Absolute Time?

Dan Romalo
Intr. Rigas nr. 29-B, Bucharest, ROMANIA
e-mail: danromalo@yahoo.com

"Et Sembobitis, qui était vieux, disait: –L'homme est fait pour comprendre." **Anatole France, Balthasar**

This work is an essay endeavoring to understand what the term "Absolute Time" really means.

Winter is here again. Once again one must confront the outdoors biting cold. Yet, a much heavier and deteriorating hardship is to stand, day after day, day and night, the crippling cold permeating from outside indoors. The heating gas pressure dropped again at a nearly zero level and by that started the unavoidable consequence of indoors temperature to follow the same trend. To warm a pot of tea, or boil an egg on the kitchen stove would take an hour or more, so we use the little gas-bottle − part of our summer excursions gear - which, in spite of our severely thinned demands, is also nearly exhausted. The Communist-Party's Central Comity building consumes nearly all the heating quota allotted to our district. Even worse**:** each time a communist party congress is in view, no percent of the quota is allotted to heat the 'rabble'.

When life runs that way I feel a cold, devastating wind of sorrow, a killer of all feelings and mind's values, blowing in my soul. As even by birth enslaved to the unyielding need to understand the *logic* of **all** on my path arising things – logic which, if not respected, made me feel poor of any living sense, deprived of the sensation to be human, not a simple bug –, I am driven to continuously and eagerly search for the intimate logic of anything onto which life continuously throws me. I was resenting the absence of logic in that way even before the day when, at five or six years of age, fascinated being by a clock with its whole mechanics visible behind incredibly clear crystal panels, beautifully assembled in as from gold made angle-bars, I was allowed by my grandmother who, with infinite love yielded to all my desires, to disassemble - until its most secret parts, until the two iron strips wizardly convoluted into a gilded barrel finely toothed at one end – that clock beyond any comparison. And after that to be tolerated to assemble and reassemble it along three days of hard working labor. To be let to rebuild it without any initial knowledge about its intimate motivations, just by fumbling under the guidance of an innate and unyielding belief that *everything* **must** have its own internal order, not yet known but findable by means of the perceptions intuitively bursting in my then incipient nature. To put it again in one unique structure and, most surprisingly, to make it tick in spite of the fact I have got it stuck – perhaps, that was the very reason for which I was allowed to put it in pieces, drawn being by the irresistible curiosity proper to most children -. Bound by Fate - seemingly still from my early childhood's times - to a pitiless spell, specifically the one to search without respite **a** – or, optimally, **the** – reason for any thing encountered on my way, all my life I was lured by the false belief that *logic* is a human quality powerful enough to make men understand each other. To understand that in spite of their inability to love each other – of course, one faces in one's life so many kind of fools, of dumb-ones, seldom really clever men that neither God nor the devil could sort them anymore – but, at least, to be able to *stand* each-other. I feel that way convinced that if they will not stand each another, a moment will come when things may turn bad, perhaps very bad, eventually unbearably bad *for all* of us.

So, when I feel that way, and once back from work, I used to lean, day after day, on a sofa, staring at the ceiling, mulling thoughts and obviously-unsolvable problems until, finally, I become conscious that in that way behaving I come to nothing**;** I find no solution, I reach only at 'non-answers'. So that I eventually convince myself that behaving that way is pointless. That less lazy and useless I would prove myself if trying to put in order all what I succeeded to gather - and somehow understand - along a life lived in a more or less 'as happens' kind of way**;** lived somehow much more by guessing than by knowing. And that makes that, at last, I begin ….. and begin again to look after what was most important in what I had learned along my life. And when I eventually find something seemingly meaningful, I weigh that something against alternate 'somethings', trying to assemble them in good order, yet only to get, at last, the sad evidence that the by me tried order collapses again and again, so that I have to try another order, I have to weigh them all again. And so it happens that days drip only to find me still staring at the ceiling, still without any consistent order settled in my mind. Still worse: it seems that even my questionings go askew**;** it looks like even what I used to believe put in good order in my mind shows now like an intricate mesh proving convincingly how much clarification is requested in hope of eventually reaching a decent understanding. So, after many - much too many - such days, I decided to really try to put my mind to work. Therefore, renouncing to babble daylong silently and senselessly in my mind, I start an attempt to spin something significant – of course in the limits of my thinking abilities. I begin to select from the many things life taught me – piling them as received in my memory – the most important ones, and those ones I began to order them in my mind so stocked as not to continually break down and crush my mind as if refusing to be anything else than a huge bulk of pebbles wrongly amassed.

