Mimicking memory repression

A recent study demonstrates a way to test the brain's ability to suppress unwanted memories.

By Kenneth Lee

Whether or not we can choose to lose memories has been a controversial question since Freud claimed that we can repress unwanted memories by pushing them into the unconscious. Repression is often associated with post-traumatic stress, making it difficult to study in the laboratory because of ethical and practical reasons. In the 15 March Nature, Michael Anderson and Collin Green of the University of Oregon, report a method for mimicking memory repression in the laboratory (Nature 2001, 410:366-369).

Anderson and Green trained human volunteers on 40 unrelated word pairs (for example, ordeal–roach) so that they could provide the right-hand member of each word pair when shown the left-hand member. Next, the subjects had to exert conscious control over the retrieval process in a 'think/no-think' trial. Depending on which word appeared on a computer screen, subjects were told to either recall and say the associated response word (respond pairs), or not think about the response (suppression pairs). When subjects accidentally responded to a suppression pair, they heard a 'beep', signalling an error. Anderson and Green found that the forgetting of the word increased with the number of times the memory was avoided. In the end, subjects were not able to recall the right answer even when offered money as a reward.

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