

# BRAHM

THE KINETIC THEORY OF NATURE

HASMUKH RATHOD

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## Dedication

*This book is Dedicated to  
my  
late father*

Remembering his words,

“એ અજર છે, એ અમર છે, અકળ છે, નિરાકાર છે,  
એને કોઈ રંગ નથી, કોઈ ગંધ નથી,  
એ સર્વ-વ્યાપી છે,  
એ બધા માં છે અને બધું એમાં છે,  
સૌથી પહેલા એ છે અને સૌથી પછી પણ એ છે,  
એ ત્યારે પણ હતો જ્યારે કશું નતુ,  
એ ત્યારે પણ હશે જ્યારે કશું નહીં હોય,

.....

Einstein said,

*“If you can’t explain  
a theory to a child,  
the theory is  
probably useless.”*

Michio Kaku elaborates on it,

“Meaning that great theories are based on simple principles, concepts that you can see visually like pictures. Useless theories are just bunches of algebra that go nowhere. Take a look at Newton’s Laws are based on billiard balls, planets, stars going around each other. Very pictorial Newton’s laws. So, great theories have a simple pictorial representation.”



## Self-introduction by the Author

My Name is Hasmukh Devidas Rathod. I am an educated man aged 44 years in 2025. I am an Indian citizen living and working in India. I have a bachelor's degree in medical science and no degree in physics. I am interested in understanding the Nature, and these are some extractions as a physics model from my understanding of the Nature.

I thanks to the Internet, which really is an ocean of information, which helped me a lot. Reading stuffs on internet and watching You-tube videos helped me to refine my imaginations.

If you want to know more about me then a chapter 16. My journey to the Aether is a whole chapter which provides lot of information about me.

Dr. Hasmukh Devidas Rathod.

## Disclaimer

The theory represented in this book is my creative original work, but it is related to the whole reality. The reality is one, so some part of it may have similarity with part of some other models or theories. This is because the reality is one and failed model may also contain facts. Author also believes that if someone think enough, he/she must realise that empty space is not empty and there must be something there which is responsible for gravity and other forces. So, similar theories might be already offered by some authors which could not get enough attention due to their incompleteness. Aether is an old topic and there are uncounted opinions by several peoples about it. I am not the only one who believes in Aether. The Indian words like “Brahm, Brahmand, etc” used here are in a use in India since ancient time. Those words are inspired from descriptions in literature of the ancient India, but I explained it in detail in my way which is my imagination or calculations. I used those words here because I think that those should have real meanings as described here. Indian ancient texts are in Vedic Sanskrit which is not fully decoded and have not still completely understood. So, talking about relevance or non-relevance to those texts is not appropriate. Still the theory in this book has close relation with the philosophy of Brahm in Advait Vedanta. Physical world as a manifestation in Brahm due to Maya is very well explained in this book in this theory of Existence. Due to such close relation, I have continued using the word Brahm in this theory. I also found much relevance with mythological religious paintings and stories in Hinduism which I have mentioned in a “chapter 18” of the second part of this book. The Nature of the phonetics pronunciation of the word Brahm gives a feel of entity full of energy leaving resonance as an effect of vibration, that convince me to continue using that word instead of dynamic Aether. So, choice of the words has reasons that I find fitted with the concepts. The meaning of these words described in this book may not have relation with literal or casual meaning of those words in the Indian languages. If the claims or opinion about fundamentals are in support or contradiction with any religious belief, then it remains always there when we are talking about the science, but the aim of representing such a view is not there to hurt feelings of any theist. This book is here to find relevance with religious concepts and not against them.

## Disclaimer

This theory explains physical world (Srushti) and it doesn't say anything about conscious things including God or Ishwar. When there are many different opinions, and someone provide his own opinion, conflicts with other opinions may be there. If views in this book supports some ideas of the particular one or more religions, then it doesn't mean that these concepts are totally derived from them. This theory only includes concepts that fits in its framework. When I found relation of concepts of this theory with any things then I may have showed it in this book. The book is about reality, and everything is about the real existences. No one including me should have claim for being the first one who have introduced Aether or Brahm very first time, because Aether or Brahm is an ancient concept and well mentioned in various ways in Indian literature and elsewhere also. This theory provides a unique, deeper and clearer insight by describing "Brahm" in a scientific way with detailed logical explanations. This theory not only say, what a Brahm could be, but it also explains how it could be.

This book has tried to explain everything with mechanical sense, so theories like Mechanical push gravity, Vortex theory, Field theory, Electromagnetic theory, some part of relativity...etc" may get woven in this framework. I don't have claim for every part of this theory as my original idea, but the framework with explanations represented here as a whole model is my original work including many original ideas within it. The framework of Brahm that ultimately includes all other things is my original work. Undisputedly advancement in a science guided me to this theory and Ancient Indian Hindu philosophies provided a confidence to believe in this theory.

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## Introduction

The word Brahm is taken from the philosophy of the supreme aether like existence that harbours each and every existence within it as a physical world which is its manifested form powered by “Maya”. This description of Brahm is there in a Hindu ancient philosophy known as Advait Vedanta means a philosophy of non-dualism. The description of Brahm as a theory of dynamic aether or a kinetic theory of existence is a detailed explanation of Brahm. Here Theory of Brahm don't include the spiritual aspect of the Advait Vedanta, but this theory just explains a Nature with natural mechanical laws which forms a scientific theory of Brahm. This theory of Brahm is described as pure scientific fundamental physics model and nor as a spirituality or an imagination without explanations with laws of physics. Part 2 of this book explains the theory of Brahm.

This book is about “Brahm” which includes an all-pervading multi-scaled Aethers and moving energy carriers in all directions. A key feature that may give you an insight to understand Brahm model, must be a shadow gravity or mechanical push gravity environment that is the expression of This Brahm at every point in the space. It simply means that gravity is not described as an intrinsic property of the mass, but it is a result of the random motions and interaction of moving energy carriers (flux) with the masses. Imagining a mass without an internal property of gravity or any other fundamental attractive force placed in a space without an enough push gravity, then inquiring its fate is the main thought experiment shown in the of the second chapter in a part two of this book which provides most of the insight about this model. Believing a gravity as an intrinsic property of the mass leads to the modern physics, either to the Newtonian physics, General relativity or to the Standard model describing gravitons. Though theory of Brahm agrees with space-time curvature of the general relativity still it differs from general relativity by including Aether and Brahm in a space as well as everywhere. This theory of Brahm don't agree with 1. the calculations based on Lorentz transformation with accepting interchangeability of subjects and 2. calculations of time dilation and length contraction. General relativity includes ability of the mass to curve spacetime matrix while this theory

separates gravity from mass and that gravity is described as an effect due to surrounding pushing flux. This Kinetic theory of gravity is explained here with the shadow gravity mechanism, but shadow gravity or mechanical push gravity don't provide such ability to mass. Instead, it states that mass neither has intrinsic property of attracting other masses, nor has an ability to curve surrounding by itself alone directly. Role of the mass is passive like a resistance or obstacle in the push gravity environment. When we apply this push gravity mechanism and think about infinite masses in a blank space lacking enough push gravity to hold them intact and try to understand the consequences, where it settles down to a stable steady state it represents a "Brahm" described in this book. This theory shows that mass has tendency to disperse in surrounding, if it is not stabilized by surrounding enough push. Those pressure forming moving energy carriers as masses or waves which provides stability to bigger masses are termed together as "Flux" which is similar to flow of moving corpuscles in gravitational environment in the kinetic theory of gravity. Still the difference is multi scaled flow which forms multi scaled Aethers and Brahm. Other fundamental forces are also described as manifestations of mechanics in this gravitational environment. So, this model doesn't accept any fundamental forces as fundamental, instead, these forces are described as consequences of mechanical interactions. So, this was a brief overview.

Both terms Brahm and Aether ultimately represents the same thing but from different point of view in an infinite matrix. Brahm represents more moving momentum carriers and includes Aether as a manifestation within that environment, while Aether represents a matrix substance Aether that may include vortices of waves within it as a momentum carrier that ultimately creates an environment that could manifest physical world and a push gravity forming environment within it which is described as a "Brahm" in this book. So, basically there is a scaled matrix layers which are termed as Aethers and Vortices of waves within them forming scaled push gravity environments. There all together termed as Brahm. If we apply the term Aether to the possible lowermost self-stable Matrix and describes all other aethereal layers and dynamics of flux as a manifestation due to wave kinetics in this Aether, then everything can be described as this Aether and manifestation within this Aether. But for that we have to accept an undefined Aether as a primary existence without further insight about its stability and its structure. But if we want

to inquire the structure of that primary Aether then we can explore it only as a structure created in a Brahm due to kinetics of masses and flux at some scale. So, both terms Brahm and Aether represents one single existing thing called "Nature". If you select Aether as a base than Brahm is manifestation and if you select Brahm as a base than Aether is a manifestation. Physical world is the manifestation in this Aether and Brahm as a wave dynamic. Nature has a large spectrum based on the sizes of the units. Nature includes Brahm at various scales which includes layers of Aether also. If you are in search of an absolute supreme existence here, then this book may disappoint you. This book describes Nature with infinity and no final boundaries. This model doesn't provide an answer to the questions which don't fits to the nature of the Nature. The example of such question is, "what is the smallest thing?" You may find more such questions in a chapter 15, about residual quarries.

The term Nature includes the Whole existence including Brahm and Aether. Nature also includes a physical world as a Manifestation within Brahm, but presence of Physical world is not always necessary because cyclic changes at aethereal scales may include formation and annihilations of physical worlds at every aethereal scales of Brahm. So, Nature includes he existence that may or may not include the physical world but includes Brahm. So, Brahm is the Nature. "Srushti" is the word used specifically for the word Physical world. Srushti is a Manifestation in Brahm as a physical world which can be considered as a "creation" in the sense of religious thinking. Here Srushti is described as a cyclic manifestation within Brahm as a result of natural continuous prosses and not depending on any creator or anything having will power. So, this theory is a self-stable theory of the Nature which includes continuous cycles due to instability in Nature.

Aim of this book is to provide a model of the fundamental physics that must explains most of the observational findings of science. It is the framework that explains different existences and phenomena within it that can provides a way to think. Aim is to provide a model with such a depth that can provide further insight about the Nature which can explain basic laws of the Nature. This model shows simpler framework with mechanical sense at everywhere. There is nothing assumed as a miraculous or mysterious. Most of the concepts used are demystifying and realistic. This is the most possible no miracle realistic approach carried out to understand the Nature. All is dynamics only but to the level that touches infinities.

This Brahm model shows a top view to the Nature as a whole. Here I am using the word “Nature” instead of the word “Universe” because existence is not limited to the Universe only and Nature word represents the entire Existence. This model of the Nature provides a single framework for the physics that can show proper places for possibly all known data without contradicting to one another. This doesn’t mean that this model or framework answers all questions or solves all queries, but this just provide a new understanding of Nature and its phenomena that arranges data with sound logic and co-ordinations with one another wherever we can understand the relations. Means it has a one unified view for every existence and phenomena of Nature. This is a logic-based framework with assumptions in the model which are unproved. At some places there may be a gap in a picture which shows unexplored portions of this model, so this is neither the complete model of the Nature or the Universe nor the theory of everything that explains and demystify everything. Still this model has a potential to include everything within itself and this model explains all fundamental forces as a mechanical interaction that preserves laws of classical mechanics. It explains time dilation within boundaries of classical physics without contradicting with it. It also provides space where further advancement may include missing data. *Simply this theory is the extension of the classical physics including modified relativity.* This is just a theory of Existence covering almost everything with some unexplored areas. This model reestablishes a natural thinking toward the Nature. To accept this model or not is the choice of the reader because author is not providing any new experimental proof here. Here there is just an opinion or view and logical framework by the author about the Nature of the existence mostly in a layman language. This is an enhanced old way of thinking about Nature. In this era of the modern physics, is there any scope for the model which don’t agree to many leading theories of the mainstream science! Of course, there is not just a scope, but it is the demand of the modern science also, and that’s why this theory is here. There are lots of contradictions between many leading theories of the modern physics which don’t have a single unified framework. Making mistakes and continue trying is the way of exploration of the Nature. Modern theories don’t obey the boundaries of reality and continue to expand in areas of fantasy. No strict law is defined to demark the margin between reality and fantasy. Math and equations are believed as a tool to confirm predictions. No method is available that can detect errors

of logic while using maths in modern physics. This all raised a demand for unified framework. This model doesn't allow any imaginary thing or outcome that can't be conceptualise with a realistic mechanical sense. Surprisingly this model opens the door toward mysterious possibilities of the supernatural things as unexplored poorly expressed natural things. Thus, this model actually extends boundary of the physical world toward hidden areas simultaneously closes a door for baseless fantasies.

This book is going to introduce Brahm theory with descriptions of certain characters of Brahm and Aether. Aether described here is not same as luminiferous Aether, Lorentz's electron Aether or any other Aether described previously in a science. This Aether is described as a supreme existence and medium for everything with its complex structure and Nature. Its state is not any of that of the matter, means it is not a gas, fluid, solid, plasma or any known state of the matter. It is a complex thing that has certain specific characters which are well defined in relevant chapters. Sometimes it is denoted as fluid like Aether, but that doesn't confirm it as a fluid. It is a Matrix. It may have symmetry like a relativistic neo-ether that can explain reason behind time dilation.

On the other way if we start from absolute solid mass and absolute blank, then that would lead to Brahm. Which is sufficient to harbor physical world without Aether by accepting light as a particle. This is a simpler model than Brahm-Aether model. But if we want waves, light as a wave then Aether can be a manifestations within this Brahm. In a whole book, a model of Brahm with Aether is described on priority, but one last chapter (chapter 20) is dedicated to the model of Brahm without Aether also.

The concept of time dilation can be explained very well with Brahm model including Aether in chapter 19.

The author of this book is well aware about the negative attitude of some scientists of modern physics for the existence of the substance Aether, still It is explained in a relevant chapters that on the ground of reality there is no reason to deny for existence of Aether. This type of Brahm is neither imagined nor denied. Actually, Brahm theory itself is not just a substance Aether theory, instead it is a theory of dynamic flux of momentum carrying units forming push gravity with Aether as a manifestation. Here substance Aether is not a thing existing just between masses or just penetrating masses, but it actually forms masses within it. Masses are nothing but complex waves within

Aether only. This Brahm including Aether may replace a space time matrix to some extent without supporting calculations of special relativity.

In the upcoming Chapters, I have described why the possibility of existence of Brahm is must there, and what's wrong in the rejection of the existence of Aether based on the unproved theories and some misunderstood observations. So, it is a priority to understand aspects which are considered as not in favor of the existence of Aether. On this way, the book proceeds with fair introduction of the "Brahm-Theory of the Nature" on a relatively logical and different ground.

No single theory of modern science is capable of explaining most of the things all together. We can say that none of the existing theory could be a complete truth. Author didn't try to stay away from any logical contradictions, instead try is made to bring all doubts together and provide the possible explanations. Author is not interested to support any theory that don't provide a good sense to understand the Nature properly. Separate isolated restricted approach which is common in modern physics is not entertained here, Instead the theory describes here a whole concept that must provide a common platform for each and every existing thing. Still this theory provides options where exact predictions remain obscure, like choosing between state of Aether as liquid or solid, choosing between a nature of light as a wave or mass. There may a priority be given to one of such options, but deterministic approach is not carried out to keep acceptance for any obscure possibility. There are many predictions of this theory different from the prediction of the modern science. The theory predicts different possibilities for the structures like core of the big planets, core and life cycle of stars, nature of big heavenly bodies, structure and function of galaxies, quasars, and nature of almost every existence, different view for the centre of the galaxy. Ultimately this theory helps to calibrates a common sense in a manner that makes it clearer, logical and realistic. This theory contradicts with the calculations of special theory of relativity, still this theory of Brahm explains observer specific constancy of speed of events, time dilation and maximum limit of speed for mass. This theory of Brahm don't agree with relativistic singularity, relativistic blackhole based on relativistic vicious gravity. Shadow gravity model doesn't allow blackhole formation instead it demands less gravity in the centre of Galaxy. This theory accepts Aether and Brahm everywhere and here there is an absolute reference frame of Aether unlike no absolute



reference frame for motion in special relativity. Brahm is a dynamic reference frame that provides something like a relativistic neo-aether which is there in a space that defines time and space curvatures to form gravity. Brahm or Aether as a universal reference frame is accepted here, that is against the postulate of special relativity. So, Relativity with all its calculations and predictions is no more a theory that could co-exist with this framework but few modifications in relation to Brahm may survive relativity within the framework of this Brahm theory. This model also rejects the idea of extra spatial dimensions other than 3 spatial dimensions, relativistic blackhole, wormhole, graviton, gluon, string theory, and many concepts of quantum mechanics. This model also disagrees with conventional concepts about charge and electricity. This theory can't provide the insight for choosing between an expanding and non-expanding universe. Both could be possible within this framework. But a view that supports nonexpanding steady state universe is described in a book. If we want an expanding nature of the universe then we can assume pulsatile fluctuations within aether at a huge volume that can accommodate the whole universe with reciprocal fluctuations in surrounding volume.

This Brahm theory allows more fundamental questions which are not entertained much in a modern science. In Routine, we feel satisfied by giving name to observation without properly understanding a cause behind the phenomenon. This theory tries to trace the cause to the deeper level, that can explain every phenomenon as a mechanical concept. This theory rejects the possibilities of existence of any force like pure attraction at all. The only way remains is to explain gravity and all other forces as pure mechanical interaction that must obey laws of classical mechanics in a physics. Another example of such widely ignored question is, "what is inertia?" We know the law of inertia, but still inertia is an unsolved mystery. So, phenomena are questioned beyond the conventional level, and an attention is drawn to the existence of poorly expressed things.

First part of the book includes the history of Aether (existence of something in a so thought blank space that affects masses), its rejection in a modern science and possibility of its existence and supports for existence of Aether in the modern physics.

Second part covers a proper Brahm theory, that describes core concept of the theory. In second part explanation of the various fundamental phenomena are there, which include the

formation of matter, gravitational and other forces. Nature of light, nature of matter, nature of galaxies and big celestial bodies are also described. *The description and explanation of the material world with cause behind it is there in a second part.* There is some gap when trying to progress from fundamental mass to the atom level, and that is an unexplored and poorly understood portion of this theory and that is one of the reasons why this theory doesn't answer some questions and mysteries. But it doesn't mean, this theory can't explain subatomic particles. This just means that calculation for exact anatomy of quantum object is not provided. This suggests further development of the theory by including data of experiments.

The Special theory of Relativity needs modification with this framework, so not all predictions of special relativity are accepted within this theory. A chapter 19 that shows relativity in relation to Brahm is there in a second part of the book that provides an insight for understanding relativity in relation to Brahm.

This theory creates a mechanical sense. Here mechanics also includes fluid and wave dynamics along with motion mechanics. This book strongly states that “*A mechanical explanation of any existence or phenomenon is the only fundamental real explanation of that existence or a phenomenon*”.

Dr. Hasmukh Devidas Rathod.

Date: 18/5/25



## Part I

# History of Aether, and its importance

BRAHM

# 1. The history of Aether

Before describing the history of Aether I want to clear some points. Is this book about Historical Aether? Actually not. This book describes “Brahm” which can be identified as Aether with its dynamics, but it is not just assumption like a historical aether in science and philosophy. It is more than just Aether. Actually, Aether exists within “Brahm”. One clear point is that it is the Natural existence (Nature) that harbours everything including infinite number of universes. It is prevalent everywhere including at so-called blank space also. Historical Aether was the concept of an existed substance in a so-called blank space between masses. This was against common belief of Newtonian physics related to blank space. This is the relevance between historical aether and Brahm described in this book. That’s why history of an Aether is described here as a view in contrast with absolute Newtonian blank space and no-aether concept of the special relativity.

Before seeing the history of luminiferous Aether in science, let me show you some history of “Brahm” a supreme existence or the omni existence in Indian philosophy. Let me show you the history of Brahm or the medium Aether on religious and philosophical grounds first.

A brief history of Aether in philosophy and  
Hindu religious texts.

Brahma-tattva (Brahm or Brahman) (A supreme element  
or supreme being)

Text hidden

## 1. The history of Aether

### Influence of Advait Vedanta by Swami Vivekanand on Nikola Tesla:

Swami Vivekanand was a reputed young Indian saint of Sanatan Hindu Dharma, who is Best known for his groundbreaking speech in the 1893 at World's Parliament of religions on the site of present-day Art institute, in which he introduced Hinduism to America and called for religious tolerance and an end to fanaticism. Swami Vivekanand gave his first lecture on 11 September 1893. Swami Vivekanand sailed from Madras to Chicago to participate in that event. He introduced Vedanta and Yoga to Western world. Theory of Advait Vedanta about Brahm as a supreme entity and the world as its manifestation as a "Maya", impressed Nikola Tesla. Mr. Nikola tesla used ancient Sanskrit terminology in his description of natural phenomena. Nikola Tesla described the universe as a kinetic system filled with energy which could be harnessed at any location. During following years his concept were influenced by Swami Vivekanand's teachings. Nikola tesla believed that the space is not blank, but it is a full of mechanical energy even before he became familiar with Vaidik Philosophy. After meeting Swami Vivekananda, Tesla was influenced by eastern Advaita Vad. He started using words like PRANA and AKASHA to describe the concept of Luminiferous Aether as a source of formation of matter and carrier of energy. Nikola Tesla also shared his ideas with Kelvin.

Swami Vivekanand expected mathematical solution for Advait Siddhanta that "force and matter are reducible to potential energy" from Nikola Tesla. Swami Vivekanand was hopeful that Tesla would be able to show that what we call matter is simply potential energy because that would reconcile the teachings of the Veds with modern science. Tesla failed to provide such solution, and a dream of Swami Vivekananda was not fulfilled.

## My Opinion on eastern (Indian) Philosophy.

Ancient Sanskrit Language is still not decoded or decrypted. Today's Sanskrit is a new and different language from ancient (Vedik) Sanskrit. The source of knowledge, the ancient Sanskrit is a lost language. Even translations of known mantras are also incorrect with different views of Acharyas. The detailed theory of Brahm or Brahman a supreme spirit is lost, and only remnants are there in Veds and Vedants as philosophies. Ancient Rishis tried their best to harvest the real knowledge from the ancient old Sanskrit, but in the absence of technology and advanced science they failed to recover all. This leads to many misunderstanding in Indian religion and mythological beliefs. After understanding the theory of "Brahm" described in this book, may provide some insights to recollect the message hidden in Indian mythology. The word "Brahman" is more common than Brahm in Vedic literature, This Brahman is the Ishwar who is a conscious, omnipotent, omniscience and omniexistence. That's why I used term Brahm instead of Brahman which don't represent an individual like single solitary existence, but it represents a substance in a state instead. Before the method of documentation as a written text there was a long oral tradition of conveying knowledge as mantras and hymns. When the method of documentation established, many Acharyas tried the documentation and translations (Bhasya). What was clear as a concept like omni existence, all pervading, all prevalent were grasped and translated with accuracy but complex things were misunderstood mostly and that's why Advait Vedanta remained as a philosophy instead of a scientific theory. The detailed incorporation of phenomenal facts in Hindu Mythological characters and paintings (generated from a written descriptions in Veds and Parans) points out to a much more developed Brahm theory in addition to philosophy of Advait Vedanta. Existence of such developed scientific theory in ancient time is a mystery.



### A brief history of Aether in the mainstream science at a glance:

Mainstream science was philosophy before few centuries. Still a Modern fundamental physics is full of imaginations and philosophies. Plato stated that “there is the most translucent kind which is called by the name Aether”. Though he had adopted the classical system of four elements. Aristotal a student of Plato at the academy, stated that there are celestial spheres which are made up of Aether. Those are responsible for circular orbits of the celestial bodies like stars, sun, planets. Plato considered it as the first element but later on it was considered as fifth element and also called it Aether, a word that Aristotle had used in “on the heavens and the meteorology” but that concept of an Aether was restricted to its function related to motion of celestial bodies like stars and planets. That Aether was considered different from four terrestrial elements. That Aether was assumed to have a natural motion in circles only and made a celestial sphere that held stars and planets. That Aether filling gaps between planets was believed less dense than a bodies of the planets.

In the medieval era the acceptance of Aether was there. Aether was also known as the fifth element or quintessence; it was believed as the material that filled the space beyond the terrestrial sphere. But that was not thought as an origin of the mass. This philosophy developed independently different from Indian philosophy within western countries because Asian languages were not readable for them. Still, it seems like a “Charvak Darshan” based on four fundamental elements and rejecting fifth element earlier and later on returning to “Panch bhut” a five-element philosophy in Hindu philosophy (Veds and Upanishads), Ayurveda and Yoga. In contrast to Vaidik belief of fluidlike substance, their imagination about Aether was of very less dense substance as an Aether that fills the blank of the space. Robert fludd (1574-1637) an English Physician and alchemists stated about the density of Aether, and he said that Aether is “subtler than light”. He believed it as a penetrative for matter, and

it-self Aether is a non-material thing. Though other ideas of fludd were not correct, like his belief in geocentric world and believing that earth is the heaviest body in the world. So, he didn't carry a good top view of the world. We can't consider these philosophies as a progress because those were inferior to ancient philosophies, but we can consider it as a good comeback after a fall from the height of philosophical knowledge.

Though it is commonly believed that Newtonian physics accepted space as a blank void, but Newton also imagined Aether as a medium responsible for light propagation, cause for gravity and responsible for behaviour of light in optics. Meanwhile **Nicolas Fatio de Duillier** a mathematician and a friend of Isaac newton developed a *Shadow gravity theory*, which provided the mechanical explanation behind the gravitational force. According to me that was *“the great explanation ever given for the mysterious force called gravity”*. It was the pure key of the fundamental force governing the whole aethereal universe, grasped by someone in known human history first time. In that theory he imagined very small invisible particles in a space called *inframundane particles*, that move in every direction in the space continuously and that strikes with the material bodies and create an effect which is perceivable as a gravity. Thus, Fatio found the relation between gravity and something in the blank space which is moving and carrying energy. This theory is also known as “the kinetic theory of gravity”. He stated directly that the blank space is not actually blank. He imagined a blank space as a gravitational environment, indirectly in a different manner he represented not Brahm itself but one of the properties of Brahm described in this book. His idea was ahead of his time and even ahead of the present modern time. That did not gain any attention of mainstream science.

Johann Bernoulli II, a Swiss mathematician, proposed a theory in 1752 that Aether was a fluid with many tiny whirlpools that permeated all space, and these whirlpools give elasticity to Aether. Bernoulli's theory was popular during 17<sup>th</sup> and 18<sup>th</sup> centuries as a way to describe the motion of light. According to

## 1. The history of Aether

this theory Aether was a fluid with many tiny whirlpools that allowed Aether to transmit vibrations from light corpuscles as they travelled through it. This theory has a close similarity with some part of this Brahm theory.

Again, kinetic theory of the push gravity came in a highlight when Lesage tried in vain to revive and reintroduce that same theory. Kelvin published a note on Lesage's model in 1873, in which he found Lesage's proposal was not compatible thermodynamically and he also suggested to improve that model using then popular "the vortex theory of atom".

Kelvin concluded about Lesage's kinetic theory,

"This kinetic theory of matter is a dream, and can be nothing else, until it can explain chemical affinity, electricity, magnetism, gravitation and the inertia of masses of vortices. Lesage's theory might give an explanation to inertia of masses, on the vortex theory, were it not for the vortex theory, were it not for the essential aeolotropy of crystals, and the seemingly perfect isotropy of gravity. No finger post pointing towards a way that can possibly lead to a surmounting of its flank, has been discovered, or imagined as discoverable."

I think they were nearer to "the theory of Brahm" described in this book, but Michaelson Morely experiment, and special theory of relativity have changed the path of the progressing science on the way of progress of course to collect the concept of time dilation.

"The vortex theory of atom" was a theory proposed by William Thomson better known as Lord Kelvin. In that model he imagined atom as a vortex in the fluid medium Aether. So, Aether model for explaining mass as nothing but a vortex in the liquid medium is not new. It is already tried approach, but complexity of the reality ruined the simple form of that theory. In that theory atom was imagined as a primary vortex loop in a fluid Aether at atomic level, which did not stay competent with experimental

results and after discovery of the electron and other subatomic particles, that theory was made abandoned.

Larmour and Lorentz electron Aether theories are well-described Aether theories. But primary unit of Aether in those theory was assumed as an electron, which was not explained in further detail. These theories were failed when quantum physics and relativity contradicted with them.

Few lines by Lamour.

The Science world is increasingly dominated by scientists in favor of the Bohr Heisenberg interpretation of physical reality. Physical theories still required visual representations and illustrations to be completed.

Sir Joseph Larmor was the first person to calculate the rate at which energy is radiated by an accelerated electron, and the first to explain the splitting of the spectrum lines by a magnetic field. His theories were based on the belief that matter consists entirely of electric particles moving in Aether.

The acceptance of Aether as a luminiferous substance become prominent in the 19<sup>th</sup> century, when it is accepted that light has a wave nature. That was believed that There must be a medium for the wave to travel along with. So, in the 19<sup>th</sup> century mainstream science has acceptance for the existence of luminiferous Aether which is responsible for the propagation of the light. It was prime priority of physics in the 19th century to find out property and nature of the luminiferous Aether.

Three possibilities of Aether depending on the drag of Aether along with moving masses was plotted as Dragged Aether, partially dragged Aether and Stationary Aether.

1. Dragged Aether: Mass drags Aether within its vicinity. This vicinity is the area around the mass up to that extent Aether is being dragged hypothetically.

## 1. The history of Aether

2. Partially dragged Aether: Though mass drags Aether but not completely, only partial drag is there within the vicinity of the mass. There is a relative motion.

3. Stationary Aether: Mass don't drag Aether but moves relative to that Aether in the space during its motion in the space, thus this stationary Aether forms a one single absolute reference frame for motions relative to it.

There was an observation called “aberration of Star light”. In this phenomenon stars appeared to be displaced from their position according to earth's position and motion in the orbit around the sun. This happens due to the relative motion of the earth to the beam of light. This phenomenon was in support of stationary Aether and not in a support of dragged Aether with earth vicinity. Because light was assumed as a wave in Aether, and it was argued that if Aether being dragged with the earth, then the phenomenon of aberration of the star light should not be there due to drag of light along with Aether in a vicinity of the earth.

After observation of this phenomenon the only possible possibility for the existence of Aether remained was a possibility of a stationary Aether which don't get dragged with the earth and remain stationary and thus moving in relation to earth.

