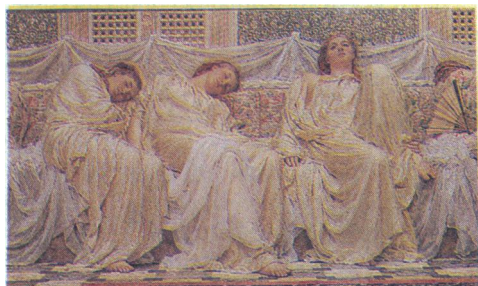


DREAMS AND MEDICAL ILLNESS

Mark Katz, Colin M Shapiro



"Dreamers" by Albert Moore.

Doctors and investigators who are interested in the influence of mind over matter have long thought that dreams may reflect or influence health. The ancient Greeks, including Hippocrates and Galen, believed not only that dreams could yield both diagnostic and prognostic information, but also that they were the medium through which the gods alleviated illness. Aristotle believed that during sleep the mind received stimuli from both the external environment and from within the body, and that these served as the building blocks on which dreams were constructed. There are certain aspects of life that the mind is aware of only through the recollection and understanding of dreams.



Carl Gustav Jung, 1875-1967.



Sigmund Freud, 1856-1930.

Modern theories

Modern investigation of dreams began with Freud's classic *The Interpretation of Dreams*, which was first published in 1900. Freud believed that dreams represented unconscious wishes that were repressed because they were unacceptable. He also believed that organic states could instigate dreams—for example, patients with lung disease who dreamed of suffocation or patients with heart disease who dreamed that they died horribly.

Freud's theories were expanded by his followers. Jung believed that dreams contained unrecognised information that patients needed to understand and integrate into their consciousness, and Adler that dreams had a potential role in the solving of problems.

Link with illness

These explanations of the functions of dreams and their relation to illness were complemented by the discovery in 1953 that rapid eye movement (REM) sleep was associated with dreaming. The finding that "dream sleep" was associated with wide fluctuations in physiological measurements (including temperature, heart rate, blood pressure, gastric acid secretion, and serum catecholamine concentrations) similar to those noted during periods of stress emphasised the possibility of a link between dreaming and stress related physical illness. Until recently there have been few empirical observations and most of these have been case reports of dreams that were temporally associated with periods of illness.

Current research, however, has shown that dreams may:

- Reflect the presence of organic disease
- Cause or precipitate organic disease
- Serve as a marker for either psychological conflict or personality traits that might influence the development of organic disease (so called psychosomatic illness).



"Jacob's dream" by Jusepe de Ribera.

Dreams as reflectors of biological illness



"Flaming June" by Lord Leighton.

It has long been recognised that dreams may reflect the presence of illness even if the patient is unaware of it. In particular, dreams about death and dying are prevalent among people with serious organic (especially cardiac) disease. Prospective studies have shown that among men dreams of death, and among women dreams of separation, correlate with worse clinical outcomes independent of the disease, and with the severity of cardiac dysfunction (measured by ejection fraction) in patients with cardiac disease.¹ Dreams of "lost resources" have been correlated with the finding of brain atrophy on computed tomography in elderly patients without overt signs of organic brain disease.² None of these findings could be related either to anticipation of a poor prognosis by the patient, or to awareness of disability.

One study reported that patients who did not dream at all had the worst prognosis (that is, the highest mortality),³ and it has been hypothesised that dreams "warn" medically ill patients whose illness is seen as threatening to both the body and the ego⁴; when, however, the threat becomes too severe the dreams may disappear altogether.

Effect of neurological damage

Changes in the amount and quality of dreaming may reflect neurological damage. Cerebrovascular events, particularly posterior parieto-occipital lesions, are associated with loss of recall and little visual content in dreams. Lesions of the right hemisphere may be associated particularly with deficits in visual imagery, whereas those in the left hemisphere may result in loss of structure and context of dream imagery.⁵ Damage to the frontal lobes may result in difficulty in remembering dreams. In addition, injury to the brain, temporal lobe epilepsy, and Parkinson's disease have all been associated with disturbances in the ability to dream. Patients with narcolepsy commonly have vivid, bizarre, often frightening, dreams which are presumably related to alterations in the amount or quality of REM sleep.

