

affected the results with enhanced forgetting in the positive-moods condition. These results demonstrate that semantic generation can cause semantic forgetting, particularly in positive moods.

Bäumel, K.-H. & Kuhbandner, C. (in press). Remembering can cause forgetting - but not in negative moods. *Psychological Science*.

### PS3:40

#### **The effect of a concurrent memory load on the directed forgetting of emotional material**

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In a directed forgetting task, midway through presentation of the list, participants are instructed to forget the first half of the list and to remember the second half of the list. Memory is tested for both to-be-forgotten (TBF) and to-be-remembered (TBR) words. Typically, participants recall TBR more often than TBF words, although they remember just as many TBF as TBR words on recognition tests. Such a directed forgetting effect is interpreted in terms of retrieval inhibition, which refers to temporary inaccessibility of learned materials with leaving their availability unaffected. To investigate whether retrieval inhibition emerges using emotionally neutral and negative words, the directed forgetting task was used. Consistent with the previous studies, I obtained the typical directed forgetting effect irrespective of the type of word. However, I found that the effect was disappeared by a concurrent memory load (i. e., six digits) during the presentation of second list. In addition, there were no differences in recognition tests. These results suggest that learning the second list is critical to the directed forgetting effect for the affective valence of the word stimuli.

### PS3:41

#### **Emotional memory trade-offs occur preferentially during sleep**

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People often remember central, emotional information at the expense of background details. An example of this trade-off is the "weapon focus effect", where victims vividly remember an assailant's weapon but have little memory for the scene's background. However, it is unknown how this effect develops over time, or whether a period of sleep would effect the consolidation of these memories differently than a period spent awake. We found that emotional items were better remembered after 12 hours containing a night of sleep than after an equivalent period of time spent awake ( $p < .01$ ). Across all groups, emotional objects were well remembered at the expense of

background details. But importantly, this trade-off was more pronounced after sleep than after an equivalent period of wake ( $p < .05$ ). Emotional memory develops differentially across time delays containing sleep and wake. Sleep facilitates the process of emotional memory enhancement, and strengthens the trade-off of memory for central emotional objects over their background details. Thus, sleep may act to selectively enhance those aspects of a memory that are of greatest apparent value to the organism.

### PS3:42

#### **The mere exposure effect with emotionally valenced stimuli: Analytic and nonanalytic processing**

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The mere exposure effect, a preference for previously exposed stimuli in the absence of recognition, has been explained with reference to implicit and explicit memory stores, accessible only through indirect or direct exploration respectively. An alternative explanation is that spontaneous use of a nonanalytic strategy at retrieval leads to success in the preference task, whereas use of an analytic strategy in the recognition task leads to failure (Whittlesea & Price, 2001). The use of these differing strategies is thought to be in response to an artefact of previous experimental designs which test memory for items from a group of homogenous stimuli. Improved memory for stimuli with emotional valence has been previously reported and it was hypothesised that this may be due to use of a different strategy at the time of memory retrieval for emotional stimuli compared to that for neutral stimuli. In this experiment we explored the success of analytic and nonanalytic retrieval strategies for preference and recognition tasks after brief exposure to positive, negative or neutrally valenced photographs. These results provide further insight into circumstances under which an improved memory for emotional stimuli can be demonstrated and possible reasons for this.

Whittlesea, B. W. A., & Price, J. R. (2001). Implicit-explicit memory versus analytic-nonanalytic processing: Rethinking the mere exposure effect. *Memory & Cognition*, 29(2), 234-246.

### PS3:43

#### **Adaptive memory: The comparative value of survival processing**

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Nairne, Thompson, and Pandeirada (2007) recently proposed that our memory systems might be "tuned" to remember information that is processed for survival, perhaps as a result of fitness advantages accrued in our ancestral past. Across several experiments participants showed superior memory when words were rated for survival, at least when

compared with several "deep" processing control conditions. The present experiment tests the mettle of survival memory by pitting the survival orienting task against a veritable "murderers' row" of encoding tasks, including imagery, pleasantness, generation, self-reference, and intentional learning. A between-subject procedure (total of 300 participants) was implemented and memory was tested via free recall. Survival processing yielded the best recall, suggesting that it may be one of the best encoding procedures yet discovered in the memory field.

