

Pitch and causal inference in English temporal adverbial answers

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We report a mismatch in standard American English between the focus alternatives one would expect based on pitch accent placement and the ones we actually entertain. Consider the following unbiased information-seeking *wh*-question:

- (1) When did you start studying linguistics?

We discuss two possible answers. In (2), the nuclear pitch accent is on the verb, which allows for a neutral or broad focus interpretation, as well as a narrow one. However, in (3), it falls on the object, which allows only for a narrow focus interpretation (examples annotated in ToBI, Beckman and Hirschberg 1994; Beckman and Elam 1997, an autosegmental metrical transcription system, Beckman and Pierrehumbert 1986).

- (2) When I **mèt** you.

H* L-L%

My initiation into linguistics began around when I met you.

- (3) When I met **yòu**.

L*+H

My initiation into linguistics began around when I met you,

and it has a cause/reason,

and that cause/reason (indirectly) was our meeting.

With regard to interpretation, (2) allows for an additional causal inference, while (3) requires it. Note that this contrast is clearer with elements such as weak pronouns that can be deaccentuated (Cardinaletti and Starke 1994), since a proper noun like *Kim* (which will not avoid nuclear stress) would systematically obscure the prosodic contrast. We argue that this does not trivially follow from a classic approach to focus alternatives (Rooth 1992; Hamblin 1976), where narrow DP focus on *you* should result in focus alternatives of the structure *I met Logan/Sam/Chris/...* Here, instead, it evokes alternative reasons that don't necessarily involve meeting anyone (e.g., ... *the cause/reason for me to start studying linguistics was {I read Syntactic Structures, I always loved words, ...}*). Even if we take temporal clauses to routinely introduce reasons (e.g., via *post hoc ergo propter hoc* reasoning; M. Esipova, p.c.), this alone does not explain why narrow focus on *you* would invite the alternatives we describe. Herein lies the mismatch.

Maxim of Relation. One might think (A. Warstadt, p.c.) that the extra inference might merely arise from the Maxim of Relation, which states that an utterance should be “appropriate to the

immediate needs” of the conversation (Grice 1975:47). If the answerer assumed that the asker covertly sought a cause or reason when asking (1), then the Maxim of Relation would encourage the answerer to provide one. The following conjunctive extension of (1) explicitly requests a cause/reason, so we can use it to determine which answers are felicitous:

(4) When did you start studying linguistics, and why?

Were (1) covertly picking out both alternative temporal intervals and alternative reasons in a parallel way to the conjunctive question in (4), we might expect (3) to be a felicitous answer to both questions. It isn't. An appropriate answer to (4) can be composed from either (2) or (3), but it must also be followed by an explicit articulation of the reason: for example, 'When I met you. Your overly Chomskyian ramblings convinced me to take a linguistics course.' As (3) alone isn't a felicitous answer to (4), but is a felicitous answer to (1), we can assume that (1) doesn't covertly request a cause or reason, and we shouldn't then expect a causal inference under the Maxim of Relation. Thus, the Maxim of Relation alone cannot be used to easily explain the presence of the causal inference in (3).

Conclusion. We have shown that placement of nuclear pitch accent in English temporal adverbial phrases gives rise to a causal inference. The fact that the inference is *causal* cannot be easily accounted for either by Grice's Maxim of Relation or by a standard account of focus alternatives. This snippet raises the following questions: (i) why would narrow focus on the object allow for a causal inference, when the resulting set of alternatives does not plausibly correspond to the set of causes?; and (ii) why is this causal inference obligatory with narrow focus on the object, but optional with VP focus?

References

- Beckman, Mary E., and Gayle Ayers Elam. 1997. Guidelines for ToBI labelling, version 3. The Ohio State University Research Foundation.
- Beckman, Mary E., and Julia Hirschberg. 1994. The ToBI annotation conventions. Ms., The Ohio State University.
- Beckman, Mary E., and Janet B. Pierrehumbert. 1986. Intonational structure in Japanese and English. *Phonology Yearbook* 3:255–309.
- Cardinaletti, Anna, and Michal Starke. 1994. The typology of structural deficiency: On the three grammatical classes. *University of Venice Working Papers in Linguistics* 4:41–109.
- Grice, H Paul. 1975. Logic and conversation. In *Syntax and Semantics 3: Speech Acts*, ed. Peter Cole and Jerry L. Morgan, 41–58. New York: Academic Press.
- Hamblin, Charles L. 1976. Questions in Montague English. In *Montague Grammar*, ed. Barbara Partee, 247–259. New York: Academic Press.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75–116.

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