



Dissociative Experiences in Health and Disease

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Abstract: Historically, the concept of dissociation was mainly developed by the French psychologist, philosopher and medical doctor Pierre Janet. He suggested that it is possible for a group of thoughts, feelings and memories to become dissociated from the mainstream consciousness of the person and function independently. This concept was further developed by other psychologists like Morton Prince, William James and Carl Gustavo Jung. But, under the influence of Freudian psychoanalysis and Skinnerian Behaviourism, it was neglected for a period of time. After World War II, the interest in hypnosis for the treatment of the soldiers who were traumatized psychologically during the war led to the rediscovery of dissociation and development of the neodissociation theory by Ernest Hilgard. On the one hand, dissociation is a normal process in the function of the mind which can be seen in phenomena like hypnosis, entertaining activities like watching movie, dreaming and spiritual experiences. On the other hand, dissociation is involved in the development of different kinds of psychopathology like Dissociative Identity Disorder (DID), Post Traumatic Stress Disorder (PTSD), psychosis and substance abuse. Although some researchers have tried to define a dissociation continuum which encompasses pathologic and normal phenomena, others believe that there are different types of dissociation which are qualitatively different. For example, pathological dissociation has been categorized into detachment and compartmentalization. There was less research conducted about normal dissociative experiences. In this context, a comprehensive theory of dissociation which can explain different dissociative experiences in health and disease is needed.

I. HISTORICAL BACKGROUND

In the nineteenth century, human understanding and cognition were described as a process of “associations” between different ideas and thoughts. For example, the great philosopher, John Locke, in his book, *An Essay Concerning Human Understanding* described human understanding as the associations of ideas (Rieber, 2006). Considering this “associationism,” it is understandable that some authors proposed that ideas can also

become dissociated. It was in this context that the concept of dissociation as a mental phenomenon emerged (Haule, 1984).

The most influential person who devoted his life to the elaboration of the concept of dissociation was Pierre Janet. Janet was a French philosopher who later studied medicine (Ellenberger, 1970). Janet’s uncle was also a philosopher and in one of his works asked a question about the phenomenon of post-hypnotic suggestion. The question was that, in the hypnotic state, the hypnotist suggests that the

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patient will return after eight days, for example, and will not remember anything that happened in hypnosis. After eight days the patient returns but does not remember anything about the suggestions. The question is, what is inside the person that counts the days? Janet's studies aimed at answering this question (LeBlanc, 2001).

Janet, in medical training and in later practice focused on the treatment of a disorder which was called "hysteria" in that era. Janet conducted his studies in the Salpêtrière hospital under the supervision of the great French neurologist Jean Charcot. Actually, what was called hysteria is now subdivided into several disorders known as somatisation disorder, borderline personality disorder, and post traumatic stress disorder (Howell, 2005).

The manifestation of hysteria was explainable only if "mental" and "physical" phenomena were considered to be closely tied. Because of that, many researchers in this field like French theoreticians Jean-Martin Charcot, Alfred Binet, and Pierre Janet, Austrian founders of psychoanalysis Josef Breuer and Sigmund Freud, and Morton Prince and William James in the United States proposed theories in which mental phenomena and bodily processes were connected or even considered as "different aspects of a unit" (Cardeña & Nijenhuis, 2001, p. 2).

To explain the formation of hysteria, Janet developed the idea of "psychological automatism." He suggested that it is possible for a group of ideas, thoughts, beliefs, memories, and feelings to become dissociated from the mainstream consciousness of a person and function independently. Janet called this fragmented part of the consciousness the "fixed idea" and believed that although this fragment is dissociated from the whole, it can influence a person's emotions and behaviours (Putnam, 1989).

Janet believed that hysteria was a kind of dissociation and noted that psychologi-

cal trauma may cause dissociation. His main treatment for hysteric patients was hypnosis. He, like his teacher Charcot, considered hypnosis as an "artificial hysteria" in which consciousness becomes divided. In his reports of the treatment of hysteric patients, he showed how the memory of a severe psychological trauma becomes dissociated and this process leads to the formation of symptoms in the patient. In the hypnotic state, patients remembered the trauma and the symptoms were resolved (Ellenberger, 1970; Putnam, 1989; Rieber, 2006). It should be noted, as Spiegel (2006) explains, that the English term "dissociation" is not a good translation of Janet's French term "desaggregation mentale," because dissociation merely means separation but the original term describes "a kind of forced separation of elements that would normally aggregate" (p. 566).

The other important study of hysteria was conducted by Freud and Breuer. This study was based on the treatment of Breuer's famous patient who was called "Anna O" and some other patients. It is obvious in this study that the authors were influenced by Janet's ideas. They explained as follows:

The longer we have been occupied with these phenomena the more we have become convinced that the splitting of consciousness which is so striking in the well-known classical cases under the form of 'double conscience' is present to a rudimentary degree in every hysteria, and that a tendency to such a dissociation, and with it the emergence of abnormal states of consciousness (which we shall bring together under the term 'hypnoid'), is the basic phenomenon of this neurosis. (Breuer & Freud, as cited in Everest, 1999, p.447)

Although Freud began with dissociation as the foundation of his psychoanalytic theory, he later discarded this concept and instead proposed “repression” as a psychological defence mechanism involved in the formation of neurosis. Despite that, he did not leave dissociation completely and on some occasions explained mental disorders according to this idea (Everest, 1999; Noll, 1989).

Gottlieb (2003) states that there are two different perspectives in psychosomatic medicine, which are based on the assumptions of Janet and Freud. In the Freudian model, the repressed unconscious can apply to any kinds of bodily processes representing the thoughts and imagery that occur in the mind in a symbolic manner. It means that in the Freudian model, the symbolic meaning of the symptom is important in its formation. In Janet’s model, as a result of trauma, the integration of the different components of the personality is lost and this fragmentation is the main cause of symptom formation. It means that the quantity or severity of trauma and the inherited tendency to dissociate are two important factors involved in symptom formation.

An important event in the history of psychoanalysis related to this notion was the rift between Freud and Jung. Jung, in his writings, noted that he was influenced by Janet’s ideas and this was an important reason for his separation from Freud (Everest, 1999; Noll, 1989). One of the key ideas developed by Jung was the formation of “complexes” in the psyche. In his view, a complex is a part of the psyche that is fragmented from the whole and has its own life. Actually, the concept described by Jung as a complex corresponds to Janet’s “fixed idea” (Noll, 1989).

