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THE WORLD, CREATED BY HUMAN MINDS

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Abstract

The article is about the absence of independent physical presence of the ideas formatted by the brain mind, though each individual may act upon the ideas or the encoded information created by the brain, which we call a process. These ideas may be stored mentally, which could be remembered by the individual, or physically stored in the language used by the individual. The ideas created by the brain is generally using a language or a figure represented by an image or material, which represents the object or the idea. The mental image or the idea represents a physical reality or a functional state, allowing the person to work upon the physical entity. The mind could create several entities, using language or symbolically, which may not have a real presence in the world.The mind has created several such entities and even represented them physically by materials or symbolically. People have been creating mental ideas of divine forces and visualizing the, and believe such forces really exist and control them and the world. The mental concepts could be symbolic and one could visualize them if they could be treated with an image. Sensory abilities may help visual or auditory appearances of them or have sensorial experiences with them if their brain is going through a hallucinatory state. We have already reported the phantom phenomenon when the affected person experiences a limb or body, which is truly absent in the person. The orbitofrontal cortex is engaged in social conditioning, and when the input signals do not reach this area, violent responses may be made at the amygdala level.

Keywords: *Brain and mind, sensory and motor systems of the brain, sensor and motor experience, and their other forms of mental imageries, "neural hijack", amygdala, orbitofrontal cortex, and social conditioning.*

We have already seen how the Mind is a virtual world created by the human brain, and what ideas the Mindhas created about the world. (27, 28, 29, 30, 31, 32).The extensive functions of the human brain, their topographical localizations within the brain, and the interactive methods between two close or distant areas in the brain have been studied as part of Neuroscience over years. It is also well established that each individual has a life span of about 100 years, and they genetically transfer some of their bodily and behavioral characteristics to their children. Human beings have understood and made use of scientific principles for creating new materials for their use, and they have also created new civilizations of the past and the present, and hundreds of new things. The application of scientific principles controls creativity. The mind could create millions of ideas, though man cannot create many of those because of the absence of scientific principles. A dead man is never known to come back alive, even though many believed and may still believe that each person has a soul, which does not perish. Apart from creativity, two other complex functions of the brain are related to consciousness and awareness of the self and the mental process within, both of which may be affected by serious lesions or diseases of the brain and body, and disappears with the death of the individual. Other major capabilities of the brain are related to sensory reception, identification of the source or neurocognition, and responses and actions initiated by the brain, automatically or with commands and controls from the brain. Another important capability is the capacity to experience and express, what we call emotions, which may remain for short or long terms, and which initials and propels responses and actions in a person. The neurocognitive processes help in understanding the specific relationship between two events in time and derive the rationale of such events as scientific principles, as the principle of relationships between two facts does not change across space or time, which helped us develop the concept of science for understanding hundreds of different relationships which serve the physical universe and changes it. We identified these as scientific laws and relationships, which govern nature and cannot be altered. Besides cognitive functions,man's behavior is often determined by the emotions generated within each individual or living being.

Much before people started developing the science of nature, people belonging to ancient civilizations were obsessed with the concept of a 'divine' force, which wasthought responsible for the development or creation of the universe. People living in different regions of the earth developed the concepts of different spiritual-divine forces, with multiple capabilities, and who did not have to follow the principles, which came to be identified as

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scientific principles, and which cannot be changed by any force in the universe. The people mentally practiced the thoughts of the divine force, which helped the mind to develop the concepts of different spiritual entities, and have been getting emotionally attached to them. The spiritual force became a mental or virtual reality for each individual, which controlled the life of the individual. They considered it divine and allowed it to control their lives. Intense mental thoughts and devotions helped to create mental imageries of the force, which they worshiped and believed that it is a force from a world outside the material world they live in. There were individuals who spent all their lives in devotion to such mentally created force and practiced spreading their presence and strength, as well as the need to believe and lead a life worshipping the force. As scientific investigations and knowledge of the material world that people have been living in were yet to be known and development started, people were attracted mainly to the approach, which came to be called the spiritual approach. Such spiritual practices became an immensely rich mental exercise, which improved various cognitive abilities related to attention, focusing, encoding, and memory in man. However, all interested in spirituality did not take to such complex mental exercises. They resorted to displaying their physical superiority and took to violent actions, whenever faced objections or differences of opinion.

