

### The effects of addressee attention on prosodic prominence

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How do speakers accommodate distracted listeners? Specifically, how does prosody change when speakers know that their addressees are multitasking? Two conflicting possibilities are considered. First, speakers might produce more acoustic prominence for distracted addressees, to ensure that important information is communicated. Prominence, as expressed by pitch and duration, among other prosodic features, is used to signal important or new information (Brown 1983, Sityaev 2000). The second possibility is that speakers might disengage from the task and use less acoustic prominence. This possibility is suggested by findings that speakers produce less detailed stories when speaking to inattentive listeners (Kuhlen & Brennan 2010, Pasupathi et al. 1998). Task demands may also influence prosodic choices. Previous studies have used narrative tasks, in which there are few consequences if information is not correctly conveyed. Perhaps speakers would use more acoustic prominence to communicate important information to distracted listeners if this information were necessary for task completion. Such questions are relevant to models of language production because they examine how prosody is influenced by audience design. Speaker internal constraints on planning and production are known to influence prosody (Bell et al. 2003, Lam & Watson 2010), but whether prosody is influenced by addressees' attention remains underspecified.

We studied the effects of addressees' attention on speakers' prosody with two instruction-giving experiments. Each experiment included 10 participants. Speakers (task participants) instructed listeners (confederates) to move objects to locations on a board. Objects were put on the table in pairs. Speakers viewed a computer screen that was out of sight of the listeners, which showed the object to be moved and its intended location. In Experiment 1 the target item was the second of two items, and therefore predictable. In Experiment 2 the target word was the first of two items and therefore relatively unpredictable. Target words were normed for length and frequency. In the distraction condition, addressees were also completing a demanding secondary computer task; in the attentive condition they paid full attention. The speakers were told that the addressees had to complete this task and it was visually apparent that the addressees were distracted. The distraction conditions were blocked, each speaker experienced both conditions, and the order of the conditions was counterbalanced.

Speakers used more acoustically prominent (longer) pronunciations for distracted listeners. Moreover, this effect was localized to the most task-relevant information, i.e. the object that the addressee needed to move. This effect was found for predictable targets (Experiment 1 items). This finding suggests that speakers are more likely to reduce predictable targets with attentive than distracted addressees. Speakers provided more, rather than less, prosodic prominence to distracted listeners, when task demands placed a high value on information being conveyed correctly.

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