

The Workshop

During the vacation, RAJ worked in an electronic workshop owned by his elder brother's friend. He used to learn about repairing small electronic circuits of TV, Radio, Telephone etc.

He felt that circuits always had life and the components like resistors, capacitors, inductors, diodes, transistors, transformers were like human body parts and the current flowing through the components was like blood flowing through the body parts, all functioning with some purpose.

He questioned himself. How the world looked like if the alternating current was not converted to a direct current? Just imagine huge transformers carried by every device such as a TV or a Radio or a Telephone. Imagine the size of every device. What did it take for those great scientists such as Albert Einstein, Thomas Edison, Nikola Tesla to make it happen? They all had a reason, They all had a purpose and they all did triumph their mind in achieving their goal.

Can the Batteries ever come into existence without the inception of direct current?

What if semiconductors were not discovered? He learnt that all the circuits dissipate energy in the form of heat and It is just because of those semiconductors which makes it possible for all advancements in electronics and miniaturization because of their unique property of negative temperature coefficient of resistance. (resistance decreases with increase in temperature). He studied about those valence or free electrons of a conducting or semiconducting material that contribute for conduction and thought Man can also achieve his goal if he is free to think with a purpose much like those free electrons.

Whenever he saw a circuit, he visualized a war between the current (flow of electrons) and those resistors (which oppose the flow of current) much like the war inside man's mind with his conscience.

He always related that resistors are negative demons in our thought process which attenuates the capacity to think with a reason while the Capacitors and Inductors are like positive traits of man contributing to store energy (either electrical or magnetic) and deliver when required.

Diodes and transistors are like control elements to focus or switch our mind in whichever direction we desire.

One day he was soldering a microphone inside an old telephone instrument. It was a typical carbon microphone. It was amazing for him to imagine those sound waves striking a thin metal diaphragm compressing the carbon granules producing varying resistances resulting in a change in current. He thought that as a correlation to the stream of air exhaling from lungs causing vibration to the vocal cord or turbulence in the vocal tract, occasionally pausing the stream of air and intermittently releasing the motion of air through the narrow gaps of the changing configuration of mouth producing the speech.

He thought just as how the current flows between two points in a circuit because of the Potential difference, Information or Knowledge also flows between individuals and a difference always exists due to the variation in understanding capacities of mind.