## How to Control Your Dreams

By Micaela

Since the age of Freud, and probably the dawn of man, dreams have fascinated human beings. They give us the power to make our own realities and may even show us a glimpse inside our subconscious or parts of ourselves we never knew existed. Today's infographic ramps up our dreaming lives by exploring the concept of lucid dreaming (dreaming in which you are aware that you're dreaming).

Lucid dreams allow us to control what's happening in our minds while we sleep. While everyone is capable of this kind of dreaming, it takes a lot of practice and mind training to have a lucid dream. The infographic below recommends some helpful techniques to achieve this state of snoozing. Writing down your dreams as soon as you wake up, for example, makes it easier to remember them and helps you keep track of reoccurring patterns or instances. You may notice a certain element, such as water, or a certain person, maybe a deceased relative, reappearing over and over again in your dreams. Once you recognize common themes, it may become easier to analyze and debunk their meanings, and eventually you may be able to change what these motifs mean to you.

The mind is a powerful instrument that can be fine tuned even in sleep. "If you must sleep through a third of your life, why should you sleep through your dreams, too?" This is a question posed by lucid dream expert, Dr. Stephen LaBerge, that I urge you to explore with the help of today's infographic.

Sweet dreams!

## REM STAGES OF SLEEP

When in REM sleep, your eyes move back and forth under your eyelids. These movements relate to where you're looking in your dream.



REM sleep in adults typically occupies 20-25% of all sleep.

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stands for

RAPID EYE MOVEMENT

# LUCID DREAMING OCCURS IN The Rem stages of sleep

MRI scan of 40 Hz brain waves when\_



Research shows that lucid dreamers seem to share certain personality traits. They\_



But anyone can start to control their dreams with practice and some tips...

# HOW-TO-LUCID DREAM

### **RECALL YOUR DREAMS**

Being able to recall a dream will help you to become aware of what you are dreaming about and see the recurring themes.

Keep a dream journal

- As soon as you wake up, lie still and try to remember your dream.
- Write down what your dream was about.
- Focus on the detail and build a vivid picture of the dream.



Once you have kept a dream journal for 2 - 3 weeks, you can start analysing and recognising events that keep happening.

This could be anything: a certain person, object or place that keeps cropping up.

# **REALITY CHECK**

Reality checks allow you to determine if you're dreaming when you encounter a dreamsign. This makes it easier to enter a lucid dream. Try these now.

UPERPOWERS

## NUMBER CHECK

Check your watch, look away, then check it again.

When dreaming, the brain finds it harder to continue sequences. If the time is radically different the second time you look, you're dreaming!



Try breathing while holding your nose and your mouth closed







Look in a mirror Do you look diffe<u>rent?</u> Look at your hands Have you got extra or missing fingers?



IF YOU MUST SLEEP THROUGH A THIRD OF YOUR LIFE, WHY Should you sleep through your dreams, too?

Dr Stephen LaBerge

#### Dream On . . .

*By Dennis Drabelle* Tuesday, November 27, 2007

My friend Rachel and I are pumped because we get to see Ang Lee's new movie free of charge. There's a hitch, though: Instead of passes, we have to bring medallions to the theater, and we can't just hand these over at the door. We must wear them on our noses, embedded in our flesh. A free flick is nothing to sniff at, so we fasten the medallions on. (They come with handy little points.) Miraculously, they don't cause pain, though mine keeps threatening to fall off. I can't say how good the movie was -- we never got that far.

As you may have guessed, the above was a dream. On awakening, I recalled having read a squib about Ang Lee and his ultra-sexy new film, "Lust, Caution," the day before, but that pretty much exhausted the real-world triggers for my scenario. Though the dream was trifling, I liked it for its silliness and simplicity. And as dreamers are wont to do, I wondered if it might have a meaning, if it revealed something unknown to my waking mind about what makes me tick. To see what could be made of it, I consulted the psychological literature and got in touch with experts in the field. In doing so, I discovered that I've had the wrong idea about dreams, which turn out to be not so much puzzles to be solved as mirrors to be gazed at.

