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IMPACT OF NEWTONIAN MECHANISTIC VIEWS IN CONTEMPORARY SOCIAL POSITION

Hussain Ahmed Barbhuiya, Assistant Professor, Department of Physics
Moinul Hoque Choudhury Memorial Science college, Hailakandi, Assam, India
Email-hussainbarbhuiya9@gmail.com, Ph No-9435179512

Abstract : It is obvious that without the application of scientific technologies the running society will become paralyzed. The society today attains its peak throughout the different aspects of its scientific inventions and discoveries, and most likely the faiths and beliefs are also changes time by time with the knowledge gained. The society of ancient era with the culture is of enormous diverse compared today, which is well thought-out changes by different inventions and discoveries of the Scientists. This paper is to elaborate the analysis of ancient and modern culture and an attempt to reconcile the both with the view points of major discoveries of Sir Issac Newton's like Laws of Gravitations and inertia concepts. It is emphasizes the progression of the contemporary society and culture by the Newton's Mechanistic views and role played by him for the development of modern science.

Keywords: postulates, supernatural, gravity, inertia, autism

INTRODUCTION

The contribution of Sir Isaac Newton towards development of science and scientific temperament is immense. Newton has postulated several scientific theories which significantly changed people's views of the Universe during his time and beyond. He is particularly remembered today for creating a new era of scientific attitude in peoples mind. Prior to Newton, it was conceived popularly that the universe was as a static body controlled by a supernatural power. However, Newton, contrary to popular belief of his time, proposed the idea of the Universe as a body in motion. According to Newton, the universe was created and set into motion under the command of a powerful God, but he does not manage its daily physical occurrences (Avegalio 112). He compared the universe to a large clock created by God. Also, he compared the universe to a huge machine made up of interacting components (Haught 261). Newton based on his idea on the concept of inertia, which states that every object tend to remain at rest or state of motion unless it is compelled by other object or external force to change its state. This mechanistic view, which developed base

of modern science of classical mechanics, was later on extended to other fields such as economics, history and political science.

Scientific foundations

Supernatural belief of the Universe was contradicted when Sir Isaac Newton published his scientific findings on 5th July 1687 under the name of *Mathematical Principles of Natural Philosophy*. The Mathematical Principle of Natural Philosophy laid the foundations of classical mechanics. Initially peoples' understanding of nature was based on theological teaching (Davies 183). The theologians believed in existence of supernatural for creation of the universe. It was also supposed that the day to day activities of Earth and planets and daily physical phenomena are controlled by extreme strong supernatural force (God). All religions asserted that there existed a supernatural being namely God, who controlled the operations of the universe, which is static (Capra156). Newton's findings on the Mathematical Principles of Natural Philosophy framed a borderline between science and religion. His views about the universe contradicted that of the religion he himself followed. He was a Christian and thus believed in the existence of God and held that God created the universe. But, Newton was not ready to accept God as the controller of the Universe. The different religion of that time, did not welcome the idea of Newton, who attempted to detach God from the daily operations of the universe.

Newton shed light on the scientific nature of the universe, and his approach continues to develop even till date. Several Biographers and scholars labeled Newton as deist as he invoked God's active interventions to prevent the stars falling in on each other, perhaps in preventing the amount of motion in the universe from decaying due to viscosity and friction. The force gravity comes from immaterial influence, sometimes he hinted. However he differs from adherent of deism that God is a special physical cause to keep the planets in orbit. Newton does much on development of calculus and by using calculus he could explain how planets moved and why the orbits of planets are in an ellipse. One of Newton's proof is that the Gravitational force causes the planets to orbit the Sun and the Moon to orbit Earth. He also attempted on establishing the relation between science and religion but rejected by the predominant ideology of Christianity of that God controls the operations of Universe. Newton continues more evidence on scientific concepts and received boost when John Locke supported him in his book, An Essay Concerning Human Understanding which was published in 1689 (Haught 261). Newton was the first who realized that both induction and deduction methods are needed for discovery of science which in turn revolutionized the field of science and took into the modern age. Modern scientists also backed the mechanistic idea of Newton and affirmed that universe and religion are different entities.

Mechanistic view

Sir Isaac Newton (1642-1727) lived in a philosophically turbulent time and witnessed the Aristotelian dominance of philosophy in Europe. Before the entry of Newton there were two existing contradictory theories on nature of the universe, which are inductive method and deductive method (Nakayama). Both approaches are opposite in nature, as inductive approach takes from specific to the

general while deductive approach make inferences from general to the specific conclusions. The inductive method was developed by Francis Bacon while deductive method by Rene Descartes. Both the theories contradicted each other in several aspects for describing the nature of Universe. The mechanistic theory developed by Newton explained the Universe in better manner as compared to the earlier explanations harmonizing the inductive and deductive method. It includes mathematical techniques to gain more evidence and depth regarding facts of Universe.

