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*Exploring  
the World of  
Lucid  
Dreaming*

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## Contents

1. The World of Lucid Dreaming	p. 1
2. Preparation for Learning Lucid Dreaming	p. 10
3. Waking Up in the Dream World	p. 36
4. Falling Asleep Consciously	p. 60
5. The Building of Dreams	p. 74
6. Principles and Practice of Lucid Dreaming	p. 86
7. Adventures and Explorations	p. 103
8. Rehearsal for Living	p. 114
9. Creative Problem Solving	p. 125
10. Overcoming Nightmares	p. 136
11. The Healing Dream	p. 156
12. Life Is a Dream: Intimations of a Wider World	p. 171
Afterword	p. 186
Appendix	p. 188
Notes	p. 193

## Exercises

1. The World of Lucid Dreaming  
Your present state of consciousness p. 7
  
2. Preparation for Learning Lucid Dreaming  
Cataloging your dreamsigns p. 29  
Goal setting for success p. 30  
Scheduling time for lucid dreaming p. 32  
Progressive relaxation p. 33  
Sixty-one-point relaxation p. 34
  
3. Waking Up in the Dream World  
Critical state-testing technique p. 39  
Power of resolution technique p. 41  
Intention technique p. 43  
Reflection-intention technique p. 44  
Prospective memory training p. 47  
MILD technique p. 49  
Autosuggestion technique p. 51
  
4. Falling Asleep Consciously  
Hypnagogic imagery technique p. 62  
Relaxed (“pot-shaped”) breathing p. 64  
Power of visualization: White dot technique p. 65  
Power of visualization: Black dot technique p. 65  
Dream lotus and flame technique p. 66  
Count yourself to sleep technique p. 67  
The twin bodies technique p. 69  
The one body technique p. 71  
The no body technique p. 73
  
5. The Building of Dreams  
How schemas take us beyond the information given p. 77
  
6. Principles and Practice of Lucid Dreaming  
The spinning technique p. 88  
The dream television p. 96  
Lucid dream incubation p. 99  
Spinning a new dream scene p. 101  
Strike the set, change the channel p. 101

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CONTENTS

7. Adventures and Explorations	
How to script your own adventure	p. 111
You are the hero	p. 113
8. Rehearsal for Living	
Lucid dream workout	p. 118
Playing to the dream audience	p. 121
9. Creative Problem Solving	
Lucid dream problem solving	p. 133
Building a lucid dream workshop	p. 135
10. Overcoming Nightmares	
Conversing with dream characters	p. 147
Redreaming recurrent nightmares	p. 153
11. The Healing Dream	
Seeking opportunities for integration	p. 162
12. Life Is a Dream: Intimations of a Wider World	
Seeking the “Highest”	p. 182
Appendix: Supplementary Exercises	
Understanding the value of the will	p. 188
Strengthening your will	p. 189
Candle concentration	p. 191
Visualization training	p. 191

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# Exploring the World of Lucid Dreaming

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# 1

## The World of Lucid Dreaming

### The Wonders of Lucid Dreaming

*I realized I was dreaming. I raised my arms and began to rise (actually, I was being lifted). I rose through black sky that blended to indigo, to deep purple, to lavender, to white, then to very bright light. All the time I was being lifted there was the most beautiful music I have ever heard. It seemed like voices rather than instruments. There are no words to describe the JOY I felt. I was very gently lowered back to earth. I had the feeling that I had come to a turning point in my life and I had chosen the right path. The dream, the joy I experienced, was kind of a reward, or so I felt. It was a long, slow slide back to wakefulness with the music echoing in my ears. The euphoria lasted several days; the memory, forever. (A. F., Bay City, Michigan)*

*I was standing in a field in an open area when my wife pointed in the direction of the sunset. I looked at it and thought, "How odd; I've never seen colors like that before." Then it dawned on me: "I must be dreaming!" Never had I experienced such clarity and perception – the colors were so beautiful and the sense of freedom so exhilarating that I started racing through this beautiful golden wheat field waving my hands in the air and yelling at the top of my voice, "I'm dreaming! I'm dreaming!" Suddenly, I started to lose the dream; it must have been the excitement, I instantly woke up. As it dawned on me what had just happened, I woke my wife and said, "I did it, I did it!" I was conscious within the dream state and I'll never be the same. Funny, isn't it? How a taste of it can affect one like that. It's the freedom, I guess; we see that we truly are in control of our own universe. (D. W., Elk River, Minnesota)*

*I am studying to become a professional musician (French horn), and I wished to remove my fear of performing in front of people. On several occasions I placed myself in a state of self hypnosis/daydreaming by relaxing my entire body and mind before going to sleep. Then I focused on my desire to have a dream in which I was performing for a large audience by myself but was not nervous or suffering from any anxiety. On the third night of this experiment, I had a lucid dream in which I was performing a solo recital without accompaniment at Orchestra Hall in Chicago (a place where I have performed once before, but in a full orchestra). I felt no anxiety regarding the audience, and every note that I played made me feel even more confident. I played perfectly a piece that I had heard only once before (and never attempted to play), and the ovation I received added to my confidence. When I woke up, I made a quick note of the dream and the piece that I played. While practicing the next day, I sight-read the piece and*



*played it nearly perfectly. Two weeks (and a few lucid dream performances) later, I performed Shostakovich's Fifth Symphony with the orchestra. For the first time, nerves did not hamper my playing, and the performance went extremely well. (J. S., Mt. Prospect, Illinois)*

Strange, marvelous, and even impossible things regularly happen in dreams, but people usually don't realize that the explanation is that they are dreaming. *Usually* doesn't mean always and there is a highly significant exception to this generalization. Sometimes, dreamers do correctly realize the explanation for the bizarre happenings they are experiencing, and lucid dreams, like those recounted above, are the result.

