New Research From Psychological Science

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What's Worth Talking About? Information Theory Reveals How Children Balance Informativeness and Ease of Production

Colin Bannard, Marla Rosner, and Danielle Matthews

Greenfield's principle of informativeness suggests that children comment on things they find uncommon or uncertain rather than on things that are constant or can be assumed. The researchers quantified this tendency by performing a series of experiments in which 3-year-old children heard an experimenter describe images using noun-adjective combinations (e.g., bumpy road, old woman). The adjectives differed in their informativeness and unexpectedness. The children then described the images in their own words to another experimenter. The researchers examined whether the children used an adjective to describe the image and, if so, whether it was the same one used by the first experimenter. As the information content of researcher-used adjectives increased, so did children's use of adjectives in their own explanation; however, as adjective informativeness increased, the children less often chose to use the same adjective as the experimenter. These findings suggest that children balance the desire to be informative with the drive for ease of word production.

Lack of Free Choice Reveals the Cost of Having to Search for More Than One Object

Eduard Ort, Johannes J. Fahrenfort, and Christian N. L. Olivers

Research has found that performance is sometimes impaired when people try to search for multiple objects at the same time. The researchers hypothesized that the extent to which participants can control their target selection may influence the costs associated with this type of simultaneous search. In a series of studies, participants were instructed to fixate on instances of two target stimuli (either two dots of different colors or two iconic objects) in an array of distractors. In some trials, both types of target stimuli were in the array, giving the participant the choice of which to search for; in others, only one of the stimuli was present, so that the search choice was imposed on the participant. The selection of target stimuli either changed or stayed the same from one trial to the next. The researchers found switch costs when target choice was imposed on participants but not when target choice was free. These findings are consistent with models of visual selection that suggest that attention can be biased toward only one target at a time.