1 Deictic structure in dialogue

(Switchboard-2023-429.21s)

1> 01 B: oh you're up in Memphis?
02 A: no I used to be I'm in Texas
03 B: oh you're in Texas oh okay
2> 04 B: I was I was going to go goodness they really got uh this out far
05 A: I don't know and I don't know how far it goes
3> 06 A: are you in Texas?
07 B: yeah yeah I'm down in Houston

This example, which is an instance of telephone chit-chat between strangers, demonstrates the relationship between first and second person pronouns and referential coherence. The dialogue has been manually segmented into three sections and the pronouns have been bolded. In the first segment, speaker A is the primary subject matter. In the second, the expression of personal attitudes is the focus. In the third, speaker B is the primary subject matter. This suggests the following.

The structure and coherence of discourse is not only evidenced by "content" words, but also depends critically, perhaps most essentially, on deixis.

This theoretical point has existed since the founding of linguistics proper, but computational and technological approaches have been decidedly ignorant of this. The processing of natural conversations has brought this to light and suggests future directions for computational models.

This example also highlights a distinction between the two most common uses of participant deixis: (1) referring and (2) the expression of personal attitudes. The following examples further elucidate these two cases.

References: E. Goffman (1974): Frame Analysis

2 Participant attitudes

(AMI-ES2002b-434.06s)

01 B: well I think it's a valid point
02 B: I mean like the one on the left looks quite uh quite complicated
03 B: and that probably thing is incredibly confusing
04 B: uh so I see why you know you might prefer the simpler design
05 B: but yes you don't want to lose out on you know what it does
06 B: so maybe you know
07 B: you know you get a lot of remote controls where you kind of flip the thing open
08 B: I think that's a good idea

This monologue is an example of opinion expression within a multi-party meeting. It demonstrates the close connection between participant deixis (bold), modality and mental state predicates (orange), and subjective language (green). Technologically, it suggests the following.

The detection of subjectivity and the subjective use of participant deixis is important for characterizing meaning and purpose in dialogues.

The blue instances of "you" also reveal complexities in the interpretation of some personal pronouns—they can be vague and do not necessarily index a person. Also, "I mean", "you know", and "I think" serve numerous discourse purposes as well, including hedging, politeness, and stalling.

3 Person Reference

(ISL-w063-u0680)

01 SAQ: yeah, also, 'cause you said you were gonna send me an email about how to set up our travel
02 HH: yeah, I'm gonna send-- yeah, I'll send you the email, um uh when I go back, send you the email, um and you're gonna have to contact him, and they have a travel agency.
03 SAQ: okay.

This example demonstrates the central importance of person reference in the construction of meaning and action in dialogues. The words "I" and "you" are the most frequently used lexical nominalizations in conversations and even in textual sources like Google's 1T 5-gram corpus. This suggests the following technological challenge.

Person reference resolution is undeniably central to conversational NLP and must become a central task.

As suggested by the examples above, this entails much more than addressee detection. Perhaps of greatest importance is to first accept the following.

Participant deixis is a complex cognitive, linguistic, and social system which is of substantial importance to the organization of meaning in conversation.

Current & Future Directions

Annotations are currently under way. Corpus analysis and ML experiments will follow, as follows:
- Distinguish referential from subjective deixis
- Resolve referential uses
- Add to cohesion and segmentation algorithms
- Attempt to model and summarize specific activities