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Mental Equivalents of Neurocognitive Processes in the Brain

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Abstract

The functional expansiveness seen in the human brain is not present in the brains of any other living being. The human brain has created the "mind" representing capability to identify and generate the real multiple physical and temporal relationships that exist in the world, which are called the products of the mind. The reality of the relationships created depends on the participation of different brain areas and their functions, which could be affected because of absence of early development in an individual. The frontal cortex plays an important role by considering the various factors and variables, and the consequences of absence of consideration of important factors may lead to the generation of hostile and violent behavior. This has been called the effects of "neural hijacking". Similarly, the brain could be tuned for identifying and processing meanings, different from the real ones, which may be known to others, as well as to oneself. Adequate training during the early developmental stages of a child is an important resource for the development of mental capabilities associated with positive thinking and emoting, in reaction to aggressive and violent behavior of others. Such positive developments would help one to think and feel in a positive manner, and not become hostile and violent with others, while dealing with their negative behavior.

Keywords: Human Brain Cells; Genesis of Mind; Sensory-Motor Changes; Thinking; Remembering; Self-Awareness; Will and Drive to Act; Detection of Relationships in Temporal and Spatial Domains; Development of Mind Representing a Virtual World

Abbreviations

BEOS: Brain Electrical Oscillation Signature; NFSU: National Forensic Sciences University.

Introduction

Mind is a functional role played by the brain in living beings, and the human brain is functionally the most effective organ, which created a powerful functional state, which we call the human mind. The brain is made of neural cells, which have developed groups of cells with different functional roles, interacting with one another, and thereby forming a functional state which we call the mind. The brain segments control the functioning of the body, as well as the sensory and motor regulatory functions of the body. The human brain and the connected nervous system in the body deal with the sensory – motor functions, generated as well as experienced

by the body. The process involves learning to encode specific meanings to the multiple sensory inputs and outputs. The meaning learned and assigned are held as awareness within the brain, which induces experiences of emotions, using the sensory-motor faculties.

Neuropsychological aspects of brain functions have been identified as important indicators of experiential involvement of individuals, which may also become forensically important, when the actions are employed for hurting other individuals. They always have been identified with the application of neuropsychological principles of brain functions for understanding criminal behavior. Clinically the application is for evaluating brain dysfunctions due to head injury or malfunctioning of the brain, which help to determine the functional disabilities of the brain. Forensic Neuropsychology has become a well-developed discipline, as they are probed, and normal patterns are understood by scientific methods for understanding the related neurocognitive processes. Even with regard to polygraphic measurements of physiological changes for the purpose of lie detection, the emphasis was only on the absence of normal physiological changes, while listening to presentation of details of the acts associated with a crime. Legal implications of head injury in industrial and road accidents have made it mandatory to conduct a neuropsychological examination of victims for assessing the degree and nature of the neurocognitive and psychological impairments, if physical and functional damages of the brain are present or expected to be present in an individual. Neurological investigations and intervention techniques generally help to save the life of the individual and for consideration of remedial measures for physical, physiological corrections, and occupational and psychological rehabilitation. The victims, who were earlier functioned at higher levels of occupational proficiency, may be found to have developed total or partial deficits and helpless, as a result of cognitive and emotional deficits. Such losses become burden for the family and society. Assessment of functional deficits due to brain damage become an important legal requirement for proposing correctional methods. Scientific understanding of neuropsychological impairments has become a necessity for researching radiation programs, as the plasticity of the brain may generally become a significant restoration of the impaired functions in the victims.

Criminal behavior is defined and identified by those related justice systems of a society, and not by the biological sciences independently. Crime is an act committed by an individual against the morally and legally accepted rights of another person and society. Yet another powerful emotional attachment that each man learned to develop is by exercising belief, devotion, and faith in a spiritual power, which each individual believed in with love and faith. Obviously, criminal acts are deviant behaviors, as they are against the rightful interests of individuals in society. There have been debates about the reason for such deviant behavior in an individual and both nature and nurture have been rightly implicated. Genetic abnormalities manifest as malfunctioning of the brain as they indeed cause such deviations in thoughts and behavior. Mental practices of devotion helped man to develop immense mental and physical strength [1-5]. The absence of such social conditioning is mostly labelled as antisocial or psychopathic behavior.

