

Processing pragmatic and referential information III

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Contrastive Inferences

Q: *What time is it?*

A: *Some people are already leaving.*

→ It's late.

Q: *How is the party?*

A: *Some people are already leaving.*

→ The party isn't very good.

- Gricean implicatures: When are inferences computed?
- What aspects of the context enter into their computation?

Dependency Between Restrictive Modification and Contextual Contrast

Can you pass Tim the tall cup?

$\exists!x[\text{cup}(x) \ \& \ \text{tall}(x)]$

reference set

$\rightarrow \exists x[\text{cup}(x) \ \& \ \neg \text{tall}(x)]$

contrast set

Sedivy, Chambers, Tanenhaus, & Carlson (1999)

Diagram removed for copyright reasons.

•Contrast Effect: Eye-movements converge more quickly on the target and there are fewer looks to the competitor in the presence of a contrast set.

Two Classes of Explanation for Contrastive Inferences

(1) Form-Based Account

- Contrastive inference is closely tied to conventional meaning of restrictively modified NPs or to the lexical class of the modifier.
 - Scalar adjectives contain a variable assigned by a contextually relevant comparison class (Seigel, 1980; Bierwisch, 1987)
- Minimizes the amount of information that is accessed in making contrastive inferences

Two Explanations for Contrastive Inferences

(2) Gricean Account

- Contrastive inferences arise because the use of a restrictive modifier is embedded in a collaborative communicative context.
- Quantity-2: Don't make your contribution more informative than is required for the purposes of the present exchange.
- The hearer notes that the speaker chose a modified form rather than an unmodified form to refer to an entity. The inclusion of the modifier is most easily made informative by attributing to it a distinguishing function.

Tests of the theories

- Testing the form-based account: The contrast effect should disappear if a non-scalar adjective is used. E.g., a color adjective, or a material adjective.
- Colors: “pick up the blue cup”, with a blue and red cup in the display. (as well as a competitor blue object, in order to control for the fact that people are incremental in their eye-gazes.)
- Results from colors:
The contrast effect disappears!
- Is this support for the form-based account?
 - Yes, but there is an alternative Gricean account.

Tests of the theories

- Surprising result for the form-based account:
- Materials: “pick up the plastic cup”, with a plastic and glass cup in the display.
- Results from materials:
The contrast effect re-appears!
- This contradicts the prediction of the form-based account

New Gricean theory (Sedivy, 2003; cf. Levinson, 2000)

- Quantity-2: Don't make your contribution more informative than is required for the purposes of the present exchange.
- The hearer notes that the speaker chose a modified form rather than the **simple, default form** to refer to an entity. The inclusion of the modifier is most easily made informative by attributing to it a distinguishing function.

(1) Neo-Gricean View (Conservative)

Early contrastive-inferences are only sensitive to whether or not the speaker elaborates on a default form. (cf. Levinson, 2000)

- The baseline is the default form: the way that people would describe the situation with no contrasting information.

New Gricean theory (Levinson, 2000)

- Differences in default forms:
 - Colors are often produced along with the head noun in describing an object (Sedivy, 2003).
 - Materials and scalar adjectives are not.
- Thus, the presence of a material or scalar adjective provides suggestive information to the listener that there is a contrasting object in the relevant dimension. Colors do not provide this information.

Predictions of the neo-Gricean view

1. If a color term is not normally produced when describing an object, then the contrast effect should re-emerge.

Sedivy (2003): “Pick up the yellow banana”, in the context of a yellow banana and a green banana

Predictions of the neo-Gricean view

2. If the listener knows that the speaker is not reliable in his / her productions, then looks to the contrasting elements may disappear.

Grodner et al. (2003): This prediction is realized.

The Dangers of a Gricean World

Types of information potentially admitted in determining an expected referential form.

- Intrinsic properties of the target referent
 - Properties of other referents in the discourse context
 - The reliability of a speaker
 - The intentions of a speaker
 - Shared background assumptions
 - Expectations of goals of a communicative situation
 - Expectations about alternative forms
 - And so on ...
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- Flexible but potentially slow. An expeditious processing system might only attend to some of these in the earliest stages of interpretive processing.