

Answering negative questions in American Sign Language

Aurore Gonzalez, Kate Henninger and Kathryn Davidson (Harvard University)

Languages vary in the way that discourse particles can be used to answer negative polar questions (Pope 1972). For example, in a polarity-based system, negative *no* answers are used in confirming answers that retain a negative polarity, as exemplified by Swedish (1a); in a truth-based system, a negative *no* answer disconfirms the truth of the negative proposition, as exemplified by Japanese (1b).

- (1) a. Amy: Är du inte trött? b. Amy: Kare-wa koohii-o noma nai no?
 ‘Are you not tired?’ ‘Does he not drink coffee?’
 Zoe: Nej (jag är inte trött). Zoe: Uun, nomu yo.
 (Lit.) ‘No, I am not.’ (Lit.) ‘No, he drinks (coffee).’ (Holmberg 2015)

In yet another class of languages, a negative answer particle *no* can be used for both interpretations, as in English, and yet other languages may also have different particles for each use, as in French (*non* and *si*) (Holmberg 2015, a.o.). As far as we can tell, sign languages have not yet been discussed with regard to this typology. In this paper, we present a novel set of data from American Sign Language (ASL) in which we compare the answering of negative questions at the level of dialogue and at the level of clausal embedding, leading to several new insights on the semantics/syntax/pragmatic interface in sign languages. **Negative questions in ASL.** When answering *yes-no* questions at the discourse level, ASL is like English in not strictly following the truth-based system or the polarity-based system: the answer particle \overline{NO}^{hs} can express both negative polarity (2a) and can disconfirm the truth of the negative proposition (2b).

- (2) Amy: ZOE LUCKY, IX_{ZOE} HOMEWORK $\overline{NOTHING}^{headshake}$ Ben (to Zoe): IX_{ZOE} $\overline{NOTHING}^{br}$?
 ‘Zoe is lucky, she doesn’t have any homework.’ ‘Do you not have any homework?’
 a. Zoe: $\overline{NO}^{headshake}$, $\overline{NOTHING}^{headshake}$ b. Zoe: $\overline{NO}^{headshake}$, HAVE
 ‘No, I have none.’ ‘No, I have some.’

ASL (among other sign languages) also allows another type of question-answer pairs, namely Question - Answer Clauses (QACs, Caponigro & Davidson 2011): the same signer produces the Q-constituent of the QAC conveying a question as well as its A-constituent conveying an answer to that question (3). Interestingly, negative QACs are more restricted than negative questions in dialogue: when answering a negative QAC, the answer particle \overline{NO}^{hs} can only disconfirm the truth of the negative proposition (4).

- (3) [Q-constituent $\overline{I\ LAUGH}^{brow-raise}$], [A-constituent $\overline{NO}^{headshake}$]
 ‘I was not laughing.’ (Caponigro & Davidson 2011)

- (4) Amy: ZOE LUCKY, IX_{ZOE} HOMEWORK $\overline{NOTHING}^{headshake}$
 ‘Zoe is lucky, she doesn’t have any homework.’
 a. Zoe: *[IX₁ HOMEWORK $\overline{NOTHING}^{brow-raise}$], [$\overline{NO\ NOTHING}^{headshake}$]
 ‘I don’t have any homework.’
 b. Zoe: [IX₁ HOMEWORK $\overline{NOTHING}^{brow-raise}$], [$\overline{NO}^{headshake}$ HAVE]
 ‘I have some homework.’

We have found this asymmetry between responses to negative discourse question-answer pairs and negative QACs to be robust across several types of negative questions, including the negative signs NEVER and NONE. This leads to several insights.

1. Evidence for embedding (polar) question-answer structure. While QACs have themselves been argued to be question-answer pairs at the discourse-level (Hoza et al. 1997), other researchers have argued that QACs are clausal (Wilbur 1994, 1999, Caponigro & Davidson 2011). In general, arguments provided

in favor of a clausal analysis (e.g. no doubling of the *wh*-word as in embedded questions, non-manual marking different from the one used in the corresponding matrix interrogative) have concerned *wh*-QACs; polar QACs do not involve *wh*-words and show the same non-manual marking as polar questions. Negative answer patterns provide an argument that polar QACs, as with *wh*-QACs, are not question-answer pairs at the discourse level since they are more restricted. Moreover, analyses of QACs as pseudoclefts (Wilbur 1994, 1999) specifically exclude structures involving polar questions (**[Whether John bought a book] is [no/he didn't]*), so data from negative answers to polar questions more specifically support an analysis of QACs as embedded question-answer pairs (Caponigro & Davidson 2011).

2. Evidence against strong typology of SL negation. Zeshan (2006) has argued that sign languages can be divided into two typological classes based on negation: (i) in non-manual dominant languages, the occurrence of non-manual negative markers (in most cases, the negative headshake represented as $\overline{\text{hs}}$) is obligatory and negative signs are unable to negate a sentence on their own, while (ii) in manual dominant languages, manual negative signs are required to negate a sentence. ASL is classified as a non-manual dominant language, but the negative questions in (2) and QAC in (4) interestingly show that negative signs such as NOTHING need not co-occur with a negative headshake. Crucially, the interpretations of (2b) and (4b) show that NOTHING does introduce its own negation and cannot be analyzed as an NPI (as English *anything*, for instance) in these contexts. This pattern extends to other negative signs (NEVER, NONE, NOT), which also do not co-occur with the negative headshake when appearing in a question.

3. Double negation readings. While the primary reason for using *positive* QACs is focus/emphasis, *negative* QACs also provide a way to express wide scope readings of negation and double negation readings (cf. (4b)); ASL otherwise shows strong negative concord. This is consistent with other negative concord languages (e.g. Romanian), which have been argued to allow double negation readings when a negative word is used as a fragment answer to a negative question (Fălăuș & Nicolae 2016).

Toward a modified analysis of QACs. To account for the possible answers for negative questions, the theory must be restricted to rule out $\overline{NO}^{\text{hs}}$ expressing negative polarity in negative QACs (4a). Our data point toward either further restrictions on the embedding of answer particles (or restrictions on the number of interpretations available when answer particles are embedded) or refinements of the current QACs structure. We discuss how languages vary regarding their ability to embed answer particles: either none of the answer particles can be embedded (e.g. English) or all of them can (e.g. French). Although diagnosing embedding presents problems of its own in ASL, ASL seems to allow embedding of the answer particle $\overline{NO}^{\text{hs}}$, and crucially when embedded, the latter can convey both interpretations (5), suggesting that rather than restrictions on embedding, a modified analysis of QACs is required.

(5) Ben (to Zoe): AMY IX_{AMY} HOMEWORK $\overline{NOTHING}^{\text{brow-raising}}$?

‘Does Amy not have any homework?’

a. Zoe: I THINK $\overline{NO}^{\text{head-shake}}$, IX_{AMY} $\overline{NOTHING}^{\text{head-shake}}$

‘I think that she doesn’t have any homework.’

b. Zoe: I THINK $\overline{NO}^{\text{head-shake}}$, IX_{AMY} HAVE

‘I think that she does have some homework.’

Conclusion. Answers to negative questions in ASL indicate its place in a larger picture of possible ways to divide answer particles, and provides insights into several separate phenomena in ASL as well. Looking ahead, while we haven’t found any sign language with three answer answer particles yet, we predict that only the third (e.g. equivalent to French *si*) would be used in response to negative QACs.