Similar to Janet, Jung believed that psychological trauma is an important cause of formation of a complex, but there is a crucial difference between the dissociation theories of Jung and Janet (Everest, 1999;

Haule, 1984; Noll, 1989). Jung considered dissociation as a normal tendency of the human psyche. In his view, we use dissociation in our daily life normally and it helps us in our relationships with the world in our social interactions. This view is contrary to the ideas of Janet and Charcot who considered dissociation as a pathological mechanism. For example, they even considered hypnosis as a pathological condition and considered it as an “artificial hysteria” (Everest, 1999; Huskinson, 2010; Rieber, 2006).

After the development of psychoanalysis based on Freud’s ideas, and also the surge of behaviourism in psychology, Janet’s works were neglected for a period of time and his ideas were not considered seriously. Even in this period, there were some researchers who investigated dissociative experiences (Haule, 1984). For example, Morton Prince, the founder of the *Journal of Abnormal Psychology* introduced the first descriptions of multiple personality and fugue (Spiegel, 2010; Rieber, 2006). He considered two levels of mental functioning, one higher level of processes which consist of thoughts and voluntary movements and the other lower level, which are automatic subconscious processes. Prince believed that his theory is useful because it can explain how some sensory stimuli, which are not remembered in the normal waking state can be recalled under hypnosis (Rieber, 2006).

The other researcher who focused on dissociation was Clark Hull (1933). The studies conducted by him and his students are important because they suggested a different interpretation of dissociation from Janet’s one. They suggested that a dissociated mental component acts independently, which implies a non-interference interpretation of dissociation. This was in contrast to the explanation of Janet and Prince who emphasized that the dissociated process has its effects on other components and on conscious thoughts and

behaviours. The failure of Hull and his colleagues to find evidence that supported their theory resulted in a lack of interest on the part of psychologists in the theory of dissociation (Dell, 2010).

After World War II, there were many soldiers who were psychologically traumatised during the war and hypnosis was used for the treatment of these patients. In this context, the eminent psychologist Ernest Hilgard performed many studies of hypnotic states and rediscovered Janet's ideas and developed a "neodissociation theory." Hilgard suggested that in human cognition, several cognitive controllers act simultaneously. In hypnosis, as a dissociative phenomenon, he realized that there is a secondary stream of consciousness present in the person, which is the main controller of the person and all the information from different dissociated parts of personality converged toward the secondary stream of consciousness. He called this stream of consciousness the "hidden observer" and this idea will be considered in more detail later (Hilgard, 1992; Phillips & Frederick, 1995).

The other reason for interest in dissociation was the formulation of a disorder, which was initially called multiple personality disorder and then Dissociative Identity Disorder. It was in 1980 that the diagnostic criteria of this disorder were included in DSM-III (Bob, 2004).

Considering the fluctuating development of dissociation theory, dissociative experiences will be considered first in normal experiences and then, in later sections, as a mechanism which explains pathological mental problems. Hence, normal dissociative processes are considered first.

II. NORMAL DISSOCIATIVE EXPERIENCES

Dissociation is a mechanism that is

normally used in our daily activities. For example, when a person is driving and simultaneously planning for his or her holiday, two cognitive processes are functioning in parallel and are dissociated. This is a temporary separation of normally integrated mental processes (Huskinson, 2010). Also, in stressful situations, dissociation acts as a protective mechanism by detaching the person from painful and aversive experiences leading to dissociation being described as a "clutch," which protects the person in a stressful situation (Butler, 2004). The most important element that is common in dissociative experiences is absorption, but it is important to consider that absorption is different from attention. In attention, the target object or event is located in the person's field of perception but the other objects and events located in the periphery are also noticed and remain accessible; in absorption, however, all cognitive resources are focused and directed toward the target object or event. In this situation the sense of self and reflective consciousness is lost and all materials except the dissociated experience are excluded (Butler, 2006). Considering the fact that dissociation is also a mechanism which is involved in the formation of psychological problems like dissociative identity disorder and Post Traumatic Stress Disorder (PTSD), a dissociation spectrum or continuum can be defined. Responses on the Dissociative Experiences Scales (DES), which is a valid questionnaire for measurement of dissociative phenomena, have shown that normal people also have dissociative experiences (Putnam, 1989).

Putnam and his colleagues (as cited in Butler, 2006) examined whether the increase in DES scores from normal people to patients with dissociative disorders can be attributed to real differences between groups or not. They finally found out that the higher average scores in the groups of patients with dissociative disorder and PTSD was the result of the accumulation of

people with high dissociative ability in these groups. It means that apart from basic processes related to dissociation, there are other important factors such as psychological trauma in the formation of dissociative disorders.

Generally, Butler (2004) categorises normal dissociative experiences into three groups: passive, active, and positive dissociative experiences. Passive dissociative experiences are often seen secondary to another activity. An example of this kind of dissociation is daydreaming. Activities which are followed by passive dissociation are usual daily routines like taking a shower, jogging and driving (highway hypnosis). When it happens, the person is absorbed by his or her internal world and becomes disconnected from place, time, and sense of self (Butler, 2004, 2006).

Active dissociation is seen mostly in activities that are recreational and amusing. These include watching movies, listening to music, or reading a novel. It means that the person becomes intentionally engaged in an activity that is absorbing for the consciousness. In this process, the person becomes detached from life stresses and it is a kind of relief from thinking about them. The source of it is not necessarily external; it means that the person may use imagination or memories as a tool for becoming dissociated from the awful experiences of life (Butler, 2004).

Positive dissociative experience happens when the accompanying activity is of personal significance for the subject. Examples from this category are sex, prayer, having contact with nature, and any task which is amazing for the person. Csikszentmihalyi (as cited in Butler, 2004) describes the flow as the experience of a person who deals with a very interesting task. In this situation attention is fully concentrated on the task; self awareness is lost and there is no sense of time. Flow is very similar to a dissociative experience (Butler, 2004).

