

Dreams, déjà vu and delusions caused by faulty 'reality testing'

February 19 2014, by David Ellis

(Medical Xpress)—New research from the University of Adelaide has delved into the reasons why some people are unable to break free of their delusions, despite overwhelming evidence explaining the delusion isn't real.

In a new paper published in the journal *Frontiers in Psychology*, University of Adelaide philosopher Professor Philip Gerrans says dreams and delusions have a common link - they are associated with faulty "reality testing" in the brain's higher order cognitive systems.

"Normally this 'reality testing' in the brain monitors a 'story telling' system which generates a narrative of people's experience," Professor Gerrans says.

"A simple example of normal reality testing is the person who gets a headache, immediately thinks they might have a brain tumour, then dismisses that thought and moves on. Their story episode 'I might have brain cancer' gets tested and quickly rejected.

"In someone who has problems with reality testing, that story might persist and may even be elaborated and translated into action. Such people can experience immense mental health difficulties, even to the point of becoming a threat to themselves or to others," he says.

In his paper, Professor Gerrans discusses delusions triggered by feelings of familiarity and unfamiliarity, such as the "Capgras delusion" - the

delusion of "doubles". One example is of a man who, after serious head injury following a motor vehicle accident, returned home from the hospital after a year only to state repeatedly that his family had been replaced by impostors.

"His family looked familiar but didn't feel familiar, and the story in his head made sense of that feeling. It didn't matter how much people tried to point out that his family was the same, in his mind they had been completely replaced by impostors," Professor Gerrans says.

He says in the "Fregoli delusion", people think they're being followed by a familiar person in disguise as a way of coping with a feeling of familiarity evoked by seeing a stranger.

"People also experience feelings of familiarity and unfamiliarity in [déjà vu](#) - a sense that a new place is strangely familiar, and the reverse, *jamais vu* - a sense of extreme unfamiliarity evoked by a familiar place. However, such feelings do not lead to delusion in people whose reality testing is intact."

Professor Gerrans says better understanding this reality testing system could help to improve outcomes for people living with such difficulties.

"Trying to treat someone experiencing these delusions by telling them the truth is not necessarily going to help, so new strategies need to be developed to assist them. Ultimately, that's the aim of this work - to help explain the nature of reality testing in order to help people find a way of working through or around their delusions so that the [delusions](#) no longer adversely affect their lives."

Professor Gerrans's new book, *The Measure of Madness. Philosophy and Cognitive Neuropsychiatry* (MIT Press), will be published this year.

What's the difference between a dream, a delusion and an hallucination? Professor Gerrans explains:

Dream: The images, sensations and thoughts we experience during sleep. In dreams we simply have experiences, we don't have beliefs about experience because "reality testing" systems are not active.

Delusion: An irrational belief at odds with reality maintained in the face of obvious contrary evidence and logical argument.

Hallucination: The apparent perception of an object not actually present.

Déjà vu: The feeling that you have previously experienced a situation which is in fact unfamiliar. Caused by an erroneous "sense of familiarity".

Jamais vu: The feeling that a familiar situation has not been experienced before. Caused by fleeting loss of the "sense of familiarity".

Reality Testing: The ability to determine whether a thought or perception accurately represents reality. Largely absent in dreams, compromised in delusion.

More information: Gerrans Philip. "Pathologies of Hyperfamiliarity in Dreams, Delusions and Déjà Vu." *Frontiers in Psychology* 5, 2014.

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