During that period **Albert Michaelson** invented the apparatus called the interferometer. He did some experiments with that apparatus to find out Aether wind causing a drag on the light wave. He performed alone some experiment then collaborate with **Edward Morley** and performed Most famous failed experiment called **Michaelson-Morley experiment**. Conclusion of this experiment was that there is no Aether drag on the light, means there is no existence of the stationary Aether. Together with the conclusions from the observation of the aberration of the star light this experiment provided the conclusion that there could not be the existence of luminiferous Aether either stationary or dragged with the earth, capable of producing drag effect while relative motions crossing the path of

light. This experiment also provided the conclusion that speed of light don't get affected by relative motion of any Aether like medium and remains finite and constant for the observer. This Conclusions became the base for the special theory of relativity. Hendric Lorentz tried to explain the result of Michaelson Morley experiment with assumption of Aether as an electron field made up of electrons. But he failed to explain it. Lorentz might be inspired from Voigt's transformation equations about doppler effect of waves in a medium and Lorentz developed Lorentz transformation equations in 1904, that gave the concept of time dilation and length contraction. But due to the assumption of an Aether as an electron field he was unable to explain the behaviour of light and relativity properly because there was a universal reference frame made up of electron field. In a 1905 A scientist impressed by the work of Lorentz used Lorentz transformation, Time dilation, Length contraction concepts, but denied existence of Aether in any form. He built on Lorentz's ideas, including Lorentz's transformation, which described how differently observers see the same event. He also disagreed with Lorentz's theory of an ether. He provided the science world with a postulate of observer specific constancy of speed of light and concept of the inertial reference frames. He defined time as the fourth dimension and described space as a 4D space time Matrix. He explained all these things in a theory called the Special theory of relativity. The name of this physicist was Professor Albert Einstein. He also used Minkowski space concept in his theory later on.

Though the interchangeability of relatively moving subjects creates a logical and mathematical errors on the ground of symmetry and twin paradox completely ruins out the theory, mainstream science still managed to believe in the special theory of relativity and considered it as a ground for the rejection of the existence of the luminiferous Aether. In 1915 Professor Albert Einstein further developed the theory and included the effect of an acceleration and gravitational field on the light path and provided a concept of geodesics and curvature in a space-time

## 1. The history of Aether

matrix by mass. This theory is called General Theory of Relativity. This theory stated that gravity is due to curvature of space-time matrix around the mass. This curvature is formed by mass with ability which is an internal property of the mass. Then Lorentz wrote the letter to Albert Einstein asking, did he reintroduced Aether as a space-time matrix, which he had rejected in a special theory of relativity? Albert Einstein gave the answer with the explanation that this is a Neo-either, no "substance" and no state of motion can be attributed to that new Aether; space time matrix is just a mathematical concept to derive gravitational field. That was a poor answer because it was simple to understood that if something is being curved than it can't be just a mathematical tool but must be something real that may be a dynamic presence at least, if not a steady or moving substance.

Physicist Robert B. Laughlin wrote:

It is ironic that Einstein's most creative work, the General theory of Relativity, should boil down to conceptualizing space as a medium when in his original premise [in special relativity] was that no such medium existed. The word 'ether' has extremely negative connotations in theoretical physics because of its past association with opposition to relativity. This is unfortunate because, stripped of these connotations, it rather nicely captures the way most physicists actually think about the vacuum. Relativity actually says nothing about the existence or nonexistence of matter pervading the universe, only that any such matter must have relativistic symmetry. It turns out that such a matter exists. About the time relativity was becoming accepted, studies of radioactivity began showing that the empty vacuum of space had spectroscopic structure similar to that of ordinary quantum solids and fluids. Subsequent studies with large particle accelerators have now led us to understand that space is more like a piece of window glass than ideal Newtonian emptiness. It is filled with 'stuff' that is normally transparent but can be made visible by hitting it sufficiently hard to knock out a part. The modern concept of the vacuum of space, confirmed

every day by experiment, is a relativistic ether. But we do not call it this because it is not accepted (taboo).

Louis de Broglie stated, "Any particle, ever isolated, has to be imagined as in continuous "energetic contact" with a hidden medium."

However, as de Broglie pointed out, this medium "could not serve as a universal reference medium, as this would be contrary to relativity theory."

So, we can see here that, Relativity theory is the obstacles that don't allow scientists to accept the perceivable quantum vacuum as a universal reference medium aether. This is because a space as a substance in a vacuum can't have a relativistic symmetry due to its stand as a universal reference frame.

We will see ahead in part two of this book that Brahm is dynamic environment with Aether medium, and it have symmetry that can explain time dilation also, still it contrasts with the special relativity and we will not try to rescue relativity instead we will try to understand Brahm and its consequences independently.

Quantum vacuum:

Quantum mechanics can be used to describe space as being non-empty at extremely small scales, fluctuating and generating particle pairs that appear and disappear incredibly quickly. It has been suggested by some such as Paul Dirac that this quantum vacuum may be the equivalent in modern physics of a particulate Aether. However, Dirac's Aether hypothesis was motivated by his dissatisfaction with quantum electrodynamics, and it never gained support from the mainstream scientific community.

So, we can see that,

The following points are in support of Brahm-Aether.



## 1. The history of Aether

1. Observations of quantum physics.
2. Space matrix, geodesics, curved space concept in a General Relativity, a (neo)-ether concept, time dilation.

The following are against Aether.

1. Special theory relativity.
2. Combined conclusion from, aberration of star light phenomena & Conclusion derived from the Michelson-Morley experiment.

So, before the introduction of Aether again, one has to pass through this two major obstacles.

In this book Aether is described as a medium that forms everything within it as waves and complex vortices of waves. It is not a substance only between two masses. It doesn't contradict any observation or theory, and it fulfills the gap. Brahm is described as an existence carrying such medium in this book. That Aether is not a substance just between material objects, but it is a medium that carries mass within it as a complex compound vortices of aethereal waves. So, during motion of such mass, mass rides on aether as a wave complex. Thus, no room for drag or friction remains there. There is an interaction of matter with gravity forming flux, and that regulates speed of matter in Brahm and provides inertia.

Some parts of this chapter are taken from the following references.

Reff.

[https://en.wikipedia.org/wiki/Aether\\_\(classical\\_element\)](https://en.wikipedia.org/wiki/Aether_(classical_element))

[https://en.wikipedia.org/wiki/Aether\\_theories](https://en.wikipedia.org/wiki/Aether_theories)

## 2. Rejection for the existence of the substance Aether in a special theory of relativity

As, we have seen in the chapter 1 that, there are three main reasons behind the rejection of existence of luminiferous substance Aether.

1. Conclusions from the experiment of Ole Rømer and observation of the binary star system.
2. Conclusions from the aberration of star light phenomena
3. Conclusion derived from the Michelson-Morley experiment.

The luminiferous Aether was imagined as the medium for the propagation of the light as a wave. The behaviour of the light wave during its travel in the space is observed and that provides some information about the properties of the light. One of them is the finiteness of speed of light in a vacuum. Many scientists have measured speed of light and concluded that the speed of light in a vacuum is finite and constant. But due to its enormous speed, all necessary observations have not still done.

Danish astronomer Ole Rømer first measured the speed of the light from the motion of the Jupiter's moon "Io". The Earth revolves in the orbit around the Sun, and the speed of orbiting by the Earth is greater than that of the Jupiter. So, in a different part of the year, at some time the Earth goes nearer to the Jupiter and at other part of the year the Earth goes farther from the Jupiter. Ole Rømer assumed that the Io must orbiting Jupiter with same speed whole the year, and there can't be a seasonal variation in the speed of orbiting of Io around the Jupiter. By timing the eclipses of the moon Io, he measured a speed of light and derived some conclusions.

## 2. Rejection for the existence of the substance Aether in a special theory of relativity

His conclusion about the speed of light was, “The Speed of light is finite”.

He concluded that, Eclipse was delayed when the Earth was away from the Jupiter. Means light don't reach to observer from the source instantaneously. Furthermore, his experiment also concluded that Light takes equal time whether the source of the light moving toward the observer or moving away from the observer. Observation of the binary star system also led to the same conclusion. It means that once the light enters the space, its motion related to Solar system becomes constant. The light from the object moving toward the earth doesn't move faster in the space and the light emitted by the object moving away from the earth doesn't move slower in the space in relation to earth.

So, conclusion is “speed of light is finite and constant in the vacuum.”

### Aberration of the star light.

We can imagine a situation in which a star is situated many light years away from the sun in a direction along with axis passing from sun's pole. Earth is revolving in the orbit around the Sun.

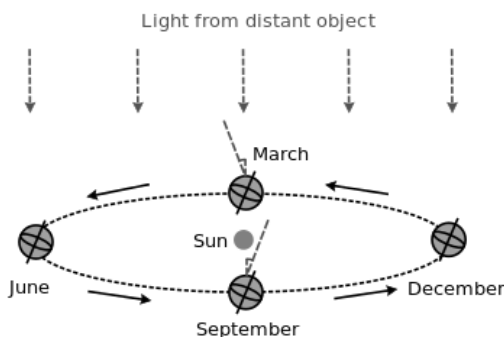


Figure 2.1

[Reference and Image credit: Wikipedia]

As in the figure 2.1 above, the star's apparent position changes according to the direction of the earth's motion. This phenomenon ruled out the existence of Aether moving along with the earth. It has been argued that if Aether was there getting dragged with the earth, then the light would also be dragged within Aether and there would not be stellar aberrations.

So, according to physics, this observation rules out the dragging of Aether within a vicinity of the earth.

Now only one possibility remained for the possible existence of Aether was as a stationary Aether which remained stationary and not getting dragged with the earth. If such stationary Aether was there, then it must have been moving in relation to the earth, because the earth moves in a circular orbit around the Sun, so it is not possible for Aether to remain stationary in relation to earth during whole year.

In such a case if we propagate the light on the earth, there must be a drag on its path due to relatively moving Aether. The speed of the Earth in the orbit around the Sun is approximately 30 km/sec, which is fast enough to produce a measurable drag effect on the light.

With this plan Michaelson and Morley performed an experiment with the apparatus made by Michelson known as the Interferometer.

The negative result of this experiment concluded two things.

1. No existence of stationary luminiferous Aether is there, because there is a no drag effect on light waves.
2. The speed of light is finite and constant for the observer when source is moving along with the observer.

Albert Einstein took all these results and observations in a consideration and concluded following conclusion,

1. The speed of light is constant for observers in all reference frames irrespective of the relative speed of the source of light.

## 2. Rejection for the existence of the substance Aether in a special theory of relativity

We can see that; Aether was rejected due to above explained observations. Light propagates with the constant speed in relation to the observer on the Earth, it means that, there is no moving medium around the Earth moving in relation to the Earth, which can drag the light along with it. This creates a relation between light speed and the observer. This is called observer specific constancy of speed of light.

So, these were the reasons in support of the assumption of Albert Einstein in the special theory of relativity.

If Einstein accepted the possibility of the existence of Aether, then that Aether can't be in a stationary position with reference to all moving observers, So, that couldn't comply with the second postulate of the special theory of relativity, an observer specific constancy of the light. So, he rejected the possibility of any type of substance as Aether medium that can be moved along with or in relation to the observer. In other words, he denied existence of anything in the vacuum space that can affect the light propagation.

This concludes, either Aether as a medium for light wave can exist there or a second postulate of the special theory of relativity can be true.

Note: (part of this chapter that include ole Romer's work, and aberration of light is taken from the Wikipedia, a public domain.)

### 3. Indirect support to Brahm

There is a no single General concept about the universal primary law that could define the foundation of the physics. Mass and vacuum still remained undefined fundamentally. Some theories deny existence of any type of Aether medium like the special theory of relativity, while some theories and observations are pointing toward some existence in a space filling the space and indicating that absolute space is not really absolute blank. Some parts of such theories are pointing toward Brahm.

Such theories or concepts are enumerated below.

1. Relativity.
2. Higg's field theory
3. Lorentz's Aether theory
4. Kinetic theory of Gravity, a push gravity model by Nicholas Fatio.
5. Quantum vacuum
6. Quantum entanglement
7. Young's Double slit experiment
8. Structure of the Galaxy
9. Hot core of the Earth
10. Magnetic field of earth and other rotating planets
11. Gravitational waves
12. Unsolved queries like inertia, mass, gravity, strong force

#### 1. Relativity

The general theory of relativity indicates to Neo-Aether which was a late failed try by Professor Albert Einstein to re-introduce Aether. In the general theory of the relativity space is provided with the property to build geodesics which are the curves formed by masses around them in the material free space that can affect the motion of the mass within it and have a physical property that manifests Gravity. Gravity is explained as a curvature of the space-time matrix which create geodesics. Though Einstein tried to call it a neo-Aether and word like

### 3. Indirect support to Brahm

relativistic Aether has also been used for that Aether, but mainstream scientists did not accept it, because it was contradictory to the special theory of the relativity, and also against the conclusion of Michaelson-Morely experiment. But Logic says, if there is a nothing in the space how a nothing can be curved or folded to create a geodesic. This suggests a must existence of something in a space that forms gravity and governs time.

Gravity is conceptualised as a tendency of the masses to move toward one another. In the concept of four-dimensional space-time, mass is always believed to be in moving state. The stationary looking mass is moving in time dimension. When a mass advances through a time, the local direction of the time in a spacetime near a bigger mass is tilted to the centre of that mass. That creates a drag of gravity. Means the acceleration formed by gravity is progression of the mass on the geodesics tilted due to bending of spacetime by mass. In this concept, time is undefined property of the space. Mechanism by which mass creates curvature in surrounding space is not defined. This theory of relativity is incomplete in its concept at fundamental level, that point outs toward missing mechanism. This shows a room for Brahm and Aether. How steady masses keep moving in a time dimension is explained in a chapter 19. Reason for Time dilation and observer specific constancy of speed of light is also explained as a wave dynamic in a chapter 19. These two things also demand existence of Brahm including Aether.

The limit for the maximum speed of the matter in a space described in the special theory of relativity also points toward something restricting the speed of mass in a vacuum. This indicates some hidden existence in the space affecting the speed of the mass. If vacuum is a nothing, then there should not be any limit to the maximum relative speed of masses logically. When we gain the common sense from this theory of Brahm we would realise that if the vacuum is a nothing then there can't a stable mass be existed surrounding by the vacuum. Nothing can remain stable if surrounded by nothing.

## 2. Higg's field theory

In a modern physics Higg's field theory provides the explanation about the mass property of the particles. It is assumed in the higg's field theory that interactions of the particles with the higg's field are responsible for the mass property of the particles. Higgs boson is the fundamental particle associated with the Higg's field, a field that gives mass to other fundamental particles such as electrons and quarks. Particle physicist believes this field exists throughout the universe.

The Higg's field is a spinless field that fills the universe and has a nonzero vacuum expectation value. This means that the higg's field has a constant value everywhere. Higg's boson discovered in 2012, has no electrical charge, a short lifetime, and a spin of zero.

The higg's mechanism is the process by which the Higg's field gives mass to the quantum particles. The Higg's field breaks the symmetry of the electroweak interaction, causing the W and Z bosons to acquire mass. I don't know how it happens, there is no source available on the internet that can explain this as an imaginable concept and not as a math. Other particles, like electrons and quarks, also acquire mass by interacting with the Higg's field. It is assumed that without the Higg's field, elementary particles would travel at the speed of the light, making it impossible for them to form atoms and molecules. Thus, according to above argument, this field is imagined providing only mass to the particles, but existence of particles doesn't require this field according to the Higg's field theory. This is different from the gravity forming flux in a Brahm which not just provide mass and inertia, but it is this gravity forming field of flux that forms particles. Without this flux no particle could sustain their existence. This flux also provides a field that is gets converted into a magnetic field.

Thus, Higg's field is the imaginary field that represents only resistance property of Brahm. Higg's field theory fails in



### 3. Indirect support to Brahm

explaining inertia. This theory proposes a concept that Higg's field provides a resistance to the motion of the particles, this resistance slows down the speed of the particles and thus provides inertia and mass. I don't think this can explain inertia. Because inertia is not just slowing down the speed of motion. It is a property which allows sustaining motion also. How a resistance could help in sustaining motion through field providing that resistance! So, such field which is not even categorised as fixed or moving don't comply with the nature of the inertia. But still acceptance of such field supports existence of something in a vacuum interacting with every particle.

### 3. Lorentz's Aether theory

Professor Hendric Antoon Lorentz introduced Lorentz Aether made up of the electron field in the 1904, but there were some mistakes in the calculations pointed out by Poincare. His theory was in favour of the stationary Aether medium but as we all know it lost the chance of improvement as the theory of special relativity rejecting any kind of Aether, superseded Lorenz's aether theory.

### 4. Kinetic theory of Gravity, a push gravity model by Nicholas Fatio.

Nicholas Fatio de Duillier was a fascinating and multi-faceted figure in the late 17th and early 18th centuries. He was mathematician, natural philosopher, astronomer, inventor and religious campaigner. He was a friend and close associate of the Sir Isac Newton. He was originator of the mechanism of gravity as a shadow gravity or a push gravity model. What could be better than a mechanical explanation! But This theory did not gain much attention of the scientists because scientists could not consider it fit for some observational findings; were actually it fits. In this theory absolute blank space was replaced by a gravitational environment which contained moving energy carrying corpuscles which were named by Nicolas Fatio as "Intramundane Particles". This theory gave insight that gravity is

not an attraction but instead it is a push actually. This was very sensible. That was the most brilliant explanation of the gravity which is still being ignored. So, for explanation of the gravity as a mechanical push, one has to accept the existence of material things in a vacuum. That is a step toward Brahm. According to me, this was the incomplete theory representing Brahm at gross level.

## 5. Quantum vacuum

As the science advances, scientists find reach to the smaller scale more and more. A famous quote of the Quantum physicist Niels Bohr is “Everything we call real is made of things that cannot be regarded as real”. This quote gives the insight into the reality that solids are not so solids and blanks are not so blanks.

When single mass particle is observed, it was not like a quite solid ball, but it was like a something carrying enormous energy and motion and in continuous contact with the surrounding to which it can transfer energy.

According to the present-day understanding of what is called the vacuum state or a quantum vacuum, it is “by no means a simple empty space”. According to quantum mechanics, the vacuum state is not truly empty but instead contains fleeting electromagnetic waves and particles that pop into and out of the quantum field. This shows that vacuum has the potential that can absorb the energy or mass or provide the energy or the mass. This is called quantum fluctuations. These fluctuations involve the temporary creation and annihilation of particle-antiparticle pairs, known as a “virtual particles.” Contrary to the classical idea of a vacuum as empty space, the quantum vacuum is understood to be a dynamic environment. It’s not a state of nothingness, but rather the lowest energy state of a quantum field. This baseline level of energy is called zero-point energy. This means that even in the “emptiest” space, there is still inherent energy. The quantum vacuum is thought to play role in relation to dark

### 3. Indirect support to Brahm

energy. Some theories suggest that dark energy, which drives the accelerated expansion of the universe, originates from the energy of the quantum vacuum. The understanding of the quantum vacuum is based in the theories of quantum field theory. This theory is the framework in which the elementary particles and their interactions are studied.

These observational data are strong enough to accept the presence of something in the vacuum space that interacts continuously with matter.

### 6. Quantum entanglement

Scientists have found the relation between two entangled photons or particles, according to scientists that relation stayed even at far distance, this means that there is some connection between them even when they are physically apart from each other.

Quantum entanglement is a phenomenon in a quantum physics where two or more particles are connected in such a way that the state of one particle is dependent on the state of the other particles, even when they are separated by a large distance. This connection is believed to be instantaneous and seems to break a fundamental law of the universe. There is a recent claim of measurement of the speed of the quantum entanglement also. Albert Einstein famously called this phenomenon “a spooky action at a distance” because it seemed to contradict his demonstration that no information could travel faster than the speed of light. However still it is believed that quantum entanglement does not allow for the transmission of information at a speed faster-than-light. It is said so because scientists believe that even if the information is transmitted through entanglement, it couldn't be interpreted without communicating to the source who sent information. This communication must be at a speed below the speed of light, so human can't use quantum

entanglement for information transfer with the speed more than light. But this doesn't mean that two quantumly entangle particle don't interact with each other with speed more than light. Actually, this connection is against the prediction of special relativity.

Though I am still struggling to understand quantum entanglement clearly because of poor sources, I have doubt about any such connection. It is easy to believe that two particles can be entangled with each other because of the same source and time of origin. But continuous connection because they were entangled is not digestible. Heisenberg's uncertainty is due to lack of tool that can measure quantum particles without too much disturbing them. But applying that uncertainty principle to quantumly entangled particles by assuming connection between them even at very far distance is something weired. EPR paradox demands hidden variables that allows entanglement and specific behaviour in certain interactions. Ruling out hidden variables by testing method like bell test won the Nobel prize. But what if 30 percents of the photon believed to be entangled were not actually properly entangled! It will yield this type of result indeed. I would not like to believe in quantum entanglement until there could be a direct measurement of the entanglement.

But, if it is true that distant quantum particles can interact with the speed more than light, then what could be the medium? Brahm is a such complex thing that can provide the answer. Speed of mass in Brahm is not restricted to the speed of light if that mass is smaller than Aether units of our scale. As the scale becomes smaller relative speed becomes more intense to provide gravity push. If electrons move with speed near to the speed of light, particles stabilizing it with push gravity must have speed many times that of electrons. Same thing is true for the photon if it is a particle. Actually, smaller scale particles are not very fast, but larger masses are slower relative to them. Time perception is due to motions, that's why slowing down of time is not perceptible at a scale with larger masses. You can check details on this in a chapter "Scales".

## 7. Young's Double slit experiment

This experiment shows interference patterns when electrons are fired along with double slits toward detectors. It provides a conclusion that even particles have a wavelike property. When electrons were fired one by one, even in that situation, that showed an interference pattern. There can be one of the two conclusions possible for this phenomenon. 1. they interfered with themselves by moving through both slits simultaneously 2. they were doing something mysterious. This is the unexplained phenomena that can be explained by accepting Brahm. Electrons carry a magnetic field in Brahm, though electron pass through only one slit the magnetic field of the electron passes through other slit, there may be an interference between two magnetic fields passing through slits, that creates a summation and drag, and it deviates the path of electrons and creates interference pattern on the detector screen. When you disturb environment by detectors, it wouldn't be able to bring same effect.

## 8. Structure of the Galaxy

According to modern science, Galaxies are unstable structures theoretically. The mass they carries is not enough to create required attractive force of gravity to hold the whole structure of the galaxy in a rotating motion with observed speed. According to modern physics mass was lacking in all galaxies. There was an imagination of Dark matter to fulfil this lacking proportion of mass. Recent studies revealed that the lacking mass is found as a cloud of thin gases distributed around galaxies in a glob like area. This finding rule outs the need of dark matter.

Distribution of mass in this pattern favours the effect of the structure like a Torus. Galactic centres are also a mystery and assumed as a blackhole. That can be explained in a better way with mechanical push gravity, as explained in the respected

chapter. Shape of Galaxy and distribution of gases around it can be explained by the topic Torus formation described in the chapter 5 of the part 2 of this book.

## 9. Hot core of the Earth

It is assumed that core of the earth is hot, because of its previous hot state in the past of the Earth's history. This book explains this as an essential acquired state due to consequences of push gravity in a Brahm. The larger the stable celestial body, hotter the body. Core is hotter than outer crust. These fits well in the consequences of push gravity which is a Brahm gravity model.

## 10. Magnetic field of the earth and other rotating planets

Torus formation and magnetic body explained in this theory can explain the origin of the magnetic field of the earth. Combined magnetic field of few magnetic bodies further aligns more magnetic bodies and creates more powerful magnetic field with increased range. Axial rotation of the earth doesn't allow alignment in other directions, and it just allows Magnetic fields summation in direction nearly parallel to rotational axis only.

## 11. Gravitational waves

Waves are serial fluctuation in a medium. Gravitational waves exist, means a medium is there.

## 12. Unsolved queries like inertia, mass, gravity, strong force

Explanation of these things are incomplete in absence of Brahm. See relevant chapters for explanations.

## 4. Possible nature of Brahm

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End of the part I





## Part II

# Brahm model of the universe and fundamental Physics

BRAHM

# Introduction

This part explains the existence as two basics. One is a Brahm that require two fundamental things, a blank space and a solid mass. If we accept these two fundamental things as a self-stable than there is a no need of scaled Brahm with Aether.

But if we describe a primal solid as a vortex of waves within a substance Aether then this Aether becomes an only supreme fundamental existence that can form Brahm and physical world. But if we inquire this Aether for its roots, then it would be found that it is a manifestation within a Brahm powered by kinetic energy and made up of primal masses in a space. Further root of those masses would be vortices of waves in a finer Aether. This is an infinite sequence in the existence. Aether forms Brahm and Brahm forms higher scaled Aether. So, we can't get the rid about primal fundamentals, but we can percept the structure of the Matrix.

In this second part, physics is explained as a model based on Brahm including Aether. There is no direct assumption of Aether or Brahm for the sole purpose of the theory, but it is explained that there is an essential need of Brahm to explain the real world in a realistic approach. If we try to neglect Brahm and try to explain the reality, then the world becomes miraculous, common sense get killed and nothing remains as logic to differentiate between the real and non-real. So, to understand the world as a real we need to accept that Brahm must be there, and everything is there as manifestations within Brahm. *So, key point is a realistic mechanical approach and no miracle strategy.* The meaning of the word logical is “Whatever could be explained with the continuity of logic with mechanical concepts based on the fundamental foundation of the theory”. I also see the relation of the word “Real” with the word aethereal. Means Aether is beyond real and manifestations within this Aether which could be expressed as aethereal and thus Real. By accepting Brahm with a simplicity as much as possible, we can avoid many assumptions of modern physics like extra spatial dimensions, singularity,

limitless vicious gravity and relativistic blackholes, non-unifying forces, mysterious gravitational force working without any mechanical interactions, mysterious strong and weak forces, some weird properties of light, different distinct fields for different effects like quantum field, higg's field, electromagnetic field etc. This theory is imagined as whole concept, for the existence of universe as a whole and try has been made to incorporate as much facts as possible within the framework of the theory. Still some aspects could not be explained with good accuracy, like an exact quantified calculations of subatomic particle interactions or anatomy of the quantum particles. These aspects need further development of the theory with incorporation of data based on experimental science. That works needs précised data and accurate equations to relate phenomena. This theory provides a framework, and Science has to freshly discover everything within this framework, if this theory gains an importance.

In the first chapter we will see, why it is must to accept the existence of Brahm and there is a no other choice remains if we want to keep the existence of the world as a real and logically explainable. As soon as we accept the existence of Brahm, we would be able to derive properties of Brahm by using logic with available data about facts and thus building a concept of the real world which explains most of the things in a realistic manner. Brahm can contain a mechanical world, where everything is nothing but a mechanics or dynamics. We live in a real world and have data as observational findings in this world, so, in a process of logical explanations in this book, sometimes there may be a neglect of some possibilities without thinking much of it if that possibility is not deriving results on the way to the real world. Logic and imagination will guide us on the way to derivation of the gravity, derivation of the mass, etc. In succeeding chapters, there is an explanation of the phenomena between masses, explanation of the light and its properties. All this based on the thought experiments and logical co-relations only, so quantitative data is not there, but logic used is so simple and mechanical in a

## Introduction

nature that a common person with a simple common sense can grasp the essence of this model. Simple minor mistake in application of math can lead to miraculous non real outcomes with paradoxes. So, it is not advisable to leave a common sense for a math in the formation of overview of the model. This overview of the model presented in this book doesn't contains any math. Further development of the theory by incorporating maths for precise predictability is a pending work for now for this model. Math is used to describe Relativity in relation to this theory. One can compare Maxwell's equations in this framework also. One can apply math for shadow gravity model also. The track of the model doesn't follow the way to modern science theories, and it may be in support of some less known or relatively ignored or discarded theories. For the development of this model, I didn't consider any theory as more important theory or proved theory. It is this model that decided during its development that which theories should be incorporated and which should be rejected or neglected.

Dr. Hasmukh Devidas Rathod.



BRAHM

# o. Thinking

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Laws:

Analytic intellectuality is an ability to identify normal consequences and to distinguish abnormal consequences. When an observer with analytic logic power and a memory observes a system for enough time repetitively, the observer understands the behaviour of system by identifying patterns, repetition of same or similar consequences which he categorizes as normal findings. In such findings some findings or phenomena could be categorized as primary and basic phenomena which remains always true. Such always consistent phenomena are called primary laws. After such laws could be derived, that can help in understanding other complex phenomena as consequence governed by these primary laws. So, sense is also to be considered as an ability to understand complex phenomena with the help of few primary laws.

A sense that can differentiate between possible and impossible phenomena by calculation based on Laws, data and the logic power is called a common sense. Common sense can create an event in an imagination with sense of its possible possibility based on logic. Thus, common sense provides a power to differentiate a real and non-real to some extent. The possibility is always there that what are considered as Laws are not only laws and there may be some hidden laws and existences that can influence the result. That's why common sense may lead to different out-come away from the truth.

Some laws are primary laws and others are secondary or derived laws. Sometimes we mistaken secondary laws as a primary law due to its influence in a routine. The common sense that accepts derived laws (phenomenal effect) as a primary law is called conditioned common sense. So, our routine common sense

is a conditioned common sense that don't allow us to see detailed image of the reality. Identifying primary phenomena and root cause behind secondary laws with deeper sense can lead to pure unconditioned common sense, which can help in understanding about unexplored regions of knowledge field, and it can predict some missing mechanisms. I would like to explain this with one example.

### Attraction:

Some non-existing phenomena or things have a definition due to conditioned common-sense. i.e. "Attraction". Attraction is thought to be a primary force working on two objects in direction toward each-other on the line joining them and thus pull two objects together. Means it is like an effect of invisible elastic bands functioning itself attached to two objects that can create an attraction force between them. If two objects move toward each other by force acting upon outer side then we don't consider it as the attraction force, but we would call it a push or thrust. Science have not yet confirmed, if true pure attraction can exist or not. We know some attractions like gravity, magnetism, electro-magnetism that can move two objects toward each other. This conditioned our common sense in a way that we accept that there can be a pure attraction and these are the examples. But if we inquire these phenomena in relation to mechanical concept as a pure attraction, we will require the interaction that must behave exactly opposite to the newton's third law of motion. If newton's third law is true for material body and energy, then opposite can't be true. If opposite is true, then it breaks newtons third law of motion. This leads us to inquire the phenomena excepted as a primary attraction again. We have to look for, if there could be a hidden complex mechanism there that works without breaking newton's third law and creates an illusion resembling a pure attraction? There is a Something in favour of this way of thinking. Maxwell's equation draws our attention to a law, "there could not be an isolated single pole of a magnet". If we break magnet in two, each of both magnets will have two poles. There is always a field



surrounding a magnet that works on the portions facing external sides. We can harvest energy by moving a tangle of wire in a magnetic field and that don't decrease the strength of magnetic field abruptly. If that magnetic field had the energy due to momentum of something that was a part of the magnet, then its momentum must have been limited and that should have been resulted in an abrupt decrease in the power of the magnetic field after harvesting energy from the magnetic field by moving wire tangle. This clear out that magnetic field is not only related to magnet itself, but it is connected to infinite amount of source from the surrounding. You can compare magnet with an assembly that can create a deviation of the water flow that can create a whirlpool in a flow. Attraction between two opposite poles of the magnet is not a separable interaction between two opposite poles only. Possibility is there that it can be a complex interaction between two complex things with involvement of surroundings. Similarly, gravity is a mystery in a modern science. Possibility of push gravity can't be ruled out. So, theoretically we don't have any base in support of pure attraction. There is no thinkable conceptual mechanism in support of pure attraction, this just rules out its existence until we could get some contradictory findings. These interpretation gives a firm argument that even chemical bond, elastic recoil of spring, pull by rubber band or springs are also pulls due to indirect pushing or thrusts. Means in real those systems create complex modified force that seems to behave like a pull, that is not a pull but a result of push and strikes forming thrusts at fundamental levels. You may imagine pulling of vehicle with rope. If vehicle is pulled by a rope tied to a hook on the front part of the chassis of the vehicle, then it is an example of the pull. But we can see here that, a rope transmits its force on the backside surface of the hook and that is a push. Now still we can argue that a hook pulls a vehicle because it is attached to vehicle on front side and not transmitting its force as a push from backside part. Well, this integration between hook and vehicle is from integrity of mass or metals. This integrity is a result of chemical bonds between molecules or atoms. That chemical bonds keep integrity of metal. Integrity of chemical bond is there

due to structural integrity of atoms. If gravity, magnetic force, strong force is not there then this integrity can't be there. If these fundamental forces can be explained as an effect of strikes at fundamental levels then it could be concluded that the pull can be possible due to support to structural integrity by surrounding push forces. Means we think that a rope has tensile strength, but on the way of above thinking we can conceptualize that this tensile strength is provided by fundamental forces which are not fundamental really but an effect of fundamental level strikes or pushing interactions. Pulling is just changing equilibrium of inertia resulting in motion.