Flow experience is a characteristic of creativity and innovation (Csikszentmihalyi, 1996). Bruade (2002) in a related discussion explains that in the state of deep hypnosis the subject's mind acts very creatively. For example, in the deep state of hypnosis which is called somnambulism, the hypnotist gives a post-hypnotic suggestion that after hypnosis the subject will not be able to see a specific object. After hypnosis, the subject's mind not only ignores the object but also fills its space creatively. It means that the mind ignores the visual data received from the target object and replaces its space with the extension of the background of the object to replace it. He explains that even dissociative identity disorder (DID) as a pathologic phenomenon is a creative process. In this disorder, a person creatively develops different characters and plays their roles in real life contexts.

According to this debate, dissociation plays an important role in our normal life. Here some of the situations in which dissociation normally occurs will be considered in more detail.

A. Hypnosis

Hypnosis is defined as "a procedure in which a person designated as hypnotist suggests changes in sensations, perceptions, feelings, thoughts, or actions to a person designated as the subject" (Kirsch & Lynn, 1998, p.100). Actually, dissociation theory was developed in the context of hypnotic experiences and the connection between hypnosis and dissociation was noted since the time of Janet in 1889. But since that time this relationship has not been well investigated because hypnosis research has been conducted with normal subjects in the experimental setting and dissociation research has been conducted with clinical populations, resulting in a divergence of research in these two areas (Carson & Putnam, 1989; Dell, 2010). Previ-

ous theories of hypnosis considered an especial state of consciousness to exist related to hypnosis but as researchers failed to find such a state, Hilgard's neodissociation theory has been accepted as a possible explanation for hypnotic phenomena (Kirsch & Lynn, 1998).

In his theory, Hilgard (1992) considers a central cognitive controlling system and several subsystems which work under its control. Each of these subsystems has its own input and output and hence has partial autonomy. Subsystems have a hierarchical order. The central controller or "executive ego" is responsible for planning, monitoring and management of subsystems but the important point is that this central controller does not have an absolute authority over subsystems. Each subsystem works under constraints of the central controller and feedbacks from other subsystems. What happens in hypnosis is that the hypnotist changes the hierarchal order of functional subsystems.

An interesting finding which supports neodissociation theory is related to the process of hidden observer. Hilgard (1992) in his studies on hypnotic states of people, who had a high degree of hypnotizability, saw that when a hypnotist gives a suggestion which the subject cannot perceive as certain stimuli (e.g., painful, auditory, or tactile), these stimuli are actually registered in the subject's memory and can be recalled in hypnosis later. For example, in an experiment (Hilgard, 1992), the hypnotist gave a suggestion that the person cannot hear anything. During hypnosis, she did not respond to any voice and even had no reflexive response to loud voices. Also, after hypnosis she did not remember anything about auditory stimuli. But when she was hypnotized again and was asked to remember what she experienced in previous session of hypnosis, she explained all events in detail (Hilgard, 1992; Kirsch & Lynn, 1998). A related phenomenon has been reported during anaesthesia in which

the patient was unable to recall the events during surgery after anaesthesia but under hypnosis could remember what happened during that time (Bob, 2003a).

The hidden observer concept is also useful for the explanation of phenomena like "near death" and "out of body" experiences and some forms of mystical experience (Bob, 2003a). Although the concept of "hidden observer" is fascinating, there are some ambiguities about it. The most important problem is that it is seen only in a fraction of highly hypnotizable subjects. Also the response of the subject is dependent on the way in which suggestions are formulated. According to these facts, some authors even questioned the phenomenon itself and actually it has become one of the most challenging and controversial concepts in the research on hypnosis (Kallio & Revonsuo, 2005).

The relationship between hypnotizability and dissociation is also a controversial issue. In fact, it is not true to consider these two as the same. Also, one of them cannot be considered as a subset of the other. A more accurate picture of this relationship is that these two should be considered as two overlapping phenomena. Some features of hypnosis like the loss of a sense of self is not always seen in hypnosis and the characteristics like "loss of initiative, increased suggestibility, and selective attention" are not always seen in dissociative experiences (Carson & Putnam, 1989, p. 34). Terhune, Cardena and Lindgren (2010) tried in their study to clarify the relationship between dissociation and hypnosis. As they explain, there are two distinct groups of hypnotizable subjects, the group of high dissociative highly suggestible (HDHS) and the group of low dissociative highly suggestible (LDHS) subjects. The results of their study show that the first group is more responsive to positive and negative hallucination suggestions and during hypnosis they had a greater experience of involuntariness. They also showed

impairment in their working memory capacity, higher rates of pathological fantasy and symptoms related to dissociation, and had more stressful experiences in their life. In contrast, LDHS subjects had a better imaginative capacity. According to these findings Terhune, Cardena and Lindgren (2010) conclude that HDHS subtypes have deficits in their executive functioning and are vulnerable to psychopathology, but LDHS subjects have more imaginative capacities and are not prone to psychopathology.

Although it is a popular belief that hypnosis is a kind of sleep, scientifically these are two different phenomena (Kirsch & Lynn, 1998). But there are also similarities between these two and in the next section sleep and sleep-related phenomena will be explored in more depth.

B. Sleep and Dreaming

Janet suggested that fixed ideas are presented in the form of dissociative episodes and dreams. Despite that, he did not develop a comprehensive theory of dreaming like Freud and Jung did, maybe because Janet himself was not a good dreamer (Bob, 2003b; Gabel, 1990). The influence of Freud's psychoanalytic theory resulted in the impaired development of a sleep and dreaming theory based on the concept of dissociation. But considering the influence of Janet's works on Jung's ideas, it is obvious that Jung's framework of understanding of dreams is compatible with the dissociation theory (Gabel, 1990). In Jung's view, the dissociated parts of the psyche are presented in dreams in symbolic form. Also Jung introduced the concept of the "Self" in his terminology as the psychic wholeness which is presented in dreams by different symbols (Bob, 2003b).

Kihlstrom (as cited in Butler, 2006) believes that the mental activity of sleep time is dissociated because it is not voluntarily controlled by the person and because

in the normal waking state, the person has no access to memories which represent these activities. Morton Prince, who conducted many studies on dissociative phenomena like Dissociative Identity Disorder, also studied dreams. In his view, dreams are like other dissociative processes in which the content of the unconscious are presented to the conscious (Gabel, 1990). Based on this view, Barrett (1995) suggested that dream characters are like different personalities (alters) in Dissociative Personality Disorder, and this claim has been supported by the dynamics of dreams in the course of treatment of these patients. Actually, in the course of treatment of these patients both the content of the unconscious which is recalled under hypnosis and the content of patient dreams are important. Accordingly, what is obtained during hypnosis and what is experienced in dreams are common in the fact that both reflect a person's unconscious content (Bob, 2004). Prince categorized these experiences as hallucinatory symbolism (Gabel, 1990).

