

Certainty, Context and Exhaustivity of Answers

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GOAL

The goal of our study is to experimentally investigate the contribution of prosodic indicators of uncertainty and also of contextual factors to exhaustive interpretation of answers. Interpretation is tested by using pictures illustrating (non)exhaustivity in order to avoid that the subjects' linguistic awareness is focussed on the tested question.

INTRODUCTION

If the hearer concludes from (1b) that John and Mary are the only individuals out of a number of persons in question who passed the examination, the predicate in question (1a) is interpreted exhaustively (cf. van Rooij & Schulz, 2006: 205)¹.

- 1a Who passed the examination?
1b John and Mary.

According to semantic-pragmatic theories (e.g. Groenendijk & Stokhof, 1984; Rooth, 1992), in the context of a question, accent is highly correlated with focus. This should have a clear impact on exhaustive interpretation, especially when the question suitable.

Several studies found that *rising intonation*, *fillers* and *pauses* are acoustic cues which contribute to the perception of uncertainty in human-human interaction (e.g. Smith & Clark, 1993; Swerts *et al.*, 2003; Wollermann & Lasarczyk, 2007). The analysis of Ward & Hirschberg (1985) showed that *fall-rise* intonation contributes to a context-dependent meaning of utterance interpretation conveying speaker's uncertainty. However, there is barely empirical evidence of the role of uncertainty for *exhaustive interpretation*.

In our previous study (Wollermann & Schröder, to appear), we investigated whether intonation as exhaustive interpretation of answers and what role the immediate context plays for exhaustivity. To this end, we varied *intonation* (falling vs. fall-rise) and *type of question* (congruent vs. general). Results suggest that the exhaustive reading is considered as standard interpretation in our scenario, but exhaustivity can be influenced by intonation and type of question. But in our data, intonation exclusively does not have such a strong effect on exhaustivity as semantic-pragmatic theories would suggest.

The current study tests if pauses as additional prosodic cue combined with *fall-rise* intonation and/or *contextual factors* facilitate no-exhaustive interpretation.

METHOD

Our audio stimuli consist of question-answer pairs, which are embedded into dialogs. The scenario is a fictional student party where different groups of students do different things. For every action, there is a question asking for the actor and an answer giving the information; the subject of the answer is the respective group of students, which is also the focus of the answer (see 2a, b).

- 2a Who was too late for the party?
2b Mathematicians were too late for the party.

¹ In the case of non-exhaustive interpretation there are (or may be) also other persons who passed the examination.

Two prosodic factors indicating uncertainty are varied: 1. The *intonation* of the focus NP and sentence final verb. 2. The presence of *pauses*. Focus NOP and verbs are either marked by fall-rise intonation (expressing uncertainty), or falling intonation (expressing certainty). Intended uncertainty is also expressed by the presence of pauses affecting the whole stimulus-sentence.

There are two kinds of linguistic contexts for each dialog: The exhaustive context introduces one student group as salient discourse entity and is marked by congruent question (see 2a). Non-exhaustive context introduces a further “competing” student group usually carrying out the action under discussion, e.g. “What happened this time?”.

Our independent variables are thus intonation (fall-rise/pauses vs. falling), context (exhaustive vs. nonexhaustive) and picture (exhaustive vs. nonexhaustive). The dependent variable is the exhaustivity. Altogether there are eight combinations.

We assume that falling intonation combined with exhaustive context favors exhaustive interpretation, whereas fall-rise intonation combined with non-exhaustive context facilitates nonexhaustivity.

For testing the interpretation, subjects have to rate each time a picture illustrating (non)exhaustive interpretation. They have to judge on a Likert-scale how good the pictures fit the dialog. As distracter, we ask questions about the subjects’ personal opinion of an aspect of the dialog and use filler-dialogs.

Subjects are 160 students from the Universities of Bonn and Duisburg-Essen, all of them native speakers of German. They are tested in eight groups, each time with a different kind of random order of the stimuli. For the statistical analysis, we used the Wilcoxon test.

RESULTS

Results indicate that the exhaustive interpretation is chosen as standard interpretation in our scenario, since pictures illustrating exhaustivity are generally judged as more suitable for dialogs than pictures showing nonexhaustivity.

However, considering the rankings for pictures illustrating nonexhaustivity in three of four dialogs our data reveal that there are differences regarding the number of nonexhaustive interpretations. We can resume that nonexhaustive context combined with uncertainty is always judged as more adequate than exhaustive context in combination with certainty, differences are significant. The more fine grained analysis brings to light that context does clearly influence exhaustive interpretation (stimuli with nonexhaustive context are judged as more compatible in a significant way). Furthermore, influence of intonation is measurable, but is relatively weak.

It can be concluded for our data that exhaustivity of answers does not seem to be influenced by intonation as clear as semantic-pragmatic theories would suggest. Contextual factors like type of question and “greater” linguistic context seem to play a crucial role for the exhaustive interpretation of answers. Our findings are in line with the results of Fisseni and Schröder (2007) and Fisseni (to appear) who found that intonation barely effects focus interpretation on a “rich discourse”, whereas context does strongly.

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