

Unification of the Theory of Albert Einstein by Cyclic Theory

¹Tajuddin and ²Md. Haider Ali Biswas

¹Primary Education, Khulna Division, Khulna, Bangladesh

²Mathematics Discipline, Khulna University, Khulna-9208, Bangladesh

INTRODUCTION

The theory prescribed here in this study is named as cyclic theory which helps to pave the way for the unification of Physics or the final theory of nature. Cyclic theory analysed and interprets how the nature in its normal course makes union with properties of matter for the unification of physics. Einstein upholds the view that space-time is curved and all motions are curved^[1]. This view is developed and generalised with a lot of proofs that all motions, movements and course are cyclic. We know that quantity of inertia mass of a body is unknown to us. Inertia mass is always dependent on gravitation for its very existence and it works with the help of force and energy. Gravitation exerts an influence on static body as well as on moving body. The moving body acts in cyclic way at the influence of gravitation. Thus the motion of all moving bodies are cyclic in nature. All the properties of moving body such as inertia mass, gravitational mass, gravity, gravitation, force and energy work together to react the body in cyclic way. The cyclic character of moving body gives it a unique feature. Here all the properties of moving body make union with cyclic principle. It is a grand union of properties of matter. Cyclic principle unifies physics. Grand union makes grand unification of physics and allied sciences. It is the theory haunted by Einstein and contemporary physicists.

In view of cyclic theory, a new type of geometry is discovered known as cyclic geometry with a new concept and style. Already we have three types of geometry namely, parabolic geometry, hyperbolic geometry and elliptic geometry. These three types of geometry have been developed considering the world as a static body. Afterward Minkowski and Einstein initiated a new type of geometry adding time as the fourth dimension with familiar three of space. But Einstein could not fully evolved this geometry. Researcher himself explained and developed this new geometry for dynamic world and called it cyclic geometry in consonance with previous three. If time is added as fourth dimension to static body what will happen? The static body will continue to move in cyclic way as that of the planets move around the sun and other heavenly bodies move spherically. So it is clear

that parabolic, hyperbolic and elliptic geometry are for static world and cyclic geometry is for dynamic world. Here is the main thrust of cyclic theory. This discovery will give rebirth of classical physics and classical geometry. It will bring a revolutionary change in contemporary life and sciences.

What will the final theory be a like? What parts of our present physics will survive in a final theory? What will it say about life and consciousness? What do we mean by one scientific principle explaining another? Speaking of a final theory, a thousand questions and qualifications crowd into mind^[2]. Instead of a complete unified theory of universe, we have made progress by finding partial theories that describe a limited range of happenings and by neglecting other effects. One would hope to find a complete, consistent, unified theory that would include all these partial theories. The quest for such a theory is known as the unification of physics or the final theory of nature. Einstein spent most of his later years unsuccessfully searching for a unified theory^[3]. Cyclic theory is an attempt to solve the last dream of Albert Einstein. This is the untold story of the universe. Here is the success of Einstein and success of theoretical physics. This theory will modify classical Physics, Mathematics and contemporary science. This reformation is urgent for the advancement of science and technology.

Developments of unification theory: There are two rival theories in physics. They are general theory of relativity and quantum mechanics. Einstein in his general theory of relativity (Theoretical Physics) describes the properties of matter, force of gravity and the nature of space-time and tries to establish a link between them. Quantum mechanics deals with constructive shape of matter by elementary particles and how the basic forces of nature are related to these elementary particles. Cyclic theory does not deal with the constructive form of matter unlike quantum mechanics. Here is the difference between cyclic theory and quantum mechanics.

Difference between static body and moving body: Cyclic theory discovers unification of physics in the movement process of nature. The main idea of cyclic theory is to

analyse and interpret the properties of moving bodies. Properties of matter greatly differ in between static and moving body. Classical physics and relativity describe the general properties of matter but there were no elaborate descriptions of the properties of moving bodies. Cyclic theory describes the properties of moving bodies. Properties of static body and moving body are stated here side by side: Static body is a potential energy but moving body is a kinetic energy. Static body covers surface of earth but moving body does not cover surface of earth. Static body does not have any momentum or force but moving body has momentum or force. Inertia mass and gravitational mass lie in a ratio in static body but in moving body this ratio does not remain the same. Static body does not have any mechanical advantages but moving body has mechanical advantages. Static body lie in balance but moving body does not lie in balance. Static body does not have any high-pressure to low-pressure force but moving body always has high-pressure to low-pressure force. Static body does not follow the principle of distribution of energy but moving body always follow the principle of distribution of energy. Static body possesses the dimensions of length, breadth, height and curvature but moving body possesses time as an extra dimension.

