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# Existential Theory of Time

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**Abstract:** Thinking about existence takes one to the idea of alter. Essentially, the ideas alter in mind. Matter alters with the observation of position, shape, size, color, temperature and other ascriptions of matter (Aristotle, Ross W D, 1942). Conscious time of observation and momentum are the mainstay of mechanics of physics. Mind proposes these. This paper presents that the basic idea of existence of matter extends to yet inactive essence of ideas of energy, time and space together (Plato's essence); and that conclave comes as "second" or "blackboard ideas" about alter. Thence, energy is enabled; time becomes conscious time of observation and space an infinite expanse to house work (Plato's manifestation). They function if energy works on matter in space while conscious time allows observation. The link is momentum that comes as energy works and moves matter in space. At the third stage, or at the emergence of manifestation from existence and essence, alter takes place and it is observed with conscious time. This paper stipulates that in this foundational scenario, time is the first of all concepts [1]. Time plays different roles in inquiring about existence, realizing the essence of alter and manifestation of *alter*. The analysis leads to that every part of space where *work* is done, must have, uniformly and unexceptionally, at least one unit of energy and at least one unit of mass or "things". In other words, no part of the universe is empty or free of energy and "things". Event takes place because of the interplay of energy and things. Event does not need observation. If observed, then it is conscious time that makes observer aware about an event. Time's existence is not relational to event. Conscious time does not generate event; or it plays no role in generating event. Event shall generate whether or not observer observed it. Time is not the substance of event. That trashes a lot of experimental work of the last and this century done until now. Such is the *vade mecum* of observation with conscious time that a definition of time emerges. This existential theory of time is wholly compatible to quantum theory. There are more types of time like memory time, dreamtime, imagination time that are not event oriented.

**Keywords:** Meta-Energy, Meta-Time, Meta-Space, Energy, Conscious Time, Definition of Time

## 1. Introduction

Physical scientists and mathematicians often build time theory on ℕ or natural numbers that are available, instantly and without any charge, to represent the clicks of clock that can bear a longer name, like, "conscious time of observation", or "t" in short (Newton); and t is relevant to dynamism. The ordinary thought related to conscious time may be called "time-thought". Memory, imagination or other forms of time those are not conscious time can be grouped and called "paratime". When paratime transcends upon rather a thick slab of time-thought, then clarity in thinking often goes a missing. In algebra based on pure time of William Rowan Hamilton (1805-1865, Ireland, Transaction of Royal Irish Academy, 17, Part1, 1837), four points on ℕ relate to dates. They have places and names as A, B, C, and D while A < B < C < D and A< B stands for "B is later than A". ℕ supposedly dons marks of a scale of magnitude as 1< 2 and that justified A < B. However, A, B, C, D are like instant or moment that are time-thoughts; and they are primarily names or nouns and not numbers. They cannot give out, except argumentatively, A = 0, A - A = 0, B – A= 0, B – A ≠ 0. Additionally, B – A does not exist in time-thought because time-thought is unidirectional and non-negative. Hamilton qualifies time-thought repeatedly as ordinal or direction bound. B – A is duration and scalar. Equivalence of B – A is not date. A x B cannot exist; there is no commonality between A and B. Yesterday and today do not multiply. A and B are not Euclidean points. They are wideness(s). Whole of A–wideness overlapping whole of B-wideness does not sustain two wideness(s). Similarly, an overlapped part of A-wideness does not exist with similarly overlapped part of B–wideness; not in ℕ and in time-thought. There may not be any justification to inquire about B – A or A x B. In the same

manner, eight relations of A, B, C, D each having positive value once and negative value next in relation like B – A > D – C cannot exist in time-thought. In short, ℕ need not generate "before after"; "before after" had generated it. ℕ that before after generate can help doing sums based on time duration, number and quantity like "if hundred soldiers have ration for fifty days and fifty die on shelling ..."

The algebra of conjugate variables of Hamilton is a work of genius. There was no necessity to cut that jewel with dates.

Portrayal of "t" needs ingrained duration that separates one moment or instant from another (Plato; Owen GEL, 1974).

