

## BRAIN AND YOUTH

### PREFACE

Brain is the psychological element which is responsible for the behavior, emotions, thoughts and institution of an individual which is connected to many of the social aspect of the world, understanding the function and the process of shaping the brain is very much necessary.

In the youth phase of an individual the brain reshapes itself with the collected information in the child phase. It is important for a proper focus and responsible company during this phase for all the inherited values and ethics to stay with the individual to make a better global citizen.

Nothing is impossible and that too with same capacity of brain provided to every individual which is getting intensified by the mutation process from one generation to other only the training part is to be nurtured for the full functionality of the brain.

In this paper I have discussed about the brain, changes in the brain during the youth phase, the way in which the brain should be trained, the factors which influence the positive attitude and frequency so that the growing individual who has to get fixed as a responsible and contribute adult in the society can make use of it and also for the same individual to bring up a generation which will be progressive and with values.

-Dr.Priya Prabhakar.

## BRAIN AND THE YOUTH

### INTRODUCTION:

There is a lot of connection between the brain and the youth because many of the behavioral changes exhibited by the youth are due to the changes happening in the parts of the brain. Understanding the signaling and the functions of the brain is very much important. Many of our behavior, emotions, thoughts and activities are very much connected with these signaling.

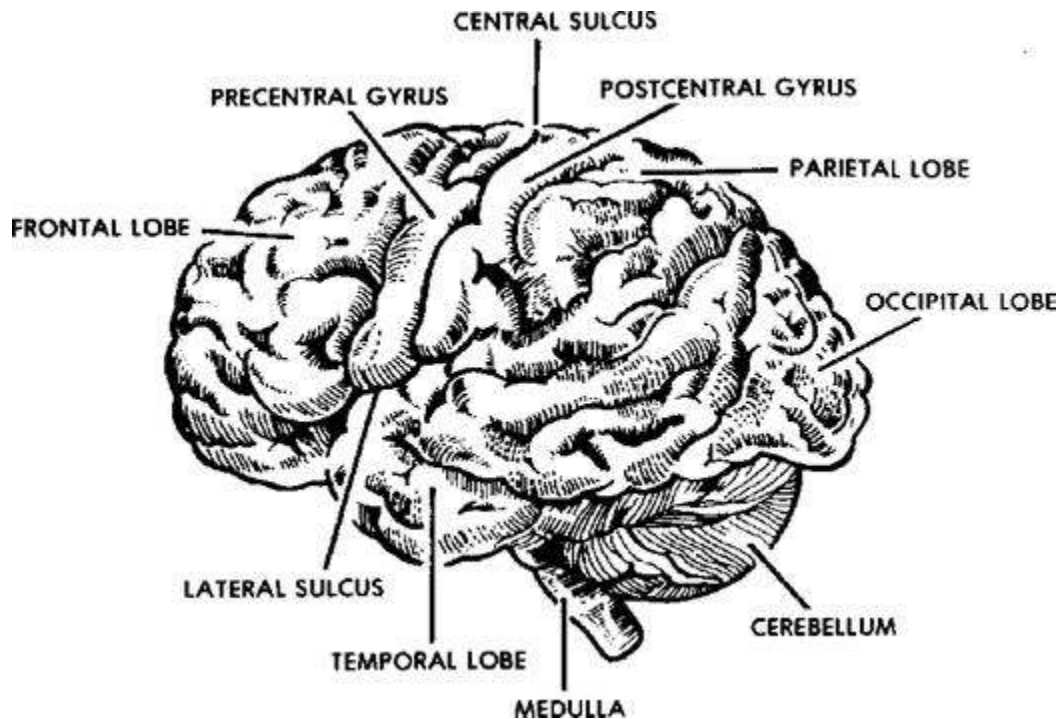
You must have endured this situation, where you would have got agitated to your extreme with full of anger filled within you and as soon as you knock on something or yell at someone you would feel relaxed and think why did I get angry now? This is due to the signaling of the brain. Another fact that I would like to quote is about the laughing therapy, it is that when you laugh the stress creating hormone is secreted very less contributing to a peaceful mood.