There are four types of geometries: We know that Euclidean geometry is used for the measurement of plane, non-Euclidean geometry for globes or spheres, Riemannian geometry for three-dimension space and angular momentum for rotation. The systems and results of these geometries are not the same. The geometry of a world cannot express the idea of the other world. According to these geometries, three angles of a triangle are equal to, respectively two right angles, less than two right angles and more than two right angles. Geometricians categorised these geometries into three divisions as per their nature of dimensions. They categorised Euclidean plane geometry for two dimensions, non-Euclidean curved geometry of Gauss for two dimensions and Riemannian geometry for three dimensions of space. But another type of geometry is initiated by Einstein adding time as the fourth dimension with the familiar three of space and he abandoned the idea of universality of time. Though Einstein initiated a new type of geometry but he was not aware of its scope and area. If time is added as fourth dimension to static body, what will happen then? The static body will continue to move in the form of cyclic way as that of the planets move around the sun. As per need, these four types of geometries would be used in day to day life. It will be discussed further afterward. The mechanics has a

relationship to these geometries because they are required for the measurement of motion. Rouse Ball of Oxford writes that these geometries differ from each other in their measurement but they are independent and right in their own jurisdiction. But they are not perfect geometries because they cannot measure the different types of motion accurately. Cyclic theory describes a new system of geometry known as cyclic geometry of four dimensions and moving world. It gives appropriate results for the measurement of motion. Cyclic geometry might be used for all types of measurements including measurements of motion. Rest three types of geometries of static body cannot do it accurately.

Einstein was influenced by Euclidean geometry: Euclid wrote his famous Elements with some postulations, such as, dot, plane, straight-line etc., but these postulations were true only in plane geometry, not in curved geometry. Einstein criticised these postulations in his Relativity: The Special and the General Theory but he was confused with the idea of rectilinear motion of Euclidean geometry^[3]. Einstein used Riemannian geometry but he was influenced by the idea of linear motion of the plane geometry of Euclid. Einstein made a number of assumptions that were not appropriate. These were a hindrance to devise unification theory. Einstein's assumptions were discussed afterward

All motions are curved and cyclic in nature: Newton devised the third law of motion to retain the idea of linear motion of Euclidean geometry. Newton was influenced by Euclidean geometry^[5]. It is a Ptolemaic idea that the earth is flat and hence a concept of linear measurement prevailed at that time. Afterward it was found that the earth is round. Galileo proved that the earth and the other planets move around the sun and they have diurnal motion. Einstein found that time and space are warped and all motions are curved^[3]. As per above view there cannot be any linear motion. The idea of linear motion is artificial. Then the idea of linear motion should come to an end but that was not done for want of generalisation of the ideas of Galileo and Einstein. Therefore, all the motions are cyclic but sometime cyclic motion remains in disguise of linear motion. There is a notion that light goes straight in homogeneous medium and curves in heterogeneous medium. This idea is also narrow and falls far short as per above discussion. We can not produce any straight motion in homogeneous medium. Here is the gamut of classical mechanics. This view is discussed afterward.

Newton proved his third law of motion by the law of conservation of momentum. The third law is expressed

thus, $F = mv$ where F is the momentum or force, m is the mass and v is the velocity. The third law of motion is, to every action there is an opposite and equal reaction. Here Newton equates conservation of momentum with conservation of energy. Newton unknowingly meets the fallacy of equations. According to the law of conservation of energy, in whatever way energy is transformed to other body, the total energy remains unchanged. But in the case of momentum it is not the same. If the motion of a body gets acceleration then the action and reaction are not equal. Therefore, we cannot say that momentum is conserved. We call anything conserved (universal) that gives us an equal result at any time everywhere. There is no explanation in classical mechanics about which type of motion is accelerated and which is linear.

In the course of discussion we shall find that all motions are accelerated and no motion is linear. The momentum before and after an action is not equal. The resultant force on a body can never be zero and it is always in the form of acceleration or retardation. Therefore the reaction is not equal to any action but greater or lesser. Then the law of motion stands to every action there is a cyclic reaction in the form of acceleration or retardation. We can prove through cyclic theory that the third law of motion enters into the second law of motion. Because the third law ($F=mv$) and the second law ($F=ma$) seem to be independent theoretically but mathematically they prove the same results. Newton unknowingly made a relation between the third and the second law of motion.