Personality disorders directly activated by neurochemical deviations in the brain, because of genetic and other biological predispositions, are responsible for several forms of deviant behavior, many of which may be called criminal and antisocial behavior. Additionally, environmental influences originating because of inadequate family controls, and peer group influences are also considered equally important factors precipitating such behavior in Individuals, which magnified mental and physical capabilities in them. However, many who developed a specific mental strength could not show the same the affective strength to forces different from those that they have learnt to shower, instead of the hostile and violent approach that they may express [6-8]. Environmental influences may play an equally important role in directly producing criminal behavior, as much as biological and genetic factors may precipitate them.

Development of brain functions is an extremely important need in a developing child, as the related brain functions could control aggressive behavior in individuals, provided they are adequately developed during the early years of development of a child. The justice system of a society decides what makes an act criminal. The criminal act is not merely a deviant act, which may have only medical significance. It is directed against the interests and values of society, when violent actions may hurt individuals.

Psychologically and socially, deviant behavior is indeed undesirable, deserving discouragement, suppression and punishment, and rehabilitation of the individual who may resort to violent actions. The deviation in behavior is obviously the result of the absence or failure of control functions in the brain.

Aggression is often a major component of several forms of criminal behavior, though it may also manifest without obvious aggressive outbursts. For example, various forms of financial and moral fraud are indeed criminal acts against society, though they may not be accompanied by explicit aggressive outbursts. Aggression on its own does not deserve to be labelled as criminal behavior according to accepted social norms. Wagging wars, which include aggressive attacks for the destruction of the enemy, is considered by

countries as a perfect and noble act of society. Both absence and failure of controls required for maintaining behavior within acceptable social norms, rise from learning of inadequate controls in the brain. Inadequate learning may as well be the result of brain damage or functioning. Loss of control may occur from damage to the brain, sustained during birth, in various accidents, or in diseases affecting the brain and its normal functions and growth during the developmental stages. The absence of such controls can also be attributed to inadequate opportunities for their development, despite the fact that the brain may be endowed with normal functional developmental capabilities, which would render the cultivation of the controls, as opportunities for the development of self-control would become present. As negligence is a major factor contributing to absence of adequate brain development, the victims make compensational claims, which are to be generally paid by insurance agencies. Such claims almost always lead to litigations and generation of accurate forensic opinion about the loss of functions and the level of debility resulting in the affected individual. The compensation may often be paid to the relatives, if the victim is diseased, and the decisions need to be made in a court of law. The forensically relevant reports are scrutinized and debated with great precision, before claims are settled. Apart from the brain damage that may be sustained in accidents, absence of adequate development of brain functions and several neuropsychiatric diseases causing brain damage may also be responsible for a few incidences of criminal behavior.

Damages being caused by diseases and absence of adequate functional development in the early years of life are factors that may primarily affect the frontal lobes and to a lesser extent, other areas of the brain. These have been identified as the major causes for the genesis of criminality and violence in many individuals. Absence of such functional development may cause sensory neural signals from the amygdala directly pass over to the motor cortex to initiate the violent acts. The absence of inputs into the frontal cortex avoids frontal decision-making state, leading to a "neural hijack" [9-13], as the sensory impulses would directly activate the motor cortex generate the actions, without allowing the orbitofrontal cortex making a rightful decision of the actions. In such an event, the action may be directly initiated and carried out. Other than brain damage occurring in the early years of life, genetic dispositions have been found to be responsible for individuals developing drug addiction and alcohol dependence together with the presence of antisocial, HIV risk-taking, and associated criminal behavior. Studying the etiology of criminal behavior and investigating criminal behavior have indeed different phenomenological and methodological domains and perspectives. Investigations which help pinpoint responsibility for a crime must be highly individual-specific and it must be done on an all-or-none basis, as individuals responsible for the said acts need to be identified. It cannot follow a medical model of differential diagnosis of diseases.

