

MENTAL UNITY, ALTERED STATES OF CONSCIOUSNESS AND DISSOCIATION

Louis Tinnin, M.D.

Louis Tinnin, M.D., is Associate Professor in the Department of Behavioral Medicine and Psychiatry at West Virginia University, Morgantown, West Virginia.

For reprints write to Louis Tinnin, M.D., WVU Department of Behavioral Medicine and Psychiatry, Chestnut Ridge Hospital, 930 Chestnut Ridge Road, Morgantown, WV 26505.

ABSTRACT

This model for understanding altered states of consciousness and dissociation is based on the hypothesis that normal consciousness depends on an illusion of mental unity generated by certain dynamic brain processes. When these processes are altered and the illusion of mental unity is lost, the individual experiences an altered state of consciousness in which normal consciousness is latent or "dissociated." Mental organizations formed during an altered state will, in turn, become dissociated when the altered state is terminated and mental unity returns. In some cases, recurrent altered states may lead to multiple dissociated mental systems or states. Therapeutic resolution of dissociation requires that the individual gain access to the memory, transcend the obligatory illusion of unity, and consciously avow the ego state formed during the traumatic altered state of consciousness.

This article describes an admittedly speculative model for understanding altered states of consciousness and dissociation in terms of the brain processes of normal consciousness and cerebral dominance. It is based upon the following line of reasoning:

1. The subjective sense of mental unity is generated by a governing mental system in the language area of the dominant hemisphere and is maintained by the process of cerebral dominance.
2. Under certain circumstances, the governing mental system will relinquish dominance and convert to a latent, dissociated mental system, losing the sense of mental unity. This will result in an altered state of consciousness.
3. A new mental system or mental state may be organized during the altered state and that mental organization will become dissociated when the altered state is terminated.
4. This process may result in the formation of multiple latent or dissociated mental organizations.

THE ORIGIN OF CONSCIOUSNESS

Normal consciousness has its origin in the development of the "triune brain" (MacLean, 1973). This brain is a hierarchical organization of three different mentalities, a result of the evolutionary development of the human brain which preserved the ancestral brain components of reptiles, early mammals, and late mammals. The oldest component, the reptilian, contributes the brainstem and much of the reticular system. The next level, the paleomammalian, consists of the limbic system and the midbrain and is largely responsible for emotion. The upper level of the triune brain is the neomammalian, or the neocortex, which MacLean (1973) believes to be the matrix for intellectual function, including consciousness.

Consciousness developed after the neomammalian brain expanded laterally into large dual cerebral hemispheres connected by a bridge of fibers, the corpus callosum, which first emerged in the placental mammals (Levy, 1985). Following this expansion, "cerebral laterality" developed, which is the specializing of the hemispheres for different functions. The most dramatic specialization occurred when language was acquired. Since then, spoken and written assertions have arisen from neural activity in certain anatomical regions of the left hemisphere, save for exceptional cases of anomalous dominance.

The right hemisphere of the modern human brain is silent and obedient to the vocal left even though the right hemisphere is capable of holding opinions of its own that differ from those of the left. This phenomenon is demonstrated by the split-brain studies of Gazzaniga and others (Gazzaniga & Volpe, 1981). However, Eccles and Popper (Eccles, 1965; Popper & Eccles, 1985) challenge the existence of a latent cognitive system in the right hemisphere that might differ from the dominant left and explain, instead, that a second cognition is simply an artificial consequence of the surgical separation of the hemispheres. They assume that the human mind is unitary and that it transcends the localized organization of brain function.

The model under consideration here contends that, first, the human mind is not unitary, and that consciousness is biologically generated by a specific language area of the dominant hemisphere; second, that the sense of mental unity is a universal and obligatory human illusion (Tinnin, 1989); and, third, that the illusion of mental unity obscures the fact that, in addition to consciousness, a vast nonverbal mind with different properties and different mental processes occupies the bulk of the triune brain.

THE ILLUSION OF MENTAL UNITY

The dominant language area of the left hemisphere orchestrates the mental activity of both hemispheres and asserts authorship of all volition and cognition (Tinnin, 1989). This assertion provides a false sense of mental unity. This is known to be an illusion, not only because of the everyday clinical evidence of unconscious cognition, but because cerebral laterality studies reveal a modular mind containing multiple mental systems competing for output (Gazzaniga & Volpe, 1981) while the verbal module of the left hemisphere interprets the brain's mental activity and regulates its output (Gazzaniga, 1985).

The childhood development of the individual brain recapitulates the evolutionary course of a divided brain coming under the governance of a unitary mental agency. Every child begins life with a dual brain until the corpus callosum is sufficiently developed, usually at age three, to connect and begin transmitting information directly from one hemisphere to another (Tinnin, 1989).