Examples: A rifle of 5 kg of mass fires a bullet of 10 gram at a velocity of 400 m s^{-1} , what is the backward velocity of the rifle? This type of problem is solved by the law of conservation of momentum. According to the third and second laws of motion the answer is the same -80 cm s^{-1} . Here motion has been created making high pressure to low pressure by explosion in the rifle. (Appendix 1).

Third law of motion was not well-confirmed: There is no existence of linear motion but we have linear measurement. Euclidean geometry gives the idea of linear measurement but not linear motion. Afterward the word motion derives from mechanics and it means spherical movement. Newton formulated the third law of motion to express linear motion and uniform motion. As linear motion has no existence, so the third law of motion is useless. If necessary in any circumstances, one can express any idea of linear measurement or uniform motion in cyclic formula instead of angular momentum. We can assume that Newton formulated the second law of motion for the measurement of circulatory motion or accelerated

motion. In view of cyclic theory, angular momentum is not necessary separately. On the surface the second and the third law of motion and the law of gravitation appear to be independent in nature but mathematically they are identical and inseparable. Cyclic theory unites them and makes a single law of motion. In the coming discussion we shall find that Newton's law of gravitation comes under the second law of motion and we can formulate a single cyclic formula changing the second law of motion.

Einstein's view about conservation of momentum: Einstein expresses his view about conservation of momentum separately in his special relativity. Laws of classical mechanics do not hold good in analysing the velocity of elementary particles and the speeds of objects involved are appreciable compared to the speed of light. Einstein formulated special relativity by taking the speed of light as the highest velocity in the universe. The law of conservation of momentum in classical mechanics is $ma = mv$, that is, force = momentum. Einstein presents this law differently in special relativity as $m = m^0 \sqrt{1 - v^2/c^2}$ which tells us how the relativistic mass m of a body moves at a speed v . We see at once that when $v = 0$, the body then being at rest, we obtain $m = m_0$, the rest mass. More generally, as $v/c \rightarrow 0$, we find $m \rightarrow m_0$, which is the Newtonian limit of the more general expression for the relativistic mass m . Here we see the double standards in physics but the laws of physics should be the same in all inertial systems. Even Einstein was confused by the idea of the conservation of momentum.

Einstein expressed the law of motion in special relativity in terms of momentum, yet he could not equalise applied force with either third law (mv) or second law (ma) because $V \frac{dm}{dt}$ is never equal to zero. The reason is that Einstein did not relate special relativity with either Newton's third law or second laws of motion. Special relativity was expressed in terms of momentum but never in terms of acceleration. According to Einstein, the mass of a body increases with an increase of the motion of the body^[6]. In fact, Einstein added acceleration here unknowingly. It might be that he had a belief in the conservation of momentum. So he did not bring together acceleration and special relativity. Perhaps he would think that uniform motion would always be linear motion. This type of thought might have misguided him. It so happened that Michael Faraday and Maxwell reached the idea of electromagnetic field in their inventions but their faiths were still in the ether theory.

How can we explain momentum: As per above discussion it is found that the idea of conservation of momentum has

Appendix 1: A rifle of 5 kg of mass fires a bullet of 10 gm at a velocity of 400 m sec⁻¹, what is the backward velocity of the rifle?

Newton's Third law of motion:

Original momentum = Last momentum

$$\text{or, } m_1u_1 + m_2u_2 = m_1v_1 + m_2v_2$$

$$\text{or, } m_2v_2 = m_1u_1 + m_2u_2 - m_1v_1$$

$$\begin{aligned} \text{or, } v_2 &= \frac{m_1u_1 + m_2u_2 - m_1v_1}{m_2} \\ &= \frac{10 \times 0 + 5000 \times 0 - 10 \times 40000}{5000} \\ &= \frac{-10 \times 40000}{5000} = -80 \text{ cm sec}^{-1} \end{aligned}$$

Newton's second law of motion:

Force = mass x acceleration = F = ma

$$\begin{aligned} \therefore a &= \frac{F}{m} = \frac{5000}{10} \\ &= 500 \text{ cm sec}^{-1} \end{aligned}$$

Again applying second law of motion

F = ma

$$\begin{aligned} \therefore a &= \frac{F}{m} = \frac{40000}{500} \\ &= -80 \text{ cm sec}^{-1} \end{aligned}$$

Here:

Mass of the bullet $m_1 = 10 \text{ g}$

Mass of the rifle $m_2 = 5 \text{ kg}$
= 5000 g

Original velocity of the bullet $u_1 = 0$

Last velocity of the bullet $v_1 = 400 \text{ m sec}^{-1}$
= 40000 cm sec⁻¹

Original velocity of the rifle $u_2 = ?$

Last velocity of the rifle $v_2 = ?$

Here:

Mass of the bullet = 10 g

Mass of the rifle = 5 kg
= 5000 g

Acceleration of bullet and rifle $a = ?$

Here,

Original velocity of bullet = 500 cm sec⁻¹

Last velocity of bullet = 400 m sec⁻¹

= 40000 cm sec⁻¹

Backward velocity of the rifle $a = ?$

Footnote: All motions start with acceleration and then get uniform motion and retardation

created problems in classical mechanics as well as in special relativity. Momentum means the product of its mass and its velocity as that of acceleration. Actually, there is no difference between momentum and acceleration. Momentum is a synonym to acceleration. In the circumstances, cyclic theory cancels the concepts of linear momentum and linear motion all together as Einstein cancelled the ether theory. As per this decision the law of conservation of momentum and the third law of motion come to an end. There arises no problem if Newton's conservation of momentum and third law of motion cease.

How gravitation works: Quantity of inertia mass is unknown to us. Inertia mass depends on gravitation for its very existence. In classical mechanics the rate of acceleration of gravitation g to the surface of sea level is 981 CM/S². Here the force of gravitation g is proportionate to the volume of inertia mass ($g \propto$ inertia mass) in static body. Inertia mass of static body differs in different places of space. Gravitation g is expressed in terms of volume of inertia mass. This is why inertia mass cannot express itself without gravitation. This idea is absent in classical mechanics. Newton expressed in Guinea and Feather Experiment that in vacuum all bodies light or heavy come to the ground simultaneously from the space irrespective of their differences in masses. It is because of the resistance of air. Actually the idea was not absolutely

true. The main idea is that gravitation exerts force proportionately to the volume of inertia mass. In physical sciences any principle is equally acceptable to all inertia masses of same status. In the case of gravitation Archimedes' principle of buoyancy is expected. The principle may be framed thus: Whenever a force is applied to a body, it transfers mass (momentum) partially or wholly to the body which is equal to the mass of the force displaced. Here second body retains its own inertia and gravitational mass (g), displaced mass (mv), cyclic frequency (c) diameter distance (r) and time (t). The mass of the moving body (momentum) is greater than the mass of its previous static condition. Here the principle of Falling Body and Archimedes' principle are added together. Newton failed to develop conservation of momentum with proper logic and support. Afterward this idea was discussed further.

Einstein's principle of equivalence was not well- confirmed: Why gravity? Newton did not find the proper cause of gravity. So he was reluctant to reply making any assumption lest it would be wrong. But Einstein disagreed with Newton's view and wrote that Newton assumed an idea unconsciously in devising the law of gravitation. The assumption is that the force of gravitation ($F = G \frac{m_1m_2}{r^2}$) equals the force of inertia of mass ($F = ma$) which Einstein developed as a principle ($g = G \frac{M}{r^2}$) of general relativity. Einstein was not right in doing so because the two F s are not equal.

Appendix 2: What is the magnitude of force if a ball of 10kg either applies force or attracts the other ball of 5kg with an angular distance of 10cm from each other?

Newton's Second law of motion:

Force = mass x acceleration = F= ma

$$\therefore a = \frac{F}{m} = \frac{10000}{5000}$$

$$= 2 \text{ dyne}$$

$$= 2 \text{ cm sec}^{-1}$$

Newton's Gravitational law:

$$F = G \frac{m_1 m_2}{R^2}$$

$$= \frac{(6.66 \times 10^{-8}) \times 10,000 \times 5,000}{10^2}$$

$$= \frac{6.66 \times 10,000 \times 5,000}{100000000 \times 100}$$

Here

Mass of the 1st ball $m_1 = 10 \text{ kg}$

$$= 10000 \text{ g}$$

Mass of the 2nd ball $m_2 = 5 \text{ kg}$

$$= 5000 \text{ g}$$

Force F = ?

Acceleration a = ?

Here:

Constant $G = 6.66 \times 10^{-8}$

Mass of the 1st ball = 10 kg

$$= 10,000 \text{ g}$$

Mass of the 2nd ball = 5 kg

$$= 5000 \text{ g}$$

Distance of the 2 balls = 10 cm

Attraction F=?

