

The COMALOGICAL Theory

The Philosophy of the New Relativity Theory

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Introduction

The name, COMALOGY is derived from CO which means CONSCIOUSNESS and MA, which means MATTER. Therefore, COMALOGY is a theory that studies the relationship between consciousness and matter as a result of the unification between Quantum theory (Copenhagen school) and Einstein's relativity theory (General and Special) in concepts, principles, and laws. The Comalogical theory considers consciousness as primary and matter as secondary and that consciousness creates matter, not vice versa.

Comalogy agrees with the concepts, principles and laws of Quantum theory (Copenhagen school), and changes its abstractions, to descriptive, imaginative, and cognizable data. Also, Comalogy refuses the concepts of determinism, causality, and continuity in the laws of nature, and affirms that the material world is controlled by the concepts of non-determinism, non-causality, and discontinuity. Also, our theory refuses the objective existence of phenomena, in that it considers the observer is directly involved in the formation of phenomena as in the Copenhagen school.

The concepts, principles, and laws of Quantum theory is applied to the micro world of the atom, whereas the macro is controlled by the laws of classical physics. This creates a contradiction in nature. In our theory (Comalogy) we unify the concepts, principles and laws which control the macro world with those of the micro world.

1- The Theory of Comalogy

In this section we shall study the concepts, principles and laws on which our theory is built.

The First concept: (The Thought Unit)

Any system in the universe embodies a **thought unit**. This thought unit represents the entity of this system for itself. Whereas the entity of any system for itself is represented by the information element that is received through its thought unit.

The Second concept: (The Information element)

The **Information Element** is defined as the information that is received by the thought unit of the system, whereas each information element is contained by the system. This information element may express the concept of energy, mass, space, time, or any knowledge or sense, all of which is received by the thought unit.

The Third Concept: (The Episode)

Any system A, that does not represent an entity for itself or for another system B, is then for system A, called an **Episode**.

Now let's study the principles on which our theory is based.

The First Principle:

There are five states in the universe. Those states are

The first state: The Positive Infinity State

It is the state of infinite energy and zero mass, where any system located in this state is comprised of zero mass, and a space-time length equal to zero, and zeroth length equal to infinity.

The second state: The Positive Median State

It is the state of positive energy and positive mass. Any system located in this state has positive mass and energy and a space-time length greater than zero, less than infinity, and also it owns a zeroth length greater than zero, less than infinity.

The third state: The Zeroth State

It is the state of zero energy and infinite mass, where any system located in this state has a zero energy and infinite mass, and then has a space-time length equal to infinity, and a zeroth length equal to zero.

The fourth state: The Negative Median State

It is the state of negative energy and negative mass, where any system located at this state has a negative mass and a negative energy, then has a space-time length less than zero, greater than negative infinity, and then has a zeroth length less than zero, greater than negative infinity.

The fifth state: The Negative Infinity State

It is the state of negative infinite energy and zero mass, where any system located at this state has a zero mass, then has a space-time length equal to zero, and zeroth length equal to negative infinity.

The Second Principle:

First: The Space-time Length T: The space-time length is defined as the length of the system from the infinity state, and it is denoted by T. It is equal to the reciprocal of the zeroth length.

Second: The Zeroth length C: The zeroth length is defined as the length of the system from the zeroth state and it is denoted by C.

The zeroth length for any system located in our material world is equal to the speed of light in a vacuum, and its space-time length is equal to the reciprocal of the speed of light in a vacuum. Where we consider the speed of light Comalogically, it is a method for measuring the zeroth length of any system.

The Third Principle:

As from the first principle that our material world has a positive mass and energy, thus it can be concluded that it is located in the positive median state. Therefore, we can call any system that is located in the median state as a **Mediological System**. Therefore, we can call to our material world a **Mediological World**.

Now we can clarify the five states of existence as in figure (1.1), In it, E represents the energy, m represents the mass, T represents the space-time length, and C represents the zeroth length (the speed of light in vacuum).

