Are Mental Representations of Object Shape Always Quickly Updateable during Language Comprehension?

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Abstract

Research demonstrates that when participants read a sentence about an agent in a certain location and then are shown a pictured object, verification time is shorter whenever the pictured object matches the final object state implied by the sentence. Using a sentence-picture verification paradigm, we set out to investigate if the same pattern of results holds true when proprioceptive and kinesthetic experiences are considered. In three experiments participants read sentences that implied object state-changes as a function of the impact caused by differently weighted items (You drop a bowling ball/balloon on a tomato) followed by a pictured object in either a canonical (e.g., a round tomato) or a non-canonical (e.g., a squashed tomato) state. The results showed that depictions of non-canonical objects showed the effect, but depictions of canonical objects did not. Thus, representations of object states compete when non-visual features of the situation are implied by the sentential context.