Butler (2004, 2006) classifies normal dreaming in the category of passive dissociative experiences but in the case of daydreaming, although sometimes it can happen passively, it is possible for a person with a high ability for fantasizing and imagination to actively and voluntarily become engaged in daydreaming in situations like boredom. As Bob (2004) states, laboratory studies of dreaming suggested three important functions for it. First, dreaming maintains the integrity of the self; second, reunification of fragmented parts of the self happens in dreaming, and third, new psychic structures develop in this process. According to the neural network models in dreaming, a series of associative connections with high speed information processing are developed and this model is supported by the findings which show that during Rapid Eye Movement (REM) sleep many new synaptic connections are formed (Bob, 2004).

Butler (2006) believes that most dissociations of everyday life are in the form of daydreaming. As mentioned, involvement with these fantasies can be volitional (like in the situation of boredom) or it may occur spontaneously. Interestingly, there are some individuals who spend a large part of their life-time in fantasy and dream production. Wilson and Barber (as cited in Butler, 2006) called this group “fantasy-prone personalities” and most of them devote more than 50% of their time to fantasy production. In fact this group has high dissociative abilities in the absence of any significant psychopathology.

The last normal dissociative experience which will be considered here is spiritual experience.

C. Dissociation in Spiritual Experiences

Possession states are so widespread in the world that several authors proposed diagnostic criteria for them. For example, Indian clinicians proposed “brief dissociative stupor” and North American clinicians suggested “dissociative trance disorder” to describe such phenomena (Spitzer, Barnow, Freyberger, & Grabe, 2006). Because the approach of psychologists and psychiatrists to dissociation experience is mainly focused on pathological aspects, they pay less attention to normal aspects of dissociation. This has led to the lack of a dialogue between psychology and other disciplines which deals with dissociative experiences like anthropology. Because there is a negative understanding of dissociative phenomena in psychology, generally, the widespread experience of spirit possession which is seen in different cultures all over the world is discarded as a kind of psychopathology and the way to investigate the exact nature of such phenomena has been closed (Huskinson, 2010).

Coons (1993) tried to propose some points which are useful in the differentia-

tion of possession states which are common in different cultures and pathological dissociation. In his view, ritual possession is experienced voluntarily by the person, and is induced in the setting of ritual ceremony and is short, but pathological dissociation is induced by trauma, is involuntary and results in the disturbance of the individual's behaviour.

In many spiritual and religious experiences music has played an essential role. For example, shamans in different cultures use different instruments as a tool to enter trance state. Sufis in Turkey, also known as the “whirling dervishes,” similarly use music to experience their altered state of consciousness. Trance-like experiences with music have also been reported in other situations such as opera singers (Becker-Blease, 2004).

Rosik (1995) considers “wholeness” as the common aim of modern psychology and ancient religions and compares the mystical growth of a person in Christianity with the process of treatment of a Dissociative Identity Disorder patient. In both of these, unification of fragmented parts of consciousness happens and the ultimate goal is regaining psychic wholeness. In this view dissociation and its paradoxical role in the process of psychic unification should be considered seriously. For this goal, a non-pathological interpretation of these human experiences is needed and in this context such phenomena can be better explored (Huskinson, 2010).

After this overview of normal dissociative experiences, now dissociation as a mechanism of psychopathology will be considered.

III. DISSOCIATION IN THE CONTEXT OF PSYCHOPATHOLOGY

As discussed earlier, Janet's theory of dissociation has been neglected under the influence of other psychological paradigms

like Freudian psychoanalysis and Skinnerian behaviourism. Currently, the dominant paradigm of diagnosis and treatment of mental disorders is biological psychiatry. This model has a reductionist conception of the mind-body interactions and tries to reduce mental phenomena to brain activity. In this context, scientific and precise understanding of mental disorders can only be achieved by discovering the biological basis of them and psychological explanations and interventions are "at most adjuvant" (Ross, 2008, p.22). Although it is generally accepted that a biopsychosocial approach is preferred for the classification and treatment of mental disorders, the biological style of thinking is presently dominant. In this situation, dissociation is regarded as a peripheral, and not as an essential, underlying mechanism (McCulloch, Ryrie, Williamson, & St John, 2005; Ross, 2008).

This has led to confusion and ambiguity in the classification of dissociative disorders. These disorders are classified differently in DSM-IV and International Classification of Diseases (ICD)-10. DSM-IV defines dissociation as the "disruption in the usually integrated functions of consciousness, memory, identity or perception of the environment" and ICD-10 describes it as "partial or complete loss of the normal integration between memories of the past, awareness of identity and immediate sensations, and control of bodily movements." Although both of these definitions consider that dissociation is related to autobiographical memory, consciousness and personal identity, in the definition proposed by ICD-10 sensory and motor components are also considered in dissociation, but DSM-IV attributes these experiences only to the psychic domain. Accordingly, ICD-10 classifies conversion disorder as a dissociative disorder while DSM-IV considers it as a somatoform disorder (Brown, Cardeña, Nijenhuis, Sar, & van der Hart, 2007; Spitzer et al., 2006).

There is much more confusion in clinical settings. For example, in a study in North America, of 11292 psychiatric patients, 57% of those who had a dissociative disorder were considered as "atypical" because their symptoms did not match the criteria of dissociative disorders mentioned in DSM. In another study 60% of dissociative patients were regarded as "dissociative disorders not otherwise specified" (DDNOS). In India 90% of such patients were diagnosed as DDNOS. Similar problems have been reported in Uganda (Spitzer et al., 2006).

To solve this problem Cardeña (As cited in Spitzer et al., 2006) described dissociation in three ways: first, as disintegration of cognitive functions, second, as an altered state of the mind and third, as a defence mechanism. The third description can be regarded as the result of a function of the first and second, but the first two descriptions are qualitatively different. Then, to differentiate these two kinds of dissociation, two distinct mechanisms have been proposed, which are "detachment" and "compartmentalization" (Brown 2006; Holmes et al., 2005; Spitzer et al., 2006).

