STATES OF CONSCIOUSNESS

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The art of psychiatry offers many different viewpoints from which to catalog behavior and thinking styles and, therefore, many physicians tend to have difficulty in conceptualizing features of behavioral medicine. A classification of states of consciousness with clinical examples of such states is presented to aid in a more clear understanding of human behavior.

The art of psychiatry offers many different viewpoints regarding the conceptualization of the medical aspects of behavior. As a result physicians tend to be somewhat perplexed regarding the diagnostic categories of behavioral medicine. The confusion regarding the assessment of behavior is due not to the unscientific nature of psychiatry but rather to the nature of the knowledge. Unlike physical medicine, behavioral medicine has few objective reference points upon which to communicate observations. As behavioral scientists, psychiatrists are not able to state that because a patient's "schizophrenic enzyme" is 360 units, his illness has begun to remit, whereas physicians who practice physical medicine can use enzyme levels, white blood cell counts, x-ray photos, etc, to determine the patient's physical state. Thus, the knowledge of physical medicine tends toward empirical knowledge while the knowledge of behavioral medicine tends to be metaphoric and therefore more subjective. Therefore, the confusion concerning the assessment of behavior is due to the difficulty of standardizing metaphoric knowledge as different individuals favor different symbolic representations of subjective phenomena depending on their own personal experiences.

As pointed out by Butts, "The search for altered states of consciousness is as old as human thought and human behavior."[1] Many different people from many different cultures have attempted and still attempt to alter consciousness by using drugs, meditative practices, religion, biofeedback, psychotherapy, etc. Further, the quality of a person's consciousness varies from moment to moment depending on that individual's state of being. While there tends to be a normal range of intensity of these various states of consciousness present in most persons, there are also individuals who experience greater intensity as a result of these states and, thus, demonstrate behavioral abnormalities. The purpose of this article is to give the physician subjective reference points for the conceptualization of various states of consciousness which are overtly expressed by the patient's behavior and verbal report of how he thinks and feels. While the concepts may aid in a diagnostic assessment, they are mainly presented to aid in the acquisition of an understanding of the patient so as to better manage that patient's treatment.

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State of consciousness as presented here has been generally defined by Stanley Krippner as "...a mental state which can be subjectively recognized by an individual (or by an objective observer of the individual) as representing a *difference* in psychological functioning from that individual's 'normal', alert, waking state."[2] Some objective differences can be demonstrated by electroencephalogram (EEG).

Dreaming

Dreaming is a state of consciousness characterized by rapid eye movements (REM), an EEG showing a low voltage and relatively fast, mixed frequency pattern, and a tonic inhibitory influence on motor output. Upon being awakened from dreaming or REM sleep, patients often report complex dream experiences. Clinically, difficulties in this state of consciousness come from frightening dreams which produce insomnia, which may be an indication of psychopathologic functioning.

Narcolepsy is an illness characterized by overwhelming sleep attacks, cataplexy, sleep paralysis, or hypnogogic hallucinations. The sleep attacks are actually episodes of total REM sleep.

The occurrence of REM sleep at the onset of sleep is pathological relative to the rhythm of normal sleep.[3]

Deep Sleep

This level of sleep is differentiated from dreaming or REM sleep by the absence of REM and thus is also known as non-rapid eye movement (NREM) sleep. Other differences are that unlike REM sleep, tendon reflexes can be elicited and the EEG shows high amplitude, slow waves. On being awakened from this phase of sleep subjects may give a brief report indicating that there is some minimal mental activity. Sleepwalking and bed wetting (in children) occur in this state as does pavor nocturnus ("night terrors").

Hypnopompic and Hypnogogic Hallucinations

These are states of consciousness which occur between the "normal awake" state of consciousness and sleep. Hypnopompic states occur just before awakening while hypnogogic states occur just before one falls asleep. These two states are felt to be similar in that, while they occur at different phases of the sleep cycle, they are related to stage 4 of deep sleep. They are characterized by visual imagery and occasionally by auditory impressions with the subjective feeling that one is awake. These states may occur as normal phenomena (probably related to an altered sleeping pattern) or may be induced by antidepressant medication which increases stage 4 phenomena.[4] It is clear that these hallucinations need to be differentiated from the hallucinations occurring in psychosis as one is indicative of a disorder of the state of consciousness related to sleep, while the other is a disorder of the state of consciousness involving fragmentation.