Understanding of neuropsychological states of sensory-motor processing within the brain-body system, and the process of information encoding and generation of emotional experiences constitute the spectrum of the mind of a person. Each individual learns to verbalize the responses and changes, which would also help create self-awareness of the same processes, and what one may finally express. Thinking has been always a self-induced activity, when one could mentally articulate and does not have to verbally express the articulations. The meanings encoded and the emotions experienced by a person depend upon one's own knowledge systems, as well as capability to understand or create new relationships. The thoughts created describing an incidence or activity that one experienced, observed or interpreted as the activity that happened, or they could be based on previous experiences or pure imaginary ideas created by the individual. All sensations are processed by the neurons in the system, when the neurons create verbal reports or nonverbal experiences, and the signals are transferred to the brain, where they are assessed and interpreted, which may be assessed as experience by the individual. Those who did not need scientific explanations for the presence of reality, and the physical presence of real effects, readily accepted the mental support of the presence of spiritual force, events and actions generated by them, in their life. Such experiences were mainly shared by individuals, who firmly believed in the presence and actions of spiritual forces and offered explanations to match their belief system. Such spiritual explanations were the only choice available for them to explain and understand the events in life and the mechanisms considered to be controlling the universe. These were the normal explanations made before we could develop scientific methods for evaluation and understanding of changes at various physical and functional levels in the universe. Such sequentially related explanations became the scientific basis of understanding the changes that sequentially occur to life and materials in the universe. On the other hand, spiritual thinking always emphasizes on purposes, gains, good, or bad, etc., for interested people, while such purposes and gains do not make any meaning in the spectrum of scientific consideration of changes that may occur in the universe, though they may influence individuals and other living beings positively or negatively. Rational principles become the only scientific basis of each change. There would be no practical justifications for the results or effects that one may generate and encounter, unless the activities initiated and executed have caused both positive and negative effects. The activities executed by individuals may create specific results, which may need to be addressed in a practical and sensible manner for the benefit of the people, as the results

should be for their genuine and correct benefits. Human beings have the immense and unique capability to set up plans and execute the planned actions for their benefit. Such activities may require immense mental planning, which they alone are capable of, before executing, and which they could correct or change as per the results being generated. The whole process could be a mental activity, without their initial physical executions. One could also verbally express the ideas or produce the same in writing for others to study and suggest changes, if needed. All the sensory-motor signals are interpreted by the brain, and they constitute the mental activity of the individual. One could provide self-suggestions, as well as make suggestions to others, when one may believe in the presence of alternate experiences suggesting such changes. Millions of people have used the positive effects of the unique mental process over hundreds of years, before scientific investigations regarding the physical basis of the same was proven. However, self-suggestions have been practiced and continue being practiced by millions of people for continuing their mental processes in belief systems, which control their life pattern and actions. The technique has been used by human beings over thousands of years for developing spiritual practices, which has helped them to strengthen themselves and their views of life and the world.

Suggestions have been always induced by hypnosis in three stages, starting with induction, suggestions, and termination [14,15]. Normally all these stages are verbally induced by one person to another. The essential feature of the hypnotic effort is to make a person accept a suggested mental state with a suggested experience as real, as it would contradict with the actual reality experienced and known [16,17] to the subject. In spiritual practice, personal efforts are made to worship a mental entity, that one believes is present in the universe, and one seeks support from the divine force. The physical contradiction or the absence of a physical reality does not cause distress or contradictions in the individual, as the mentally conceptualized force becomes powerful as one may readily believe in its physical presence, which one believes to be mentally present. This was a regular strong practice in ancient times, carried out by most people. Intense emotional states of devotion and worship of a force are normally expressed and mentally experienced by most individuals, when they also pray for care, self-protection, and protection of their loved ones. Verbal suggestions proposed by individuals, confirming the mental presence of the divine force, even though the related thoughts and emotions are experienced by an individual. They believe in the physical presence of the divine force in the heavens, that they believe exists in the universe, which one considers is beyond one's physical approach. People in general believed in the divine force they believed in, as occupying the heaven, and the evil forces occupying the hell. They never searched for the scientific presence of such divine forces or searched for their places of presence. Spiritual worship and praying caused individuals to experience the presence and strength of the force, which brought about immense peace and strength to the individual. The personal satisfaction and the strength that one may mentally experience has always served and helped individuals. Alteration in the perception of auditory stimuli has been shown to be present, because of hypnotic suggestions to ignore the presence of odd stimulus in a P300 paradigm [18-20]. All human beings with self-identified divine forces within, made efforts to lead such a noble and divinely controlled life. The divine control induced immense love in many for others who were suffering in life, which induced them to help others. They also died, as all other common human beings die, and there was no rebirth of the person. However, people who worshiped them and remained mentally devoted to them believed in the permanent presence of the divine force and shaped their lifestyle with devotion and love for the divine force and continued living a life with spiritual goals. Unfortunately, there also have been many people present all over the world, who conceptualized the divine force as their own and have not been prepared to share their love and affection with others in the world, as they were never socially conditioned to apply their own brain capability for understanding, sharing and acting on other's miseries in life.