Freud called dreaming "the royal road to the unconscious," and Freudian theory would say that my nose-medallion dream stemmed from some repressed wish, probably left over from childhood and tucked away in my unconscious, where my alert self didn't have to confront it. For all I know, having to wear the medallion could be a reprimand for wanting to ogle the naked bodies of Lee's actors. I might object that I'm too old for piercing and that built-in jewelry would clash with my self-image, but could the unconscious me harbor a longstanding perforation wish just the same?

I doubt it: People didn't even pierce their ears when I was a kid, and the very thought of having it done makes me cringe. When I told Rachel my dream, she cringed, too; I hadn't known this, but she's so allergic to metal that, after putting on earrings for her wedding, she had to take time out from the honeymoon to see a doctor about her itching ears. So I'm not sure how Freud can help us here.

In any case, it didn't take much delving into the psychological literature to learn that Freud's dream theories have been thoroughly discredited. Subsequent research has failed to support them, and as Peter D. Kramer puts it in "Freud: Inventor of the Modern Mind" (Atlas, 2006), today it would be hard to find "defenders of the view that dreams are minutely and complexly constructed to hide and yet retain evidence of unacceptable beliefs and feelings."

Jungians would see my dream as compensating for aspects of my personality that are shortchanged in conscious life. But I don't get very far when I try to connect the wearing of a nose plate to some neglected side of me (the inner slacker-dude?). And it turns out that Jung on dreams doesn't hold much water now, either. G. William Domhoff, a psychology professor at the University of California at Santa Cruz, notes in "The Scientific Study of Dreams" (American Psychological Association, 2003) that Jung's compensation idea "seems to be contradicted by every relevant systematic study since the beginning of modern-day dream research in the late 19th century, when psychologists who wrote down their own dreams found considerable continuity between dream content and waking cognition."

So away with the repressed urges and surreal symbols. Today few psychologists believe that dreams talk to us in codes of any kind, and the action in dream research is empirical rather than broadly theoretical.

The change began in 1953, when a University of Chicago grad student discovered that, periodically during the night, sleepers' eyes dart back and forth beneath their eyelids (the phenomenon that became known as rapid eye movement, or REM) and that these episodes coincide with surges of brain activity. Sure enough, subjects who were awakened during REM reported a high incidence of dreaming. (It has since been learned that people dream during non-REM sleep, too, though less vividly.) The finding led to a theory known as activation synthesis, in which random signals emitted by the more primitive parts of the brain gain a certain amount of shape and coherence when processed by the higher brain.

But the notion that dreaming originates as mere static seems to fly in the face of many dreamers' experiences. For one thing, what about dreams that feature elements from our daily lives? Take the narrator of Robert Frost's poem "After Apple-Picking," who declares, "I could tell/What form my dreaming was about to take/Magnified apples appear and disappear . . ." Reading these lines, don't we nod in recognition? Dream researchers call this phenomenon "incorporation": Our dreaming mind rehashes something we've recently done or had happen to us, asking, in effect, "How do you like them apples?"

But Mark Mahowald, director of the Minnesota Regional Sleep Disorders Center at the Hennepin County Medical Center in Minneapolis, regards incorporations as flukes. "My main reason for skepticism," he said, "is that I don't think dreaming has a function. It doesn't seem to give humans any evolutionary advantage. It's just an epiphenomenon, a byproduct of sleep." He notes that fetuses evidently dream in utero -- hence all that kicking -- but you can't think of them as working out something in their undeveloped psyches (try having an Oedipal complex in the womb!) or as coping with their pasts.

Also on Mahowald's side are findings that, unlike sleep deprivation, which can have serious physical and psychological effects, failure to dream for extended periods seems to cause no problems at all.