Daydreaming

Daydreaming is also known as engaging in fantasy and is characterized by a fabricated mental picture or rapidly occurring thoughts which have little to do with the external environment. Daydreaming may serve as the basis for creativity or neurotic distortions and can occur with the eyes opened or closed. It may be induced by boredom, wish-fulfillment needs, dream sleep deprivation, or can occur spontaneously. It might be referred to as a "Walter Mitty" experience.

Repressed Memory

Repressed memory involves past experience which is not directly available to an individual's reflective awareness. This phenomenon was observed by Freud as causing fragmented states in the dissociative states of hysteria.[5] By the method of psychoanalysis Freud found that these memories could be brought to consciousness resulting in the cure of certain types of mental illness. The content of this area of consciousness has also been observed to influence the nature of daydreams as well as dreaming sleep. The state of consciousness in which the repressed memory is recollected may be induced by meditation, drugs (such as LSD), or may occur spontaneously.

Trance States

Trance is characterized by the absence of continuous alpha waves on the EEG, attention focused on a single object, hypersuggestibility, and alertness. It can be induced by hypnosis (first used by Charcot to induce hysterical paralysis and later by Freud to recover repressed memories before he used psychoanalysis). Other means of inducing this phenomenon are chants, rituals, dramatic presentations, or performing a task which requires attentiveness but little variation in response. "Highway hypnosis" is a trance state through which subjects find themselves having driven far past their destination with no recollection of having done so. This state of consciousness is common among participants in black churches, Shamanism, and voodoo ceremonies.[6,7]

Meditative States

Meditation is self-induced and characterized by minimal mental activity, usually with the presence of continuous alpha waves on the EEG[8] (other types of waves may be produced by different types of meditation[9]), a lowering of cortical and autonomic arousal during a wakeful state, and in certain forms, a lack of visual imagery. There are many modes of meditation, among them Transcendental Meditation, various forms of Yoga and Buddhism (including Zen), and Christian and Islamic practices. Meditation may be either positive and psychotherapeutic[10] or harmful, in some cases causing depersonalization[11] or hallucinations.[12] By such techniques as "bare attention" or "mindful-

ness'' one may be able to reach another state of consciousness called ''enlightenment.'' The practice of meditation allows the practitioner to experience varied states of consciousness.

Internal Scanning

An awareness of sensory input regarding the bodily functions may be heightened through internal scanning. Most individuals are able to get in touch with their physiological sensations (some more than others depending on amount of practice). The process of ''selective inattention'' usually makes one unaware of such sensations. However, when physiologic processes are intensified through tachycardia or hunger, one may be spontaneously involved in internal scanning. Individuals who tend to be hypochondriacal involve themselves in a great deal of preoccupation with internal scanning. It may also be a useful process as knowledge of physiologic feelings can lead to some degree of control of those processes seen in some meditative masters or persons who engage in the electronically aided internal scanning known as biofeedback.

Regressive States

Regression occurs when the individual's thinking processes resemble earlier styles of thinking that are age-inappropriate to the subject's present circumstances. These states may be temporary as seen in mental illness, during physical sickness, or when induced by hypnosis. Or they may be permanent as they occur in such chronic organic brain syndromes as senile dementia. Regression may also be helpful in the creative process as it involves the letting go of one style of coping and leaves a vacancy which may be filled by a more adaptive method.

States of Fragmentation

There are several types of fragmentation all of which may be said to show a lack of integration between important aspects of thinking, feeling, or personality. One major split is characteristic of schizophrenia in which the emotions felt are not in concert with the thoughts thought. In one form of hysteria a portion of the personality is split off from consciousness by the process of dissociation.[5] Fragmented states may be produced by drugs, trauma, stress, sensory deprivation, or meditation.