In compartmentalization, the processes which are usually under control and are normally influenced by the act of volition become partially or completely out of control. For example, the person is unable to access the information, which is usually available to the conscious mind. In spite of that these processes work normally and impose their effects on the person's behaviour, feeling and thoughts. Compartmentalization is seen in disorders like dissociative amnesia, fugue, DID, conversion and somatoform disorders. Also, this mechanism is involved in actions which the person does not feel he or she can control, similar to what happens with hypnotic suggestions. These are also called "made actions." These experiences are examples of depersonalization (Brown 2006; Spitzer et al., 2006).

Detachment is defined as “an altered state of consciousness characterized by a sense of separation (or ‘detachment’) from aspects of everyday experience” (Brown, 2006, p.12). Except for the so-called “made” actions, which were described above and are related to compartmentalization, other depersonalization experiences are developed by detachment. Detachment is related to a peri-traumatic dissociation concept and emotional numbing, which is usually seen in traumatic experiences (Brown, 2006; Spitzer et al., 2006).

Actually, detachment is a biological defence mechanism, neutralizing the effects of intense affect, which can disable the person in a threat situation. This mechanism virtually blunts affect in stressful and threatening situations and enables the person to exhibit his or her adaptive behaviour. From a neuropsychological point of view, in this situation, as a result of increased anxiety, the medial prefrontal cortex exerts inhibitory effects on the emotional processing activities of the limbic system, which results in a reduction in sympathetic activity. This mechanism is beneficial in the short term but when it persists it becomes aversive and problematic (Brown, 2006). As Brown (2006) explains, the current standard questionnaire of dissociative experiences, DES, cannot differentiate between detachment and compartmentalization and a new questionnaire might be needed which can precisely differentiate between these different experiences. Also Spitzer and his colleagues (2006) emphasize that further research is needed for the differentiation between pathological and non-pathological dissociation because, as discussed above, studies show that pathological and non-pathological dissociative experiences might be qualitatively different.

Now, a number of important pathological conditions in which dissociation plays a critical role will be considered briefly.

A. Dissociative Identity Disorder

Dissociative Identity Disorder (DID), which was first called multiple personality disorder, is a condition in which the person has different personalities and each of them controls his or her body and behaviour for a period of time. Although there were occasional reports of this phenomenon, it was in 1980 that it was mentioned in the DSM III classification (Bob, 2004). The criteria for the diagnosis of DID were revised in DSM IV and are as follows:

- 1) “The presence of two or more distinct identities or personality states (each with its own relatively enduring pattern of perceiving, relating to, and thinking about the environment and self).
- 2) “At least two of these identities or personality states recurrently take control of the person's behavior.
- 3) “Inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness.
- 4) “The disturbance is not due to the direct physiological effects of a substance (e.g., blackouts or chaotic behavior during Alcohol Intoxication) or a general medical condition (e.g., complex partial seizures).

Note: In children, the symptoms are not attributable to imaginary playmates or other fantasy play.” (American Psychiatric Association, 1994)

Before the late 1970s this disorder was rarely reported, but after that there was a period of time in which many cases of DID were reported (Kihlstrom, 2005) and consequently some, like Hacking (1995), questioned the validity of diagnosis and regarded it as a social construct or an iatrogenic disease. Kihlstrom (2005) explains that in DSM III interpersonality amnesia was not mentioned as a criterion of diagno-

sis which was added in DSM IV and considers that as a reason for over-diagnosis of the disorder.

There have been many debates about the validity of DID as a clinical diagnosis and there are currently two models to explain the formation of this disorder especially after the sudden increase in the number of diagnosed patients. Advocates of the first model, which is called posttraumatic model (PTM) believe that this disorder is the result of chronic and severe childhood psychological trauma in different forms of child abuse, especially sexual abuse. The other model is called the socio-cognitive model (SCM) which considers DID as a socially constructed disorder which is the result of suggestive questions from the therapist and the effect of media, like movies such as *Sybil* and related TV programs about DID patients. As the only source of data is the patient's memory, supporters of SCM model claim that it is not evident that the data gathered from clinical interview resulted from the patient's implicit theory of his or her problem, or therapist suggestions especially under hypnosis (Lilienfeld & Lynn, 2003).

On the other hand the proponents of PTM model provide evidence showing that the brain blood flow of different personalities in DID patients were different (Manning & Manning, 2007). Also there is evidence that shows a higher prevalence of seizure disorder in DID patients and there are Electroencephalogram (EEG) abnormalities in this group of patients. Based on these findings, it has been proposed that there is a relationship between epileptic discharges and dissociation especially in temporal lobe epilepsy (Bob, 2009). Also there are other points like differences in handedness of personalities, different allergic reactions and different levels of drug addiction among personalities and they believe that these findings cannot be explained by the SCM model (Manning & Manning, 2007). Nevertheless the debate is

ongoing.

In all cases there is a "host" personality and one or more personalities, which are called 'alter personalities' or simply 'alters.' Each alter controls the person's thought and behaviour for a period of time and alters are separated by a degree of amnesia (Kihlstrom, 2005). Patients are usually treated by psychotherapy in which the wholeness of the psyche is restored. This is a time-consuming process. An interesting fact is that among different alters there is one which is a wise personality who actually suggests strategies and guides the therapist in the course of treatment. This personality is aware of all other personalities and remembers their memories, actions, and behaviours. This alter is called "internal self helper" (Bob, 2004). This personality never takes control of the body and only gives advice to the core personality or to alters via voices, inspirations or dreams. These personalities usually describe themselves as angels or other creatures with spiritual qualities which do not belong to this world (Manning & Manning, 2007).

As it was explained in the section about hypnosis, there is a similar phenomenon in hypnosis. In hypnotic subjects the "hidden observer" is aware of different fragmented parts of the psyche and here "internal self helper" is aware of other alters' memories. These notions are also compatible with the Jungian view in which the "Self" is the centre of convergence of all fragmented parts of consciousness (Bob, 2004).

The other disorder in which dissociation is important and is somehow related to DID is psychosis. In the next section the relationship between psychosis and dissociation will be explored.

B. Psychosis and Schizophrenia

It was the psychiatrist Eugene Bleuler who first proposed the term schizophrenia. He was influenced by the association

psychology which was dominant in that era (Gainer, 1994). In his view, the key feature of schizophrenia is the loosening of associative processes which are present in a healthy mind. In formulating schizophrenia as a splitting of psyche, he was influenced by Janet's concept of dissociation. Also, it is historically evident that the decline in interest in DID was concomitant with the emergence of Bleuler's term 'schizophrenia' (Gainer, 1994; Ross & Keyes, 2004).

