

# LUCID DREAMING: DIRECTING THE ACTION AS IT HAPPENS

*Stephen P. LaBerge*

During "lucid dreams" we are remarkably wakeful—even though still asleep. We may be able to reason clearly, remember freely, signal that we are conscious, and may even change the plot if we so choose. But it takes training.

*I am in the middle of a riot in the classroom. Everyone is running around in some sort of struggle. Most of them are Third World Types, and one of them has a hold on me—he is huge, with a pockmarked face. I realize that I am dreaming and stop struggling. I look him in the eyes and, while holding his hands, speak to him in a loving way, trusting my intuition to supply the beautiful words of acceptance that flow out of me. The riot has vanished, the dream fades, and I awaken feeling wonderfully calm.*

We do not usually question the reality of our dreams until after we have awakened. But it is not always so. That we sometimes dream while knowing that we are dreaming has been known since the time of Aristotle. During such "lucid dreams," the dreamer's consciousness seems remarkably wakeful. The lucid dreamer can reason clearly, remember freely, and act volitionally upon reflection, all while continuing to dream vividly. As in the dream above, which I had a little more than two years ago, the dreamer may take an active hand in resolving the dream's conflict and in bringing the plot to a satisfactory conclusion.

Unlike researchers who have gotten people to change the outcome of their dreams through discussions beforehand, I have found that the dreamer can change the dream from within—while it is in progress. For example, even while I was dreaming about the thug assaulting me, I felt on another level that he represented an aspect of my own personality I was actively denying. I wanted to make peace with that part of me and was able to do so, consciously, in the course of the dream.

In a personal experiment, I discovered that it is possible to enhance one's capacity for lucid dreaming. For three years, I recorded all the lucid dreams that I could recall—a total of 389. Experimenting with a variety of autosuggestion techniques, I was able to increase the frequency of lucid dreams almost fourfold, to a peak of as many as 26 dreams a month. Because of the vagueness and inefficiency of such techniques, it took me almost two years to work out a method that was fully effective. But toward the end of my experiment, in the third year, I was able to produce lucid dreams virtually at will.

People can not only train themselves to dream lucidly but may also be able to signal laboratory researchers that they are having the dreams. My colleagues at the Sleep Research Center at Stanford University, Drs. Vincent Zarcone, William C. Dement, Lynn Nagel, and I have already demonstrated in one study that use of prearranged signals is possible. We were able to verify the occurrence of lucid dreams during rapid eye movement [REM] sleep for subjects who signaled that they knew they were dreaming. The signals consisted of particular dream actions that had observable concomitants and were performed in accordance with presleep agreements. We believe that such experiments can provide a new model for dream research. In the view of Charles Tart, a psychologist at the University of Davis, they may lead to "an era of deliberate and controlled phenomenological and

scientific exploration of dreaming . . . which promises great excitement as well as great significance."

Lucid dreaming has been treated more often as a mysterious talent than as a learnable skill. What little has been written consists largely of reports of lucid dreams, with few hints on how the ability might be cultivated. One exception is the book *Creative Dreaming*, in which psychologist Patricia Garfield describes a very simple method of auto-suggestion: Before going to sleep, she would tell herself, in effect, "Tonight I will have a lucid dream." Garfield, who has experimented with the technique for several years, reports having had an average of four or five lucid dreams per month. Her results indicate that autosuggestion might be a starting point for a method of deliberately inducing lucid dreams.

Long before my study, I had had occasional lucid dreams. At the age of five, I can remember having a series of such dreams, which I would intentionally redream on successive nights. I vividly recall one of the dreams, in which I was underwater for too long and suddenly became fearful of drowning, but then I recalled that in the dream series, I had always been able to breathe underwater. The next lucid dream I can recall did not occur until twenty years later; for several years after that, however, I had an average of less than one a month, but I found lucid dreams sufficiently intriguing to persuade me to study the phenomenon, starting in 1977, for a Ph.D. thesis at Stanford.

During the first year and one half of the study, I experimented with Garfield's autosuggestion technique. I achieved essentially the same results she did, averaging about five dreams a month.

