Dreaming with a Conscious Mind

by Daniel Yang

Exploring the mysterious world of lucid dreams...

Lucid dreaming is an old and worldwide practice. Perhaps even you may have experienced the occurrence of waking up, or becoming "aware", within a dream? But some individuals can purposely become aware while dreaming. Lucid dreamers often report a state of conscious-like awareness and having the capability to control their actions within their dreams. Some advanced lucid dreamers are even capable of changing the dream situation at will. But perhaps, since only a minority of the population experiences lucidity while dreaming, lucid dreaming has often been overlooked as a scientific phenomenon. In particular, lucid dreams are often likened to, in terms strongly evocative of mysticism, a "wisdom dream, astral projection, [or] and out-of-body experience" by the general public (Vedfelt 1999). However, many psychologists and researchers strongly reject a mystical notion of lucid dreaming and have recently, within the past century, begun to study dreams in scientific experiments. Despite the lack of general public acknowledgement, lucid dreaming is a real and experimentally analyzable experience; it can be achieved through mindful practice and- as more is understood about the subject- may have very positive effects on one's psyche.

Understanding Dream States

To understand lucid dreaming as a real biological phenomenon, it is necessary to begin with a discussion of sleep and dreaming in more general terms. Research has suggested that both normal and lucid dreaming occurs during REM (Rapid Eye Movement) sleep. But, there are more stages of sleep than just the REM phase. As one drifts out of consciousness, one enters the "descending stage," in which brainwave activity is low in amplitude and high in frequency. As sleep progresses, a "dreamless stage" or NREM (non-REM) sleep occurs. NREM sleep is characterized by a gradual increase in brainwave amplitude and a gradual decrease in brainwave frequency. Generally, higher amplitudes and lower frequencies in brain activity indicate a deeper state of unconsciousness. REM sleep, also known as the "ascending stages," typically follows NREM sleep, and is characterized by brain activity similar to that of the "descending stages" in which high frequencies and low amplitudes are observed. In a typical night, the stages will occur in a cyclical ascending and descending manner, with each cycle lasting around ninety minutes. Dr. Vedfelt, president of the Institute of Integrated Psychotherapy in Denmark, describes one's physiological behavior during REM sleep, and presumably, during dream states:

Brain activity is high and closely approximates the waking state in alarm and anxiety. Moreover, REM sleep is accompanied by a particular neurophysiological pattern. Heart rhythm, pulse, blood pressure, and respiration are irregular. The muscles of the body are more relaxed than in other forms of sleep; the muscles of the head and neck lose nearly all tension, while small muscles in the face and fingers now and then make rapid movement (Vedfelt 1999).

Lucid dreams are often used by psychotherapists to cure nightmares. Here, Henry Fuseli's presents a dramatic representation of a nightmare in his suitably titled 1781 painting, The Nightmare.

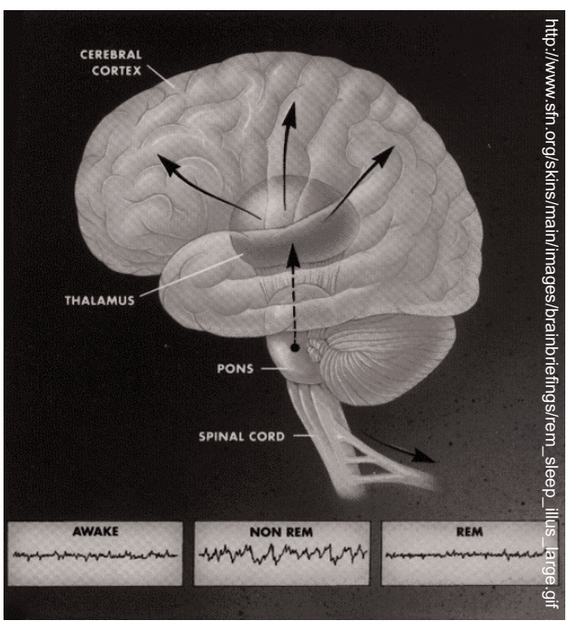
Lucid vs. Normal Dreaming

Continuing the discourse of lucid dreaming as a neurobiological process, the question then presents itself: can lucid dreaming be considered within the same context as an ordinary dream? While there is evidence that lucid dreaming, as with ordinary dreaming, occurs during the REM phases of sleep, there are considerable differences. One such difference between lucid and ordinary dreams is that in the lucid state, the dreamer retains much of his 'conscious' and 'executive' functions, whereas an ordinary dream is marked by a loss of such capabilities. For example, in a lucid dream, one may be aware that he or she is dreaming, and he or she can consciously make decisions as

to what actions to take. A lucid dreamer can often consciously alter the surrounding environment of the dream as well. In contrast, in an ordinary dream, the dreamer is typically incapable of making such decisions. As a result, the dreamer is led through the dream-presumably a manifestation of the dreamer's sub-consciousness-involuntarily. That is, an ordinary dreamer has no conscious awareness of being in a dream.