Statistics accepts B – A as a temporal variable; like say, B days less than A days. Statistics shows the way to the thought of multiplicity of generalized conscious time "T" a form of which is "t". An age-table of demography has three temporal variables: "a" for age, "x" for cohort-age and "t" for date. Speculatively, "a", "x" and "t" are functions of "T" [2]. Thence, epistemologically, "θ" is deeper understanding of time that include conscious time, memory time, dream time, imagination time (as in understanding algebra) and so on; or T is a function of θ and of course, *t* is "function of function of θ" [3]. Ruefully, *"no one ever inquires"* about this [4].

Time requires deeper probing. It is necessary to go to the foundation of existence to frame a time theory.

# 2. Existential Theory of Time

### *2.1. Mind, Matter, History and Time*

#### *2.1.1. Mind*

While human lives, human mind works. Life continues as females conceive babies. The mind starts developing at the embryonic stage. The mind inside the womb may lack experience other than being alive; however, life inside ovum before a new life roots and goes along to become baby, may carry something like memory, male memory and female memory, memory to root and raise life or other memories that the medical science will speak someday about. Mind is older than body (Plato; just replace "mind" with "soul"). Mind is the meniscus of the deep and diverse lineage.

Human can watch the route of growth of the embryo. The watch is "observation" of physical science; and it involves use of instants or moments of "before" and "after" with a "duration" in between. Moments are parts of conscious time. Moments' arriving, or passing, one after another is "flow" of conscious time. The flow of conscious time accompanies dynamism of growth. The flow of conscious time is measurable or countable flow of moments of time while the fetus grows. Moments are "before", "after" and "duration" that are specific to a fetus.

The flow of conscious time has the sameness of vector. The vectors of the congruent flow of electrons through the brain of the observer or inside the activated instruments are different and dissimilar to the flow of growth of an embryo. It means that one observation requires more than one vector of "flow" to comprehend or fruit the effect of a principal observation. The comprehension needs vectors and each vector called to work has different and specific time-form, or time-form of "before", "after" and "duration". The concept of convergence of ideas and the concept of multiplicity of conscious time have emerged. Lest it gets lost, there is memory, which is time but not conscious time, to store some. The memory is in mind.

The dogma of "female gives birth*"* has remained unexamined. The premise is just that the embryonic body and mind go along pre-set chain of age-related experiences. That age is "age prior to birth" (APB) and differs from the demographic structure of "age' or "a" that starts with "0" at the birth. The baby grows and on completion of one year of living in Gregorian calendar, "a" becomes "1". After another year of living, "a" becomes "2"; and so on. Age and APB can relate to duration of sunrise and sunset, diurnal time, or rotation of moon around earth, month, or rotation of earth around sun, calendar year. These earth-sky-man related events use a standardized system, or clock, of flow of conscious time. Clock relates to conscious time; and not to the memory or imagination time. Days are unequal, moon's rotations around earth are unequal; earth's rotations around sun are unequal. The physical base of the clockwork varies. For example, the oscillation of a crystal core or the task of finding the centrality of the yellow sodium light-wave, and so on, varies; so, a clock can make only probabilistic statement about the flow of conscious time.

APB starts with the union of male and female smallness's and ends at a = 0. While it exists as specific to an embryo as embryo grows to babyhood, clock may create APB1, APB2, and eventually $APB_{average}$ or a probabilistic statement for APB. Age is time concept defined in linear movement of conscious time in the sequence of durations; and conventionally, as a = 0, 1, 2. It is a named vector and invokes finite calculus. There is no escape route out of the labyrinth of time-words! Some say that time is the first of all concepts. No one contradicts the notion.[4].

Growth is not a conventional vector. Generally, a human looks like another human and one human mind works as another human mind works. Yet there are narrow bandwidths of growth that sway from the guided centrality of the route and enables one human's body differ from another in appearance and capability; and chances mind be unlike another mind.