Empowered by the knowledge that the world they are experiencing is a creation of their own imagination, lucid dreamers can consciously influence the outcome of their dreams. They can create and transform objects, people, situations, worlds, even themselves. By the standards of the familiar world of physical and social reality, they can do the impossible.

The world of lucid dreams provides a vaster stage than ordinary life for almost anything imaginable, from the frivolous to the sublime. You could, if you chose, revel at a saturnalian festival, soar to the stars, or travel to mysterious lands. You could join those who are testing lucid dreaming as a tool for problem solving, self-healing, and personal growth. Or you could explore the implications of teachings from ancient traditions and reports from modern psychologists that suggest that lucid dreams can help you find your deepest identity – who you really are.

Lucid dreaming has been known for centuries, but has until recently remained a rare and little understood phenomenon. My own scientific and personal explorations, together with the findings of other dream researchers around the world, have just begun to shed light on this unusual state of consciousness. Recently, this new research field has captured the attention of the population outside the world of scientific dream research because studies have shown that given proper training, people can learn to have lucid dreams.

But why are people interested in learning to be conscious in their dreams? According to my own experience, and the testimony of thousands of other lucid dreamers, lucid dreams can be extraordinarily vivid, intense, pleasurable, and exhilarating. People frequently consider their lucid dreams as among the most wonderful experiences of their lives.

If this were all there were to it, lucid dreams would be delightful, but ultimately trivial entertainment. However, as many have already discovered, you can use lucid dreaming to improve the quality of your waking life. Thousands of people have written to me at Stanford telling how they are using the knowledge and experience they have acquired in lucid dreams to help them get more out of living.

Although the outlines of a practical art and science of lucid dreaming are just beginning to emerge and the systematic use of lucid dreaming as a tool for psychological self-exploration is still in its infancy, most people can safely use the available knowledge about lucid dreaming to conduct their own explorations. Probably

the only people who should not experiment with lucid dreaming are those who are unable to distinguish between waking reality and constructions of their imagination. Learning lucid dreaming will not cause you to lose touch with the difference between waking and dreaming. On the contrary, lucid dreaming is for becoming more aware.

## Why This New Book?

In *Lucid Dreaming*, I collected the available knowledge on the subject from both ancient and modern sources. Since that book's publication, some ten thousand people have written to me describing their experiences and discoveries, and requesting more practical information about lucid dreaming. In response to those requests, I decided to collaborate on a new book with Howard Rheingold. Howard has written extensively on topics such as creativity, consciousness, and dreamwork.

*Exploring the World of Lucid Dreaming* is a self-teaching curriculum, a step-by-step method for learning to have and use lucid dreams. You can learn at your own pace, and to your own depth, how to explore your lucid dreams and use them to enrich your life. You will read a rich variety of examples of actual lucid dreams excerpted from letters to the Stanford program, like the three quoted at the beginning of this chapter. While the kind of "anecdotal evidence" offered by these nonprofessional dream explorers cannot replace the carefully controlled experimentation that is required for testing scientific theories, it does offer invaluable inspiration for continued exploration of the world of lucid dreaming.

Since *Lucid Dreaming*, my research team has continued its laboratory work at Stanford University, mapping mind/body relationships during the dream state and, in Courses and workshops with volunteer oneironauts (pronounced oh-NIGH-ro-knots, meaning "explorers of the dream world"), studying techniques for inducing, prolonging, and using lucid dreams.<sup>1</sup> This book draws on a number of sources of knowledge about lucid dreaming, including the Stanford research, the teachings of Tibetan dream yogis, and the work of other scientists. The investigations of the German psychologist Paul Tholey, who has been studying lucid dreams for the past twenty years, have been particularly valuable in writing this book.

## Our Approach

This book strives to present, in a step-by-step manner, everything you need to know in order to learn the skill of lucid dreaming. All the many techniques and exercises presented work for some people, but how effective each exercise will be for you depends on your individual psychology and physiology. Experiment with the exercises, test them for yourself, and see what works best for you.

The basic structure of the book is as follows: You will be guided through preparations for learning to have lucid dreams, provided with plainly spelled out

techniques for learning lucid dreaming, and then shown how lucid dreaming can be applied to your life. If you practice diligently, the lucid dream induction techniques should significantly increase your frequency of lucid dreaming. Chapter 5 presents the relevant scientific background and theory to help you understand the basis for the applications. The remaining chapters are devoted to describing how you can use lucid dreaming to enhance your life, both waking and sleeping. Examples selected from our compendium of lucid dreams illustrate what others have achieved, to model for you some of the potentials of lucid dreaming.