From a diagnostic point of view, Schneiderian first-rank symptoms are important in the diagnosis of schizophrenia. These are "made thoughts, feelings and actions; thought insertion and withdrawal; and thoughts ascribed to others" (Ross, 2008, p. 28). But as these symptoms are also seen in dissociative identity disorder, it is practically impossible to distinguish the two disorders based on these symptoms (Gainer, 1994; Ross, 2008).

The other fact is that there is a causal relationship between childhood trauma and psychosis (Manning & Stickley, 2009) and it is evident that the most important factor involved in pathological dissociation is psychological trauma. For example, in a study, Ross and Keyes (2004) administered the Dissociative Experiences Scale (DES) and the Dissociative Disorders Interview Schedule (DDIS) to 60 schizophrenic patients to categorize them in to high dissociation and low dissociation subgroups. There were 36 patients (60%) in the high dissociation subgroup. The scale for the assessment of positive and negative symptoms was also administered and the history of patients was explored for the presence of psychological trauma and comorbidity. The results showed that there were more trauma histories and comorbidity in dissociative patients and the rate of positive and negative symptoms were higher in this group of patients. Therefore, there is an overlap between dissociative identity disorder and schizophrenia.

This overlap has not been satisfactorily discussed in current literature. Even in DSM IV-TR, dissociation is not mentioned in the section related to psychosis and dissociative disorders are not regarded in the differential diagnoses of psychosis. As a result, in clinical settings, there is a fraction of patients labelled as schizophrenia whose accurate diagnosis is DID. These patients receive antipsychotic drugs instead of in-depth psychotherapy for their problem (Ross, 2008). It has been shown that DID patients stay an average of 7 years in the healthcare system and they have multiple psychiatric hospitalizations without a correct diagnosis and they are most commonly diagnosed as schizophrenic in this period (Foote & Park, 2008).

Apart from the overlap of symptoms of DID and schizophrenia, they also have similarities in terms of biology. For example, the reduced volume of hippocampus which has been reported in schizophrenic patients also has been reported in cases of psychological trauma and there is a correlation between the volume and the dosage of trauma and degree of dissociation (Ross & Keyes, 2004).

Foote and Park (2008) proposed some clues for the differentiation of DID from schizophrenia. As they explained, none of these differences are absolute but they can help the clinician to distinguish between the two psychopathologies. The most important symptoms that distinguish DID from schizophrenia are the presence of alters and amnesia. During the clinical interview, asking about the gap in the patient's autobiographical memory can be helpful. Exploring the nature of auditory hallucinations is another strategy. Asking about the name of the person who speaks with the patient and his or her personal characteristics such as sex and age may reveal the presence of alters. Other less important clues are the presence of formal thought disorders and especial kinds of delusions like grandiose delusions which

are mainly seen in schizophrenia.

Research about psychological trauma especially in the form of child abuse is in its early stages (Manning & Stickley, 2009). Further studies in this field will reveal the relationship of dissociation and schizophrenia and its importance as the mechanism involved in the formation of psychosis.

The other disorder which will be considered briefly is Post-Traumatic Stress Disorder.

C. Post-Traumatic Stress Disorder (PTSD)

In his studies Janet made a distinction between positive and negative symptoms in dissociation. Positive symptoms are ones in which a normal process becomes exaggerated or something new is added such as flashbacks. In negative symptoms, something is lost such as the loss of memory. In PTSD symptoms are mostly from the first category (Janet as cited in Cardeña & Gleaves, 2007). The renewed interest in psychological trauma in the 1970s resulted in the introduction of two new diagnostic entities in DSM III in 1980. As was mentioned, one of them was DID and the other was PTSD (Courtois & Gold, 2009). The classic triad of symptoms of PTSD are "intrusive reminders of the traumatic experience, avoidance of stimuli associated with the trauma, and experiential numbing and hyperarousal" (Courtois & Gold, 2009, p.7). Different forms of response to psychological trauma have also been proposed which are mainly different in terms of the time of their onset and duration. For example, acute stress disorder (ASD) was first defined in DSM IV in which the onset of the symptoms is described as happening within four weeks of trauma and lasting up to four weeks (Courtois & Gold, 2009).

Also the existence of a relationship between DID and PTSD has been demonstrated. A high proportion of DID patients

have comorbid PTSD and many symptoms of PTSD are dissociative. There is a great diagnostic overlap between PTSD and DID (Cardeña & Gleaves, 2007).

In a recent review (Lanius et al., 2010) two main subtypes of PTSD have been described. These are reexperiencing/hyperarousal and dissociative forms. The reexperiencing/hyperarousal form is seen in patients with a history of acute trauma and there is an undermodulation of emotions. From a neuropsychological point of view, there is failure in inhibition of limbic regions especially the amygdala by prefrontal cortex. The other group is dissociative PTSD which is generally seen in patients with a history of chronic psychological trauma. It can be described as a kind of "chronic numbing" (Chu, 2010, p.615) and in terms of the neurobiology of the disorder there is an overmodulation of emotions by inhibition of the limbic regions related to emotions. Distinguishing between these two groups is clinically important because there might be different approaches needed for the treatment of each group (Lanius et al., 2010).

Although there is much empirical evidence that supports the disturbing effect of psychological trauma on human psyche, disorders related to it are not formulated and discriminated precisely yet and the data has not been properly incorporated in the curricula of training of different mental health professionals like psychologists and further consideration is needed (Courtois & Gold, 2009).

The other disorder in which dissociation is involved is substance abuse and addictive behaviour which will be considered briefly.

D. Substance Abuse and Addictive Behaviour

Dissociation can be the effect of a chemical agent. In ICD-10, the term "organic dissociation" is used for this experience

(Bob, 2003b). In the literature, the term “chemical dissociation” also has been used to describe this kind of dissociation (Somer, Altus, & Ginzburg, 2010).

