

Clausal Question-Answer Pairs: Evidence from American Sign Language

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Do languages ever encode two typical discourse-level objects like a question and its answer as just one syntactic and semantic unit? In this paper, we argue that this is the case, at least for American Sign Language (ASL). ASL has a construction (1) consisting of a *wh*-clause (in brackets) immediately followed by a clausal or non-clausal constituent. We call this structure a Clausal Question-Answer pair (CQA).

- (1) [JOHN_i ATE WHAT]_{cqa*} (HE_i ATE) PASTA. “John ate pasta (and nothing else).”
 **cqa* refers to the non-manual marking (involving eyebrow movement) used in the *wh*-clause of CQAs

CQAs have traditionally been analyzed as rhetorical questions (Baker-Shenk 1983) and more recently as specificational pseudoclefts (Petronio 1991; Wilbur 1994; Grolla 2004). In this paper, we argue that (i) CQAs are true question-answer pairs both semantically and syntactically (along the lines of Hoza, Neidle, MacLaughlin, Kegl and Bahan 1997); (ii) CQAs form a single syntactic unit - a clause; (iii) CQAs contain a silent predicate that takes the *wh*-clause and the following constituent as its arguments. We end by comparing CQAs with specificational pseudoclefts and concluding that they are separate constructions.

(i) CQAs are true question-answer pairs. The *wh*-clause in a CQA looks exactly like an interrogative in ASL, except for variation in non-manual marking.

- (2) Q: [JOHN EAT WHAT?]_{bf}(brow furrowing) A: (HE ATE) PASTA

CQAs also allow for the same wide range of *wh*- words as interrogatives:

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|---|--|
| [JOHN ATE WHAT] _{cqa} PASTA. | [BABY CRY WHY] _{cqa} MOTHER LEAVE. |
| [COME PARTY WHO] _{cqa} JOE. | [JOHN LIKE WHICH GIRL] _{cqa} MARY. |
| [LEAVE SHOES WHERE] _{cqa} KITCHEN. | [JOHN READ HOW] _{cqa} VERY-FAST. |
| [JOE COOK WHEN] _{cqa} YESTERDAY. | [CAR COST HOW-MUCH] _{cqa} \$20,000. |

From these facts and the well-known fact that *wh*-words are not used in any relative constructions in ASL (Liddell 1978; Wilbur 1994), we conclude that the *wh*-clause in a CQA is a *wh*-interrogative clause and as such it denotes a question.

The non-interrogative constituent that follows the *wh*-interrogative in CQAs is identical to either the short or the full answer to the question that the *wh*-interrogative denotes. In particular, the full range of answers is allowed in the non-interrogative constituent in CQAs, including non-referential short answers (3a-b) and full clausal answers (1 and 4).

- (3a) [JOHN ATE WHAT]_{cqa} EVERYTHING. “John ate everything.”

- (3b) [JOHN ATE WHAT]_{cqa} NOTHING. “John ate nothing.”

- (4) [JOHN_i GO HOW]_{cqa} HE_i DRIVE. “John went by driving.”

(ii) CQAs form a clause. There is strong evidence that the question and answer portion of CQAs behave as a syntactic unit, in particular a clause. For instance, (5) shows that CQAs can be embedded as the clausal complement of the main verb (HOPE) and that the main verb can be repeated at the very end of the sentence (after the CQA), a device used in ASL to add emphasis to the whole sentence. Notice that the CQA in (5) is a true embedded clause and not a quotation, because the subject of the embedded clause is a third person pronoun that is coreferential with the matrix subject, while in a quotation it would necessarily be in the first person.

- (5) THOSE_i GIRL HOPE [THEIR_i FATHER BOUGHT WHAT]_{cqa} CAR HOPE
 “The girls hope that what their father bought was a car.”

