

When less attention improves behaviour

Confabulation, a devastating memory disorder consisting in the uncontrolled production of "false memories", often leads patients to act upon these memories. Now a new study indicates, among other findings, that lack of attention during memory retrieval is not the reason for confabulation.

A new study conducted at the Centre for Studies and Research in Cognitive Neuroscience of the University of Bologna, and published by Elsevier in the February 2009 issue of *Cortex* shows that, in confabulating patients, memory accuracy improves when attentional resources are reduced.

Most cognitive processes supporting adaptive behaviour need attentional resources for their operation. Consider memory. If memory was a car, attention would be its fuel: New information is not stored into memory if not attended to, and distraction often leads to misremembering past events. What if the car's brakes are broken? Will adding fuel still be a good thing? Confabulation is a devastating memory disorder consisting in the uncontrolled production of "false memories". Patients often act upon their false memories with dramatic consequences. The research published in *Cortex* shows that if memory in confabulation is like a car with broken brakes, then it is best not to add fuel.

The study involved patients with lesions in the prefrontal lobe, including patients with and without confabulation, and healthy individuals. In two experiments, participants retrieved their memories either with full attention or divided attention (i.e., while doing another task). Non-confabulating patients and healthy individuals performed better when their full attention was devoted to the memory task. Not so for confabulating patients: Under full attention, confabulating patients exhibited high false-memory levels, which were strongly reduced when their attention was divided between two tasks.

The results of this study are important both theoretically and practically. First, they indicate that lack of attention during memory retrieval is not the reason for confabulation. Rather, confabulating patients might over-process irrelevant information during mnemonic decisions, and therefore reducing attentional resources available for such a dysfunctional processing enhances memory. Moreover, the results are crucial for developing rehabilitative interventions tailored to confabulating patients. Training them to double-check the accuracy of their memories may not be useful. In fact, these patients should be trained not to attend, but to act upon, their mnemonic impressions.

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