

A Physiological and Psychological Look at Dreaming

Dreaming is defined as the subjective experience of imaginary images, sounds/voices, thoughts or sensations during sleep. Dreams represent a world of imagery in which our darkest fears, deepest secrets, and most passionate fantasies break out from the unconscious mind and only at this time become present to our own consciousness. There are several key questions that need to be addressed; for instance, "Why do we dream? What do dreams mean? And, where do dreams come from?" The answers to these questions are not that simple; however, recent studies and research has come a long way into divulging the human psyche and what dreams really are.

Dreaming usually occurs in the R.E.M. stage (rapid-eye movement) of sleep, in which brain activity is high and signaled by rapid horizontal movements of the eyes. Sometimes dreams occur during the other stages of sleep; however, these are much less memorable and less clear. They can sometimes last for a few seconds, or as long as twenty minutes. Dreams are a symbol and link to the inner core of the human subconscious. They can vary from normal and mundane, to surreal and bizarre. Dreams can often times drive creative thought, or provoke a sense of inspiration. Scientists believe everybody dreams, but sometimes we forget. We tend to forget when we naturally pass out of sleep through the traditional cycle. If a person is awoken directly from REM sleep (i.e. by an alarm clock), they are much more likely remember the dream from that REM cycle. Although it's most likely that not all dreams will be remembered because they occur in REM cycles, which are interrupted by periods of "delta sleep" which in turn have a tendency to cause the memory of previous dreams to fade.

Psychologists have also concluded that our daily activities while we are awake can have an affect on our dreams. However, scientists are unsure as to what degree of an impact this makes, it is nonetheless substantial enough. In one study, people red red-tinted goggles for a few minutes just before going to sleep. Although they didn't know the purpose of f the study, the next morning they reported seeing more red images in their dreams that people who didn't wear the goggles. It is also possible to intentionally direct dream content, this is called lucid dreaming, because the person is aware of dreaming while the actual dream occurs.

So why do we dream? There are a few theories as to why we dream. Some see dreaming as an important process through which all species with complex brains analyze and consolidate information. This is supported by the fact that most mammals dream. Other theories conclude that dreaming is nothing more than random brain activity that has little to no logical relevance. One of the first theories regarding dreams and dreaming was that Sigmund Freud.

According to Sigmund Freud, dreams were heavy in symbolism and often showed the true intent and emotions of a human being. Freud saw dreams as wish fulfillment: disguised ways to satisfy unconscious desires that are too upsetting to face consciously. Dreams might therefore offer clues to unconscious conflicts. Freud For instance, sexual desires might appear in a dream as the rhythmic motions of a horseback ride, or conflicting feelings about a parent might appear as a dream about a fight. Freud called dreams the "royal road" to the knowledge of the unconscious mind. Freud's analysis of dreams brought about much controversy, especially amongst contemporary psychologists. Psychologists of today believe that dreams do have meaning; however, meaning is based upon the individual, not a set logic or theory as proposed by Freud. Another psychologist by the name of Carl Jung agreed with Freud to a certain extent, but said that the meaning of dreams were much more complicated and thus very hard to interpret correctly.

Another theory regarding dreams is the activation-synthesis theory. This proposes that dreams are nothing more than meaningless, random byproducts of R.E.M. sleep. According to this theory, hindbrain arousal during R.E.M. creates random messages that activate the brain. Dreams result as the cortex connects these random messages as best as it can using stored memories and current feelings to translate random brain activity into something more

coherent. From this perspective, dreams represent the brain's attempt to make sense of meaningless stimuli during sleep, the same way we might try to make pictures out of cloud formations.

There are problems with both theories, and the problem with dreams is that there is no way to prove or disprove either theory. Even if dreams are random brain activity, they still may have psychological significance. For instance, the current emotional state of the dreamer can affect the ways in which that person dreams or even how he/she recalls those dreams. There are also similarities between the emotions and thoughts experienced in dreams and in life. People who are depressed, withdrawn, and feeling low often times will have dreams that represent these same feelings of melancholy.

The biggest question regarding dreams is their inherent meaning and interpretation. When it comes to interpreting dreams, there are a few ways of looking at things. One, is the Freudian method of analyzing the dream as a message of hidden, wanted desires that need fulfillment, or the Carl Jung way, in which individual analysis as well as dream analysis is key to successful interpreting a dream. Nowadays, the Freudian method is rarely used and often disregarded as offering ludicrous explanations for human thought and behavior.

Some studies show that the substance of our dreams is dependent on a number of outside factors such as gender, social status, culture, and personality. A study given to 1181 first-year Canadian college students in three different cities, showed a profile of themes was found that varied little by age, gender or region; however, differences that were identified could be interpreted as due to developmental milestones, personality attributes or sociocultural factors. Factor analysis produced a solution consisting of 16 coherent factors that were differentially associated with demographic variables and that accounted for 51% of the variance. Women loaded primarily on negative factors (failure, loss of control, snakes-insects), men primarily on positive factors (magic-myth, alien life). Results support the concept of typical dream themes as consistent over time, region and gender and as reflecting the influence of fundamental dream dimensions that may be influenced by sociocultural, personality, cognitive or physiological factors.

In some cultures, the interpretations of dreams have huge significance. Studies done on some Amazonian tribes show just how important the interpretations of dreams are to some cultures. To the Sonenekuiñaji people, dreams are sources of knowledge and channels of communication between multiple worlds that feed back dynamic information. They even use dreams to develop the names for their own children.

For the Sonenekuiñaji dream imagery is important not only in obtaining personal names but in guiding such activities of daily life such as hunting, working in the fields, and even bathing. The presence of certain animals in dreams, for example, is interpreted as a hunting omen. A white-lipped peccary running away from the dreamer predicts success in fishing, a dream of a tapir bite predicts a caiman bite, a hawk predicts an encounter with a jaguar, and a dream with "jajasio," a palm tree whose trunk is armed with long spikes, alerts the dreamer to the danger of being stung by a ray. On the other hand, dreaming of domestic animals such as pigs and chickens or of exotic animals "from far away" such as elephants warns of oncoming sickness. As in other parts of lowland Amazonia, dreams are important modes of perceiving not only the future but also the present and its various surroundings. In some dream scenarios the dreamer is capable of deliberate control over the outcome of the dream itself. Dreamers can also diagnose illness and find cures in their dreams. For instance, Amazonian people have told of how they learned about the use of particular plants in causing and curing a specific illness. Hence dreamers "know," "see," and "learn" through the exchange and acquisition of knowledge in a dream reality. Therefore, dreams are considered to be important sources of literal, metaphorical, or prophetic information and as such are taken seriously.