SOCIAL CONDITIONING

Social conditioning is a learning process for growing individuals in a society, which train them with socially accepted reactions and norms of behavior. Encoding is considered an important brain function, which helps individuals transform information into a verbal mode so that they could use them for communication, as well as help control their own behavior. Encoding could arrange meaning to all the sensory inputs,allow the creation of their verbal equivalents in the sequence they have occurred or presented to the brain, and allows one to find the relationship across the sequences of incoming signals. Knowing the right sequence is an extremely important need for understanding the logic of relationships which forms the scientific basis of any event in the universe. Such encoding has helped the brain to find the rationale for changes that occur in the universe, across time and space. Knowing these processes needs enormous intellectual ability, which is again the result of the procedural capability of the brain. Such brain capability needs to be cultivated through learning and practice in the early years of life. On the other hand, one may encode based on already accepted social norms and interpretations. This has often been referred to as “Social Conditioning”. Social conditioning develops mainly in the orbitofrontal cortex and temporal lobes, areas that control and regulate the actions and responses of individuals.Such social conditioning should take place during childhood in the developmental years. There are many individuals and societies in the world, where such training does not adequately take place, and where they consider that violent actions and responses are the normal ways to handle others and react to them. They believe that responses are supported by the forces they believe in and worship.They do not care to know the results of harmful actions in causing losses, pain, distress, etc. that have been caused by their responses. This has also been called a process of “neural hijack” (19, 20), which also has been considered to initiate “fight and flight” when the amygdala hijacks the sensory inputs (13), described as the “flight and fight” phenomenon when the “hijacking” takes place by the amygdala when the orbitofrontal cortex does not obtain opportunity for objective interpretationsof the inputs and appropriate behavioral responses.

Emotional experiences and responses may occur in isolation, as cognitive evaluation of the emotional inputs may occur in different locations of the individual. Sensory inputs into the amygdala through the hippocampus, leading to the occurrence of emotional experiences and responses, without neurocognitive processing taking place at the prefrontal lobes, has been supported in several studies (18, 19, 20, 21, 22, 23, 26, 42, 43). . This was considered and explained as the “neural hijack”.Emotional experiences and expressions may take place without a person being aware of them, as the presence of associatedexperiences may take place inducing reactions during the same time (22, 23, 26, 42, 43, 5, 4, 3).One may carry out the cognitive processing of related issues at a later stagewhen one would attempt to justify own violent activitiesalready carried out. The ‘neural hijack’ would facilitate the production of fear, while experiencing, and expressing associated emotions, during the ‘preattentive emotion’ (21, 22) state. These findings further revealed that emotional responses and experiences occurring as fear, anger, flight, and freeze the individual during the preattentive emotional state, arising independently from the amygdala. According to LeDoux,the direct flow of signals from the thalamus to the amygdala would help in survival-related emotional experiences and responses based on the familiarity of memory that the hippocampus provides, instead of complex perceptual analysis and decision-making carried out in the sensory-frontal circuits. The sensory-frontal circuits become functional and valuable through social conditioning, provided the individual has been trained during social conditioning on the value of others in society and the need to protect all. The absence of such social conditioning prevents a person or makes it absent in the person and the person does not have the capability to think of and consider the value of the lives of others in society. Even when the stimulus has not reached the primary sensory cortex, it could elicit such survival-related oraggressive responses directly from the amygdala. Emotional experiences and expressions in the preattentive state would be initiated impulsively when they are not preceded by conscious thinking or decision-making. Several studies cited above have shown the astonishing involvement of the amygdala in causing the alarming features of emotional responses and experiences. It was noted that negative

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interpretation of facial expression was associated with activation in the right ventral amygdala, whereas positive interpretations were associated with activation of the ventral medial prefrontal cortex. A patient with a parietal lobe lesion may produce visual neglect, and would still respond to a visual emotion-provoking stimulus when the activation of the related response is associated with the direct activation in the amygdala and the orbitofrontal cortex (42,14).Pessoa (34) opined as well as demonstrated the presence of preattentive emotional responses from the amygdala, though supportive evidence could not be found in the earlier studies for a preattentive emotion. It is important to note that only a few types of emotions may elicit a direct response from the amygdala, especially when the stimulus is not perceived by the individual. The neural network responsible for preattentive emotion is considered the structural basis of experiences, which the individual may not consciously report. Training in social conditioning of a growing child is therefore an essential early training needed for the growing child to learn the need tomake use of his or her prefrontal contribution for learning to make decisions and accordingly carry out activities or behavioral responses. Such training would also prevent the occurrence of such preattentive emotional responses, which may cause intense social calamities for many persons and their justifications for their violent reactions.

