal strength in sign language. Finally, we have only shown that one important property of strong pronouns is displayed by the ASL and LSF (potentially) strong pronominals under study here; it should be investigated whether they also have the additional 'strong' properties studied by Cardinaletti and Starke 1999.

[10] As seen in the Supplementary Materials, the inference we indicate was obtained in 8 out of 9 judgments spread through 3 paradigms. The exception is found in LSF 57, 2782b, judgment of [LL 17.08.02]; as noted in the Supplementary Materials, this particular judgment set involved 5 ratings for 4 sentences, and the judgment pertaining to this example might have appeared in the wrong column (we did not shift columns as we computed the results for fear of biasing the data).

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## *Supplementary Materials*

Raw judgments on ASL and LSF videos can be found at:

https://drive.google.com/file/d/1qJJxWSa8jHY-o7zt4nN5mNe6EO-eA1gf/view

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