

斑斓阅读 · 外研社英汉双语百科书系

# 梦的新解

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A Very Short Introduction

J. Allan Hobson 著

韩 芳 译

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# Introduction

Dreaming has fascinated humankind since the dawn of recorded history. As dreaming is so vivid, so complex, and so emotional, it has inspired religious movements, artistic representations, and introspective scientific theories. All of these pre-modern expressions have been based on the idea that dreams contain messages that cannot be delivered in any other way.

Thus, it was thought by the early Judaeo-Christians that God communicated his intentions via certain prophets to his human subjects. This concept was the centrepiece of medieval dream theory with its postulates of the 'Gates of Horn and Ivory'. Religious reformers such as Emmanuel Swedenburg were able to meet God's angels in dreams and he thereby received instructions about founding the Church of the New Jerusalem.

Early Western artists, such as Giotto, used dreaming as a vehicle for the pictorial representation of prophetic inspiration. Sleeping saints and churchmen are shown in the same pictorial frame as the visions that their dreams inspired. In modern art, the surrealists expressed through their wild paintings the conviction that dreaming was a more authentic state of consciousness than waking. Salvador Dali, Max Ernst, and René Magritte all painted in dream language. Dali was the most surreal, Ernst the most psychoanalytic, and Magritte the most neuropsychological of these artists.

At the turn of the twentieth century, the best known of all dream investigators would be Sigmund Freud, who set out to base his theory of the mind on brain science. His knowledge of the brain was so incomplete that he was forced to abandon his famous 'Project for a Scientific Psychology', and he turned to dreaming for insights about what he construed to be the dynamic unconscious. He decided, as had all his symbolist predecessors, that dreams concealed hidden meanings elaborated as one part of the mind, and that the unconscious tried to break through the protective barrier of consciousness. Freud thus threw dream theory back to the time of Biblical scholars, Artemidorus, and other early interpreters of dreams.

This book takes up where Freud left off when he abandoned his Project. It tries to build a new dream theory on the now solid and extensive base of sleep science. To accomplish this goal, I have given a concise summary of the findings of basic brain research, sleep lab studies, and recent clinical studies of sleep and dreams. Throughout the book, I use examples taken from my own dream journal to illustrate how our new theory of dreams, called activation-synthesis, can be used to explain in physiological terms universal dream features previously ascribed to psychodynamic factors. Once this is done, the mystery of dreaming is largely stripped away, leaving the content nakedly open to understanding without complex interpretation.

The main goal of this book is to show how a scientific theory of dreaming has been developed and strengthened over the past 50 years. In the process, the book offers the reader a unique opportunity to reconsider his or her own dream theory and, into the bargain, to learn about the fascinating discoveries of modern sleep science.

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# Chapter 1

## What is dreaming?

What causes dreaming? Why are dreams so strange? Why are they so hard to remember? A true science of dreaming requires a reliable definition that can lead to the reliable identification of this state and methods of measuring its properties. During the course of work on the brain, which led to the suspicion that it might be brain activation in sleep that causes dreaming, we realized that the most scientifically useful way to define and measure dreaming was to focus on the formal features rather than the content – by this is meant the perceptual (how we perceive), cognitive (how we think), and emotional (how we feel) qualities of dreaming, whatever the details of the individual stories and scenarios might be.

The radical change in emphasis, from the analysis of content to the analysis of form, exemplifies what scientists call a paradigm shift (a rapid change in pattern or theory). Through a formal approach, we found an entirely new and different way of looking at a familiar phenomenon. Whereas previously students of dreaming had invariably asked ‘What does the dream mean?’, we asked what the mental characteristics of dreaming are that distinguish it from waking mental activity. We are *not* saying that dream content is unimportant, uninformative, or even uninterpretable. Indeed, we believe that dreaming *is* all three of these things, but it is already crystal clear that many aspects of dreaming previously thought to be meaningful, privileged, and interpretable psychologically are the

simple reflection of the sleep-related changes in brain state that we start to detail in Chapter 3.

To provide a firmer grasp of the distinction between form and content, I offer an example, taken at random from my own dream journal, which is one of hundreds that I have recorded over the years. To give a complete sense of how my journal reads and to allow the reader to compare his or her own notes on dreaming with mine I quote the entry in full. I know that you will dream of subjects quite different from mine, but I suspect that the form of your dreams is similar.