SENSORY MENTAL IMAGERIES

During the recreation of visual mental imageries, visual stimuli signals are received by the retina and passed on to the visual centers in the brain. Several earlier studies (Kosslyn et al. (15) and his associates (10, 11, 16)demonstrated the presence of the primary visual cortex responsible for visual sensory registration. The presence of neural activation is indicative of the detection of the sensory inputs in the brain, which further supports the mental generation of visual imageries. The mental imagery is indicative of the presence of visual inputs from a source, and the imagery is created as a mental representation of the object or source. The mental imagery could be recreated by the person from his past perception. The presence of activation in the primary sensory cortex represents mental representation or perception of the visual, auditory, and other sensory stimuli, without their true presence. The mental imagery is a faithful representation of the original object or mental recreation of the signals. The imagery effects were also shown in several other studies (Kozhevnikov et al. (16).Kozhevnikov et al. (16) reported that the visual system uses distinct strategies, based on the perception of shape, color, or spatial properties of location and spatial relations among the constituent parts of the objects visually detected. The mental imageries are normally automatically verbally transcoded as different objects, persons, or any other structures naturally present or objects created by us (a book, a horse, a car, a building, plants, trees, etc.. Kosslyn et al. (15) proposed that we use different strategies for reconstituting the mental imageries from memory. One strategy may be for initial verbal transcodingof the visual perception, and the transcoded information may be stored as part of verbal memory.Mellet et al. (25) opined that visual mental imageries recreated from verbal narrations may always be more complex than the original visual mental imageries created and stored.One may recall the verbal narrative from memory later as one would the verbal documentation for creating the original visual imagery. Another strategy often mentally used is to separate the visual segments, especially the spatial attributes and other details of an object or person seen, and store them as components of visual imagery without transcoding. One could recall the stored visual components and reassemblethem to form the mental imagery of the entity. The above studies have suggested that the majority of the brain areas are activated in both strategies.Using verbal transcoding is found to make use of larger areas of the brain, such as the parietal, midbrain, cerebellar, prefrontal, left insular, and right inferior temporal regions. Beck et al. (1) found in their fMRI study that awareness of the detection of visual changes was associated with increased activation in the parietal and right dorsolateral cortex in a synchronized manner. Verbal transcoding is an important part of creating all sensory inputs for storing and their later recalls.

MOTOR MENTAL IMAGERIES

Several fMRI studies, some of which are reported here by Maruno et al. (23), Dettmers et al. (7), andLacourse et al. (17, 18), have reported evidence for the presence of neural activation in the primary motor cortex during the imagined use of an amputated limb. Pineda (34) proposed that “mu” rhythm is the link between a sensory event in the brain and its motor effects. de Lange et al. (9) found that the posterior parietal and precentral cortex showed activation during mental motor imageries, and proposed that the process of combining somatosensory and visuomotor information before actual motor actions are initiated, serves as the initial stage of the mental imagery connected to motor planning before the motor execution of the action. Caldara et al. (2) reported that both imagined and actual execution of motor acts activate the primary motor cortex. Solodkin et al. (39), Rodriguez et al. (36), and Ehrsson et al. (9) reported that activation of the primary motor cortex always takes place during the imagined execution of a motor act. The study by Jackson et al. (14) found that a more posterior area of the orbitofrontal cortex is also activated during the presence of mental motor imageries, compared to the area involved in actual actions. Ross et al (37) found evidence for activation in the motor cortex, parietal cortex, frontal lobes, supplementary motor area, and cerebellum, during imaginary movements in a person. However, such comprehensive brain activation does not take place unless the person has had a

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related experience. The mere imagination of an episode is not enough for producing brain activation as in the retrieval of a true experience.