Once I eventually understood I **have** to do that, I decide to do it. So, still leaning – well 'cocooned' in my warmest skiing wear – on the sofa and starting to indulge myself in a whole bodily relaxation, yet also closing my eyes to curtain the unsettling image of the humidity spots 'sketched' on the ceiling by the last autumn's rain, now installed as well as possible in view to cogitate on the fundamentals of natural philosophy, I begin to search in my mind which of the philosophy's boulders would be fit to

be chosen as foundation for the ensemble of thoughts so hard to organize as if they were a huge mould of heavy, rugged stones. Still, eventually becoming aware that a single-boulder at the foundation does not allow a consistent, wholly-principled thinking, I decide to add another one to the first, establishing in that way a *two-boulder foundation for my thinking structure.*

As boulders for my cognitive base I chose those that Descartes, Heidegger, ….. and so many others as they might have been struggled / wrestled in their mind and into their writings**;** in fact I chose the two notions implied in the classic sentence I dare cite in a modified-order form**:** "**Sum** ergo **cogito**".

Are those two knowledge-boulders – *i.e.* **to exist** and **to think –** separable?

Descartes considers them definitely *non-separable*. More specifically**:** he assumes the first term, ***to exist***, to be an *absolute* ***consequence*** of the second one, i.e. ***to think,*** which he assumes to be a *primordial,* ***instinctive*** *and all-determinant* trait of human nature.

Personally, I could not make my mind to assume the causal order Descartes states in his famous sentence, *cogito ergo sum*, yet only in *reversed order*. I am driven to do so because, enslaved being by my very nature to feel and perceive nature's phenomena in my own way, I am bound to assume '**to think'** as being a *biological consequence* - inferring by that**:** ***instrumentally*** *conditioned* – imposed by the general *existential* order.

Feeling that way is a consequence of a very long ago happened event. Having been invited by some good friends to lunch with them, I participated to a meal definitely poor in vine but with helpings perhaps somehow too heavy for my liver to support them. So it happened that, when stepping outside their flat, I fainted. Suddenly all the world - myself with it - vanished. I lost consciousness of myself and of the whole world**;** no more feeling or thinking something or anything. I was immerged in an absolute consciousness void. Then, while in some kind of return I began feeling again, I felt that ***I exist.*** That I exist as **something**, as 'something' floating in a hazy, misty-gray world**;** that I **exist** as *a something unshaped*, only vaguely conscious through the question**:** ***what*** *am I*? Not '***who*** *am I***?'** but **'what** am I**?'** What kind of *something* am I? And that is what I consider now mostly significant**:** it is that ***what*** in lieu of a ***who***.

What a strange, surprising inversion in *existential qualities* it proves to be. Seemingly, it is a somehow instinctual *interrogation* oriented towards discerning the '*one-self's*' significance in a world not yet quite shaped. A not yet shaped approach in search of someone's ***ego***.

This is what sustains my *credo* into the predominance of *existence* when related to *thinking*. That is what sustains my conviction that the sensation of ***existence*** precedes in our cerebral activity the consciousness of **ego cogitans.** And from here my credo into the essentiality of the sensation and/or perception of '*to exist*' – here the voice of a very good old friend, alas yet gone, whispers in my mind's ear**:** *„ Ahaa! So it is* ***sein,*** *more precisely* ***wass sein,*** *at last thou begins to understand!*" – a sensation or perception boulder-heavy. Yet a mind's boulder I have to push - without real knowledge, much more by fumbling and guessing - into the very base of my thoughts piled up as if being a kind of mound of stones I try to assemble in a strong, *self-supporting* structure.