Effect of drugs

Drugs may also influence the quality and extent of dreaming. Patients with Parkinson's disease who are taking levodopa may have vivid and unusual dreams. Drugs that suppress REM sleep such as antidepressants may interfere with the production of dreams, and withdrawal states that are associated with a rebound increase in the amount of REM sleep may cause disturbing dreams. These effects are seen with various substances including alcohol, benzodiazepine sedatives, and antidepressant and anxiolytic drugs.

How medical illness is reflected in dreams	
Illness	Characteristic of dream
Cardiac dysfunction	Death and dying (men)
	Separation (women)
Brain atrophy	Lost resources
Migraine	Terror
Neurological events	Loss of recall
	Deficits in visual imagery
	Loss of narrative
Drugs (including withdrawal)	Loss of recall
	Vivid or bizarre
Narcolepsy	Vivid or bizarre
Severe organic disease	Ability to dream is lost

Dreams that cause or precipitate medical illness



"The sleeping Beauty" by Sir Edward Burne-Jones.

Numerous physiological variables are altered during REM sleep, and there are fluctuations in the autonomic nervous and hormonal systems which have been implicated in the triggering of a number of medical events. There have been numerous case reports of cardiac disturbances (including atrial and ventricular arrhythmias, asystole, and ischaemia) after dreams, and attacks of migraine and nocturnal asthma have been associated with dreaming and REM sleep. One study, in which recall of dreams was compared after REM and non-REM sleep in asthmatic patients and age and sex matched controls, found that the differences were considerable, and more robust than the changes in respiratory function.⁶ Subsequent studies indicated that the changes in breathing were related to dreams, particularly emotional ones.⁷ Patients with duodenal ulcers secrete significantly more gastric acid during REM sleep than patients without, which may explain nocturnal attacks of ulcer pain.

Dreams as markers of psychosomatic illness

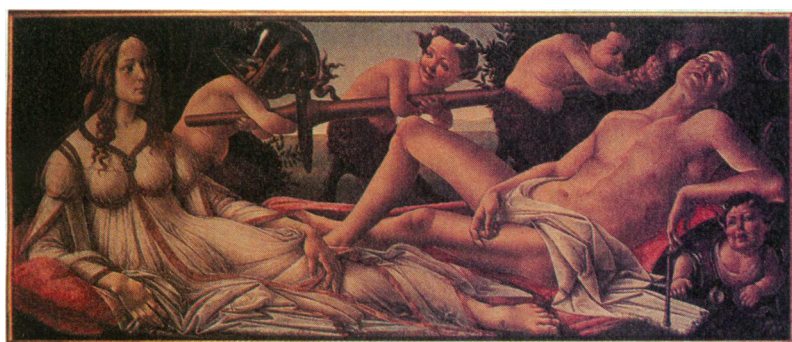


"Dreams" by Emilio Poy y Dalmau.

Dreams that indicate psychosomatic illness have been differentiated from other dreams by the presence of themes of conflict—aggression, fear, helplessness, and death. In a number of cases these dreams actually preceded the onset of a psychosomatic illness. Hypertensive patients have been differentiated from patients without hypertension by the increased amount of hostility in the dreams of hypertensive patients.

The "alexithymia construct" is a hypothesised stable personality trait that describes some people's inability to be aware of and communicate emotional states. Alexithymic people are also thought to have little or no fantasy life, impoverished dreams, and a tendency to mundane operational thinking. Their emotional states are poorly regulated and their autonomic nervous systems are persistently aroused, which predisposes them to various psychosomatic illnesses.

Conclusion



"Venus and Mars" by Botticelli.

Dreams may reflect underlying organic disease, and are occasionally the first clue that the disease is present. Alterations in the function of the autonomic nervous system during REM sleep may trigger various organic illnesses. It is not certain that the emotional content of dreams is the precipitating factor, but studies of the content of dreams and bronchial function in asthmatic patients indicate that it is.

Suppression of dreams in ill people may be an adaptive defence mechanism (for example, in asthmatic patients no REM sleep=no dreams=no bronchoconstriction). Conversely, it may be a reflection of neurological disease or a sign of severe organic dysfunction.

The study of dreams detected in the laboratory by polysomnography—that is, waking subjects during REM sleep—provides opportunities to test specific hypotheses of the effects and functions of dreams.

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The ABC of Sleep Disorders has been edited by Professor Colin M Shapiro.



"The sleeping Venus" by Francois Boucher.