So, attraction and pull can be an illusion appearing due to hidden pure mechanical interactions following dynamics and Newton's third law of motion. If someone wants to explain pure attraction then one has to show a mechanism that can break Newton's third law of motion, or one has to provide a mechanical model similar to model of action of hypothetical gravitons or gluons. The working model of gluon demands flux tube which further demands tensile strength and elasticity. Imagining flux tube between quarks with gluons inside it is surprisingly imagining an elastic thing with material finer than smallest fundamental particle with fifth fundamental force providing elasticity and integrity to that flux tube. If it is allowed to imagine such flux tube with gluon within itself between quarks, then what is the need of gluons? Flux tubes with elasticity themselves can apply pull between quarks! The force which provides elasticity to flux tube can be considered as a new mystery and fifth fundamental force. So, actually gluon mechanism is a paradoxical impossible mechanism. Same thing is applicable in the case of graviton also.

# 1. Brahm, Aether & Requirement of Brahm.

Sir Isac newton once stated that, “You must have to start with something undefined”. Actually, he might be talking about an essential need of a primary assumption which can’t be explained further with the same theory or other theories. Or he might mean, “No one can find an absolute difference between absolute something and absolute nothing”. This simply also means that “we can’t completely understand the most fundamental existence anyhow”.

There are no primary assumptions in this theory which is not explained further with the same theory. This theory is a self-stable and no undefined assumptions are there. Not a single assumption is there except a law of thermodynamics and newton’s laws of dynamics are taken for granted. This means that this theory uses classical mechanics. Theory starts with nothing and moves over something, then gradually thinking about the possible stable state of that something, with the help of logical thought experiments. It is explained step by step that, “that something” can only be Brahm and nothing else. It is showed in a chapter “Honi” that, however you may imagine any existence as a something, as a mass, as a point, as anything, that would achieve stability only as Brahm if it could create a real world. Infinite repetition of the same explanation is the key that solves the puzzle of undefined something. But still INFINITY is the puzzle itself. The Nature of existence is defined in this theory, but with open ends on smaller and larger scales, with open ends for infinite past and infinite future also. If we call “these” to the structure of Brahm at particular scale, then we could say that “These and these inside and inside, continue for infinity is the answer. Only this could be the final answer, or could it be more precise?

## Overview of Brahm World

Two possibilities about Brahm are Shown in this book. 1. Brahm including Aether. 2. Brahm without aether with undefined mass and emptiness.

First possibility is described in whole book and second possibility is described in brief only in last chapter of this book.

### **About First possibility**

Aether is noble elastic substance, which can have waves and vortices of waves within itself. Aether with vortices and energy flux in itself is referred as Brahm in this book. Brahm contains manifestation of Aether including unmanifested Aether itself. For example, water in an ocean is a material, but ocean itself includes waves of water, currents in water also. So, term ocean includes water and its manifestations also. Similarly, Aether is a material or substance and Brahm includes Aether with its manifestations also including moving corpuscles, steady masses and waves. Mass is nothing but a complexly arranged vortices or whirlpools of waves in Aether which is stabilised in a state by moving energy carrying things called flux which forms push gravity. Aether is a material, or a substance made up with complex arrangement of vortices, mostly and stable in relation to one another. Stable units of Aether are formed by these vortices and ultimately these vortices are formed due to push gravity by moving masses and waves. These moving masses and waves forming flux are part of Brahm. So, Aether itself contains Brahm at smaller scale within it. That Brahm stabilises units of Aether and thus stabilizes Aether itself. But this Aether doesn't necessarily form vortices in its substance to form corpuscles and dynamics above its scale. Aether can have a mass in it and only mass can create an Aether. Both are interdependent and together creates a material world with Aether.

**Aether:** It is described here as an elastic substance medium that has units as stable complex corpuscles with fields surrounding it. These units form a medium with elasticity and resilience. That can carry waves, that can have vortices and whirlpools within it. Vortices are made up of masses. Primary mass is assumed as a couple waves or cluster waves. Thus, ultimately all vortices are made up of waves within Aether. There is a possibility of fluid Aether and fluid current loop as a primary mass within Aether but wave-couple as a primary mass explains time dilations. Still both possibilities are kept open either aether as an elastic medium or a fluid medium, but in this book preferably a mass as a complex wave instead of loop current is explained and Aether is described

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as an elastic substance with compressibility and resilience instead of a liquid with incompressible nature.

**Brahm:** This includes Aether with its dynamics. Corpuscles formed by complex arrangement of whirlpools of wave clusters within Aether are part of Brahm. These moving corpuscles and waves together form a push gravity and Aether carries a gravitational environment. That Aether with gravitational environment is called a Brahm. If we imagine Aether with silent environment with no relative motion of its units, then it is an Aether but not a Brahm. When Aether becomes Brahm, it carries dynamics that can form structures which further forms mass and material world. So real existence includes Brahm with Aether, masses and waves.

If we imagine an Aether without mass like an empty space, even then that space is capable of carrying waves and is made up of material not expressing itself as a mass at surface scale (surface scale is a 3D and made up of units of Aether). These Aether units also need a support of push gravity to remain formed and stable. Only Material bodies or waves with momentum, moving basically as waves of smaller scaled Aether can create and stabilize units of gross scaled Aether. Means silent Aether is silent above its scale on a surface (3d), but at smaller scale or inner side that silent Aether is a result of dynamics of Brahm. Without those dynamics of Brahm, units of Aether can't have a stable existence. Means Aether is not possible without vortices or moving masses in it. If in a thought experiment, all vortices disappear all of a sudden, then nothing remains at observable limits and there is a continuous disappearance of existence would occur toward smaller and smaller scales up to infinity. This means Aether or any existence is due to dynamics only. Aether with vortices in motions can create the universe with simple mechanical laws. Moving things forms push gravity and other effects that forms clusters and structures and ultimately forms Aether itself. If there is a no motion, no vortices or whirlpools, then nothing can be there which can move and create gravitational push and further formation of structures and reality. In other words, everything as an existence is just there due to dynamics within a special magneto-gravitational infinitely scaled substance called Aether.

But if we consider Aether and Brahm as reality, and imaging a no motion state, then it could be possible at surface scale only. There is a law called conservation of the momentum. So, when we want motion free one scale in an Aether or at

absolute motion free existence, then we have to find the place where all momentum can be accommodated. This simply means that there could not be an absolute motion free state of existence, but it may be possible that all momentum enters in smaller or inner scale and at surface within Aether there is a no motion or vortices and it may acquire a calm “Nirav” state for relative motion of units at that scale. As a result of continuous process when motion again enters the described scale, means at a surface within Aether, then it again forms a scale of Brahm and existence of real or aethereal structures at the level of its surface scale becomes possible. This word also provides an insight that aethereal is real. In a Brahm Aethereal is real part of Aether. What is manifested as physical existence either as masses or waves is Aethereal and aethereal is real. Unmanifested Aether is not real for manifested material world according to this scale restricted definition, but it exists, and it is real in casual sense. Why Aether is also Real! This is because Aether represents only one scale within Brahm, and it is itself a manifestation in a finer Aether. So, Aether is also aethereal and real. The word “Param” represents the state of Aether in relation to material world as the existence beyond material world.

What could be the first existence? A mass and emptiness or a substance precipitating that mass as a cluster of wave-vortices and providing space for motion? In a chapter Honi, a state is explained in which unstable mass is imagined there for disintegration in smaller fragments, and only stabilised masses by push gravity can remain stable as a mass. The process of disintegration of unstable mass is spontaneous and continuous, powered by laws of thermodynamics. It simply means mass, space and Aether are simultaneous existence with energy(motion) within themselves. None of these four can exist independently with absence of any of them. So, A trio of mass, motion and emptiness are described as a primary existence, but these all can exist as a manifestation of one entity Aether. So, Aether is made up of these Trio only and these trio is a manifestation in Aether. These all together with infinite scales are together called Brahm. These trio and Aether are not granted as primary assumptions, but they are showed as a result of all possible possibilities in a chapter “Honi”.

### Requirement of Brahm with or without Aether.

For the existence of Nature, requirement of Brahm is must, and no theory can explain the real universe as real without accepting Brahm by using unconditioned common sense. Why and how it is so, is explained below.

Suppose no Aether is there and space between masses is a blank space devoid of any real material thing, then there would be following problems.

1. Attraction becomes miraculous without push gravity environment of Brahm.

We have noticed an attraction since long time. So, we have accepted it as a primary force or phenomenon whenever we think of the matter in a space. The state of common sense is set at pure primary level for this model, that don't accept any effect without its mechanically explainable mechanism. Within a scope of this common sense there could not be any attraction at all. So, there could not be any pure attractive binding force responsible for integrity of mass because such thing is not just impossible but even unimaginable with preserving laws of classical mechanics.

The Gravity or any pure attraction without a surrounding or in between fields becomes a mysterious primary force without Brahm and Aether. Without Brahm, Gravity becomes a force that acts through the blank space and without mechanical contacts between masses. Even graviton or Gluon like mechanism, if imagined then it must behave against Newton's third law of the motion. Third law states that when two thing collides and if there is a no structural damage to that two things then they will move in opposite direction after strikes at an angle determined by Nature of the collision. But what gravitons do? They bring two things nearer to each other by having strikes with them one by one. Whatever interaction imagined here; it goes against the Newton's third law of motion which is a primary base for the commonsense. This breaks a logic of the mechanical common sense. So, graviton doesn't make sense. Mechanical Common sense and logic used in this Brahm theory don't accept that there can be an attraction at all. Yes, as mentioned in previous chapter this pure common sense doesn't accept the phenomenon called attraction. Why it is so is explained below.

Imagine, there are two solids with firm stable structure. Both present at some distance from each other. There is a third party which moves between them and collides with each of them one by one in a line crossing all three. Let's use a name "Bounce" for this third party. There is an event of collision between one of those two firm masses and Bounce. Few possibilities could be imagined here, in an event where momentum is conserved.

First imagining a graviton mechanism. This concept is already rejected in a description ahead in this chapter

Second imagining Bounce moving and striking with two massive particles.

i). Bounce collides with one firm mass and moves back but with a net final momentum less than compared to previous momentum. In such condition Bounce will become relatively sluggish in motion gradually after many strikes and two firm solids can only get pushed away, because they have gained momentum in a direction of motion of Bounce while strikes. This preserves mechanical commonsense.

ii). Bounce collides with one firm mass and moves apart but with a net final momentum equal to previous momentum. In such condition Bounce will continue moving and colliding both firm solids and two firm solids will neither gain or lose momentum and remain steady there. This is against a mechanical commonsense and this doesn't help in describing a mechanism of pure attraction.

iii). Bounce gives momentum to the first solid with which it collides but in direction opposite to its direction of motion before collision. After collision both moves in a opposite direction toward the second solid. If this is true, then there is a murder of the mechanical sense and laws of classical mechanics. This behaviour is against the commonsense of classical mechanics including Newton's third Law of motion. Here primary law of Collision becomes "when smaller moving solid strikes with a steady bigger heavy solid, a smaller solid moves back after strike and also brings bigger solid in that direction of motion against Newton's third law of motion"

We know that universe doesn't work like option two or three. We know that law of conservation of momentum is a primary law and that forms a sense of mechanics. This is why because this is the only way on which energy conservation or motion conservation could be possible. If Nature doesn't behave like this preserving these primary laws of motions, then there could not be a motion at all. Eventually absence of law of



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conservation of momentum will destroy every momentum and motions, and there would be a Nature with no events, no motion, and no Time. This would not create a real world because only motion can initiate further motion. Absence of motion can't create motion. If new fresh motions will be created in such Nature, then it would be a miraculous world which would have no compulsion to obey any laws, and that world would be beyond the scope of science and common sense.

Isn't there any way to imagine such graviton that can bring two solids together by staying and moving between them or connecting them anyhow! Of course it is possible. For that we have to imagine a graviton as a relative absence of momentums. To achieve this relative absence, we have to increase presence in surrounding of the two solid objects. This relative absence if imagined as a corpuscle, it would behave against the newton's third law of motion. It would attract any solid which comes in contact with it toward its side. When it would be in between two solids that relative absence would attract those two solids together. This is nothing but a shadow gravity or push gravity theory, and that relative absence is a shadow formed in a mechanical gravitational environment working with the laws of classical mechanics. So, here is a graviton, and it is a shadow.

To enable the graviton to work within a range of reality or within a framework of classical mechanics, we have to imagine something with infinite numbers of moving 'momentum carrying things' in a space, that forms a Brahm.

If you are accepting the thing Attraction as primary fundamental phenomenon, then you are accepting a miracle in this mechanical environment. Understand the phenomenon of pure attraction as described below.

*Real pure attraction:*

In this phenomenon two massive existences have tendency to move toward each other without any force pushing them together.

So, real pure attraction is an attraction and not a push if it is a real attraction.

If we consider a space between and around two objects as an absolute blank, then there could not be a mechanism which can push those two objects together. There must be something between or around those objects for any mechanism to get working there. Relativistic spacetime matrix is also something,

more than an absolute blank, because absolute blank is a nothing, and nothing can only have a nothingness and no other property, but spacetime have a property according to GR, so that cannot be considered as nothing, but it may be considered as Brahm. The mechanism of bending the spacetime is not explained in general relativity, neither any description about type of the material is there which is curved or bent by the mass around it. Mass due to its property as a mass, curves the spacetime around it with a gravity and that curved spacetime forms a geodesic responsible for gravity. Here power to create a gravity totally belongs to the mass which gives a vicious nature to gravity which increases in a strength as the mass increases without any higher limit. This vicious nature of gravity creates a room for the formation of blackholes which are structures made by crushed mass with a power of mass itself which mass retains even after crushing itself. This also points to the assumption that a mass preserves its property even after being a singularity. This reminds me a paradox known as Omni-potent paradox. A famous phrase is there "Can a God create a stone so heavy that it cannot lift it?" Here the question should be like 'Can a mass produce so intense gravity by curving geodesics around itself that it can crush the mass in singularity?' If this is possible then it solves a quarry of the origin of the big bang. When singularity becomes so intense after crushing so much amount of mass it loses its property as a mass creating curvature in surrounding spacetime. This would result in abrupt cessation of the gravity force resulting in a blast, a bang. So, actually we can dedicate a power to produce gravity to mass itself which could result in consequences mentioned above but that power of mass forming a gravity itself remains undefined.

Concept of geodesic shows that a curved path in the space-time guides the direction of motion within it, means it directs the moving mass, and it is able to apply force on the moving mass in this way. There must be its structure and structural integrity to provide such resistance and torque, which could not be provided by absolute-nothing. Einstein's field equation just provides a tool to calculate the curvature in a spacetime. So, for the attraction force to be working, one must have to accept that the blank space around two objects can't really be blank but there must be something there. Actually, General relativity suggests Brahm as cause for curvature of the space-time. If we assume the attraction to get working with a field then we have to explain the concept and the nature of the field in detail, and even a field can't exist in an absolute blank without its

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forming material. Units carrying propagating such field must be defined in a way that it could exist in an absolute blank and there should not be a need for further imagination of attraction force at smaller level otherwise the query remains the same. So, only a presence of something in the space around two masses can explain the attraction phenomena between two masses called Gravity. So, one can't deny Brahm on the basis of the logic and physics. Gravitational force is the proof of existence of material things around and between two masses capable of transferring momentum which can be termed as Brahm. This Point is further explained in the chapter explaining natural forces.

2. Mass integration requires Brahm because only that explains attraction force as a push effect.

3. There is a need of medium for the existence of Energy waves including gravitational waves.

We know the behaviour of the mass in the thermodynamics and in a phenomenon of entropy. When a mass has the energy, mass or its components must have a motion, either linear or circular. Energy can remain only as a motion because “**energy is the motion**” and “**a motion is the energy**”. So, when mass has an energy, it must move. When two or more body of mass with motions if placed together in the absence of any effective attraction force between them, then what would happen there? There is a no need of the law of thermodynamics to understand this. We can think with laws of classical mechanics that when two or more hypothetically self-stable moving mass kept together in a closed blank space, there will be strikes with collisions amongst them. They will be thrown apart. As much the energy will be there, that many strikes will be there. If energy will be enough then the encloser will get blasted and everything will get dispersed in the space in many directions. They all will not attract one another anyhow. So, two or more masses can't remain together until they are being pushed together or there would be an attraction between them. I don't accept the phenomenon of pure attraction because it is miraculous and without a mechanical sense as describe above. It is a mystery and a thing to derive as a result of mechanical process and not a thing to accept without mechanical sense before deriving it as a result of phenomena of the natural mechanical process. Gravity is

described as mechanical push in relevant chapter. So, in this scenario there must be a push from the surrounding for the mass to get formed and to stay formed. For the existence of the surrounding force to exist there must be something around the mass. So, space can't be blank space, but it must be full of somethings. Those somethings can either be tiny corpuscles (masses), vortices or energy waves. If we assume them as corpuscles, then again there must be something around each of those corpuscles to make them stable and preventing them from disintegration. So again, surrounding thing must be there, so on and on...up to inner and inner scales there will be a need for the existence of smaller corpuscles to stabilise the higher scaled corpuscles. In second case we assume waves as a source of the force. Now wave is a propagation of the energy in a medium with serial fluctuations. So, medium must be there. We are inquiring fundamentals with this theory, so we will not accept that a wave can exist without a medium, because it is against the definition of the wave itself. Actually, accepting a wave without a medium is a second try to accept mystery as a miracle itself, which is not entertained here. So, in succeeding chapters there is an explanation of energy waves as aethereal waves.

4. Requirement of Brahm is there for interconvertibility of mass and energy.

Medium with a potential energy can explain spontaneous generation of mass from apparent nothing and disappearance of such mass in space or quantum vacuum. If we consider space as an absolute blank with only nothingness, then phenomenon of quantum fluctuations can't explain with conserving laws of conservations.

5. To get the rid of "nothing" we need the existence of something.

As soon as we accept the existence of something, the logic leads us to Brahm. This is explained in the chapter "Honi" a possibility of something which seems like a theory of creation."

## 1. Brahm, Aether & Requirement of Brahm.

### 6. Galactic centre

In a structure smaller than galaxies like a Quasars, the energy wave fountain from the poles are mysterious phenomena. To explain that phenomena there is need of moving energies in surrounding, and that demands existence of Brahm.

7. Explanation of charge, need of completion of the electric circuit, magnetic field, electric field, gravitational field, ...requires Aether or Brahm

Actually, each and everything in existence demands the existence of Brahm but these becomes evident only after proper understanding of this model

## 2. Honi

*Possibility of existence of “something” (Bhav) and its definite certain consequence (Honi).*

This chapter is based on a thought experiment on the ground of classical mechanics. This provides an overview of Brahm model. Quantitative calculations can't be derived without the application of math in real situations which require expansion of theory by experimental data incorporated in a theory. Math has an ability to derive quantitative calculations, but math on its own can't justify the concept itself. Math is a tool that needs laws of physics to explain the Nature. Math is an imaginary artificial calculation system which is not structured to match Nature for its operations. Infinite, zero and one are not relatable to the scaled Matrix. One can format the structure of these numbers in relation to Aether-Brahm only after finding quantitative data related to scales. So, without those data in this theory math is not entertained much. If there is a break in logic applied in a concept, math will lead to nonrealistic and miraculous and self-contradictory results with paradoxes due to logical fallacy. So, here logical concept is the mainstay of the theory and math is just applied classically and superficially.

This chapter must not be misunderstood as the theory of the creation or the first and foremost beginning of the universe. This thought experiment is here to find out 1. Minimum requirement that can be enough to create a situation like the present world in logical imagination. 2. Consequence of unstable mass or masses that can provide the insight about the stable state.

This thought experiment explains the ultimate fate of any existence that can be possible. So, here we are starting from the simplest situation and gradually increasing complexity until we may have a situation similar to the present world. This thought experiment also provides a logical conclusion that any possible possibilities of existence must ultimately settle down to a state that is shown in this Brahm-Aether model.

## 2. Honi

A thought experiment is shown below which can show the possibility of existence of the Nature which can represent the present world at some place and sometime, within it.

There can be many way to reach that situation, but what we want to conclude here is thinking about the minimum requirement to create a situation like the present world.

Let's understand the plot:

Assumption with common-sense for general concept about something and nothing:

We will avoid waves for some time to stay away from confusion.

We know two different type of existence. One is something massive and another is a space or nothing where something massive can have an independent existence and it can have a space for the movement with limited speed only. At the time of assumption, we don't know what this something and nothing are. We also don't know the relation between this something and nothing. We don't know if this something is totally different from the space or is a folded or condensed space or some else modification of space. We don't know if there is something in the space there which is interacting with this massive something without revealing its existence or not. Here there is a gross common-sense based idea about something and nothing. Idea with common sense for something and nothing is just a difference between them. Something has property of mass, inertia, opacity, or translucency with or without the property of refraction. Nothing has only one property that doesn't have a physically revealing property like a mass, it allows free motion of mass within it. It doesn't have a property like gravity, or optical property for refraction until mass create any field within that nothing. So, here nothing is assumed as pure complete vacuum. Two must properties of something includes, 1.) It acquires space, and it expresses itself as mass. 2.) It interacts with other masses.

Let's begin our thought experiment which will reach to reality. We will try to create the existence of Nature including universe from something and nothing with least required complexity.

The existence of Nature can be possible only as three possibilities shown below.

1. There is nothing everywhere, which means there isn't anything anywhere. (only nothing)
2. There is a dense solid everywhere and no existence of Nothing (blank space) at any point. (only something)
3. There are two simultaneous things that exist, one is something and that something is not like option two, so it is carrying nothing within itself somewhere and in the surroundings also. In other words, existence of something which is not uncompressible or absolute dense and alone.

We will inquire each of above three possibilities by comparing it with known facts and analysing it with logic and we will determine if it may fit to form the real world or not.

1. There is nothing everywhere, which means there isn't anything anywhere.

Is there any need to rule out this possibility? I don't think there is any need to rule out this possibility. A simple argument rules out this possibility.

"We are, because we exist." If we exist, then we are something and not nothing. So, it is not possible that there is nothing everywhere and there is a no something. I'm something, you are something, and everything is something.

So, we discard this option as "Impossible possibility" (Asambhav)

2. There is a dense solid everywhere and no existence of Nothing at any point.

Let's rule out this possibility.

If the same homogenous dense solid thing is present everywhere and there is no blank space, then it can't be compressible or movable. So, there will not be any motion. So, there will not be any event. Without event and motion there will not be a time. So, the situation will be the same as option one "nothing is everywhere", so it won't allow the possibility



of the present world to occur. So, this possibility is also ruled out.

Third possibility is,

3. There are two things that exist, one of them is something and that something is not like option two, so it is carrying nothing within and surrounding itself somewhere.

This is the only possible possibility, which allows an event to occur, that may ultimately settle down to a state which may unclothe the real world within itself somewhere, sometime.

Let's explore more possibilities within this possibility. Now we have Nature with something and nothing.

There are three major possibilities here,

(A) Something is surrounded by nothing.

(B) Nothing is surrounded by something.

But we will inquire each of these as one single possibility, because every beginning must have the end, so even if we imagine nothing in something, that something must have boundary at somewhere. So, it will become same as possibility (A). Still nothing inside something has different outcome locally for some time period. Below there is a discussion about possibility (A).

“Something” is a solid and “nothing” is a blank space in a simple definition. That something has boundaries, those are in contact with nothing. If only one something, a stable nonfragile body of mass is there, then there won't be any event to occur. Because even if it would move in nothing, there would be nothing there to compare its motion in relation to it. So, there would not be an event. There would not be a relative motion. And there would not be a present world to be possible in that possibility. But look, normally as soon as there is the birth of a human baby, two other things come into existence, a father and a mother. Similarly, when we assume a solid body, nothing becomes infinite space, that allows a meaningless motion of that only single mass.

This mass has a surface or a boundary. At the beginning we just assume this boundary as a stable boundary, which has mass on one side and a blank space on the other side. But this raises many questions, what forms that solid mass! Is it unistructural or there are units. Are there any further subsidiaries for those units! If yes, what keeps them stuck together? Of course these must be answered, and we will think of it once we have a space for that descriptions.

Now think about the possible properties of that solid.

1. It is a **single unbreakable** unistructural solid. So, it will remain as it is and there won't be anything to be described as an event. There is nothing to compare with it. There would not be any motion, because motion is a relative thing. So, this won't create a situation that can lead to today's world with complexity.

If we assume plenty (infinite) of such solids, moving randomly, they can create events, but there would not be a formation of stable structures without any attraction force if all are of same sizes.

Only If those would be of different sizes, than those could create events and form structures even without any attraction force. Self-stable masses of different sizes may create a Nature that can accommodate the real material world. But here a question has arisen: how different sized solids could be fundamental and self-stable? This more looks like an imaginary nonrealistic situation where the suspicion is there that something is hidden which is responsible for the stability of such different sized corpuscles. Indeed, this situation is the same as Brahm with self-stable fundamental corpuscles and no further query. So, this is a simple form of Brahm described ahead in chapter 20.

Let's proceed to another possibilities.

2. Whether it is **breakable (brittle) or fragile** and there is energy inside it which can lead to its disintegration or produce a **blast** converting it into smaller and smaller masses in the absence of attraction binding forces. (Big -bang?)

Let me explain this possible blast. What we have imagined here is a primary simple mass with no complex properties of the mass like gravity, strong and weak nuclear forces,

electromagnetism etc. We want to discover all these other properties of the masses as a result of mechanical processes. So, here mass has only one property that it acquires volume in space. It doesn't share that volume with other masses. This results in a fight for space. When one of the masses tries passively due to its motion to get place of some other mass, then it doesn't become possible without interaction. Now three things are there. Masses, space and motion of masses. Motion is due to momentum or momentum is due to motion, both are simultaneous existence or different terms and describe different aspects of the same thing. What a good thing about momentum is, it is always conserved if the system obeys the laws of classical mechanics. So, what I want to highlight is, if a fragile mass has energy within itself, it simply means it has subunits that have relative momentum and motion in relation to each other. These lead to internal collisions and due to lack of any type of attraction forces, this single mass with such moving subunits will result in a blast according to thermodynamics or common sense.

This will create a situation similar to the big bang. Here it seems that the solid will blast theoretically with a speed equal to infinite because no resistance is there to resist the motion of its fragments. Will those fragments move away from each other with speed equal to infinite? As soon as the motion of its fragments starts, the word infinite speed will not be applicable, because there will be many relative movements, and then there will be a comparison between motions in relation to each other, so any speed will not be considered as an infinite speed then. Even before the blast relative speeds were there and that resulted in blast only. After getting a good overview of this Brahm theory we will come to know why relative speed can't be infinite. But this is just an imaginary situation which is unstable at many points and on many aspects. Still, we are leading with this assumptions to understand a course from instability to stability.

Let's proceed further.

Text hidden

BRAHM

### 3. Revisiting Brahm.

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## 4. Gravity, Other fundamental forces and electricity

### Gravity

#### Gravitational force

Definition: when two or more resistance like couple waves or cluster of waves in the Aether are there in a gravitational environment made by moving flux in all directions, they obliterate a path of flux moving through them this results in a common shadow formation in a field of flux that makes a pressure gradient and results in a push for resistances toward each other or one another. This pushing effect that tries to gather resistances in Aether is called Push gravity or gravitational pushing force.

Along with torus formation these Gravitational push turns into magnetic force which along with gravity push forms masses and matter.

Gravity with magnetic force and drag due to reflected flux together forms a compound attraction force.

**General belief:** Gravity is believed to be a force which causes an attraction between two masses. Sir Isaac newton gave the law to calculate the strength of this force. Albert einstein described it as a curvature of the space time and its field can be calculated with einstein's field equation in general relativity. It is the force that bounds masses of the matter together and that allows an earth to orbit the sun. It forms galaxies and stars. So, gravity is a force we observe and feel in routine day to day life.

#### Compound attraction

Here,

#### 4. Gravity, Other fundamental forces and electricity

We would like to explain gravity as the apparent attraction force between two or more masses.

There are three components of this apparent attraction force between two masses.

1. Mechanical Push Gravity.
2. Magnetic force. (energy field interaction)
3. Drag.

Let's describe it briefly.

##### **1. Mechanical Push Gravity component.**

Atoms of the matter has a hollow-porous structure, so, gravity push is very weak. Nucleus of the atom has a mass, relatively condensed mass in comparison to cluster of atoms or molecules. This means the majority of the mass within cluster of molecules is distributed in a relatively very small area called nucleus and major portion of the volume acquired by the atom is devoid of mass. So here in a nucleus there would be much resistance to the flowing energy per square unit of volume.

So, push pressure is much higher at the nucleus among subatomic nuclear particles due to denser mass in the nucleus at very near distance. This push works same as a push gravity if we neglect a magnetic component of the strong force.

For example,

Atom to nucleus volume ratio is  $10^{15}$ . There is a huge difference in gravity between two nucleons or nuclear subatomic particles like proton or neutrons in the nucleus and between two atoms. Actually, I am not talking about the attraction force acting at nucleus or subatomic level but trying to explain the weak nature of an apparent attraction force between two atoms of the element which is categorized generally as a gravitational force. Here I want to say that part of the strong force and gravity is the same thing but due to difference in the density of atom to nucleus or subatomic particle it has difference in strength. Strong force is

stronger also because magnetic component is stronger at small distances.

So, this mechanical gravity push component plays a major role in the formation of the compound attraction. Let's understand it properly.

### *Push gravity mechanism*

Here Gravity is explained similarly like a Kinetic theory or a shadow gravity theory. In this explanation Gravity is not considered as a fundamental force instead it is described as a push or thrust from surrounding environment that pushes two masses or resistances in Aether toward each other.

Brahm is derived in this theory as a magneto-gravitational environment with Aether. Which have moving energy flow (flux) from all side to all side. This flux may be due to aethereal waves or corpuscles with momentum. I would like to use the term "flux" to describe this moving momentum carrying, pushing things in general. This creates an environment that creates a mechanical push gravity and magnetic effect. If we consider only gravitational part, this theory is nearly same as the mechanical push gravity theory of Nicholas Fatio. The only difference here is, energy flux which could be made up of moving small masses, small vortices or aethereal waves instead of calling it a flow of hypothetical inframundane particles. Further advancement of this theory is explaining torus formation, magnetic field, electricity, strong force, weak force and effect of shadow gravity at a centre of galaxy and centre of the quasars. So, this is not a theory that just include Fatio's push gravity. As per suggestion by Kelvin, this theory also included an aethereal vortex concept but not as a primary simple aethereal current loop, instead, this theory shows a scaled compound structure of vortices of aethereal waves as a primary mass. So, push force in this theory not just explains gravity only, but it explains other forces as well. It also provides a mechanism of formation of mass and matter and actually everything. Let me explain primary mechanism as below.



