

PSYCHOLOGY

# The Stuff That Dreams Are Made Of

## New Theory, Differing From Freud's, Holds That a Dream Is the Mind's Misreading of Signals From the Body

By Marjorie Van de Water

**H**AVE YOU ever had the strange dream of floating or flying through the air? Or the embarrassing one of walking through the midst of a dignified assemblage while you are completely devoid of the garments which custom regards as essential? If you have, you have undoubtedly looked for an explanation of these experiences of sleep.

The riddle of what produces dreams is one that appeals to the curiosity of nearly everyone. It has a more serious interest for those who are seeking the clue to what causes the waking dreams or phantasies of those unfortunate persons who suffer from mental disorders.

Dr. Lydiard H. Horton, of the Evans Memorial for Clinical Research and Preventive Medicine, in Boston, Mass., has for many years been engaged in the study of dreams and hallucinations of normal and abnormal persons. He now offers a new explanation of why these odd pictures and fancied experiences are conjured up. Dr. Horton presented his ideas before the American Psychopathological Association.

A dream picture is brought before the sleeper, he tells us, in much the same manner as a vivid memory of some past event may be brought to mind by just a whiff of the scent of some particular flower. The sleeper perhaps feels the weight of a heavy blanket pressing on his toe. Or he becomes slightly chilled because of the absence of that blanket. Or he hears an unusual sound. Or he is besieged by one or any number of possible sensations caused by the activity within his own body.

The dream is then read between the lines of these sensations through what Dr. Horton calls "apperceptive errors." Apperception is the psychological term denoting the mental interpretation of what a person observes.

For instance, the lookout on the warship sees, or perceives, a dark object of a certain size and shape on the surface of the water. His apperception is what he immediately adds to his perception that tells him that there is a submarine. In case the periscope is a

false one or one cleverly camouflaged he will make an apperceptive error and see a submarine where none exists.

As an illustration of apperceptive errors in a waking person Dr. Horton tells the story of a man visiting in the country who heard a shrill, metallic sound. He was sitting out of doors with his host and hostess and his back was turned to the source of the sound.

### Hit and Miss

"Are you enough of a countryman to recognize that sound?" the hostess wanted to know.

"I hear the shrill tone of cart wheels grinding in the snow on a very cold day," the guest replied, mentioning the first thing that came into his mind.

"How silly!" said the host; rightly, for it was a warm summer afternoon.

"Try again," said the amused hostess. "The farmer is sharpening a scythe with his stone."

"Try again," she urged.

"Someone milking a cow is directing a thin stream against the side of a tin pail."

"Correct," said the hostess.

This gradual improvement of the image to correspond more and more closely to what is actually occurring is characteristic also of dreams.

Such an apperceptive error is made by the sleeper who dreams he is climbing stairs. What actually happens may be that he feels a slight chill. The body automatically responds to chilling by a process designed to restore the correct temperature. That is, the heart rate is speeded somewhat, breathing is more rapid, the hair of the body is raised in gooseflesh, the blood vessels are dilated, and various changes occur in the secretion of the adrenal glands.

The thumping heart may send its signal through to the sleep-fogged brain, and is there interpreted not at its face value but as a repetition of the remembered slightly breathless experience of running up stairs. The reason why this particular action appears in the dream is that it is so closely associated with that particular bodily feeling caused by rapid heart and breathing.

Now the sleeper becomes more aware of certain other sensations, including

the gooseflesh. The stairway fades and he sees himself as being afraid. He is running away from a vague mysterious something which threatens him. He is involved in a "hair-raising" adventure.