Nairne, James S.; Thompson, Sarah R.; Pandeirada, Josefa N. S. (2007) Adaptive Memory: Survival Processing Enhances Retention. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33(2), 263-273.

#### PS3:44

##### **Comparing the traditional and Corner Poggendorff Illusions**

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Two groups of participants (n=20 per group) made collinearity and orientation judgements on 4 types of displays: a traditional Poggendorff figure, a corner Poggendorff figure, a vertical control figure consisting of an oblique line and a vertical line which intersected the oblique line, and a control display consisting of an oblique line. The size of the acute angle formed between the oblique and vertical lines varied between 20 and 50 degrees. Collinearity judgements were made by adjusting a dot so that it appeared collinear with the oblique line. Angle judgements were made by adjusting a second line so that it appeared parallel with the oblique line. Results from the collinearity judgements showed that the vertical control figure and the traditional Poggendorff figure induced a larger illusion (angular error) than the corner Poggendorff figure. On the other hand, results from orientation judgements indicated that perceived orientation of the oblique line in the corner Poggendorff figure were misjudged to a larger extent than the oblique line in the traditional Poggendorff figure. Overall, the results are consistent with an explanation of the Poggendorff effect based on misjudgement of distance and not one based on angular distortion.

#### PS3:45

##### **The shining tiles**

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When tiles alternately shaded in different horizontal rows, as in the well known "lavatory wall" (Woodhouse and Taylor, 1987), are made taller than their width, a new phenomenon appears: a shining impression. The illumination appears to jump vertically from row to row when you fixate the pattern, change gaze or slightly move the paper. The shining impression is very similar to that of a series of metal plates that

catch the light in different ways when moved. Preliminary experiments with ten subjects revealed that the phenomenon is particularly strong when the size of the tiles in horizontal rows is approximately one degree of the visual angle in height and half a degree in width, but it can also be seen with larger or smaller sizes. Keeping constant the width, the height can be increased up to six degree of visual angles. If the tiles are wider than their height the phenomenon decreases and disappears. The tiles in each row or in different rows can be of various forms and various sizes, as long as the height-width ratio is respected and the shading is in opposite directions in alternating rows.

Woodhouse J. M., Taylor S. P., (1987) Further studies of the Cafe Wall and Hollow Squares illusion. *Perception*, 16: 467-471

#### PS3:46

##### **The horizon line, linear perspective, interposition and contrast: An examination of the magnitude of the moon illusion in images**

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The purpose of the present study was to examine the role of the horizon line, linear perspective, interposition and contrast on the magnitude of the moon illusion in images. Thirty-two students from the University of New Brunswick in Saint John, New Brunswick, Canada were shown a series of black and white images of the moon in its zenith or horizon position. Each moon was embedded in one of 48 experimental images and each experimental image was paired with four different sequences of comparison moons. In each trial participants were asked to select from the series of comparison moons, the moon that they perceived to most closely match or match in size to the moon in the experimental image. Results indicated significant differences in the apparent size of the moon as a function of moon position, type of image and background color. In addition, significant interactions were found between moon position and image and background color and image.

#### PS3:47

##### **Can expertise affect competition between boundary extension and representational momentum?**

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Our poster reports a study of how two known effects in the field of visual perception, boundary extension (BE) and representational momentum (RM), can compete. Using the camera distance paradigm (Intraub, Bender, & Mangels, 1992), we showed that the outcome of this competition can be modulated by the observer's level of expertise regarding the scenes being viewed. In the first phase, participants with different degrees of driving expertise had to study