Applied Physics Research; Vol. 16, No. 1; 2024
ISSN 1916-9639 E-ISSN 1916-9647
Published by Canadian Center of Science and Education

Five Errors that Have Never Been Discussed Over the Theory of Special Relativity

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Received: December 1, 2023 Accepted: January 11, 2024 Online Published: February 14, 2024

doi:10.5539/apr.v16n1p87 URL: https://doi.org/10.5539/apr.v16n1p87

Abstract

We discuss special relativity from the following five aspects that none of them was discussed before:

1. Einstein discussed special relativity extensively using a system that **was not a relative system**.
2. The synchronous transfer rule defined by Einstein is wrong.
3. The physical model (rays in inertial motion relative to a rigid rod) used by Einstein to derive the special theory of relativity was wrong, and the resulting mathematical model (Lorentz transformation, etc.) was also incorrect.
4. Countless contradictory calculation results caused by passive relativity.
5. Why did Einstein repeatedly emphasize that there is no “relative system that maintains absolute simultaneity?” Why people cannot find a relative system maintaining absolute simultaneity before? We proved countless relativistic systems maintain absolute simultaneity.

Keywords: Special Relativity, relativity, physical mmodel, mathematical model, a ray and a rigid rod, simultaneity, synchronous, absolute simultaneity, passive relative, Lorenze Transformation

1. Introduction

Our research is to discuss the theory of relativity from a brand-new perspective that is completely different from the historical criticism of the theory of relativity; to re-understand the theory of relativity from the source physical model and definition; to explain the errors of the theory of relativity from the perspective of the relationship between the physical model and the applied mathematical model. You will find that our understanding of Einstein's theory of relativity is completely different. If you disagree with our argument, please refute it severely!

In recent years, the theory of relativity has officially become one of the main scientific pillars of the One-Atom Big Bang myth. This makes any discussion about the universe inseparable from the theory of relativity.

Views that differ from relativity are largely absent from mainstream magazine media. There has even been repression through various official agencies, going beyond the scope of academic debate.

Although the voices criticizing the theory of relativity have never ceased since its inception, they have never been successful.

One of the most heard arguments is: many people have been opposing the theory of relativity for decades, and no one has succeeded in opposing it. How can you succeed? This kind of arguments has a huge market, but it also tells people who try to criticize the theory of relativity that their arguments must be based on irrefutable foundations. This is certainly difficult, but it is not impossible. The No.1 error in Einstein's paper that we pointed out is an intuitive low-level error that cannot be denied. Such errors are clearly written in Einstein's only monograph on the theory of relativity, but no one has ever pointed it out for a hundred of years. What does this mean? It shows that the academic community, including those who claim that "only a few people in the world understand the theory of relativity", have not read Einstein's theory seriously and do not really understand the theory of relativity. It also shows that it is necessary to think about the theory of relativity in a different way.

The biggest problem with Einstein's academic thinking is that he focuses on the establishment and derivation of mathematical models, while basically not paying attention to the fundamentals of applied mathematical models —— that is, the rationality of the physical models used to derive applied mathematical models! His style made the theory of relativity have errors that cannot be concealed, and brought about the adverse consequences of the academic community not paying attention to the rationality of **physical** models in the past hundred years, and mainly focusing on abstract **mathematical** models.

Figure 1 below shows Einstein’s main works on the special theory of relativity.

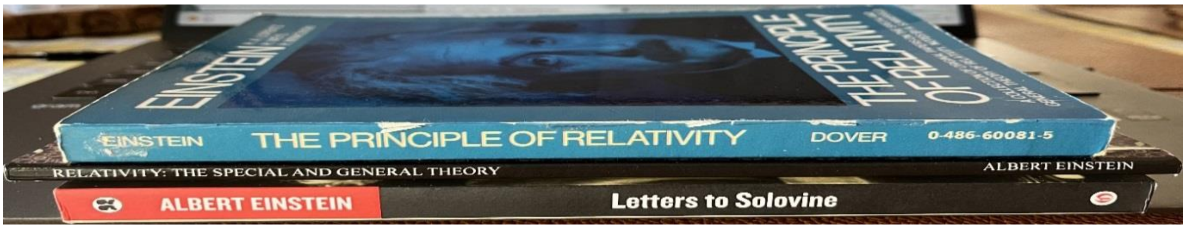


Figure 1. Einstein’s major works on special theory of relativity: *THE PRINCIPLE OF RELATIVITY* (*On the Electrodynamics of Moving Bodies* was collected inside), *RELATIVITY: THE SPECIAL AND GENERAL THEORY*, and *Letters to Solovine*.

The top one book in Figure 1 is "THE PRINCIPLE OF RELATIVITY", a collection of papers related to relativity selected by Einstein published in 1923. In this book, he quietly added two keywords to his thesis of "On the Electrodynamics of Moving Bodies." Ths paper was published in 1905. 18 years later., Einstein quietly inserted two key words into this paper in this book published in 1923. These two keywords are not only the key to understanding the special theory of relativity, but also the keywords that cover up his mistakes so that no one can clearly evaluate his paper for a long time.

In §1 and §2, the modeling process from physical model to mathematical model of special relativity only uses primary school mathematics. It should be very easy to understand, but in fact it is surprisingly difficult to understand, especially for scholars from German, Chinese, or other non-English countries. For them, if they study using a non-English translation of "*On the Electrodynamics of Moving Bodies*", it is impossible to correctly understand the special theory of relativity, and it is even more difficult to make a correct evaluation of it. Before the development of the Internet, it was basically impossible to find the correct English version of "On the Electrodynamics of Moving Bodies". Here is a related question: Can you answer why "only a few people in the world understand the theory of relativity?"

