

Thomas edison: an incredible inventor

Science



One of the most well known technological innovator and manufacturer was Thomas Alva Edison. He invented many devices which are still being used today, with some modifications. He even built a vote-recording device before he was twenty-one. Some inventions were the phonograph, incandescent light bulb, and the kinetoscope, which was much like a motion picture camera. In total, he has patented 1, 093 inventions. He earned the nickname “ The Wizard of Menlo Park”.

While Edison was in Newark, NJ, he and a team of researchers worked on different aspects of projects. He would hire unique and brilliant individuals. Each were given specific research responsibilities. He took the time to take meticulous logs off everyone’s responsibilities, their progress, and their discussions. All progress needed to be put down somewhere. This becomes useful later on for when he gets a patent lawsuit. Edison moved with some workers to Menlo Park, New Jersey in 1876 to allow this place to be an “ invention factory”. This was the start of some of the greatest innovations. He worked with Charles Batchelor and John Kruesi and together they “ made major discoveries involving the telephone, the phonograph, the electric light bulb, and the electric generator” (Caery). Menlo Park was essential to this time period because the concept of it was new. It was a facility specifically for inventing new technology. Technology was just starting to come forth and slowly build up speed. Eventually, competitors started to make their own research and development type facilities similar to Edison ‘ s Menlo Park. None were able to match or truly compete against it.

Menlo Park is an essential part of modern businesses. It represented the first research and development facility. What Edison does in Menlo Park creates a

strategy of innovation that even businesses use pieces of in today ' s structure. A known concept of what Edison does is called technology brokering. There are two main parts to it. One is to connect distant communities. Some companies take part in different industries and markets which allow the company to see how technology can effect one market. Two is so that they then can see if that technology can be applied to their other industries. When one technology is in used in another industry, that becomes its own community, which can be expanded upon. It would require new networks of people that can lead to new ideas. It also allows new challenges to be solved and allows technology to reach other industries through the new ideas and communities. An example with Edison ' s telegraphy, which consists of transmitters, specific batteries, and receivers, can be used in other aspects and places. He built a police alarm which had a dedicated telegraph line from home to police station (Hargadon). Another example is a gold-price indicator he built, which uses the telegraph and an automatic recorder. With this, it would sent gold prices to the stock market offices (Hargadon).

Edison had competition with other innovators. Competitions grew to see who could get a patent for an invention first when multiple companies are working on a similar idea. For example, Edison, Alexander Graham, and Elisha Gray were competing for the telephone patent. Bell won since he was able to publicly display a working telephone model. Later on, the telephone that Bell manufactures eventually uses parts from Edison ' s design (Carey). Other inventions that Edison made, such as a way to strengthen in longer distances, eventually were integrated into Bells other models. This type of

competition is extremely time sensitive. Having Menlo Park ' s lab as just a research and development area helps with the researchers since they would only need to focus on their research. Bell Labs is a company that is still up and running even today. This brings up some questions. If Edison and his team finished the telephone on time, with a demonstration ready, how different would today's telephone company ' s be? With Bell Labs, they created many departments that grew and eventually separated from the company. Would today be different if Bell Labs never existed and none of the companies were built?

One of Edison ' s most significant event was when he found a way to make electricity useful. He worked with George Westinghouse and Nikola Tesla during the late 19th century so bring electric lighting into houses and offices. Incandescent lighting is when light is produced by heat. Around 1870s, there was already lighting called arc lighting. Those were placed in large indoor rooms such as a stage and outdoors in streetlight lamps. Arc light was proven to be impractical in housing or offices. During the 1879, Edison did research in an entire electrical systems which would deal with a generator, a distribution system, and a light bulb. His main focus though was the light bulb. It needed to be strong enough so that the heat wouldn ' t cause the light bulb to explode. He worked with carbon filaments which burned inside a glass globe as electricity flowed through the filaments. During the same year, Edison worked with Francis Upton to make a generator that produced direct current, which is also what Edison is very well known for. Direct current was used for incandescent lighting.

With what he currently had in lighting, he was able to get investors, such as J. P. Morgan, to form Edison Electric Illuminating Company of New York in 1880. At this point, Edison made a simple and basic distribution system between his generator and his light bulbs. In 1881, the company started building places for the generators and the cables that connect those to buildings in New York. There was no point in staying in Menlo Park, so in 1882, Edison closed that lab and moved to New York City.

Direct current and indoor lighting had become commercialized. People can pay for electricity, wiring, and light bulbs. During that time period, Edison removed gas lamps and any danger they caused. With lighting commercialized, Edison can find different ways of using light bulbs. Whether he did or not, does not matter, what matters that in our time, we are still using the concept of wiring and light bulbs. A lot of wiring, electrical distribution, and light bulbs have changed over time to be safer and more efficient. Other inventors found different ways of applying light bulbs such as flash lights. We also still pay for electricity.

This brings up a few question. It was known that there was a rivalry between Nikola Tesla and Edison. Tesla announced that he had found a way for free energy while it was wireless energy. But he stopped working with Edison and could not find enough funding for this project. In the end, he only completed a portion of it. If Edison wasn ' t such a great business man, would we have free electricity today? Or another phrasing of the question, if Edison wasn ' t so greedy for fame and tried to work with Tesla, would there be free energy today? Would technology be further ahead if Tesla and Edison worked together?

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In 1887, Edison built a five-story laboratory in West Orange, NJ. He mostly moved on from electricity after the formation of General Electric Company in 1891, which is composed of Thomson-Houston Electric Company and Edison ' s manufacturing operations. He focused on motion pictures, storage batteries, and mining. Edison met a photographer who photographed animals in motion which lead Edison to try to develop a solution. He based his approach on “ recording movement as if it were sound” (Carey). With his research team, they invented the kinetograph, which would be considered the first motion picture camera. Sadly, it only allowed one viewer to see the images move. Nonetheless, the concept reached modern times. The projection has also become much stronger and detailed.

In the 1890s, he started working on storing power with alkaline batteries. It was made with a purpose of powering homes that didn ' t have electricity to “ powering telegraph signals along remote stretches of railroad track” (Carey). In today ' s world, alkaline battery is used often. The double A batteries used in a television control is an alkaline battery.

Edison was known as an inventor and a businessman. Some of his business strategies and innovation strategies are part of today ' s technology company ' s structure. Many of what was invented by him and his team have been redesigned for safety and for today ' s needs. No matter what, a concept of something he made will live on in business and technology.