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Revisiting remembering and knowing in context
Arnold, M.
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A growing body of research has revealed that dissociations between recollection and familiarity found with the Remember-Know (R-K) judgment are not present with independent Recollection-Familiarity (REC-FAM) scales. The goal of the current studies was to use REC-FAM scales to explore the Bodner and Lindsay (2003) levels-of-processing (LOP) effect; that is, the finding that items studied with a medium LOP task are more likely to be rated as "remembered" if they are studied/tested with shallow LOP than deep LOP items. A robust test-list context effect was found for medium items with the R-K judgment (Experiment 1), but no context effect was found when performance was measured with REC-FAM scales (Experiments 2 and 3). The results are taken as support for the idea that both recollection and familiarity are end products of an attributional process, and thus factors such as context and question format may influence subjective phenomenology.

Verbal working memory in advanced musicians
Au, A., Daniel, R., Caltabiano, N. & Caltabiano, M.
James Cook University

This study investigated if enhanced verbal memory among advanced musicians is a result of music training or other factors, for example their general education. Twenty-three advanced musicians and 45 undergraduate controls were compared on various musical abilities and verbal memory. Results showed that the musicians performed significantly better than the controls in melodic organisation, temporal perception, incidental music memory, and verbal memory, even after controlling the effect of education. However, there were no significant correlations between various musical abilities and verbal memory. The findings seem to suggest that some forms of higher-order cognitive control processes may operate in both memory and music domains in a separate manner.

Parameter variability in models of forgetting
Averell, L. & Heathcote, A.
University of Newcastle

Understanding of the processes of forgetting is usually gained by modeling data with simple 2 or 3 parameter non-linear functions (Averell and Heathcote, 2011). Parameters in these models capture different aspects of the loss of information over time. Predominantly, an analysis of which, of several competing models, best describes forgetting data is the focus of studies. A somewhat less well studied area is whether it is necessary to allow the parameters in these models to vary over experimental conditions which, according to theory, should affect memory performance. As with an analysis of functional form a rigorous investigation of parametric variability across experimental conditions can assist in understanding the processes of forgetting. However, combination of methodological and statistical shortfalls has arrested progress in this area. We make use of advances in Bayesian estimation to investigate parametric variability in forgetting models as a function of encoding and retrieval manipulations. Results are discussed with reference to the depth of encoding and multiple memory systems debates.

Size-induced distortions in perceptual maps of visual space
Badcock, D.
University of Western Australia

The human brain contains maps of visual space. The orderly mapping of external space across the retinal surface, termed retinotopy, is maintained at subsequent levels of visual cortical processing and underpins our capacity to make precise and reliable judgements about the relative location of objects around us. While these maps, at least in the visual system, support high precision judgments about the relative location of objects, they are also subject to significant perceptual distortion dependent on the layout of features in a scene. Here we present a series of experiments in which observers are asked to estimate the separation of two visual stimuli. Using this spatial interval discrimination task we find that large stimulus sizes require much greater separation in order to be perceived as having the same separation as small stimulus sizes. The relationship is linear, task independent and unrelated to the perceived position of object edges. Furthermore we show that this type of spatial distortion can also be revealed by changing the spatial scale of the background, even though object size remains constant. These results indicate that fundamental spatial properties, such as retinal image size, or the scale at which an object is analysed, exert a marked influence on spatial coding.