Studies show that opioid use disorder is related to psychological trauma especially in childhood. This relationship also has been reported in other forms of substance abuse (Somer & Avni, 2003; Somer, Altus, & Ginzburg, 2010). Somer (2005) suggested that when psychogenic dissociation is ineffective in dealing with traumatic memories, substance use is added as the second measure for dissociating the person from traumatic memories. As Somer, Altus and Ginzburg (2010) explain, this hypothesis can explain the results of other studies which evaluated alcohol-dependent patients using standard questionnaire and demonstrated low dissociability in this group. Here, as the “chemical dissociation hypothesis” suggests the person uses chemical dissociation as a second measure for numbing his or her painful emotions when psychological dissociation fails. Other studies also supported the idea that substance abuse usually is seen as secondary to PTSD to modulate past suffering memories (Courtois & Gold, 2009).

In a phenomenological analysis of the experience of an alcoholic, Shinebourne and Smith (2009) conducted semi-structured interviews with a female participant and tried to evaluate the lived-experience of addiction. As the results of their study show, the participant describes herself as “multitude of parts” (p.160), which are in conflict with each other. Also, in her narrative, she uses terms such as ‘my other personality’ and ‘the showgirl’ and speaks about an experience of character switch similar to dissociative experiences. This observation also can be considered as a support for Somer’s hypothesis described above.

Apart from the disorders covered above there are also other disorders in which dissociation has been proposed as a

possible mechanism of formation. For example, pathological dissociation is more frequent in eating and personality disorders (Spitzer et al., 2006). Also there are other disorders in which a relationship with psychological trauma has been shown to exist, like bipolar disorder and depression (Courtois & Gold, 2009). Regarding the relationship between trauma and dissociation, the latter can be considered as the mechanism involved in development of these disorders.

IV. THE NEED FOR A COMPREHENSIVE THEORY OF DISSOCIATION

As the above discussion revealed, dissociative experience can be seen in a wide variety of normal and pathological situations and according to this fact it is difficult to define dissociation precisely. Cardeña and Gleaves (2007) define dissociation as the “lack of integration of psychological processes” (P. 47); but there are different phenomena which are considered to be dissociative experiences. They cite some examples:

...activation of behavioural sub-routines (e.g., driving while focusing on a conversation), a lack of mental contents (e.g., “blinking out”), the recollection of forgotten traumatic memories, experiences in which the phenomenal self seems to be located outside the physical body (i.e., out-of-body experiences), the partial independence of explicit and implicit forms of memory, the apparently painless piercing of flesh in some rituals, and intrusive and realistic memories (flashbacks), among others. (p. 474)

The point that Butler (2006) empha-

sizes is that the heart of a dissociative experience is absorption that involves the full engagement of all cognitive abilities to an attentional object; but this point alone cannot help us to categorize different experiences well. There have been efforts to formulate the nature of these experiences. For example, one attempt was categorising pathological forms of dissociation into detachment and compartmentalization (Brown 2006; Spitzer et al., 2006), as discussed above.

Bucci (1997, 2001, 2002) defined a multiple code theory to describe dissociative experiences especially in the context of psychoanalysis. In her theory, she describes different coding systems in a person. These systems are categorized into two groups of symbolic and subsymbolic from one perspective, and verbal and non-verbal from another point of view. Based on these distinctions, three systems are defined which are subsymbolic, symbolic nonverbal, and the symbolic verbal. Subsymbolic nonverbal codes are bodily states which are related to situations in which we are emotionally evoked. Symbolic nonverbal codes are images which are seen during daydreaming, sleep and imagery. Symbolic verbal codes are words that we use in our daily verbal communication. Normally, these three systems work in parallel and are connected by referential processes. From early life each person has emotional experiences before language acquisition, which are related to especial bodily sensations. After language acquisition, these bodily experiences can be translated into symbolic codes of language. This means that emotional experiences can be translated into words in a narrative form. Bucci (1997) believes that pathology arises when these referential processes fail to connect different coding systems and it is the aim of psychotherapy to reconnect these dissociated systems.

The idea of the presence of multiple cognitive components in a person also has

been shown to exist in neuropsychological research. In a review of recent neuropsychological research about the multiplicity of the self, Klein (2010) suggests that the following components, which are functionally independent, are needed for the formation of the self. These are: the semantic representations of the individual's personality traits; episodic memory of the person's life; knowledge of the facts of the person's life; the sense of agency and ownership; the ability of self-reflection; the experience of continuity and identity over the time; and the ability of the recognition of the self when it is represented, for example, in mirror or in a photograph.

Bromberg (1996) explains how dissociation is important in the context of psychoanalytic treatment. He states that normally the self is "multiple," meaning that there are multiple self states which are integrated by the self-referential processes. In his view, in pathological dissociation, referential processes are disabled as a defence mechanism. In the context of therapy, the therapist tries to restore this ability of the patient to reintegrate the dissociated aspects of the self.

Manning and Manning (2007) have also tried to develop a theory in which this multiplicity of the self is considered. They have compared the phenomenon of the formation of a unified three-dimensional view of the world with the way that the self is developed. In binocular vision, the data received from two eyes are incorporated and an integrated picture of the surrounding world is formed. But if some conditions like strabismus interfere with this process of integration, the vision of the two eyes will be disintegrated in adulthood. It means that if in a critical period of child development, any problem interferes with the integration of the data received by two eyes, binocular vision will not develop. In a similar way, other causal events may interfere with the integration of different "parallel processing systems" which are

normally integrated during childhood development. What happens in DID is that severe psychological trauma interferes with the normal integration of the selves present in the person. In DID, different personalities are separated because of the severe psychological trauma and it is in a sense an exaggeration of the function of the normal mind.

The idea of the presence of multiple selves inside a single body is also claimed by another theory of self which is called the "dialogical self theory" (Hermans, Kempen & Van Loon, 1992; Hermans, 2002; Manning & Manning, 2007). In this theory, there are multiple selves inside a person who are in continuous dialogue with each other and Hermans (2002) uses the term "the society of the mind" to describe this notion.

The importance of internal conversation has been emphasized by pragmatist philosophers (Weily, 2006). George Herbert Mead states that there are two aspects in the person's self that are in interaction with each other. The first is the "I" which is the person at the here and now and the other aspect is "me" the person which is developed in the past in interaction with others. The other pragmatist Charles Sanders Peirce believes that there is a dialogue between the "I," the present self and the "you," the self that will develop in the future. Weily (1994, 2009), in his model of self, has tried to combine these two views and developed a model of the self with a triadic dialogue between I-me-you which encompasses the self over time from the past to the future.