Research has shown that consciousness and decision-making are mostly controlled by the prefrontal cortex of the brain. During sleep, a markedly reduced amount of activity is observed globally in the prefrontal cortex. During REM sleep in particular, such reduced activity is still observed, but there is some slight selective reactivation of the most posterior and medial prefrontal areas (Muzur et al. 2008). This suggests that in sleep, as well as in normal dreaming, one should lose consciousness and executive functions along with the deactivation of the prefrontal cortex. However, in a lucid dream, one is conscious and is very much capable of carrying out executive decisions.

Because of such contradictions, some have suggested that perhaps a lucid dream is not a dream at all, but a fantasy in a wakening state. Or, perhaps it is merely an ordinary dream in which one believes that he or she is awake. To disprove such a notion, some experiments have attempted to establish lucid dreaming as a form of dreaming occurring during a sleeping state. For example, pioneer lucid dream researcher Stephen LeBerge arranged for subjects to signal the onset of lucid dreaming by conducting specific motions, such as eye movement patterns or fist clenching, observable by a polygraph. Because five of the subjects performed the signaling actions most frequently during unequivocal REM sleep, LeBerge concluded that lucid dreaming is a mostly REM stage phenomenon (Gackenbach and LeBerge 1988). In more recent years, Japanese researchers verified the occurrence of lucid dreaming in an experiment in which two subjects, on separate accounts, indicated during REM sleep that they knew they were dreaming (Tsuneo 2003). Despite such evidence, there is much more room for empirical experimentation in the matter of lucid dreams, and there is yet to be a consensus on how lucid dreaming occurs from a neurobiological perspective.



Brainwaves differ depending on the stage of sleep. REM sleep has brainwaves that are very similar to those in the awake state.

Achieving Lucidity while Dreaming

However, there is considerable consensus as to how to initiate and maintain the lucid dreaming state. There are several steps that can be taken in day-to-day life to enhance one's chance at lucidity later while sleeping. Firstly, acknowledge and embrace the minds' creative capacity. Since dreams are sole creations of the mind, one should recognize that minds have the immense creative capacity to create vastly intricate scenarios and fantasies. That is, one should embrace such creativity and allow the mind to engage freely-unhindered by guilt or fear-in waking fantasies.

> The dreamer has the freedom to do whatever he or she pleases, and many people use lucid dreaming as a means to explore hidden fantasies or to escape from the constraints of reality.

Secondly, frequently practice the use of metaphoric language. Dreams often occur in very symbolic situations, and lucid dreamers can enhance their understanding of such symbolic situations through conscious use of metaphoric language. This may also enhance familiarity with one's repertoire of symbolic themes, which are often reflected in the dream state. Over time, according to Gackenbach and LeBerge, such conscious familiarity with "dream themes, characters, environments, and so forth" facilitates recognition during a dream as one may say, "I've dreamed this before-Aha!-I must be dreaming now!" (Gackenbach and LaBerge 1988).

Thirdly, upon achieving dream lucidity, exercise conscious control of what happens in the dream. Conscious control allows the dreamer to decide which situations to dream about, and this is one of the most important reasons why certain individuals actively seek lucid dreaming. Besides these three methods, certain controversial drugs can also be used to induce lucid dreaming. In particular, the drug Galantamine, traditionally used to improve memory and mood in Alzheimer patients, has the ability to induce lucidity (Yuschak 2007). Avid lucid dreamers often take the drug to enhance their chances of achieving a lucid dream.

Lucid Dreaming and its Uses

Certain individuals are most often attracted to lucid dreaming because it provides a safe environment for fantasy and adventure. The lucid dream is a sole creation of the mind, and the dreamer's actions or adventures are not bound

Some choose to use drugs to help induce lucid dreaming. Galantamine, particularly when combined with nicotine, has been known to be very effective.

by moral obligations or physical restrictions. The dreamer has the freedom to do whatever he or she pleases, and many people use lucid dreaming as a means to explore hidden fantasies or to escape from the constraints of reality. Furthermore, lucid dreaming can allow the dreamer to be less defensive or hindered about his or own creative process. The dreamer can become more tolerate of the mind's creative activities, and extend creativity in the dream state to the conscious state to generate new ideas and creative solutions to real world problems. Numerous other uses have also been documented: practice for social situations, spiritual realization, increased awareness of self, treatment for psychological patients unable to differentiate dream from reality, and the list goes on.

In particular, lucid dreams can be used clinically as a treatment for nightmares. Although not a conventional treatment, lucid dreaming can help patients who are experiencing chronic-nightmares to gain a greater sense of control within the dream. Patients can begin by changing the frightening dream in small increments. Often, the patient starts by changing a small aspect of the nightmare (e.g. the color of a trivial object), which "leads the dreamer to gain a sense of the possibility of control and so establish a foundation for further change" (Gackenbach and LaBerge 1988). A small change alone is sometimes sufficient to banish the frightening dream. However, some critics point out that excessive indulgence in lucid dreaming may cause negative effects, causing the dreamer to lose touch with reality or to become incapable of separating waking and dreaming states.

Due to lack of commonplace practice and scarcity of empirical research on the matter, lucid dreaming remains a mysterious ritual to the general public, despite its potentially powerful effects. While it is established that lucid dreaming is a real biological occurrence which can have positive effects on one's well-being, more research is necessary to fully evaluate the benefits and possible adverse effects of this still contentious phenomenon.

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