



## CAS NEWS

# Forget About It

## News Research Shows How the Mind Rids Unwanted Memories



Michael Anderson

More than 100 years after Sigmund Freud posited the existence of a repression mechanism that pushes unwanted memories into the unconscious, a researcher at the University of Oregon found hard evidence to explain how the mechanism works. The research, by UO assistant professor of psychology Michael Anderson, was published in the top science journal *Nature*.

"Our findings are consistent with Freud's ideas about voluntary repression, a long way toward demystifying the mechanism," says Anderson. "This work allows Freud's ideas to be understood in terms of accepted mechanisms of cognitive control that apply in a broader range of circumstances."

The publication put Anderson in the spotlight of media attention. *News & World Report*, *Science News* and the Associated Press featured stories on the research. News outlets in Canada, Germany, Chile, Australia, Brazil, and England reported the story.

Using rigorous laboratory techniques, Anderson's work shows that trying to keep an unwanted memory out of consciousness makes it harder for a person to recall that memory later, when he or she tries to recall it. The amount of forgetting increases with the number of attempts to exclude the unwanted memory from awareness -- showing that the effects of inhibitory control accumulate with practice.

"Amazingly, this type of forgetting is more likely to occur when people are continuously confronted with reminders of the very memory they are trying to avoid. This is quite contrary to intuition, which says that reminders a lot ought to make your memory better," Anderson says. "Under these circumstances -- when reminders are inescapable -- people must learn to adapt their internal thought patterns when they confront the reminders if they are to have any hope of avoiding an unwanted memory."

For example, after having an argument with a friend, a person

want -- or need -- to continue interacting with the friend, even though the bad memory is brought to mind each time the friend or other reminders of the incident (for example, the place where the disagreement took place) are seen. For future interactions to remain pleasant or functional, the powerful associations set off by these reminders must be set aside.

Anderson co-authored the paper with one of his undergraduate students, Collin Green, who is now enrolled in a prestigious Ph.D. program in psychology at UCLA.

"I really like working with undergraduates and mentoring students who show promise in scientific research. I currently have ten undergraduate students in my lab," Anderson says.

Some media reports suggested that the mechanism Anderson described could explain traumatic amnesia, such as that seen in cases of post-traumatic stress disorder (PTSD) or in some cases of child sexual abuse. But there is a wide gap between the current findings and real-life clinical cases of traumatic amnesia, Anderson notes. In his research program, investigators test subjects' memories using simple pairs of words that are not emotionally significant. Amnesia associated with trauma involves many more distinctive, emotionally significant experiences that could stem from very different mental functions.

Nevertheless, his findings may be useful in studying a number of clinical problems.

"It might be used as a measure of the effectiveness of attention control in various populations that are of great concern," he says.

For instance, many current theorists have suggested the increase in distractibility and decrease in memory that is often associated with advancing age might be understood as a decline in controlled inhibition processes. Schizophrenia has also been attributed to inhibitory deficits. Understanding the mechanisms that may contribute to these conditions could lead to better treatments.

"The new paradigm developed in this work draws a direct link between people's efforts to regulate awareness and an objectively measured behavioral consequence of that internal act: forgetting. They thus provide a window into the mechanisms by which we regulate conscious awareness," Anderson says.

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