Many of us fail to realize the psychological changes associated with the phase and add more pressure the individual who is ultimately forced to react deviantly and exhibit a higher range of risky behaviors. Many of the parents whose children are in the adolescent stage will start stressing themselves and react very rigidly towards the adolescent individual in a fear of him exhibiting risky behavior.

This stage is really like a cloth on the thorn and hence during adolescence understanding about the cognitive development of brain is very much necessary as this changes or development is directly related with the behavior and thoughts of the adolescent individual.

When analyzing the role of brain in the behavioral, emotional and personality deciding in human being it is very much necessary to understand brain and what this three pound organ can do with 132 pound weighing human being.

## THE BRAIN:

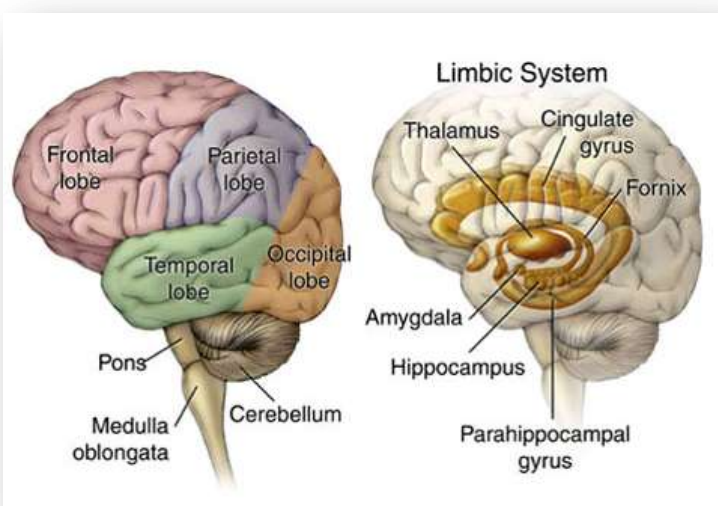


Every animal we tend to consider has brain but the most unique and the complex form of brain is the human brain. Brain being one of the smallest components is said to control almost every activity of our body, it gives us power to speak, imagine and solve problem. It controls our body temperature, blood pressure, heart rate, breathing, it accepts a heap of information that we learn daily through various senses like seeing, hearing, smelling, tasting and touching, it handles our physical movement and lets us think, dream, reason and experience emotion. Truly human brain is an amazing organ and learning about the facts and functions of brain makes me filled with curiosity and excitement. As I felt of sharing that feel of excitement with you, I thought sharing some of the curious facts and take you along the early roads of the studies.

There is around 80 to 120 billions neuron found in the human brain whose function is carry signals from brain to various parts of the body. Neurons connect to each other to form neural networks. Artificial neural networks are the mimic programmed from the properties of biological neurons. The connections between neurons are much more complex than those implemented in neural computing architectures (Artificial Neural networks). The basic kinds of connections between neurons are chemical synapses and electrical synapses. A chemical synapse is a junction between two neurons. The first neuron releases a chemical which rapidly crosses the small space across and binds to a receptor which is the second neuron. Here the first neuron is the presynaptic neuron, the second neuron or the receptor neuron is the postsynaptic neuron and the chemical is the neurotransmitter.