Suppose, according to time dilation of special relativity when it is one minute in a clock on the surface of earth that may be 2 min on Everest and the time would be more in the upward gradually. That happens due to rise and fall of gravitation-g from the surface of the earth. Einstein expressed the same view in his Twin Paradox^[7]. In the same way, time varies in different inertia frames. But in general relativity it is assumed that inertial mass in a body equals to gravitation mass. We know that according to special relativity, gravity and gravitation differ in different places in the universe. Gravitational mass rises or falls as the distance falls or rises from the centre of the earth respectively. Gravitational mass is deeply related to inertial mass in a body. We generally use gravitational mass in day-to-day measurement. No proper system has been discovered still to find out inertia mass. Eotvos, Dicke and others tried to find out the inertia mass and gravitational mass as equal proportionately in static body but according to cyclic theory these two types of masses would not be equal between static and moving bodies. According to special relativity, a body gets motion with the increase of mass (momentum) and decrease of influence of gravitation. So we cannot say that inertia mass is equal to gravitational mass in a body. As per these findings, Einstein was not well-confirmed in his principle of equivalence and general relativity. Therefore, we cannot say that the law of gravitation and the second law of Newton are equal to each other. Mathematically we can prove these.

Suppose, what is the magnitude of force if a ball of 10k g either applies force or attracts the other ball of 5k g with an angular distance of 10cm from each other? According to the second law of motion and the law of gravitation, the reaction of force is 2 dyne and 33.30×10^{-3}

dyne respectively. The results of the two laws differ greatly from each other. (Appendix 2)

Newton formulated second law of motion for inertia mass and gravitation law for gravitational mass separately. But Einstein joined the two laws together in his principle of equivalence. Einstein wrote equations of principle of equivalence taking the second law of motion and gravitation as equal in his general relativity. Whatever mistake Newton did unknowingly, Einstein committed the same mistake knowingly. So, the error was as it were. This is why Stephen Hawking in his article *Is the End in Sight for Theoretical Physics called Einstein's general relativity as classical mechanics*^[8]. However, Einstein's thoughts were very close to cyclic theory.

How cyclic theory will explain the elliptical movements of the planets: Einstein formulates the equation $E = mc^2$ where energy equals the mass of the body multiplied by the square of the velocity of light. Potential energy changes into kinetic energy with the above equation. If we reverse the equation we get $M = EC^{-2}$. According to the reverse equation, kinetic energy changes into potential energy. Energy has two shapes: kinetic and potential. Here mass and energy are identical. As per the law of reverse equation all planets including the earth swell more in the middle of their spheres as they absorb solar energy. The earth's axis is inclined to the plane of its orbit at an angle of $66\frac{1}{2}^{\circ}$ and as a result two polar zones were created at the end of two hemispheres. This is why the earth is an ellipse and for the same reason the earth moves elliptically round the sun. Due to elliptical movement of the earth, this creates the perihelion and aphelion effect of the sun. The attraction between the earth and the sun grow stronger in the perihelion period and the attraction

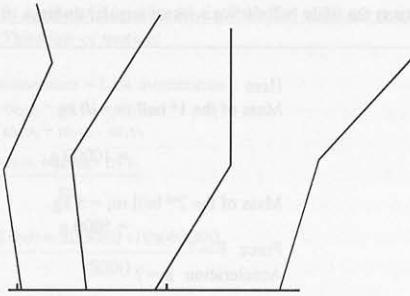


Fig. 1: Motion curves when it changes course

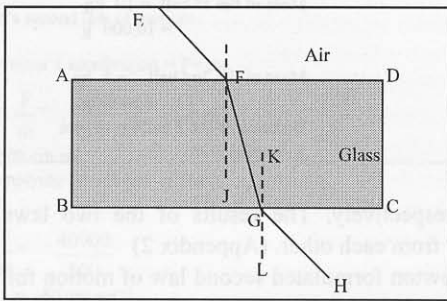


Fig. 2: Refraction of light in a single point

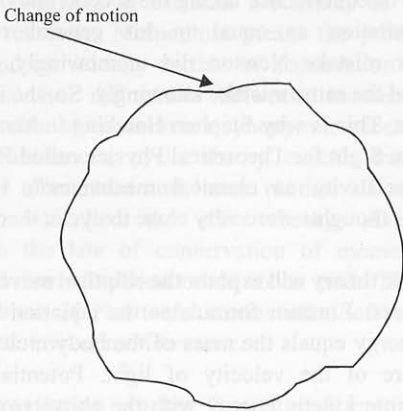


Fig. 3: Frequent changes in every point causes cyclic motion

becomes weak in the aphelion period. The elliptical shape of the planets grows more in every century. Therefore, we may draw the conclusion that the earth and other planets in the initial stage were round and their movements were circular around the sun and gradually their movement grew elliptical.