**10/5/1987 En route to New Orleans for a debate on dreams at the American Psychiatric Association's annual meeting:  
Two nights ago, a dream of Richard Newland**

*It is a house maintenance nightmare. I have too much property to maintain. Richard and a friend are 'helping' me but it is an uncertain alliance, with the twin threats of incompetence and inattentiveness.*

*There are several scenes all with the same emotional theme: anxiety about maintenance details.*

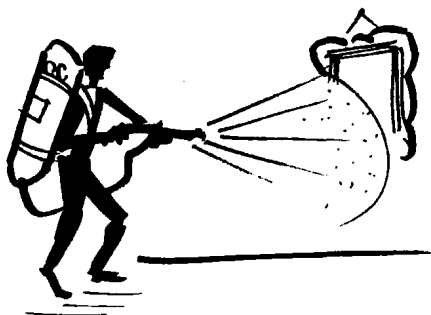
*In one scene we are walking along in hilly country, perhaps toward the house, but the destination is not clear.*

*Then we are in a house, not at all like mine but assumed by my dreaming brain to be mine, and Richard's friend is spray painting the white wall (we have none in our house) with blue paint (neither do we have any blue rooms). The paint sprayer is a tank device of the type used to apply copper sulphate to grapevines or to exterminate cockroaches. Suddenly, the paint is being sprayed not only on the wall but upon a painting hanging on the wall.*

*My fears are confirmed. I yell at Richard to bid his friend stop.*

*For some reason, he has to go upstairs to turn off the machine (although it appears to be fully portable and self-contained) and this takes an inordinate length of time as the painting continues to suffer.*

*There follows a long dialogue with Richard who, while retaining continuous identity as Richard, changes physiognomy repeatedly.*



*His face changed as follows: a gnome-like Napoleon Carter with a cherubic sun-burned face; a wry smile and a Chinese coolie-type hat; a calf face - as in A Midsummer Night's Dream (the ad for which did not include the calf!); and as far as I can tell, never included Richard!*

*I can't remember other faces or other action from this long episode.*

Before discussing the distinctions of form against content that this dream so clearly illustrates, I should comment on the circumstances of its recording and the timing of its occurrence. I was on an aeroplane, where I do a great deal of my journal writing. I was flying to New Orleans for a highly publicized and well-attended public debate on dreaming. I usually record dreams on the morning after their occurrence. The fact that I waited two days in this case probably resulted in loss of detail. But, as I will presently show, there is more than enough detail to make clear the distinction between dream form and dream content.

As far as the *content* is concerned, the dream is about my concerns for the upkeep of my farm in northern Vermont, which I have owned since 1965. Richard Newland is the son of my farmer neighbour, Marshall Newland, with whom I have had a long and complicated but successful and gratifying relationship. In spite of

widely divergent priorities we have managed to get along and to help each other.

For me, the meaning of the dream is transparent: I am anxious about my property and about entrusting it to people who are careless about their own houses. This characteristic, known in psychological terms as emotional salience (or relevance), is all I need to understand the dream, which is a variant on the theme of incomplete arrangements that is so recurrent in my dreams and in those of most of my friends. For reasons that I discuss more fully in Chapter 2, I see no need and no justification for treating this dream as a disguised, symbolic expression of anxiety about other related themes (my wife's interest in another Vermont neighbour, for example). While admitting that it could be appropriate and more useful to notice such an association, it does not help in understanding what caused this dream, determined its comical bizarreness, and made it so hard to remember.

## Dreaming

### Form as opposed to content

To answer the questions about causes and characteristics of dreams, it is helpful to take a formal analytical approach.

As is typical of most dreams, I am so involved in the scenario that it never occurs to me that I am dreaming. As I see Richard Newland (and his unidentified friend), see my house (even though it is clearly not mine), see the blue paint as it is sprayed on the walls, and move through the sequence of scenes, I accept all of these unlikely features as real on the strength of my hallucinatory perceptions, my delusional beliefs about them, and my very strong feelings of anxiety and apprehension.

What this means is that our sense of psychological reality – whether normal dreaming or a psychotic symptom – is set by the strength of percepts and feelings as well as by our thoughts about them. Internally generated perceptions and emotions are two formal

features of dreams and they are cardinal features. To explain their intensity (compared with waking), we might expect to find that parts of the brain that generate emotions and related percepts are selectively activated in sleep. We see in Chapter 5 that this is precisely what happens!