#### 4. Gravity, Other fundamental forces and electricity

If we imagine one body of the mass steady in relation to Aether in a Brahm at one place, that one body of the mass will not have any effective movement relative to aether due to equal push from all directions over all its units. It will not move to any side relative to observer steady in relation to Aether if push from all sides would be equal. There would be impacts of energy flow or flux from all sides and it would create a push or thrust on each resisting units of that mass. But push from all side will cancel each other out and there will not be any net deviation toward any direction.

But imagine two such bodies of the mass in a Brahm. Suppose two are placed side by side as shown in figure 4.2. The left one is named as “A” and the right one as “B”. It can be understood from porous structure of mass that “A” would obstruct only very little portion of the flux from all sides and there would be interaction and transformations of that flux. Units of this flux would get reflected back in surroundings or would get some directional changes, but it would not pass completely without any interaction. Understand this thing, here I am not saying that mass absorbs momentum energy. Every aethereal wave couples in a mass are bound together due to force from the surrounding push. Surrounding push thus binds unit mases, all vortices, all wave couples. Energy within those spinning things continuously counter acts the pushing flux. Thus, pushing flux continuously acts upon matter units. Continuous flux provides a continuous push. There would be an obstruction to the linear flow of the energy flux here by putting two mass side by side. There would be less pushing flux on the opposing part of A and B. Here B is obliterating pushing flux coming from the right side and the similar thing is also be done by A. The area between A and B will have less pressure of flux, and other sides will have comparatively more pressure by flux. The pressure gradient is being created here. This will create a push on A and B toward each other. Thus, they will be moved toward each-other, if their motion will not be restricted by any other force. So, this push

effect between two masses created by surrounding environment is the explanation of mechanical push gravity.

This is the mechanical explanation of the one component of the compound attraction force between two masses.

It should be taken into consideration that matter is a hollow-porous object with much of its area having no resistance to pushing flux. Not all energy flowing in Brahm is creating gravity, only the amount of energy that is obliterated by the matter is forming gravitational push. This means there is much more energy flow in Brahm than what is reflected as a gravitational push, and magnetic effect supports this concept. It depends on the nature of the energy carrier that if it

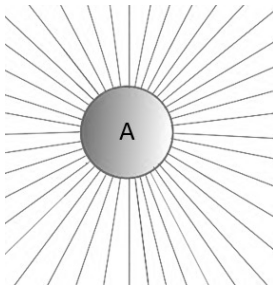


Figure 4.1

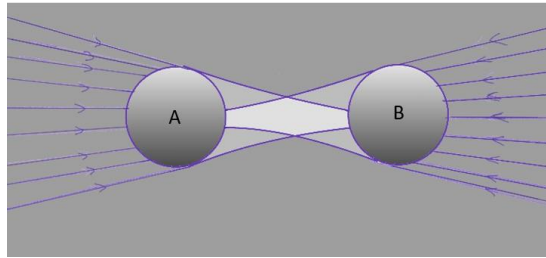


Figure 4.2

would interact with matter or not. Matter is a cluster of dynamic components distributed in 3d space with so much space between them. That's why push generated as mechanical gravity is not just at the surface of the matter, but at every resisting part of the matter. Push that stabilizes the mass structure is much more than the push forming push gravity, that's why shadow of such gravity push doesn't disrupt the matter structure in normal circumstances, and pushing flux remains able to penetrate very large cluster of masses.

Please note that here we have shown that gravity is a push from outside. So, its strength depends on the energy carrier's flows (flux) in surrounding and through the masses. It also

#### 4. Gravity, Other fundamental forces and electricity

depends on the concentration of resisting units of the mass. Denser the mass, more will be the push. So, the more mass within unit space, the more push is the rule. Farther the mass, less is the push, because of conical shadow of obliterated energy flow. It has a higher maximum limit of strength. As we know a normal matter is made up of atoms and atoms have very less mass compared to its size. It is empty (no mass) at most of its area where nothing is there which can be categorized as a solid mass. So, matter is a 3d mesh like material which has points where mass exists otherwise it is made up of empty space having no mass. Distribution of mass in this mesh is indeed not equal.

When mechanical push gravity works on such matter, its effective strength which is just a small fraction of its total strength produces only little push compared to the real potential of the total energy flow. The other factor that limits the effective strength of gravity is distance. Because atoms of the matter have a dense mass in nucleus only, when two atoms came in contact by push gravity, two nucleuses stay far away from each other due to size of atoms. So, effective gravitational push between two nucleuses becomes very less compared to similar push between two subatomic particles inside the nucleus. The difference in the strength of push gravity is so huge that push gravity between two nucleuses (atoms) is very weaker compared to push gravity between two subatomic particles within the nucleus. This is an explanation about gravity as a component of strong force in the nucleus of the atom. Gravity is always there between two masses as a primary phenomenon of push produced by flowing energy flux. But sometimes other forces play a major role that apparently masks the gravitational push or override it. Shape and distribution of the resisting units in the mass also plays roles. Suppose there are two balls put together in a space by touching each other and in other case plates are formed from these two balls and placed together facing flat surfaces. Gravity will be more in case of two plates, because resisting units of mass are placed overall nearer to one another in case of plates made possible by their shapes. So, shapes also do matter, and we may calculate gravity strength just

by assuming the centre of gravity roughly. Distribution of mass matters. There is a finite amount of energy radiating in Brahm per square unit area of Brahm. Strength of the gravity will depend on that amount of the energy. Mass and molecules have kinetic and heat energy. If we continue to add mass to one body of mass, then at some point the pushing energy would not create a push enough to hold that much mass of the matter, it will allow the mass to get escaped. This is because the push gravity decreases gradually to get penetrated inside that mass. During this process direct pressure of the mass units like atoms would be increased and that may alter the type of the matter. This would create a most dense area called accretion layer. The inner part of that body of the mass beyond that accretion layer will have less restricted kinetic and heat energy and it will provide pressure from inside of that body of the mass. When such body of the mass exceeds some limit of the mass, it will explode or start losing mass. If addition is gradual, that will create a balance with the flux, and that mass will be stabilized in size at maximum mass point. This is not a simple thing as it seems. Actually, there will be many transformations of mass in this case what will ultimately yield this result. Let's think. Suppose there is a big cluster of mass made up of elemental matter. On the surface of such a cluster, atoms have unequal stabilizing forces. Near the outer part of the cluster the atom would be under more push or pressure, while at the inner part of that cluster beyond accretion layer, atoms will lack that direct pressure. But in that cluster atoms would be pushed against other atoms beneath them. That would produce a fusion reaction at some depth in case of enough mass, and it would free energy that would result in radiation. Such fused nucleus would be heavier than other atoms. It would find its path toward the inner side. At the site which may be the centre of that mass cluster or a place nearer to centre of that cluster, again there would be an area of less gravity. That would allow annihilation of fused nucleus into subcomponents, which will move toward surface due to gradient. So, this type of cycle will be there, which ultimately limits the maximum size of the cluster. If sudden addition of mass would occur to this mass, it would disrupt or blast the mass in smaller

#### 4. Gravity, Other fundamental forces and electricity

fragments with energy radiation. This can be considered as “**radiation force of the mass**” which allows supernova to explode, or which limits the size of the proton or neutron and not allowing addition of the further mass to nucleons, proton, neutron, and stars. This force is a manifestation of the limitation of mechanical push gravity. Some other factors also play role in the instability of certain mass clusters and that factors are described in sections of Strong nuclear force and weak nuclear force. The maximum possible size of mass cluster like proton, neutron, nucleon or unit masses etcetera, provides the base for the quantum nature (specific sizes) of particles and energy quanta. Such fixed sized units at smaller scale are responsible for energy quanta related with certain process or phenomena.

So, here mechanical pushing force between two atoms or between two body of matter is considered as a push gravity component.

Mechanical push gravity between two subatomic particles in a same nucleus can be considered as gravitational component of the **strong nuclear force**.

In case of Strong force and Gravity, one seems strong and the other seems weaker. But both are the manifestation of the similar phenomena of mechanical push gravity. This is an explanation about gravity as a part of strong force in the nucleus of the atom. But strong force also has magnetic force component similar to magnetic component of compound attraction force described in a topic strong force.

#### 2. Magnetic force component. (energy field interaction)

This component is very weak in case of force between two matter body or two atoms, because the fields of atoms are weaker in unexcited state. Now this uniting energy field interaction is due to bipolar form of the massive structure called torus. An atom is not a torus, but its nucleus is a cluster of such tori, and it forms an atom, that has a compound magnetic field around it resulting in no net magnetic polarity generally. This interaction is between

energy fields. So, this should be termed as a magnetic force. It behaves as a proper magnetic force in the case of some atoms which have nuclei arrangement forming a proper magnet. Otherwise, this force act as repealing force only, and that is one of the components, that don't allow the fusion of two atoms or two nuclei. Means this is an interaction between the fields of two atoms, not allowing its nuclei to come in contact. The spin of the nucleons that forms torus field in Brahm, also helps in providing shield to the atom that prevents fusion to other atoms. We recognize this shield as an electron field. This component has more importance when we are talking about nearby atoms and has little or no importance when we are talking about two matter body far away from each other in case of non-magnets.

### 3. Drag component.

Brahm has all directional flows of energy or momentum carrying things. If there is an imbalance somewhere it may cause a drag. When such flux units strike with spinning mass, reflected flux units acquire angular momentum and twisted path, that may produce a drag effect to the mass moving in such field area. For example, mercury around the sun. This component is not considered as a routine part of the compound attraction force, but it has an importance in the case of thinking about gravitational field around the huge spinning masses.

Do, Mass drags Aether around it due to gravity? My answer is "I don't know", what dragged around spinning mass is a reflected energy flux of Brahm is sure thing but if there is any drag for the units of Aether itself or not is a question, and if it is there, then up to what extent is a question. But Aether has an elastic property and its units are compressible. Unequal pushing flux concentration around the mass due to shadow effect may cause distortion in the shape of Aether units. We don't know the nature of the reflected flux by mass. In case of spinning heavy mass, such flux would affect the shape of Aether units in the direction of its reflection. This may contribute to time dilation in that area and also to the drag on mass moving in that area. Mass as a vortex formed by whirling aethereal units in a vortex is also a possibility

#### 4. Gravity, Other fundamental forces and electricity

including Liquid state aether. But I have described substance Aether with no internal currents of units of Aether. This helps to achieve mass as a wave and allows time dilation for moving mass in relation to Aether. If This is possible in a liquid like state also then there is a no objection for the Liquid like state of Aether. But the incompressibility of the Liquid can't be incorporated in such liquid like state of Aether. If liquid Aether is there then there could be an aethereal fluid current also which can drag aethereal structures and waves within its flow. But I have not included this possibility in major descriptions and accepted Substance Aether in which a mass is a complex aethereal wave-cluster and not complex loops in fluid aether.

So, this was the description of the compound attraction, with major component as a mechanical push gravity in case of far non magnetized objects.

#### Other fundamental forces

Like Gravity (mechanical push), Strong force is also explained. Due to more dense mass at subatomic level in a nucleus due to less hollowness, mechanical push gravity is stronger there at those little distance, which contributes to strong force. From the positive charge of the protons, we can imagine that Protons have a physical spinning property that creates a torus like field around it. That field causes field interaction between protons. Neutrons help to decrease repelling interaction between protons. There is a requirement of neutron in the formation of the stable nuclei of atom. When limit of further addition of protons and neutrons is reached or unstable combination is there, the pushing flux in Matrix will not provide enough push to keep them together. So subatomic structures are thrown away as components and there is energy wave production during this fission. This is an explanation of the weak force. Weak force is nothing but, either a limitation of the push gravity or an interaction of fields and motions resulting in repelling force due to unstable combination of subatomic particles.

These forces are explained below.

## Strong force

Definition: When matter with high density is placed in a cluster called nucleus with the push gravity and magnetic force, these forces together termed as a strong nuclear force or a strong force.

Strong nuclear force.

In a standard model of the physics strong nuclear force is assumed as an attraction force that binds quarks together to form bosons including neutrons and protons. It also works as an attraction force between proton-proton, neutron-neutron, and neutron proton to form a nucleus. An imaginary particle named gluon mediates this force and there is a strange mechanical explanation for this interaction in the standard model with roles of elastic flux tubes.

Here,

We would like to explain strong force as an apparent attraction force between contents of the nucleus and also, between electrons and the nucleus.

There are two components of this force.

1. Mechanical Gravity push.
2. Magnetic force. (energy field interaction)

Let's describe them in a brief.

### **1. Mechanical Gravity push component.**

As described in the section of the mechanical gravity push, the apparent attraction force between two masses is explained. It is described in that section that matter have porous hollow structure so, gravity push in that case is very weak. Nucleus of the atom has a mass relatively a condensed mass in comparison to element made of atoms or molecules. So here there will be a much obstruction to the flowing energy per square unite of the space. So, push pressure is much higher here due to dense mass in



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the nucleus at very short distance. This push works same as a push gravity.

For example,

If atom is considered as a ball of the size of the radius 100metre and there is a nucleus of 1cm at the centre of the mass with a mass of 1cumm or 0.01kg.

The effective gravity will be.

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

$$F = G \frac{0.01 * 0.01}{100 * 100}$$

$$F = G \frac{0.0001}{10000}$$

$$F = G * 0.00000001 = G * 10^{-8} \text{ units}$$

Now if we assume that two mass in a nucleus in a direct contact as seen in nucleuses. Still, we would consider a distance between the centre of those two nucleuses equal to 1cm.

The effective gravity will be.

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

$$F = G \frac{0.01 * 0.01}{0.01 * 0.01}$$

$$F = G \frac{0.0001}{0.0001}$$

$$F = G * 0.00000001 = G * 1 \text{ unit}$$

Here, we have just roughly assumed the atom size and nucleus size for example.

According to modern science the real atom to nucleus volume ratio is  $10^{15}$ . So, there will be huge difference in a gravity between between protons or neutrons in the nucleus than between two atoms.

So, this mechanical gravity push component of the strong force is also playing a major role in a formation of the strong force.

## **2. Magnetic force component. (energy field interaction)**

Text hidden

### **Weak force**

Weak force and weak nuclear force:

This is a force responsible for the instability of the cluster.

Definition: when both push gravity and magnetic attraction force together can't counteract the kinetic energy, momentum of the matter cluster and repulsive field interactions which results in the radiation and scattering of the matter, the cumulative net force responsible for such instability and scattering of the matter is called weak force. When it is applicable to the nucleus of the atom it is called weak nuclear force.

So, weak force counter acts gravity, magnetic force at gross scale in case of large matter cluster while weak nuclear force counteracts strong force and magnetic force at a quantum scale.

As described in the chapter on gravity, when mass crosses certain limit, its random energy (internal random kinetic energy or field interaction responsible for repulsion) increases, and mechanical push gravity don't increase continuously as the mass increases. So, at certain point push cannot balance the internal repulsive forces and cluster gets un-stabilized. That disintegrates or get fragmented in smaller structures. This is a limitation of binding force, and that limitation contributes to the weak force.

#### 4. Gravity, Other fundamental forces and electricity

When weak force works at sub-atomic level it is called weak nuclear force.

Binding force in nucleus has two components. 1. Mechanical push gravity component 2. Magnetic interaction.

Component one is pure attractive interaction so; it contributes to the constructive effect only. Here also limitation of this force appears at higher maximum mass of the nucleus. So weak force works here also in opposition to this mechanical gravitational push.

Component two is somewhat complex.

[text hidden]

So, this is not a separate type of the force, but it is a limitation of the strong nuclear force. Science has not named similar thing in case of supernova which is responsible for explosion of the star. It is a similar force but not exactly same as weak nuclear force because weak nuclear force has a strong magnetic component.

[text hidden]

### Electro-Magnetic force (curved field interaction):

### Magnetic force:

(Topic 3 “Torus” in a chapter 5 can help to understand magnetic force better.)

Torus formation in Brahm is explained ahead in book in a chapter 5. Due to energy field vortex forms a torus with field. Such torus field is a curved field. This torus with field is a polar object due to direction of the spin of torus disc. Here in this book

the word torus is used for a torus along with its field. So, such torus behaves as a mini magnet. Such tori with other non-polar nonmagnetic masses can unite in a cluster and able to form larger magnets when they are in a proper alignment. When two or more tori are in alignment and near to each other, their field gets merged to form larger single field. Torus is a spinning mass in a form of disc or intermediate shape between disc and globe with a field. That Spin counteracts gravity push and due to shadow of mass, the centre of such spinning mass forms a void of mass and void in a gravity push. This allows flow of the energy flux from above and downward also. This energy flux also gets attracted toward spinning mass by push of other energy flux. Means in a gravitational field shadow attracts and changes shape of flux passing nearby the mass. This will form a flow of deviated energy flux around spinning mass which forms a field of flux with power to push other objects and power to interact with other such fields. Thus, it forms a magnetic field and magnet.

So, these are primary magnets that creates interaction with other magnets due to energy field interaction. The force generated by such energy field is called magnetic force.

When such torus moves in the space, flux in the energy field gets replaced on the path of motion by moving energy flux of relevant places. So, there is a no interaction between Brahm and energy field of the torus because that energy field has its origin within Brahm, and it is not a permanent part of the Torus itself. Brahm forms an energy field of Torus, or a magnetic field of Torus. So, this field is a bending of the energy flux field in a Brahm due to shadow effect of mass, that forms a magnetic field. It can also be termed as a magnetic halo. Moving charge alone in Aether don't create an electricity but it has a magnetic field around it.

As described above, torus is a polar object. It has magnetic field. Two tori can have different interaction based on the opposing sides. If energy field is in synchronized position, that causes an attraction, otherwise repulsion if those fields are in

#### 4. Gravity, Other fundamental forces and electricity

opposing positions. Sometimes they unite side by side or in series to form tori cluster, which behaves as a larger unit of magnet and plays a role in a matter formation.

It is now clear that, bending of energy flow by spinning ring, disc or semi sphere can produce a magnetic field. The effect generated with this field is termed as a magnetic force. As it could be attractive in nature also, so that contributes to total attraction between masses, and it is a one of the components of compound gravity. This force contributes to strong force and weak force also.

## Electricity

Text hidden.



## 5. Structures in Brahm

As explained during the explanation of the gravity following structure are formed by the formation process powered by the same environment that creates push gravity.

1. Nakkar (solid)
2. Hollow (polo)
3. Torus
4. Mix cluster
5. Brahmand

primary mass in Aether is a result of cluster formation of resisting things in Aether or waves in Aether by push gravity. gradually they unite according to their field interactions and form the elemental matter. When there is less than enough matter then it just forms a cluster with no void at centre.

When gathered mass becomes enough then mass itself interrupts the pushing flux from penetrating to centre. So, here mass in the centre lacks push effect from surrounding and so, lacks gravity. Mass tries to get disintegrate in subunits or energy at that void area in centre in absence of the effective push gravity. it is explained in a topic Galactic cycle.

When mass is moderate then the central void in the effective push gravity would remain incomplete, and mass disintegration would remain partial at that centre. When mass is enough enormous then void would be complete.

Two type of toroid structures of mass are possible.  
Disc like structures and oblate spheroid structures.

That depends on the spinning kinetic energy and on the nature of the substance forming mass. More spinning rate and polar units in substance leads to disc formation, and less spinning rate and non-polar substance leads to spheroidal structure formation. Spinning a spheroidal structure to very high rate, may

transform it in disclike structure. Disc structure has a void in centre and that forms a torus, while a spheroidal structure doesn't form a strong torus and lacks heavy encircling energy field around it.

Examples of spheroidal structures at large scale are planets and stars. Visible Structure of matter smaller than planet may not achieve a globular spherical shape due to less mass and less gravity working on it. But they fall in this category only.

Up to certain limits of mass, globular structures increase in size while adding mass to it. When mass is in excess then the structure becomes unstable and either it gets exploded or starts to lose mass. There is also a limit at what it becomes self-luminant. At some critical mass gravity becomes intense enough to create a state that will form light. So, up to some mass limit it forms planets, Brown dwarfs, red dwarfs and stars as the mass increases. Brown-dwarfs are considered as failed stars and Red-dwarfs as small stars.

When such masses are formed, they feel attraction toward one another. Plenty of such structures may form a large vortex, whirlpool like a structure. Which may gather mass at periphery and disintegrates mass in the centre. Galaxy is such type of structure.

Smaller disclike structures are quasars which has visible jets of energy because it has incomplete voids at the centre. While in full formed galaxies the jets may not be visible normally, because of complete or near complete voids in the centre.

## 1. Nakkar

If we accept aethereal-cycles, then as described in the chapter "Honi", not all solid continue to get blasted or disintegrate in smaller fragments. Some of them gain a support of the push gravity generated during process of disintegration, which stabilize them and thus they escaped from the process of disintegration. This is a thought experiment in a situation without any push gravity which is unrealistic, and it was just imagined



understanding ultimate consequences of imagined mass in nothing. That's why we were unable to describe that mass further at fundamental level, The real cycle may be different type with continuous process rather than such isolated prime big bangs. So, if we try to explain that blast in a real situation, we have to accept that there could not be the absence of the push gravity, but it may vanish to some little amount that can't hold the masses with its pressure. Solids imagined in that thought experiment becomes a part of cyclic process. If we want to imagine the root of these solids, they could be the remnant of previously formed mass or Aether during aethereal cycle. We won't go deeper now to know about its composition, for us it is sufficient to know that it is a stabilized mass which has a property of mass, which can be acted upon by push gravity, which can carry momentum, which can cause impact with other masses. So, these solids are remnant of the past old structures. The word for that in Indian language is "Bhut". Aether if disintegrate due to lack of supporting push gravity than it can also behave like a disintegrating mass because it is made up of mass indeed. Cluster formed with such bhuts is called Nakkar. Nakkar is a word in Gujarati language for solid. I used it to differentiate it from other type of solids. Elemental matter can also have a state of solid. So, for unique identity the word Nakkar is used here to differentiate it from other types of solids. But these are intracycle existences which fits in a cyclic Aether state only. For a steady state, continuous formation of mass differs from this as explained in the topic "A new mass formation".

When we talk about the vortex of waves in Aether, that forms a torus structure, we must have a question in a mind about a material pushed together. What could be that material, which is pushed together by push gravity which results in vortex formation? That's why Nakkar answers this query partially here. It is the answer for fundamental solid unit. Its size is decided by effective push gravity at particular scale. Larger solid will be disintegrated in smaller particles and smaller will be gathered to form solid of particular optimum size. So, at one scale, two type of

mass would be possible. One is a primary Nakkar of optimum size and another is a cluster of smaller Bhuts as a stabilized globe or Torus.

Primary Nakkar is termed as Bhut also as it is thought to be a remnant of the previously formed non disintegrated portion of the previous Aether or mass before multiple bangs. Bhut means what remains after vanishing of previous existence.

The word “Swayam-Bhav” literally represents two meanings for the existence. 1. that is a self-stabilized and self-existed with self-support without need or help of anything else and 2. which is formed itself. Though it is not imaginable, but something which is not nothing actually represents such thing. Torus, hollow, Aether, mass etc. are also represents such thing because for the occurrence of these things there is no need of active manipulation or will. They are product of the natural process. They are self-stable and there is a no need of support for them when they are in a Brahm.

### **A new mass formation.**

Brahm is imagined as Aether with waves within it. When plenty of waves per volume of Aether are moving in all directions, there is a chance of collision between waves. They may collide at different angles. Waves can pass over each other while motion in the Aether. Most of them may not collide but the probability says that there must be some chances of collisions that may result in some consequences. The angle between colliding waves may result in different outcomes. Stright collision may result in a disruption or overriding. collision at a smaller angle may result in direction changes. At some perfect angle they may form a binary system spinning around a common centre. If we think of waves within Aether, then they have ability to stay closer to each other and form such couples and clusters of waves. Such binary system is larger than average moving single wave. Their kinetic energy is transformed in their Spin which resulted in slowing down of their linear motion. It will become a spinning stagnant resistance in a Brahm which would be acted upon by

flow of waves of tides soon. Further contribution to this binary structure will form larger structure if all goes well. Process gets repeated until it forms a good cluster. Now such big clusters are newly formed primary masses. We haven't considered primary moving aethereal wave or tide as a mass here, because they are the units which forms a push gravity and don't feel push gravity until they get fused together. So, mass here is larger than this primary unit of tides. Further consequences of such newly formed masses are similar as described ahead. They form various aethereal structures and forms particles, atoms, molecules, matter, clouds, nebulae, stars, planets, galaxies etc. Chances of formation of such masses are there at every point in a space, but there are increased chances within a field of torus due to deviated or bent path of the energy flux. Such newly formed mass enters a galactic cycle and passes through its journey and becomes a part of the non-living and living things and it may move toward the centre of the galaxy where it gets annihilated in separate individual waves or in smaller clusters.

### 2. Hollow

This is a 3d structure, as described in the gravity section and above description, mechanical push gravity can lead to cluster formation. There is a gradual decrease in the reach of the penetration of gravitational pushing flux as the mass increases and gathers further mass progressively. This will create a cluster described here as a hollow. It has a crust where there is maximum pressure due to mechanical gravity, but beyond that crust, there will be a gradually less dense area with high temperature and high local kinetic motions. Outward from the crust there would be an area of equilibrium, where there would be continuous exchange of mass and energy, forming a corona if this is a full-sized hollow structure. Maximum pressure area is not prevalent on surface but exists deeper from the surface due to combined force of gravity forming flux and direct pressure by outer pushing mass. So up to certain depth pressure increases, but after that depth gravity

forming flux gets interrupted, and that would result in a less gravity area where pressure due to direct gravity becomes low and mass tends to have more kinetic energy and heat.

This structure can stay in this position when there is no optimum effective spin of the material forming it. If the material forms this structure while having an optimal spin, then it may result in a structure Torus. This Torus can be formed only when there is an optimal spin. If the spin is intermediate between required for the Torus and Hollow, then it may result in a formation of the intermediate structure that can acquire an intermediate shape like an oblate spheroid.

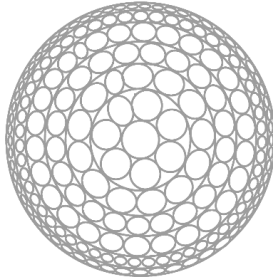


Figure 5.1: Showing the core of a hollow.

If we think of masses at large scale which are categorized as hollows, then those are stars.

### 3. Torus

As described above in description of the hollow, when material forming hollow is having an optimum spin then it can produce a centrifugal force enough, that can flatten the distribution of the material in near one plane and result in the formation of the structure Torus. A magnetic field generated while spinning also contributes to arrangement of the material in one plane via mechanism of the field interactions. There would be a different size of such Toruses (Tori). If mass in the torus would be enough to obliterate push gravity forming flux sufficiently,

then it would produce a void at centre, and this would result in complete torus formation. This void centre would be an area of minimum gravity, where there would be a gravitational void formation, and it would allow energy flow from two sides, above and downward. This bilateral energy flow may have interaction in this narrow void.

Figure 5.2

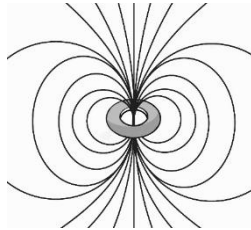
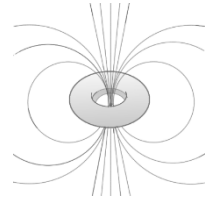


Figure 5.3



This would result in a flux-field formation that would have a path as shown in the figure above and it would contribute to magnetic field formation and thus completing formation of the Torus. This is the single and a complete Torus with positive and negative poles. It has a polarity depending on the direction of the spin of the material disc. You can compare this Torus with structures like galaxies, quasars when it is a complete and near complete form. Solar system is nearer to the type of hollow. Small Planets are matter clusters with a mass of less-than-optimal mass to create a hollow structure.

Toruses have a strong energy magnetic field with the ability to create an attraction and repulsion depending on the polarity of Toruses. Toruses are basic magnets and provide a base for magnetic interactions. Hollows are magnetically almost neutral structures and have more affinity for gravitational attraction only and no magnetic directional motion in magnetic field. Still, it repulses other hollows due to radiation fields. Hollows are comparatively dense structures and tori are comparatively less dense structures with plenty of non-materialistic voids.

### **Torus Formation:**

Text hidden.

## 4. Mix clusters

Toruses and hollows are aethereal structures, and they were explained ahead. If we inquire inside the atom, we will find a nucleus in the centre. That nucleus has an atomic number, that defines it as an atom of particular element. Protons and Neutrons are well known subatomic particles. Protons have a deviation of path of motion in the magnetic field, while neutrons lack that quality. From the nature of aethereal structure, we can assume that proton could be toroid structure or cluster formed with tori, while neutron could be the hollow like structure or cluster of tori with no net directional magnetic field. Torus has a strong magnetic field while hollow has a radiation field. Because of their such properties, some unique combinations of these are possible as explained in the strong force chapter. These combinations form various types of nuclei.

This nucleus can result in smooth form when the number of nuclear particles is such that it can complete a shell of hexagonal symmetry. If the shell is not complete, then it will result in incomplete shell forming a spiky surface. Depending on the rate of spin of nucleons, it would form a field. The spin of the whole nucleus can form a toroidal like structure. This type of spinning nucleus can be termed as charged nucleus, that has a spinning potential energy ready to be transferred to similar less spinning structures. Such toroid nuclei are charged with ions. This is an example of static electricity and charge. Spin of nucleons or spin of whole nucleus or both may contribute to such potential energy due to spin. This may explain why some elements are conductors of electricity while others are not, because of favorable structure of their atoms that allows spin transfer due to combinations of spikes.

You can see here that this is just a logical derivation based on conceptual thinking only. There is room for improvement if we try to fit experimental data in this model with appropriate changes and adjustments. But this model provides enough

structures with their fundamental origin and characters that can create a subatomic system.

It is very difficult to imagine a real situation at this level, because there may be so many possible combinations of aethereal structures. Their stability varies depending on relative strength of push gravity, mass, magnetic fields, spin energy, heat energy, etc. So, at the level of atom formation or subatomic level, retrograde approach to understand that structure as a combination of basic aethereal structure may be help full to understand that structures. At present sense to understand mechanical interaction and mechanical behaviour of aethereal structures in a Brahm is limited but if there will be a critical thinking and experiments on this, it will yield more knowledge and understanding about subatomic environment.

### Elemental matter

When we are talking about elemental matter, we must have to describe an atom. Atom is a basic unit that forms an element. We know that there are many types of the elements categorized in periodic table useful in chemistry as well as in physics. Depending on the category or groups it shows specific characteristics also. There is an importance of so-called free electrons in the outer shell of the atom of that element also. All elements have different atomic mass also. Number of protons and neutrons are assumed in the nucleus of the atom also. Electrons are assumed orbiting that nucleus. Positive charge of proton, neutral charge of neutron and negative charge of the electron are also determined from the findings of various experiments, particularly deviation of the path of moving particle in a magnetic field is helpful in determining charge of the particular particle.

