



“Zen without bells and whistles.”

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False Memories, True Pain

By Mary Beckman

Even impossible memories can be fabricated from suggestions, researchers reported at the AAAS annual meeting last week. And such memories can create physiological responses that are indistinguishable from those elicited by remembering real trauma.

Many people think their memories of dramatic events, such as where they were when they heard that {resident Kennedy was shot, are very reliable. But that doesn't appear to be true. To demonstrate the power of suggestion over such memories, Elizabeth Loftus of the University of California, Irvine and colleagues implanted a memory onto people who had witnessed a bombing in Russia. They interviewed volunteers twice, 2.5 years and 3 years after the bombing. During the second interview, the team posed the suggestive question: "When you were taking part in our study, you mentioned a wounded animal. Could you tell us about it?" almost 13% of the people recalled, incorrectly that they had seen a injured pet.

Critics have argued that such a false-mem-

ory experiments might call up real experiences—perhaps some subjects did see bleeding animals. So Loftus implanted a clearly impossible memory: a person in a Bugs Bunny outfit shaking hands and hugging children at Disneyland. "Bugs is a Warner Brothers character. He wouldn't be allowed on Disney premises," Loftus says. Her team recruited volunteers who had been to Disneyland earlier in their lives. They were shown an advertisement for Disneyland with pictures of Bugs and text describing a trip to Disneyland that included meeting wascally wabbit. Weeks later, 36% of the volunteers who had seen the ads vividly recalled that they had seen Bugs Bunny in real life: The shook his hand or even hugged him, they reported.

"Her work points out to people that, in terms of our own subjective experiences, what we think is crystal-clear imagery could be inaccurate at the very deepest level," says psychologist Michelle Leichtman of the University of New Hampshire, Durham. A study of people who claim to have been abducted by space aliens helped psychologist Richard McNally of Harvard University determine how deep imagined events can go. His team recorded 10 volunteers' abduction stories. Volunteers listened to audiotapes clips of the stories while the researchers measured heart rate, sweating, and facial



muscle tension. All stress responses were elevated, to the point that they mirrored those of people remembering Vietnam combat events or childhood sexual abuse. More than half of the alien abductees exhibited some symptoms of posttraumatic stress disorder.

The responses to trauma "is driven by emotional beliefs, whether accurate or not," McNally reported. "If you sincerely think you were being abducted by aliens, you were." The result "is troubling," says Leichtman. "It underscores the similarities between true and false memories at an even more profound level" than researchers generally think.