At birth the hemispheres begin to differ mentally with the left becoming increasingly specialized for language functions and the right becoming adept at nonverbal perception and thought. Sometime in the third year, when the corpus callosum connects the hemispheres, the left hemisphere becomes the speaking self, generating the child's verbal output. However, from birth to age three, in the normal development of cerebral laterality, the hemispheres maintain a cooperative partnership.

This partnership of equals comes to an end at age three when the corpus callosum matures sufficiently to functionally connect the two hemispheres. This development heralds the onset of cerebral dominance and the "psychological birth of the human infant" (Mahler, Pine, & Bergman, 1975) when the child takes full possession of the self. At the physiological level, a governing mental system (GMS) acting through the primary language area in the left temporal lobe emerges and assumes dominance over both hemispheres (Tinnin, 1989). Psychologically, this dominance establishes the life-long conviction of mental unity and the ascendance of consciousness.

THE NATURE OF CONSCIOUSNESS

Consciousness is different from simple awareness. It is different from thinking, learning, judging, or generalizing, all of which primates can do. Consciousness is the mental image, over time, of the unitary self in the world; or, according to Jaynes, consciousness is the metaphorical analog, or "map," of the world laid out on an imaginary "mind-space" (Jaynes, 1976). Presumably, it is this capacity of the "mind's eye" to reflect on mental images of the self as represented in the past, present, and future, that differentiates us from other mammals.

Generated by the primary language area of the dominant hemisphere, consciousness depends on the linguistic processes of the mind. It is based on unitary identity and unitary volition. What one perceives in the world with one's senses undergoes verbal symbolization and projection onto

a linearly ordered mental representation of the world (Jaynes's "mind-space"). Consequently, what the individual comprehends of the world is a creation of the mind which is censored according to the requirements of mental unity. Thus the conscious psychic reality of the individual is the product of this verbally organized "secondary process" thinking (Arieti, 1976).

PREMATURE GOVERNING MENTAL SYSTEM (GMS) FORMATION

In normal development, the maturation of the corpus callosum at age three initiates the development of a GMS that establishes the normal pattern of cerebral dominance. However, under unusual conditions GMS development may occur before the callosum matures, while the child still has functionally unconnected hemispheres. Psychic trauma is one such condition. In psychic trauma the stimulus barrier is breached to the extent that the child may be launched into premature psychic independence and self-governance, which might stimulate the development of a GMS prior to maturation of the corpus callosum. Premature GMS formation may also occur simply with precocious maturation of the hemispheres or, perhaps, with delayed maturation of the corpus callosum. If a GMS is formed prematurely in one hemisphere, then, because of the functional plasticity of both hemispheres, one would likely be formed in the other. The result would be two GMSs poised to assume cerebral dominance when the corpus callosum bridges the hemispheres.

One of the two GMSs must yield when the callosum matures. Mental unity demands that only one mental agency exercise volition and consciousness. Therefore, one becomes dominant and the other becomes latent. If the right GMS becomes dominant then the person will probably become left-handed.

The latent mental system (LMS) retains its integrity as a system and its capacity for awareness but loses the executive functions of maintaining mental unity, volition, verbal symbolization, and mental representation over time. The LMS takes its place outside of consciousness where it is, perhaps, only one of many such mental modules (Gazzaniga, 1985).

THE ALTERED STATE OF CONSCIOUSNESS

According to Bourguignon (1979), "Altered states of consciousness are conditions in which sensations, perceptions, cognition, and emotions are altered. They are characterized by changes in sensing, perceiving, thinking, and feeling. They modify the relation of the individual to self, body, sense of identity, and the environment of time, space, or other people. They are induced by modifying sensory input, either directly by increasing or decreasing stimulation or alertness, or indirectly by affecting the pathways of the sensory input by somatopsychological factors. As a result, the rules of perception and cognition that cross-cultural psychology has been investigating . . . do not necessarily apply to these states" (p. 236).

The nature of consciousness is determined by the basic qualities of the GMS, which provide a benchmark against

which altered states of consciousness may be measured: mental unity, volition, verbal symbolization, time perception, reality perception, and body image (Tinnin, 1989).