An important fact is that the mind is a functional property of the brain and not an independent entity. There is no mind without the brain. The human brain has developed the mind, which relates to the complex sensory-motor receptions and interpretations, and interpretations of temporal and spatial sequences of signals representing the inputs from the external world, their interpretations in the brain, all of which create the signals for internal processing and interpretations by the brain. The processing leads to the creation of thoughts, representing the encoded sensory-motor signals, and their interpretations, received by the signals within the brain, and the processing is differentiated and identified by the functional capabilities of the brain. Complex, sequential and parallel processing of signals and their interpretations are carried out by the brain, all of which would refer to the sensory and motor activities of the brain. The sensory-motor activities are employed for interpretations and understanding of inputs and outputs from the brain. Monitoring own sensory - motor processes create awareness or presence of knowledge of the same, which is considered a unique mental activity of the brain. An important capability of the brain is to create, as well as accept meanings or interpretations of all sensory-motor events that could be experienced or monitored by the self or using instruments. Self-experience could also be a matter of acceptance of suggestions, when the person would recognize suggested signals, accepting suggested meanings or interpretations of sensory signals that may be used by another source or

person, who makes the suggestions. Hypnosis has been a widely used technique, when an individual is given instructions that he or she is perceiving a signal which is not present, or having an experience, produced without the presence of the event, merely as suggested to the person. Mental information on its own may never be truly reliable, unless it could be scientifically proven. Unfortunately, a huge amount of information mentally created by human beings may not have any such scientific or physical verifications. They are still accepted as valuable and positive pieces of information about the presence of powers in the universe. Not a single person has reborn on the earth after death. All the mighty forces were always present only in the minds of people. The world created by the mind without scientific help is indeed different from the world that is scientifically proven and known to exist. Science deals with the details of spatial and temporal relationships across matter, which explains the functional states of matter and living bodies.

Micro Analyzer in the Brain

A few of the earlier researchers who helped to build the platform for clinical neurophysiological and neuropsychological formulations in different brain areas were Teuber, Luria, and Petrides [21-27]. There were indeed many more stalwarts who contributed to new concepts of Neuropsychology and the functional properties of the different areas of the brain, all of which helped to build the biological and functional sciences related to the brain. This presentation was indeed different from the earlier spiritual explanations and methods of life. Conceptualization of the brain-mind as a single entity within each individual has helped the identification of a new life, with complex life properties. The general trend has been to study the functions of the different cerebral lobes and then look for the involvement of subcortical structures in the control of same functional schemes. Ever since Luria developed the concepts of micro analyzer systems at the neural levels, we have been studying the contribution of different neural structures in the regulation and maintenance of common neurocognitive processing functions. This has helped us to understand the functional interface between cortical areas, and between cortical and subcortical structures and body parts. Neuroscience is the discipline engaging the brain, for multiple monitoring and controls of the body, and generation of thoughts and sequential and parallel sensory processes and their descriptions resulting in their awareness and monitoring the awareness as well. The brain has several areas, some of them dealing with the brain at the micro and macro levels. We could search for the details of the structure and the functional properties of single neurons, whereas investigations could be carried out at the macro levels also. Studying the properties of groups of neural tissues allows us to monitor and understand the different functional properties of the brain, which form the network of the mind.

Three major types of signals are exchanged during communications, and they are related to the sensory signals, the motor signals, and those related to decision-making, regarding the appropriateness of the sensory-motor signals and the meanings attached to them. A human being becomes self-aware of the range of sensations received by his systems, motor responses made by the self, as well as from others, thoughts and decisions made by the self and received from others, and emotions experienced during thinking and responding, remembering and imagining past experiences. The mental awareness of the various above processes and own thoughts and decisions are the most precious and unique possession of the mind. The mental activity is often composed of self-repetition of verbal ideas, self-created as well as heard from others. Mental ideas or thoughts could become the basis for actions, decisions, and behaviors.