By the end of Phase I, I had observed two presleep psychological factors that were associated with the later occurrence of lucid dreams. The first and most obvious was motivation. During Phase I, there were two months during which I reported, respectively, two and three times more lucid dreams than the average for the rest of this period. During the first month, I was preparing a dissertation proposal in connection with the study, and during the second, I was attempting to have lucid dreams in the sleep laboratory. During both months, I was thus challenged to demonstrate the feasibility of a scientific study of lucid dreaming.

Gradually, more self-observation led to the realization of a second psychological factor: the presleep intention to *remember* to be lucid during the next dream. This clarification of intention was accompanied by an immediate increase in the monthly frequency of lucid dreams (Phase II). Further practice and procedural refinements led within a year to a method that could reliably induce lucid dreams. The method is based on our ability to remember to perform future actions. One does this by forming mental associations between what one wants to remember to do and the future circumstances in which one intends to act. The associations are most readily formed by the mnemonic device of visualizing oneself doing what one intends to remember. It is also helpful to verbalize the intention: "When such and such, do thus and so." What I call the mnemonic induction of lucid dreams (MILD) procedure goes as follows:

1. During the early morning, I awaken spontaneously from a dream.
2. After memorizing the dream, I engage in ten to fifteen minutes of reading or any other activity demanding full wakefulness.

3. Then, while lying in bed and returning to sleep, I say to myself, "Next time I'm dreaming, I want to remember I'm dreaming."
4. I visualize my body lying asleep in bed, with rapid eye movements indicating that I am dreaming. At the same time, I see myself as being in the dream just rehearsed (or in any other, in case none was recalled upon awakening) and realizing that I am in fact dreaming.
5. I repeat steps 3 and 4 until I feel my intention is clearly fixed.

Using the MILD technique (during Phase IV and the last four months of Phase II), I had an average of 21.5 lucid dreams per month, with as many as four in one night. Afterward, I discontinued regular practice of MILD during a four-month withdrawal period (Phase III), resulting in a decline that was reversed during the last two months (Phase IV), when I used MILD to produce lucid dreams for the laboratory study I will describe later.

It seemed to me that I could stimulate lucidity whenever I wanted to during REM sleep, which normally occurs about every ninety minutes, four or five times a night, and produces our richest dreams. Although I could successfully induce the dreams in the first REM period of the night, the procedure was most effective during the early morning—in the last stages of REM sleep, when dreams are copious—and after awakening from a previous dream.

Interestingly, certain waking activities during the hours of sleep have been claimed to stimulate lucid dreaming. Garfield, for example, found that in her case, "sexual intercourse during the middle of the night was often followed by a lucid dream" if she returned to sleep. Gregory Scott Sparrow, a counselor in Virginia Beach, reports having lucid dreams when he goes to sleep after meditating early in the morning. Others have told of having the dreams after reading or writing early in the morning.

The diversity of these stimuli (all of which were confirmed by my own experience) suggests it is not the particular behavior that is important but the *wakefulness* required for it.

We can probably further refine techniques for training people to dream lucidly. So far, MILD has not been tested in a formal lab setting; only three other lucid dreamers besides myself have reported using it successfully. Because it is based on a universal cognitive skill, though, I believe MILD will prove to be generally useful.

But other approaches might be profitably explored. One is the use of hypnosis. On three occasions I was hypnotized and given a posthypnotic suggestion to have a lucid dream; after going to sleep, I did indeed have such a dream two out of the three times.

Another possible method of stimulating lucid dreams might be to provide lab subjects with an external cue while they are sleeping. Other investigators have found that subjects hearing tape recordings of their own voices during REM sleep have dreams that are more assertive, active, and independent. While sleeping in the lab, I had a tape recording of my voice played during REM periods, reciting, "Stephen, you're dreaming." Both times I incorporated the sentence into dreams that I was having and became lucid, but on each occasion I awoke almost immediately.

Although many people report being able to dream lucidly how can we prove empirically that they achieve a kind of consciousness during those dreams? In the absence of experimental data, contemporary dream researchers have questioned whether these experiences occur during sleep or during brief periods of hallucinatory wakefulness. Further, if lucid dreamers really are asleep, how can we arrange for them to signal the laboratory researcher when they are having the dreams?