My Richard Newland dream is not simply perceptually vivid and emotionally salient, it is also cognitively bizarre, by which I mean that, despite the persistence of the main themes, there is a flagrant disregard for the constancies of time, place, and person. Notice that Richard's friend is not identified; notice also that the house that is supposed to be mine could not possibly be so; and notice that the scenes – however poorly recalled and described – meld into one another: first we are outside walking, then inside painting. Notice, most of all, that Richard's face assumes a series of non-Richard features without ever challenging either the assumption that he is Richard, or that I am not awake but dreaming, as even a glimmer of self-reflective awareness would declare me to be.

These are the cardinal cognitive features of dreaming: loss of awareness of self (self-reflective awareness); loss of orientational stability; loss of directed thought; reduction in logical reasoning; and, last but not least, poor memory both within and after the dream. The fact that the incongruities and discontinuities of my Richard Newland dream are connected by association does not explain the looseness of those associations. Thus, it is true that the unusual spray-painting device resembles an agricultural tool; it is also true that Richard's transformed face is, first, that of another Vermont farmer neighbour, Napoleon Carter, and later a calf (Richard and his dairy farmer father, Marshall, had many calves); and it is remarkably true that Shakespeare himself celebrated the transformation of characters – turning them into each other and even into animals – in *A Midsummer Night's Dream*.

What causes the processing of such extreme associations (hyperassociative processing)? Freud, like his followers, religiously

believed that dream bizarreness was a psychological defence against an unacceptable unconscious wish. This seemed unlikely to many people in 1900. At the beginning of the twenty-first century, it seems impossible to us.

Just as we expect (and find) selective activation of brain circuits underlying emotion and related percepts in rapid eye movement (REM) sleep, so we seek (and find) selective *inactivation* of brain circuits – and chemicals – underlying memory, directed thought, self-reflective awareness, and logical reasoning.

You may be more or less pleased by the story. You might prefer to believe that your dreams are secret messages of personal portent. But whether you like the story or not, you must surely be as dismayed as we were to realize that we did not really need brain research to take this formal approach to dreaming. Common sense alone should have dictated at least that form and content were complementary. The distinction is made with ease in other fields: consider linguistics, where grammar and syntax are complementary; consider poetry, where meter and verse enhance one another; and consider the visual arts, where genre and subject matter interact for strong effect. So, why not the domain of mental life itself? Why not in dreams? Isn't the form of dreams an important contributor to content?

Dreaming

As shown in Chapter 2, some brave souls did make this distinction, but their feeble voices were drowned out by the clamour of the interpreters who pandered to the deep-seated human need to believe that dreaming, as for every apparent mystery, has a deeply veiled meaning inscribed by a benevolent hand whose ways are known only to a few chosen mediators.

## Dreaming and how to measure it

Let's begin our analytical odyssey by accepting the most broad, general, and indisputable definition of dreaming: mental activity



occurring in sleep. But what *kinds* of mental activity occur in sleep? Many different kinds, for example:

*Report 1.* As soon as I fell asleep, I could *feel* myself moving just the way the sea moved our boat when I was out fishing today.

*Report 2.* I kept thinking about my upcoming exam and about the subject matter that it will contain. I didn't sleep well because I kept waking up and was inevitably pulled back to the same ruminations about my exam.

*Report 3.* I am perched on a steep mountaintop; the void falls away to the left. As the climbing party rounds the trail to the right, I am suddenly on a bicycle, which I steer through the group of climbers. It becomes clear that I make a complete circuit of the peak (at this level) by staying on the grass. There is, in fact, a manicured lawn surface continuing between the rocks and crags.

All these reports qualify as descriptions of dreaming according to our broad definition, although they are very different from one another and each is typical of the kind of sleep in which it was experienced.

Report 1 contains an internal percept, the sense of rhythmic movement imparted by the sea to a boat and to those on board the boat. This report is typical of sleep-onset dreams, especially on nights following novel motor behaviour such as skiing, or boating, or even – as in Robert Frost's poem – *After Apple Picking*. The subject has been boating, and the sense of motion, which abated immediately upon putting his foot on shore, recommences at sleep onset and reproduces, exactly, the physical experience of boating. We will have more to say later about this stimulus-induced dream, especially when we look at the theme of motor learning later in the book. For now, let us emphasize how short and relatively simple this sleep-onset dream experience is. Even though it is hallucinatory, as is Report 3, it is impoverished in its brevity and its narrow scope, its