Imaginary movements form a significant part of mental rehearsal, that one may engage in, for the strategic and anticipated deployment of muscles, before the actual execution of actions, may be carried out. Sperry (40) postulated that voluntary movement control has two components, one component responsible for the use of actual effects of movement in action deployment and the other component related to the use of anticipated effects for regulation of movement even before they are executed. Mental imagery is recreated for reliving or remembering significant action scenarios from the past life. The sense of experiential reality created during mental motor imageries makes daydreaming or fantasy which may be enjoyable and addictive to many. Mental motor imageries appear to be used routinely by us during learning motor skills and their later routine and normal execution. As Gentili et al. (7) proposed, the brain appears to the first practice and plan imaginary movements on the inert limbs, and later uses the plans for the imagined templates for their actual execution.

NEED FOR MENTAL MOTOR IMAGERIES

Mental motor imageries are used for the application of motor strategies in the execution of actions. Consider simple action strategies that one may use for lifting a pen, a paperweight, and a large heavy book from the table. One will stretch the hand and try to pick up the pen with just the thumb and the index finger. Even before the pen is picked up, a strategic approach is in a setup, which helps rapid execution of the act. One does not spend time thinking over a strategy of how to pick up a pen or an object. The reason such a strategy can be initiated is because of the remembrance of previous experiences of carrying out the same action. The motor strategy used in previous experiences is mentally called back, and the presence of the mental imagery serves as the mindset required for the automatic execution of the action, with speed and accuracy, and without thinking over ways and means of carrying the same out. On the other hand, if the paper weight must be picked up, one may approach it with more fingers, instead of merely the thumb and the index finger. When aheavy-looking book is to be picked up, one may approach it with both hands. In each instance, there is a previous experience that facilitates the use of a strategic plan for execution. The plan is based on such experiences, which can also be recalled as mental imagery. This would imply that mental motor imageries are constantly in use for one to deal with innumerable actions that are carried out in the familiar world. The absence of experience in the execution of an act, as it was never tried out before, will make it necessary to plan a motor strategy for its execution, as there will be no mental motor imageries in place for helping the execution of the act. We plan and apply a strategy in an anticipatory mode during the execution, which may need modification based on the actual effects of the execution of the act ((40). The strength of mental imagery is evident from its persistent applications in the real life. The imagery subsides in a graded manner when the related actions are not carried out for long periods or the motor activity is disabled in a person. The same recall and application of the mental model are used for explaining what is seen in the phantom limb phenomenon. This is also an indication of the importance of the need for the presence of mental imagery for normal motor functions.What is seen in the phantom limb phenomenon is the presence of mental motor imageries for facilitating the limb that may not be present. The mental imageries of the limb subside as they are not utilized for moving the limb.

The two fundamental functions of the human brain are the processes related to the domains of emotions and cognition. Under certain conditions, the rational part of the brain can be completely overtaken by the emotion-controlling centers of the brain. The “fight and flight” phenomenon seen in intense emotional behavior, was described as “hijacking” by the amygdala (12), which was termed “neural hijack” by LeDoux (19, 20, 21). The co-activation of both systems is always required for carrying out any activity, in day-to-day life. Both systems develop in every individual through social conditioning in the early years of development and growth of a child. The human brain has learned to create multiple mental functions with which it could mentally solve various issues of life and also understand the principles that control the world and the behavior of living beings including themselves. The mind developed all scientific relationships and principles that control the physical world.Using this knowledge, they could create several new systems for taking care of several of their problems in life. Physical and biological sciences thereby became powerful systems of knowledge, which developed and continue developing multiple methods for solving the problems of life of each individual. The mind found solutions for multiple problems of man, and ages back, it developed the concept of a spiritual force, which they considered responsible for the creation and maintenance of the physical world they live in. They considered the spiritual force controls every living being including man and his/her behavior and actions in life. They developed multiple methods to please this force, as well as praying to the force that they may be maintained peaceful, happy, and loving. Groups of human beings in the different sectors of the earth developed different spiritual forces, and most of the people of each section believed that the force they have developed is the real controlling force. Having emotions of love towards other living beings, especially human beings, was the chief controlling factor for one of the sections of people who created a religious group for people on the earth. One section of people developed the concept of multiple spiritual forces, that control different aspects of the life of individuals.