Some scientists take the association of mind and matter to the hydrogen-burning primitive and predominantly power-oriented superstar of which sun and the solar system are now remnants. In that star, there was a stage when the interaction of power and matter had created elements and compounds. A long chain of relations of energy (E) and ionic hydrogen, or its prototype, creates oxygen, say, at the *first stage*. Having come into existence, oxygen molecule $O_2$ combines with hydrogen molecule $H_2$ again at $500^0$C to create a compound $H_2O$ (water) and give out some of the heat $O_2$ had adsorbed at the *first stage* of coming. The *attraction* at the *second stage* of relation of $H_2$ with $O_2$ is the heat that temperature had supplied. Attraction is creative. Human finds the natural laws in a hard way. Human investigates E.

A tree has apples hanging from the branches. One observer observes an apple fall. After the fall, the observer frames a theory about the fall. After is time word. "Apple falls" is event. There is a before to "apple-fall"; or event. The theory that observer frames is about the ability of the apple to fall and the cause of the fall, which is, together, "ground attracts apple". There are many trees; many apples; and many see apples fall. The effect of the cause appears true for all events of apple-fall, every time, until this time; therefore, the theory is "true rather than it is false" until now. What is "time" before the *"*now*"* of apple-fall?

Before now, there was no observer: There was no event. Apples fell from trees rather than they did not before observer sat under the apple tree where apple probably fell. Under and where are space words. If observation is the issue, time comes as first of all concepts, space is after time, and probability is next: Time→ Space→ Probability.

There is a collective oneness at "before". (1) "Existence" of matter and E; (2) "time θ" that includes "before"; (3) "Space Σ" for spreading and containing "event"; (4) "Event"; (5) "Probability *p*" about the trueness about ability of E to causing event rather than the falsehood that the ability E causes event only by chance. Call this collection ONE. In this ONE, space Σ is space of Emanuel Kant, meta-space that becomes physical space when there is something like "event" to contain. Physical space can be bounded or unbounded or limitless depending upon what space requires keeping [5].

There exists ONE housing θ, Σ, E and *p*. ∃⌂⟪θ, Σ, E, *p*⟫ = ONE

ONE alters to ANOTHER.

Existence of ONE is meaningless. ONE is before. ONE is timeless. ONE is notion at pre-now of observer. This ONE is of static existence. Static existence is unbelievable. Mind reaches existence and stays there. Alternately, existence contains mind. Existence is the home of mind. For the mind that investigates existence, the existence is static.

ONE is at pre-now. ONE may contain or overlap ANOTHER wholly, partly or not at all. ONE deploys E to have ANOTHER. ONE remains as ONE after activation of E and, when E comes to an E-enabled form in ANOTHER, the E-enabled form generates ideas in ANOTHER which includes the ability to "work". Additionally, in ANOTHER θ is in θ-enabled form, Σ comes to Σ-enabled form, which is "s" of physical space. ANOTHER is notion; ANOTHER is knowledge where cause and effect can reside; cause and effect get ready to work.

If ONE and TWO are different, or probability validates twoness, then Σ enables a proposition of space as "s" of physical sciences where it is a firm field of measurement with Euclidean axioms, or as a compromised field of Euclidean geometry in mathematical space or completely an imaginary space as in hyperbolic geometry.[1].

In THIRD after ANOTHER, observer comprehends event, time becomes "*before*" and "*after*" of consciousness; or f(θ) where θ is inactive time, or meta-time, becomes, illustratively, $\cong \iint_{\theta=t}^{\forall} f(\theta,t)d\theta dt$ (1) of conscious time "t", 't' being "befor*e*" and "after" in sequence. In other words, units of conscious time become the sequence $t_1, t_2, \ldots$ of the popular literature in Euclidean space. Correspondingly, allowing sequence $\beta_1, \beta_2, \ldots$ of memory time in hyperbolic space is, again illustratively, $\cong \iint_{\theta=\beta}^{\forall} f(\theta,\beta)d\theta d\beta$ (2); or allowing sequence $\delta_1, \delta_2, \ldots$ of dreamtime in hyperbolic space is, illustratively $\cong \iint_{\theta=\delta}^{\forall} f(\theta,\delta)d\theta\, d\delta$ (3)*;* and so on, where *t,* $\beta$ and $\delta$ are functional forms of θ [1]. There is no stipulation as to how these formulations will shape in hyperbolic geometry [3].