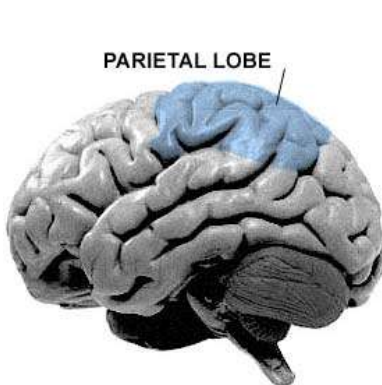
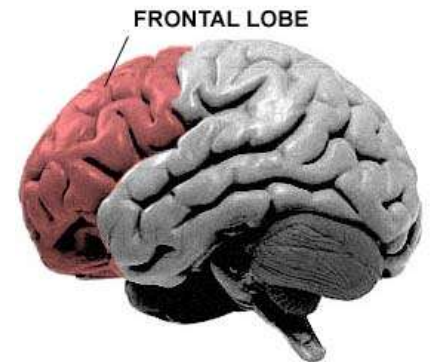
An electrical synapse is a physical connection between two neurons with a pore allowing charged particles (ions) to pass from one neuron to the other. Unless there are a large number of pores, or the pores are very large, the connection is weak.



The Frontal lobes, parietal lobe, temporal lobe, occipital lobe, Pons, medulla oblongata, cerebellum are the parts of exterior brain. I think I have made you to remember your own school days where we studied about these parts for the first time.

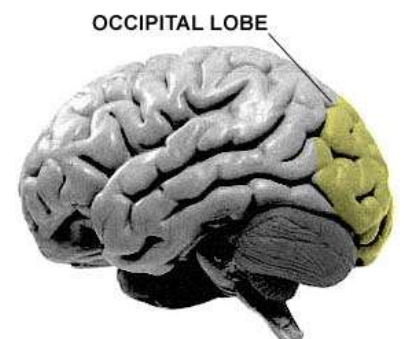
Now let's discuss about the functions of the above mentioned parts of the exterior brain.

**FRONTAL LOBES:** The frontal lobe contains most of the dopamine-sensitive neurons in the cerebral cortex. The dopamine system is associated with reward, attention, short-term memory tasks, planning and motivation. *Dopamine* is a neurotransmitter. Do make a note of all the italicized that we come across as most of these play a major role in the behavioral and thought attitude of an individual. Frontal lobes helps control skilled muscle movements, mood, planning for the future, setting goals and judging priorities. You are who you are because of this lobe. This area determines personality and emotions. This lobe is a part of the cerebral cortex.



**PARIETAL LOBES:** This region of the brain helps people understand what they see and feel. It also controls how they understand and process information about the environment around them, such as distance and position of objects. This lobe is part of the cerebral cortex. This lobe is divided into two hemispheres - left and right. The left hemisphere plays a more prominent role for right-handers and is involved in symbolic functions in language and mathematics. Meanwhile, the right hemisphere plays a more prominent role for most left-handers and is specialized to carry out images and understanding of maps, i.e. spatial relationships.

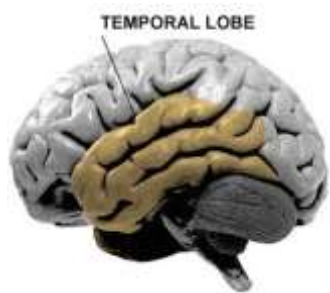
**OCCIPITAL LOBE:** Call this the visual center. This area determines if you understand what you're looking at. Damage to the occipital lobe could cause hallucinations, make objects appear larger or smaller than they are or make the colors look abnormal. This lobe is a part of the cerebral cortex. The two occipital lobes are the smallest of four paired lobes in the human cerebral cortex. Located



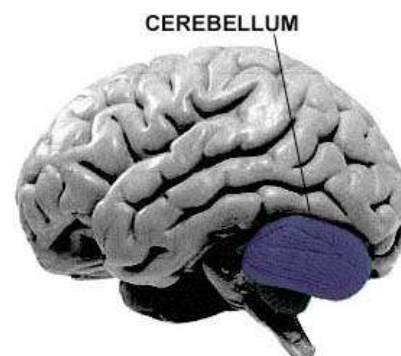


in the rearmost portion of the skull, the occipital lobes are part of the forebrain.