Causes of cyclic movement of body: Einstein's principles of distribution of energy or Coulomb's law for electrostatic attraction might not be only cause of

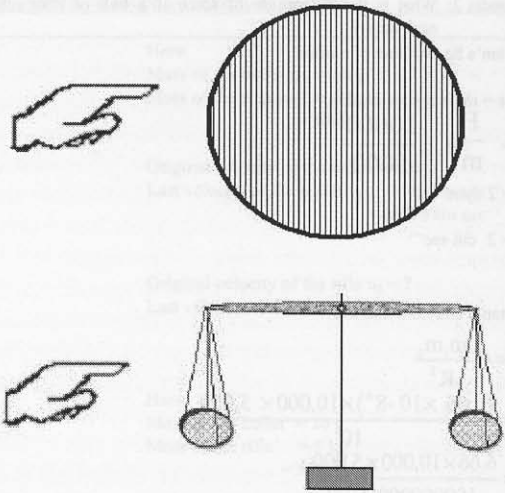


Fig. Round body and balanced body role when force is applied

elliptical movement of any system. There are more causes found for the elliptical or round movement of any body. Other causes saving the above mentioned principles are: the spherical movement of electron on the surface of the attracting body, diurnal motion of the attracting body and if the attracting body passes from dense medium to light medium or high pressure to low pressure and vice-versa.

Examples from nature: Motion becomes cyclic if it frequently passes from high pressure to low pressure, dense medium to light medium and vice-versa. Motion also becomes cyclic if it passes from a vacuum to air, from slow speed to high speed or from motion to rest and vice-versa^[1]. The engines of vehicles, factories and aircraft create motion with high-pressure to low-pressure techniques. Wind blows from high pressure to low pressure. Cyclic principle are found in the laws of magnet, electro-magnet, induction, magnetic field, gravitation, application of force and refraction of light. It is noted (Fig. 1) that single change of motion causes curve in a single point (Fig. 2) but frequent changes in a single point causes cyclic motion(Fig. 3).

Now it is clear to everyone with these proofs and supports that motion is always cyclic in nature, never linear in spirit, when it springs up, proceeds and reclines to rest. In nature the left movement and the right movement of motions are visible but the left movement is prevalent.

Philosophy of cyclic theory: The earth is round shape. It has axial and orbital movement. All stars, planets and satellites are round shape and they have cyclic

movements. It is minutely observed that all activities and movements of humans and animals are cyclic. The motions of vehicles and machines are also cyclic. Ancient people discovered wheel that was very consonant to cyclic principle. This wheel is used for the motion of vehicles. When force is applied, body gets reaction in cyclic way. All reactions are alike. Every object in the universe has a tendency to lie in balance shape. This is because gravitation exerts a force on static body equally. Again extra force helps the moving body to move in cyclic way. Because inertia mass is dependent on gravitational mass. So, all the properties of moving body such as inertia mass, gravitational mass, gravity, gravitation etc. help the body to react in a cyclic way. If a body lies in balance and another body lies in round shape or wheel shape, what is the difference in their position? They have the same advantage in all position. If force is applied to a round shape body or to a balanced body, both will rotate, but their techniques of movement are different. Suppose animals walk, birds fly and vehicles rotate. It is the same law of nature by which the earth and all planets move, humans and animals work, vehicles and machines rotate. This is the philosophy of cyclic theory.

What is cyclic theory: Whatever way force is applied and whatever way motion is created, gravitation always exerts an influence on moving body in a cyclic way. Again when gravitation attracts other bodies, it causes them to rotate in a cyclic way. If force is natural or physical or electromagnetic or atomic, it will be cyclic in nature. This is why it is called cyclic theory. Application of force and gravitation both work together and come under the jurisdiction of cyclic principle simultaneously and inseparably. Einstein gives the idea that all motions are curved and this idea is extended here as cyclic principle. As all actions are cyclic, greater reaction and mechanical advantages follow every action. Mechanical advantages are inseparable to every action. A new geometry known as cyclic geometry derives for the measurement of cyclic motion.

