Final Project 1: Mathematical Principle

Throughout the Middle Ages of Europe, there was a glimpse of the Renaissance remaining which led to researchers becoming more observant to their surroundings from a little speck of dust to beyond outer space. However, political, and religious reasons suppressed the researchers from publishing their ideas. As time goes by, the suppression from religion lessened and people are eager to discuss new theories and philosophies. During the 17th century in England, the concept of mathematics was brought up. This concept allowed us to explain everything the world has to offer which led to scientific revolution.

The center of the scientific revolution was Isaac Newton. One of his major works, *Philosophiae Naturalis Principia Mathematica*, translated as "The Mathematical Principles of Natural Philosophy" was the steppingstone to the progression of science. This allowed mankind to understand the laws of the universe. Newtonian mechanics were used to form thermodynamics and electromagnetism in the 18th and 19th century. As such, many physic problems were converted to mathematical problems. Although, some are transcendental concepts that the entire Newtonian mechanics were built on the foundation of time and space created by God that it was not challenged nor verified.

After 200 years, the Newtonian mechanics encountered a crisis. In a speech that was delivered by Lord Kelvin at the Royal Society on April 27, 1900, he mentioned there were two "dark clouds." The first dark cloud was the wave theory of light and the second was Maxwell-Boltzmann's theory of energy equalization. As for the result, it destroyed the Newtonian mechanics, quantum mechanics and relativity brewed up a storm in the world of physics, etheric model were destroyed, concepts of absolute space and time were forgotten, and there was no place for gods in the scientific world.

In the 20th century, Albert Einstein became the beacon of hope in the world of physics. He published four papers in 1905 which explained the theory of quantum light, Brownian motion, and the special theory of relativity. He rewritten the universal gravitation with geometric language, and the general theory of relativity was born from it. A new method appeared which is called theoretical physics. For example, the Big Bang, gravitational waves, or black holes are the kinds of concept that human could not imagine before appeared.

In conclusion, Isaac Newton began to shape the foundations of science and math, but his theories and concepts crumbled as time progresses until Albert Einstein began to reshape the foundations of math, science, and physics. Einstein's discovery brought drastic changes to the scientific revolution. As humanity continues to study and learn the laws of the universe, so does science.

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