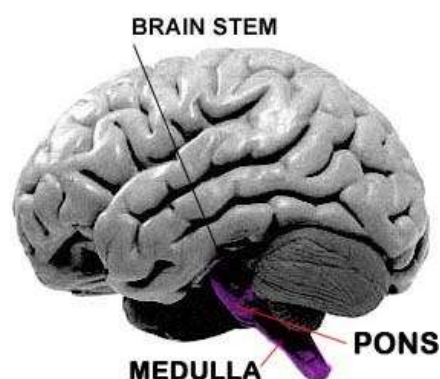
**TEMPORAL LOBE:** This region controls your hearing and the ability to recognize words. It can also affect memory. Damage to the left side of this lobe can cause problems remembering what people said. Damage to the right side might stop you from recalling music or pictures. This lobe is part of the cerebral cortex. The temporal lobe contains the *hippocampus* and plays a key role in the formation of long-term memory. The temporal lobe contains the *limbic system* which includes some of the main parts which is important in the behavioral and emotional function of an individual.



**CEREBELLUM:** Cerebellum which means “Little brain” is a region of the brain that plays an important role in the motor control. It may also be involved in some cognitive functions such as attention and language, and in regulating fear and pleasure responses, but its movement related functions are the most solidly established. The cerebellum does not initiate movement, but it contributes to coordination, precision, and accurate timing.



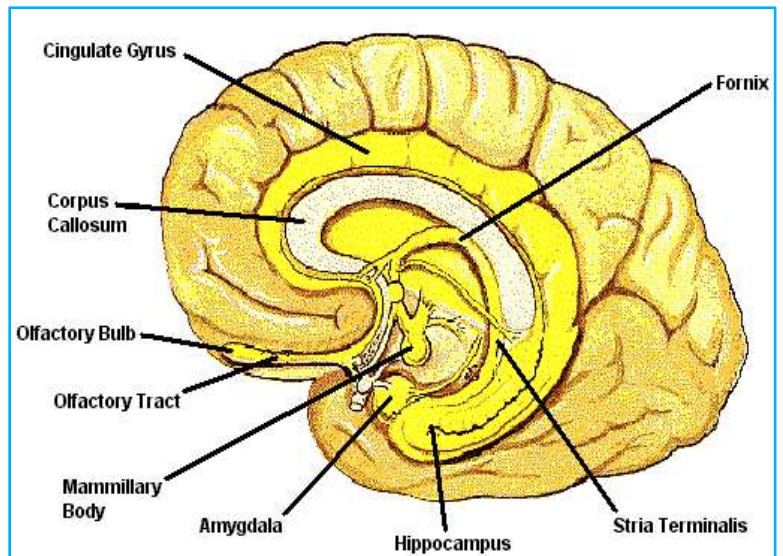
**PONS AND MEDULLA OBLONGATA:** Pons and Medulla oblongata are the parts of brain stem.



The brain stem connects the lower region of the brain to the spinal cord. Best described as the life center, it controls breathing, heart rate, blood pressure and digestion. The Pons is the upper half of the brain stem and it measures about 2.5 centimeters in length. The Pons contains nuclei that relay signals from the forebrain to the cerebellum, along with nuclei that deal primarily with sleep, respiration, swallowing, bladder

control, hearing, equilibrium, taste, eye movement, facial expressions, facial sensation, and posture. The medulla oblongata is the lower half of the brain stem. The medulla contains the cardiac, respiratory, vomiting and vasomotor centers and deals with autonomic, involuntary functions, such as breathing, heart rate and blood pressure.

### PSYCHOLOGICAL CHANGES:



**LIMBIC SYSTEM:** The limbic system and the autonomic nervous system are the two most significant part of the nervous system influencing emotions. The main parts of the limbic system responsible for emotions are *amygdala* and *hippocampus*. It is also to be stressed that all the parts in the limbic system is interconnected and is involved in the sense of emotion but the contribution of the above mentioned two parts are more. During the adolescence the limbic system of the individual changes and it is important to know how we are influenced by various kind of emotions minute to minute.