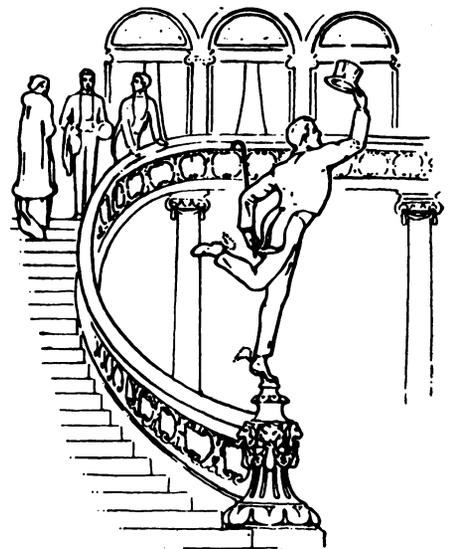
By this time the mechanism of the body, which works so well without any direction on our part, has completed its task. The slight chill is replaced by the cozy warmth which automatically follows such a stimulation of the circulation.

Now the spectre vanishes and the runner pictures himself as entering a beautiful garden where the sun casts its warm rays on bright flowers.

Thus are dreams built around sensations according to Dr. Horton.

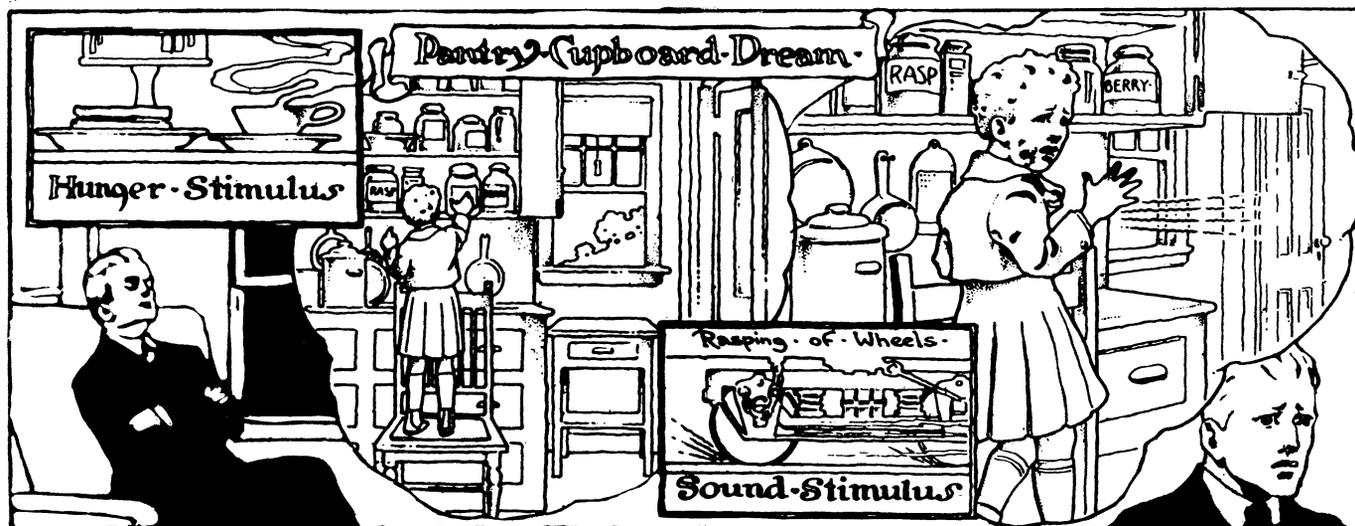
The dream of a staircase is a natural response to a fast-beating heart, he tells us. He believes there is no need to explain it as a symbol of some subconscious thought or wish, as Freud has taught. Neither does it show, as the old-fashioned "dream book" would indicate, that you have an aspiring disposition, but merely that a lowered skin temperature has speeded up your physiological processes.