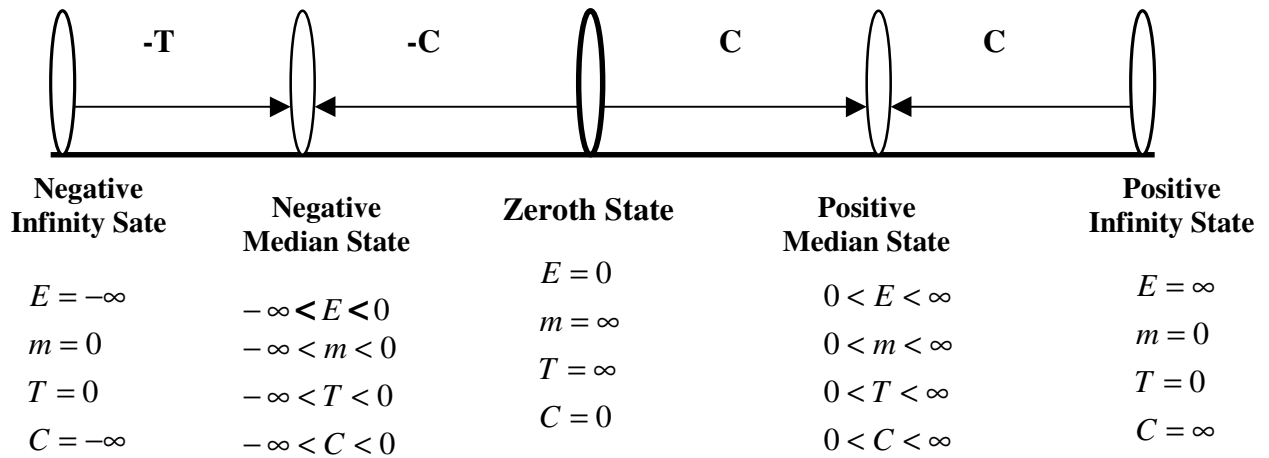


Figure (1.1): Illustrates the five states of existence.

The Fourth Principle: All the events that occur in the universe occur in the infinity state in a space-time length equal to zero, and zeroth length equal to infinity.

The Fifth Principle: All the events that occur in the positive median state (our material world) are a copy of the events that existed in the positive infinity state. Also, all the events that occur in the negative median state are a copy of the events that existed in the negative infinity state.

2- The Comalogical Concept of the Phenomenon:

After formulating the concepts and principles that our theory is built on, we shall clarify them.

The formation of the phenomenon Comalogically, for a mediological system (for example a system in our material world) is expressed in figure (2.2). E1 represents the information element number 1 and E2 represents the information element number 2 ...and so on for E3 and E4, to En.

We get from the fourth principle that all the information elements that form the phenomenon have existed in the infinity state in a space-time length equal to zero. Therefore, a mediological system (for example any system located in our material world) receives these information elements, (where each information element represents the entity of the system in its present state as in the first principle). The reception of these information elements comalogically will be as follows:

The space-time length (present) of the mediological system is between the thought unit of the system in the median state and the information element number 1 (E1) which exists in the infinity state. Therefore, after an elapse of the space-time length (the present of the system), E1 will be transformed from the infinity state to the thought unit of the system in the median state, then the system will live as E1 in its material world. At this moment (the moment of the system E1 living in the material world) the space-time length (the present of the system) is between the thought unit of the system and E2 in the infinity state. After the elapse of the space-time length (present), E2 will be transformed from infinity to the thought unit of the system in the median state. Then the system will live as E2 in its material world. And so on for E3, E4...to En.

From that we get, at the moment of transforming the information element from the infinity state to the thought unit of the system in the median state, the system lives this information in its material world. At this moment the present of this system (space-time length) is between the thought unit of the system and the other information element in the infinity state, and after elapsing the present the other information will be lived by the system in its material world. From that we can define the present of any mediological system (a system in our material world) as **the moment that space-time length of the system is between the thought unit of the system in the median state and the information element in the infinity state.** From that we get that the moment of living the mediological system to the information element in its material world, this moment is not considered as the present of the system. It is considered the past.

From that we get that all the events that occur in our material world is considered a shadow reflected from the positive infinity state as in the fifth principle.

