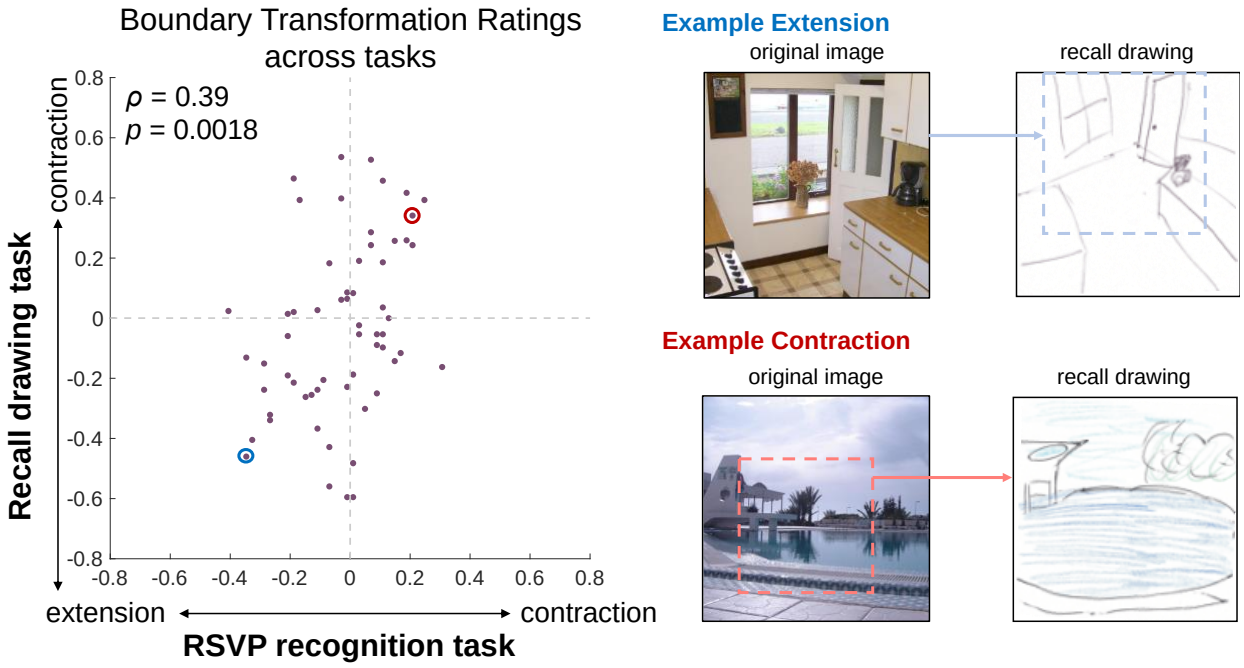

Figure S1. Boundary Transformation Scores Replicate Across Experimental Paradigms, Related to Figure 1. (Left) A scatterplot comparing boundary transformation scores in the RSVP recognition task, and a recall drawing task where participants drew an image from memory [S1]. Boundary transformation scores correlate significantly between tasks, indicating that level of boundary transformation is preserved across paradigms, for both boundary extension and contraction. (Right) Example memory drawings by participants exhibiting boundary extension and contraction. The examples are the circled points in the scatterplot, and correspond to the same examples in Figure 4.

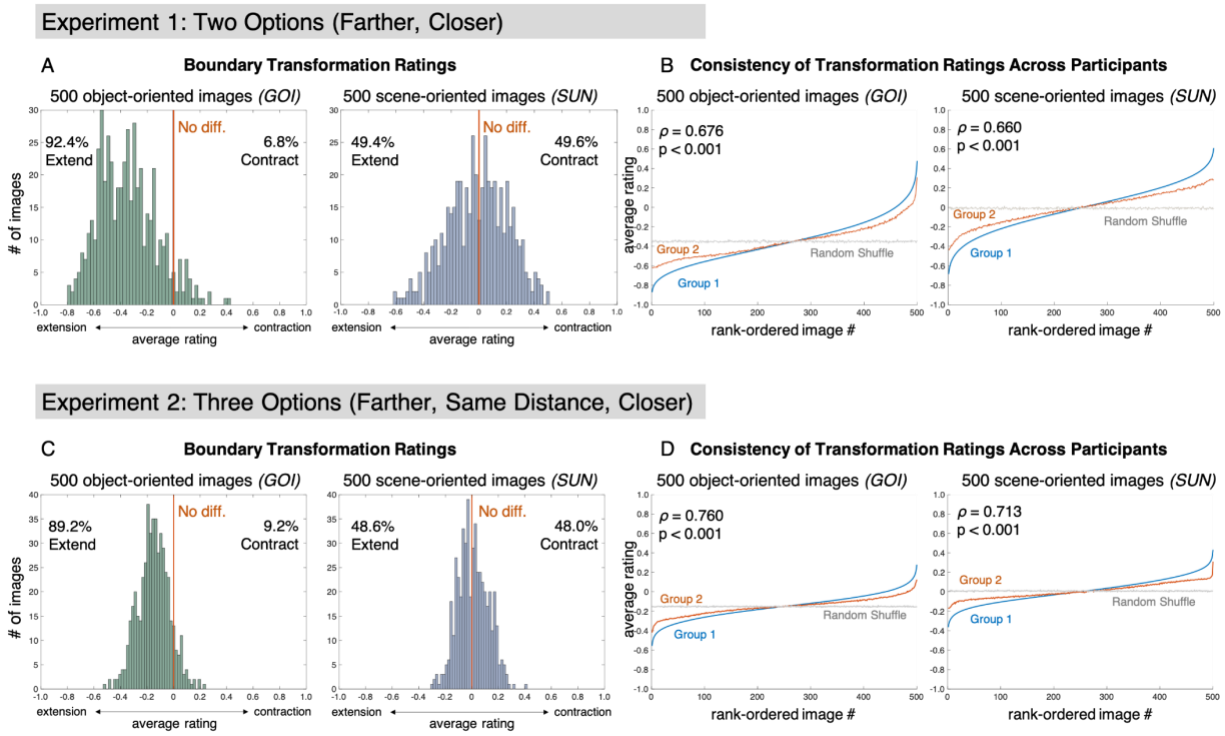

Figure S2. Boundary Transformation Distribution and Consistency for Individual Experiments, Related to Figure 2. (A) Histograms of average boundary transformation rating for the two image sets (GOI and SUN) for the *two*-option version of the 1000-Image RSVP Experiment. (B) Results of consistency analyses on the boundary transformation scores of the two image sets, from the *two*-option version of the experiment. (C) Histograms of average boundary transformation rating for the two image sets (GOI and SUN) for the *three*-option version of the 1000-Image RSVP Experiment. (D) Results of consistency analyses on the boundary transformation scores of the two image sets, from the *three*-option version of the experiment. All of the above graphs are formatted identically to the corresponding graphs shown in Figure 2. For both experiments, the object-oriented GOI images show a tendency towards boundary extension, while the scene-oriented SUN images show an even split between boundary extension and contraction. Both experiments also show significant rating consistency across participants, indicating that regardless of response options, participants agree on degree of boundary transformation at the image level.

Supplemental Reference

S1. Bainbridge, W.A., Hall, E.H., and Baker, C.I. (2019). Drawings of real-world scenes during free recall reveal detailed object and spatial information in memory. Nat. Commun. *10*, 5.