The imageries produced by the brain may be genuine sensory-motor components, or the self-interpretations of responses and actions of others, which one may make by interpreting other's sensory-motor activities. Individuals may make use of this as an idea with feelings for carrying out specific reactions. The brain cells have the functional capability to create the functional images, which is a mental process and hence could be considered a virtual one. One may recreate the same any number of times, when the unique mental phenomenon is formed from the neural cells within the human brain. The only other encapsulation of the mind, where the mind could work and create emotional effects is through music. Music produces its effects on the individual through its expressions and not much through the meanings pinned to the words. The physical systems are thus mentally recreated, with mental controls, with specific meanings and emotional effects, which have been served by the physical systems of the individual. The mental powers and abilities are used for recreating the virtual components and effects of the world, which serve as equivalent reality to the individual. The mind serves as the soul of the individual. Elements of the mind are present even in other living species, though they may not have reached the glory of meaningful mental presentations and applications, as in a human being. Several contents of the mind have been only virtual functional reality. We have succeeded in identifying specific roles played by the neural cells, which create the functional specifications, and which are considered the processes that create the mind. Own thoughts and emotional responses serve as the active role of the mind. Consciousness is an integral aspect of the mind as self-awareness of the mental processes take place during conscious mental and sensory-motor processing within the system. The human mind and the various brain functions do not appear automatically, as the functional capabilities need to be developed by the brain cells during their applications

in various challenging problem situations in life. Training for developing the mind or the mental functional capabilities is an important developmental need of each child. Such training may help to develop high mental capabilities, that would enable the person to make decisions that contribute to the development and execution of positive functional capabilities of a person in the family and society. Sensory inputs from sensory organs pass through the thalamic level in the subcortical areas, and the inputs from the thalamus have to reach the orbitofrontal, anterior cingulate, and temporal cortex for enabling these areas to work on the sensations and the meaning of the inputs for deciding on the responses, one needs to carry out. Important decisions need to be made by the frontal cortical area, as the choice of response could have important consequential effects on the individual and the society that one represents. Years back, this response was detected as the role of the frontal cortex, and the absence of such positive decision making, was called a state of "amygdala hijacking" or "neural hijacking" [9-13], when a response may straight away be carried out without frontal-cortical judgments in the brain of an individual. The "fight and flight" phenomenon, seen in intense emotional behavior, was described as "amygdala hijacking" by Daniel Goleman [9] and "neural hijack" by LeDoux [10-13]. The co-activation of both the systems is always required to be carried out for 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 socially accepted cortical controls of behavior or responses must develop during the early social conditioning period, when a child is growing. The functional capability for peaceful and positive controls of behavior develops through the cortical controls of behavior, which does not happen when the thalamus-amygdala directly activates the motor responses, which is called "neural hijacking".

The present human societies have absence of development of early social controls, as evident in various terrorist activities engaged by many individuals, and social groups, where social conditioning of emotional responses do not take place. Social conditioning is a developmental necessity supporting the cortical control functions, which would provide and strengthen the socially acceptable norms, as response to whatever input stimuli that may occur. Social conditioning depends on complex ideologies and methods developed by individuals of a society for the benefit of the society, by keeping violence away from them, and by encouraging the display of affection and care for one another, and their views of life.

Neurosciences provide the most significant and unique platform for the study of the genesis of the mind from the brain. Mind is a unique functional capability, developed from the brain, best developed in human beings. Human mind and behavior could be integrated as a complex single phenomenon of the brain. Neuroimaging investigations have revealed evidence of an inverse association between frontal lobe activation and aggressive behavior in several studies [28-36]. Presence of impulsive aggression was inversely related to the metabolism of the orbitofrontal areas, indicating absence of the frontal activation in such condition. Rainer G, et al. [37] found a significantly decreased frontal lobe metabolism in a group of murderers, whom they investigated, compared to their control subjects. The follow-up study [37] of these patients had revealed that they had absence of social conditioning in their early years of development. Studies in subjects with left fronto-lateral cortical involvement have shown greater aggressiveness [38-40]. These studies have revealed the absence of frontal activation, which was also seen in several neuroimaging studies [29,33,34], when subjects had disorders of episodic mood disorder, changes in transient and episodic mental status, and induced sadness. Damage to the prefrontal cortex results in several neuropsychological and neurobehavioral deficits [21,41-47]. They are detected as sudden increase in risk-taking behavior, rule-breaking habits, emotional and aggressive outbursts, argumentativeness, loss of self-control, impulsivity, lack of tact and presence of immaturity, inability to anticipate consequences, loss of intellectual flexibility, loss of problem-solving skills, inability to use verbal cues, and lack of concentration, etc. Reduced frontal lobe size and its lower metabolic levels have been considered to be related to the presence of aggressive predisposition, which may manifest as violent behavior, when aggressiveness remains unchecked [32,39,40,48-50]. The prefrontal involvement in violence, seen in neuroimaging and neuropsychological studies may be a predisposition, considering that there are a number of pathways which the prefrontal areas could make use of, and the absence of development of adequate frontal controls may lead to violent behavior in a person.