What explanation and model could be provided to explain these things, in a scope of Brahm theory? Actually, a better model than a standard particle physics model could be provided with this theory. Charge, spin, sub-structure, explanation of behaviour, radiation, decay, etc. could be explained with more fundamental

insights. But that all could be provided as logical assumptions only. Correlation with experimental data can provide a proper insight.

Let's begin with logic only.

Let start with charge and electrical activity.

[text hidden]

To understand these things in relation to Brahm model, first we have to understand the magnet and the magnetic field.

Magnets:

I have explained the primary magnet as a torus in this same chapter above. Field of the energy flux is also explained. Such torus or cluster of unidirectionally parallel aligned tori forms a magnet. But magnets are not same thing as static electricity, because in static electricity, spinning units have potential to transfer their spin to receiver units. But in case of magnet, it is not so, magnets are not always electricity conductor.  
[text hidden]



## 5. Brahmand

Text hidden.

## 6. Mass, Energy waves, Flux particles and Inertia.

### Mass and Matter

What is the matter? The literal meaning of the word as I interpreted is “That’s why it remains sustained”. Means it is a sustained stable thing with explainable reason behind it.

So, it is the answer to all fundamental questions related to existence starting with what and why.

The origin of the word must belong to one of the most ancient languages or most ancient civilizations. The depth of the ancient theories or puraan can be imagined with this word having a deep-seated meaning. Well, we are not going to accept it without satisfactory explanation of nature of matter that must match this meaning.

Now there would be a description of the matter just by logical concepts that must obey the laws of Newtonian motion mechanics and thermodynamics. One can understand the gravity as described above in this chapter. Let me fit that concept in the observational data. If gravity is really working like mechanical push, and if we put multiple large masses in a line, then what should happen? Does the mass at middle of that series would feel the gravity? yes it would feel the gravity, because in a series of mass the gravity push forming flux will not get obliterated from other remaining sides. Other factor working here is that mass is a porous thing and not an absolute solid. So, obliteration of energy flux will be very little. The push is generated by just a small fraction of the total energy moving in a Brahm. So even a very long series of the masses will not completely obliterate the energy flow generating a push effect.

Can we imagine how much porous the atom of matter is?

It can be roughly calculated based on observations. We know that atom has a space within it. From the experiment done by Rutherford we know that a nucleus is a very small compared to whole atom. If we put two atoms side by side as near as possible, even then the nucleus’s proportion to the total space acquired by the atoms is just less than a millionth of part. So, the matter we

know as element has a too much space within it. If we see at large scale, such matter makes stars, stars make galaxies. In a galaxy there is too much space between two stars. There is a factor other than angular momentum that don't allow all stars in a galaxy to collapse into one mass. Stars remain scattered in galaxies. Most galaxies are spiral galaxies, and the observed mass made it porous object and not a solid cluster. Around the sun, there is a Helio sphere. Galaxies also have such fields, which is formed by energy flowing and encircling galaxies in a manner shown in a structure of "Torus". Galaxies are also scattered in the cosmos, and they have size limits also. If we see the cosmos as a large-scaled matter, then we can understand that it has a very much free space or voids within it. So, these voids allowing the gravity to work how it is working. In other words, these voids are there because push gravity would distribute matter in pockets only with space between them which further forms a large pocket. These pockets are not simple globes due to magnetic property of the tori that provides a specific pattern due to field interactions. Those are not just fields that have placed stars apart from one another and same in the case of galaxies also. A long process that put them in that calm state is full of events powered by forces generated with push gravity. This calm state is achieved after many interactions over long time span. Fields have played a role, but they are themselves not capable to prevent collisions if any object have a motion toward other such large object in case of structures like Galaxies or stars.

Now we will think about the area having minimum gravitational push due to obliteration. Where such area can be possible?

Yes, it is possible at the centre of the very big mass cluster, like a very big star. But we can't inquire or observe it due to inaccessibility to that deep area. but we can observe similar area at the centre of the galaxies.

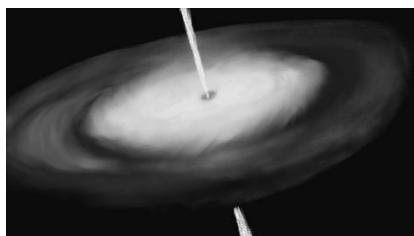


Figure 6.1

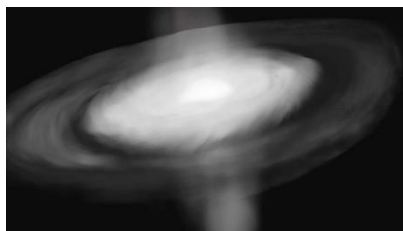


Figure 6.2

As shown in figures 6.1 and 6.2, due to tremendous mass in a galaxy and around it's centre, the area at centre is void for the gravitational push. In the absence of this pressure, matter scatters toward that centre and get dis-integrated toward centre. The primary vortices in Aether behaving as a primary matter stays stable due to gravitational push. When the gravitational push vanishes in a centre, then all primary vortices in Aether and their clusters get dis-integrated and clustered units becomes free. In that area energy flow don't have access from the sides due to obliterations by the mass in a galaxy, but it has access from above and downward sides. Energy flow moving with maximum speed from that area interact with that disintegrating matter and creates flashes of lights or other radiation when galaxy is not large enough. From these observations we can observe the mass needed to create a pressure free field that allows matter to get disintegrates or annihilated completely. Quasars are the objects observed with such flashes of lights. But due to its small size compared to galaxies, that are unable to create enough gravity free centre, and that results in partial raw annihilate matter leaving fountain formed by interaction of energy flux with that plasma.

So, these observations support the imagination of matter as a cluster of vortices made of waves in Aether stabilized by push gravity. Here we can also get the assurance that stable form of matter can't get disintegrated until and unless it is placed in such voids having no or negligible gravitational push. So, matter don't have a half-life if it is a stable isotope. Basic fundamentals of the matter are also described ahead in a chapter 5.

So, units of matter are complexly arranged vortices of waves in Aether medium with torus discs and field around it due to energy flow in Brahm. This primary mass stabilized primarily by mechanical push gravity generated due to obliteration of energy flow in Brahm. It is described in the chapter "Torus" that vortices are formed due to push force that forms cluster of smaller vortices. So, matter is a compound made up of multiple tori or vortices and hollows which are made up of pairs and cluster of unit corpuscles or waves in Aether.

**What forms the primary mass?** text hidden.

### Energy waves

Energy waves are nothing but a wave as a serial deflection of the unit cells in Aether matrix which is behaving like an elastic medium and a magneto gravitational substance. So, this are aethereal-waves. The closest possible arrangement of globular objects is a hexagonal symmetry. So, waves are moving series of deflections in this system of symmetry. The word symmetry has a meaning of looking for friendship within. The units in the system are already saturated with energies and also aligned tightly with mechanical push gravity and locked in positions due to magnetic interaction of vortices. Energy flows are coming from all sides and going to all sides. So, units are continuously vibrating and acquiring space enough for these vibrations. Cells when get deflections, they pass it according to stroke, which it has received from the stimuli. Harder the stroke, wider the wave and it may decide its frequency. Wavelength is in inverse proportion to the wideness of the wave. Because the surrounding cells are saturated with energy they won't absorb energy of the wave, so the wave won't get scattered. But it will move in one direction. There is possibility that there may be a pair production during the formation of the wave, and both have complementary characteristics with each other and opposite direction of propagations.

### Tapering of the waves or Wave transformation

As the energy waves travel large distance, the interaction between them and the medium carrying them is there. There is a possibility that the waves may lose some energy, but I want to describe something else here, and that is not due to absorption of the energy alone, but that is due to transformation due to tapering by resilient and elastic surrounding aether units.

First, we will observe the following experiment.

In this experiment a heavy small wheel of the metal is used. If we put it on the solid flat smooth surface on the earth, in presence of the gravity and spin it in oblique position with applying a torque with fingers, we will see that it will be rotate on the surface ground. The max height of its edge in the beginning of rotation will be highest, gradually it will decrease, but that will not be only due to loss of energy due to friction or heat loss.

With decrease in the max height of the edge of the wheel, the speed of wavy rotation will increase. It will become so fast near the end that it will become difficult to count manually without help of special equipment. What increases that speed of wavy rotation? That is due to gravity. Its height in an initial phase has a potential energy due to its higher position, that potential energy gets converted to wavy rotation as the event proceeds. That gravitational potential energy is converted in to increased speedy wavy rotations, and wheel moves very faster in the end. But height of that wavy motion decreases gradually because gravity pushes two mass closer, meanwhile rotation has to accommodate the converted energy in a wavy circular motion. So, speed of circular rotational motion increases in rate.

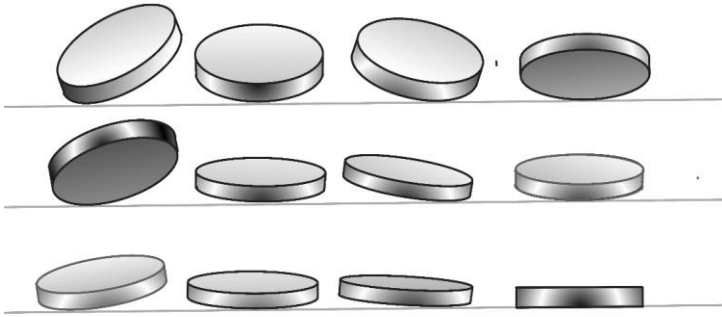


Figure 6.3

This is called motion transformation or motion tapering. Similar things occur with the light wave or any other aethereal wave in the space where a tapering or compressing force due to elasticity of Aether or effect like a push gravity aethereal wave gets tapered over time and it becomes narrow gradually. That looks like a decrease in the frequency and increase in the wavelength, this transformation mimics red shifts to some extent, and is mistaken for Doppler effect or astronomical red shift what gives one of the two bases for expanding universe theory.

Figure showing such an effect.



Figure 6.4

This is just to explain the phenomena, actually it takes many more cycles to gain such effect, and in case of light wave width decreases and length of wave increases. The change is not linear with decrease in the energy content of the wave, but before vanishing of the energy, this transformation occurs due to nature of Aether medium propagating that wave. It is not determined here whether aethereal waves lose energy while propagating or not.

This is the explanation for apparent astronomical redshift. This was the explanation of energy flow as aethereal energy wave. But the possibility of light as a particle has not been ruled out. How can a Particle have a property of the wave? Is that possible? It is possible. We know that in double slit experiment electrons show wave nature also and wave function is applicable to every quantum object. There is another one possibility of mass moving like a wave.

### Fish Projectile

Imagine Brahm as a gravitational environment similar to model imagined by Nicholas Fatio. Means there is tremendous flow of particles from all sides to all sides in empty space. Their concentration is so much that it doesn't allow the matter to feel empty space at all and stabilizes matter by strikes from all sides forming a push gravity and strong force.

Now imagine a cluster of tori with shape of the fish. This is stabilized by push gravity and magnetic force. This fish has a tail like projection. By somehow the force is applied to the tail, and it starts vibrating. What will happen next? Yes, it will move due to propulsion done by that vibrating tail. But there is a push from all sides, that will potentiate that propulsion tremendously and that fish will become fish projectile and will move with very fast speed. It will form a linear moving thing with wave pattern formed by tail. It will have its head ahead of wave.

The frequency of vibrating tail will become frequency of the wave formed. As shown in the example of the heavy metallic wheel in above description, the vibration of the tail will be

transformed by push gravity, and it will gradually become faster and narrower showing tapering of the waves produced by the tail. This will also mimic redshift.

So, wave transformation phenomena equally applicable to particle form of the light also. So, possibility has not been ruled out that linear waves could be a fish projectile only and normal waves can be dispersing waves only.

Imagining a photon as a torus-particle also shows such tapering effect. While moving in a Brahm and gravitational environment axis of torus-particle would oscillate to achieve stability, the width of such oscillation would decrease gradually, and speed of its occasion would increase. This also suffice the nature of light and tapering phenomenon.

## Inertia

This topic is mentioned in introduction, let's see in detail.

In physics inertia is referred as the characteristic of the matter which shows a tendency to do nothing or to remain unchanged.

Newton's first law of motion represents the inertia.

Inertia is a property of matter by which it continues to stay in its existing state of rest or uniform motion in a straight line, unless that state is changed by an external force. The Latin word inert is in the centre of the word inertia. Inert means unchangeability.

Newton's first Law of motion:

*"A body continues to be in its state of rest or of uniform motion in a straight line unless an external force is applied on it."*

This is called a law of inertia. This nature of the body is called inertia.

This means, when you add a push to an object by applying a force, then it will transfer an energy as a momentum to that object, which will be retained by that object until further interaction with another object or force. This means the object by itself don't lose a momentum in a vacuum or space.



## 6. Mass, Energy waves, Flux particles and Inertia.

In absence of a gravitational field, moving object continue to move in straight line. In presence of the gravitational field, object get attracted toward the mass creating that gravitational field and final tract will be resulted according to vector addition operation between momentum and gravitational force.

### Momentum

It is an expression of the inertia as a product of object's mass and velocity. When mass gains velocity its mass increases due to incorporated energy(tides) with the moving mass in addition to velocity.

### Relativeness

In a modern physics as the law of inertia states, there is no variation in a behaviour of an object at any speed after addition or subtraction of the momentum. Relative mass is applicable for relative motions only. This means relative motions are relative and there is a no universal frame of reference that can determine an absolute motion of any object. One cannot judge about any object, if it is a steady or moving object until its position or state is compared to another object or with many objects simultaneously. When there is an application of unidirectional force to any object, it will get an acceleration, that will increase the velocity of that object and will increase its relative momentum. There will be increase in relative mass also according to special relativity. Thus, with this concept we cannot determine an absolute momentum or an absolute speed of any object. This description is done within the limits of Eistein's relativity.

The above description is within the context of Einsteins relativity known as a special relativity and general relativity. Those don't fit in Aether-Brahm theory without modification to accommodate non-moving reference frame Aether and dynamic reference frame Flux within a Brahm.

### Queries about inertia

Inertia is a memory of momentum in an object. Let have a one thought experiment.

We move a 1kg object and it crosses first and second points in a space with uniform rectilinear velocity. Suppose it acquires a velocity of 1000 meters/sec. A distance between first and second point is a ten thousand meters. This simply means that it will take a 10 sec for the object to travel a distance between first and second point in a space if we neglect time dilation. Here we assume in a classical physics that space or vacuum without gravitational or magnetic field is like an absolutely nothing and provides no interaction or resistance. During the process while object crosses the first point and travel towards the second point and reaches the second point, there is a no work done during that process. There is a no interaction with that object. It was the only isolated object cut from the surrounding world in that area of vacuum. How could that object maintain a steady velocity when it was moving in that area? How could it maintain a straight path? Why it took time to reach second point from first point? Why its movement between those two points wasn't instantaneous? Why and how it maintained velocity and direction if it had no interaction with the outer world. These questions must be there in a mind of the thinker of physics. Is there any navigation system in the mass? Is there any internal clock inside the mass? Does mass do its work without help of any such things?

In this theory of Brahm it is considered that all these happens, because the vacuum is not a blank, but it is also full of Brahm, and object was never left alone. The interaction between object and Brahm determined its velocity, and its direction of motion.

If Brahm is also there, then how inertia works? Why Brahm don't provide a resistance to motion with constant velocity in a space while we need a force to move something in space!

We need a force to move something in Brahm, does that means that Brahm is giving a resistance against the motion of that object? The answer is both yes as well as no. Brahm provides a resistance to the change in a motion state but not to the motion at

## 6. Mass, Energy waves, Flux particles and Inertia.

all. Actually, no instantaneous displacement is due to resistance by Brahm that don't allow infinite velocity. How!

Let's imagine a mass, globular mass within Aether.

Text hidden

Inertia

Text hidden.

## 7. Time

It is now clear that time is not subjective relativistic fourth dimension but still can be considered as a fourth dimension in relation to Aether. There is a no relation of time to the movement of the objects relative to one another. So, here definition of the time will be in relation to Aether. As shown in the chapter “Honi”, Time is there because events are there. Events are there because the existence in the universe has motions, they have a state. The smallest bit of time passes in general when there is a smallest difference in two consecutive 3d map at anywhere in the existence. What that could be? In aethereal world at Aether scale, a smallest full movement happens when one unit of Aether passes its motion to the nearby next unit. This time is at the Scale of Aether in concern. Even if there is a no perceptible movement at Aether scale, still General time is passing because units of Aether are still in a place which suggest that there is a moving thing called energy flux, which is stabilizing Aether structure. So, according to this theory Time can't stop generally. Why am I saying that even if there is a no change in a structure at all, even then time is passing for it? This is because object has a relation with the world. Even if no change is there in an object, even then there is a change in a world related to that object, and object is no longer standstill in a standstill world.

### Absolute or General time:

If a selected area doesn't show a change in the two consecutive frames, it doesn't mean absolute or General time is stopped, a change anywhere else shows a moving General time. Change is the rule which is continuous, and which cannot have a pause. If absolute pause is possible then world is impossible because only motion can create a motion or motions, so if all motions are paused then there could not be a trigger that can start motion again which may spread throughout the Nature. But it may be possible that all motion can get trapped to some extent in a selected volume and remaining portions of the volume could acquire no vortices of waves due to absence of aethereal waves and leads to just vibration of aethereal units which is no material state at Aether scale. This state can explain a state of one of the many places before the big bang in an isolated volume area. Spread of motion from that localised sequestration to elsewhere

in that volume or conversion of random vibration to aethereal waves can be considered as a material forming theory as described in “Vishnu Purana”. There is a no big bang here but there is a slow material or mass formation which can lead to physical world. That state when only minimal motion is there in a volume area is called a “Neerav” state. Which is a pure peace and having no effective motion, no event, no matter, no wave and no local time. But still, it has a life span because time is still passing in a sequestered area somewhere at that scale and also time is passing at a lower scale. So, absolute time is not ceased which can never get ceased. There could not be an area which could have a no attachment with surrounding. Everything always stays connected and absolute isolation is impossible. Absolute blank is also an impossible thing. Absolute singularity is also impossible. In case of Nirav state, time is standstill at aethereal scale, but still aethereal units exists, means it is supported by push gravity from surrounding, means there is a no ceased motion or ceased time. If all motion ceased, nothing could be there as imaginable within the framework of this theory.

### Local time:

Smallest Change in the arrangements of 3d map of existing things in a two consecutive frame shows a passing of local time with motion of smallest units at the scale. If volume outside the selected frame is showing a change in a time, but a selected frame of volume doesn't show a change in 3d map, then it can be said that local time is standstill in a selected volume. There may be various factors that can affect rate of the local times of various volumes. This local time is not a concept like a local time in the special relativity, because this don't have any relation with relative rectilinear motion between two frames. This local time is just a measurement of change in arrangement of mass in 3d map of selected volume. But this idea has restricted practical value, because we can't know the exact arrangement of mass in selected volume by any means, because there cannot be a lower limit of smallness. So, we can never say that there is a no changes in the 3d arrangement of mass in a selected volume. But we can restrict observation to some scale to talk about scale specific local time. We can categorize time based on levels and scales. Time at atomic level, time at subatomic level time at further fine levels or time at

different aethereal scales. When we freeze the motions at some levels we can slowdown processes that occurs due to motions at that level, for example freezing a thing by decreasing its temperature can slowdown processes at molecular level powered by heat of the thing, but we can't achieve such slowdown state at sub atomic level, because circular motion of the vortices involved at a sub atomic level are essential part of the existence of the matter, change in that can disrupt the existence of the matter, so slowing down of the time near standstill, when motion of the vortices in Aether are involved is logically not possible along with those masses remain preserved. A motion can't be stopped at all. It is impossible to eliminate motion of any moving thing. Motion can be transferred from one carrier to another but ultimately motion sustains its existence. Existence of the matter and that's why the existence of Aether is due to complex vortices. Vortices carry continuous spinning motions. These motions are the existence that could never be eliminated, so, time just run as the motion and displacement is happening continuously, and time can never stand still in any existence. Aether has a fixed rate of energy transfer; at that rate it transfers a motion as a wave. This rate decides the speed of events in Aether. If we consider a finite maximum speed of wave in Aether, then we can simply calculate that a linear wave has a maximum speed, and a vortex has waves moving in orbits, and their circular velocity must affect its maximum linear speed. So, non-moving vortex in Aether have a maximum circular spinning rate, while moving vortex has a less circular velocity or less spinning rate. It would be equal to maximum possible orbital speed minus linear velocity. If time is dependent on the spin rate, then non-moving vortex should experience maximum time rate, while moving vortex should experience less time rate, or more rate of events or changes in unit time. This seems similar to special relativity, but it is not there. Here there is a reference frame of Aether and no relative motions of objects with one another are considered. So, here also fast-moving object shows slow passage of time, but motion is in relation to preferred reference frame which is universal reference frame Aether. Think about one vortex made up of infinite small vortices within it, if we move this vortex in one direction with constant velocity, does it change the circular motions in small vortices forming that big vortex? We are talking about change in the rate of local time and not a relative time. Relative time concerned with change in the perception of time when two objects move in relation to each-other and not in relation to

## 7. Time

Aether according to Einstein's Relativity theory. Acceptance of Aether is contradictory to the postulates of the Special Relativity. The special theory of relativity doesn't fit in the framework of this Aether-Brahm theory. So, Time dilation works here, and it is according to the motion of the units of an object in relation to Aether.

Some fundamental questions related to time could never be answerable. For example, when was the very first beginning or inception of time? The first ever origin of the time remains fundamentally unimaginable. Was there any existence before the prime inception of time? Could there be anything like a beginning of the time? Even could that be possible in a logical imagination! Time has a value depending on the scales which is described in chapter scales.

### Singularity

Is there anything like singularity of modern physics can exist within the scope of this theory?

This theory rejects the relativistic blackholes. Relativistic Blackholes can harbour singularity, but they are not here to sustain it. So, no such thing is possible here. It is described above that there could not be a place with no moving things. Where there is a movement there is a time and where there is a movement and time there can't be a singularity. Centre of the galaxy is a relatively gravity free area, but that can't be considered as an area having singularity. We know very little about it.

Topic like a time dilation is explained in the chapter 19.

## 8. Light

### History of Light in science:

Evolution of understanding about light in science:

- Scientists like Isaac Newton and Christiaan Huygens debated the nature of light, with Newton proposing a particle theory and Huygens a wave theory.
- In 19<sup>th</sup> century, James Clerk Maxwell's electromagnetic theory demonstrated that light is an electromagnetic wave.
- In 20<sup>th</sup> century, quantum physics brought the understanding that light has a dual nature, behaving as both a wave and a particle (photon).

### Light and Aether hypothesis:

In 19<sup>th</sup> century understanding of the nature of waves and nature of the light as a wave gave rise to the concept of “the luminiferous Aether”. When it was established that light behaves as a wave, a belief in a medium which should carry this wave imagined as a Luminiferous Aether. They observed that all kind of waves required a medium to propagate through. Sound in air and tidal waves on water surface are the examples of waves propagating through mediums. Therefore, it was hypothesized that a pervasive, invisible substance called the “Luminiferous Aether” filled all of space, providing the medium through which light waves travelled.

### Challenges and refutation of the Luminiferous Aether hypotheses:

As described in the chapter 2 of the first part of this book, Motion in Aether and its drag effect was the priority in the end of 19<sup>th</sup> century in the field of experimental physics. Logic was applied for the existence of Luminiferous Aether, If earth is



## 8. Light

moving in relation to the sun, and if Aether medium is there, then it can't remain stationary to the earth during whole year.

So, if Luminiferous Aether medium is moving in relation to the earth then any wave which is created within vicinity of the earth must have drag effect by relatively moving Aether.

Aether was hypothesized in 3 possibilities.

1. Stationary in the space and moving in relation to the earth.
2. Stationary in relation to the earth means a dragged Aether.
3. Partially dragged Aether.

Aberration of the light phenomena ruled out dragged or partially dragged aether. Now there was only one possibility remained and that was a stationary Aether in a space which was moving in relation to the earth. The famous Michelson-Morley experiment in 1887 aimed to detect the Earth's motion through this supposed aether "Wind." The experiment yielded null results. It found no evidence of Aether wind as so of the stationary luminiferous aether also. Along with the Einstein's special theory of relativity this result ultimately lead to abandonment of Aether concept. In present time it is believed that light is an electromagnetic wave, and it requires no medium.

Let's think again about the result of the failed Michelson- Morley Experiment's result:

We can assume behaviour of wave in Aether in two forms.

1. It has a constant speed relative to Aether.
2. It has constant speed relative to source.

If the speed of the wave (for convenience, we will take light in further description.) will depend on the source of the light, it is called emission theory. But findings of the observation of the binary star system contradicts with this theory, so emission theory is not accepted.

These observations support the finding that, once the light enters space it acquires a finite speed irrespective of the speed of the source of the light in relation to observer. So, star light from the star moving away from us, or moving toward us takes the same time to reach us. But from our place we can observe only light which is coming in our direction. We can say that a "to & fro" movement of source relative to us doesn't change the speed of light in space. But what about side-by-side movements? We cannot observe it directly. Suppose we are at point O in the figure below.

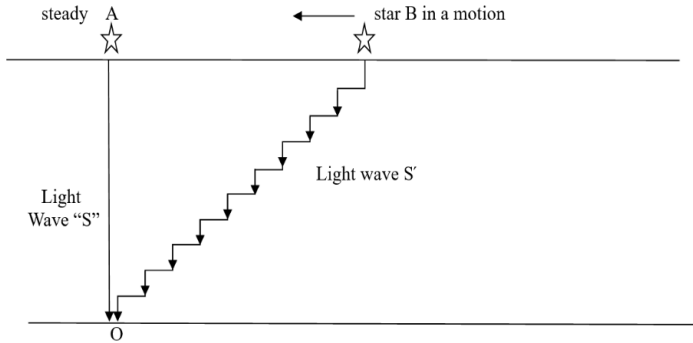


Figure: 8.1

Light from star A will travel less, a minimum straight distance from us, and it will reach us in a specific time.

Star B is moving perpendicular to the line joining star A and us. Imagine two light waves from Star-B. One is emitted in a direction facing directly to us, another is emitted in a direction parallel to light wave "S". Which one will reach us?

According to emission theory, the first one should reach us. But if we look at the Michelson Morley experiment, the answer is different, the wave parallel to light wave "S" should reach us, this proves emission theory partially true. Because light wave S' travels a longer distance in a less time. But science has observations that don't agree with emission theory. So, for emission theory to remain wrong there must be a first wave which is facing toward us should reach us.

So, what I am explaining is two component of light propagation. The speed in the direction of the emission remains constant, but the movement of the source in perpendicular direction of the axis of the emission line affects light propagation. Light gets dragged while propagating in that direction also as shown in the figure.

This was the explanation that remains valid for the light as a wave or as a particle.

Here It is a clear view that light can't travel without medium if it is a wave, and light can't exist without gravitational environment if it is a mass or particle.

## 8. Light

Wave nature of a light as a particle can be explained by helical path of moving charge in magnetic field. There would be continuous field interaction of light particle with Brahm leading to helical motion and thus results in a wave nature of light.

So, here I am not choosing a nature of light as wave, or particle. This is a matter of experimental verification. But all these two can exist within the scope of this theory of Brahm.

Light as a wave can be categorized as aethereal wave. Aethereal waves are fastest thing in Aether to be propagated. When waves form vortex, it behaves as a mass, but aethereal wave don't behave as a mass, and it don't show the property of time. This doesn't mean that there is a no ageing of aethereal waves. Tapering in Brahm leads to gradually tapered waves which changes their property of frequency and wavelength, and this phenomenon is perceivable as astronomical red shift. Tapering of light is explained in a topic energy waves in a chapter 6 in this same part of the book. This phenomenon also restricts the span of the visible light during its journey. This shows that light can't remain as a visible light after specific distance in a space in Aether. Light gets converted to invisible wave after some distance with long wavelength and low frequency. What could be the next form of light ahead after a form of radio waves is a matter of predictions.

Limited visible or observable universe:

Text hidden

Relation of light with electricity:

Text hidden



## 9. Controversy in Big-bang and Expanding Universe theories of the modern science.

Not going deep into the history of big bang theory and expanding universe theory, but at present in mainstream physics this concept is the core of the model of the universe and standard model of the physics.

There are two main reasons behind this belief.

1. Cosmic microwave background.
2. Red shift of the light coming from the far object.

### 1. Cosmic microwave background

The Cosmic microwave background (CMB) is there. In 1964, Arno Penzias and Robert Wilson, working at Bell Telephone Laboratories in Holmdel, New Jersey, were conducting experiments with a sensitive radio antenna. They encountered a persistent unexplained background noise that interfered with their measurements. That noise has no particular source, but it was across the whole sky.

When the radio telescope was placed toward sky it was found that a certain amount of the radio wave was coming from all directions. These radio waves were coming from all directions and going towards all directions, with the same amount of energy within them. These make the background temperature of the space more than absolute zero. CMB was predicted by some physicists as an afterglow of the big bang. Later that noise was considered as a predicted radiation. This was considered as a strong evidence of the Big-bang.

Penzias and Wilson were awarded the 1978 Nobel Prize in Physics for their discovery.

CBM is considered as a “afterglow” of the Big-bang. It is made up of faint microwave radiation that fills an entire observable universe. It is believed that it originated during Big-bang, and gradual cooling of the universe have left such an amount

of microwave radiation background. CMB is a form of electromagnetic radiation. It has a temperature of 2.73 Kelvin.

With insights from this theory of Brahm, the claim about the cosmic microwave background is, it is an expressed portion of energy flux moving in all direction in Brahm. In other words, it is the expressed portion of the turbulence in Aether. As described in this book, Aether can't be at a calm state, component of Aether can't be in a stand still situation. Brahm has much more energy moving in all directions, which expresses itself as a push gravity, as a light waves, as other types of waves, as a magnetic field and as particles. Microwave background is one of them. It is described in the topic below that a microwave could be a tapered or transformed light originating far away from observer. It is the intermediate state of light during its whole life span. Gravity forming waves may be the next fate of it. So, in this theory it is not a thing that has a common origin or same time of origin, it is a part of continuous process happening in the universe. It shows a vibrant hot state of the always existing Brahm. Light has a finite life span as a visible light. Due to wave transformation in Brahm light loses its character as a visible light progressively and becomes microwave during its journey. This is the reason why there is a limit of the visible universe. The universe exists even beyond that limit, but due to the short life of light we are unable to see beyond.

## 2. Red shift of the light coming from the far object:

In one of the few theories of modern physics, it is believed that the universe is formed by big-bang and the universe is expanding like an inflating balloon. So, every object in the space of the universe is moving apart from each other. But that expansion doesn't affect the size of the structures like atoms, particles, stars and galaxies. This expansion occurs just in a way that it only increases the distance between this structures. In short there is an expansion of space but not of material things. According to modern physics, Distant structures like galaxies are moving away from us at enormous speed, with speed more than that of light. So, light emitted by distant galaxies shows a doppler effect and a redshift which can be confirmed by absorption spectrum of elements in star lights. When a wave is generated by

## 9. Controversy in Big-bang and Expanding Universe theories of the modern science.

an object moving away from the observer, an apparent frequency becomes lower and apparent wavelength becomes longer. This is called the astronomical redshift. All sufficiently distant light sources show astronomical redshift which corresponds to their distance from the earth and so corresponding to their speedy motion away from the earth. This observation is known as Hubble's Law that implies that the universe is expanding. The value of red shift is denoted by alphabet "z."