Figure (2.1) clarifies the direction of transmitting the information elements, where in our material world it is transmitting from the positive infinity state to our thought unit in the positive median state. For the other world (for a system located in the negative median state), it is transmitting from the

negative infinity state to the thought unit of the system in the negative median state.

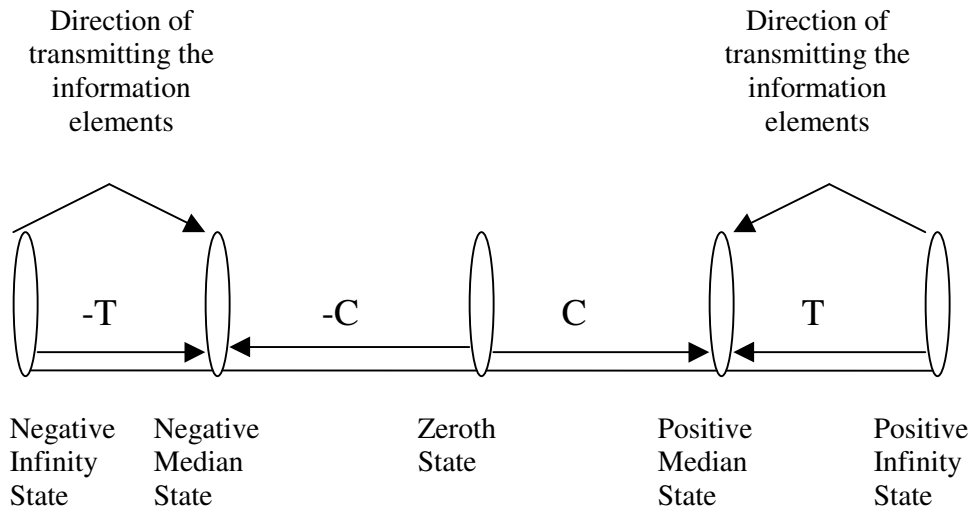


Figure (2.1): illustrates the directions of transmitting the information elements for a mediological systems.

Figure (2.2) illustrates the formation of the phenomenon for a mediological system comologically, In the figure, the straight line represents the information element and the small circle is the space-time length. Also we see that these information elements are unrelated to each other, where each information element is separated from the other by the space-time length. From that our theory refutes the principle of determinism, causality, and continuity in our material world.

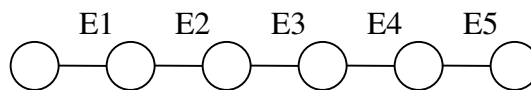


Figure (2.2): illustrates the Comological form of the phenomenon.

Figure (2.3) illustrates the comological form of the phenomenon for a system located in the infinity state. The form of the phenomenon is represented by a continuous straight line. All the information elements have continuity in the same present, where the space-time length is equal to zero.

We consider comalogically, that the light system is considered as a system located in the infinity state, and we have seen previously that any system located in the infinity state has all of the information elements of its life in the same present without past or future. Since all of its life is considered in the present, it can have an infinite number of information elements in the same present.

Figure (2.3): illustrates the Comalogical form of the phenomenon for a system located in the infinity state. All the information elements continue in the same present.

3- Our Material World:

We reached in the preceding section, a Comalogical definition for the phenomenon of a mediological system (material system). We defined it as; the information element that is carried by the present of the system (its space-time length) from the infinity state to the thought unit of the system in the median state. This information element may express the concept or thought of a mass, energy, time, space, or any sense or knowledge of this system. Also we have seen; the information element that is received in the present of the system is considered as the entity of this system in its present state. If you are reading now, then your entity is expressed by what is carried by the thoughts read in your present, and not by your material body. Your material body during the process of reading is considered comalogically as **an Episode** of yourself. The Comalogical concept of the Episode answers Einstein's question about the form of the phenomenon where the observer is absent.

Also we have seen previously, the information elements which are received in our material world are unrelated. They are separated from each other by the space-time length (present). That made us refuse the principles of causality, determinism and continuity in our material world.

