

Electricity and Incandescent Light Bulb

The word electricity is derived from the Greek word “elektron” and New Latin word “électricus” which mean amber and amber-like respectively. Electricity is a word used to describe the many phenomena resulted from electric charge. The word itself is ambiguous to refer similar concepts in scientific usage. Many devices were invented thanks to the discovery of electricity and one of the most useful inventions is none other than the incandescent light bulb. Incandescence means heat-driven light emission (Wikipedia.org) and achieved by passing electric current through thin filament and heating it up until it produces light.

Awareness of electricity existed since Ancient Egypt from electric fish which were called as “Thunderer of the Nile”. In 600 BC, Thales of Miletos made a series of observations on static electricity from friction rendered amber magnetic. Millennia later, an English physician William Gilbert studied electricity and magnetism and distinguished the lodestone effect by rubbing amber. He was also the one to coin the word electricus which later became electric and electricity in Thomas Browne’s *Pseudodoxia Epidemica* in 1646. Perhaps the most well known experiment on electricity was done by Sir Benjamin Franklin in 1752 when he flew his kite with a metal key attached to it by dampened string in a stormy weather. From this experiment, he concluded that lightning was electrical in nature when he observed a number of sparks jumping from the key to the back of his hand. In 1800, Alexandro Volta created a battery called voltaic pile which was a more reliable source of electric energy than electrostatic machines used at that time. Possibly similar voltaic pile was used by Humphry Davy when he powered the first incandescent light by passing

current through thin platinum strip. Davy's experiment served as the foundation for Thomas Edison's version of commercially practical incandescent bulb in 1877. Henry Woodward and Mathew Evans built their lamps with different sizes and shapes of carbon rods held between electrodes in nitrogen filled glass cylinders and attempted to commercialize the lamps but failed and later sold their patent to Edison. Edison refined the design further to make the lamps last longer and more efficient for commercial fabrication.

Electricity is a widely used form of energy and can be generated in many ways. We have become very dependant on electricity since almost all of our daily activities such as telecommunication, transportation, heat, entertainment, and production rely on it. The commercialization of incandescent light bulb in 1870s resulted to lighting as one of the earliest publicly available applications of electric power. These bulbs come in different shapes, sizes, bases, and electrical power consumption measured by watts. Since incandescent lamps emit heat as well as light, they are commonly used to hatch eggs, infrared heating for industrial heating, and many other applications that require both heat and light. Today, incandescent lamps are being replaced with more energy-saving alternatives such as fluorescent lamps and light-emitting diodes (LEDs).

References:

http://en.wikipedia.org/wiki/Light_bulb
<http://en.wikipedia.org/wiki/Electricity>