Is this boulder of ***I exist*** - which I am now endeavoring to thrust, together with the other one, the one of **to think,** into the base of the knowledge mound I try to build - strong enough to stand its own weight? Strong enough to keep its shape and strength when inserted not ***at*** the base, yet ***as*** **a base** for the mountain of thoughts piled up - if well ordered - in a logically coherent, strong structure of mind ..... hopefully.

My conviction is that both boulders so described have the needed strength. I so believe because I was not borne gifted with them, but I had to plough extensively my field of perceptions to unearth them fully shaped. So, what could I have more valuable in my mind than those two abstract boulders? More precious than these two heavy in meaning elements so hardly extracted from under the pressure exerted by a huge pile of not yet well organized stony-thoughts, only to be *reinserted*, otherwise laid, in hope of ensuring a well-built foundation to my cognition. A lifelong endeavor is trapped in those two mind-boulders.

Now with them set – but *with their nature not yet well understood*, simply put in words *without* any well defined definition, simply motivated as '*so felt*' – I start looking after what concept could be adequate to be forcibly inserted upon the two first-ones, i.e. *to exist* and *to think*.

The answer is straightforward**:** it will be - of course - ***space*** and ***matter,*** entities which, alike the first two, are essentially plain words *lacking any consistent definition***;** essentially, just a *set of perceptions wrapped in words.* At the level of my understanding, they are no more than a bundle of perceptions early grown in my child's incipient mind as a result of prying into my grandmother's clock. It was then I began to feel – afterwards conceptually perceive – the consistency of matter agglomerated in objects; when I was drawn by internal impulses to *think* the idea of matter bound in specific objects and occupying precisely determined *places* in the universally extended *space* – later conceived as a container much too large too be filled by consistent matter –, when the idea of space took shape in the mind of a child experiencing existence by looking – very soon afterwards also intervening – into the inside of my grandmother's clock wrapped as it was in its wonderful crystal panels. Eventually, finding the place of each particular part and also, essentially, how exactly oriented, that last one because if otherwise set the arrangement would not fit, or would break.

It was so I incipiently intuit *space as a notion*, one which evolved afterwards in ***Space*** assumed as an immensity occupied - or *potentially* able to be occupied - by matter however aggregated, shaped, at rest or moving within an universe with its own specificity – 'universe' which, in my now long ago childhood's mind, was *illustrated* by the inside of my grandmother's clock.

Yet soon afterwards it happened I somehow had to forget what that unforgettable clock had taught me. It happened so because I was put to learn geometry and a big bunch of other things about *space* and *matter*. Still, now that I find myself heavily old, when I find myself thinking about all that stuff I had to learn as a boy, it seems to me that it was still my grandmother's clock who taught me the most about senses in nature. Who taught me not only *multa sed multum*! Yet, against my desires, I had to learn … and to **understand** a geometry built – now I would say *axiomatically built* – from *teacher's assessments***;** a geometry illustrated via signs drawn on the black-board, a first

example of that being a chalk-track *assessed* by our teacher as meaning 'in ***reality*** *a straight line*' and, by consequence, *named* **straight line**. In the following lessons I had to learn that *lines* may intersect *circles* which we, the pupils, **had** to imagine *perfectly* **round** in spite of the way they looked on the black-board or in our exercise books. How awfully hard can be to *have to* imagine straight or round something you see evidently askew! But compelled to assimilate it, I ploughed into the mysteries of that most simple geometry – said to have been the first axiomatic one – a geometry so elementary that Euclid succeeded, very far in the past, to write it down, *alone, all of it*.