Those qualities are altered for the LMS which is free of the constraints of mental unity. In the unconscious the LMS may be aware of the multiplicity of mind and the capacities for nonlinear, nonsequential thought and imagery. The experience of the LMS in that nonverbal realm may be best characterized as an alteration of the basic qualities of consciousness:

1. *Identity* is neither unitary nor essential. Not only the self but objects and others may be conceived of according to the law of "pars pro toto" (Arieti, 1976) in which the whole may be represented by the part.
2. *Volition* is replaced by fantasy. There is no responsibility or concern about ownership of the body's actions.
3. *Symbolization* is not verbal. Images may replace words.
4. *Time* may be inconstant and have nonlinear and simultaneous dimensions.
5. *Reality perception* may involve an epistemology entirely different from that of consciousness. The criteria of perceptual Gestalts may be according to primary process logic, or paleologic (Arieti, 1976) such that perceived wholes may consist of elements disparate by conscious logic but associated through some incidental quality (such as color, shape, texture, etc.). The distinction between animate and inanimate may be lost.
6. *Body image* may have no significance and the bodily self might be represented by a part, such as a hand.

This description of an altered state of consciousness is consistent with Bourguignon's (with the exception that she includes alterations in emotions).

RELINQUISHING OF DOMINANCE

This model contends that the transition of the conscious self from a governing mental state to a latent mental state with the attendant loss of the sense of mental unity is the cerebral mechanism of altered states of consciousness. An altered state of consciousness may occur in a normal individual. The typical case would involve a person with a GMS in the left hemisphere without any LMS (since normal development involves the emergence of a single GMS at the time of callosal maturation). When this individual experiences a trance in hypnosis, for example, the GMS relinquishes dominance and becomes latent. There is a loss of executive control by the previously governing self while an expanded awareness of other dimensions of mental experience is gained. Afterwards, when the GMS resumes dominance, there will be no memory of any experience that contradicts the illusion of mental unity.

REPRESSION AND DISSOCIATION

Amnesia may occur for the experience during an altered state for two reasons. One is that the GMS is motivated to segregate (repress) a painful memory to avoid distress. The other is that the GMS is obliged to disavow (dissociate) an organized mental state that was formed during the altered state in order to maintain the illusion of unity. Dissociated mental contents are latent mental organizations that would contradict the person's illusion of mental unity if they were remembered.

The degree of organization necessary to threaten the individual's illusion of unity may vary with the individual, but it lies somewhere along a continuum involving the universal properties of consciousness: identity, volition, verbal symbolization, sequential time, reality perception, and body image.

For example, the GMS might respond to the stimulation of an intense emotional situation by relinquishing dominance, which would result in an altered state of consciousness. If the individual's experience during the altered state was entirely passive, without assertion of unitary identity, act of volition, use of language, sequential ordering (time), or censorship by mental representation (reality perception and body image), then later amnesia for the experience during the altered state would probably be due to repression. If, instead, the person acted with will (volition) during the altered state, then the experience would be dissociated because the actor—the ego state responsible for the volition—would be disavowed by the GMS to maintain the illusion that the conscious self is the actor.

In the case of repression, the amnesia avoids anxiety. In the case of dissociation, amnesia preserves the illusion of unity. The dissociated mental organization might be called a latent mental state or system (my terms), a fixed idea or psychological automatism (Janet, 1898, 1889), or an ego state (Federn, 1952; Watkins & Watkins, 1979). In any event, it is a mental organization, whereas repressed mental content is memory of elements that may have no organization, such as impulses or wishes. When dissociated material becomes exposed to consciousness, an organized mental state is experienced.

LATENT MENTAL SYSTEMS

Continuing psychic trauma during infancy, prior to callosal maturation, may result in the formation of multiple latent mental systems as well as the capacity to form new mental systems at will. The infant who is subjected to physical or sexual abuse may experience premature GMS formation and recurrent altered states to escape trauma. Efforts to cope with the attack during an altered state result in the formation of new GMSs, which subsequently relinquish dominance and become dissociated, leading to the formation of multiple LMSs. Each of these mental systems is equivalent in its potential for self-hood and personality development after callosal maturation, depending upon the amount of time and experience as a GMS. If the personalities that develop then compete for dominance, the condition is termed multiple personality disorder.

LATENT MENTAL STATES

I believe that psychic trauma first occurring as an isolated event after callosal maturation and the establishment of cerebral dominance is not likely to result in the formation of a latent personality because of the limited opportunity for a newly formed mental system to exist long enough as a GMS. If the trauma is, instead, repeated again and again, such as when a child whose corpus callosum has matured is sexually abused by a family member, there may be ample opportunity. The child might react to the predictable stress by relinquishing dominance to a progressively developing alter self who might not feel so utterly helpless or victimized and who eventually, after many abuses, becomes an established personality.