General principles of cyclic theory: In the case of application of force or gravitation, the motion or attraction respectively, passes from a dense medium to a light medium that would be considered high pressure to low pressure (1st case). If the motion or attraction passes from a light medium to a dense medium that would be considered as low pressure to high pressure (2nd case). In the first case, due to the application of force, the cycle of motion would be counter-clockwise and due to attraction, the cyclic of motion would be clockwise. The motion in both instances would be forceful and accelerated. In the

second case, due to the application of force, the cycle of motion would be clockwise and due to attraction, the cyclic of motion would be counter-clockwise. The motion in both instances would be mild and accelerated.

What is the solution of Einstein's last dream: Gravity is the result of the mutual interaction of the sun and the earth. Einstein postulated that gravity is an artificial force created by curved space-time. The earth is quasi-round and moves elliptically. According to Einstein, gravity is the unique expression of curved space-time. Einstein further thought about how gravity might be united with electromagnetic force. He had an idea that as Maxwell invented electromagnetism bringing together electricity and magnetism, this in the same way electromagnetism might be another geometric expression of space-time.

Here Einstein thought inversely giving more importance to space-time. In the same way Einstein committed mistakes taking the cosmological constant, which was one of the greatest blunders in physics. Electromagnetic force creates from the coiling flow of a single particle like electron but when a group of particles work together in space, it is gravitation. Due to the gravitational spiral attraction of the sun, gravitation is created and the earth moves around the sun and as a result space-time is warped. Here the spiral (cyclic) gravitational attraction is given importance. So the gravitation, electromagnetic force and gravity are identical forces but space-time is the outburst of gravitation only. As a result, gravitation and electromagnetic force are identical and basic forces and space-time phenomenon is artificial and dependent on gravitation.

Cyclic theory differs in some respects from the general relativity of Einstein who considered gravitation as an artificial force that occurred out of curved space-time. According to cyclic theory gravitation arises out of the combination of inertia mass, gravitational mass, gravity, gravitation, electromagnetic force, weak atomic force and strong nuclear force derive from the sun and other heavenly bodies. Therefore, gravitation is stronger than electromagnetic force. As we know all properties of matter joining together make cyclic principle. Again, there is no difference between applied force and gravitation. Gravitation can be replaced by applied force. Time differs when force is applied on a body and one space turns to another space. A body has two types of masses: inertial mass and gravitational mass but without gravitation the inertia mass of a body cannot express itself. This is why gravitation is necessary for the existence of space-time. Matter is created and nourished by gravitation. So if gravitation exists, the world exists. According to the innovative ideas of

cyclic theory, the classical concepts of mass, matter, momentum, time and gravitation will change.

Mathematical explanation of cyclic theory: It was stated earlier that gravitation exerts force on moving body. It is the additional force other than applied force. Therefore, in the application of force, the reaction will be greater in the acceleration. Each reaction in the form of acceleration derives simultaneously from action, gravitation and frequency of cyclic motion. If the same force is applied again and again, the reaction will increase to a certain level under the influence of gravitation and frequency of cyclic motion. Newton did not incorporate gravitation and frequency of cyclic motion with the second law of motion because he had made a separate law for gravitation.

In cyclic theory reaction is always greater than action in cyclic form. So all motions are accelerated. This is the triumph of cyclic theory over other theories in mechanics. The application of force or gravitation is related to five items such as, reaction, gravitation, frequency of cyclic motion, cyclic diameter or distance and time. Considering the five items, the law is formulated. Here 'proportionate' is used instead of 'equation' between two sides and in between dynamic number. In cyclic theory a single law will serve the purpose of linear motion, acceleration and gravitation.

Body gets motion in cyclic way. Application of force and gravitation work together. It is proved that around body gets motion (role) half circle by a minimum force and gravitation. The half circle movement is counted as half pi ($1/2\pi$) in mathematical measurement.

$F/G \propto mvgrct$. As all motions are accelerated, each proceeding number is dependent on every preceding number. So the law stands: $F/G \propto mv \propto g \propto r \propto c \propto t$. Its a new system in cyclic geometry. Here in the first part F = force, G = gravitation and in the second part mv = reaction, g = gravity, r = diameter, c = cyclic frequency and t = time. The ingredient of the formula ($F=mv$) has been taken from classical mechanics. Here the rate of change of motion (momentum) of a body is proportional to the applied force. In the case of force, r diameter/distance increases proportionately with the increase of reaction and in the case of gravitation, the reaction will decrease respectively. If there is acceleration, grc will work but in the case of uniform motion grc will stop. Euclidean influence is stopped by joining grc with acceleration. The formula has three parts, viz firstly, $mvgrct$ tends for acceleration and uniform motion, secondly mv for proportional motion and thirdly, $mvgrct$ for gravitation in the high space used for space-craft.