Given that everybody produces zillions of dreams over a lifetime, Mahowald considers it unremarkable that occasionally one strikes a relevant note. Such dreams might be compared to waking coincidences (thinking of a relative who an hour later calls us on the phone, running into an old classmate on vacation in Pago Pago, etc.). Just as we make a big deal out of these interactions while ignoring the countless times when life rolls along in its aimless way, so we tend to remember the few dreams that touch on something in our waking lives while forgetting about the great many that don't.

But might it be that dreams help us take our psychic temperature -- that, for example, a nightmare is a kind of inner doctor's order to reduce the tension we're living with? Here again, Mahowald is dubious. "Experiments have shown that the incidence of nightmares is no greater after subjects watched a scary movie than after they watched a bland one," he said. "And starving or thirsty people rarely report dreaming of eating or sleeping. Nor do people suffering from sleep apnea dream of suffocating."

But other researchers, who concentrate on what sleepers report after being awakened in the laboratory, can point to a 1978 experiment in which subjects who wore red goggles for several days reported a high incidence of red-tinted objects in their dreams. And Tore Nielsen, a dream researcher at the University of Montreal, said in an e-mail that he believes dreams "regularly incorporate clips and fragments from recent and not-so-recent experience." In a 2004 study, Nielsen and several co-authors interpreted data suggesting that incorporation often lags a few days behind the underlying incidents. The authors hypothesize that this delay might indicate a process of "working through" problems, and

that dreaming "facilitates adaptation to the stresses and emotional difficulties of interpersonal relationships."

The notion that dreams flow from random inner noise also seems to be undermined by the phenomenon of recurrent dreams. It's not easy to imagine our higher brain getting stuck like a needle on an old LP and repeatedly twisting amorphous signals into the same story line. (For me the record number of appearances is held by a scenario in which I've completely forgotten about a college course I signed up for, it's the day before the final exam, and, boy, am I in trouble!) Mahowald cheerfully acknowledged that this is "something I have no answer for," so recurrent dreaming looks like a fertile topic for research.

There are also the intriguing cases of a dream as the source of a scientific discovery or work of art. Two of the most famous date from the 19th century.

Friedrich August von Kekule, a professor of chemistry at the University of Ghent in Belgium, had been trying to determine the molecular structure of benzene. One day in 1865, he fell asleep in front of a fire and, as he'd done before, dreamed of atoms coming together in various combinations. This time new, snakelike shapes appeared and, according to Kekule, "One of the snakes had seized hold of its own tail and the form whirled mockingly before my eyes." On awakening, he suspected that the atoms of benzene and similar compounds didn't line up in rows as he'd thought, but in rings, a discovery that was to have profound implications for organic chemistry.

Something similar happened to Robert Louis Stevenson before he wrote "The Strange Case of Dr. Jekyll and Mr. Hyde." Stevenson later explained that for some time he'd wanted to tell a story about a man with an alter ego but couldn't come up with the right plot. Then one night a powerful vignette appeared to him in a dream: "Hyde, pursued for some crime, took the powder and underwent the change in the presence of his pursuers."

Domhoff argues in his book that such cases are rare. "When all is said and done . . . only occasional anecdotal evidence supports the idea that dreaming itself provides any solutions to problems. This anecdotal evidence is not impressive when it is seen in the context of the small percentage of dreams that are recalled and the even smaller percentage of recalled dreams that might be construed as having a solution to a problem."

But the key phrase in that formulation may be "dreaming itself." The most interesting features of both examples are, first, how closely related the dreams were to the sleepers' waking preoccupations and, second, how much conscious effort it took for the dreams to bear fruit. In advance of his eureka! dream, Kekule had spent hours studying and thinking about benzene. Nor did the dream hand him the compound's structure on a platter; all he saw was an analogue, the tail-biting snake, which he had to interpret, adapt to a chemical context, and confirm experimentally.

Similarly, the sleeping Stevenson didn't conjure up a ready-made story; he had to expand and build that flickering scene into a novel. He dashed off a draft in three days, only to have his wife read it and tell him it was no good. He threw that one away, wrote another version, and spent the next six weeks polishing it. In each case, the dream yielded rich ore, but the conscious mind played blacksmith, rolling up its sleeves and hammering the raw stuff into something useful. Both Kekule and Stevenson were blessed not only with a fertile unconscious that could supply striking images but also with a disciplined waking mind that could revise and perfect them.