**AMGYDALA AND HIPPOCAMPUS:** Amygdala is an almond shaped structure found in the interior part of the temporal lobe. The amygdala is connected to the hippocampus, septal nuclei, prefrontal area and the medial dorsal nucleus of the thalamus. These connections make it possible for the amygdala to play its important role on the mediation and control of major affective activities like friendship, love and affection, on the expression of mood and, mainly, on fear, rage and aggression. The amygdala sends responses with the received signaling of emotion. It is the experience stored in amygdala signals us to fight or flight in a situation of danger.

Hippocampus stores the memory, that is it stores the situation and the amygdala stores the reaction or the consequence of the situation and when a similar type of situation is endured by the person the hippocampus first remembers the previous happening and the amygdala remembers the consequence or the emotional reaction to that situation and signals us the way we should react to this. If the defense handled previously managed the situation the amygdala will signal the same defense or else it will warn not to take that defense and try for a new one.

Hippocampus is the major part of the brain that is related to the memory function of the individual with the formation of long-term memory. Hippocampus is the region where the short-time memories are changed into long term memory. The hippocampus contains high levels of glucocorticoid receptors, which makes it more vulnerable to long-term stress. It is also found that child Subjected to stress shortly after the birth can affect hippocampal function in ways that persist throughout life.

In the present it is discovered that women on average, have a deeper limbic system, a set of brain structures responsible for emotions, smell, feelings, behavior and long term memory than men.

The other part where the changes happen during the adolescence is in the prefrontal cortex, which is involved in decision making and cognitive control. During this period the efficiency of information processing and the neural connection between the prefrontal cortex and other regions of the brain are strengthened.



## **BRAIN AND THE YOUTH:**

Now as we have discussed about most of the important and basic parts of the brain let us deepen our path of travel to the concept of the paper. As we came across the different functions of the brain we realized that most of our function and movement is centralized in this 3 pound part “BRAIN” as I said isn’t this amusing? In the child phase of life we were completely new to everything in the life and we had our parents or any other elder by our side to orient us and help us perceive the right things in life and they also taught us to identify the difference between the good and bad.

The next phase we start exhibiting our identification in the society and want ourselves to be identified by our 3<sup>rd</sup> order relatives like friends, distant blood relatives, neighbors, and the like. It is because of this we start creating a distance from our parents, if we have an elder sister or elder brother then this phase can have some sort of influence and closeness with them but again this bond of sibling must be good understanding the responsibility and importance of each other. It is in this phase many of the psychological and physiological changes occur in the individual. The company of a responsible elder (the one who would top the list will be parents) is very much necessary at this stage. The changes must be understood by the individual and he must also know the importance of listening to the words of their parents. Exposure to them is very high to our parents as they have experienced a life in an atmosphere of two generations and their view of our generation will be with the experience of their generations. The only problem with the elders of ours will be their over concern given to the society, who at no time was with your efforts and hard work than to themselves and their family. This is like the blind faith and trust we hold with our friends whom we allow to make use of the relationship we share. Only by the failures we learn life and this experience will never leave us in oscillation and we will always take a perfect and a stern decision with full of confidence. I state this for the individuals to be alert as the failure can cost less without affecting the future and for those who are capable of learning from other’s failure will realize it.

Brain is like a ball of clay dough, that we use to play making shapes when we were kids. Nothing in the brain is pre-determined it is all about how we nurture the brain. When a child

is born, its state of mind is fresh. Till we make it come close to social influence and start nurturing them according to the society everything is lost.

In the present all that a parent or an individual wants is a good name and status in the society. They are never cared about the purpose they were born for and they never give concern for the life that the supreme power has gifted them. The conscious mind is fully taxed once we get a small link to the society.

Your brain is what you think repeatedly, your brain is what you are exposed to, your brain is the environment you were subjected to, and your brain is all in your hands. Do you remember the discovery we came across earlier about the deeper limbic system in women, why is that so?