Some observations like quasars just near to galaxies provide some weird observational data, which don't fit within this expanding universe model. But science keeps ignoring such observations and keep holding their beliefs. The structures which are at same distance from the earth are showing different z values of redshift suggests that the reason behind this redshift like phenomenon is somewhat different. An American astronomer Halton Arp worked on such observations and found controversial data in observation of quasar and galaxy pairs. He found more than hundreds of such observations that challenges Hubble's Law. Halton Arp's research focused on peculiar galaxies with unusual shapes and structures. He argued that quasars are ejected from the nuclei of these galaxies and their higher redshifts are not due to their distance from the earth but that is their intrinsic property. So, alternate explanation for this astronomical red-shift and cosmic microwave background is very old demand of time.

Another controversy arises from this belief is that, according to this expanding universe and big bang theory, if we calculate a centre of the big bang, then it becomes ourselves. Like a postulate of SR containing observer specific constancy of the speed of light, this is observer specific centre of the big bang. In respect to the observations, Blast must have occurred at the place from where we are observing, because microwave background shows same intensity from all sides and distant objects shows same z values of redshift in all directions. This seems weird part of the big bang theory.

Other explanations exist that can explain this red shifts as a tired light, but that type of effect may not be distinguishable from the astronomical red shifts. Tired-light effect is also an option, but which is not widely accepted by modern science because scientists don't like that idea, because that doesn't fit in with the expanding universe and big bang model of modern science. Recent advancement after considering findings of JWST, scientists are now feeling uncomfortable with the old model and they have introduced advanced model with acceptance of both,

redshift, and tired light phenomena together. But they have not completely denied the expansion of the universe. They just made only necessary changes in the old standard model to fit the new findings of JWST.

Wave transformation phenomena explained below is the explanation for such redshift-like effect according to this theory of Brahm.

## Wave transformation or Wave tapering phenomenon

This is explained in a topic energy waves in chapter 6 of this same part of the book. When there is a continuous compressing tapering force or pressing force acting upon the wave or on an object in a wave motion, then that force makes changes in the frequency, wavelength, and shape of the waves progressively, this phenomena is called wave transformation phenomena or tapering of the waves.

The same thing occurs with the light waves in the space where a pressing or tapering force due to elasticity of Aether or effect like a push gravity, light wave gets tapered over a time and it becomes narrower gradually, that looks like a decrease in the frequency and increase in the wavelength. This transformation mimics red shifts to some extent and is mistaken for Doppler effect which contributes to the foundation of the Big-bang and expanding universe theories.

Figure showing such an effect.



Figure 9.1

This is just to explain the phenomena, actually it takes many more cycles to gain such effect, and in case of light-wave, its width decreases and the length of wave increases. The change is not simultaneous with decrease in the energy content of the wave,



## 9. Controversy in Big-bang and Expanding Universe theories of the modern science.

but before vanishing of the energy, this transformation occurs due to nature of Aether medium propagating that wave.

This is the explanation for apparent astrological redshift. This provides a relation between distance and amount of this effect. Tiredness of light is also applied when light passes through materials. It also depends on the type of light when it originates. Gravitational fields in the path of light also affect the redshift.

It is well known that different data of  $z$  value of the astronomical redshift phenomena of distant lights create confusion after recent observations by JWST. This suggests that there is something serious wrong in the present understanding of modern science about the universe.

## 10. Aether cycles and a steady state.

Aethereal cycles

Text hidden



## 12. Scales In aethereal symmetry

*Aethereal Units define the scales.*

In 1899, German physicist Max Planck proposed a universal set of units which are known as Planck's units. Plank units are system of units of measurement defined exclusively in term of four physical constants  $c$ ,  $G$ ,  $\hbar$  and  $k_B$ . They are system of natural units. This units have a root in nature. Plank units are relevant in research on unified theories such as quantum gravity. So, different Planck units have inter-relations and relation with constants of the natural things also, like speed of light, smallest possible blackhole, smallest possibly measurable time in a modern physics. So, actually it is not about the smallest things, but it is about units in relation to natural constants.

In modern quantum physics Planck scale is a well-known term. Plank scale refers to quantities of space, time, energy and other units that are similar in magnitudes. That defines very small length at which direct observation is not possible, and prediction of standard model and relativity are not applicable at plank scale. It is also considered as a universal limit of smallness beyond which Law of modern physics don't make a sense. Actually, there is a no tool available that can collect information beyond the Planck's scale. Speculations of scientists are matter of faith. If we talk about the Planck length, then it is a  $1.616255 \times 10^{-35}$  meter or  $10^{-20}$  times the size of a proton. It is also imagined as a size of the smallest black hole in a theory of the quantum gravity which have a no possible observable support. Speed of light is considered as a one Planck length per Planck time. These are imaginations and not real measurable things in a modern quantum physics field. So, Planck level is a limit of measurement by tool available in a modern physics. Subatomic level, atomic level, molecular level, gross level, astronomical level are some examples of levels based on length in modern physics. Though plank scale is defined as a scale in modern physics but in this theory of Brahm-Aether I want to use the term scale for Aether scales only.

## 12. Scales In aethereal symmetry

In modern physics scientist has observed the max limits in relation to size, mass and length. It is observed that all protons have a same mass, all neutrons have a same mass, all electrons have a same charge. Gravity has a universal constant. Planck constant " $\hbar$ " has a fixed universal value and that's why it is a constant. Modern science doesn't know what determines these limits. Why a bigger proton is not possible. Why electrons are not available in different sizes and in different variable charges. Why quantization is there, why uniform pockets are there? There is a no explanation for these in modern physics. If there are limits at smaller scale then why quantity like mass, gravity, size don't have higher limit at astronomical level is also not understandable with theories of the modern physics.

This description was from the scope of the modern physics.

Now let's think in a scope of Aether-Brahm theory.

Why size levels and scales are there?

Reason:

Push gravity is a thing that distributes resisting materials formed in Aether in separate pockets. This is because obliterations by formed clusters restrict the reach of pushing flux toward the centre of cluster after gathering enough mass. This phenomenon limits the strength of the push gravity to a specific limit that cannot form clusters bigger than optimum size. At a place away from the shadow of this cluster push gravity can work normally. These forms separated pockets of clusters. Thus, there is a well distributed clusters at some specific intervals, which forms larger cluster. There bigger clusters can also be distributed at certain intervals of space and further forms bigger cluster. Torus formation doesn't allow all distributions in a globular form, and this leads to variety of shapes and types of clusters formed by push gravity. All these can form specific sized structures with maximum size limits at particular level defined by sizes of the cluster forming units.

So, reason behind quantum nature of mass is the limit of push gravity. Push gravity forms clusters of material. When more and more mass is added, it reaches to a limit beyond what further mass cannot be added to that cluster. This happens in both cases, in formation of the spherical mass and in case of the torus also. Similar clusters can exist in Aether only at the minimum distance required to get enough support of push gravity not affected too much by the shadow of the concerned cluster. Not just a limitation of the push gravity but a torus field also plays a role as a repulsive field that also pushes structures with magnetic fields away. This explains a distribution of the stars in the galaxy also. so, basically limit of the push gravity along with magnetic fields defines distributions of mass in pockets and not forming a limitless single mega cluster without space within it.

Limit of Gravity is based on the density of material also, if material is more porous, it forms a larger and less dense cluster. if material is less porous, it forms a smaller, hotter and denser cluster.

Primary mass is a torus which can form globular clusters. Such globes due to spin may become polar objects. combination of such mixed cluster forms a globe, or torus depends on various factors. Whatever is formed either globe or torus, they have maximum size limits.

Many tori can stay at distance from each other, and they can arrange themselves according to fields they created. That forms a cluster also which may form a stable globe which could be served as units to form Aether of the higher scale. If I talk about scale around us, in relation to matter and cosmos unit of Aether is a smallest non perceivable stable corpuscle or globe which forms lattice of Aether at this scale that allows a waves formation of the width of minimum size which must be many times the size of that units. These waves form primary masses which can form mass clusters and bigger structure at this scale. If we assume electrons or protons as smallest particles at this aethereal scale, then size of the unit of Aether at this scale would

## 12. Scales In aethereal symmetry

be extremely smaller than the size of the electrons. Brahmand a globe containing infinite cluster of Galaxies within itself would become unit of the higher scaled Aether. So, we are assuming Brahmand as units and not galaxies as units. This is just an assumption because there is a no way to calculate the exact distribution of masses between scales. But what we accept is a very stable structure as a unit of the Aether which could be a Brahmand but not a galaxy itself. These are aethereal scales and there are infinite scales of Aether. Aether is such a multi scaled Matrix as explained in a chapter Honi.

Waves in Aether are formed by serial deviation of aethereal units. Those waves when forms cluster that is considered as primary mass. Mass units create spheres. Sphere creates tori and tori further forms a globe. There are multiple combination and cluster possible with these structures. Which leads to giant structures. That forms a stable unit. That may form a higher scaled Aether with different time scale. How two or more waves can form a wave cluster, or a wave couple is easy to understand and thus not explained here.

So, aethereal scales are formed with stable structures which behaves as aethereal units. Levels are described on the basis of sizes of different structures between two consecutive aethereal scales.

Time perception is different at scales.

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## Relativity in brief in relation to Aether

Einstein's special theory of relativity accepted no universal reference frame and thus no Aether. Dynamic portion of Brahm May fit as a spacetime matrix of special relativity but Aether has no role in special relativity. If we accept Aether, then we have to modify Special relativity as a Relativity in Relation to Brahm.

Every Material thing in a Brahm is formed with waves in Aether. Aethereal waves have finite speed of travels. Couple of clusters of waves acquire circular motion and form a spinning thing which can be considered as a unit mass. Time for that mass depends on its spin. Linear motion of such unit masses acquires with a cost of spins because wave can either travel in a circle or in a line. Sum of linear velocity and speed in a circular motion remains constant due to aethereal property of finite speed of propagation of aethereal waves.

Thus, when unit mass moves in relation to Aether there is a decrease in its rate to complete spin. In other words, time for that mass units slowdowns. This explains Time dilation. If we accept Aether and think of one mass orbiting other heavy non spinning mass, then we can simply understand that an orbiting mass moves with much velocity than a heavy central mass. So, in such pair time dilates for orbiting mass.

This Relativity in relation to Aether and chapter on Light explains results of Michaelson Morely's experiment. Thus, in this theory Time dilation is a result of property of the light in Aether but it is not same as relative time dilation of Special relativity.

If we talk about general relativity, Brahm and Shadow Gravity provides a mechanism of curvature of spacetime around mass and defines gravity as a combine property of mass and Space. As soon as Gravity depends on potential of space and not



on only Mass itself, Vicious nature of limitless Gravity no longer exists and things like relativistic Black hole can't exist.

Chapter on Relativity contains some calculations, and it is a lengthy topic. So, it is explained ahead as a chapter 19.

### Explanation of Some Observations

#### 1. Quasar jet

As described in the torus formation, when material forming a disc of the torus is insufficient then a gravitational void formation at the centre of the disc remains incomplete, that allows only partial annihilation of the matter and also provides a narrow track for energy waves to pass through. The interaction of energy waves with annihilating matter and passage through narrow track results in a formation of illuminated jets.

According to this theory that jets are not due to any process within a blackhole. This theory denies the existence of relativistic blackhole at the centre of the quasar or galaxy.

#### 2. Luminance at the Galaxy centre

As described in the torus formation, when material forming a disc of the torus is sufficient then a gravitational void formation at the centre of the disc becomes complete, that allows complete annihilation of the matter and also provides a track for energy waves to pass through. The Annihilating matter and passage of energy flux through this gravitational void area creates an illumination at the centre of the galaxy. That is not due to fusion reaction, but that is due to annihilation of matter in the absence of sufficient gravitational push and thus absent sufficient strong force.

#### 3. Bending of the light and gravitational lensing

*Explanation 1:* Photons may be particles which have a mass. Thus, its path bends in a gravitational field due to attraction by gravity or in other words due to push-gravity.

*Explanation 2:*

Bent geodesics: Aether around the mass is affected by gravity. Their units show constriction, thus producing a curved path toward mass. As an aethereal waves, light follows the course of the geodesics in Aether to some extent. But this design doesn't allow a fall of light inside the mass in any case. This geodesics are not the same as geodesics in general relativity, because limitless vicious gravity just depending on mass is not here. Here there is a limitation of this chance of geodesic formation because mass is an aethereal wave which may constrict Aether, but mass itself is not a condensed Aether itself. It is a cluster of waves within Aether. What if mass is a condensed Aether? Then there would be a different theory to explain this phenomena or there may be some explanation within the scope of this theory which is not provided here.

4. Rosette pattern eccentric orbit of mercury around sun which is not an ellipse

According to classical physics, Kepler's law and newtons gravity equation, orbit of any planet around the star or sun must be an ellipse. But it is not the case in the case of planet mercury. Such a case is also observed in the case of a star orbiting one centre.

This observation is considered as proof of the time dilation according to general relativity. But this is not the reason alone. This observations are actually proof of the existence of Brahm, and its drag effect. Sun is spinning on its axis. This spinning motion flings the reflected energy flux around it, which causes a drag effect on the mercury when it passes from the nearby orbit area.

In the case of a star, it is something different. Star orbiting a blackhole is not actually orbiting a blackhole. There may be a huge planet or brown dwarf in a pair. There may be a vortex within Aether itself either due to spinning and orbiting mass or due to vortex within Aether material itself. That drags star within a stream and that orbits a centre of the vortex. There is no blackhole attracting the star. Star is in a stream of the whirlpool. If

it is aethereal flow or a flow of energy flux or mass in a Brahm is a matter of debate but both of them can provide similar effect.

### 5. Cosmic microwave background

It is made up of the wavy fluctuations within Aether. It is transformed light. Light doesn't stay as light, as it passes a certain distance and gets transformed or tapered into other types of waves which contributes to the cosmic microwave background. Radiation is radiated by multiple sources everywhere in the universe. It has multiple origins and variations in the time of origin. It is not cooled down radiation due to big bang; it is being formed continuously in various processes. There is a huge stream of gravity forming flux in a space that is the origin of gravitational and magnetic fields. Expressed portion of these flux streams contribute to the microwave background.

### 6. Astronomical red shift

Wave transformation is explained in the relevant chapter. This results in increasing wavelength and decreasing frequency of light coming from the far objects. Different  $z$  values of the light coming from the same object show that it can't be just doppler effect. Recent findings by JWST indicate that there is something seriously wrong in the understanding of the universe by modern physics. Characters of the Galaxies found very far don't match their estimated age. They show features like aged galaxy which doesn't fit in the standard model including big bang theory. This indicates different origins of galaxies instead of from a single source big bang.

### 7. Michaelson Morley experiment

Light may have two components, longitudinal and transverse. So, when path of the light changed away from the longitudinal axis due to such transverse motion of the source of the light adds its momentum to the light and thus modifying its speed along the transverse component. Necessary experiments have not been done which can rule out such an effect. We can observe this in a Michaelson Morley's experiment where we can

see that longitudinal light beam travels more still take the same time to reach the point of interference compared to less distance traveled by other beams of light parallel to the motion of the earth. This shows different speeds of the same light in relation to space.

#### 8. Supernova

In addition to fusion reaction products, star can become unstable at critical maximum allowable mass by push gravity.

#### 9. Hot centre of the earth

That is due to the nature of push gravity and pressure created by push gravity. It is not the historical remnant. Though the earth loses core temperature through conduction, still this doesn't allow a decrease in a core temperature due to continuous process producing heat in the core.

#### 10. Tidal locking of the moon

Tidal locking of the Moon with the Earth is due to magnetic interaction between earth and moon.

#### *Magnetic field of the earth*

In all directions the earth has little magnates within it. The magnates oriented towards all directions. Due to earth's motion, magnetic fields which have parallel fields with earth's rotational axis have a summation effect, because of all remains in the one direction while spin of the earth which is not changing. While magnetic fields in other directions have continuous directional changes, and thus they can't unite to form one common magnetic field. Thus, rotation of the large enough mass is a process that may generate magnetic field. Once Magnetic field is generated, it further aligns other magnets and strengthens itself.

## 13. Calibration of the common sense

This book provides a fundamental base for the logical thinking that creates a sense which generates a common sense and Laws that differs from the common sense used in a modern physics.

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## 15. Residual quarries.

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## 19. Criticism of Relativity and Relativity in relation to Brahm.

Generally, Relativity is considered as the Special theory of Relativity and General Relativity proposed by the physicist Professor Albert Einstein. These theories show relation of relative times and lengths in relation to relative motions of objects with one another. It also defines Gravity as space time curvature. In the Special Theory of Relativity, relative motions of two objects in relation to each other plays crucial role and that decides relative time, relative mass etc. There is a no preferred frame of reference or universal frame of reference in a special relativity with rejection of any kind of Aether. But still acceleration is used to choose inertial moving reference frame and that decides whose time would dilate in relation to whom. It could also be determined by top view of relative motions. For example, if we spin around then we would find that the world is moving. In that case relative to spinning observer, far objects move with the speed greater than the speed of light  $c$ . This indicates that it is the observer who is spinning and not the world is orbiting around him because relative speed more than  $c$  is not possible according to the special theory of relativity. Thus, there would not be a time dilation for apparent motion of the apparently orbiting objects.

Lorentz transformation used interchangeability of subjects as permitted by one of the two postulates in special theory of relativity. But it is not allowed in practice. If the perspectives of subjective experience of both subjects are included in the situation by considering both as moving in relation to one another by using subject interchangeability, then it would create a paradox. When that subject interchangeability is applied without restrictions that creates a Twin paradox and predicts non-realistic results. Albert Einstein explained that paradox by showing a way to choose moving reference frame between two relatively moving



## 19. Criticism of Relativity and Relativity in relation to Brahm.

things. He suggested acceleration as a key to decide a moving reference frame in which time dilates. But still this explanation doesn't explain the situation where both reference frames feel acceleration. In that case where both subjects are moving toward each other and both felt same acceleration, Lorentz transformation can't remain applicable. If we imagine one object at a point at a centre of a path between those two moving objects, then both moving objects should show time dilation in relation to that object and no time dilation in relation to each other. This shows that there is a no time dilation when two objects move equally in relation to each other. In a Lorentz transformation, the mathematics used to show Time dilation is improper that seems illogical. Lorentz transformation is described ahead in this chapter, and this point is covered there.

In General relativity a property to form a curvature in a space-time is imagined as a power of mass itself without any dependency on surrounding space-time. This provides a limitless vicious nature to gravity that enables mass present in the enough quantity to collapse itself with its own power and forms blackhole with singularity. Origine of the power of the mass to form gravitational field is imagined within mass itself, this results in such vicious gravity because now mass is forming gravity and there is a no restrictive role of surrounding. These two theories, Special and General theories of Relativity proposed by Professor Albert Einstein is modified in relation to Brahm-Aether described ahead in this chapter, that also provides a time dilation. Time is described as a fourth dimension but in relation to Aether and not in relation to one another for moving objects. This suggests that accepting Aether or Brahm is not contradictory to the predictions of the theory of relativity by Albert Einstein but in fact Aether-Brahm could be the only way to explain mechanism and cause behind the time dilation.

## Preferred frame of reference in the special theory of relativity:

It is believed that there is a no preferred frame of reference for the relative motions of two objects in special relativity theory. Really is it so? Are two objects free to move with any speed in relation to each other? If three objects are there, are they free to move with any speed in relation to one another within a range of speed from 0 to the speed of light  $c$ ? Answer is no. They can't move with speed beyond some limit in relation to one another according to the special theory of relativity. Though there is a no preferred reference frame but still there is a range that restricts motions of all objects. Let's see a thought experiment for these.

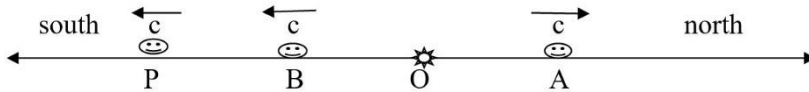


Figure: 19.1

Suppose there are four objects as well as observers named A, O, B and P. We would like to consider O as a steady observer (not feeling acceleration during this experiment). Now speed of the A in relation to O can't be more than the speed of light  $c$ . Suppose A is moving with the speed  $c$  in a direction of north relative to O. B is also moving with the speed  $c$  in opposite side in a direction of south in relation to O. For the observer A, O would be stand still in the time and it won't perceive any change in O, what could be the observation of B from the observer A? That is an impossible physical system according to special theory of relativity. Let's clear it further. Here B is moving with the speed  $c$

## 19. Criticism of Relativity and Relativity in relation to Brahm.

in relation to O. Now, consider P as an observer moving with the speed of  $c$  in relation to B in a same direction of the motion toward which B is moving. As per the classical physics speed of P relative to O would be  $2c$ , but in the context of the special theory of the relativity relative, speed more than  $c$  can't be possible. So, adding P with a speed  $c$  relative to B would force a situation to change in a situation where relative speed of B in relation to O must not be  $c$  or it should be less than  $c$ .

This concludes that we can't add series of objects in a line with speed  $c$  relative to the nearby object. This would violate one of the postulates of the special theory of the relativity.

Note: Anything which moves with a relative speed equal to  $c$  must lose its mass nature and become energy or radiation wave form. This phenomenon is not taken in a consideration during this thought experiment shown above to understand the point of the thought experiment.

We can say that theory of special relativity concludes that there could not be the existence of mass or anything which could travel with the speed more than that of the light in relation to observer and there could not be addition of any object 2 moving away from the observer also moving with any speed more than zero in relation to the object 1 which is moving with the speed of light relative to the observer. Here all motions are to be considered in a single linear direction. Thus, a physical system contains something with restricted motions in relation to one another. It seems like that there is the environment adhered to the physical system that restricts the relative motions beyond some limit and thus also restricts the speed of the absolute motions. That environment doesn't allow limitless speed of motions. So, between two-sided possible speed equal to  $c$ , there is a reference frame in between those fastest inertial reference frame which can be considered as the universal reference frame.

Observer specific constancy of the speed of light:

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## 19. Criticism of Relativity and Relativity in relation to Brahm.

So, the conclusion is that there can be an addition to the speed of light if it is hit enough to deviate it from its path. Its speed would remain constant when it is not getting momentum that deviates it from its straight path, when it gets an additional speed in the direction of the deviation or drag. The total speed can be calculated from the vector addition operation. Addition of the speed could be in a perpendicular direction.



## Problems with the Special theory of Relativity by Albert Einstein.

Let's see the problems with the Special theory of Relativity, then you will find a theory in relation to Brahm and Aether that explains time dilation.

Postulate 1 of the Special theory of Relativity demands the subject interchangeability for the two-observer moving in relation to each other for the effect of time dilation and length contraction. Let's understand this thing and problems created with this demand of subject interchangeability.

Interchangeability of subjects in a special theory of relativity:

In special theory of relativity by Albert Einstein, there was no universal reference frame accepted. There is a concept of the preferred moving inertial reference frame which was introduced later to deal with the twin paradox.

According to the first postulate of the Special theory of Relativity all inertial reference frame should have same and simple law of physics within the inertial reference frame. When two observers A and B move in relation to each other, for A, itself is steady and B is moving, similarly for B, itself is steady and A is moving. If we apply Lorentz transformation, there will be slowing down of the time of B for A and similarly there should be slowing down of the time of A for B.

This subject interchangeability causes paradoxes, and it suggests non-realistic impossible outcomes.

I would like to explain it with example of uncle -nephew relationship.

U is uncle of N

N is nephew of U.

What subject interchangeability states is that application of this relation is same for each of the two subjects in relation to each other.

Means it states that,

For U, U is an uncle of N and N is nephew of U.

And For N, N is an uncle of U and U is a nephew of N.

Means both feels own self as uncle of the other one.

Now is it clear that such relation is impossible, which can be seen in the twin paradox.

Let me explain you twin paradox with the help of an example of two clocks.

S and M are two clocks.

Both are moving in relation to reach other.

For S, S itself is steady, and M is moving so, time in M will be slow down.

For M, M itself is steady, and S is moving so time in S will be slow down.

So according to the Special theory of Relativity with subject interchangeability, M shows less time than S and S also shows less time than M. We can understand that this is not possible. This is a twin paradox.

Suppose S and M are two twin brothers.

When S is on the earth and M is going on a space trip with tremendous speed, and came back to the earth, there would be a relative time dilation for each subject.



S will find that he is aged to an adult and M is still a child because for S the relatively moving subject is M which should show a slowing down of time.

Similarly, M will find that he is aged to an adult and S is still a child because for M the relatively moving subject is S which shows a slowing down of time.

For S there should be a slow ageing of M and for M there should be a slow ageing of S.

When they both meets, there is an impossible controversial situation were finding of both subjects would be personal and impossible. It is not possible that two persons can be elder than each other.

This was considered as the error in the Special theory of Relativity by few peoples, but Einstein tried to explain the situation and favours a preferred moving inertial reference frame based on situation and presence of the acceleration experienced by subjects prior or during the journey. He stated that which one feels acceleration is moving and which one don't feel acceleration is steady and time dilates for moving in relation to steady. So, here that who goes to the space trip will show a time dilation in relation to steady subject. So, in above example S will age to an adult but M won't be due to time dilation for moving subject only.

We know that acceleration is felt for a time when object achieves speed, after achieving speed if it moves with constant velocity then it feels no more acceleration. What factor affects during that constant velocity motion which causes time dilation even after acceleration is no longer remained? This suggests existence of something that decides time dilation in relation to it. That something is not mentioned in the Special theory of Relativity.

Also, there is another way to decide Preferred reference frame which is a type of relative motions. Suppose if an asteroid orbits a planet, then both planet and asteroid are moving in

relation to each other but by considering an apparent relative motions of the distant stars and analysing a motion in relation to each other it would become evident that asteroid is orbiting a planet and not a planet is showing an inconsistent variable motion in relation to asteroid. So, with all this application special theory of the relativity states that there could be a time dilation in a moving reference frame and not in a non-moving one. When both are feeling acceleration then there would be a complex relative relation which would decide time dilation more or less in relation to each other depending on their movements considered with effect of acceleration.

All this suggests that in the concept of the Special theory of Relativity, the interchangeability of subject is there and passage of time is defines on the bases of relative motions only but in a practice the special theory of the relativity has to determine one inertial reference frame as steady and other as moving. Time dilation relation cannot be applicable bilaterally. If acceleration affects time dilation in addition to relative rectilinear velocity, it means that there are factors affecting relative relations of two relatively moving objects which are neither included in postulates nor incorporated in the math used in the theory. So, rejection of Aether by special relativity invites explanation of the mechanism by which acceleration affects time dilation.

## Mathematical errors in SR:

There are mistakes while deriving time dilation equation and getting co-ordinate transformation with Lorentz's transformation as described below.

The Special theory of Relativity has the two basic postulates which has potential to derive other predictions by using math with those postulates.

Let's see those two basic postulates of special theory of relativity.

*1<sup>st</sup>: - Laws of physics are same and can be stated in their simplest form in all inertial frames of reference.*

*2<sup>nd</sup>: - Speed of light is constant for the observer irrespective of the reference frames and relative speed of the source of light.*

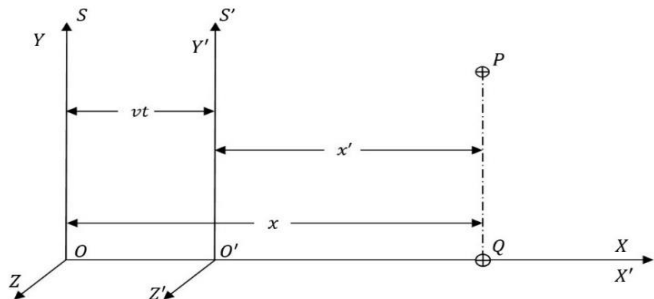
Lorentz transformation is a method for the co-ordinate transformation in the Special theory of Relativity that replaces the Galilean transformations of classical physics.

I want to point out the mistake in this Lorentz transformation method.

Let's see calculations of Lorentz transformation equation with simple method.

Below, there is a figure 19.2, shown to explain Lorentz transformation.

Figure: 19.2



Here two inertial reference frames  $S$  and  $S'$  are aligned with cartesian planes, which defines co-ordinates of the point  $P(x, y, z, t)$  and  $P'(x', y', z', t')$  in  $S$  and  $S'$  inertial reference frames respectively. Here  $S'$  inertial reference frame is moving with uniform rectilinear velocity " $v$ " along the direction of positive  $X$  axis of  $S$  frame. There is no movement of  $S'$  along  $Y$  or  $Z$  axis of the frame  $S$ . Both frames are aligned in a way that  $O$  and  $O'$  co-insides at time  $t = t' = 0$ . Here  $P$  is the point selected randomly in the stationary reference frame  $S$  toward Positive  $X$  axis side of the reference frame.  $Q$  is the reference point on  $X$  axis in the reference frame  $S$  with co-ordinates  $(x, 0, 0, t)$ . In a time " $t$ " photon travels perpendicular to  $Y$  axis from the point  $P$  for a distance equal to  $OQ = x = ct$  and meanwhile during the same time  $t$ ,  $S'$  frame moves a distance  $vt$  along positive  $X$  axis.

Note:

(One thing to-be noted here is that, though we are transforming co-ordinates for  $P$ , we are doing all calculations for  $Q$ . Understand this, for the conveniency of the calculations we have assumed that  $y' = y$ , and  $z' = z$ . Means relative movement of  $P$  for  $S'$  frame is only on  $X$  axis. So, there will not be any change in  $y$  and  $z$  during transformations, so they will not appear in calculations, only  $x$  will appear. We will define a time co-ordinate for  $P$  in a way that  $x$  will be equal to  $ct$ . Here  $OP$  is not equal to  $ct$ , but  $OQ$  is equal to  $ct$  and all calculations are for  $Q$  and it will be applicable as calculations of  $x$  co-ordinate of  $P$  while transformations.

We will not use confusing relation as below,

$$x^2 + y^2 + z^2 = d^2 \quad \text{here } d = OP = ct$$

$$x^2 + y^2 + z^2 = c^2 t^2 \quad \dots \dots \dots (C)$$

Why are we not taking these relations?

Because here we are able to calculate for  $x$  only and we will have to take  $y = 0$ ,  $z = 0$  to derive constant  $\gamma$ .

When we do that, these relations would become,

$$x^2 + (0)y^2 + (0)z^2 = c^2 t^2 ,$$

$$x^2 = c^2 t^2$$

So,

$$x = ct \quad \text{(no negative value for time.)}$$

If we put this value in equation C,

$$c^2 t^2 + y^2 + z^2 = c^2 t^2$$

It will yield  $y = 0$ , and  $z = 0$ , means we are restricted to choose a point on the  $X$  axis only for calculations, after getting transformation for  $x$ , we can apply it to co-ordinates for  $P$  in  $S'$  frame, but the equations for calculation of  $x$ , must consider  $y = 0$ , and  $z = 0$ , otherwise that won't work.

So, Lorentz transformation equations are for  $Q$  and not for  $P$ . We just apply transformation of co-ordinates of  $Q$  to the  $x$  co-ordinate value of  $P$ . So, there will be  $Q$  only in calculations ahead.