Yet soon came the day I had to meet ***Time*** as it was explained by our master in physics, and by that to discover that to get in my mind the meaning he assigned to it I had to struggle really hard. Most surprisingly for me was to discover that my grandmother's clock did not taught me the essence of *Time*, in spite of the fact that its very meaning was to continuously tic time and show it to anybody interested. Absolutely nothing about ***Time*** did I gather from that marvel clock, so generous otherwise in furnishing my comprehension of the world. The only gift I got from it was to hear it ticking and to contemplate its wheels – most of them visible inside the transparent cabinet - each one running at its own speed so that, fascinated by a peerless one, I watched timelessly through the crystal top-panel that wheel which was the single one to fly for a split second in one direction, the next instant in the reversed one**;** a wheel which, by means of two small pins and a mini lever, alternately blocked or liberated a second wheel which, this one, was jumping and chirruping like a sparrow in spring. It is so that I remember that '*by-itself-teaching clock*', still enjoying the memory of its restored ticking coming out of a surviving mechanic in spite of having been thoroughly mulled by my childhood hands and mind. Still, as for what ***Time*** means, it – I nearly wrote '*he*' - taught me nothing at all, so that I was allowed to live quietly from that side, without feeling the need to understand the time's sense in another way than by reading, now and then, the indications inscribed on the faces of ticking rogueries which, if honest, had to respect one single obligation**:** to always show, ***all*** *of them*, **everywhere** and **always**, the same running indication – that, of course, if able myself to read their indications all at a time.

So I had grown somehow old relative to the child investigating the secrets of a wonder clock I used to be – let's say it was before accessing the last high school class – when I discovered that if someone wanted to understand the world, and I was eager to do that, he had to really comprehend ***Time,*** meaning the very notion of *Time*, and I felt that as an unbalancing hard task. Still today, when I try to thrust that boulder of thought near, more precisely *above* the precedent four ones, I strain as hard as I can, without being sure I accomplish really something. And as I stay now weighing my memories, it seems that the trouble began when, entering high school, I started reading almost anything I was able to grab and by so doing I stumbled – it could have been during my last high school year – on a book written by Einstein and Infeld. It was written at a popular level, but how elaborate and skillful I felt it when endeavoring to understand its depths. Printed in it I found insulting statements regarding my grandmother's clock as well as to my skill in repairing it. Printed in clear characters stays stated that if the clock would had been transported from here to there in our world, even if as carefully as possible, it still would have displayed defective indications, this because - could you believe it? - a logic imperative imposes to imply ***simultaneity*** in the reasoning. And because *simultaneity* **is *relative*** – so state Mr. Einstein and Mr. Infeld in their book – the phenomenon as well as its definition ask for a much deeper understanding joined to an extended consensus of all those who travel with clocks, sending light signals to one another and modifying the indications of their clocks in accordance with the signals' arrival times.

What a heap of useless complications resented I then, angered not to be allowed to go on enjoying the clear principles of dear, smart Sir Isaac – Newton, of course – he who so nicely matches all things, essentially *space* and *time*, except that he, by a single easy stroke of his pen, states *they have to be* '**absolute**' entities – a much to easy stroke affirms Mr. Einstein supported by Mr. Infeld. And that ban imposed on Newtonian time made me feel sad, yet it even ached to root out of my mind *the* ***absolute,*** that wonderful gift Sir Isaac granted us with. It ached somehow as when I lost my big front teeth while chewing a bit of bread. Yet nature grew a new one in its place, bigger and stronger. I wondered then if it could be the same with Mr. Einstein's *Relativity* replacing Newton's *Absolute*?

It was not! Still worse**:** in the same book stayed written, clearly expressed in good French, the sentence**:** "*Apres des expériences si malheureuses* (reference to Fizeau's, Michelson and Moreley's experiments, perhaps the stellar aberration also, which delivered reciprocal contradictory results*) le moment est venu d'oublier completement l'ether et de nous efforcer de ne plus jamais prononcer son nom. Nous dirons**:** notre espace a la proprieté physique de transmettre des ondes, de sorte que nous ne ferons plus usage d'un mot que nous avons décidé d'éviter.*" (A.Einstein et L.Infeld. *L'évolution des idées en physique, Flamarion, 1938, p. 172).*