As far as we know, this is the first time that detailed instructions on lucid dreaming have been widely available to the general public. However, you are not likely to learn lucid dreaming by quickly skimming through this book. Like most anything else worth learning, lucid dreaming requires effort. Motivation is an essential pre requisite; you have to really want to do it and make sufficient time to practice. If you persevere with the exercises and procedures, we are confident that you will increase your proficiency at lucid dreaming.

## Outline of the Book

This chapter reviews reasons for learning to become lucid in your dreams and describes the contents of this book.

Chapter 2: “Preparation for Learning Lucid Dreaming” provides necessary background information on sleep and helps you overcome any reservations you might have about lucid dreaming that could inhibit your progress. Next, it helps you get acquainted with your dreams. You will learn how to begin a dream journal and how to increase your dream recall. You should be able to recall at least one dream per night before attempting lucid dream induction techniques. When you have a dream journal with several entries, you will be ready to build a catalog of dreamsigns. These are the characteristic features of dreams that you can use as signposts to lucidity.

Chapter 3: “Waking Up in the Dream World” discusses techniques for realizing you are dreaming from within the dream. The two major techniques presented are the reflection-intention technique, which is based on the practice of questioning whether you are awake or dreaming, and MILD, the technique I used to learn to lucid dreams at will. MILD trains you to remember to notice when you are dreaming.

Chapter 4: “Falling Asleep Consciously” describes techniques for entering the lucid dream state directly from the waking state.

Chapter 5: “The Building of Dreams” provides a solid background on the origins and nature of the dreaming process and discusses lucid dreaming in the context of dreams in general.

Chapter 6: “Principles and Practice of Lucid Dreaming” shows you how to gain control over the dream: how to remain in a lucid dream, how to awaken when you wish and how to manipulate and observe the dream world. In addition to explaining methods of exercising power over the dream, we discuss the benefits inherent in taking an open, flexible, and non-commanding role in lucid dreams.

Chapter 7: “Adventures and Explorations” shows how you can use lucid dreaming for wish fulfillment and the satisfaction of your desires. Examples and suggestions are provided to help you explore new worlds or enact exciting adventures in your dreams, and show how you can tie your dream adventures into your personal self-development.

Chapter 8: “Rehearsal for Living” explains how lucid dreaming can be a practical tool for preparing for your waking life. Lucid dreaming can be used as a “flight simulator” for life, a way in which you can test new ways of living, as well as particular skills. Practice in the dream state can contribute to enhanced experience, improved performance, and deepened understanding in waking life.

Chapter 9: “Creative Problem Solving” discusses lucid dreaming as a fruitful source of creativity for art, science, business, and personal life. Diverse examples show how people have used lucid dreaming to find a name for a soon-to-be-born child, to repair cars, and to understand abstract mathematical concepts.

Chapter 10: “Overcoming Nightmares” helps you use lucid dreaming to face and overcome fears and inhibitions that may be preventing you from getting the most out of your life. Lucid dreamers can overcome nightmares, and in so doing learn how to make the best of the worst situations imaginable.

Chapter 11: “The Healing Dream” shows how lucid dreamers can achieve more integrated, healthier personalities. Lucid dreams can help those who have unresolved conflicts from past or present relationships, or with deceased friends or family members. Also, in lucid dreams, we can learn mental flexibility. Because nothing can harm us in dreams, we can try to solve our problems in unusual or unheard of ways. This helps us to increase our repertoire of possible behaviors in the waking world, thereby decreasing the probability of getting stuck in situations we don’t know how to cope with.

Chapter 12: “Life Is a Dream: Intimations of a Wider World” takes a step beyond the application of lucid dreaming to your everyday life, and shows how lucid dreams can be used to attain a more complete understanding of yourself and your relation to the world. In the dream you are who you “dream yourself to be,” and understanding this can help you see to what extent your waking self is limited by your own conceptions of who you are. Examples of transcendental experiences in lucid dreams will show you a direction that you might wish to explore in your own inner worlds.

The book ends with an afterword (“The Adventure Continues”) inviting you to join the Lucidity Institute, a membership society devoted to advancing knowledge on the nature and potentials of lucid dreaming.

## Life is Short

Before we get into the specifics of how to have lucid dreams, let's take a closer look at the reasons for learning to awaken in your dreams. Do the potential benefits justify the time and effort required for mastering lucid dreaming? We think so, but read on and decide for yourself.

Proverbially, and undeniably, life is short. To make matters worse, we must spend between a quarter and half of our lives asleep. Most of us are in the habit of virtually sleepwalking through our dreams. We sleep, mindlessly, through many thousands of opportunities to be fully aware and alive.

Is sleeping through your dreams the best use of your limited lifespan? Not only are you wasting part of your finite store of time to be alive, but you are missing adventures and lessons that could enrich the rest of your life. By awakening to your dreams, you will add to your experience of life and, if you use these added hours of lucidity to experiment and exercise your mind, you can also improve your enjoyment of your waking hours.