Stupor and Coma

Both stupor and coma involve limited degrees of the ability to perceive incoming stimuli. In stupor this ability is greatly reduced and in coma there is a total inability to perceive incoming stimuli. A simple way to remember the various etiologic agents which cause such states is by remembering AEIOU TIPS: A—Alcohol, E—Epilepsy, I—Infection, O—Opium and other drugs, U—Uremia, T—Trauma, I—Insulin, too much or too little, P—Poisons, and S—Shock.

Lethargic State

This state is characterized by dulled, sluggish, slowed mental activity. It may present in an extreme form in patients with depression. It may be induced by drugs, sleep deprivation, fatigue, mood disturbances, anxiety, or such metabolic imbalances such as hypoglycemia and anemia.

Hyperalert State

Hyperalertness is the opposite of lethargy and as such is characterized by crisp mental activity and vigilance. It is seen in an extreme form in manic states or paranoia; however, it may also be a positive state of consciousness experienced when a person is really ''hot.'' It may be induced by drugs, increased concentration due to a danger in the environment, problem solving needs, or by clearing up the thoughts that clutter the mind via meditation.

States of Frenzy

These states are characterized by negative emotional storms in which the subject experiences an overpowering emotion which is subjectively evaluated as unpleasant. Frenzy may be induced by rage, panic, fear, anxiety, terror, drugs, mobs, pain, suffering, etc. Clearly the frenzied patient requires a form of management which reestablishes controls, whether through environmental methods or medication such as tranquilizers or through interpersonal methods such as ''talking someone down.''

States of Rapture

Rapture differs from frenzy in that the overpowering emotion is subjectively experienced as positive or pleasurable. It may well be seen clinically as the mood of the manic depressive patient

in the manic phase. It may also be induced by religious rituals, sex, chanting, singing, whirling or dancing (dervish), drugs, jumping up and down, religious conversion, or fervent prayer.

Expanded States of Consciousness

Expanded states of consciousness and methods of reaching them can be found in every culture and religion. There is a surprising conformity in the descriptions of the expanded state of consciousness whether the author is a practitioner of Zen, Christian mysticism, Islamic mysticism, shamanism, Taoism, or Buddhism. In such states there is reported a subjective alteration of space, time, body image, and sensory input. There is often mentioned the subjective experience that one is "One with God", or in a state of "satori", "samadhi", or "cosmic consciousness". There are additional experiences of a subjective light, moral elevation, loss of fear of death, sense of immortality, intellectual illumination, and a loss of feelings of sin.

The reactions of others to a subject in such a state may be that of being strongly attracted to the subject and feeling that the subject is manifesting something quite different from an ordinary state of consciousness.[13] Such states may occur spontaneously or through meditation or drugs. Expanded states of consciousness have also been called "peak experiences."[14] On the road to this state of consciousness some may experience states of fragmentation, rapture, frenzy, and trance.

Normal Waking State

The waking state of consciousness is most familiar to most individuals and is characterized by reflective thinking, rational thought, an awareness of self, goal directed behavior, and cause-and-effect thinking. It tends to give one the illusion that one is in control of one's thought processes and while it is usually known as "awake," it is jokingly referred to by some as "asleep."

DISCUSSION

It is felt that this catalog of states of consciousness aids in the structuring of very subjective experiences, and with this schema readers may identify such states as they occur in themselves and in others. Individuals have varying propensities for developing different states of consciousness; however, most obvious are those who produce behavior which is difficult to overlook, such as fragmentation, frenzy, and narcoleptic sleep.

Generally, people tend to believe what they think, without realizing that what and how they think is strongly affected by their state of consciousness, and that these states of consciousness are produced by factors which the individual rarely examines or seeks to control. As a result believing what one thinks is a double-edged sword. It may lead to a creative fantasy which can be actualized into productive invention; it may lead to believing a fantasy which becomes a delusion or a neurotic expectation, which is never actualized and leads to unnecessary frustration.

In conclusion, some states of consciousness may have been omitted here due to ignorance of their existence; however, it is clear that only through the process of observation of self and others that the other states will become known. Hopefully, as psychiatry becomes more sophisticated, more objective means for the descriptions and measurements of the various states of consciousness will be found. Until that time a metaphoric understanding must suffice.

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