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# Measuring the rapid acquisition and integration of structured knowledge

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## Abstract

Our memories are stored not in isolation, but in richly structured networks of knowledge. How are individual memories represented within these knowledge structures, and how do new experiences become integrated into existing structures? To address these questions, we exposed participants to novel objects from a hierarchical category structure. After participants learned these objects to criterion, we introduced new objects from the same underlying structure. Participants learned the new objects much more quickly than the old set, suggesting that recently learned knowledge rapidly scaffolded the learning of new, related information. However, fine-grained analyses of participants' memory errors suggest these newly learned objects may not be fully integrated into prior learned category structure, but rather are held separate. These results suggest that existing knowledge can facilitate the learning of new information in the absence of assimilation of that information. Ongoing work investigates how these dynamics unfold over time and with sleep.