In this sentence deeply disturbing for me was the statement "*our space has the physical property to convey waves*". Mentally, I was thrown out of balance because of my innate conviction that *space*, defined as a universal *container*, may not be linked to other qualities than to *contain* matter and, *by that*, support geometry's abstractions. My strong conviction was then – it has remained so till now – that space, virtually conceived as a container, if devoid of any content is void and by that may not physically generate or sustain whatever kind of phenomenology. The consequence is that I kept my teenager conviction that anybody who wants to look into the intimacy of the propagation phenomena, whatever the kind of energy implied, may not step out of the *whole universe's materiality hypothesis*. My strong belief is that to look after what form of substantial support is responsible for transporting, or transmitting, electromagnetic energy is compulsory. And that indifferently how the said support may be imagined or named. My feeling is that one may disregard the hypotheses history has grown up in that sense and go farther with Einstein's theories, or, alternately, contest them and search for an explanation electromagnetic waves propagates through y_i 'void'. My belief is that one has to decide now, because on that mater 'tertium non datur'.

From this *instinctive belief* – even if less explicitly felt then than now – I could never and by no means liberate myself. The consequence was that after I read the book's key chapters again

and again and endeavored *fiercely* to understand their deep meaning, I decided – seemingly for an entire life – not to accept the Special Theory of Relativity *in its einsteinian justification*. I refused it in spite of being in those days kind of keen on 'Papa Albert', father of the photo-electric phenomenon – miraculously intuitive in its approach of the not yet explained facts, my teenager's enthusiasm protected by not knowing the subtleties Planck had seeded in the phenomenon's deep significance –, admiring his taste for playing the violin, amazed when told he did not use to wear socks in his shoes, above all admiring his hair cut. And, from then on, I never succeed to look at the Special Theory of relativity in another way than illusionism working through measuring means; illusionism so performed as to confer, by way of a pencil stroke, a constant value to the speed of light in **all** *inertial systems*; procedure I always afterwards resented – when looked at from a philosophical point of view – as profoundly regrettable. From that *credo* – naturally grown in me and proved non-eradicable whatever hard I tried to do that – I could never get rid, not even now when, at last, fate allows me time and leisure to munch again the hardness of this riddle.

The essential challenge in my daring attempt to imagine a model of universe 100% substantial is, indeed, how to imagine/configure the *Aether's* role and structure in nature's phenomenology, a rather hard task because the notion of aether was so widely discredited, yet explicitly repudiated by Albert Einstein, that it became quite untouchable. So I will not now approach this problem, but only confess I am open to the hypothesis of some sort of aether really *existing* and will return to dig into the ***Time***'s mysteries, a boulder awfully heavy and hard to move, yet the carrying of which is unavoidable to anyone who wants to climb the pebbly abruptness of knowledge.

About the specificity of ***Time***, assumed as a philosophical category, and on its profound meaning I most often exhausted my mind during the somehow crumbled respites disseminated along an extended period of servicing as 'servant of the empire' – as most ordinary men I had to be a servant and, by that, bound to give Cesar's what he was asking as his due, and to God what I felt I owe to God. So, I shoveled to Cesar daily labor - many chores, scarce enjoyment - and devoted to God my unshaken belief in the perfectibility of man's rationality.

I remember having thought often, hard and intently, about *Time*, but on the contrary of many others, my professors essentially, I newer succeed to catch the sense of *Time* characterized as ***fundamental*** **entity**, yet, framed in my own mind's abilities, only as a basic *consequence of the* ***moving*** *of matter through* ***space.*** Incidentally, that places *Time* very close to Euclid's geometry. That way of perceiving the world's realities is the consequence of an internal impulse which whispers in my mind's ear that essentially primordial is the ***succession*** *of configurations matter builds in space*. '*succession*' does not compulsorily imply*Time* in its meaning, yet that it simply expresses our *sensation* of well-ordered piling existential perceptions in our memory, specifically the sensation of one perception *after* the other, 'after' implying here only our biological sensation of the universe's *evolution* - one self's included.

The deep philosophy of the thesis as above configured is certainly not quite simple as till here reviewed. In what follows I have to complete the till here developed analysis by adding a slightly more abstract line of reasoning, yet still directly intuitive.