It is often the evidence for reality that crime investigators look for, when they consider that they have not obtained the truth from a crime suspect and hence apply investigative methods on the suspects for eliciting the truth or related information, which could support as evidence of the involvement of a suspect in the crime. Examination with polygraph reveals emotional effects when a suspect is presented with statements specific to the crime, especially when the suspect has committed the specific act. Brain Electrical Oscillation Signature (BEOS) profiling is a technique developed by Mukundan [28,51,52], which records the brain activation using EEG power changes in 7 different frequency ranges, within 1–80 Hz, when the suspect sits quietly, listening to verbal probes presented by the system, without having to make any verbal or non-verbal response to each probe. The probe is expected to make the suspect remember the earlier experience, if any had occurred, and

if the person has committed a specific act, when significant changes related to the presence of remembrance will be reflected in the EEG power spectrum of the subject. Use of BEOS profiling can be facilitated by knowledge of cognitive electrophysiology and understanding of neurocognitive principles explaining the association of different neural structures with specific functional or mental activities. Knowledge of brain functioning obtained from the functional neuroimaging studies, cognitive electrophysiological studies, clinical and experimental neuropsychological investigations have helped to understand the presence of neurocognitive processes and their localization in the brain. Remembrance of the experience produces significant changes in the power of EEG frequencies. The integrated power of different EEG frequencies is automatically analyzed, and the results are presented by the system. Forensic investigators are expected to further interview the suspect, as well as others, and search for the presence or occurrence of such specific events and actions, which are elicited from the BEOS results.

Mental expressions and maintenance of devotion may serve as a strong force within each person, for carrying out certain types of actions, which may also be supported by the chanting of prayers. Music indeed has an extraordinary effect on the mind of an individual. There is indeed no material or scientific evidence or explanation for the presence of the universe, which many believe and mentally consider as the efforts of a higher divine force, which has created and is maintaining the universe. Every individual has the freedom either to entertain such thoughts and believe in them or live without any such considerations. The maintenance of faith gives the individual an opportunity to consider a purpose for living, whereas the absence of any such faith may render living without any purpose, until one learns and builds a purpose oneself. It is an individual's choice to accept the system of thinking about the purpose of living. Man could also live like the animals, without considering any purpose for life. Love is the essence of living with the acceptance of higher force in the universe, and love makes the strongest force for one to consider and respect the needs and the rights of others to be present in the world. Love may be considered the miraculous expression of the presence of spiritual force in human beings, small signs of which we find in many animals too.

Conclusion

It is important to know that mental experiences drawn without scientific methods may not be supported by rational methods for providing specific changes or expressions. Living could become a tragedy if one resorts to totally mentally derived beliefs. One may consider them as factual, and personal decisions will be affected by the emotional effects, and one may consider that one's own responses should be adequate and justifiable to others. If the mental presence of events and other life forms are not scientifically supported, the mental experiences would never be physically verified. The personal controls of the self could be established only if a growing child has been subjected to the same through social conditioning.

Training by the family and the society alone would establish and enhance the controlling capability of the frontal lobes. The presence positive training and conditioning would refrain a person from resorting to thinking and acting violently. Gross absence of such social conditioning is evident in many societies, because of which violence may be considered a normal life method and individuals may resort to violence by hurting others. Many people believe in a higher spiritual power, as the control force in the universe, as well as that of fellow human beings, which could restrain them from violence. However, the spectrums of human beings have set up several such spiritual forces, and each group of people believe that they alone have the protection of the real divine force, whom they worship, as all other forces may be artificial ones. The mental strength that one has personally acquired by employing devotional states may develop some relative strength of the divine source that they believe in. It would work as a mental process in each such individual. The process induces one to believe in the personal choice of a divine force and may employ the mental conviction and strength for carrying out various violent actions, or display of love and care for others, and help remain abstinent from such actions which cause hurt to others. Socially rational and scientific thinking with the presence of positive emotional endowment could also empower a person to refrain from violent thinking and actions, and strongly induce personal strength, mentally drawn, for supporting others who may need help.

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