

Blue banana – the linguistic phenomenon and not the discontinuous corridor of urbanisation in Western Europe

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Abstract

What we want to find out: Are the typicality values fix in our semantic knowledge, or are they constantly updated by our world knowledge? Therefore, does an exposure of a new frequency of an objects color influence how we produce overinformative expressions?

If typicality values are taken from world knowledge, we have 0 and 1 valued semantics that are then multiplied with knowledge from the real world. If the typicality is in the semantics, we already have truth conditional values between 0 and 1. (Important when thinking about how to construct the model.)

Keywords: keywords

Experiment: color reference game

Methods

Participants and materials We recruited 60 self-reported native speakers of English over Mechanical Turk. The experiment was a multi-player reference game, one participant being randomly assigned to the role of the speaker, and the other one as a listener. The speaker had to communicate what the target in the context is, and the listener clicked the object they assumed to be the target. It was a free production system where they also were allowed to ask additional questions, or just comment on the speaker’s utterance.

The stimuli were selected from seven food items that each occurred in three different colors, e.g., one of the seven food items was the banana that occurred in the colors yellow, brown, and blue.

Each presented context consisted of three images, one being the target (the item that had to be referred to), and two being distractors. The contexts were always one of the four possible conditions out of which two have been overinformative and two informative. An overinformative context describes one where mentioning the type of the item, e.g., banana, would be sufficient for an unambiguous identification of the target. An additional mention of color would mean that the speaker uses the color adjective in an overinformatively, i.e., they are adding “unnecessary” information. However, in this condition the target never has a color competitor, i.e., if the target is blue, there is no distractor of the same color in the context, which means that an only-color utterance would lead to an unambiguous identification, too. This is why there is one overinformative context without and additionally one with a color competitor. In the informative conditions, one has to say the color in addition to the type to make an unambiguous utterance. Again, one is informative without and the other one with a color competitor.

The item selection is random but conditioned on the corresponding context condition. In the end each subjects sees 42

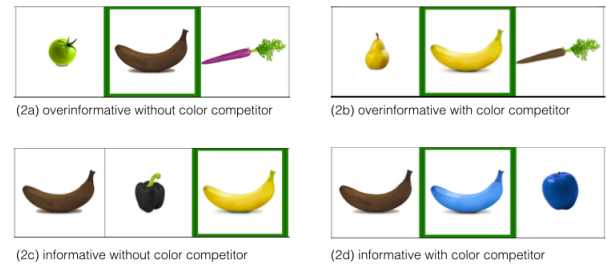


Figure 1: The four context conditions, exemplified by the *apple* domain. The target is outlined in green; the types of distractors differ with each condition (see text).

different contexts which are always two out of the four randomly drawn conditions for each colored item. All in all, we looked at 84 different configurations, i.e., seven food items each in three colors that could occur in four contexts. The trial order was randomized.

Procedure The experiment was embedded into a story about an alien on his planet to make people open their minds for the existence of atypically colored fruits.

The first block in the experiment was the exposure phase in which each participant was familiarized with a certain distribution of colored fruits. The distributions were the following: Two fruit types were presented only in their typical color, two fruit types only in their atypical color, and the last two 50% in one and 50% in the other. The exposure was done by presenting 10 instances of each fruit type and have the participants sort them into baskets.

In the production, participants were told to communicate certain items to the alien (Fig. 2), the green marked one always being the needed ingredient for a recipe. It was made clear beforehand that the alien is not able to understand location vocabulary such as “middle” to enforce the usage of object descriptions. Having the participant “communicating” the utterance to an alien instead of a human being enables us to exclude side effects that might come with trying to be cooperative and assuming a common world knowledge of fruit

colors.

Annotation

Typicality norms

Results

Modeling level of reference

Discussion and conclusion

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