"Dreams are a reservoir of knowledge and experience," writes Tibetan Buddhist Tarthang Tulku, "yet they are often overlooked as a vehicle for exploring reality. In the dream state our bodies are at rest, yet we see and hear, move about, and are even able to learn. When we make good use of the dream state, it is almost as if our lives were doubled: instead of a hundred years, we live two hundred."<sup>2</sup>

We can carry not only knowledge but also moods from the lucid dream state to the waking state. When we awaken laughing with delight from a wonderful lucid dream, it isn't surprising that our waking mood has been brightened with feelings of joy. A young woman's first lucid dream, which she had after reading an article about lucid dreaming, provides a vivid example. Upon realizing she was dreaming, she "tried to remember the advice in the article," but the only thing that came to mind was a notion of her own: "ultimate experience." She felt herself taken over by a "blissful sensation of blending and melting with colors and light" that continued, "opening up into a total 'orgasm.'" Afterward, she "gently floated into waking consciousness" and was left with "a feeling of bubbling joy" that persisted for a week or more.<sup>3</sup>

This carryover of positive feeling into the waking state is an important aspect of lucid dreaming. Dreams, remembered or not, often color our mood upon awakening, sometimes for a good part of a day. Just as the negative aftereffect of "bad" dreams can cause you to feel as if you got up on the wrong side of the bed, the positive feelings of a pleasant dream can give you an emotional uplift, helping you to start the day with confidence and energy. This is all the more true of inspirational lucid dreams.

Perhaps you are still thinking, "My dream life is interesting enough as it is. Why should I make an effort to enhance my awareness of it?" If so, consider the traditional mystical teaching that holds that most of humanity is asleep. When Idries Shah, the preeminent Sufi teacher, was asked to name "a fundamental mistake of man's," he replied, "To think that he is alive, when he has merely fallen asleep in life's waiting room."<sup>4</sup>

Lucid dreaming can help us understand Shah's words. Once you have had the experience of realizing that you are dreaming and that your possibilities are far greater than you had thought, you can imagine what a similar realization would be like in your waking life. As Thoreau put it, "Our truest life is when we are in dreams awake."

## The Experience of Lucid Dreaming

If you haven't yet had a lucid dream, you may find it difficult to imagine what it is like. Although you have to experience it to really know what it is like ("Those who taste, know"), it is possible to get an idea of the experience by comparing lucid dreaming to a presumably more familiar state of consciousness: the one you are in right now! The following experiential exercise will guide you through a tour of your everyday waking state of consciousness. Spend about one minute on each of the steps.

### ***Exercise: Your Present State of Consciousness***

#### *1. Look*

Become aware of what you see: notice the richly varied and vivid impressions – shapes, colors, movement, dimensionality, the entire visible world.

#### *2. Listen*

Become aware of what you hear: register the various sounds taken in by your ears – a diverse range of intensities, pitches, and tonal qualities, perhaps including the commonplace miracle of speech or the wonder of music.

#### *3. Feel*

Become aware of what you touch: texture (smooth, rough, dry, sticky, or wet), weight (heavy, light, solid, or empty), pleasure, pain, heat and cold, and the rest. Also note how your body feels right now and compare that to the many other ways it feels at other times, tired or energetic, stiff or limber, painful or pleasant, and so on.

#### *4. Taste*

Become aware of what it is like to taste: taste a number of different foods and substances, or remember and vividly imagine their tastes.

#### *5. Smell*

Become aware of what you smell: the odor of warm bodies, earth, incense, smoke, perfume, coffee, onions, alcohol, and the sea. Remember and imagine as many of them as you can.

### 6. *Breathing*

Attend to your breathing. A moment ago you probably were not consciously aware of your breathing even though you have inhaled and exhaled fifty times while doing this exercise. Hold your breath for a few seconds. Let it out. Now take a deep breath. Notice that being conscious of your breathing allows you to alter it deliberately.

### 7. *Emotions*

Become aware of your feelings. Remember the difference between anger and joy, serenity and excitement, and as many other emotions as you care to feel. How real do emotions feel?

### 8. *Thoughts*

Become aware of your thoughts. What have you been thinking while doing this exercise? What are you thinking right now? How real do thoughts seem?

### 9. *"I"*

Become aware of the fact that your world always includes *you*. As William James noted, it is I see, I hear, I feel, I think that is the basic fact of experience.<sup>5</sup> You are not what you see, hear, think, or feel; you *have* these experiences. Perhaps most essentially, you are *who is aware*. You are always at the center of your multidimensional universe of experience, but you are not always consciously aware of yourself. Briefly repeat the exercise with the following difference: At the same time you attend to each of the various aspects of your experience, be aware that it is you who is noticing these things ("I see the light...").

### 10. *Awareness of awareness*

Finally, become aware of your awareness. Normally, awareness focuses on objects outside ourselves, but it can itself be an object of awareness. In the light of ordinary experience, we seem to be distinct and limited centers of awareness, each alone in our inner worlds. In the light of eternity, mystics tell us, we are ultimately all one – the unlimited awareness that is the source of being. Here, experience cannot be adequately expressed by language.