The dream of floating, of flying either



### MERCURY IN A SILK TOPPER

*Sometimes ideas are telescoped together in dreams. A chill which probably conjured up the picture of the Winged Mercury statue was immediately followed by the glow of warming up so that the lack of clothing idea was merged with the idea of plenty of clothes. Pressure of a heavy blanket on the toes had its share in making the dreamer see himself as standing on tip-toe.*



#### EXPLAINING WHAT HAPPENED

*A train traveller feeling hungry, began to doze. Simultaneously he heard the screech of the train wheels as the car went around a curve. The brain got the two signals mixed: hunger made the traveller dream he was a child robbing the jam closet, and the noise of the wheels made him dream that a sudden scream interrupted him.*

without natural means or in an airship or plane, of going about the world on a magic carpet, or of having the soul leave the body, is due also to physiological changes involved in the regulation of temperature. The dilation of the blood vessels have their own part in this process. In this interpretation Dr. Horton again differs with Freud, who believes them to be symbolic representations of unconscious sex desires.

To find the correct interpretation of this dream is a matter of more than abstract scientific interest. It is one of practical importance to psychiatrists and psychologists who deal with mental ills, for this dream occurs not uncommonly as an illusion or delusion in persons who are seemingly wide-awake.

Out of 105 cases whom Dr. Horton observed in connection with exercises in relaxation previous to inducing sleep or near-sleep, eighteen revealed peculiar floating sensations which brought to their minds various levitation phantasies.

Nevertheless, although the feeling may seem real enough to us, only a very few actually seriously believe in an ability to spread their arms and fly away. Insane persons may.

Such a delusion, Dr. Horton believes, is due to a misrepresentation of physical sensation set up by the automatic mechanism of the body—that which controls the blood circulation, perspiration regulation, hair raising, and so on.

All this involuntary part of our life, is tied up with the sympathetic nervous system directed by that part of the brain known as the thalamus, or 'tween brain.

Dr. W. B. Cannon, the eminent

Harvard physiologist whose researches corroborate Dr. Horton's theory as to the nature of dreams of flying, has found another function of the thalamus. His experiments indicate that it is the active center of the emotions. When you are under the influence of a strong emotion like that of intense fear, important changes immediately take place in your body. Your rate of breathing is increased. Your pulse rate becomes more rapid. Your digestive processes slow up or stop. Your adrenal glands pour out their secretion of the powerful adrenin. Sugar is added in the blood stream. All this takes place under the direction of the thalamus.

#### Cold Does It, Too

But fear is not the only activating force that will start this train of events. Anger will do it, too. With no emotional cause at all, exposure to cold will do it. Or fever. Or a dose of adrenin.

It is for this reason that the sleeper is reminded by his physiological sensations of a scene in which he is fearful or angry. The signals from the thalamus to the thinking brain become mixed just as over the radio the cooking lesson sometimes comes in set to jazz.

The sleeper in one of the dreams studied by Dr. Horton heard the screech of the wheel of a railroad train going around a curve. At the same time he was receiving the signals of hunger from his stomach. The result was a dream in which he saw himself as a small boy stealing jam from a closet and heard a scream. In the dream, the boy was terrified by the shriek which

awoke the sleeper. Actually, however, as dreamer, he felt no emotion whatever, and on awakening was greatly surprised that he should feel so calm about the alarm dramatized in the dream.

The telescoping of two ideas into one is another feature of dreams. This occurs after the fashion of portmanteau words made famous by Lewis Carroll's "Hunting of the Snark." For example, one dreamer pictured himself as poised on the newel post at the foot of a stairway in the attitude of the Flying Mercury statue. Far from being scantily clad, however, this gentleman was attired in full evening dress and held in his upstretched hand a high silk hat. Here the idea of lack of clothing associated with the Mercury figure was telescoped with the idea of plenty of clothing, because the warming up of the body, after the chill, occurred with great rapidity. The attitude of the figure, balancing on one toe, resulted from the pressure of a heavy blanket on that toe.

In brief, Dr. Horton's theory is that dreams are to be interpreted as a misreading by the thinking brain of the various signals communicated to it. The signals come from the ordinary avenues of the senses, and, more often than now supposed, the internal sensations of the bodily organs themselves, due to the action of that switchboard of the sympathetic nervous system, the thalamus, which is situated in the basal portion of the brain.

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