The concept of *count* has entered the domain of ANOTHER. This count is not with ℕ because "ONE may contain or overlap ANOTHER wholly, partly or not at all*"*. ℕ can have a more primitive form, ₦, of which the first unit is well conceived "1", 1x1, $\sqrt{1}, 1^1$ (4), $\frac{1}{1}$ (5) are all "1". The same is not true for 2. $\sqrt{2}$ (6) or $\sqrt[n]{2}$ (7) are irrational for n > 1 where n is N. There are other peculiarities of 2. It will be sufficed to understand that between 1 and 2 there is a crowd of ideas that mere human may not understand. ₦ may be, by borrowing symbols from here and there,

$$₦ = 1, \not\in(1, =<2), 2, \not\in(2, =<3), 3, \not\in(2, =<3), \ldots,$$

where $\not\in(\alpha, =<\beta)$ is "not α and not equal to or greater than β" and α < β.

The Existential Theory of Time conceives an "Oneness Operator" that can act on ₦ to make ∌ (α, =<β) (i) non-existent or (ii) give it a value as "duration" if ₦ is used to depict conscious time, or "distance" if ₦ depicts space [6].

When ∌(α, =<β) is rendered non-existent, then there will be no sequence of "count".

For the present purpose, ₦ bridges a host of the problems. The main property of *"*unit of measure" that helps all disciplines is that count is true because 1, 2, 3 ... are at equidistance from each other; whatever are the apparitions they hide. A "fraction" or "irrationality of measure" makes count false. Counting is count at the end of the duration or distance when and where 1 turns to 2, 2 turns to 3, and so on. ₦→Oneness Operator→ ℕ solves the impasse. Time→ probability→ counts→ measures→ ₦→ ℕ.

Apparition can be a block of duration in a time variate and a block of distance in a space variate.

Energy E operates in a different line. As time is meta-time "before*"* and conscious time while the experiment is on, E is "able*"* before the experiment and "enabled*"* to start experiment. Before→ ability to happen→ event.

Complementing that ONE is meaningless without ANOTHER, existence of ONE is meaningful to ANOTHER. Everything was ONE; oneness was complete; one-ness was fullness. Two-ness is the activation of one-ness. ANOTHER cannot have anything that ONE has not. The concept of time that ONE has becomes "conscious time" in ANOTHER with tenability to observe or measure distance between each other in term of displacement "s" as related to duration "t". Additionally, ONE and ANOTHER dreams in "dreamtime", recalls in "memory time", imagines in "imagination time and activates other forms of time. These timeforms are there in ONE in latent forms. The concept of count is that of ONE

that has become number in ANOTHER. Obviously, it is difficult to define ONE and TWO with the contents they have. However, there is a rule of "from this to that": From ONE to ANOTHER. This again invokes time: "after". The time base redefines in count. Count creates set: This set and another set: A set of ONE and ANOTHER and a set of EMPTY. If there is a Set1 of ONE and ANOTHER, then there is Set0 or S0 of emptiness – an assumptive or ornamental emptiness.

In other words, S0(0, 1), where "()" indicates the concept of "containment" covers emptiness and 1; S1 (0, 1, 2) ∌ S0 (0, 1); S2(0, 1, 2, 3) ∌ S1 (0, 1, 2) ∌ S0 (0, 1); ...

### *2.1.2. Matter*

E is reason or cause for ability to having S1 (0, 1, 2, 3) apart from S0 (0, 1). The concept of "measurement" has entered the field. The convention may be that E1 alters ONE to ANOTHER. The probability that this unit E1 is acting is true is more likely than unlikely. Then ANOTHER is just readiness to mean or do something; something like, say, dynamism. Logically, it is only in THIRD where dynamism will be. In THIRD "where" or "s" is predominant. THIRD generates disunion of concept and physicality; harbors more refinement in measurement; and eases deeper probe and wider campus for thought and action.