## Lucid Dreaming and Waking Life

How does your renewed appreciation of the richness of your ordinary waking state of consciousness relate to the experience of lucid dreaming? Much of what you just observed about your present experiential world applies as well to the dream world. If you were dreaming, you would experience a multisensory world as rich as the world you are experiencing right now. You would see, hear, feel, taste, think, and be, just as you are now.

The crucial difference is that the multisensory world you experience while dreaming originates internally rather than externally. While awake, most of what you

perceive corresponds to actually existing people, objects, and events in the external world. Because the objects of waking perception actually exist independently of your mind, they remain relatively stable. For example, you can look at this sentence, shut the book for a moment, and reopen to the same page, and you will see the same sentence.

But, as you will see in Chapter 3, the same is not true for dreaming. Because there is no stable external source of stimulation from which to build your experiential world, dreams are much more changeable than the physical world.

If you were in a lucid dream, your experience of the world would be even more different from waking life. First of all, you would know it was all a dream. Because of this, the world around you would tend to rearrange and transform even more than is usual in dreams. “Impossible” things could happen, and the dream scene itself, rather than disappearing once you know it to be “unreal,” might increase in clarity and brilliance until you found yourself dumbfounded with wonder.

If fully lucid, you would realize that the entire dream world was your own creation, and with this awareness might come an exhilarating feeling of freedom. Nothing external, no laws of society or physics, would constrain your experience; you could do anything your mind could conceive. Thus inspired, you might fly to the heavens. You might dare to face someone or something that you have been avoiding; you might choose an erotic encounter with the most desirable partner you can imagine; you might visit a deceased loved one to whom you have been wanting to speak; you might seek self-knowledge and wisdom.

By cultivating awareness in your dreams, and learning to use them, you can add more consciousness, more life, to your life. In the process, you will increase your enjoyment of your nightly dream journeys and deepen your understanding of yourself. By waking in your dreams, you can waken to life.



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# 2

## Preparation for Learning Lucid Dreaming

### Learning How to Learn

Many people experience lucid dreams after reading or hearing about lucid dreaming for the first time. This may be akin to beginner's luck: they heard it could be done, and so they did it. As a result of indulging your curiosity about lucid dreaming by buying this book, you may already have had a lucid dream or two, but you probably have not learned how to have lucid dreams whenever you want. This chapter will provide you with background knowledge and skills that you will need for practicing the lucid dreaming techniques in the following chapters.

Before you set out to explore the world of lucid dreaming, you need to know some basic facts about your brain and body in sleep. Then, it may help you to know about the origins of common "mental blocks" that prevent people from committing themselves to the task of becoming aware in their dreams.

Your lucid dream training will start with keeping a dream journal and improving your dream recall. Your preparation for Learning Lucid Dreaming journal will help you discover what your dreams are like. The next step will be to use your collection of dreams to find peculiarities (*dreamsigns*) that appear often enough in your dreams to be reliable signposts of the dream state. Your list of dreamsigns will help you succeed with the lucid dream induction techniques presented in Chapters 3 and 4.

When you are familiar with your ordinary dreams, and have learned how to become more or less lucid at will, you will be ready to try out some of the applications described in the later chapters of this book. But first, it is important that you focus your mind on learning the preliminary skills and background information required for becoming a lucid dreamer. You cannot write poetry until you learn the alphabet.

### Sleeping Brain, Dreaming Mind

People are mystified by the need for sleep. Why do we turn ourselves off for eight hours out of twenty-four? Some likely answers are to restore the body and mind, and to keep us out of trouble during the dark hours. But to call sleep a mystery begs

an even larger question: What does it mean to be awake? A basic definition of being awake is to be aware. Aware of what? When we speak of sleep and wakefulness, we are referring to awareness the outside world. Yet, while asleep and unaware for the most part of the outside world, one can still be aware (and thus “awake”) in a world within the mind. There are degrees of wakefulness. Lucid dreamers are more aware of their real situation – they know they are dreaming thus we can say they are “awake in their dreams.” Exponents of traditional methods for achieving higher consciousness speak of “awakening,” meaning increasing one’s awareness of one’s place in the cosmos.

But how does anyone or anything come to be “aware”?

Awareness in biological organisms is a function of the brain. The sensory organs detect information (light, sound, heat, texture, odor) in the world and transmit it to the brain. The brain interprets the information and synthesizes it into a conception of what is happening in the outside world.

The brains with which we experience our worlds, whether dreaming or awake, are the product of biological evolution. During the past thousands of millions of years, living organisms have competed in Mother Nature’s life-and-death game of “Eat or Be Eaten: Survival of the Fittest.” The simplest one-celled organisms don’t know until they bump into something whether it is predator or prey. If it is food, they engulf it. If it is a predator, they are eaten. This is obviously a dangerously ignorant way to try to stay alive.

Since knowing what is going on around you obviously has enormous survival value, creatures gradually evolved sense organs that allowed them to predict whether they should approach or avoid something in their environment without having to bump into it. Over billions of generations, organisms developed increasingly sophisticated nervous systems and correspondingly reliable and precise capacities for perceiving the environment and controlling their actions.