The significant shape of peoples' perception regarding the universe twisted on breakthrough of the law of gravity by Newton. The law of gravity as stated a certain force tends to pull things towards the centre of earth (Capra 137). Newton extended it and maintained that the pull of gravity is the cause why the Moon remains in orbiting Earth. The discovery of the universal gravitation law as stated "everybody in the universe are attracted by each other" is responsible for attraction among different bodies that make up the universe and binds bodies in pairs. The attraction strength that binds bodies depends upon two factors, the distance between the bodies and the mass of each body (Haught 265).

Another background of Newtonian mechanics of the Universe is an idea borrowed from the Greek atomism which states that the universe is made up of atoms which collide and interact with each other to create different phenomena. It has influenced very much to the modern science as well as the western Culture. According to this view, the world is like to a large clock, which is created and set into motion by a powerful god" (Nakayama 78). Clearly it is marked that the existence of god is recognized from this view point and god is attributed for creation of Universe, the theory has some kind of philosophical basis.

On the basis of this argument Newton forwarded the concept of inertia, which states that everything remains in its state of rest or motion unless it is interrupted by another object from its original state (Davies186). The concept of inertia highlighted that no object can set stop or move by itself, there must have some other influence to set stop or move object, which has definitely come from external agency. Newton remarked the universe can be compared as a complex machine made up of different dependent parts, contrary to the earlier belief that the universe was created and controlled by supernatural power. The people who considered that the universe could not be engineered are made questionable by Newton, who concluded that God only created the Universe and set in motion, but he has no control over the daily physical phenomena.

Implication of Space, Time and Motion concept to the universe

Newton is a great physicist with the path breaking contribution towards the formulations of classical mechanics based on mechanistic vision. the birth of Newton's philosophy not only contribute to the concept of Space, time and motion, but also transfigure the monumental work on classical mechanics. Newton's view on space, time and motion can be summarized as "Absolute, space remains similar and immobile without relation to anything external, and Absolute, time from its own nature passes equably without relation to anything external" (Reference).The place of a body is the space which it occupies, and may be absolute or relative according to

weather the space is absolute or relative. Absolute motion is the translation of a body from one absolute place to another and relative motion is the translation from relative place to another. Newton introduced the concepts of relative space and time and implications of its in mathematical calculations which later on played pivotal role for development of the General theory of relativity by Albert Einstein. The absolute space is nothing but the parts of space, just as the parts of time which do not change their relation with respect to one another.

Application of mechanistic view to other fields

Contributions of Newton's mechanistic view in modern time in the field of History, Politics & Economics and most likely to the ethics are very much crucial. It establishes a line between these fields of study and religion. In the contemporary western culture, these fields are studied independently whereas in earlier such phenomena were intricately linked with the religion. The traditional perceptions amongst people that politics, economics and ethics are unchangeable have changed a lot with the influence of the Newton's mechanistic views (Haught 261). In modern age it is recognized that three aspects politics, economics, and ethics can successfully be manipulated under the influence of human without any bias of religion which paves a way of becoming even better mankind to act in the nature of universe.

Inertia concept of Newton and its application

The application of the inertia concept in Newton's mechanistic approach to the universe is quite evident (Capra 122). According to Newton universe is made up of bodies, all of them are in the state of motion and they are not moving by them itself, but some external influence is the cause of their motion. Newton argued that the motion of these bodies is the result of interactions among the nearer objects in the universe. According to the concept of inertia "nobody can move or can be stop by itself", there must have some external agent to move or stop the body, the external agent is treated as force. But, there may be another question what caused motion of the first object since concept of inertia does not allow it that "nobody can move or can be stop by itself". Scientist at that time like Aristotle attempted to provide possible solution by the clarification that the first object was set into motion by an "unmoved mover" whom he referred as the God (Davies 176). The explanation made by Aristotle was agreed upon by Newton who further extended the issue by saying that the first object was set into motion by God, but God did not control the day-to-day activities in the universe (Avegalio 112). Earlier it was the belief of mankind that God always monitor the daily activities in the universe and regulate all the phenomena, but the people's perception regarding universe changed with the documentation of the mechanistic view point of Newton. Ultimately, a potentially thick line was drawn between religion and the regular activities of universe by Newton with the explanations of inertia concept. Newton's ideas were established upon mathematical and empirical proof and which are the extended from the Descartes' theory of Universe.

Conclusion

Newton was a great philosopher as well as great scientist whose contributions not only aided in development of science but also many other disciplines of study. In fact, it's Sir Isaac Newton and his theories that

revolutionized the new era of modern universe. Before the middle of 18th century theologians described the static nature of the universe and that God controlled all the physical phenomena of universe, irrespective of their individual unique belief in God. However, in the mid 18th century science brings a new view regarding universe which contradicted to the then theologians in that God do not control the universe. Sir Isaac Newton who lived during 16th& 17th century is instrumental in bringing in this changed concept of Universe as an independent body in motion. His mechanistic views are regarded as key issues for development of rational thinking in people's mind that laid foundation of scientific approach. Most of the theories of Newton are centered on the nature of the universe through which they tried to find out and explain why the things act the way they did. Newton's major findings include law of gravitation which explains the uniform motion of planets around the Sun, the three laws of motion and inertia which explains the different types of motion and physical phenomena. He is credited with the mechanistic approach and application of it mathematically to describe almost all known physical phenomenon.

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