“*Men* are *physically* strong and *Women* are *mentally* strong”, it is because of this men are able to lift heavier weights, men are able to do strenuous hard work and women are strong at problem solving, are highly associated with feeling and in expressing it.

Hence it is very much important to take care of the environment we grow in. It is due to increase in the networks between the neuron, the individual is completely energized during the adolescence. All these energy must be oriented positively as this will fix them to be a better individual with humanity. The life in the adolescence must be in line with the conscience which alone will intuit the individual with what is morally right and what is morally wrong.

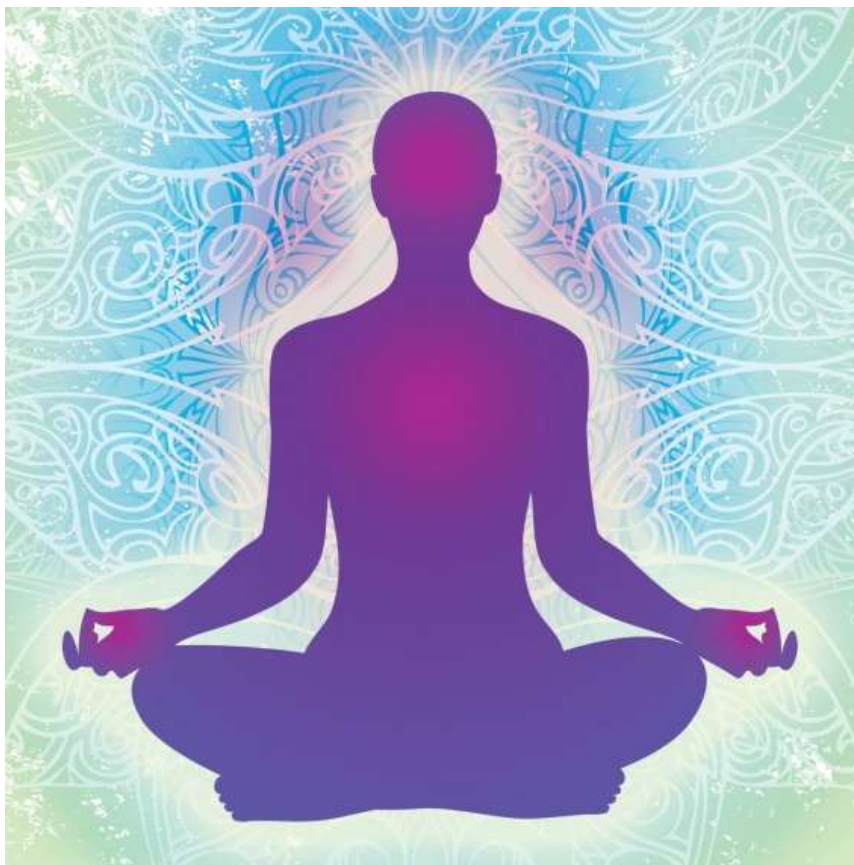
The circle or the world of individual in the present has widened up to a greater extent than the opportunity which was available for any of the earlier generation. This due to connection an individual is able to establish with any part of the world right from his place through *INTERNET*.

Internet is definitely a boon to the human community, as everything in this world has got both positives and negatives in it, it is up to us to take what is necessary for us and to choose which will set us progressively. If we start to fear about the negatives we cannot learn anything in life and all that we can do is lock us inside a dark isolated room without doing any work.

What kind of information is not available in the internet? From the speciality of a country to its day to day activities of the government can be known being anywhere in this world. The exposure of a person in lifestyle, diet, fashion and all spectrum of life has increased tremendously to global level and tuning the brain in a progressive manner has become very simple meanwhile we must use and approach every technology for its purpose and for the purpose we ought to use.

It is also because of this wider opportunity the parents are afraid about the adolescent child, it is always better to have your parents known with all your activities as their concern is not to restrict you anywhere but to protect and nurture you as a best individual.

