Intro
duction

English Causative Alternation: (1) The vase broke. (anticausative) (2) Phil broke the vase. (causative)

Types of Causation

Two hypotheses about verbs’ participation in the causative alternation:
• Internal vs. External [1] (Hypothesis 1) • Direct vs. Indirect [2], [3] (Hypothesis 2)

Participants who think the change is external will rate sentences with transitive “cheem” higher than those who do not.

Sentences with indirect cause subjects will receive lower ratings than those with direct cause subjects.

Results

Responses were standardized for each participant. Wilcoxon signed-rank tests showed that ratings of sentences using transitive “cheem” did not differ based on participants’ reported causal models (Internal: $M = 0.538$, $Mdn = 0.636$, Partially External: $M = 0.534$, $Mdn = 0.653$, External: $M = 0.477$, $Mdn = 0.506$, $p > 0.10$ for all comparisons).

Design

Participants (n = 150) viewed 16 animations featuring three objects, one of which (Object 1) always transformed. In 8 animations, Object 1 transformed spontaneously (internal change). In 8 animations, a second object (Object 2) caused Object 1’s transformation (external change). Participants judged how well a sentence described each animation using a 7-point scale. Each sentence used a different nonce verb to refer to Object 1’s change; verbs were used intransitively, transitively, or in a periphrastic causative expression.

Experiment 2

Figure 2: Mean ratings for sentences using transitive “cheem” by participants’ reported causal models in Experiment 1.

Both transitive sentences with direct cause subjects ($M = 0.518$, $Mdn = 0.641$) and periphrastic causatives with indirect cause subjects ($M = 0.552$, $Mdn = 0.655$) differed significantly from grammatical controls ($M = 0.746$, $Mdn = 0.779$, $p < 0.001$ for both comparisons). Transitive sentences with indirect cause subjects ($M = 0.262$, $Mdn = 0.447$) differed significantly from transitives with direct cause subjects ($p < 0.001$) and periphrastic causatives with indirect cause subjects ($p < 0.001$).

Figure 3: Mean ratings for different sentence types in Experiment 1, consistent with Hypothesis 2.

Figure 4: An example of internal change (left) and external change (right) animations in Experiment 2.

Prediction

Acceptability of a sentence with a transitive nonce verb will be greater when animation showed an external change rather than an internal change.

Results

Ratings were standardized for each participant. Ratings of true transitive sentences for internal change animations ($M = 0.441$, $Mdn = 0.753$) were lower than those for external change animations ($M = 0.569$, $Mdn = 0.819$). Ratings of true periphrastic causatives were also lower for internal change animations ($M = 0.559$, $Mdn = 0.775$) than for external change animations ($M = 0.699$, $Mdn = 0.892$).

Conclusion

Many thanks to Beth Levin, Dan Lassiter, Noah Goodman, the Stanford University SemPrag group, the attendees of CUSP 6, and two anonymous LSA reviewers for their help with and feedback on this project.

References

Acknowledgements

Contact Information

pcrone@stanford.edu
masoudj@stanford.edu