What this suggests is that we may be asking the wrong questions about our dreams. Forget the notion that they are sending us cryptic signals about a secret self that we aren't privy to; concentrate instead on what our alert self can make of them. A dream might be just plain loopy (my nose-medallion number, for example), in which case we can have a laugh and move on. But it might provide a new angle for looking at something we've been immersed in, professionally or personally. This probably doesn't happen often, but neither does winning the lottery (though the beauty of dreaming is that there's no admission charge). In this analysis, it makes no more sense to ask for the meaning of a dream than it does to ask for the meaning of a waking thought. The answer in each case is: Why, that's up to you.

#### November 2, 1999

#### New Clues to Why We Dream

By ERICA GOODE

To Sigmund Freud, whose classic book, "The Interpretation of Dreams," arrived in the bookstores of Vienna 100 years ago this month, dreams were filled with latent meaning, their bizarre imagery and peculiar narratives concealing deep-seated, instinctual motives and desires.

Modern neuroscientists, however, have cast the products of nightly repose in a different light. Laboratory studies in the 1960's and 70's linked dreams not to hidden urges but to the firing of neurons and oscillation of chemicals in the most primitive part of the brain during the arousal of "rapid eye movement," or REM sleep.

Dreaming, in this conception, was random and chaotic, the mind's attempt to take account of the brain's revved-up physiology. Higher brain centers -- the crucibles of thoughts, emotions and memories -- were merely passive responders, making "the best of a bad job in producing even partially coherent dream imagery from the relatively noisy signals sent up from the brainstem," as Dr. Allan Hobson and Dr. Robert McCarley of Harvard, authors of the "activation-synthesis" model of dreaming, put it in a 1977 paper.

Freud, in other words, could not have been more wrong. Or so it seemed.

But in recent years, new work has forced scientists to rethink their understanding of dreaming and the brain, granting a more active role to parts of the brain involved with feeling, memory and vision.

The new findings neither validate the particulars of Freudian theory nor prove that dream interpretation is, as Freud asserted, "the royal road to a knowledge of the unconscious activities of the mind."

And some scientists, Dr. Hobson among them, see little in the new work to bolster Freud's case.

But neither are the results inconsistent with psychoanalytic thinking. And they have been eagerly pounced upon by many psychoanalysts, who say that they offer a biological foundation for at least some of what the Viennese doctor deduced from treating neurotic patients a century ago.

"Twenty years ago," said Dr. Mark Solms, lecturer in neurosurgery at St. Bartholomew's Hospital in London, who is both a neuropsychologist and a psychoanalyst, "Freudian dream theory seemed absolutely untenable. Today, what we know about the brain mechanisms of dreaming is far more compatible with what Freud inferred."

Some of the new insights into dreaming have come from the development of neuroimaging techniques that allow investigators to observe the living brain. In one series of studies, for example, Dr. Allen R. Braun of the National Institutes of Health and his colleagues used PET scanning to measure blood flow, an indicator of brain activation, during REM and non-REM stages of sleep.

During REM sleep, Dr. Braun and his colleagues found, the brainstem and other regions involved in regulating arousal were highly active, as predicted by earlier laboratory studies. But areas of the brain responsible for more complex mental functions also showed great bursts of activity. These included structures in the "limbic system" involved with emotion, motivation and memory formation, and visual and auditory areas of the forebrain involved in processing sensory information.

The brain centers that went "off line" during REM sleep were equally striking. Cortical regions responsible for the most sophisticated mental processes, like planning, abstraction, logical thinking and the contextual flow of memories, showed decreased activity, as did the primary visual cortex, in charge of receiving visual input from the outside world. Imaging studies by other researchers have yielded similar results.