Usually, we know that if one puts his hand in a fire, he will be burned. We consider the cause of burn is the fire. But comalogically we consider the cause of the burn not from the fire, but for the information element that carries -in the present- the feeling the pain of the burn. And the continuity in the pain of

the burn is caused by continuity of receiving the information elements that carry at each present the feeling of pain.

Comalogically, if you put your hand in a fire, you put it in a present that is carried by the information element that is transferred from the infinity state to your thought unit in your median state. Then you live this event (putting your hand in the fire) in the material world. When you feel the pain of burning, you feel it in a present that is carried by the information element transferred from the infinity state to your thought unit in your median state. Then you live this event (feeling of pain). Comalogically, the information element that expresses putting your hand in the fire is not related to the information element that expresses your feeling the pain. They are separated by the space-time length. From that, we refute the causality of your feeling the pain of putting your hand in the fire in the material world. Also we refuse the deterministic principle, that if you put your hand in a fire in the present, and after that you receive an information element making you feel cold, then you say "this fire is cold!".

Now if you are feeling the pain, and then you put on your hand an analgesic, naturally, you have caused a loss of pain. But it was caused Comalogically not by the analgesic. It is the information element that transfers from the infinity state to your thought unit in your median state that expresses your feeling of losing the pain.

Now let us go back to the first principle, where any system in the universe has a thought unit that represents an entity for itself. We know a man has hands, legs, eyes, and so on. Comalogically, each system of the man has a thought unit. The hand has a thought unit, the leg has a thought unit, and so on. Also the atom, the electron and the proton, also the sun, the moon, the star...and so on, has a thought unit.

In summary: the natural laws do not depend on the principles of determinism, causality, and continuity, but they are a result of the sequence of the information elements that take place, which are unrelated to each other. So, we conceive of the causality, continuity, and determinism in the nature.

That is in agreement with Quantum theory (Copenhagen School), where Heisenberg defined the wave function as **"it is a mixture of two things, the first is the reality, and the second is our knowledge of this reality"**. We express comalogically the reality as **the existence of the information element in the infinity state**, and our knowledge of this reality is expressed comalogically as **transmitting the information element from infinity to our**

thought unit in the median state. In the Copenhagen School, the wave function does not have any physical meaning, but the square of the wave function expresses the probability density. Figure (3.1) illustrates the square of a wave function, where the zero of the wave function is equivalent comalogically, to the space-time length (the circle in figure (2.2)), and the maximum value of the wave function is equivalent to the information element. (the straight line in figure (2.2))

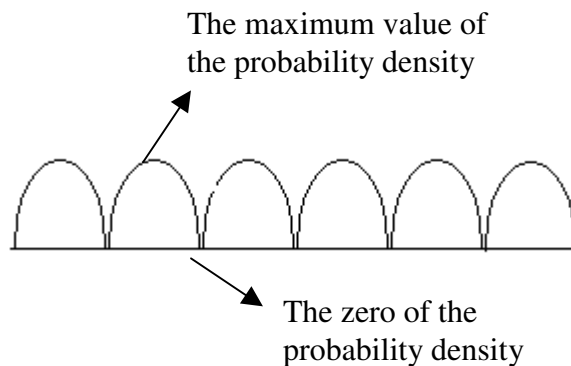


Figure (3.1): illustrates the square of a wave function (the probability density).

Heisenberg found an important principle in nature in his uncertainty principle, where it is stated that it is impossible to measure the velocity of a particle and its location simultaneously. Therefore we can interpret Heisenberg's uncertainty principle comalogically as it is impossible to measure the velocity of a particle and its location at the same information element or present. If you desire measuring the velocity of a particle you can do that at the information element (present) E1, and to measure the location, you can do that at E2, where, as we have seen previously E1 and E2 are unrelated. Therefore it is impossible to measure the velocity of a particle and its location at the same information element or present comalogically. From that we get that the formula which introduces that velocity equals the first derivative of the displacement with respect to time is inconsistent with the simultaneous measurement of the displacement and velocity. And since we can measure the momentum and the energy of a particle at the same time or comalogically at the same information element or present, thus we can measure the velocity of the particle through the simultaneous measurement of the energy.