If a CQA forms a clause, then its *wh*-clause must be embedded within it. Independent support for this conclusion comes from the fact that CQAs do not allow for doubling of their *wh*-word

(6), similar to embedded wh-interrogatives (7), while matrix wh-interrogatives do allow for wh-word doubling (8).

(6) ANN KNOW WHAT JOHN EAT (*WHAT)? “Ann knows what John ate.”

(7) [(*WHAT) JOHN EAT WHAT]_{cqa} PASTA. “John ate pasta.”

(8) [WHAT JOHN EAT WHAT]_{bf}? “What did John eat?”

Finally, all matrix wh-questions (information-seeking or rhetorical) require brow furrowing, while this is not the case in embedded questions or CQAs.

(iii) CQAs contain a silent predicate. In (i) and (ii), we saw that a CQA is a clause containing two smaller clauses: a wh-clause (the question) and a following non-wh constituent (the answer). What keeps them together syntactically and semantically and allows them to form a clause? In ASL the copula is always silent (CAR RED ‘The car is red’, CAR FERRARI ‘The car is a Ferrari’), so we propose that a CQA always contains a silent copula BE that syntactically takes the question and the answer as its arguments. Semantically, we suggest that BE requires the question (a set of propositions) to contain the answer (a proposition) (9).

(9) $\lambda p_{\langle s,t \rangle}, \lambda Q_{\langle \langle s,t \rangle, t \rangle} BE_{\langle \langle s,t \rangle, \langle \langle s,t \rangle, t \rangle \rangle} (p)(Q)$

Notice that BE builds a kind of inverted predicational structure, with the preverbal constituent (the question) behaving like a predicate and the postverbal constituent (the answer) behaving like the subject of the predication (along the line of Mikkelsen 2004 for specificational clauses). We could have adopted an analysis in which BE builds an identity relation, rather than a predicational one (along the line of Schlenker (2003) for specificational clauses). Then, BE would not impose any natural ordering on its arguments, both being of type $\langle s, t \rangle$. However, the ASL data clearly show that the answer cannot precede the question in CQAs (10).

(10) *PASTA [JOHN ATE WHAT]_{cqa} (cf. non-inverted in (1))

The identificational option needs to assume something else in order to account for this asymmetry, unlike the the predicational option.

CQAs and specificational pseudoclefts. Although our analysis incorporates various insights from the analyses of specificational pseudoclefts by den Dikken, Meinunger and Wilder (2000) and Schlenker (2003), there is evidence that CQAs are not specificational pseudoclefts. The very same arguments that support our analysis of CQAs as clausal question-answer pairs show that specificational pseudoclefts often do not behave like question-answer pairs (contra den Dikken et al. and Schlenker). (i) Unlike CQAs, the range of wh-words that can occur in specificational pseudoclefts is a proper subset of those that occur in interrogatives (Caponigro and Heller 2007). (ii) Unlike CQAs, the range of postcopular constituents in a specificational sentence is more restricted than answers: non-referential expressions (11) and most full clauses (12) are judged degraded. (iii) Unlike CQAs, specificational sentences can reverse the order of two arguments (13):

(11) *What John ate was pasta/#everything/#nothing.*

(12) **Where John went was he went to the movies.*

(13) [*Pasta*] was [*what John ate*]. (cf. related CQA examples above)

These facts are compatible with an alternative analysis of specificational sentences according to which they are just an equation between the pre- and the post- copular phrase as they appear on the surface, and connectivity effects are just a by-product of semantic equation (see Caponigro and Heller 2007 and Romero 2007 for relevant discussion).

Conclusions. CQAs in ASL show that languages can encode question-answer pairs below discourse level as syntactic-semantic units. The productivity of this option may vary from language to language. English may have it to a more limited extent, as discussed in Ross 1972 (*What I did then was I called the grocer*). What emerges clearly from a parallel look at CQAs and specificational pseudoclefts is that a question-answer pair analysis works smoothly for the former, but raises several issues about the latter.

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