Otherwise, episodic childhood trauma is more likely to result in the formation of dissociated mental complexes (Jung, 1935) or states (Watkins & Watkins, 1979) that may achieve considerable organization short of personality development. For example, the post-callosal child in an altered state due to an catastrophic traumatic assault may initiate some attempt at self-protection. Later, after termination of the altered state, the mental organization held to be responsible for the volition and therefore disavowed by the GMS might be the state of mind of the struggling, traumatized child during the altered state. This mental state would then be latent and dissociated. It would be an organized mental representation of the child's self as experienced during the altered state, but not a personality or self as experienced over extended time.

DISCUSSION

The process of dissociation involves the formation of an altered state of consciousness during which an alternate mental system or ego state emerges, which then becomes a latent mental organization when the altered state is terminated. Latent mental states or latent mental systems are said to be dissociated.

This model is compatible with the original concept of dissociation proposed by Janet (1907), except that his concept of "fixed ideas" included dissociated "elements" (as opposed to this model's requirement for "organizations") which tended to combine with other such phenomena to form more complex states, systems, and even personalities. He attributed mental unity to a dynamic influence of association; and he attributed dissociation partially to a weakness of that force.

This model does not include dissociative elements because it limits the use of the term *dissociation* to organized mental states that would threaten the illusion of unity. It considers segregated "elements," as opposed to "mental organizations," to be repressed. The dynamic influence maintaining mental unity is the neurophysiological process of cerebral dominance rather than "association."

A better comparison for this model is provided by Breuer and Freud's theory, first published in 1893, in which they used the term "hypnoid states" for altered states of consciousness (Breuer & Freud, 1955). They considered the hypnoid

state to be the basic phenomenon of hysteria, or, in present terms, dissociative disorders, and believed that the subjective experience during a hypnoid state was subsequently split off from consciousness, dividing the mind into parts separated by an amnesic barrier. They distinguished between repression and dissociation (1955, p. 10-11) in much the same way that this model has done. They believed that in the case of dissociation it is not the content of the memories that makes them unavailable to consciousness but, rather, the psychological *state* of the person at the time of the traumatic event. Later, Freud changed his mind and disavowed dissociation entirely in favor of repression.

One might argue that the current model assumes a normal dissociation between the verbal and nonverbal minds and that traumatic dissociation might be simply a modification of the already existing amnesic barrier. This argument would assume that the dissociative process accounts for all amnesia and that all unconscious mental content is dissociated. Repression would be considered a form of dissociation.

There have been two theories based on variations of this theme. Boris Sidis (1911) and Frederick Myers (1903) both believed that every person has two selves, although their concepts of the nature of these selves differed. This model does not assume that the nonverbal mind is another self, in this sense, because normally there is no separate identity or will. Both identity and will may come to exist as part of a traumatically dissociated LMS, however, and this LMS may compete with the conscious personal self for dominance.

Morton Prince (1907) replaced Janet's term "subconscious" with "coconscious" to emphasize the simultaneous activity of two or more systems of awareness in one individual. He reserved the term "unconscious" for mental processes devoid of the attributes of awareness. He did not insist on an individual sense of mental unity and, therefore, had no difficulty accounting for clinical cases in which the individual is aware of multiple personalities and does not experience amnesic barriers. Other theories, including the current one, must invoke some explanation for these seeming exceptions to the rule of subjective mental unity, such as a delusional belief of separate existence of the alter personalities as persons. In this case the delusion of self boundaries maintains the illusion of mental unity.

John Beahrs (1982, 1986, 1990) describes a modern version of the coconscious mind as consisting of coconscious compartments which are changeable and adaptive to environmental context. There is an organizing force that orchestrates the compartments, much as Janet's force of association does. Beahrs postulates a sense of mental unity which seems to represent the sum total of the components in equilibrium. He considers dissociation to be an abnormal rigidification of the boundaries between compartments.

In comparison, this model consists of enduring mental structures in a hierarchical organization that is determined by the anatomical hierarchy of the triune brain. The organizing force of the brain and mind is understood as cerebral dominance in physiological terms and as mental unity in psychological terms. Dissociation is an obligatory self-deception supporting the conscious sense of mental unity in the presence of a competing source of identity and volition.

Carl Jung held that the ego is the source of mental unity and that dissociated mental complexes may come to possess a subject, a sort of ego, that may compete with the real ego (Jung, 1935, p. 73). His idea of the complex as a cohesive unity, ranging from an organized fragment to a personality, is consistent with this model's demand that dissociated complexes be mental organizations.

