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Qualifying Paper 1

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Abstract

INSERT SOME ABSTRACT

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[ek: determine how to spell (non)colordiagnosticity] [ek: watch your tenses; define a common textit/quotation style]

1 Experiment: Norming

We want to manipulate the modifier production probabilities a listener can expect from a speaker for an object in isolation. Color modifiers are more likely to be used in isolation (i.e., redundantly) than other adjective types Pechmann and Deutsch (1982). Furthermore, their use is not arbitrary but dependent on the noun they modify Sedivy (2003); Tanaka and Presnell (1999). If one particular color is a defining property for the object, the object is *color-diagnostic* and speakers rarely use the color modifier redundantly to refer to it Tanaka and Presnell (1999). Color-diagnostic objects are for example bananas, which are generally associated with the color yellow. Cups on the other hand are non-color-diagnostic objects, since they are not associated with one particular color and color itself is not a perceptual property that defines it. Even though a sportscar is primarily associated with the color red, color itself is not a defining perceptual property of the object, which is why it is also considered a non-color-diagnostic object Tanaka and Presnell (1999).

Although color-diagnostic objects are rarely modified redundantly when they occur in their typical color, they often are when they occur in an atypical color instead. For example, a yellow banana is mainly referred to as *a banana*, while a blue banana is referred to as *a blue banana* Westerbeek, Koolen, and Maes (2015). To manipulate the modifier production probabilities a listener can expect, we therefore use typical and atypical instances of color-diagnostic objects.

This design posits a number of requirements onto the items used in the study, which is why a variety of objects was carefully normed and then a subset of them was selected for the experiments. In addition to being color-diagnostic (Experiment 1.1), the items had to be shape-diagnostic, such that they would still be recognizable when changing their color. For example, plums, oranges and lemons can barely be told apart when changing their color to something atypical (Experiment 1.4). The items also have to be

known to most participants and be easily recognizable (Experiment 1.2 and 1.4). Since participants will hear the utterance in the eye-tracking experiment, there should only be one potential label for the object to avoid surprisal artifacts at the noun onset [ek: citation?].

Furthermore to our knowledge, previous experiments that manipulated the color typicality of objects, the colors used for typical and atypical instances of objects were not counterbalanced with respect to color, such that for example the color blue primarily occurred as an atypical instance while the color green occurred as a typical one. Since colors vary in their salience and affect eye movement [ek: cite!], this imbalance might be a non-negligible confound to the typicality effect. Each color in our data set occurs twice as a typical instance and twice as an atypical instance.

Finally, the typical and atypical instance of each object was normed to ensure that the color manipulation of the images show the desired difference in typicality ratings (Experiment 1.3).

Motivated through our experimental design [ek: more?], we aimed to find ten color diagnostic objects, evenly distributed over five different colors. To find the most ideal items, we started off with six colors (green, orange, pink, red, white, yellow), each with four possible typical color-diagnostic instances (24 items in total).

1.1 Norming for color-diagnosticity

The norming of color-diagnosticity is adapted from [ek: cite Tanaka and Presnell]. They claim that an object should only be considered color-diagnostic, if the color property centrally defined the object's identity. For example, the color *red* is considered very typical for a sportscar, as is the color *yellow* for a banana. However participants are more likely to use the modified utterance *red sportscar* than *yellow banana*. Tanaka and Presnell (1999) can account for these differences in production data by considering how relevant the property *color* is for the definition of the object. For a sportscar, the color property was rarely mentioned as defining the object which is in clear contrast to the banana.

Since the probability to which an object is spontaneously modified is part of the crucial manipulation in this work, we will adopt the method used by [ek: T and P] to determine the color-diagnosticity of the potential stimuli. Participants are asked to list three perceptual features of an object, which they entered into three free production text boxes. They could only proceed if they specified all three features or indicated that by a button press that they did not know the object.

Participants. We recruited 40 participants over Amazon's Mechanical Turk.

Materials and procedure. Each participant saw 52 trials, four of which were control trials with nonce words. From the remaining trials, 25 asked for presumably color diagnostic objects (four for each of the six colors and one more green thing), and 23 asked for presumably non-color diagnostic objects.

Analysis and exclusions. All participants indicated that they were unfamiliar with the four nonce words we included as attention checks, but two participants were excluded because they rated more than eight objects as unknown to them.

Results. We evaluated the results according to whether a color was mentioned at all in the features, a color was mentioned as a first feature, and if a color was mentioned did participants agree on a specific color. [ek: results ...]

1.2 Norming for nameability

1.3 Norming for typicality

1.4 Norming for free production

1.5 Norming for multiple choice

1.6 Conclusion

2 Rational Speech-Act Model

3 References

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