We know that actions in dreams sometimes have shown good correlations with polygraphically recorded eye movements and muscle activity. For example, if a dog is chasing a ball down the street in a dream, the dreamer's eyes have been observed to move rapidly, as if he were following the action. Similarly, body movements in dreams have been known to be accompanied by electrical changes in the muscles of the dreamer. Thus, it seems plausible that lab subjects might be able to signal by carrying out particular dream actions that have observable correlates.

Previous experiments have shown that sleeping subjects are sometimes able to produce behavioral responses while dreaming. One of the most recent studies was done by Rosalind Cartwright at Rush University and Judith Brown, one of her students, who instructed groups of subjects to press microswitches if they began to dream during sleep; the researchers found that when these subjects were awakened, they were more likely to remember dreaming if they had pressed the switches. However, since according to Cartwright the subjects were not conscious of making the responses, these studies do not provide evidence of voluntary action (and thus reflective consciousness) during sleep.

In our study at the Stanford Sleep Center, I was one of four subjects claiming proficiency as lucid dreamers who were studied for a total of 27 nights. We were all hooked up each night to standard apparatus that records eye movements, brain waves, and muscle tension in the chin as well as the wrists (for signaling). The four of us—two men and two women—attempted to follow a prearranged procedure of signaling whenever we became aware we were dreaming. A variety of signals were used, generally consisting of a pattern of upward eye movements and left and right fist clenches. Although we were allowed to perform each of the prearranged signals when the machinery was being calibrated, we did not otherwise practice while awake.

After each lucid dream we were to awaken and make a detailed report. In the course of the study, 27 lucid dreams were reported subsequent to awakening from various stages of sleep. The four of us reported signaling during 22 of the dreams. After each night's recording, the reports mentioning signals were submitted, along with the respective polysomnograms, to a judge *who was not informed of the times of the reports*. (The judge was experienced in scoring polygraph records but had no association with the experimenters.)

In 16 cases, the judge was able to select the appropriate 30-second periods on the basis of a correspondence between reported and observed signals. But what might account for the judge's lack of success in blind-matching 6 of the 22 instances of signaling? We inspected the recordings that immediately preceded each of those signals and found that in most cases, the signals were not strong enough to rise above the level of background "noise"—random activity of the muscles—in the recordings. However, the judge identified no signals from the recordings that had not, in fact, been reported by the four subjects.

The most complex signal, which I performed successfully on two occasions, consisted of a single upward eye movement, followed by a series of left (L) and right (R) dream fist clenches, in the order LLL, LRLL. This sequence is equivalent to my initials in Morse code (LLL being three dots, or S; and LRLL being a dot-dash-dot-dot sequence or L).

Were the subjects really asleep when the signals were sent? If the criterion of being awake is whether the person perceives the external world, then the subjects were not, in fact, awake. Although we knew we were in the laboratory, that knowledge was a matter of memory, not perception; upon awakening, all four of us reported having been totally in the dream world and not in sensory contact with the laboratory environment in which we slept.

Was it possible that we were really awake but just not paying attention to the environment (as, for example, when a person is reading or absorbed in daydreaming)? All four of us tended to report that we were conscious of the absence of sensory input from the external world. These subjective accounts are, moreover, corroborated by the physiological measures.

The study suggests that under certain circumstances, dream cognition during REM sleep can be much more reflective and rational than was previously assumed. If further experiments confirm that it is indeed possible for lucid dreamers to intentionally signal while they dream, we may soon have a technique for exploring the timing, sequences, and content of dreams with first-hand data from within the dreamer's world itself.

In lucid dreams, the realization that one is dreaming may either be gradual or relatively sudden. In the following dream, consciousness comes slowly, under prodding by one of the characters: "I am crossing a bridge over an abyss. When I look into the depths I am afraid to continue. My companion, behind me, says, 'You know, you don't have to go this way. You can go back the way you came,' and he points down an immense distance. But then it occurs to me that if I became lucid I would not need to fear the height. As I realize that I am dreaming, I'm able to master my fear—I cross the bridge and awaken."

What happens in lucid dreams has real significance for the dreamer. Though the events that appear to take place in dreams are illusory, our feelings in response to dream content are real. So when we are fearful in a dream and realize that it is a dream, the fear doesn't vanish automatically. We still have to deal with it; were it not so, lucid dreams would have no useful connection with our waking lives.