In the concept of infusion, which is ΔM, M = momentum, and mass m in the Infusion vector, the direction is, as also in the case of t and s, $\rightrightarrows_1$. In this threesome of E, m and v, where v is velocity of m in direction $\rightrightarrows_1$, m must have a positive value > 0. In the inertia of Newton E =1, m >=1 and V =1, where 1 of S (0, 1) in a basic scale of measurement. Infused with dynamism E >1, m >=1, M > 1, V > 1, θ is $(t_1, t_2, \ldots, t_n)$ , Σ is $(s_1, s_2, \ldots, s_n)$ and direction is $\rightrightarrows_1$; m is a logical constant to equate momentum with velocity of dynamism – m fruits dynamism. Consequently, m must be present in every part of **Σ** where displacement can take place; at least in the form M = 1, m = 1, V =1. In this thinking, m is elevated to matter; if unit-matter moves, the unit-ability to move permits unit-rate of movement. (ONE, TWO) → THREE carry vectors of dynamism in a vast and unlimited space (compare "apeiron" of the Greek) on each point on which there is mass; mass as particle, sub-particle, sub-sub-particle (when discovered), photon; and, of course, the massive objects comprised of small in completeness or not yet complete [3]. Any other word suitable to mean the quantity of matter, such as "quantity" or "things", is this quantity of matter. In other words, no part of the universe is empty or free of energy and "things". Newton and older thinkers had used "point mass" on several occasions for geometrical comprehensions of laws of physical sciences. E alters momentum. If "things" is universally present in THREE, then E is also present in each point of Σ. Universe has to be rhythmic [7].

### *2.1.3. History*

Old views on time in Europe are Greek. There was a prosperous Greek settlement called Elea in southern Italy. Pythagoras (b.580 BC in the island of Samos, the island that interacted with Asia Minor in all manners) was a fugitive Greek scholar who landed on the shores of Elea after a long and eventful journey by sea. He had to evade his tormentor, or tyrant, or ruler in his homeland and the friends and the agents of the tyrant in sea and other islands, mainly because he carried a *hateful* load of ancient Asiatic thoughts and went to the extent of questioning the deeds of the Greek gods. As fate will have it, Elea tolerated the sage. The migrant became a revered teacher in the new land. One of his disciples was Permanide (b.515 BC). Permanide and his disciple Zeno (b.488 BC approx.) were the oldest Greek thinkers who wrote on time. Pythagoras and Permanide conceived an analytical concept of "one-ness" that soon acquired the name as "Eleatic One". Eleatic One generated a concept of linear, continuous and infinitely divisible time. Permanide and his disciple Zeno had an urge to propagate their theory. They made a journey to the mainland of Greece and tried to meet the Greek rulers. They suffered long waits in the chambers of the great after paying 100 minæ for fixing one meeting at a time. They had little success. Eleatic one was lost to the scholars until Aristotle retrieved it. Zeno had met a young man in Athens named Socrates (470 – 399 BC). Plato (427(?)-347(?)) BC) who had founded the Academy or the School of Philosophy and Science in Athens deliberates much on what Socrates and other stoics had said. Plato wrote a book on time: Timaeus. Plato proposed a triangularity of "Form, Essence and Manifestation" (as translated in widely studied English texts) and viewed time in two parts: *ousia* or principal and *eidos* or numbered; and Plato named *eidos* as moment or instant. For Plato, time was conscious time; one part of time was open and flowing. Eternity closed the other part. Plato had the concept of God. God was timeless as eternity was timeless. Aristotle (384 BC-322 BC) viewed time from basic logical stand and would have discovered the Existential Theory of Time of this and earlier presentations of the author long back if he had the benefit of finite calculus of the later European scholars. Alternatively, he could accept the Plato's division of *ousia* and *eidos* for time; ONE, ANOTHER and THIRD or the altered form of triangularity of Plato and a few Old World texts. Ironically, Aristotle thought that the science and technology had advanced so much by 300 BC that the older ideas (of 400 BC and before) had become hackneyed and unnecessary in 300 BC. Aristotle wrote a book on Physics. Aristotle took conscious time to be infinitely divisible. Incidentally, Greeks talked only about conscious time; and that tradition later affected all European scholars. Two ideas of Aristotle directly affect time-thoughts: One is "sub-stratum of time"; other is "multiplicity of time" and "multiplicity of conscious time". The third is that space is physicality where kinesis takes place. Credit goes to Greek scholars for accepting an outsider, Iamblichus of Syria (250-325 AD), for postulating a theory of "higher now" or static now; and "lower now" or flowing now. This is essentially a Platonic idea and rejects the work of Aristotle - ineffectively. J M E McTaggart of United Kingdom departed from the path of mathematical logic and listed in 1908 "flowing time-words" in A-series and "static time–words" in B-series. Every now and then science-journals of modern time write about B-series of McTaggart; or the modified version of the ideas of