Relation between  $O$  and  $Q$  is same as relation between  $P$  and nearest point on  $Y$  axis of  $S$  frame.

Relation between  $O'$  and  $Q$  is same as relation between  $P$  and nearest point on  $Y'$  axis of  $S'$  frame.

So,  $x = ct$  is applied wherever there was a need in calculations,

We are free to choose a point on the  $X$  axis so, there should not be an objection for calculations for the point  $Q$ .)

End of the note.

From the figure 19.2

$x$  is the co-ordinate of  $P$  on the  $X$  axis.

$$x = ct \quad \text{..... (19.1) \quad (read "note" above)}$$

And

$$x' = ct' \quad \dots\dots (19.2) \quad (\text{as per the postulate 1 of SR})$$

From the figure 19.2, Newtonian relations can be,

$$x' = x - vt \quad \dots\dots (19.3)$$

and

$$x = x' + vt \quad \dots\dots (19.4)$$

If we applied relativistic relation in eq. 19.3,

$$x' = Y(x - vt) \dots\dots\dots (19.5)$$

Here  $Y$  is the constant.

Now using first postulates of the special theory of relativity.

(using subject interchangeability)

$$x = Y(x' + vt') \dots\dots\dots (19.6)$$

I have an objection for this equation 19.6 and this is the root for all errors in the Special theory of Relativity. Applying such constant is not logical.

For now, continuing the calculation.

Putting the value of  $x'$  in the equation no (19.6) from the equation no (19.5)

$$x = Y(x' + vt')$$

$$x = Y(Y(x - vt) + vt')$$

$$x = Y^2 (x - vt) + Yvt'$$

$$x = Y^2 x - Y^2 vt + Yvt'$$

$$Yvt' = x - Y^2 x + Y^2 vt$$

$$t' = \frac{x - Y^2x + Y^2vt}{Yv}$$

$$t' = \frac{x - Y^2(x - vt)}{Yv} \dots \dots \dots (19.7)$$

Now using second postulates of special theory of relativity.

Distance  $OQ$  is Equal to  $x$  and is equal to  $ct$

Distance  $O'Q$  is equal to  $x'$  and is equal to  $ct'$

So,

$$x = ct$$

$$x' = ct' \dots \dots \dots (19.8)$$

Now putting the value of  $x'$  &  $t'$  in this equation (19.8)

$$x' = ct'$$

$$Y(x - vt) = c \cdot \frac{x - Y^2x + Y^2vt}{Yv}$$

$$Yx - Yvt = c \cdot \frac{x - Y^2x + Y^2vt}{Yv}$$

$$Yx * Yv - Yvt * Yv = c(x - Y^2x + Y^2vt)$$

$$Y^2xv - Y^2v^2t = cx - Y^2cx + Y^2cvt$$

Now putting the value of  $x = ct$  in the above equation

$$Y^2xv - Y^2v^2t = cx - Y^2cx + Y^2cvt$$

$$Y^2ctv - Y^2v^2t = c * ct - Y^2c * ct + Y^2cvt$$

$$Y^2ctv - Y^2v^2t = c^2t - Y^2c^2t + Y^2cvt$$

Cancelling  $Y^2cvt$  on both sides.

$$-Y^2v^2t = c^2t - Y^2c^2t$$

$$c^2t = -Y^2v^2t + Y^2c^2t$$

$$c^2 t = \gamma^2 c^2 t - \gamma^2 v^2 t$$

$$c^2 t = \gamma^2 t (c^2 - v^2)$$

$$c^2 = \gamma^2 (c^2 - v^2)$$

$$\gamma^2 = \frac{c^2}{c^2 - v^2}$$

Dividing above and below with  $c^2$

$$\gamma^2 = \frac{1}{1 - v^2/c^2}$$

$$\gamma = \frac{1}{\sqrt{1 - v^2/c^2}}$$

Now putting the value of  $\gamma$  in the equation no (19.7),

$$t' = \frac{x - \gamma^2(x - vt)}{\gamma v} \dots \dots \dots (19.7)$$

$$\begin{aligned} &= \frac{x - \frac{c^2}{c^2 - v^2}(x - vt)}{v \frac{c}{\sqrt{c^2 - v^2}}} \\ &= \frac{\frac{c^2 x - xv^2 - c^2 x + c^2 vt}{c^2 - v^2}}{\frac{vc}{\sqrt{c^2 - v^2}}} \\ &= \frac{c^2 x - xv^2 - c^2 x + c^2 vt}{vc \sqrt{c^2 - v^2}} \\ &= \frac{-xv^2 + c^2 vt}{vc \sqrt{c^2 - v^2}} \\ &= \frac{c^2 vt - xv^2}{vc \sqrt{c^2 - v^2}} \\ &= \frac{c^2 v(t - xv/c^2)}{vc \sqrt{c^2 - v^2}} \end{aligned}$$



$$\begin{aligned}
 &= \frac{c(t - xv/c^2)}{\sqrt{c^2 - v^2}} \\
 &= \frac{t - xv/c^2}{\frac{\sqrt{c^2 - v^2}}{c}} \\
 &= \frac{t - xv/c^2}{\sqrt{\frac{c^2 - v^2}{c^2}}} \\
 t' &= \frac{t - xv/c^2}{\sqrt{1 - \frac{v^2}{c^2}}} \quad \dots \dots \dots (19.8).
 \end{aligned}$$

Here  $v < c$ .

So, Lorentz transformation equations are,

$$x' = \frac{x - vt}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.9)$$

$$y' = y$$

$$z' = z$$

$$t' = \frac{t - xv/c^2}{\sqrt{1 - \frac{v^2}{c^2}}}$$

Inverse Lorentz transformation equations would be,

$$x = \frac{x' + vt'}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.10)$$

$$y = y'$$

$$z = z'$$

$$t = \frac{t' + xv/c^2}{\sqrt{1 - \frac{v^2}{c^2}}}$$

What is the postulate 2 used here? it is the observer specific constancy of the light speed. Here we have considered only one situation where there is a motion of the moving reference frame toward the source of the light. What if that reference frame would move away from the source of the light. There would be a negative velocity, and these would result in following equations for the figure shown below which are same as inverse Lorentz transformations equations.

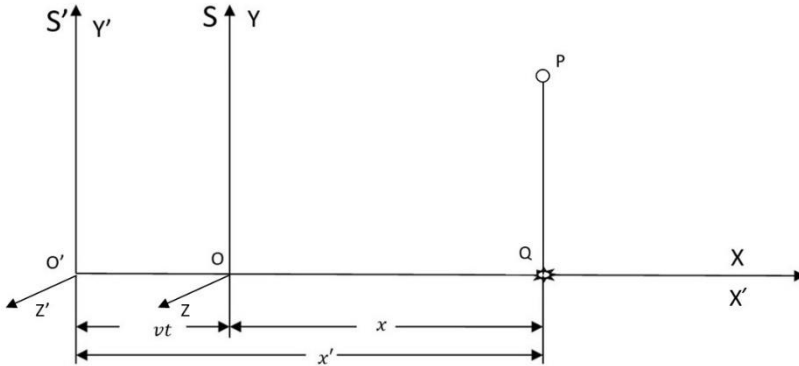


Figure: 19.3

Here only difference is  $S'$  is moving away from the  $P$  and  $Q$ .

Relations would be like,

$$x' = \gamma(x + vt) \dots \dots \dots (19.11)$$

Here  $\gamma$  is the constant.

Now using first postulates of the special theory of relativity.

(using subject interchangeability)

$$x = \gamma(x' - vt') \dots \dots \dots (19.12)$$

This would result in,  
Lorentz transformation equations,

$$x' = \frac{x + vt}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$y' = y$$

$$z' = z$$

$$t' = \frac{t + xv/c^2}{\sqrt{1 - \frac{v^2}{c^2}}}$$

These are same as inverse Lorentz transverse equations.

Remember my objection for the equation no 19.6

That objection intended to say that it is a root for errors and paradoxes. If we are trying to find relativistic relation by applying observer specific constancy of the speed of light, then adding a constant gamma is wrong logically. There should be a following relation only.

$$x' = x - vt \dots \dots \dots (19.3)$$

and

$$x = x' + vt \dots \dots \dots (19.4)$$

Now,

$$x = ct$$

And

$$x' = ct' = x - vt$$

$$ct' = ct - vt$$

$$t' = \frac{ct - vt}{c}$$

$$t' = t \frac{c - v}{c}$$

Now

$$x' = ct'$$

put the value of  $x'$  &  $t'$  in this equation

$$\begin{aligned} x' &= ct' \\ x' &= c \cdot t \frac{c-v}{c} \\ x' &= t(c-v) \end{aligned}$$

Here  $v < c$ .

So, relativistic transformation equations are,

$$x' = t(c-v) \quad \dots \dots \dots (19.13)$$

$$y' = y$$

$$z' = z$$

$$t' = t \frac{c-v}{c} \quad \dots \dots \dots (19.14)$$

If moving reference frame is moving away from the source of the light then,

relativistic transformation equations would be,

$$x' = t(c+v)$$

$$y' = y$$

$$z' = z$$

$$t' = t \frac{c+v}{c}$$

This would show a time contraction.

So, in a case where something moves away first, then came back, as a sum of event there would be following change in a relative time.

$$2t' = t \frac{c+v}{c} + t \frac{c-v}{c}$$

$$2t' = t \frac{c+v+c-v}{c}$$

$$2t' = t \frac{2c}{c}$$

$$2t' = 2t$$

$$t' = t$$

So, when object comes back there would not be any net time dilation or time contraction.

So, really observer specific constancy of the light doesn't yield any absolute time dilation, that is a wrong calculation of the constant  $\gamma$  that results in such wrong calculation of the time dilation. Mathematics doesn't support it.

Let's see why.

Following equation gives the value of dilated time in moving reference frame,

$$t' = \frac{t - \frac{xv}{c^2}}{\sqrt{1 - \frac{v^2}{c^2}}} \quad \dots \dots (19.8)$$

Time dilation:

If we put a clock at the origine of the cartesian plane attached to the moving  $S'$  reference frame, then  $x$  would be Zero.

Now put  $x = 0$  in the equation 19.8.

$$\begin{aligned} t' &= \frac{t - \frac{(0)v}{c^2}}{\sqrt{1 - \frac{v^2}{c^2}}} \\ t' &= \frac{t - 0}{\sqrt{1 - \frac{v^2}{c^2}}} \\ t' &= \frac{t}{\sqrt{1 - \frac{v^2}{c^2}}} \\ t' &= \gamma t \end{aligned}$$

So, if the clock moves with a speed equal to  $v$  in relation to observer, time  $t'$  would be slowed down in a clock as per the equation  $t' = \gamma t$ , which is considered as a relativistic time dilation.

This is calculations according to special relativity.

Criticism:

Criticism About time dilation.

In figure 19.3 if we want to put a clock at the origin of the  $S'$  frame.

Then value of the  $x$  becomes zero and we get time dilation equation as above.

But we have used in the derivation of the Lorentz transformation that  $x = ct$ .

So, if we take  $x = 0$  then  $ct$  becomes zero.

If  $ct = 0$  then  $t$  must be 0 because  $c$  is the constant and it can't be zero.

If  $t$  is zero, then  $t'$  also becomes zero and no event can happen in a figure 19.3 and all objects remain aligned on one vertical line on  $Y$  axis. Time dilation can't be defined in this situation.

So, showing time dilation by taking  $x = 0$  is violation of the laws of the mathematics. Even without mathematics if we try to understand that  $x$  is a distance that light travels in a time  $t$  and if a distance is zero then time taken for the light to travel must be zero. If we don't consider here  $t$  equal to zero than we are trying to say that light takes more time to travel a no distance! So, assuming a clock on the point of observer is violating requirements for the Lorentz transformation and it don't yield anything logically sound.

Similarly, calculation of Lorentz Fitzgerald length contraction is also wrong. Within the context of the special theory of relativity also and there should be new calculation if we reject the derivation of the constant  $\gamma$ .

What this means is that time dilation and length contraction are relative thing even within the scope of special relativity and Lorentz transformation and those can be appreciated only when two observers observe object away from them. Superimposing that object on any one of the two observers violates mathematics. If we reject the derivation of the constant  $\gamma$  and accept simple relativistic equations for observer specific constancy of the light, there could be a derivation of relative time contraction and relative length dilation also.

Photon clock showing just a relativistic time dilation is also not justifiable because if we change the arrangement in a

photon clock it becomes able to show relative time contraction also. Photon clock type one (used to explain relativistic time dilation) and photon clock type two showing time contraction are explained ahead in this book.

So, Major mistake is accepting following relations true.

$$x' = Y(x - vt) \dots \dots \dots (19.5)$$

$$x = Y(x' + vt') \dots \dots \dots (19.6)$$

This is the mistake at a root. Derivation of factor  $Y$  is wrong.

Another mistake is violating limitations of the Lorentz transformation to derive Time dilation and length contraction.

## Mistakes in the calculation of the Lorentz Fidge Gerald's length contraction.

Let me show you mistakes in the calculation of the Lorentz Fidge Gerald's length contraction.

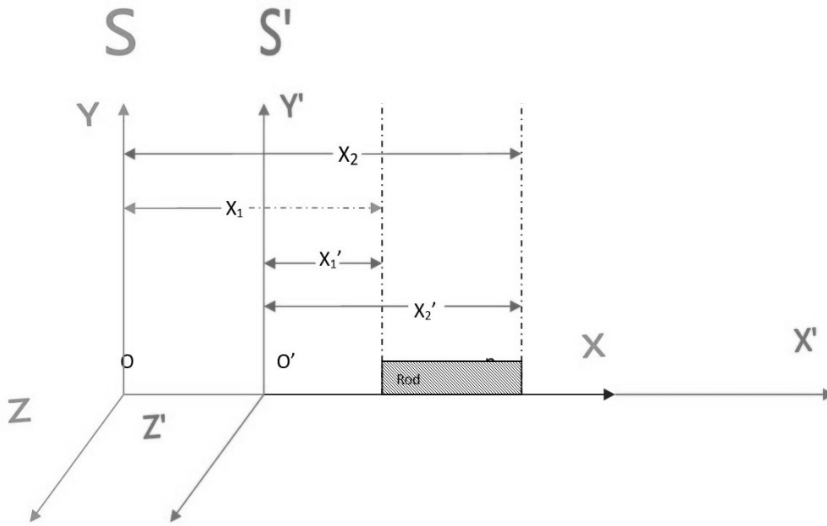


Figure 19.4

$S'$  inertial reference frame is moving with uniform rectilinear velocity " $v$ " along the X axis.

Rod is placed on the positive side of the cartesian plane aligned to the X axis of the  $S$  inertial reference frame. In stationary inertial reference frame  $S$ , distance of proximal end of Rod from the origin of the reference frame is  $x_1$  and distance of the distal end of the rod is  $x_2$ , Proper length of Rod in  $S$  is  $l_0$ .

In moving inertial reference frame  $S'$ , distance of proximal end of Rod from the origin of the reference frame  $S'$  is  $x_1'$  and distance of the distal end of the rod is  $x_2'$ . So, contracted length of the Rod in  $S'$  is  $l$ .

Derivation of the Lorentz Fitz Gerald length contraction using Lorentz transformation equations is done in the special theory of the relativity as follows.



Lorentz transformation equation for  $x$  co-ordinate is,

$$x' = \frac{x - vt}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.9)$$

$$x = \frac{x' + vt'}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.10)$$

In a figure 19.4, a rod is put along the X axis. Length of the rod in relation to stationary reference frame is proper length  $l_0$   
 Length of rod in relation to moving reference frame is contracted length  $l$

Proper length  $l_0 = x_2 - x_1 \dots \dots \dots (19.15)$

Contracted length  $l = x_2' - x_1' \dots \dots \dots (19.16)$

Now let put value of (19.10) in the equation no (19.15)

$$l_0 = x_2 - x_1$$

$$l_0 = \frac{x_2' + vt_2'}{\sqrt{1 - \frac{v^2}{c^2}}} - \frac{x_1' + vt_1'}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$l_0 = \frac{x_2' + vt_2' - x_1' - vt_1'}{\sqrt{1 - \frac{v^2}{c^2}}}$$

But, both length  $x_2'$  and  $x_1'$  are measured simultaneously at a time  $t'$  in moving inertial reference frame  $S'$ .

(note: this line is used to derive length contraction traditionally, though this is not possible, but we are continuing for a while to see calculations)

So,  $t_1' = t_2' = t'$

So,

$$l_0 = \frac{x_2' + vt' - x_1' - vt'}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$l_0 = \frac{x_2' - x_1'}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$l_0 = \frac{l}{\sqrt{1 - \frac{v^2}{c^2}}} \quad \dots \dots \dots (19.17)$$

And,

$$l = l_0 \sqrt{1 - \frac{v^2}{c^2}} \quad \dots \dots \dots (19.18)$$

Here we can see that for described value of  $v$ ,  $l$  will always be less than  $l_0$

Because value  $\sqrt{1 - \frac{v^2}{c^2}}$  will always be less than 1 for  $0 < v < c$  value of  $v$ .

So, Length contraction is  $\Delta l$

$$\Delta l = l_0 - l$$

$$\Delta l = l_0 - l_0 \sqrt{1 - \frac{v^2}{c^2}}$$

$$\Delta l = l_0 (1 - \sqrt{1 - \frac{v^2}{c^2}})$$

Note: Here I have shown a mistake in the logic applied by putting a note in a bracket, but here the calculation of Lorentz Fitzgerald length contraction is shown as it is described in the special theory of relativity by Professor Albert Einstein. Criticism is ahead.

Lorentz Fitzgerald length contraction recalculated with correction of mistakes in original calculations.

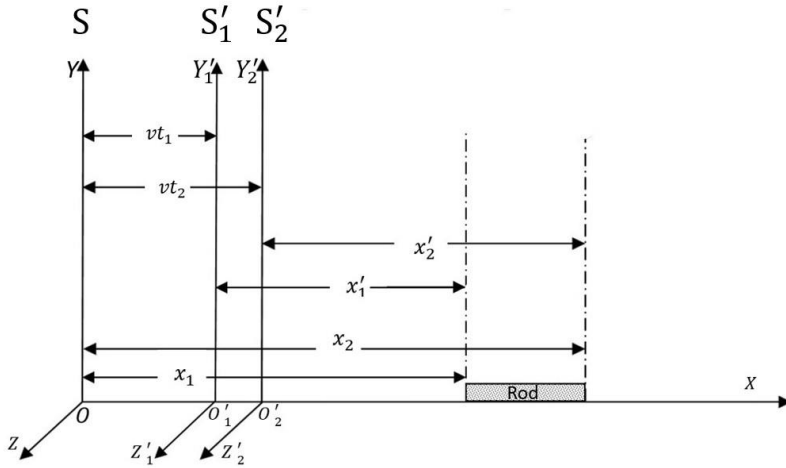


Figure 19.5

Here a cartesian plane is aligned to the steady inertial reference frame  $S$ .  $S'$  inertial reference frame is moving with uniform rectilinear velocity " $v$ " in the direction of an  $X$  axis. Two situations of the  $S'$  are shown to get  $x$  values for proximal and distal and of the Rod.

Rod is placed on  $X$  axis. In a stationary reference frame  $S$ , Co-ordinates of the proximal end of the Rod is  $(x_1, 0, 0, t_1)$  and co-ordinates of the distal end is  $(x_2, 0, 0, t_2)$

Now,

Lorentz transformation equations are,

$$x' = \frac{x - vt}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.9)$$

$$x = \frac{x' + vt'}{\sqrt{1 - \frac{v^2}{c^2}}} \dots \dots \dots (19.10)$$

In a figure above the Rod is put along the  $X$  axis. Length of the rod in relation to stationary reference frame is proper length  $l_0$  Length of the rod in relation to moving reference frame is contracted length  $l$

Proper length  $l_0 = x_2 - x_1 \quad \dots \dots \dots (19.15)$

Contracted length  $l = x_2' - x_1' \quad \dots \dots \dots (19.16)$

Now let's put value of (19.10) in the equation no (19.16).

$$\begin{aligned}
 l &= x_2' - x_1' \\
 l &= \frac{x_2 - vt_2}{\sqrt{1 - \frac{v^2}{c^2}}} - \frac{x_1 - vt_1}{\sqrt{1 - \frac{v^2}{c^2}}} \\
 &= \frac{x_2 - vt_2 - x_1 + vt_1}{\sqrt{1 - \frac{v^2}{c^2}}} \\
 l &= \frac{(x_2 - x_1) - (vt_2 - vt_1)}{\sqrt{1 - \frac{v^2}{c^2}}} \\
 l &= \frac{(x_2 - x_1) - \left(\frac{v}{c} ct_2 - \frac{v}{c} ct_1\right)}{\sqrt{1 - \frac{v^2}{c^2}}} \\
 l &= \frac{(x_2 - x_1) - \frac{v}{c} (ct_2 - ct_1)}{\sqrt{1 - \frac{v^2}{c^2}}} \\
 &= \frac{(x_2 - x_1) - \frac{v}{c} (x_2 - x_1)}{\sqrt{1 - \frac{v^2}{c^2}}}
 \end{aligned}$$

$$= \frac{l_0 - \frac{v}{c}l_0}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$= l_0 \frac{(1 - \frac{v}{c})}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$= l_0 \frac{\sqrt{1 - \frac{v}{c}}}{\sqrt{1 + \frac{v}{c}}} * \frac{\sqrt{1 - \frac{v}{c}}}{\sqrt{1 - \frac{v}{c}}}$$

$$l = l_0 \frac{\sqrt{1 - \frac{v}{c}}}{\sqrt{1 + \frac{v}{c}}} \quad \text{here } v < c$$

$$l = l_0 \sqrt{\frac{1 - \frac{v}{c}}{1 + \frac{v}{c}}} = l_0 \sqrt{\frac{\frac{c-v}{c}}{\frac{c+v}{c}}}$$

$$l = l_0 \sqrt{\frac{c-v}{c+v}}$$

Above equation shows the value of contracted length  $l$ .

Length contraction is  $\Delta l$

$$\Delta l = l_0 - l$$

$$\Delta l = l_0 - l_0 \sqrt{\frac{c-v}{c+v}}$$

$$\Delta l = l_0 \left(1 - \sqrt{\frac{c-v}{c+v}}\right) \quad (\text{here, } v < c)$$

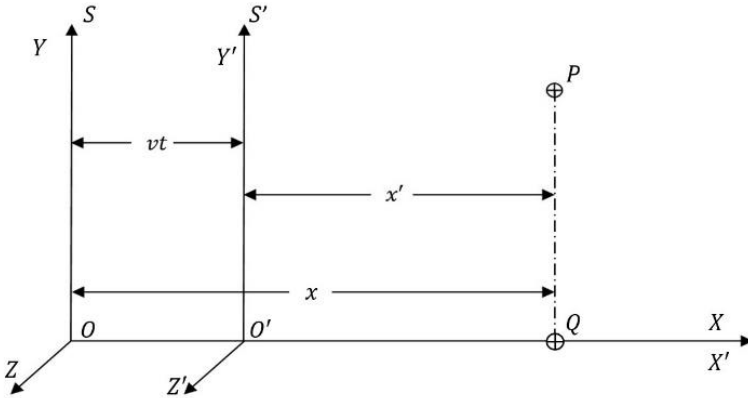
In the Special theory of Relativity,

$vt_2$  and  $vt_1$  are considered same with the argument that  $x_2'$  and  $x_1'$  are measured simultaneously, so  $t_2$  and  $t_1$  remains same and  $vt_2$  becomes equal to  $vt_1$ . So, that gets cancelled during calculations.

But The phrase " $x_2'$  and  $x_1'$  are measured simultaneously" is an impossible task for  $x_2 \neq x_1$ .

Let's understand this.

See the figure 19.2 in the Lorentz transformation.



Here,  $vt$  is the distance of  $Y'$  axis of the  $S'$  frame from the  $Y$  axis of the  $S$  frame.

This is the distance that reference frame  $S'$  travels along the  $X$  axis in a time  $t$ .

Now what is this time  $t$ ?

This is the time taken by photon traveling with the speed  $c$  from  $Q$  to  $O$  and distance equal to the value of co-ordinate  $x$  of the point  $P$  in reference frame  $S$ .

And,

$$ct = x$$

Here  $c$  is the constant, so, value of  $t$  is depending on the value of  $x$ .

As the value of  $x$  changes, value of the  $t$  will also change.

If we consider the value of  $v$  constant,

when we measure  $x'$ , then  $vt$  depends on the value of  $x$ .

$$vt = xv/c$$

Means a value of  $x$  determines the value of  $t$  in  $ct$  and that value of  $t$  is there in  $vt$  which affects the value of  $vt$  and thus value of  $x'$  also.

So, for,

$$x_1 \neq x_2 \Leftrightarrow t_1 \neq t_2 \Leftrightarrow vt_1 \neq vt_2 \Leftrightarrow x - vt_1 \neq x - vt_2 \Leftrightarrow x'_1 \neq x'_2$$

Lorentz transformation equations are equations which are made to calculate co-ordinates of one point only at one time, where time  $t = x/c$ . If  $x$  varies, then time  $t$  will also vary according to the value of  $x$ , you can't choose that time  $t$  according to your free will for particular  $x$  and can't choose same  $t$  for two different  $x$  values.

So, we can't measure both  $x_2$  and  $x_1$  simultaneously. Because when we apply Lorentz transformation Equation for the point  $x'_2$ , the value of  $x_2$  will be equal to  $ct_2$  where  $t_2$  will be specific for  $x_2$ . In that time  $t_2$ , the moving reference frame  $S'$  will move a distance  $vt_2$ , which is also a specific distance depending on the value of  $t_2$  and so, also depending on the value of  $x_2$ .

when we apply Lorentz transformation Equation for point  $x'_1$ , the value of  $x_1$  will be equal to  $ct_1$  where  $t_1$  will be specific for  $x_1$ . In that time  $t_1$  the moving reference frame  $S'$  will move a distance  $vt_1$ . which is also a specific distance depending on the value of  $t_1$  and so, also depending on the value of  $x_1$ .

So, the value of  $vt_2$  can't be equal to  $vt_1$ , means a position of reference frame  $S'$  can't be at same place when we are applying the Lorentz transformation equations for two different points having value of  $x$  co-ordinates different from each other.

So, measuring distance for proximal and distal end of the rod simultaneously in a moving reference frame is not possible, because when we apply Lorentz transformation equation value of  $t'$  will be different for different  $x$  values when velocity  $v$  of the moving reference frame will remain constant. So, we can

calculate value of  $x_1'$  and  $x_2'$  for respective value  $x_1$  and  $x_2$  at same velocity  $v$ , but we can't calculate them at the same time  $t$ .

Let's think about the length contraction described in the book "Relativity, the Special and the General theory by Albert einstein, 1916"

Following is described in that book

∴-

"There, rod is put in a moving reference frame with proximal end on the (0,0). There, time  $t_1$  becomes 0, and time  $t_2$  becomes  $t$  and,

$$\text{contracted length is } l = x_2 - 0 = x_2$$

$$\text{proper length is } l_0 = x_2' - x_1' = \gamma(x_2 - vt - x_1 + vt)$$

And so,

$$l_0 = \gamma(x_2 - x_1)$$

$$l_0 = \gamma(x_2 - 0)$$

$$l_0 = \gamma x_2$$

$$l_0 = \gamma l$$

$$l = \frac{l_0}{\gamma}$$

$$l = l_0 \sqrt{1 - \frac{v^2}{c^2}}$$

∴-

So, there we can find contracted length as above. We could not see the mistake in the calculation there because there  $t_1$  is taken as 0 and  $vt$  is canceled anyhow by taking  $t_2 = t = 0$ .

The line is there, "Lorentz transformation value of both end of the rod at time  $t = 0$  is as below"



Means in that case, in the book of the theory of relativity, it is mentioned that the distance of the distal end of the rod placed in a moving reference frame can be calculated by Lorentz transformation equation in relation to stationary reference frame  $S$  by taking  $t = 0$  value in the  $vt$

This is the mistake, if proper distance  $x$  is not zero, then  $ct$  cannot be zero.

If  $ct$  cannot be zero, then  $vt$  cannot be zero for  $v$  more than 0. So, by using Lorentz transformation equation one cannot take the value of  $t = 0$  for the point having value of  $x$  coordinate more than zero. So, mistake is also there in the Book of Relativity by albert Einstein.

Please note that I am not agree with the corrected equations shown above for Lorentz Fietz Gerald's length contraction because as described ahead there is a wrong calculation in the derivation of the constant  $\gamma$ .

What could be the proper equation for relativistic length contraction by accepting both postulates of the theory of the special relativity?

It could be as follow.

relativistic transformation equations are,

$$x' = t(c - v) \quad \dots \dots \dots (19.13)$$

$$y' = y$$

$$z' = z$$

$$t' = t \frac{c - v}{c} \quad \dots \dots \dots (19.14)$$

So, here,

$$\text{Proper length} \quad l_0 = x_2 - x_1 \quad \dots \dots \dots (19.15)$$

$$\text{Contracted length} \quad l = x_2' - x_1' \quad \dots \dots \dots (19.16)$$

Now let's put value of (19.13) in the equation no (19.16).

$$\begin{aligned} l &= x_2' - x_1' \\ l &= t_2(c - v) - t_1(c - v) \\ &= t_2c - t_2v - t_1c + t_1v \\ l &= ct_2 - ct_1 - (vt_2 - vt_1) \\ l &= (x_2 - x_1) - (vt_2 - vt_1) \end{aligned}$$

$$l = l_0 - (vt_2 - vt_1)$$

Above equation shows the value of contracted length  $l$ .

Length contraction is  $\Delta l$

$$\Delta l = l_0 - l$$

$$\Delta l = l_0 - (l_0 - (vt_2 - vt_1))$$

$$\Delta l = v(t_2 - t_1) \quad (\text{here, } v < c)$$

This could be the proper calculation for the relativistic apparent length contraction in a case where moving reference frame is moving toward the source of the light or observed subject.

There would be a length elongation in case of the moving observer is moving away from the observed subject or the source of the light.

So, as I have cleared points above the time dilation equation describe in the Special theory of Relativity is wrong and there should be a time contraction when observer moves away from the observed thing. Similarly, there should be length elongation also if we consider observer specific constancy of the light true. If we consider Aether as an existence, then the Relativity in relation to Aether would be different From the Special theory of Relativity.

## Photon clocks

Let me cover the topic of the photon clocks.

I have told ahead in this chapter that use of the photon clock example to show a time dilation is inappropriate. This is explained below.

There are two types of photon clocks described below. Photon clock type 1 is a classic photon clock used in the Special theory of Relativity where it shows example of the relativistic time dilation with simple calculations while photon clock type 2 is an assembly that enables us to derive a time contraction which is not described in the special theory of the relativity.

## Photon clock type 1

Photon clock type 1 explains the time dilation concept in a simple manner.

(This chapter is here to understand an example of photon clock used widely in support of the special theory of relativity. This chapter is essential to understand photon clock type II explained ahead in book. This chapter is given from the perspective of special relativity theory. Author don't agree with all these.)

Here showing a figure of a photon clock type1.