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It is now well established that every person could control their own mind with beliefs, and personally liked special favors. Music is another unique presentation thathelps control own mind and allows one to express emotions without hurting anybody, and use the mind to fill up with extraordinary or spiritual states. Music could fill own mind with an extraordinarily peaceful and happy state or conditions which has been called a spiritual state. The enormous works that have successfully carried on individuals using hypnotic suggestions clearly support that one could shape own mind with any type of emotional or spiritual effects. Scientific encoding is the only technique that could take one's mind to the understanding of real changes based on time–spacechanges that occur in the world. Music is attractive to even a grown-up baby. Music needs to be mentally created and there isa variety of music recitals, that attract groups of people.

Despite the scope for their integrative development and applications, there are many individuals all over the world, who resort to aggressive emotional responses because of the fact that they are not cognitively trained for emotional control, which is subserved by the frontal-subcortical circuits of the brain. Though the formation of the mind is real,itscontents could be virtual. The mind could, mentally contact, change, or reform the virtual world, whereas the real world could be altered only by scientific methods. However, the mental world remains real for the mind and acceptable to the individual.Thus, the spiritual world and spiritual forces created by the mind remain real for the mind. In earlier times, most people lived in the mental world. However, when the scientific physical world details were discovered by scientists and it was demonstrated without any conflict and only scientifically acceptable changes could be repeatedly demonstrated. They could either alter or create new physical realities. It is also true that many such individuals do not possess the cognitive maturity to rationally process social discomforts generated by spiritual, cultural, and personal-emotionalinterests and conflicts, which they attempt to resolve through cognitive processing in a scientific manner. This could help them emotionallyadjust to the differences in their worldviews and lifestyles. Throughout human history, people have resorted to violence and war, mainly for the sake of establishing their material gains,based on their belief systems. Self-acceptance of emotionally and socially supported ideas can help one to believe and accept the ideas that they believed to be generated bysupernatural forces controlling the self and the world outside. They could not realize that many of these are mere ideas and beliefs generated by our own minds.Another form of functional involvement of the mind has been to accept strong suggestions, which may be pure imagination,but the mind could be suggested to accept them as real, even when they did not have any scientific evidence to support them. Religious dogmas and belief systems are basically the ideas created in our minds by self-suggestions, for the sake of supporting and helping the self and others in stressful and conflicting conditions. When this basic fact is personally understood and accepted by the individuals, even though it may not be scientifically tested and proven, it may bring peace and harmony to the individualsin an easy manner. Hypnotic skills developed in the later years may be considered examples of how one could convince and alter the mind and the self with strange and unrealistic ideas, in the earlier years. The phantom limb phenomenon shows that even sensory appraisal could take place even though true sensory changes are not present (Melzack, (22); Ramachandran (35),Manchikanti, et al. (24); Dettmers, . et al. (7), and Maruno, N. et al. (23). It is unexplainable that one could experience sensations from a body part, which is absent in the person. More than a hundred scientific studies have shown the presence of the phantom limb phenomenon in human beings in the past two decades.

Mind is a unique functional capability, wherein one could create new ideas, including purposes and goals for life, and one could acquire the skills and knowledge needed for achieving them.Mental capabilities are developed from birth and the developmental schedules and the capabilities and skills depend on the efforts made by each individual. A unique capability of the human mind is its ability to make decisions and actions with a purpose. Deciding purposes in life and working for achieving those purposes is a unique mental capability. Deciding a purpose would mean planning temporal and spatial arrangements for actions and responses by one. This indeed gives an aim for life and for carrying out various sets of actions in a sequential manner so that each one could learn some specific lessons and master technological procedures for changing the course of life and for finding solutions for various problems in life. A purpose for a set of actions could be decided only if one could set a sequence of goals or aims for life. The human mind has the unique capability to create ideas, which need not have a scientific basis at all. It could create ideas of materials, objects, and lifestyles beyond scientific limits and they have done this exercise all through their existence.

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