What the findings add up to is a map of the dreaming brain that conforms nicely to the subjective experience of dreaming: the presence of florid images, intense emotions and gobs of memory; the absence of orderly sequence, time sense, self-awareness and other hallmarks of waking consciousness.

In some ways, Dr. Braun said in an interview, the map is also "consistent with psychoanalytic theory." The fact that the emotional system in REM is "wildly active," at the same time that brain regions responsible for rational thought appear to be shut down, for instance, might be seen as the "ego" relaxing its control during sleep, allowing the "unconscious" free reign.. And the activation of regions associated with motivations and appetites, though broader and more amorphous than the sexual and aggressive instincts Freud thought underlay dream images, still leaves open the possibility that dreams are driven by basic drives.

Yet the inconsistencies between the brain scans and Freudian thinking are, Dr. Braun said, just as significant, if not more so. Freud argued that the unconscious desires underlying dreams were censored and disguised. But in the PET study the parts of the brain essential for the generation of symbols were inactive during REM. This finding fits more comfortably with the "activation-synthesis" theory, which requires no cloaking of meaning, and which Dr. Hobson and Dr. McCarley have revised to account for the new findings.

In an interview, Dr. Hobson said that he saw no need to call upon psychoanalysis to understand the role of emotions in dreaming.

Anxiety, anger, elation -- emotions that commonly emerge in dreams -- are interwoven with survival, Dr. Hobson pointed out. "And anxiety is not a symptom," he said. "It's not something you're experiencing because you don't want to recognize some cognitive truth about yourself. It's because anxiety is damned important."

Other recent studies address a more fundamental question, one that also bears on the question of how plausible Freud's theory remains: "Where do dreams originate?"

In the activation-synthesis model put forward by Dr. Hobson and Dr. McCarley, dreaming is, for all intents and purposes, equated with REM sleep, which occurs with predictable regularity at 90-minute intervals in a typical night's slumber.

In fact, decades of studies in the sleep lab have shown that REM is the stage of sleep when dreaming is most likely to occur.

Human subjects awakened during REM report dreaming 80 to 95 percent of the time, in comparison to about 10 percent of the time when awakened during other sleep stages.

Because studies had demonstrated that REM sleep is turned on by the shifting of neurotransmitter chemicals in an area of the brainstem called the pons, it was logical to think, the Harvard researchers reasoned, that the REM "on" mechanism initiated dreaming, as well.

But if the vivid scenes of the night are set off by the preprogrammed flip of a chemical switch, what room does that leave for the stirring of unconscious desires, the replaying of childhood traumas, the acting out of psychological conflict -- in short, for all the dream material that therapists and their patients routinely interpret?

Beginning in the 1960's, some scientists, notably Dr. David Foulkes, then at the University of Chicago, took issue with notion of a one-to-one correspondence between dreaming and REM sleep. Dr. Foulkes and other researchers demonstrated that at some points during non-REM sleep, subjects reported dreams that, rated by judges unaware of what stage the dreams occurred in, were indistinguishable from REM dreams.

"I think the evidence shows that REM sleep is not necessary or sufficient for dreaming," said Dr. Gerald Vogel, director of the Sleep Research Laboratory at Emory University School of Medicine.

Uncoupling of REM and dreaming would mean that dreams could be instigated in other parts of the brain, said Dr. Solms, the lecturer in neurosurgery, even in the parts of the forebrain intimately tied to urges, impulses and appetites.

Dr. Solms said that during his training as a neuropsychologist in the early 1980's, he studied Dr. Hobson's model and assumed that Freud must be "100 percent wrong." But after beginning to practice, he saw two patients with injuries in areas of the forebrain. Both said that they had stopped dreaming after their injuries, a peculiar thing if dreams were in fact driven by the brainstem.

Intrigued, Dr. Solms began to investigate more systematically. In 1997, he published a report of dreaming cessation in 45 patients with intact brainstems but lesions in the forebrain. He has collected an additional 65 cases from the medical literature, and discovered hundreds of other accounts of patients who underwent frontal lobotomies -- at one time a popular treatment for psychosis -- and experienced a loss of dreaming.