4- THE COMALOGY AND THE NEW REALTIVITY THEORY

(4.1) THE COMALOGY AND THE CONCEPT OF TIME

The first hypothesis of the new relativity theory [Ref. 16] includes the speed of light is a constant equal to C for any inertial frame of reference, where C is the speed of light in a vacuum. Also, the second hypothesis includes the speed of light in any inertial frame moving with constant velocity V is equal to C' for any inertial frame of reference located outside this moving frame, where, $C' = \sqrt{C^2 - V^2}$, and C' does not depend on the direction of the frame's velocity, but only on the absolute value of the velocity [Ref. 16].

Subsequently, we can express these hypotheses by exchanging the speed of light by the zeroth length of the system, where we defined the zeroth length by the speed of light. As we know from Einstein's relativity theory, the information is transmitting to us with light speed, but comalogically we consider the information elements are transmitting through the space-time length which is equal to the reciprocal of the zeroth length. **Thus, comalogically, we consider the speed of light is a method for measuring the zeroth length of the system for itself, or for the receptive system for the information element (as in the second principle).**

Consider a train moving with a constant velocity V , and suppose a fixed observer on the earth's surface. Figure (4.1) illustrates the location of the fixed earth observer and the moving train comalogically relative to the fixed earth observer.

The figure shows that the zeroth length of the fixed earth observer is equal to C (the speed of light in a vacuum), and the zeroth length of the moving train for the reference frame of the static earth observer is equal to C' , where $C' = \sqrt{C^2 - V^2}$ [Ref. 16]. That means the length of the moving train from the infinity state (the space-time length) for the reference frame of the fixed earth observer is greater than the length of the fixed earth observer from infinity. That means comalogically the space-time length of the moving train is greater than the space-time length of the fixed earth observer for the reference frame of the fixed earth observer. From that we get, the information elements that express the events inside the moving train are transmitting from the infinity

state to the median state of the moving train at a slower rate than for the reference frame of the fixed earth observer. Therefore the events should be occurring inside the moving train at a slower rate than if at rest for the fixed earth observer. That is why the fixed earth observer finds the motion of the clock of the moving train slower than the motion of his earth clock. The information elements which express the motion of the moving train clock are transmitted from the infinity state to the median state of the moving train clock at a slower rate than when the train is at rest for the fixed earth observer. The space-time length of the clock of the moving train is greater than its space-time length at rest, and greater than the space-time length of clock of the fixed earth observer. But if the train is at rest, the length of the fixed earth observer from the infinity state (the space-time length) is equal to the length of the train from the infinity state. Thus, the events inside the train should occur symmetrical to the earth, and the motion of the two clocks should be symmetrical for both.

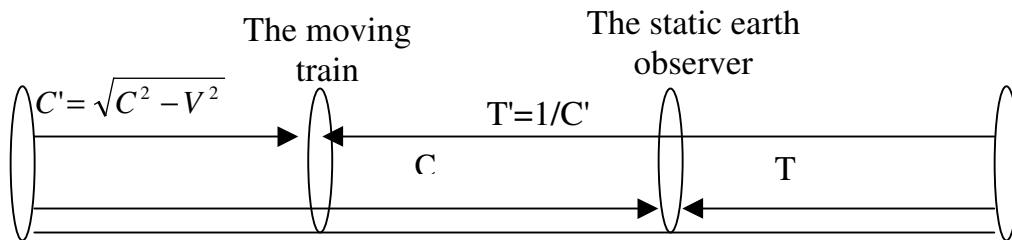


Figure (4.1): illustrates the comological location of the fixed earth observer and the moving train for the reference frame of the fixed earth observer.

For the rider of the moving train, his zeroth length is equal to the speed of light in the vacuum for himself. Also the zeroth length of earth clock is equal to the speed of light in vacuum for the rider (as we have seen in The new Relativity theory [Ref16]). That means the space-time length of the earth clock is equal to the space-time length of the moving rider for the reference frame of the rider, subsequently, the clock motion rate of the rider is equal to the motion rate of the earth clock for the moving rider.