At the base of this new approach stays the notion of ***time*** *as it is known in physics* and with this specific meaning implied in most of science's equations. When so used, its significance is one of a most general parametric *describer* fit to ensure a congruent correlation between nature's phenomena formally expressed.

In intent to sustain that allegation via mathematics, I consider a set of variables describing some natural phenomena, every one specifically dependent of time –expressed as t – dependences formally represented by $y_i = f_i(t)$.

Supposing that all y_i represent natural phenomena clear of implicit physical singularities, the above written expressions are mathematically reversible relative to the variable t, so that one may express t in its dependency of one of the y_i ***arbitrarily*** *chosen*, let's name it y_j, so that:

$$t = \varphi_j[y_j(t)]$$

φ_j being the functional inverse of $f_j(t)$. If so, it follows that:

$$y_1 = f_1(\varphi_j)\,,\ y_2 = f_2(\varphi_j)\,,\ldots\ y_{i-1} = f_{i-1}(\varphi_j)\,,\ y_i = f_i(\varphi_j)$$

a set of relations leading to the general conclusion**:** Nature's evolution laws may be expressed as dependent of *anyone* of the variables y_i – chosen freely, and consequently assessed as ***time indicator***. On that basis – I eventually feel somehow ashamed getting aware I pompously present tautologies. I draw the general conclusion**:** ***Time*** *has no physical reality*. From the philosophical point of view, ***Time*** shows itself to be *an abstract descriptive* ***parameter*** *with a conventionally assessed most general correlating power*. This conclusion should make us aware that it is not wise to define 'time' as a ***fundamental*** *physical entity*.

Here I must confess that I really enjoy that clarification because it confirms my old intuition – in the past, somehow only a mind's sensation - that *Time* **is not** one of nature's *fundamental entities*. More specifically**:** that usual time t, when constituted into the notion of *Time,* remains just a *parameter* that allows us to express ***coherently*** the *physical evolution of different material structures* into our evolving universe. That ***Time***, if so understood, can be philosophically and mathematically *clearly defined*; and also – if one stands my illustrating mode of expressing - one would see it like a mind's boulder six-faced properly cut, as for building mind-strongholds – here my memory brings back into my mind the image of that incredible Tirint built with monstrous unshaped boulders – and by that essentially different from the less well formatted *matter* and *space*.

But is really *Time,* if so assumed, quite clearly six faces cut?

Seemingly, I somehow succeeded to husk Time's meaning a little better than I got it from books or from my teachers' statements, ……. certainly better than delivered by grandma clock. But have I by that properly face-cut the boulder?

Not quite. Most certainly not, convincing proof being that powerful thinkers, physicists especially, discriminate alternative sorts of Time**:** Newton cultivates *absolute* time, Einstein imposes his own *relative* time – yet only apparently made relative, but who could anymore decide after having read the cluster of not

always coherent comments, Einstein's included - Lorentz and Poincaré who initiated a particular one, *mathematically relative,* in intent to make the handling of Maxwell's electromagnetism easier, or the *GSM time*, not to speak of Bergson's *biological* one.

Which one should I choose?

Yet it is not by choosing but through deep meditation one may hope to gather the true answer. One should begin by weighing the interrogation**:** if one would be able to rightly define *Absolute Time*, **could** all the other ones be deduced from this particular one?

Usually, the attribute of *absolute* infers a generalization of the quality implied by the associated term against all restrictive conditionings. So, how is *temporality* affected when so qualified?

Newton, when treating this subject, states that *Absolute Time* is **that** one – and from this I deduce he was aware of the possible existence of more than a single kind of *time* – which "flows uniformly."

But what does that really mean?

My feeling is that Newton – powerful philosopher as he was – should have honored his duty to make clear in the legacy towards us what he meant by "*constant rhythm*" and by "*uniform flow*". Myself - more or less bran-minded compared to him – trying to catch the meaning of those strange physical conditionings Newton legated us without any explanatory hint, imagine they could be fulfilled by means of a signal generator, situated somewhere in the universe and emitting at a *constant rhythm* pulses which, *virtually,* could be supposed to propagate with infinite speed.