At the same time, Dr. Solms studied 26 cases in the literature of patients with lesions in the pons area of the brainstem -- the home of the REM sleep generator. REM was no longer present in these patients, and some were comatose as a result of their injuries. Still, he said, in only one was there a report that dreams ceased, also problematic if dreams were driven by brainstem activity during REM.

His findings, he said, changed his thoughts about dreaming.: "It was a gradual process of realizing that there was something horribly wrong with the original theory."

In its place, Dr. Solms, who debates Dr. Hobson in a forthcoming issue of the interdisciplinary journal Neuropsychoanalysis, proposes that dreams can be set off by various types of brain activation. REM activity in the brainstem is the most common trigger. But increased activity during other sleep phases -- the periods immediately before awakening in the morning or just after falling asleep at night, for example -- could also provide this stimulation.

Such a system, Dr. Solms contends, would be more compatible with a psychological approach to dreams, including Freud's assertion that every dream is spawned by a deep-seated wish, or more accurately, in light of current knowledge, by emotions and appetites, conscious or unconscious. "My proposal is this: Dreaming can occur as a result of anything that arouses the sleeper," Dr. Solms writes in the journal, but only when the stimulus in question "excites the motivational systems of the forebrain and thereby initiates a goal-directed intention."

The new studies, said Dr. William Domhoff, research professor in psychology at the University of California at Santa Cruz, "relegitimize dreaming as a psychological process by showing that it is necessary to have higher brain capability."

Though Dr. Solms and Dr. Hobson still disagree, in some ways the new research has brought their respective assessments of the dreaming brain closer together.

Dr. Solms, for example, concedes that there is as yet no evidence to support Freud's assertion that unconscious motives are disguised and censored, to prevent their intrusion into consciousness. This is the part of Freudian dream theory that, at the moment, seems weakest, he said.

Dr. Hobson, for his part, said that he never claimed dreams were meaningless: he has filled 109 volumes with his own dreams over the years, hardly the act of someone who dismisses dreaming as unimportant. "Dreams are transparently meaningful," Dr. Hobson said, "chock full of emotional salience."

He is not opposed to the idea of unconscious mental process, but questions whether "there are parts of my unconscious mind that are inaccessible to me and that are critically important in understanding my behavior."

Perhaps, he suggested, the emotions in dreams, and in particular anxiety, serve as rehearsals of basic, evolutionarily determined survival mechanisms. "One theory emerging here is that REM sleep enables you to run all the crucial programs for behavior two hours a night," he said. "How much time does a pianist practice each day?"

Dr. Hobson rejects, however, the notion that the forebrain can act entirely on its own in inciting a dream. And he doubts that the appearance of vivid dreams in non-REM sleep means anything other than that sleep and waking form a continuum, with some REM processes stretching into other parts of the cycle.

Most of all, he bridles at the idea that advancing the understanding of dreaming means resurrecting Freud. "My problem with psychoanalysis is historical," he said. "I was trained in an era when it was unquestioned. I thought it was a scientific theory and I found out little by little that it was a speculative hypothesis."

Still, for both sides, it is perhaps time to put Freud aside, suggested Dr. Braun of the National Institutes of Health, who served as commentator in the journal's Solms-Hobson debate.

"Stepping back a short distance," Dr. Braun wrote, "this is what I see: Hobson, a consummate biological psychiatrist, now argues against reductionism and passionately advocates the study of subjective conscious experience. Solms, a psychoanalyst, is attempting to recast dynamic psychology in neurochemical terms."

"It sounds to me like these gentlemen are approaching common ground," Dr. Braun wrote. "Perhaps it is simply the ghost of Freud that is getting in the way."

#### July 3, 2007

#### Winding Through 'Big Dreams' Are the Threads of Our Lives

#### By REBECCA CATHCART

I was in the fluorescent pallor of a windowless office, staring at the dense grid of an unfilled spreadsheet, when my mother called to say my father had died.