How many of you have experienced the **AURA**? How many of you have ever listened to the term **AURA**?



In this picture can you not the subtle, luminous radiance around the individual?

This subtle, luminous radiance around an individual or an object is called aura.

There are many pictures of Gautama Buddha, Jesus Christ and many other individual who have advanced spiritual knowledge with a golden yellow colour light behind their head, this is nothing but the aura. The painters were actually able to see the aura of them.

AURA is an important aspect which some of the atheist regret to accept because most of the articles about aura till present are associated with religious and spirituality.

There is some sort of energy or power which directs the life, day to day happenings and the changes in the world. Some calls it to be god, some calls it to be nature and some calls it to be the power of soul or self. Likewise the traditional language of scientist is different and the language of the spiritualists is different. Simply because a spiritualist says the aura to be a halo of colored light around an object in a pure spiritualistic term, the concept cannot be denied or said to be superstitious. Always perceive the content or the phenomenon which is the purpose of communication and not the words they use to communicate.

The auras can change the world. Scientific experiments are being carried out to capture the constant energy that is emitted by an individual through technique called bioelectrophotography. It is that when the neural activity is subjected to electrical impulse a burst of light or photon and electron is derived around the body which is aura in metaphysical language and energy field in the scientific language.

The aura reflects our health, character mental activity and emotional state. It shows what we are and has a greater influence to the surroundings. We have already seen that the neural connection in our body is taking place in two type namely electrical and chemical connections. Due to the electrical synaptic of neural connection this phenomena of aura is possible.



It is that a new born baby identifies its parent by the aura. If any person with different aura nears it with a broad smiling face the baby will start crying. Hence the art of identifying aura is

inherent in every individual as we don't give much concern towards it and orient our behavior and emotion towards the society this art fades away.

There are some people who even as a stranger a kid will start mingling with them very well as if they know each other for years, this is also due to the positive aura possessed by the individual.

Hence Mind, Body, Soul is all about what we think and what surrounds us. It is always the best to choose the right place with peaceful environment for progressive growth of the individual and for a peaceful world for others to share the frequency you give out. Stop living and behaving for someone else who in no way is connected to your living and reward. Do what you feel is right for you with the conviction of your parents owning the responsibility for your decision.

#### **CONCLUSION:**

Hence it is due to psychological changes happening during this phase there is a change in the behavioral and emotional aspect of an individual. The energy and the increase in the thought process of the adolescent individual must be oriented and used properly for avoiding social calamities and problems.

It is also that due to mutation the child carries the traits and experience of their parents and their IQ level is multiplied than that of the last generation and we cannot expect them to behave and perceive things in the same way as we did. Hence an environment which accepts all its energy in the positive way is very much important.

A child who is subjected to an environment where the family members or the parents give more concern to the religion and talk more about it at home the child's brain will develop affiliation towards religion and will start behave religiously. In every action that individual will start thinking in line with the religion. A classic example would be a boy who killed his teacher in the present. An individual who is brought in the above described environment will only notice that the boy is a Muslim and the teacher is a Hindu, hence will be a murder for religion according to him. But for an individual who is brought up in a broad way teaching unity in diversity will look into the actual fact for how much stressed the boy would be who has been





pushed to this situation and approach the problem with a purpose of bringing in a qualitative solution.

Everything is within, how a favorite music of yours soothes your mind and refills it with energy and enthusiasm? How a tragic episode of your favorite serial affects your mood? How a failure of your favorite hero in a movie triggers your anger? How your room makes heaven to you? It is all about the neurons and the connectedness we possess with the respective music, actors in the serial or movie and with the environment. Hence choose all that will keep you happy and that will fill you with positive energy, keep it with you always because it will alone help you to give out your maximum capacity and share a vibration and an aura of positiveness which will make the associated person to feel the same.

A world with people of positivity will be peaceful and progression is never a matter of question in that environment. Constitute a better individual, family, society, nation and a better world as a whole.