Trying to carry out what Newton left us unexplained, I presume that such a rhythm is definable on basis of any of the natural phenomena satisfying the conditions**:**

a) to show, all of them, a physical and/or geometric evolutionary aspect *continuously repeated in a quasi identical mode*, and

b) evolving so that their representative variables could be *linearly correlated between them* (not a mandatory restrictive condition, just a simplifying one).

From that class of phenomena one may select one – freely chosen on motives of commodity of use – and *impose* this one as *standard-time* indicator, an obvious example being the earth's angular orientation relative to the fixed stars system, now finely corrected using atomistic linearity.

Imagining now we would live in a world in which *signals* propagate *infinitely fast*, one may think that by coupling the signal generator to the chosen as time-indicator phenomenon, one would have by that set *Absolute Time* ***intrinsically*** everywhere.

Obviously, it is a conclusion of no use, reality not offering signals with instantaneous propagation - *i.e. concomitant* emission and reception after reflection at a distance. If so defined, *absolute time* remains an illusory notion into a virtual world. One sees so that acquiring *Absolute Time* in our real world is not a quite simple task, the difficulties arising when trying to define *Time* ***instrumentally*** – scholium being the methodological condition Ives considered compulsory in scientific reasoning [*e.g.* Herbert E. Ives, *The FitzGerald Contraction*. In: Scientific Proceedings of the Royal Dublin Society, new series, 26 (1052), pp. 9-26.].

Yet, side stepping, one can try to find *Absolute Time* by reading the indications shown by *local clocks* dispersed in space but still controlled by the central emitter in the same way as previously assumed in spite of the fact that now the signals travel with *finite* speed. Still, when one reads them and tries to interpret the meaning of their indications, one finds it is an unpleasantly tricky task. Albert Einstein, still young physicist being, forwarded a solution which, when made public, started a revolution in science. As regarding me, I never and by no means became able to assimilate it, maintaining myself inquisitively dubitative. Still a moment came when I decided to test my thinking abilities – if any – trying to solve the hard-nut problem of *Absolute Time* by approaching it as above, yet permanently keeping in mind Ives' methodological premise**:** *think instrumental even if imagining in virtual*.

So, I begin by supposing that all the clocks - physically identical – are put together near the central emitter and are set *sin-rhythmic* and *synchronic* with it.

Afterwards, by hypothetical extension, I suppose the clocks remaining *sin-rhythmic* even when disseminated through space. This is not - *a priori* - evident and may not be presupposed simply by nature intrinsically true. But supposing our universe not being physically delirious, the clocks' sinrhythmicity - *i.e.* same rhythm - may be checked and ascertained by means of spatial electromagnetic connections.

Differently from the checking that all clocks disseminated trough space run sin-rhythmically, synchronizing them is a much more delicate problem. As far as I know it is Albert Einstein who first dug deep into the fundamental meaning of simultaneity and on its phenomenological implications. He chose to synchronize all local clocks by applying corrections to their indications, assessing to those corrections values equal to L_i/c , assuming L_i as representing the *measured* distance from the local clock i to a freely chosen reference clock. As for c , he assessed it as "*being the speed of light*" – factual speed, or its measured value only, who could now discern which of them Einstein meant? – imposing, *principium modum*, **c** should be an ***absolute constant.***

Imagining the clocks distributed in a classic Euclidian space in precisely steady positions relative to the master clock, one may indeed consider the distances noted L_i as *metric absolute values,* this because one may suppose they are determinable by triangulation reported to a length-base wisely chosen. I employed the precautious 'one may suppose' to underline the cautious way in which I intent to approach the subject, yet not quite convinced my previous affirmation in italics is factually true. As for the physical determinism by which the local clocks would be positioned relative to the master clock it could be either by material links, or by knowing exactly their moving mode relative to the master clock.

Considering the case of rigid links, a correct evaluation of the distances L_i implicitly infers that one knows exactly the specific dependence of matter on its location in space as well as on its moving state. It may be either the assumption of an absolute invariance of matter relative to its moving mode in space - that was the thinking mode when the Mikelson-Moreley type of experiences were initiated – or, on the contrary, some kind of material deformations determined by the motion's characteristics, a strong example being the FitzGerald-Lorentz contraction assumption adopted and integrated with outmost rigor in its theoretical demonstrations by H.E. Ives.