We could compare the nonlucid dreamer to a small child terrified of the dark. The child really believes there are "monsters" lurking in the shadows. The lucid dreamer would perhaps be an older child—still afraid of the dark, yet no longer believing that there are monsters out there.

For the naive dreamer, lucidity is most likely to be precipitated by anxiety. But it may also be brought on by embarrassment or delight—or by some bizarre element that suddenly intrudes in the dream. As an example of an anomaly that clarifies the dream consciousness, here is another of my lucid dreams:

"I am walking down a street when I notice a new church—a mosque, in fact, so vast and impressive that I realize that I'm dreaming. As I approach it with great interest, its huge window blasts forth the theme from *Close Encounters of the Third Kind* in organ tones that shake the street beneath my feet. I am thrilled with the realization that it is a spaceship in disguise. Now fully lucid, with great expectation, I walk up the steps and into the blinding light of the door. But here memory fails."

Dreams have long held the reputation of being an important source of cultural, scientific, and artistic innovation. Is it not possible that the fantastic but unreliable creativity of the dreaming state could be brought under conscious control? In the following lucid dream, I seem to have played the piano much more creatively than in the waking state.

"I have not been doing too well in a high school mechanical drawing class. After it, I am sitting listening to a lecture in a large room filled with students. Somehow, as the teacher is saying something or demonstrating at the piano, I remember I'm dreaming. I get up and consider what to do. I walk up to the teacher at the piano as if I were an expected guest artist and sit down to play. I think of playing something out of a book of music, but I find that my vision is too weak. So, I improvise a fantasy in F-sharp minor, starting out prosaically enough but building up to a terrific climax. The truth of the music has, however, made most of the audience flee. But *I* feel satisfied as the dream fades with the last chord."

In contrast, the lucid dreamer's power to control dream content can sometimes become a problem—when, for instance, the person becomes just lucid enough to realize that he or she has the power to awaken or otherwise avoid an unpleasant dream experience instead of resolving the conflict. I became aware of this problem in myself in an early lucid dream:

"I am escaping down the side of a skyscraper, climbing, like a lizard, when I realize that I'm dreaming and can fly away. As I do so, the dream fades into a scene in which [a certain teacher] comments on my dream: 'It was good that Stephen realized he was dreaming and could fly, but too bad that he failed to see that since it was a dream, there was no need to escape.'"

There is an important issue that we have so far neglected to raise- the symbolic significance of lucid dreams. What does it mean to dream while knowing we are dreaming?

We may generalize from what Freud said of Hervey de Saint-Denys, a famous lucid dreamer of the nineteenth century: "It seems as though in [the lucid dreamer's] case the wish to sleep [has] given way to another . . . wish, namely to observe his dreams and enjoy them." And why not! Dreams could be the magic theater of all possibilities and a workshop of creativity and growth. Yet too often we use them to play out repetitious melodramas and confine ourselves by habit to a prison of self-limitation. Lucid dreaming presents a way out of this sleep within our sleep, allowing us to take responsibility for dream and waking lives that we have created.

But there is more significance to lucid dreaming than that. If you were asked, "Are you awake *now*?" you would doubtless reply, "Certainly." However, feeling certain that we are awake provides no guarantee that we *are* awake. When Samuel Johnson kicked a stone as if to say "We *know* what's real," he was expressing this sense of certainty. Yet Johnson could have been dreaming he kicked a stone and felt the same. The illusory sense of certainty about the completeness and coherence of our

lives leads us to what William James described as a "premature closing of our accounts with reality."

Finally, in my opinion, the real significance of lucid dreams is that they guide us to higher levels of consciousness, for they suggest what it would be like to discover that we are not yet fully awake. Consider the following analogy: As the state of ordinary dreaming is to lucid dreaming, so the ordinary waking state is to the fully awakened state. Taken in this sense, the lucid dreamer's wish might be to transcend his or her level of limited awareness.

The lucid dreamer does not wish to leave the dream world by awakening but rather, to awaken within the dream itself. A slogan suggests itself: "Be *in* the dream but not *of* it."