

# Explainer: What is dreaming?

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A boy and his dog are sleeping. And they're both dreaming. Dreaming may have important effects on memory and learning.  
Photo from Getty Images

For most of human history, dreaming has been seen as a second “reality.” Dreams were thought to provide knowledge about ourselves, others and even the future. As psychologist Sigmund Freud believed in the early 1900s, dreams were thought to serve as a source of wonderment and prophecy.

So what do we think about them now? What is dreaming? What does science say? And what mysteries remain?

In the developed world, the cultural importance of dreaming has diminished significantly over the last 100 years. In part, this reflects the increasing dominance of science. There is now an increased focus on neuroscience and on studying the brain through observable evidence. As a result, dreams have become less and less important to our understanding of the brain.

## **Dreaming Of A Comeback In Research**

However, the study of dreaming has recently made a comeback. New scientific evidence shows that dreaming may have important effects on learning and memory.

Historically, dreams have played an important part in some cultures. In Shintoism and Native American spirituality, dreams were used to distinguish the everyday aspects of people's lives from the spiritual.

In these cultures, there were often animal "spirits" associated with tribes or family groups. The dream was seen a vehicle through which people could reach these spirits." In other cultures, dreams were viewed as a way for gods to communicate with people.

Dreams were also a very important part of psychoanalysis, a method for treating mental illness that was popular in the early 1900s. As the popularity of psychoanalysis declined, the dream was increasingly subject to the harsh light of science.

In the 1950s, one of the first scientific discoveries about dreams was made by doctors Eugene Aserinsky and William Dement. They identified the rapid eye movements (REM) and brain waves that occur when an individual is dreaming.

## **Waking People Deep In Sleep**

For the next 20 years there was an incredible flourishing of dream research. Medical and psychological researchers were able to wake people up during different stages of sleep and ask them about their thoughts, feelings and ideas. People woken from dreaming reported feelings that were quite different from those reported by people in deep sleep.

These studies confirmed many long-held beliefs about dreaming. In terms of brain waves, dreaming turned out to be very similar to being awake. These waves were recorded on electroencephalogram (EEG) machines, which measure and record the electrical activity from different parts of the brain.

Still, dreaming was very different from being awake in other ways. For example, dreaming was more visual, and led to ideas that were stranger and more oddly connected. Dreaming often mixed boring aspects of waking life with strange and symbolic mental activity.

From the late 1970s until the early 2000s, dream research shrank to a small field that many considered outdated.

## **The Basic Modes Of Sleep Studied**

However, in recent years the study of dreams has been reinvigorated. This happened after the discovery that the two basic modes of sleep play quite different roles in how we recover after being awake. These two modes of sleep are called dream sleep (REM) and Slow Wave Sleep (SWS).

In simplistic terms, SWS regulates physical recovery and REM regulates mental recovery. Scientists have found that memories and learning are deeply linked to brain activity during dreaming sleep. This has spawned a whole new field of REM sleep research. This research has linked the quality and quantity of dream sleep to memory and learning.

The next generation of dream research may finally uncover a link between dreams and psychological health. For example, the study of dreams may be helpful in the study of disorders like depression. People who are depressed learn and recall memories differently from those who are not depressed. In addition, many of the drugs used to treat depression have strong effects on REM or dreaming sleep.

The next 20 years promise a very new and exciting period for research into REM sleep.

## **Dreaming Of Future Studies**

Modern sleep and dream research reflects some patterns in the field's history. For example, we still look at dreams as a different state of consciousness that merges aspects of sleep and wakefulness. We also still believe dreams can influence how we see and interpret the world.

In some cases, new technology has found support for ideas from generations ago. For example, we now have sufficient knowledge of genetics to see that our brains carry the seeds of the past. In a way, this shows that the ways our brains operate do reflect the experiences of the people who came before us. This was an idea posed 100 years ago by Freud's famous student, Carl Jung.

One can only wonder how we might understand and use our dreams in another 1,000 years.

## Quiz

- 1 Select the paragraph from the section "Waking People Deep In Sleep" that explains why scientists moved away from dream research.
- 2 Which section of the article suggests that earlier ideas about dreams are finding new support today?
- (A) "Dreaming Of A Comeback In Research"
  - (B) "Waking People Deep In Sleep"
  - (C) "The Basic Modes Of Sleep Studied"
  - (D) "Dreaming Of Future Studies"
- 3 Which two of the following sentences from the article include central ideas of the article?
- 1. *There is now an increased focus on neuroscience and on studying the brain through observable evidence.*
  - 2. *As the popularity of psychoanalysis declined, the dream was increasingly subject to the harsh light of science.*
  - 3. *However, in recent years the study of dreams has been reinvigorated.*
  - 4. *Scientists have found that memories and learning are deeply linked to brain activity during dreaming sleep.*
- (A) 1 and 2
  - (B) 1 and 3
  - (C) 2 and 4
  - (D) 3 and 4

- 4 Which statement would be MOST important to include in a summary of the article?
- (A) Modern sleep and dream research may provide new insights and health benefits.
  - (B) People who do not dream have more trouble learning than those who sleep well.
  - (C) Dreams have played an important role in Native American rituals and religion.
  - (D) Current understanding of dreams is based on scientific discoveries from the 1950s.