It wasn't a surprise. He had been given a diagnosis of terminal cancer the year before. But it was a jolt to my system — one switch, pulled down with a thump, the power fading and the conveyor belt coming to a stop.

My memories from that week are a jumble of misfiled pieces. But at the end of the second week, I had a dream that remains crisp and vivid in my mind.

I sat up in bed and saw my father across the room. His figure was full and healthy and framed by the yellow light that glowed in the stairwell outside my door. He was grinning, green eyes on me, and listening to sounds from the dining room below, the clinking of plates and the voices of my extended family laughing and sharing memories of him. He raised his dark eyebrows and laughed with them.

"Back to life" or "visitation" dreams, as they are known among dream specialists and psychologists, are vivid and memorable dreams of the dead. They are a particularly potent form of what Carl Jung called "big dreams," the emotionally vibrant ones we remember for the rest of our lives.

Big dreams are once again on the minds of psychologists as part of a larger trend toward studying dreams as meaningful representations of our concerns and emotions. "Big dreams are transformative," Roger



Jonathan Rosen



Jonathan Rosen

Knudson, director of the Ph.D. program in clinical psychology at Miami University of Ohio, said in a telephone interview. The dreaming imagination does not just harvest images from remembered experience, he said. It has a "poetic creativity" that connects the dots and "deforms the given," turning scattered memories and emotions into vivid, experiential vignettes that can help us to reflect on our lives.

Grief itself is transformative. It is a process of disassembly. The bereaved must let go of the selves they were, as well as the loved ones they have lost. The dreams we have while grieving are an important part of that process.

"Our dreams have to do with how we internalize the people we love," said Pamela McCarthy, director of counseling services at Smith College. "You learn to look within for the loved one and the particular function that person played in your life, such as caretaking or guidance in the case of a parent. This becomes part of a function that you can provide for yourself."

Cultural narratives in regions like Vietnam and North and South America assign special importance to such dreams and consider them actual encounters with the spirits of lost loved ones.

"This notion is so widely shared by traditions all across the globe that some scholars have gone so far as to argue that religion itself actually originated in dream experience," Kelly Bulkeley, past president of the Association for the Study of Dreams, wrote in his book "Transforming Dreams: Learning Spiritual Lessons From the Dreams You Never Forget" (2000).

Current dream study has its epic narrative in the life and dreams of the pseudonymous Ed, a widower who recorded 22 years of dreams about Mary, his deceased wife. Ed made his journal available to G. William Domhoff, a psychology professor at the University of California, Santa Cruz, a leading dream theorist.

Dr. Domhoff and Adam Schneider, his research assistant, categorized the 143 dreams and crossreferenced them with Ed's waking reflections on his wife, their marriage and her death from ovarian cancer on June 15, 1980. In a path-breaking study in 2004, Dr. Domhoff asserted that Ed's dreams could not be the nonsensical noise of a restless brain stem. They represented the currents of loss, love and confusion in Ed's waking life.

Ed and Mary's love began on a seaside boardwalk in 1947. They wed a year later, when Ed was 25 and Mary 22. In his more comforting dreams, Mary appears young and radiant as she did that day, with dark hair and bewitching eyes.

In Ed's dreams, his companionship with Mary and her withdrawal during an arduous illness are recurrent themes. Sometimes, his mind weaves these threads together to poignant effect, as when Ed finds himself standing across the street from where Mary sits in a car, unable to cross over.

Other times, they form jumbled, comic events. Ed and Mary are lost in a city. They see Jerry Seinfeld and ask him for directions. Soon, Ed realizes that Mary has left with Mr. Seinfeld. He broods behind a building and begins to sink in quicksand.

Almost 20 years after Mary's death, Ed dreams he is walking down a hallway in their old apartment. It leads to Mary's hospital room, where she lies, gaunt and still. Her head, according to Ed's journal, is "hanging over the top edge of the bed." Her hair is sparse, as it was after chemotherapy. "I sit on the bed," he writes, "and cradle her in my arms."