On the other hand, if one considers the case of a local clock moving freely into space, elementary prudence in hypothesizing should impose - if trying to understand the world by abstract modeling - not to disregard the possible existence of a substantial medium responsible for carrying the synchronizing signals, as well as the fact that this medium could be deformable and, by that, moving in a perhaps complicated way yet still not imagined by us.

In intent of an even more precautious attempt, I hear in my mind the advice that careful thinking does not allow affirming - *a priori* and *principium modum* – that **c** is, *physically,* an **absolute constant**. If one assimilates c as a physical entity, one has to *exhaustively* investigate its dependence - or independence - of position in space and instant of propagation – here 'instant' intends to suggest *a certain evolutionary state of the universe.*

It is strange that Albert Einstein completely neglected this aspect of the relativity's philosophy. He simplified the solving by introducing a new *principle,* stating that the phenomenological value of **c** is in physics an *absolute* ***constant***. Or, in other words, that **c** should not depend on whatever physical entity one may have in view.

I cannot adopt that point of view. Instead I am driven to search what dependencies should be taken into account in view to adequately synchronize the clocks.

Not being able to believe that energy, whatever its kind, could propagate, or be transmitted, in absence of any material support, I adopt the thesis that the entire material universe evolves immersed into a substance eventually subjected to continuous deformations or flows not yet detected or imagined. That obliges me to think of a possible dependence of **c** not only on where the propagation evolves, but also on its direction.

Why so many precautions when scrutinizing the universe's running secrets?

Being irremediably convinced that no energy transfer is possible without a *substantial* intermediary – *i.e.* **materially** substantial, on the contrary of *a quality attributed to pure* ***space*** *by principled laws* - I hypothesize that the whole space definable as geometric, concomitantly with all material structures dispersed into it, may be occupied by, or impregnated with, a medium able to carry energy. If so configured the subject, to ensure any finality, must be imagined under its most general aspect. That obliges me to conceive this medium – traditionally denominated *aether* –as a kind of fluid not yet perceived, perhaps hardly imaginable or definable.

Yet, if one frames the problem that way, one may no more suppose - a fortiori postulate - the ***absolute*** *constancy* of the electromagnetic-waves' propagation speed. If, by definition, **c** is assimilated as a ***physical*** *entity*, one has to mathematically handle it as a variable space-dependent, perhaps also direction dependent – in case the aether would show some anisotropy – as well as, perhaps, variable with the universe's age.

If so framed, *Absolute Time* may no more be conceptualized as a *physical entity*, yet as an entity only in abstractness defined. At that intent I assess ***Absolute Time*** to be *the by* ***any one*** *of the local clocks indicated time* - as commanded by the master-clock signals - yet ***locally corrected*** by addition of time intervals with values formulated as**:**

$$\Delta t_i = \int_{L_i} ds/\mathbf{c}(\mathbf{r},t)$$

in which the integrals represent the time span asked by the signals to travel – each one on its own trajectory, symbolized as L_i - from the master-clock to the concerned local clock. Here c **-** the electromagnetic waves propagation velocity - must be assumed as a *variable* space-dependent-vector as well as on the universe's evolutionary state, meaning on time.

So, a tentative final conclusion**:** to cogitate in terms of *Absolute Time* has sense only if it is understood as a *theoretical construct* with value of truth extended as far as the integrals above defined can be evaluated.

Now, after having drawn such a bold conclusion, I am in doubt if I have really proven - with some generality, or at least for myself - that *Absolute Time* is a notion with a consistent, precise meaning. A meaning which, to become acceptable, asks for some extension of the concept of physical universe as actually perceived. In fact to broaden it so as the Aether's phenomenology hypothesis shall be included into it.

"Only that much?" ironizes Camus, attributing the words to a Roman emperor confronted with a similar pretence.

Now I feel really tired. I go to bed.