Iamblichus.

Historically, time is one of the foundational ideas in Physics. It is the product of mind. Conscious time let observation of event.

### *2.2 Time*

Until 1992, there was no cohesive theory of time; or definition of time. Plato wrote Timaeus. Plato's approach to the problem through triangularity, concept of static time and flowing time, definitude of moment or instant or now are good; and they are used in the existential theory of time presented in this paper. However, the concept of an eternity closed one end of time. Therefore, the concept of eternity and "Administrator God" at the same platform is at odds. "Administrator God" made time co-exist with events as it happened. It is believed that nothing happened in eternity; and that contradicts the doings of the "Administrative God". Plato can have eternity in Imagination time. Imagination time does not relate to event or space.

Aristotle wrote PHYSICS. His contribution to Time Theory is, as Richard Sorabji of University of Cornell in New York in 1986 had translated, "Time cannot exist, if there is not soul, but at best substratum of time" [8]. As Plato had said earlier "soul is better than what body can ever be"; and "soul" can carry multiple meanings. Yet, Aristotle took Plato on in the idea of duration or moment or instant of conscious time upon the premise of infinite divisibility of time as required in his belief in kinesis, κινησιζ. His argument was that in the ideal state of kinesis the duration of time-part is zero; and if the duration of time-part is zero then time cannot exist. Euclid of Alexandria is dated around 300 BC. Euclid had conceived straight line with one dimension of length without breadth or height or without an area or volume, which supports Aristotle in no-existence of time. However, it is unlikely that two scholars ever interacted. Physical science demands a conscious time as concept and space physicality; Aristotle gave these to physics and Newton based his mechanics on it.

Time Theory of the author of 1992 introduced the idea of meta-concept of time and meta-concept of space of the older thoughts. The idea re-established the triangularity of time and space of Plato and a few of the hackneyed ideas of the old world people. As stated earlier, meta-concept of time is θ and meta-concept of space Σ. Sub-stratum of time of Aristotle is θ. One may name θ as metatime and Σ as metaspace, metaspace of Emanuel Kant (1724-1804, Germany). Several kind of time like conscious time of observation, memory time, dreamtime, Imagination time and so on are the functional forms of θ: Like $V_t(\theta)$ = conscious time of observation, $V_m(\theta)$ = memory time, $V_d(\theta)$ = dream time, and so on. An event is observed with *conscious time* in a *measurable space* as in $M_3$ (Σ) = measurable space of three dimensions. Memory, dream and imagination do not need measurable space or for these time-forms $\mu_\delta(\Sigma)$ = measurable space of δ dimension is not relevant. Stepping over a few logical rungs, conscious time yields a time vector $(t_1, t_2, \ldots, t_n)$, where $t_i$ is the i-th block of duration touching the $t_{i+1}$th block of duration without any gap. $(t_1, t_2, \ldots, t_n)$ associates with "n" observations accompanying space segments along displacement vector $(s_1, s_2, \ldots, s_n)$, where $s_i$ is the i-th block of space touching the $s_{i+1}$ th block of space without any gap, in the space where kinesis takes place [3]. The experimental hypothesis, EH, is that if $s_j - s_i$ are equal for i, j = 1, 2, …, n then $t_j - t_i$ are equal for i, j = 1, 2, …, n. In other words, if the distances between two consecutive observations are same for n consecutive observations, then the durations between two consecutive observations are same for n consecutive observations. Displacement vector and time vector have the same direction to observe displacement for a spell of conscious time. The relative equality of time-parts and the relative equality of the displacement is timeform of an event. Another and distinctly different timeform comes into being when i replaces j, i, "i is not j" and k replaces i, k, "k is not I". Stepping over again a few logical rungs, conscious time t is linear and continuous in durations arranged one after another without a gap between two durations [3]. Similarly, space s is linear and continuous in displacements arranged one after another without a gap between two displacements. Both t and s follow the rules of finite calculus and the direction is $\rightrightarrows_1$.