Our brain maintains an up-to-date model of what’s going on in the world and predicts what may happen in the future. Prediction requires using previously acquired information to go beyond the information currently available. If you are a frog and a small dark object flies by, information built into your frog brain through evolution allows it to predict that the object is edible and – zip! you have eaten a fly. Or if a large shadow suddenly falls on your lily pad, information (also acquired through evolution) allows your frog brain to predict danger, and – plop. Frogs do not see the same world we do – the complex patterns of color, light, shade, and movement that we can identify as trees, flowers, birds, or ripples in water. The frog’s world is probably composed of simple elements like “small flying object” (food), “large approaching object” (danger), “pleasant warmth” (sunlight), or “attractive sound” (frog of the other sex). Although the human brain is far more complex than that of the frog, it works on the same basic principles. Your brain accomplishes its world-modeling task so well that you ordinarily aren’t aware that it is modeling anything. You look with your eyes, and you see. The experience of visual perception seems as straightforward as looking out a window and simply seeing what is there. Nonetheless, seeing, hearing, feeling, or perceiving through any other sense is a

process of mental modeling, a simulation of reality. The contents of your consciousness, that is, your current experiences, are *constructed* and depend on your present purposes, what you are doing and what relevant information is currently available.

## The mind in sleep

If you are awake and engaged in some kind of activity (walking, reading, etc. ), your brain is actively processing external sensory input from the environment, which, together with your memory, provides the raw material from which you construct a model of the world. While awake and active, the model accurately reflects your relationship to the external world.

If you are awake but physically inactive, the balance of input moves from the external to the internal. To a certain extent your thinking becomes independent of external stimuli, your mind wanders, you daydream. With part of your mind you are modeling worlds that might be rather than the current actual environment. Still, you tend to maintain a reduced model of the external world and your attention can easily be drawn back to it, if, for some sign of danger appears.

In the case of sleep, so little sensory input is available from the outside world that you stop maintaining a conscious model of it. When your sleeping brain is activated enough to construct a world model in your consciousness, the model is mostly independent from what is happening in your environment – in other words, a dream. The sleeping brain isn't always creating a multidimensional world model. Sometimes it seems to be merely thinking, or doing very little. The differences in mental activity during sleep depend largely upon differences in the state of the sleeper's brain.

Sleep is not a uniform state of passive withdrawal from the world, as scientists thought until the twentieth century. There are two distinct kinds of sleep: a quiet phase and an active phase, which are distinguished by many differences in biochemistry, physiology, psychology, and behavior. Changes in brain waves (electrical activity measured at the scalp), eye movements, and muscle tone are used to define the two states. The quiet phase fits fairly well with the commonsense view of sleep as a state of restful inactivity – your mind does little while you breathe slowly and deeply; your metabolic rate is at a minimum, and growth hormones are released facilitating restorative processes. When awakened from this state, people feel disoriented and rarely remember dreaming. You can observe this state in your cat or dog, when it is quietly sleeping in a moderately relaxed posture (in the case of cats, the “sphinx” posture) and breathing slowly and regularly. Incidentally, this is the phase of sleep in which sleeptalking and sleepwalking occur.

The transition from quiet to active sleep is quite dramatic. During the active sleep phase, commonly called rapid eye movement or REM sleep, your eyes move rapidly about (under closed lids, of course), much as they would if you were awake. Your breathing becomes quick and irregular, your brain burns as much fuel as it does

when you're awake, and you dream vividly. If you're male, you probably will have an erection; if you're female, increased vaginal blood flow. While all this activity is happening in your brain, your body remains almost completely still (except for small twitches), because it is temporarily paralyzed during REM sleep to prevent you from acting out your dreams.

The "sleep paralysis" of REM sleep doesn't always turn off immediately upon awakening; this is why you may have experienced waking up and not being able to move for a minute. Sleep paralysis can seem a terrifying experience, but actually it is quite harmless, and indeed, can even be useful for inducing lucid dreams (see Chapter 4). You can get a good view of "paradoxical sleep," as REM sleep is called in Europe, when you see your cat or dog sleeping totally collapsed, breathing irregularly, twitching, showing eye movements, and in the case of dogs, tail wagging, whimpering, growling, and barking. This is when people justifiably say, "Look, Spotto is dreaming!"