Russian psychologist Lev Vygotsky believed that the origins of individual mental functioning lie in the society. In his view, the inner speech of the child develops through the internalization of dialogue with others and plays an important role in the organization and planning of actions (Wertsch & Tulviste, 1992). Similarly, The Russian literary theorist and philosopher

Mikhail Bakhtin discussed the importance of inner speech. He explored the works of the great writer Fyodor Dostoyevsky like "Crime and Punishment" and "The Brothers Karamazov" and showed how inner speech plays a critical role in the process of decision making (Nikulin, 1998). Similarly, Friedrich Nietzsche, admiring Dostoyevsky's psychological views, believed that the self is a "subjective multiplicity" (Lysaker & Lysaker, 2005).

What these theorists agree upon is the fact that although a normal individual has the subjective experience of one stream of consciousness in him- or herself, this unified consciousness is the result of integration of many different streams of consciousness. The process of integration is the result of the function of self-reflective loops and one of the most important self-reflective processes, which has a critical role in the maintenance of the unity and coherence of the self, is the person's inner dialogue.

V. CONCLUSION

Studies on the nature of human consciousness show that our phenomenological perception of consciousness as a single stream is the result of unification of several streams of consciousness inside us (O'Brian & Opie, 2003). As Bucci in her multiple code theory (1997, 2001, 2002) explains, these different components are integrated via self-reflective processes and, as discussed above, one of the most important reflective processes is inner speech. There is a natural tendency for dissociation in the human mind but what integrates different cognitive structures are the self-reflective processes. According to this fact, as it was shown above, there are many normal dissociative experiences like entertainments, dreaming and imagination which are important for a healthy and creative life. Also there are pathological

dissociative experiences in which the self-reflective mechanisms are disrupted. In other words, in a healthy mind, there is a balanced dynamics between dissociation and self-reflection which is lost in pathological situations.

As Butler (2006) explains, the most important feature of the dissociative experience is absorption and in all dissociative experiences, pathological and non-pathological, self-reflective mechanisms are terminated and because of that, in any dissociative experience the sense of self is lost and the experience of body and world is changed—which is described as depersonalization and derealization.

Self-reflective processes are both pre-linguistic and linguistic. Both of these processes are important in the maintenance of a coherent self. Reflections on our bodily perceptions which are closely related to our emotions—Bucci's (1997) emotional tones—are as important as the verbal reflective processes. Reflection on changes in these bodily perceptions has an important role in self-regulation. For example, in mindfulness meditation, moment to moment and non-judgmental attention to the present moment is cultivated and attention to changes in bodily perceptions is a part of the practice which is usually done in the form of walking meditation, body scanning, and guided meditations on the senses or interoceptive experience. Evidence shows that this method is effective in self-regulation and prevents the person becoming engaged in emotional and behavioural automatic reactions (Kristeller, 2007).

Verbal reflective processes can be in the form of dialogue with others or internal conversation. Language can be a tool for self-reflection as it is used in psychotherapy and psychoanalysis. In this process the patient pays attention to his or her emotions and body sensations and tries to translate them to verbal codes (Bromberg, 1996). Another way in which a person uses language for self-reflection is with inner

speech. The use of inner speech for self-reflection is an area which is not explored well in psychology (Morin, 2009). There is evidence that shows the effectiveness of manipulation of inner speech as a method for the treatment of different psychopathologies. For example, cognitive therapists have used inner speech in the treatment of depression and phobia (Wiley, 2009). Also it has been shown that inner speech is a self-regulatory mechanism in the course of addiction recovery and maladaptive forms of inner speech are related to the inability of recovering alcoholics to maintain their sobriety (Smolucha, 1993). Also, as the interpretative phenomenological analysis of the case of an alcoholic patient (Shinebourne & Smith, 2009) shows, the sense of a unified self is lost in her and she describes her identity in a similar way to how patients with dissociative identity disorder describe themselves. In schizophrenia, the experience of auditory verbal hallucinations (AVH) has been considered as the result of improper internalisation of the external dialogue and this has been considered as a possible explanation for the paradox of perception of AVHs as alien and the self at the same time (Jones & Fernyhough, 2007). There is evidence that shows the sense of self is lost in schizophrenia, which is a result of the process of dissociation. Keane (2009), a schizophrenic patient who described her own experience, states that in schizophrenia, the patient's "self is separated from normal mental activities" (p. 1035) but he or she is unaware of this separation. In Baar's (as cited in Stone, 2005) view, schizophrenia is a result of the lack of control over inner speech and suggests that the treatment of this disorder might be possible if the patient learns to speak in different voices to him- or herself. Stone (2005) explores the experience of two hospitalized psychotic patients who recorded their everyday life and shows that this activity helped them to regain their sense of selfhood.

According to these practical and theoretical considerations, there are many unanswered questions in both areas. From a practical point of view, there is evidence that shows the modulation of self-reflective processes like control and manipulation of inner speech and cultivation of body awareness via different techniques like mindfulness meditation are effective in the management of different psychopathologies. This means that more research is needed to investigate the effectiveness of these methods in different psychological disorders and the role of dissociation in the formation of different psychopathologies should be addressed.

From a theoretical point of view, as discussed above, dissociation is seen in many different contexts and in order to define a comprehensive model of dissociation, findings in different areas should be gathered and put together like pieces of a picture puzzle. Some contributions were discussed above (Bromberg, 1996; Bucci, 1997, 2001, 2003; Manning & Manning, 2007) and much more elaboration is needed. According to the fact that the mind has a dissociative nature and there are many psychological processes functional inside a person who might become dissociated as the result of trauma, the position of "I" and the agency and moral responsibility of the person are additional issues that should be addressed (for example see Braude, 1996; Kennett & Matthews, 2003). Indeed, as dissociative processes have a close relationship with the formation and development of self, and since the concept of self is critical in the understanding of different psychopathologies, a comprehensive model of dissociative experiences can shed light on the nature of human identity and sufferings.

To develop such a theory, as Seligman and Kirmayer (2008) state, it should be considered that dissociation, like any other complex human experience, is the result of the interaction of biology and psychology

with what happens in the social context. Then, considering these different aspects is critical for the development of a theoretical scheme and more efforts are needed to put these different aspects in a coherent theoretical framework.

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