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Beyond Back-channels: A Three-step Model of Grounding in Face-to-face Dialogue

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Abstract

Feedback is not an individual behavior or skill; it is part of the collaborative process of grounding in which speaker and addressee coordinate their contributions to ensure mutual understanding. Based on our microanalysis of psychotherapy and experimental videos, we propose that grounding is a three-step process of observable behaviors, with traditional back-channels in the middle: The speaker presents information; the addressee displays understanding (or not understanding), and the speaker acknowledges (or corrects) the addressee's display.

Proposal

The unit of analysis for communication has evolved from Shannon and Weaver's sender-focused model to include the receiver's *back-channels* [1], which can be *continuers* or *assessors* [2] and *generic* or *specific* [3]. However, these refinements still fit within an implicitly unilateral, two-step model in which communication flows from a speaker to an addressee. Moreover, the two-step unit of analysis is embedded in a traditional turn-taking model in which the roles of speaker and addressee are presumed to alternate regularly and smoothly.

There are at least three related problems with fitting observations of actual face-to-face dialogue into this model: First, spontaneous natural dialogues do not follow alternating turns; e.g., [1, 4]. In particular, the addressee's feedback (e.g., "Yeah" or nodding) often occurs completely within the speaker's turn, and the participants do not treat these overlapping contributions as either a turn or an interruption. Second, the addressee's feedback is often visible rather than audible, e.g., nodding, smiling [5], or motor mimicry [3, 6]. Therefore, accurate analysis requires video recordings in which both participants are visible and audible at all times. Finally and most important, the two-step model is not a feedback model in the cybernetic sense because it does not include *the speaker's response to the addressee's feedback*. The default assumption seems to be that the effect of the addressee's feedback on the speaker is ordinarily purely cognitive, that is, the speaker simply notices that the addressee understands and goes on talking. We propose that the speaker's response is an influential and observable behavior.

We agree with the proposal by Clark and Schaefer [7, 8, 9] that *grounding* is the fundamental, moment-by-moment conversational process by which speaker and addressee are constantly establishing mutual understanding. Grounding is a coordinated and collaborative sequence of behaviors occurring at every moment in the dialogue, whether the information is trivial or important. Most versions of grounding describe a *presentation* of information by the speaker followed by the addressee's *acceptance*. The acceptance phase encompasses much more than traditional back-channels, e.g., it can be a paraphrase of what the speaker has said or even new information in answer to the speaker's question. There is also the possibility of a side-sequence for repair when the addressee does not indicate understanding.

We have expanded on an implicit possibility in the grounding model [9, pp. 229-230] by adding the speaker's *acknowledgment* as an essential and observable third step that concludes the grounding sequence:

1. The speaker *presents* information.
2. The addressee *displays* that he or she has understood the information (or has not understood or is not certain).
3. The speaker *acknowledges* that the addressee has understood (or not).

In the third step, the speaker provides feedback to the addressee, e.g., by acknowledging the addressee's correct understanding and completing a successful grounding sequence. They have "grounded" on their understanding of what the speaker had presented. (Ordinarily, grounding goes smoothly, but it is also an error-detection system. Steps 2 and 3 include the opportunity to detect and repair a misunderstanding on the spot.) We propose that the minimum unit of analysis for dialogue is a three-step grounding sequence. That is, the utterances that form the grounding sequence only make sense in terms of their functional relationship to each other. Grounding is the rhythm of dialogue; every utterance and back-channel is part of a grounding sequence.

However, with the addition of the speaker's acknowledgement, the sequence is no longer a linear one that ends by simply confirming what the speaker had originally presented. If the addressee's display introduces a subtle change (e.g., a paraphrase) and the speaker acknowledges the display as an acceptable understanding of the original presentation, then the addressee's modification is what they have grounded on--not what the speaker originally presented. Similarly, when the speaker asks a question: the addressee may answer a different question, and when the speaker acknowledges the answer, then

the speaker's question becomes what the addressee answered. This is one way that therapists influence the therapeutic discourse while "just listening." Thus, our model of feedback is one of reciprocal influence or, in more contemporary terms, of co-construction [10].

We have been microanalyzing data from psychotherapy sessions as well as lab experiments, using ELAN (http://www.lat-mpi.eu/tools/elan) and video that captures both participants. The three-step model became necessary in order to fit the observed details of dialogue—details that were previously unaccounted for. This includes the observable instances where the display and acknowledgement steps introduce changes to the original presentation.

There are also variations on the simple pattern. For example, the addressee may display that he or she has not understood the presentation; this initiates a repair sequence. The addressee's answer to a question often presents new information, which starts a new, overlapping grounding sequence. The patterns also differ when both participants can contribute, compared to asymmetrical dialogues in which the speaker presents all the information. Based on preliminary data, the absence of an acknowledgement in step 3 may mark or lead to a misunderstanding in which common ground is not established.

Conclusion

The data have led us to expand the minimum unit of analysis for dialogue to three closely related exchanges between speaker and addressee. They also change addressee feedback from a passive, reactive function to part of a reciprocal sequence in which both speaker and addressee determine the meaning of what was said.

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Index Terms: grounding, face-to-face dialogue, feedback from speaker.