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Brief article

Addressees distinguish shared from private information when interpreting questions during interactive conversation

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Abstract

Two experiments examined the role of common ground in the production and on-line interpretation of wh-questions such as *What's above the cow with shoes?* Experiment 1 examined unscripted conversation, and found that speakers consistently use wh-questions to inquire about information known only to the addressee. Addressees were sensitive to this tendency, and quickly directed attention toward private entities when interpreting these questions. A second experiment replicated the interpretation findings in a more constrained setting. These results add to previous evidence that the common ground influences initial language processes, and suggests that the strength and polarity of common ground effects may depend on contributions of sentence type as well as the interactivity of the situation.

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1. Introduction

Conversation is a joint activity through which interlocutors exchange information and ideas. According to one influential framework, during conversation, interlocutors develop common ground (Stalnaker, 1978), which includes mutual knowledge that arises from common cultural and community information, information present in a shared environment, and information introduced linguistically (Clark, 1992, 1996).

Recently, psycholinguists have begun to explore when, in the time course of processing, interlocutors make use of common ground in interpreting definite referring expressions. Most of these studies have used the visual world eve-tracking paradigm (Tanenhaus, Spivey-Knowlton, Eberhard, & Sedivy, 1995) to examine whether addressees look at referents that are potentially consistent with a referring expression, presented as an instruction, e.g., Put the tape above the apple, when that referent is in their privileged ground (e.g., a display including a cassette tape, an apple and several other objects visible to both participants, along with a roll of scotch tape that is occluded from the speaker). There is general agreement that the addressee's interpretation is restricted to candidates in common ground; however, studies differ in their conclusions about when common ground constrains referential domains. Some studies suggest that addressees are initially egocentric, considering potential referents of referring expressions, without regard for whether they are in common or privileged ground (Keysar, Barr, Balin, & Brauner, 2000; Keysar, Lin, & Barr, 2003). Other studies find that whereas addressees do attend to referents in privileged ground, they exhibit a strong and early preference for potential referents in common ground (Hanna & Tanenhaus, 2004; Hanna, Tanenhaus, & Trueswell, 2003; Nadig & Sedivy, 2002).

The current studies take a different approach to exploring the role of common ground in real-time comprehension. Whereas previous studies have asked whether addressees exclude entities in privileged ground as potential referents, we examined whether addressees will shift their attention to entities in privileged ground when appropriate. One appropriate occasion is when an addressee is asked a question. An interlocutor who has been asked for information will typically provide it by introducing previously private or privileged information into the common ground; if it were already available to the questioner, after all, there would have been no need for the question. Thus, in a realistic dialogue where the participants expect each other to have both useful information to impart and a need for information that can be obtained from others, selective attention to privileged ground when being asked for information may reflect awareness of the knowledge states of others, rather than egocentricity.

To test this idea, we examined use of privileged ground information in an interactive conversation in which participants have a joint goal requiring them to exchange information. We hypothesized that the representations underlying use of common ground might be strongest in interactive conversation, especially when the participants have joint goals (Clark, 1992, 1996).

To create situations where a speaker is likely to refer to entities in an addressee's privileged ground, we created a 'targeted language game' (Brown-Schmidt, 2005;

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