Such composite images and sudden scene changes, Dr. Domhoff conceded, may be the brain's effort to make sense of random neuron fire. But they are more likely to be symbolic of Ed's emotional struggle. Dreams, Dr. Domhoff wrote, are the "embodiment of thoughts" from our waking lives.

Deirdre Barrett, assistant professor of psychology at the Harvard Medical School and editor in chief of the journal Dreaming, wrote the first significant study on dreams of the dead. She collected dream reports from two sample groups totaling 245 people at the University of North Carolina, Chapel Hill, and found 77 such dreams. Her findings were published in the 1992 issue of Omega: The Journal of Death and Dying.

The type and intensity of these dreams, Dr. Barrett wrote, corresponded to phases of her subjects' waking grief. She arranged the dreams in four categories based not only on common content, but also on concurrent stages of grieving.

The most common was "back to life" dreams, which made up 39 percent of the dreams of the dead in Dr. Barrett's sample. In such dreams, subjects were surprised or frightened by the appearance of a deceased loved one. Dr. Barrett theorized that these early dreams corresponded to the confusion and denial of early stages of grief.

Dr. Domhoff is not willing to link dreams so closely to stages of waking grief. But, he said in an e-mail message, Ed's dreams did dissipate in intensity and frequency over time.

Dreams that occur during rapid eye movement, or REM, cycles are the most memorable and emotionally powerful, said John Antrobus, a retired professor of psychology and sleep research at the City College of New York who founded the sleep laboratory there in 1965. The dreams have power because brain activity during REM is most similar to that of a waking state. The emotional responses to REM dream content, therefore, are most like the responses during waking cognition.

In REM, the amygdala, the lima-bean-size gland at the base of the skull responsible for emotions, and the hippocampus, the tissue curled up under the temples that enables memory, are active. The two organs, along with areas in the frontal and prefrontal lobes near the forehead that enable attention and coordination, work simultaneously in producing dreams.

"You have an image of a lost loved one, and along come all kinds of emotions you've tied up with them," Dr. Antrobus said. "Their image comes up, and all parts of the brain associated with the loss get activated, as well in REM sleep, because they're part of our survival system."

In a study last year, Dr. Antrobus and City College graduate students linked the body's circadian cycle and the singular level of brain activity in REM to the high emotionality of REM dreams.

Core body temperature rises gradually from its nadir in the middle of the night during slow-wave sleep, the least active brain state. As morning nears, subcortical brain activity tied to the circadian cycle increases. When these cycles coincide in the last and longest REM phase, the study found, the mind produces its most dramatic dreams.

"The brain is waking up," Dr. Antrobus said in an interview. "It starts waking up long before you are fully awake."

Dreams during this active period are more likely to be highly memorable, vivid, and experiential, what Dr. Antrobus calls "superdreams."

"That's what people talk about," he said. "That's what they're usually remembering. That's what these 'big dreams' are."

He added that the four or five phases of REM in a normal night's sleep might include similar dream content. Just as the image of a lost loved one stimulates parts of the brain associated with loss, the content of dreams early in the sleep cycle could set the tone for that night's dream experiences. Our memories upon waking, therefore, may be our recollection of a night's cumulative dream content.

Apart from an effort to understand the physiology behind the content of dreams, what do we do with big dreams? If we ignore them, said Dr. Knudson of Miami University of Ohio, "we discount our most valuable resource in understanding ourselves."

America is not a country with a ritualistic approach to grief. Many employers offer as few as three days off after a family member's death. Dreams of the dead keep alive our connections to lost loved ones.

"Big dreams, those dreams that stop you dead in your tracks, are for precisely that purpose," said Dr. Knudson, whose father died three years ago. "They pull us out of our headlong rush forward. They yank us back down from our schedule books and our jobs.

He continued, "I don't want to get over my father. That's not to say that I want to suffer on a daily basis or that I don't want to understand that he is dead. But I look forward to dreams in which my father will come again. What does it mean to 'get over' it? I think that is crazy."