Language Changes Causal Attributions about Agents and Objects

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Introduction

How do people integrate linguistic information with other statistics that are learned and used during causal reasoning? Recent research suggests that linguistic descriptions of causal events influence blame attribution, availability of causal antecedents and consequents, and event segmentation (see reference list). Might language also influence the properties that are learned about agents and objects in causal events? In the present studies, we parametrically varied the amount of agentive language ("*He blicked it*") and non-agentive language ("*It blicked*") that co-varied with causal events, and examined people's attributions about the observed agent and object.

Studies: Agents and Objects

Participants

139 UC Merced students completed the Agent study and 84 Stanford students completed the Object study.

Materials

Participants read a short story, viewed four "events" and answered a question about either the observed agent or object. The story explained that researchers recorded events on the alien planet Korb; each event consisted of two visual frames and a sentence (see Figure 1).

In the Agent study, participants read that there had been a surge in dangerous events involving the observed object, and answered the question "Should the police charge the observed citizen for reckless endangerment?" on a 0 (Absolutely not) to 100 (Absolutely) scale. In the Object study, participants read that researchers wanted to determine if Korb objects were stable, and answered the question "What kind of object is this?" on a 0 (Does not transform on its own) to 100 (Does transform on its own) scale.

Design and Procedure

Participants received a survey from one of three conditions: Agentive, Non-agentive, or Mixed. In all conditions, the same visual frames appeared for all four events. Agentive surveys described all events as "He blicked it". Non-agentive surveys described all events as "It blicked". Mixed surveys described two events as "He blicked it" and two events as "It blicked". Thus, participants in all conditions viewed identical visual information, but the distribution of linguistic information varied between-subjects.
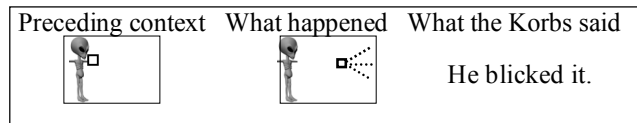

Figure 1: Example stimulus (one event).

Results

Participants' judgments about whether to charge the observed citizen for reckless endangerment depended on the language that co-varied with events. Mean ratings toward "Charge" increased linearly with increasing agentive language, $F(2,136)=3.79$, $p=.025$ (see Figure 2).

Participants' judgments about the causal power of the object also depended on the language that co-varied with events. Mean ratings toward "Does transform on its own" increased linearly with non-agentive language, $F(2,81) =3.56$, $p=.033$ (see Figure 3).
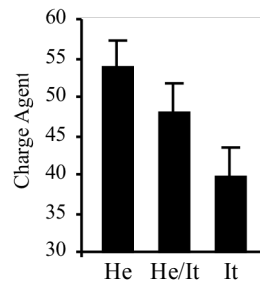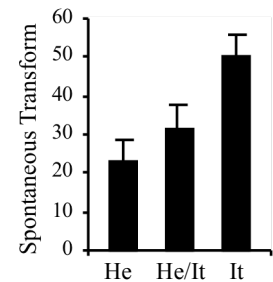

Figure 2: Agent   Figure 3: Object

Discussion

Learners were sensitive to the distribution of agentive and non-agentive language that co-varied with causal events. With increasing agentive language, people judged an agent to be more criminal and an object to be less capable of spontaneously transforming. Linguistic information appears to be included in the event statistics that are learned and used during causal reasoning.

References

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