

Corrective feedback and semantic coordination
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Here are a few examples of "corrective feedback"

A: That's a nice bear.

B: Yes, it's a nice panda.

Abe: I'm trying to tip this over, can you tip it over? Can you tip it over?

Mother: Okay I'll turn it over for you.

Adam: Mommy, where my plate?

Mother: You mean your saucer?

Naomi: Birdie birdie.

Mother: Not a birdie, a seal.

Naomi: mittens.

Father: gloves.

(Examples from Eve Clark et al, except the first one which is made up.)

In general, "corrective feedback" can be regarded as offering an alternative form to the one that the speaker used. We are interested in interactions such as these since we believe that dialogue interaction plays an important role in establishing a shared language, not only in first (or second) language acquisition but also in the coordination of meaning in adult language, in historical language change, and in language evolution.

Two agents do not need to share exactly the same linguistic resources (grammar, lexicon etc.) in order to be able to communicate, and an agent's linguistic resources can change during the course of a dialogue when she is confronted with a (for her) innovative use. For example, research on "alignment" shows that agents negotiate domain-specific microlanguages for the purposes of discussing the particular domain at hand. We will use the term "semantic coordination" to refer to the process of interactively coordinating on the meanings of linguistic expressions.

This paper presents work towards a formal theory of corrective feedback, and semantic coordination in general. It takes a view of natural languages as toolboxes for constructing domain-specific (formal) domain-specific microlanguages, and provides an analysis of linguistic content which is structured in order to allow modification of, and similarity metrics over, meanings.

Accounting for corrective feedback requires (1) dynamic representations of concepts which can be modified in various ways, in a process of semantic coordination, and (2) a description of dialogue strategies involved in semantic coordination. Accordingly, the research effort which the work presented here is part of aims towards a formal account of semantic coordination in dialogue, consisting of two parts: (1) a semantics accounting for how meanings can be updated, formulated using Type Theory with Records (TTR), and (2) a pragmatics, accounting for how meanings are coordinated in dialogue and how dialogue moves governing coordination are related to semantic updates.