## The sleeper's night journey

Quiet sleep is itself divided into three sub-stages. Stage 1 is a transitional state between drowsy wakefulness and light sleep, characterized by slow drifting eye movements and vivid, brief dreamlets called hypnagogic (from Greek, meaning "leading into sleep") imagery. Normally, you quickly pass through Stage 1 into Stage 2 which is bona fide sleep and is characterized by unique brain wave patterns called "sleep spindles" and "K-complexes." Mental activity at this point is sparse, mundane, and thought-like. Typically after twenty to thirty minutes, you sink deeper into "delta sleep," so named after the regular large, slow brain waves that characterize this stage of quiet sleep. Very little dream content is reported from delta sleep. Interestingly, this state of deep and dreamless sleep is highly regarded in some Eastern mystical traditions as the state in which we establish contact with our innermost consciousness. According to Swami Rama "It is when the inner world can be suffused with the full light of the highest universal consciousness. The ego state of waking consciousness drops away. Moreover, the personal aspects of the unknown mind are temporarily abandoned. The memories, the problems, the troubled dream images are left behind. All the limitations of the personal unconscious are drowned out in the full light of the highest consciousness."<sup>1</sup>

After gradually entering the deepest stage of delta sleep and lingering there for thirty or forty minutes, you come back up to Stage 2. Approximately seventy to ninety minutes after sleep onset, you enter REM sleep for the first time of the night. After five or ten minutes of REM, and possibly following a brief awakening in which you would likely remember a dream, you sink back into Stage 2 and possibly delta, coming up again for another REM period approximately every ninety minutes, and so on through the night.

While learning and practicing lucid dreaming, you should keep in mind two elaborations on this cycle: (1) the length of the REM periods increase as the night proceeds and (2) the intervals between REM periods decrease with time of night, from

ninety minutes at the beginning of the night to perhaps only twenty to thirty minutes eight hours later. Finally, after five or six periods of dreaming sleep you wake up for perhaps the tenth or fifteenth time of the night (we awaken this many times on an average night, but we promptly forget it happened, just as you may forget a conversation with someone who calls you in the middle of the night).

Having completed your tour of a night's journey through sleep, you may wonder in which stage of sleep lucid dreaming occurs. How we found the answer to this question is a story that deserves retelling.

## Communiqué from the dream world

What if you slept, and what if in your sleep you dreamed, and what if in your dream you went to heaven and there you plucked a strange and beautiful flower, and what if when you awoke you had the flower in your hand? Ah, what then? (Samuel Taylor Coleridge)

Throughout history, poets, philosophers, and other dreamers have been challenged by the fantastic idea of bringing something back from the dream world – something as substantial and real as Coleridge's flower – something to prove that the dream was as real as this life.

In the late 1970s, when I began my Ph.D. study on lucid dreams at Stanford, I found myself challenged by a seemingly even more hopeless task: proving that lucid dreaming is real. The experts at the time were convinced that dreaming with consciousness that you were dreaming was a contradiction in terms and therefore impossible. Such philosophical reasoning could not convince me, since I had experienced lucid dreams – impossible or not.

I had no doubt that lucid dreaming was a reality, but how could I prove it to anyone else? To do so I needed to bring back evidence from the dream world as proof that I had really known I was dreaming during sleep. Simply reporting I had been lucid in a dream after awakening wouldn't prove that the lucidity had occurred while I was actually asleep. I needed some way to mark the time of the lucid dream on a record showing that I had been asleep.

I knew that earlier studies had demonstrated that the direction of dreamers' physical eye movements during REM was sometimes exactly the same as the direction that they reported looking in their dreams. In one remarkable example reported by pioneer sleep and dream researcher Dr. William Dement, a dreamer was awakened from REM sleep after making a series of about two dozen regular left-right-left-right eye movements. He reported that he was dreaming about a table tennis game; just before awakening he had been watching a long volley with his dream gaze.

I also knew from my own experience that I could look in any direction I wished while in a lucid dream, so it occurred to me that I ought to be able to signal while I was having a lucid dream by moving my eyes in a pre-arranged, recognizable pattern. To test this idea, I spent the night at the Stanford Sleep Laboratory. I wore electrodes

that measured my brain waves, eye movements, and muscle tone, which my colleague Dr. Lynn Nagel monitored on a polygraph while I slept.

During the night I had a lucid dream in which I moved my eyes left-right-left-right. The next morning, when we looked through the polygraph record, we found the eye movement signals in the middle of a REM period. At this writing, dozens of other lucid dreamers have also successfully signaled from lucid dreams, and these dreams have occurred almost exclusively during REM sleep.

This method of communication from the dream world has proven to be of inestimable value in the continued study of lucid dreams and dream physiology. The fact that lucid dreamers could remember to perform previously agreed upon actions in their dreams and that they could signal to the waking world made an entirely new approach to dream research possible.

By using trained lucid dreamers, we were able to develop the eye movement signaling technique into a powerful methodology. We have found that oneironauts can carry out all kinds of experimental tasks, functioning both as subjects and experimenters in the dream state. The oneironautical approach to dream research is illustrated by a series of studies conducted at the Stanford Sleep Research Center that have begun to map out mind/body relationships during dreaming.

## Why dreams seem real

### *Mind/body relationships during dreaming*

One of the earliest experiments conducted by my research team tested the traditional notion that the experience of dream time is somehow different from time in the waking world. We approached the problem of dream time by asking subjects to make an eye movement signal in their lucid dreams, estimate a ten-second interval (by counting one thousand and one, one thousand and two, etc. ), and then make another eye movement signal. In all cases, we found time estimates made in lucid dreams were within a few seconds of estimates made in the waking state and likewise quite close to the actual time between signals. From this we have concluded that in lucid dreams, estimated dream time is very nearly equal to clock time; that is, it takes just as long to do something in a dream as it does to actually do it.

