

## **UC Merced**

### **Proceedings of the Annual Meeting of the Cognitive Science Society**

#### **Title**

The Effect of Multiple Repetitions on Scanning in Long-Term Memory

#### **Permalink**

<https://escholarship.org/uc/item/0d02g1wj>

#### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 41(0)

#### **Authors**

Bright, Ian

DiDomenica, Rebecca

Cao, Rui

et al.

#### **Publication Date**

2019

Peer reviewed

# **The Effect of Multiple Repetitions on Scanning in Long-Term Memory**

**Ian Bright**

Boston University, Boston, Massachusetts, United States

**Rebecca DiDomenica**

Boston University, Boston, Massachusetts, United States

**Rui Cao**

Boston University, Boston, Massachusetts, United States

**Marc Howard**

Boston University, Boston, Massachusetts, United States

## **Abstract**

Cognitive psychologists have hypothesized that episodic recall is caused by the recovery of a gradually-changing state of spatiotemporal context. Little is known about the processes that cause successful recovery of this temporal context. Recent behavioral evidence suggests that in continuous recognition tasks, the retrieval time necessary to recover a previous context depends on the recency of the memory. Previous work has found that the non-decision time to retrieve a memory goes up with the logarithm of its recency. This suggests retrieval of temporal context proceeds via scanning along a compressed timeline but also contradicts earlier work suggesting that recency affects the drift rate of retrieval more than the non-decision time. Here we explore the effect of multiple repetitions on this counterintuitive result in continuous recognition. Our results find that while repeating items speeds up the time to access a memory, the recency effect persists out to at least five repetitions.