In conscious time of observation, the scope of event includes objective and real ideas. Event includes such idea. Therefore, let "observe" include "apprise". Event is the conclusion of "no change". Event includes creation. Event takes place in space. Event is unique. Event is not reversible. Event can never have a negative identity. Event is "observed". Event and the time of observation emerge together. There is a combinatorial relation between event and observation: Event is observed when there is an event.

In the sentence that an event is observed, there is a third identity of "now". "Now" is a time-block of $t_i$. The now before this now, this now and the now after this now have the same duration. Let there be a presumption that the event was not observed in the now before this now and this now has emerged with the observation of the event. Observation of event has happened within this now. This now has two parts: Part I on the left side and Part II on the right side that a "junction" within now separates. In Part I, there is no association of event and observation. In Part II, there is association of event and observation. Part I and Part II are temporarily different and never simultaneous or there is no equivalence of the two. Oneness Operator combines Part I and Part II across the junction to restore status of now at now after "now before this now"; and the Oneness Operator is the Oneness Operator that this paper has introduced earlier as such. Part I homes Empathy I to combine event with observation; Part II homes Empathy II to combine event with observation. Empathy is the encasement of Junction between Part I and Part II of a moment *or* instant. The regime is [now before this now » Empathy I » Part I » junction » Part II » Empathy II » now] for the dynamism of change from now before this now to now. The "sub-dynamism" is [now before this now » junction] and [junction » now]. The Oneness Operator "D" combines two sets of sub-dynamism to one of dynamism.

This is the principal thought-process or theory to observe event at now that was not observed at now before this now.

#### *2.2.1 Definition of Time*

Conscious time is awareness of the thought that the event has been observed, or idea has been apprised; and it is emphasized by the combinatorial process that ties up event with observation, or idea with apprisement.

The definition does not contain a time word. That ends the first impasse of the Greek: One does not define time without a time word.

The time-block of $t_i$ is open on both sides: That ends the second impasse of the Greek: A time interval has to stay closed at least on one end.

Conscious time is not "related" to event. Event takes place because of the interplay of E and m both being universally present in $s_i$. Event does not need observation. If observed, then it is conscious time that makes observer aware about that there is event.

Conscious time does not generate event; or it plays no role in generating event. Event shall generate whether or not observer observed it or whether or not conscious time generates. *Time is not the substance of event.* Conscious time is awareness of observation.

Conscious time has multiplicity to be aware of different events or real ideas, like thinking about time, in different streams of timeforms of different durations and directions.

Every instant or "time-block" of conscious time can receive transcendence of memory, imagination and other faculties, like worker recalling skill, thinker recalling expertise and soldier recalling training, to shape and re-shape an event under observation.

These and several aspects of conscious time that were generated in 1992 and recorded in 1999 book (revised in 2012) and the 2004 book of the author place the theory of time in good standing. One thought was to define meta-time from the definition of conscious time in analogue with the reversibility of conversant function $y = f(x)$ as $x = g(y)$ as $x \longrightarrow \infty$ and to $x = ak$ because $y \longrightarrow k$ when $x \longrightarrow \infty$, 'a' being scalar. That indicates the definition of meta-time as given below:

Meta-time is defined as the limiting case of conscious time composed of instants that are associated with the maximum possible refinement in observation of an event, or maximum possible refinement in apprising a real thought.