An example: Calculate the distance it covers if 40 dyne of force acts on 10 grams mass with a certain

diameter in 4 seconds. According to the formula $F/G \propto mvgrct \propto 4.11/7.1.11/7.4=39.51$ cm. But in classical mechanics the result is 32 cm. In cyclic theory, force and gravitation work together as a half circle or half pi ($\frac{1}{2}\pi$) effect on the body and the force in every frequency of cyclic motion adds with the reaction as mechanical advantages.

RESULT AND DISCUSSION

The Universe is not as simple as we thought^[2]. Even the universe is not what as it is presented in classical physics. Classical Physics is the combination of the old ideas of Euclid, Ptolemy and Mediaeval Age. Cyclic theory discarded the old ideas and put forth the present world what it is.

The plane and linear geometry of Euclid influenced adversely the mathematical calculation of contemporary physics and caused hindrance to the way of unification of physics. As per the previous discussion there is no existence of linear motion. All motions such as magnetic motion, electro-magnetic motion, induction, gravitation, application of force and refraction of light are cyclic. The idea of linear motion is artificial. Cyclic theory is able to amend the errors done in contemporary physics. A body possesses a number of properties. When the body gets motion the properties work together and make the motion of the body to be cyclic due to influence of the gravitation. These properties make union with physics in the form of cyclic principle.

Flow of electron is electricity. Electromagnet derives from the coiling flow of electricity. Here a single particle of matter is working in electricity and electromagnetic force. When a group of particles work together in space or in organism it is either gravitation or energy respectively. No doubt gravitation is stronger than electromagnetic force. Energy in gravitation and energy in organism have similarities in their process and construction. Both work in cyclic way. There are no difference between applied force and gravitation. Gravitation can be replaced by applied force. Affinities of applied force and gravitation are found here with a lot of proofs and examples. They are akin forces but we cannot call them equal forces as Einstein mentioned. These two forces have similarities but Newton identified them separately and Einstein combined them together without identify them as akin force.

The resultant force on a body can never be zero and it is always in the form of acceleration. Then the law of motion stands, to every action, there is greater and cyclic reaction. Newton unknowingly recognises the fact. On the surface the second and third laws of motion and the law of gravitation appear to be independent in nature but in

practice they are identical and inseparable. The cyclic theory united them and made a single law of motion.

A new type of geometry is discovered known as cyclic geometry adding time as the fourth dimension with popular three of space. The present three geometries such as parabolic, hyperbolic and elliptic are for static world but cyclic geometry is for dynamic world.

CONCLUSIONS

Cyclic theory emerges to solve the unification of physics. It co-ordinates the laws of motion found haphazard in classical physics such as, acceleration, uniform motion, gravitation, refraction of light, high pressure to low pressure and low pressure to high pressure. It develops a new type of geometry known as cyclic geometry. This theory will greatly influence physics, mathematics astronomy, geography, philosophy and allied sciences.

ACKNOWLEDGEMENTS

This article was presented at a seminar in the Discipline of Mathematics, Khulna University. All the members of the discipline attended in the seminar and

took part in the discussion. Dr. Mahmud Alam, Head (In-charge) put forth a number of valuable suggestions which were incorporated with the article. I am grateful to them all.

REFERENCES

1. Born and Max, 1962. Einstein's theory of relativity. Dover Publications Inc., New York.
2. Weinberg and Steven, 1993. Dreams of a Final Theory, Random House Ltd. London, UK.
3. Hawking, S., 1988. A Brief History of Time. Bantam Books, New York, London.
4. Einstein and Albert, 1961. Authorised Translation by Lawson and Robert W, (Eds.) Relativity: The Special and the General Theory. Three Rivers Press, New York.
5. Fouvel, J. *et al.* 1994. Edited, Let Newton Be, Oxford University Press Inc., New York.
6. Resnick, R., 1968. Introduction to Special Relativity. John Wiley and Sons, Inc., New York.
7. McFarland, E., 1988. Einstein's Special Relativity. Trifolium Books Inc., Toronto.
8. Hawking, S., 1993. The Black Holes and Baby Universes and Other Essays Banta Books, New York, London.