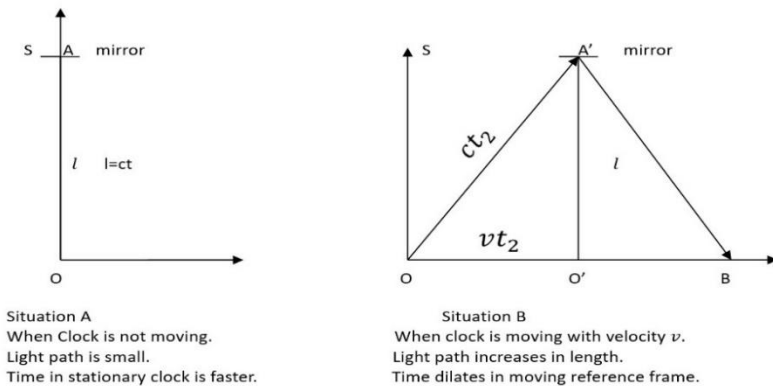


Figure 19.6

Simply from these figures, we can say that light path for the stationary observer increases when clock is moving in relation to stationary observer, speed of light  $c$  has to remain same. So, for compensation, time has to get slow down or has to be dilated

Please understand here that,  $t_2$  is the dilated or slowed down time, means it is the time what clock takes to complete one half tick when moving. Means if time dilates then  $t_2$  will be greater than  $t$ . While stationary clock will complete 1 tick for 1 second, there will be less than one second in moving clock.

Here,

As shown in Situation A,  $S$  is a stationary inertial reference frame. Clock is stationary with reference to  $S$  and also stationary in relation to observer. Light travels from  $O$  to  $A$ , strikes mirror at  $A$  and come back to  $O$ . Time to travel on one directional path for light is  $t$ .

Photon travels distance  $l = OA$  in a time  $t$ .

Speed of light is  $c$ ,

So,

$$l = ct \dots \dots \dots (p.1)$$

Now,

As shown in Situation B.

$S$  is stationary reference frame and photon clock is moving with velocity  $v$  along the positive  $X$  axis in reference to stationary observer. Now stationary observer from  $S$  reference frame will see the situation as shown in figure for situation B. Light travels from  $O$  to  $A'$ , strikes mirror at  $A'$  and come back to  $B$ . Time in moving clock is  $t_2$  in which photon travels  $OA'$  distance in situation B. Photon travels distance  $OA' = ct_2$  in a time  $t_2$ . Clock moves a distance  $OO'$  in a time  $t_2$  with the uniform rectilinear velocity  $v$  along with  $X$  axis.  $t_2$  is a time that photon takes to move half of the path. Value of  $t_2$  will always be greater than value of  $t$ . So, it can be said that the clock in moving reference frame will show less time compared to clock at rest.

So,

$$OO' = vt_2$$

$$OA' = ct_2$$

Applying Pythagoras theorem.

$$OA'^2 = OO'^2 + O'A'^2$$

$$c^2t_2^2 = v^2t_2^2 + l^2$$

Putting value of  $l$  from equation no (p.1)

$$c^2t_2^2 = v^2t_2^2 + l^2$$

$$c^2 t_2^2 = v^2 t_2^2 + c^2 t^2$$

$$t_2^2 (c^2 - v^2) = c^2 t^2$$

$$t_2^2 = \frac{c^2 t^2}{(c^2 - v^2)}$$

$$t_2^2 = \frac{t^2}{\frac{(c^2 - v^2)}{c^2}}$$

$$t_2^2 = \frac{t^2}{\left(1 - \frac{v^2}{c^2}\right)}$$

$$t_2 = \frac{t}{\sqrt{1 - \frac{v^2}{c^2}}}$$

As we know that  $\frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$  is a factor  $\gamma$ ,

$$t_2 = \gamma t.$$

Let me show an example to understand the dilation of the time.

If clock is moving with the velocity equal to  $c/2$  means with the speed half of the speed of the light,  
Then,

$$v = \frac{c}{2}$$

$$t_2 = \frac{t}{\sqrt{1 - \frac{(c/2)^2}{c^2}}}$$

$$t_2 = \frac{t}{\sqrt{1 - \frac{c^2}{4c^2}}}$$

19. Criticism of Relativity and Relativity in relation to Brahm.

$$t_2 = \frac{t}{\sqrt{1 - \frac{1}{4}}} = \frac{t}{\sqrt{0.75}} = 1.16t$$

$$t_2 = 1.16t$$

Moving clock will take more time to tick and it will be slower.

$$t = \frac{t_2}{1.16} = 0.86$$

This means for every second on the stationary clock moving clock will pass 0.86 seconds.

## Photon clock Type-2

Now, I would like to show a photon clock type 2 that can show time contraction.

Photon clock Type-2 illustration.

Image hidden

Figure 19.7

Here is the illustration of the photon clock type 2. Light source is at C, from where photon arises and travels toward B, where it gets reflected by mirror, and moves to reach to the point A. Total Distance travelled by light in a time  $t$  in nonmoving clock for stationary observer is  $CBA = L = ct$ . Angle BCA is  $60^\circ$ , angle BAC and angle ABC are also of the  $60^\circ$ . Angle BOA is right angle. So, Distances,

$$AB=BC=AC=ct/2=L/2.$$

$$\text{Distance } AO = 1/2 * AC = L/4.$$

Height of the clock is  $l$  which is the straight minimum distance between  $X$  axis and mirror. Motion of light is two dimensional and on the path CBA.



Here, on the next page two reference frames are illustrated in a figure 19.8.

Reference frame  $S$  is a situation A

Image hidden

Figure 19.8

In a situation A, photon clock is not moving in reference to stationary observer in reference frame  $S$ . CBA is the path of photon, which photon completes in a time  $t$ . Length CBA is equal to  $L$ .  $L = ct$ . O is the point on  $X$  axis and BO is the minimum distance between  $X$  axis and  $Y$  axis. B is the point at where mirror is placed, and photon get reflected from this point at the height  $l$  towards the point A.  $OB = l$ .

So, here height of the photon clock is  $l$  which will remain same even when the clock will move in the case of situation B. The path of the photon makes a perfect triangle along with  $X$  axis, with each corner made up of  $60^\circ$ , So in a figure 19.7,

$$AB=BC=AC=2AO=2OC=L/2$$

$$\text{So, } AO=L/4$$

Light travels from C to B and then B to A. Total length of light path from C to A, via B is L, which light travels in a time  $t$  with the constant speed of light  $c$ .

$$\text{So, Distance } CBA = L = ct.$$

$$\text{Distance } AO = L/4 = ct/4$$

Let's find out the relation between  $l$  and  $ct$ .

In right triangle AOB,  $\angle AOB$  is the right angle.

So, according to Pythagoras theorem.

$$AB^2 = AO^2 + OB^2$$

$$\left(\frac{L}{2}\right)^2 = \left(\frac{L}{4}\right)^2 + l^2$$

$$\frac{L^2}{4} = \frac{L^2}{16} + l^2$$

$$\frac{L^2}{4} - \frac{L^2}{16} = l^2$$

$$l^2 = \frac{4L^2 - L^2}{16}$$

$$l^2 = \frac{3L^2}{16}$$

$$l = \frac{\sqrt{3}}{4}L$$

$$l = \frac{\sqrt{3}}{4}ct$$

$$ct = \frac{4l}{\sqrt{3}}$$

Now, Let's think about situations B.

**Situations B.**

In situation B, Photon clock with its reference frame  $S'$  moves with velocity  $v$  along with the Positive  $X$  axis. It travels a distance  $x$  in a time  $t$  with the velocity  $v$  along the Positive  $X$  axis.

So,

$$x = vt = AA' = CC'.$$

This is the distance that clock moves in time  $t$  on positive  $X$  axis with the velocity  $v$ . Photon travels the distance  $L'$  in a time  $t_2$  which is equal to  $ct_2$  when speed of the photon is  $c$ . Here time is denoted as  $t_2$  and not  $t$ , because photon has an observer specific constant speed, and here when clock moves, the path distance of photon for the stationary observer becomes short and to keep speed of the light same there would be a time contraction here which is reflected as a contracted time  $t_2$ . Here photon travels less distance for the stationary observer in a situation B compared to a distance travelled by photon in a situation A. You can see this path difference in the figure 19.8. You can see in a figure that base of the triangle formed by photon path in a moving clock appears contracted for the stationary observer as shown in in  $S'$  frame. Length  $A'C$  is less than  $AC$ . The difference is equal to  $vt$  which is equal to  $AA' = CC'$ .

So, length of the base of the triangle in a situation B will be  $A'C$ ,

So,

$$A'C = AC - vt$$

$$A'C = \frac{ct}{2} - vt$$

So, in a situation B, height of the photon clock doesn't change, and it remains  $l$ .

Here, right triangle  $A'B'P'$  formed with right angle  $\angle A'P'B'$ .

$A'P'$  is half of the  $A'C$ .

$$A'P' = \frac{1}{2}A'C = \frac{1}{2}\left(\frac{ct}{2} - vt\right)$$

$$A'P' = \frac{ct}{4} - \frac{vt}{2}$$

according to Pythagoras theorem.

$$(A'B')^2 = (A'P')^2 + (B'P')^2$$

$$\left(\frac{l'}{2}\right)^2 = \left(\frac{ct}{4} - \frac{vt}{2}\right)^2 + l^2$$

$$\left(\frac{ct_2}{2}\right)^2 = \left(\frac{ct}{4} - \frac{vt}{2}\right)^2 + l^2$$

Let's put the value of  $l^2$ .

$$l^2 = \frac{3c^2t^2}{16}$$

So,

$$\left(\frac{ct_2}{2}\right)^2 = \left(\frac{ct}{4} - \frac{vt}{2}\right)^2 + \frac{3c^2t^2}{16}$$

$$\frac{c^2t_2^2}{4} = \left(\frac{c^2t^2}{16} - \frac{ctvt}{4} + \frac{v^2t^2}{4}\right) + \frac{3c^2t^2}{16}$$

$$\frac{c^2t_2^2}{4} = \frac{1}{4} \left[ \left( \frac{c^2t^2}{4} - \frac{ctvt}{1} + \frac{v^2t^2}{1} \right) + \frac{3c^2t^2}{4} \right]$$

$$c^2t_2^2 = \left(\frac{c^2t^2}{4} - \frac{ctvt}{1} + \frac{v^2t^2}{1}\right) + \frac{3c^2t^2}{4}$$

$$c^2t_2^2 = \frac{c^2t^2}{4} - ctvt + v^2t^2 + \frac{3c^2t^2}{4}$$

$$c^2t_2^2 = c^2t^2 - ctvt + v^2t^2$$

$$t_2^2 = t^2 - \frac{vt^2}{c} + \frac{v^2t^2}{c^2}$$

$$t_2^2 = t^2 \left( 1 - \frac{v}{c} + \frac{v^2}{c^2} \right)$$

$$t_2 = t \sqrt{\frac{v^2}{c^2} - \frac{v}{c} + 1} \dots\dots\dots (Q)$$

(We neglected negative value for time here because time don't move backward here.)

This is the relationship between varied time  $t_2$  with time  $t$  in stationary clock.

Here path contracts, So, time will also contract for compensation to keep the speed of light  $c$  constant when clock is moving with velocity  $v$ .

So, for each second in a stationary clock, time passing in a moving clock would be more than a second, means moving clock will tick faster. Means moving clock will take less time to complete a single tick.

So, here  $t_2$  will be smaller than  $t$  in contrast to Type-1 Photon clock, where time dilates as shown in a topic just before this topic.

$t_2$  is a time taken to complete 1/2 tick. When it is smaller, clock shows more time and when it is bigger clock shows less time.

This was a calculation according to the Special theory of Relativity and this prediction is not mentioned anywhere in the special theory of the relativity.

Here the point is, if there is a moving inertial reference frame with a light moving with its source in that reference frame and there is a stationary observer in a stationary inertial reference frame then it is not always necessary that there will be an elongated path of that light for the stationary observer compared to path observed by observer in moving reference frame. reverse is also possible as shown in this Photon clock type 2 example. Assembly of the photon clock is a theoretical and we just need a half tick so reflecting back of the light photon for further tick is not required here, but it can be achieved by putting vertical mirror glass at a point A and putting another mirror below at a distance  $l$  which should be aligned in a line and parallel to the mirror at B to reflect light back again at the source. So, according

to the relative direction of the light beam there can be a variation on the length of the observed path by stationary observer when source of the light is moving in relation to that observer. Application of the single time dilation equation is not possible here for all possibilities depending on the direction of the light beam. So, example of the photon clock to show that time dilation is wrong.

## Relativity in relation to Aether.

Second Postulate of the special theory of Relativity “*Speed of light is constant for the observer irrespective of the reference frames and relative speed of the source of light.*” Can not be taken as it is in relation to Aether-Brahm theory, but it should be transformed as “*speed of the passage of the time depends on the relative motion of the mass in relation to aether and also depends on the relative balance of the flux causing push effect.*” This explains time dilation in a moving inertial reference frame and also a time dilation in a gravitational field. The second postulate of the special theory of Relativity “*Laws of physics are same and can be stated in their simplest form in all inertial frames of reference*” is not competent with this theory because inertial reference frame has modified laws according to its motion in relation to aether. For example, if we imagine a reference frame moving with the speed of aethereal linear wave, then there could not be a possibility of matter within that reference frame which is a different law than a reference frame moving slower in relation to Aether where existence of matter is possible. So, the world doesn’t remain same to subjects in all kinds of motions. Time dilation is neither a bilateral relation nor dependent on relative motions of masses with each other, it just depends on the relative linear motion of the matter in relation to Aether-Brahm and flux balance. One also has to think about relative momentum in relation to Aether and Brahm only.

Passage of time:

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## Derivation of aethereal relativistic transformation equations

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### **Time dilation:**

Dilated time *is*  $t'$

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This also explains why speed of matter equal to or more than a speed of the linear wave in Aether can't be possible.

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## Explanation of the observations and predictions of the theory of Relativity with Aether-Brahm theory.

### (I) Gravitational Lensing.

Two possibility explains this.

1. Gravity affects light because light is a material thing. Flux that causes push gravity also pushes light photon and thus gravitational lensing works and is not due to curvature in spacetime.
2. Aethereal units constricts and dilates according to gravitational push and mass. Thus, arrangement of aethereal units in and around mass creates geodesics which direct the path of the light wave.

So, Aether-Brahm theory can harbour the characteristic of the gravitational lensing still it doesn't determine the nature of the light.

### (II) Blackholes, Neutron stars and singularity.

Because this theory accepted push gravity it doesn't allow limitless gravity. This limitation of gravitational push explains quantum nature of the mass. It explains weak force. It explains supernova. Thus, limitless vicious gravity has no role in Aether-Brahm theory and thus relativistic Blackhole has no place in his theory, but a highly condensed mass could be there within a limit of certain amount of mass create due to direct pressure of outer mass due to push on that outer mass. Means Though Gravity is weak inside the core of Star or at the centre of the Galaxy, Pressure is higher there due to direct push of outer material. If such pressure crushes an Elemental mass than it be converted to more condensed mass made up with subatomic particles and smaller units. But that is not a singularity.

(III) Worm holes:

No relativistic black holes so no relativistic Wormholes.

But if we are talking about a condensed areas within Aether then it is possible.

(IV) Time Travel:

If we are talking about time ravel with slowing down of time with help of time dilation at high speed or in extreme Gravity, then it is possible.

## 20. Brahm without matrix substance Aether layer

As described in the introduction at the beginning of the book, this chapter provides a model that don't uncloses substance-aether-medium and describes only Brahm without Aether to represent all existences including light with dual nature.

If this is possible to describe world without an Aether than why Aether was included ahead in this book? It is done because possibility of that can't be ruled out. But still Aether is not essential to describe the world with Brahm theory.

So, here is a Brahm without Aether that can explain whole world without Aether.

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## 21. Substance Aether in a liquid state.

The possibility of Aether substance in a liquid state is also there. The process of the formation of the Aether at various scale is show in the chapter 2, “Honi”. This substance Aether is described in the Elastic state. The possibility of Elastic fluid like state is also there. The state of Aether depends on the nature of the units of Aether. Prediction of all characteristics of Aether unit is not possible with insights generated with this theory of Brahm.

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## 22. Kinetic Theory of Gravity, its history and criticism

### Kinetic theory of gravitation by Nicolas Fatio de Duillier

First known scientist who gave the well detailed explained kinetic theory of gravity was Nicholas Fatio de Duillier. Shadow gravity theory of Nicolas Fatio de Duillier:

This theory is probably the best-known mechanical explanation.



It was first developed by **Nicolas Fatio de Duillier** in 1690. Later, it was rediscovered by others, including **Georges-Louis Le Sage** (1748), **Lord Kelvin** (1872), and **Hendrik Lorentz** (1900).

However, it faced criticism from **James Clerk Maxwell** (1875) and **Henri Poincaré** (1908). Nicolas Fatio de Duillier (1664–1753) was a Swiss mathematician, natural philosopher, and a close associate of Isaac Newton.

#### Nicolas Fatio de Duillier

He developed one of the earliest and most detailed kinetic theory of gravitation.

Fatio's work on gravity was primarily articulated in his unpublished manuscript, *De la Cause de la Pesanteur* (On the Cause of Gravity), composed around 1690. While never formally published in his lifetime, its ideas were circulated in

correspondence and discussed among prominent scientists of the era, including Christiaan Huygens and Isaac Newton.

Here's a breakdown of Fatio's kinetic theory of gravitation:

### The Core Idea: Push-Shadow Gravity

Fatio's theory is a classic example of "**pushing gravity**" or "**shadow gravity**". It sought to explain the apparent attraction between massive bodies not as an inherent, mysterious pull, but as the result of a net *push* from an external, unseen medium.

1. **The Aethereal Sea of Corpuscles:** Fatio proposed that the universe is permeated by an immense number of tiny, invisible, and perfectly hard (or nearly so) particles, which he called "inframundane particles." These particles move randomly and at incredibly high speeds in all directions throughout space.
2. **Omnidirectional Bombardment:** An isolated object in this cosmic shower would be bombarded equally from all sides by these gravific corpuscles. The impacts would exert pressure on the object, but because the forces are balanced, there would be no net directional movement.
3. **The Shadowing Effect:** The crucial insight comes when two or more massive bodies are present. Each body would partially shield the other from the incoming stream of gravific corpuscles. Imagine two bowling balls in a hailstorm. Each ball would create a "shadow" for the other, meaning fewer hailstones would strike the inner, facing sides of the balls compared to their outer, unshielded sides.
4. **Net Inward Push (Gravity):** This shielding effect creates an imbalance of pressure. The outer sides of the bodies, being fully exposed to the corpuscle bombardment, would experience a stronger push than the inner, shielded sides. This differential pressure results in a net force that *pushes* the two bodies towards each other, mimicking gravitational attraction.



## Key Assumptions and Challenges:

To make this theory work and align with observed gravitational phenomena, Fatio had to make several audacious assumptions:

- **Extreme Penetrability:** For gravity to be proportional to *mass* (and not just surface area), Fatio had to postulate that ordinary matter is almost entirely transparent to these gravific corpuscles. He argued that even seemingly dense materials like gold must consist mostly of empty space, allowing the tiny aether particles to pass through with minimal interaction. This was a radical idea for his time.
- **Inelastic Collisions (or Reduced Speed):** A significant challenge was explaining how momentum is transferred without causing an immediate and continuous acceleration. If the corpuscles were perfectly elastic and rebounded with their original speed, they would simply bounce off without imparting a net force. Fatio wrestled with this, suggesting that the collisions were either slightly inelastic, or that the reflected particles lost some speed or gained internal vibrations, thus exerting less momentum upon reflection. This would create the necessary net inward push.
- **High Speed, Small Size, and Rare Collisions:** To avoid any observable drag on celestial bodies moving through this aether, the inframundane particles had to be incredibly small and move at extremely high speeds. Furthermore, to prevent the aether itself from dissipating its energy through self-collisions, Fatio assumed their diameters were minuscule compared to their mutual distances, making inter-corpuscle collisions very rare.
- **Inverse-Square Law:** Fatio realized that the shielding effect, given the geometry of spheres and the flow of particles, could naturally produce an inverse-square law of attraction, consistent with Newton's observations.

## Why it didn't prevail:

Despite its elegance and the intellectual effort Fatio poured into it, his kinetic theory of gravity (and its later iterations by Le Sage and others) ultimately failed to gain widespread acceptance and was superseded for several reasons:

- **Thermodynamic Inconsistencies:** The theory implied an enormous amount of energy constantly being transferred from the gravific corpuscles to matter, which should lead to continuous heating of all objects in the universe. This "thermal death" prediction was not observed.
- **Predicting Drag:** Even with very high speeds, the constant bombardment should cause a drag on celestial bodies, slowly decelerating them and causing orbits to decay. This was inconsistent with astronomical observations.
- **No Empirical Evidence:** There was no direct experimental evidence for the existence of these gravific corpuscles or the aether they inhabited.
- **Newton's Success:** Newton's *Principia* provided a highly accurate and predictive mathematical framework for gravity, even if it didn't explain *how*, it worked mechanistically. It was a tremendously successful descriptive theory.
- **Einstein's General Relativity:** Ultimately, the theory of General Relativity in the 20th century provided a completely different, geometrically based understanding of gravity as the curvature of spacetime, which was powerfully supported by experimental evidence and rendered the need for a gravitational aether obsolete.

## Other scientists with same or similar theory:

Robert Hooke & James Challis:

Reverse to the kinetic theory proposed by Nicholas Fatio De Duillier, In 1671, Robert Hooke even before that proposed a theory of gravitation with a mechanism for direct attraction. He suggested that all bodies emit waves in every direction through the aether. He believed other objects, interacting with these waves, would then move toward the wave source. Hooke drew a parallel to how small items on rippling water drift towards the disturbance's centre. Later, between 1859 and 1876, James Challis developed a similar mathematical theory. Challis's calculations showed attraction occurred if the wavelength was long compared to the distance between gravitating bodies, while repulsion happened with short wavelengths. He even attempted to explain all other forces by combining these effects. However, the theory faced criticism; Maxwell pointed out it would necessitate a continuous, infinite expenditure of energy to produce these waves. Challis himself acknowledged the difficulty in reaching a conclusive outcome due to the processes' intricate nature.

Lord Kelvin and Carl Anton Bjerknæs:

### **Pulsation**

In 1871, both Lord Kelvin and Carl Anton Bjerknæs proposed a theory where all bodies pulsate within the aether. They drew an analogy to how two spheres pulsating in phase within a fluid will attract, while out-of-phase pulsation leads to repulsion. This same mechanism was also applied to explain the nature of electric charges. Notable scientists like George Gabriel Stokes and Woldemar Voigt also investigated this hypothesis. However, this theory faced significant criticism. To account for universal gravitation, one would have to assume that all pulsations throughout the universe are perfectly in phase, which seems highly unlikely. Furthermore, the aether would need to be incompressible to ensure attraction over larger distances.

Maxwell also pointed out that this process would require continuous creation and destruction of the aether.”

### **Pierre Varignon (1690):**

#### Gravity by Unequal Pushes

Varignon's contribution in 1690 presents a compelling, if ultimately speculative, mechanical explanation for gravity. He envisioned the universe filled with **aether particles** constantly bombarding all bodies from every direction. The key to his theory was the introduction of a "limitation boundary" near the Earth's surface. According to Varignon, these aether particles could not penetrate beyond this boundary. This critical assumption led to a fascinating conclusion: if a body was situated closer to the Earth than to this boundary, it would experience a greater flux of aether particles (and thus a stronger pushing force) from above, where the aether was unrestricted, compared to from below, where the Earth acted as a "shield" or the boundary prevented penetration. This differential pressure, a net downward push, was his proposed mechanism for gravitational fall.

### **Mikhail Lomonosov (1748):**

#### Aether's Proportionality and Permeability

Mikhail Lomonosov, a renowned Russian polymath, also delved into aether theories, drawing inspiration from predecessors like Christiaan Huygens and Nicolas Fatio de Duillier. In 1748, Lomonosov proposed that the effect of the aether on matter was proportional to the *complete surface of the elementary components* from which matter is constituted. This suggests a very fine-grained interaction, where the aether somehow interacts with the most fundamental parts of an object. He further assumed an "enormous penetrability" of bodies by the aether, which was crucial for explaining why gravity affects the entire mass of an object, rather than just its external surface. Without this high penetrability, larger objects would simply "shield" themselves

more effectively from the aether, leading to a different gravitational behaviour than observed. Lomonosov did not provide a clear and mathematically rigorous description of *how* this aether interaction precisely led to the observed law of gravitation.

### **John Herapath (1821):**

#### Kinetic theory and the Heated Aether

John Herapath's attempt in 1821 is particularly interesting because it sought to apply the burgeoning **kinetic theory of gases**—a successful framework for understanding the behaviour of gases in terms of the motion and collisions of their constituent particles—to the phenomenon of gravity. Herapath hypothesized that bodies, through their presence, heated the surrounding aether. This heating would cause the aether to expand and lose density in the vicinity of the mass. The consequence? Other bodies would then be pushed towards these regions of lower aether density, similar to how a less dense fluid would be displaced by a denser one. This created an apparent "attraction" based on a pressure differential within the aether.

### **Gabriel Cramer & Redeker**

Swiss mathematician Gabriel Cramer in 1731 published a decertation containing sketch and theory very similar to Fatio's theory. In 1736 the German physician Franz Albert Redeker also published a similar theory.

### **Le Sage:**

In 1748 Georges Louis Le Sage submitted the same theory to the Academy of Sciences at Paris, which was rejected and not published due to similarity with the theories by Nicholas Fatio, Cramer and Redeker. According to Zehe Le Sage had Fatio's papers in his possession and Le Sage contributed nothing essentially new and he often did not reach Fatio's level.

Peter Guthrie Tait called the Kinetic theory of Le Sage the only plausible explanation of gravitation which had been propounded at that time. went on by saying:

*“The most singular thing about it is  
that, if it be true, it will probably  
lead us to regard all kinds of  
energy as ultimately Kinetic.”*

James Clerk Maxwell’s review of Kelvin-Lesage theory was published in the Ninth Edition of the Encyclopaedia Britannica under the title Atom in 1875. He wrote,

*“Here, then, seems to be a path  
Leading towards an explanation of  
The law of gravitation, which, if it  
can be shown to be in other  
respects consistent with facts,  
may turn out to be a royal road  
into the very arcana of science.”*

He also wrote that this kinetic theory is the only one theory of gravitation developed so far which is capable of being attacked and defended.

Georg Christoph Lichtenberg believed that every explanation of natural phenomena must be based on rectilinear motion and impulsions, and Le Sage’s theory fulfilled these conditions. He wrote Le Sage’s theory embraces all of our knowledge and makes any further dreaming on that topic useless. He went on by saying: “if it is a dream, it is the greatest and the most magnificent which was ever dreamed...”

According to me, all credits go to Nicholas Fatio for introducing such a mechanism for the very first time in known history of science. This is also because it was known to Fatio that Cramer had access to a copy of his main paper, so he accused Cramer of only repeating his theory without understanding it. It was also Cramer who informed Le Sage about Fatio's theory in 1749.

### **Keller and Boisbaudran:**

In 1863 Francois Antoine Edouard and Em. Keller presented a theory with mechanisms like Le Sage but replacing particles with aethereal longitudinal waves. In 1869 Paul-Emile Lecoq de Boisbaudran proposed the same theory as Keller.

Many other scientists showed their views and either supported or criticized the kinetic theory of the Gravity.

## **The Decline of Aether Theories for Gravity**

Despite the intellectual ingenuity of these and other aether theories for gravity, they ultimately faced insurmountable challenges.

1. **Lack of Empirical Evidence:** No experiment could definitively prove the existence of a gravitational aether, let alone measure its properties.
2. **Inconsistencies with Observation:** Many aether models struggled to quantitatively reproduce Newton's inverse-square law of gravity without introducing ad-hoc assumptions.
3. **Thermodynamic Problems:** As seen with Herapath, many kinetic or pushing aether models predicted an enormous amount of energy dissipation and heating, which was simply not observed in the universe. Planets would quickly lose energy and spiral into their stars.

4. **Rise of Alternative Theories:** The greatest blow came with the advent of more robust and empirically supported theories. Isaac Newton's law of universal gravitation, while not explaining *why* gravity worked, accurately described *how* it worked, predicting planetary motion with remarkable precision. Later, Albert Einstein's theory of General Relativity in the early 20th century provided a revolutionary new framework, explaining gravity not as a force mediated by a substance, but as a manifestation of the curvature of spacetime itself caused by mass and energy. This theory rendered the gravitational aether superfluous. Various scientists represent vital steps in humanity's long quest to understand the fundamental forces of the universe. The legacy of the aether, even in its eventual dismissal, underscores the deep human desire to understand the underlying mechanisms of the cosmos.



## Criticism:

### **Gravitational shielding:**

In a kinetic theory of Gravity mass produces a shadow effect. When much mass accumulates such shadows become overlapped. Though mass was imagined as extremely porous in a theory by Fatio, the shielding effect due to shadow overlapping must be there which results in the violation of the equivalence principle and render the theory inconsistent with both Newtonian theory and General relativity.

In this theory of Brahm this gravitational shielding is accepted and

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### **Drawbacks proposed by the science community for Fatio's Kinetic theory of Gravity:**

1. That theory demands the extremely porous nature of the mass (now it is a proven fact.)
2. That theory demands a very abundant flow of inframundane particles or similar things causing impulsion. (The theory of Brahm is based on such environment derived in the thought experiment in the chapter "Honi" which is described ultimately as aethereal waves)

3. Collision of the flux with mass must be inelastic and pure elastic collision don't allow a push gravity to work.

This is the toughest part of the kinetic theory which must be explained. Objection by Huygens put Fatio in dilemma for at least three years.

Explanation is only one which can be described as inelastic collision with scattering after fragmentation and heat generation. Here, such heat generation becomes so intense that that could incinerate all matter within a few seconds. This assumption was there because of the poor understanding about the matter. Matter has condensed mass at extremely small nucleus and a shield of field surrounds nucleus which forms the most area of the mass. Temperature at nucleus can't affect the gross temperature of the mass. As we have assumed hollows like stars so they must have a high temperature at their level.

The query of fundamental cause of the Inertia actually brings this problem. Inertia is explained in this book in relevant chapter, but the explanation remains incomplete due to interdependency of the inertia of mass and inertia of tides in the aether. In a chapter "Honi" Primary acceptance of law of inertia is there when we have assumed motions of masses in space. Then subsequently Aether was degenerated in gravitational environment. Waves in that Aether obeys law of inertia and wave dynamics explains the whole existence and laws of physics.

The answer to the question, why all these follows the law of inertia can be given as

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# Citations

For the topics mentioned below data of the known facts and theories were learned and taken from the sites mentioned below as citations. This data is used for the purpose of criticism and comparison with the theory of Brahm.

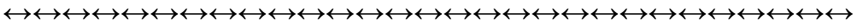
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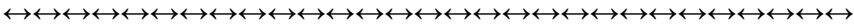
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I have learned from the various sources, and it is possible that some known facts mentioned within this book lacks citations. I tried to criticize most of the known scientific theories and Laws of physics, it is not the intention of this book to represent known theory or Data, this book is intended to explain Aether-Brahm theory and its relationship with other theories and Data. History of Aether and kinetic theory of gravitation is mentioned to give credits to the scientists who walked on the way to this theory.



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