(4.2) The Comalogy and the concept of mass and energy

Comalogy considers the infinity state as the origin for all material systems, and all of our material systems are transformed from it. Subsequently, any system transformed from the infinity state, will suffer an accumulation in its zeroth length and then an extension in its space-time length, and as a result of that the concept of mass exists. Therefore, the mass of any system results from

the accumulation in the zeroth length of the system and the extension in its space-time length. Subsequently, as the accumulation of the zeroth length increases, then the extension of the space-time length increases, and the mass of the system should increase. Since, the zeroth length of any system is constant (as in the first hypothesis of the new relativity theory[Ref 16]), thus, the mass of any system is constant. It is equal to the rest mass whenever its velocity increases. Therefore the mass of any system moving with constant velocity V should be increased by the factor $1/\sqrt{1-V^2/C^2}$ for a reference frame located outside the moving frame. That is because of the increase in the accumulation of the zeroth length of the moving system, and then the extension of the space-time length for the reference frame outside as in figure (4.1). Now if the moving system moved with a speed equal to the speed of light, then for a reference outside it, the moving system reached the zeroth state. Then the measured relativistic mass of the moving system is equal to infinity for that reference frame.

We defined the energy inside the moving frame for the reference frame outside itself by the equation $E' = R^{-1}E$ [Ref. 16], where, E is the energy inside the reference frame, E' is the energy inside the moving frame for the reference frame outside it, and $R = \sqrt{1-V^2/C^2}$. From the preceding equation, we see an increasing accumulation of the zeroth length of the moving system, and an increase in the extension of the space-time length. Therefore, the endured energy should decrease. If the moving frame moved with a speed equal to the speed of light (where it reaches the zeroth state), then the energy inside this moving frame is equal to zero for the external reference frame.

5- The Infinity State World

If you imagine yourself as a system located at the infinity state, your space-time length would be equal to zero, and your zeroth length would be equal to infinity, and your mass would be zero. If located at the infinity state, all of your life would be considered as one present, - no past or future. If you are eating an apple, then your eating the apple should continue to infinity. This applies to all events which would be synonymous with eating the apple... You can have an infinite number of events in the infinity state at the same present without past or future. The whole of your events exist in the infinity state in the present. Nevertheless, you are a system existing in the median state, receiving the information elements of your life from the infinity state. Each information element is carried by the space-time length (present), where you live one information element at your present in the median state. But if you were transformed from the median state to the infinity state, you would

find the whole of your life information elements exist in the infinity state at the same present. You will find yourself as a child, youth, and aged at the same time, and until infinity. Now you may ask yourself, **if the whole of my events in the earth are a shadow reflected from the infinity, then what is my fault if I make a mistake in the earth?** To understand this question comologically, let us study this example, Consider the moving train with constant velocity V and a stationary observer on the earth's surface. Let's assume that both the earth observer and the moving train driver are agreed on the moment of starting moving the train as $t = 0$. Now if we assume a tree exists at a distance Δx from the train track as in figure (5.1)