You may be wondering, then, how you could have a dream that seems to last for years or lifetimes. I believe this effect is achieved in dreams by the same stage trick that causes the illusion of the passage of time in the movies or theater. If, on screen, stage, or dream, we see someone turning out the light as the clock strikes midnight, and after a few moments of darkness, we see him turning off an alarm as the bright morning sun shines through the window, we'll accept (pretend, without being aware that we are pretending) that many hours have passed even though we "know" it was only a few seconds.

The method of having lucid dreamers signal from the dream world by means of eye movements has demonstrated a strong relationship between the gazes of

dreamers in the dream and their actual eye movements under closed lids. Researchers interested in this question, but not using lucid dreamers to study it, have had to rely on chance occurrence of highly recognizable eye movement patterns readily matchable to subjects' reported dream activities. As a result, they usually have obtained only weak correspondences between dreamed and actual eye movements. The implication of the strong tie between the movements of the dream eyes and the movements of the actual eyes is that we use the same visual system to look around in the dream world as we do to see the waking world.

One of the most dramatic demonstrations of the correspondence between physiology and dream activity came from studies of lucid dream sex. In 1983 we undertook a pilot study to determine the extent to which subjectively experienced sexual activity during REM lucid dreaming would be reflected in physiological responses.

Since women report more orgasms in dreams than men do, we began with a female subject. We recorded many different aspects of her physiology that would normally be affected by sexual arousal, including respiration, heart rate, vaginal muscle tone, and vaginal pulse amplitude. The experiment called for her to make specific eye movement signals at the following points: when she realized she was dreaming, when she began sexual activity (in the dream), and when she experienced orgasm.

She reported a lucid dream in which she carried out the experimental task exactly as agreed upon. Our analysis revealed significant correspondences between the dream activities she reported and all but one of the physiological measures. During the fifteen-second section of her physiological record which she signaled as the moment of orgasm, her vaginal muscle activity, vaginal pulse amplitude, and respiration rate reached their highest values of the night, and they also were considerably elevated in comparison to the rest of the REM period. Contrary to expectation, heart rate increased only slightly.

Since then, we have carried out similar experiments with two male lucid dreamers. In both cases, respiration showed striking increases in rate. Again, there were no significant elevations of the heart rate. Interestingly, although both oneironauts reported vividly realistic orgasms in their lucid dreams, neither actually ejaculated, in contrast to the "wet dreams" commonly experienced by adolescent males, which frequently are not associated with erotic dreams.

### *Dreamed action produces real effects on the brain and body*

The experiments just reviewed supported the conclusion that the events you experience while asleep and dreaming produce effects on your brain (and, to a lesser extent, your body) much the same as if you were to experience the corresponding events while awake. Additional studies uphold this conclusion. When lucid dreamers hold their breaths or breathe fast in a dream, they really do hold their breaths or pant. Furthermore, the differences in brain activity caused by singing versus counting

in the waking state (singing tends to engage the right hemisphere and counting, the left) are nearly duplicated in the lucid dream. In short, to our brains, dreaming of doing something is equivalent to actually doing it. This finding explains why dreams seem so real. To the brain, they are real.

We are continuing to study the connection between dreamed actions and physiology, with the goal of producing a detailed map of mind/body interactions during dreaming sleep for all measurable physiological systems. Such a map could prove to be of great value for experimental dream psychology and for psychosomatic medicine. Indeed, since dream activities produce real physiological effects, lucid dreaming may be useful for militating the functioning of the immune system (more on this in chapter 11). In any case, the physiological effects caused by dreaming show that we cannot dismiss dreams as idle children of the imagination. Although the tendency of our culture has been to ignore dreams, dream experiences are as real to us as waking life. If we seek to improve our lives, we would do well to include our dream lives in our efforts.

## Social Values and Lucid Dreaming

I have received numerous letters from people with an interest in lucid dreaming who feel restricted because, as one writer put it, “I can’t talk to anyone about this; they all think I’m nuts and look at me oddly if I even try to explain what I do in my dreams.” Our culture offers little social support to those interested in exploring mental states. This resistance probably has its roots in the behaviorist perspective in psychology, which treated all animals, including humans, as “black boxes” whose actions were entirely dependent on external inputs. The contents of the “mind” of an animal were considered unmeasurable and hence out of the bounds of scientific study.

Since the late 1960s, however, science has once again begun to explore the realm of conscious experience. The study of lucid dreaming is an example. However, cultural understanding normally lags behind scientific understanding. Darwin’s scientific theories of the evolution of biological organisms are a century old, but the cultural turmoil they caused by upsetting the status quo of accepted thought is still affecting our society. Hence, we are not surprised to find that some people, scientists included, remain resistant to the new (to the West) capabilities of the human mind that scientific research is discovering and demonstrating. To help you realize that lucid dreams can have a significant and valuable effect on your life, this book includes many personal accounts from lucid dreamers. If you happen to live in a place where you feel you cannot share your dream life, these examples should give you some feeling of connection with others who are exploring their dreams. In addition, in the afterword you will find an invitation to share your experiences with us.



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