In the same manner, understanding of meta-time can arrive from the routes of memory time, imagination time, dreamtime and other forms of time. These are not attempted.

### *2.3 Time Related Issues*

Three, out of a host of other time related concept of the modern science, are discussed.

#### *2.3.1 Black Hole*

In black hole, time is expected to die inside the event-horizon. This idea is not sustainable. According to the mathematical philosophy outlined in this essay, no one can kill time. No one has "seen", "felt", or "sensed" a black hole, not yet, although much money and time has been spent on the project. Therefore, it is in order to question the origin of black hole. Black hole originates from the premise that a neutron star collapses into itself when its size exceeds a particular limit. This premise is not necessary. A super dense star may fragment and continue to exist as fragments. Time need not die [9].

#### *2.3.2 Minimum Temperature*

Black hole literature has made a contribution in telling that inside the event horizon the entropy is zero; therefore, the temperature of the event horizon had to be 0 K. That brought realisation to that 0 K was the lowest temperature at which gas could not stay as gas. For let not liquid stay as liquid, the temperature had to be lower than 0 K; call it the "liquid limit temperature" (LLT). Even at LLT some energy will be left and there has to be a "solid limit temperature" (SLT) to let the matter become free particles and not stick to one another to make a solid form of matter. SLT is colder than LLT and LLT is colder than 0 K. At a temperature lower than SLT, may be after use of the residual energy in a flash, particles, sub-particles, sub-sub-particles will dance away into space. Several things may happen after that [10].

Black hole literature suggests that the absolute zero temperature is much below 0 K.

#### *2.3.3 Big Bang*

Edwin Hubble Powel (1889-1953; USA) and his team showed in 1924 that Milky Way was not the only galaxy in the sky. Under an unestablished presumption that all galaxies had a F-Type Cepheid whose luminosity never varied, the team came to the conclusion that all galaxies were running away from us and they calculated how far they had reached. This they did in spite of the fact that light cannot measure $t_i$ and $s_i$. That "galaxies are running away syndrome" led to the belief that once upon a time all matter lived together in a superhot and super-dense mass. Some discord made this hot and dense matter separate with explosive force. That is Big Bang. Big Bang could not happen without establishing the presence of F-type Cepheid in the galaxies. After all, we see stars above in the sky. If there was a Big Bang, the night sky will be black and empty and all the stars and other things will be seen in a luminous ring illuminating the fringe of the black circle of the night sky; very much like the fire-ring through which fire-jumpers jump.

## 3. Summary and Conclusion

Time is idea. Time emerges with the idea of existence. Let there be an assumption that existence is static. Alternately, let mind move along existence in the same motion if existence is not static. Existence has energy in latent form or meta-energy. Meta-energy has latent ability to alter; and latent form of time, meta-time, has the latent flair to comprehending change. Basic temporal forms are imagination time, conscious time and memory time, and so on, and they emerge from meta-time. One or more of the basic temporal forms comprehend that existence fruits into essences of existence, like the

concepts of meta-energy, meta-time and meta-space. In the stream of time, conscious time and dynamism, two basic concepts encompass the human knowledge. First is count that starts the question as what lies between natural numbers. Second are the momentum of the energy and the concept of mass. In the matter of count, the natural numbers need represent a distance or duration in blocks containing nothing other than distance or duration. For that purpose, an "oneness operator" needs brush away all the debris between two natural numbers. Oneness operator works out durations free of debris to touch one another at both ends. In other words, the parts of distance or duration remain finite. The original idea of time as meta-time is a limiting case of conscious time of observation. In the matter of dynamism, the player is energy. Energy is ability and it is everywhere. Momentum is present where energy is motive. "Mass" is everywhere. "Mass" is a mathematical constant for Newton's formulae that elevates to the state of physicality as "quantity of matter" or "things" in general in place of "mole". There can be no work or momentum without the accompaniment of conscious time of observation. This existential theory of time has one-to-one consistency with the quantum theory of physics; and it negates several unconfirmed theories and practice of science like Black Hole and Big Bang; and ends notions like 0 K being the lowest temperature in nature.

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