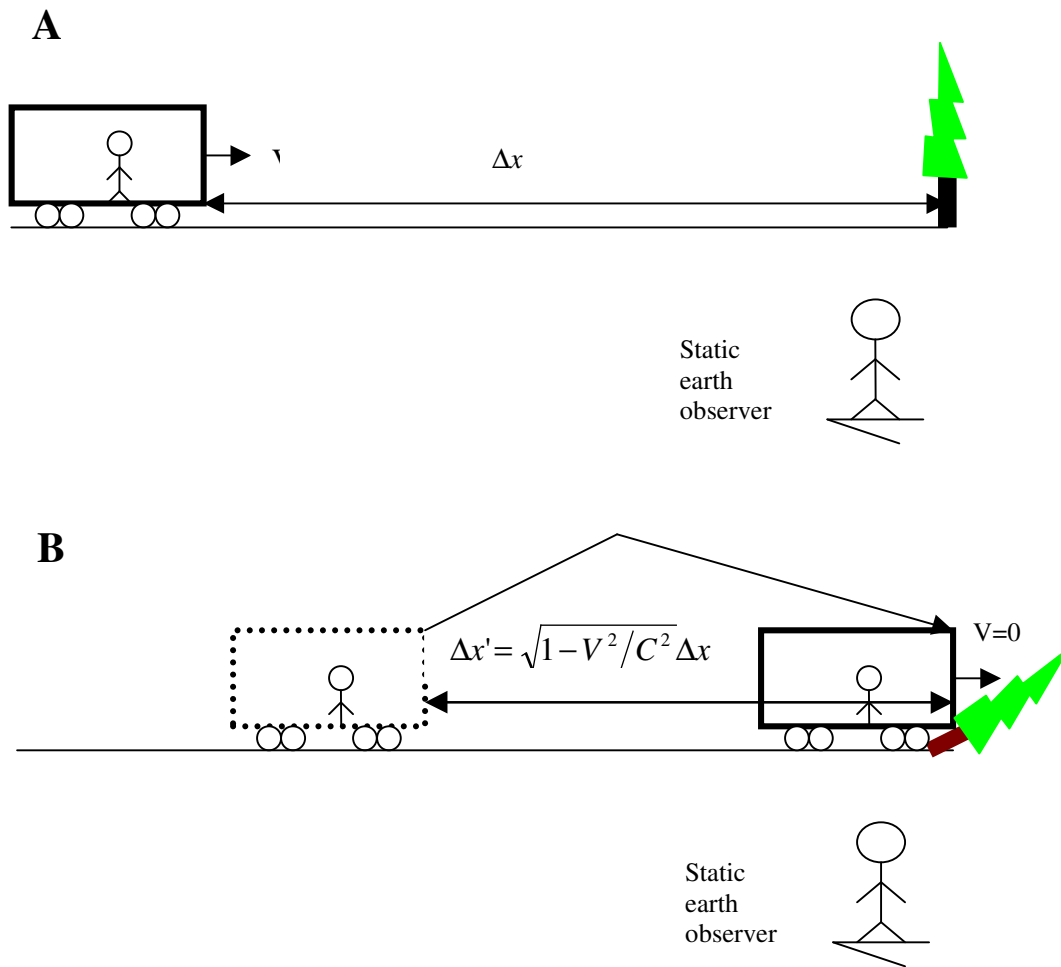


Figure (5.1):

(A) the train starts to move with constant velocity V to cover distance Δx .

(B) When the train covers distance Δx and destroys the tree for the earth observer, at this moment, the train driver determines he was at the distance $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$, and when the train stopped, his train will transform from distance $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$ [Ref. 16], to the distance Δx suddenly, then the driver will be confused about how the tree destroyed.

Now if the earth observer determined that the train passed the distance Δx and reached the tree, then for the train driver (during the motion) will determine that his train passed the distance $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$ [Ref. 16], and that his train has not reached the tree, but is approaching it. If the driver continues to move, then the train will collide with the tree and destroy it for the earth observer. But, for himself -at this moment- he has not reached the tree since his distance is $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$ [Ref. 16].

Now, if the earth observer could stop the train at the moment of destroying the tree, for the train driver, the train will be transformed from distance $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$ to distance Δx suddenly [Ref. 16], as in figure (5.1), then the driver will be confused as to how the tree was destroyed when he had not lived through the moment of colliding with tree, since he was at the distance $\Delta x' = \sqrt{1 - V^2/C^2} \Delta x$ at the moment of collision. Subsequently, for the moving train driver; his present is considered as past for the earth observer's reference frame and the present of the earth reference frame is considered as the future for the driver's reference frame. However, the moving train driver destroyed the tree in the present of the earth observer. At this present, the driver was not living this event, but it happened for the earth observer. This example may answer question we asked at the beginning, **"If the whole of my events in the earth are a shadow reflected from the infinity, then what is my fault if I made a mistake in the earth?"**

This example indicates to us that the whole information elements of our life in infinity state are done by us, but because of our thought unit exists in the median state and has a space-time length greater than zero, then our thought unit can't receive the information elements at a zero space-time length. We must wait until the elapsing of our space-time length that carries the information element from infinity state to our thought unit in the median state.

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