Hilgard (1977, p. 18) listed four criteria of dissociated behavior:

1. The dissociated system has "some degree of internal organization" with lasting "identifying characteristics," such as preferences, skills, and memories.
2. There is some amnesic barrier which may be one-directional wherein system B may be aware of system A, but not vice versa.
3. The rule of amnesia may not apply to cases of "possession" by an alien personality.
4. In the case of "minor dissociations" such as automatisms, compulsive behaviors, obsessive thoughts, or conversion reactions, the assumed dissociated system may be difficult to delimit and will be betrayed only by the involuntary nature of the phenomena.

It is instructive to restate these criteria in terms of the current model. I omit #4 because it seems to include phenomena of repression and would violate #1.

1. The dissociated mental content has sufficient internal organization that it would threaten the conscious obligatory illusion of mental unity.
2. The obligatory illusion of mental unity holds only for a conscious mental system and does not apply to latent mental systems. Therefore, LMS B may be aware of GMS A, but not vice versa.
3. The delusion of separateness provides a self-contained conviction of mental unity in cases of multiple personality disorder without amnesic barriers.

Kluft's Four-Factor Theory of the Etiology of Multiple Personality Disorder (Kluft, 1984) encompasses a broader range of phenomena than this model. In addition to psychic trauma (factor II), he addresses genetic propensity (factor I), psychodynamic influences (factor III), and nurture (factor IV). The current and more narrow model would be compatible as one of the elements in factor II.

IMPLICATIONS FOR TREATMENT

A dissociated traumatic memory involves a latent ego state which would threaten the individual's sense of psychic unity if it were remembered. Consequently, the therapeutic resolution of dissociation requires that the individual avow that ego state in spite of the obligatory resistance to insight

(Tinnin, 1990). In practice, this therapeutic operation is preceded by two others:

1. First, the memory must be accessed. This can sometimes be done in a normal state of consciousness by inquiry into intrusive symptoms, dreams, or flashbacks. Often, however, an altered state of consciousness is required, and this may be produced by hypnosis or narcosis (amobarbital or pentobarbital interviews). The altered state removes the major barriers to full recall of the memory because the obligatory illusion of mental unity applies only to unaltered consciousness. In an altered state of consciousness there is no obligatory resistance to the acknowledgement of a second locus of initiative and volition.

The memory recalled in the altered state must also be recalled and processed in the conscious state. The individual must gain conscious access to the memory, transcend the obligatory illusion of unity, and consciously avow the ego state formed during the traumatic ASC to resolve dissociation.

2. Second, the content of the memory is processed in a manner that avoids retraumatizing when the events are recalled. The person reviews the memory in the *observer* mode, visualizing the scenes to include an image of the self. The actual techniques may be adapted from Janet (1889) and Grove and Panzer (1989). For example, the scenes may be visualized as if running a film strip or video, stopping the action at times, running it backwards, attending to incidental details, changing perspective, and manipulating the scenes in various ways to gain a feeling of mastery.
3. The third operation processes the ego state that was experienced while the patient was in an altered state of consciousness at the time of the trauma. The patient reviews the memory in an *experiential* mode in which the scenes are experienced through the eyes and senses of the self as perceived at the time while simultaneously perceiving and avowing the subjective state of mind extant during that time. This includes tracing the entire temporal course of that state of mind in all of its symptomatic recurrences and intrusions into consciousness.

This third step usually involves a reliving of the traumatic experience with all of its affect. Under such circumstances it is generally referred to as "abreaction." When this follows step two, however, the person is able to retain some "observer" status while objectively avowing the ego state and thereby modulating the affect. If the affect remains too intense there is the option to return to step two to achieve more capacity for objectivity and mastery in dealing with the memory.

The patient will experience an obligatory resistance to any insight that threatens the sense of mental unity (Tinnin, 1990). The resistance to conscious avowal of the dissociated ego state is automatic and involuntary. The initial processing of the memory in an altered state produced by hypnosis or

narcosis is useful because the illusion of unity can be avoided since it is demanded only by the conscious ego and the obligatory resistance is therefore bypassed. That resistance returns again when the memory is processed in consciousness but it is attenuated because the memory now comes reworked, verbally symbolized, and, therefore, more easily owned by consciousness.

CONCLUSION

The dominant verbal mental system generates consciousness, which maintains an illusion of mental unity, with disavowal of any volition, or will, not generated by the conscious mind. If the mental system relinquishes dominance and becomes latent, as, for example, in a trance state, the illusion of unity is lost and an altered state of consciousness ensues. Any mental organization that acts in the place of consciousness during the altered state will become latent and will be disavowed when the altered state is terminated and normal consciousness resumes.

A latent ego state is said to be dissociated. If it contains the memory of a traumatic event and requires treatment, then, to resolve the dissociation, the individual must gain conscious access to the memory, transcend the obligatory illusion of unity, and consciously avow the ego state formed during the traumatic altered state. ■

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