Please read the text in Figures 5 and 6 carefully. It is just using simple elementary school arithmetic. Can you fully understand these two sections of the paper of less than 2,000 words? I really do not know how to evaluate such a simple mathematics that can be written in such a way that people cannot understand it. Those authorities who think they understand were impossible to understand, they just think they understand it! Why, you will know after reading this paper. If you think you understand it very well, please answer me a simple question: what is the exact meaning of simultaneity?

2. Einstein Discussed Special Relativity Extensively with Using a System That Was Not a Relative System

Not any object can be a reference body in Einstein's relativistic system. The most basic requirement is that the moving object must move at a constant speed and not rotate.

In Sections VI to X of <Relativity: Special and General Theory>, Einstein conducted an extensive discussion on the theory of relativity using a system that does not meet the conditions of relativity, that is, a system that is not a relative system. Based on this non-relativistic system, the Lorentz transformation is derived in Section XI.

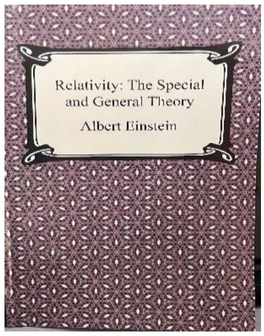
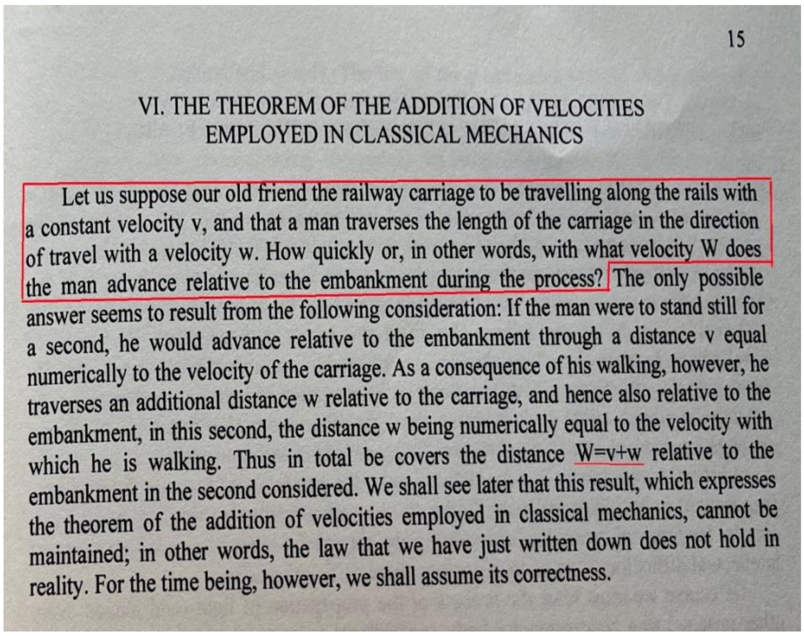


Figure 2 Einstein's "A Brief Introduction to Special and General Relativity", a 77-page monograph on special relativity



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VI. THE THEOREM OF THE ADDITION OF VELOCITIES EMPLOYED IN CLASSICAL MECHANICS

Let us suppose our old friend the railway carriage to be travelling along the rails with a constant velocity v, and that a man traverses the length of the carriage in the direction of travel with a velocity w. How quickly or, in other words, with what velocity W does the man advance relative to the embankment during the process? The only possible answer seems to result from the following consideration: If the man were to stand still for a second, he would advance relative to the embankment through a distance v equal numerically to the velocity of the carriage. As a consequence of his walking, however, he traverses an additional distance w relative to the carriage, and hence also relative to the embankment, in this second, the distance w being numerically equal to the velocity with which he is walking. Thus in total be covers the distance W=v+w relative to the embankment in the second considered. We shall see later that this result, which expresses the theorem of the addition of velocities employed in classical mechanics, cannot be maintained; in other words, the law that we have just written down does not hold in reality. For the time being, however, we shall assume its correctness.

Figure 3 is an excerpt from the original text in Section 6 of "Relativity: Special and General Theory", describing an example of a physical model that Einstein repeatedly used in the book to discuss the theory of special relativity. In Sections 6 to 11 of this slim monograph, this example is used repeatedly in discussions about the theory of special relativity, and mathematical models such as the Lorenz transformation are derived from it. Unfortunately, this physical model is not a relativistic system model that meets Einstein's basic systematic requirements and does not belong to Einstein's relativistic system.

Please see above Figure 3, pay attention to the text framed in the upper part of the Figure.

The system Einstein described in the Figure looked a lot like many of the other examples of relativistic systems he used, so Einstein called it an "old friend." However, this old friend is not a qualified relativistic system that meets Einstein's basic requirements for a relativistic system. It does not belong to Einstein's relative system, and cannot be used to discuss the theory of relativity.

Einstein's monograph has been read thousands of times over the past century, but - what a sad "but" - no expert or academician has ever raised any questions about such an obvious mistake!

Why do people so superstitious about Einstein? Why do people so determined to defend and support his everything?

The above physical model Einstein used to discuss special relativity was completely wrong!

An intuitive and undeniable mistake!

Why is it wrong?

Ask experts, professors, and academicians to think about this simple truth for themselves. They have been authority on the theory of relativity all the life, but they have never been found to say out such a simple mistake.

Why is it wrong? We can understand by answering the last sentence in the upper box of Figure 3 above:

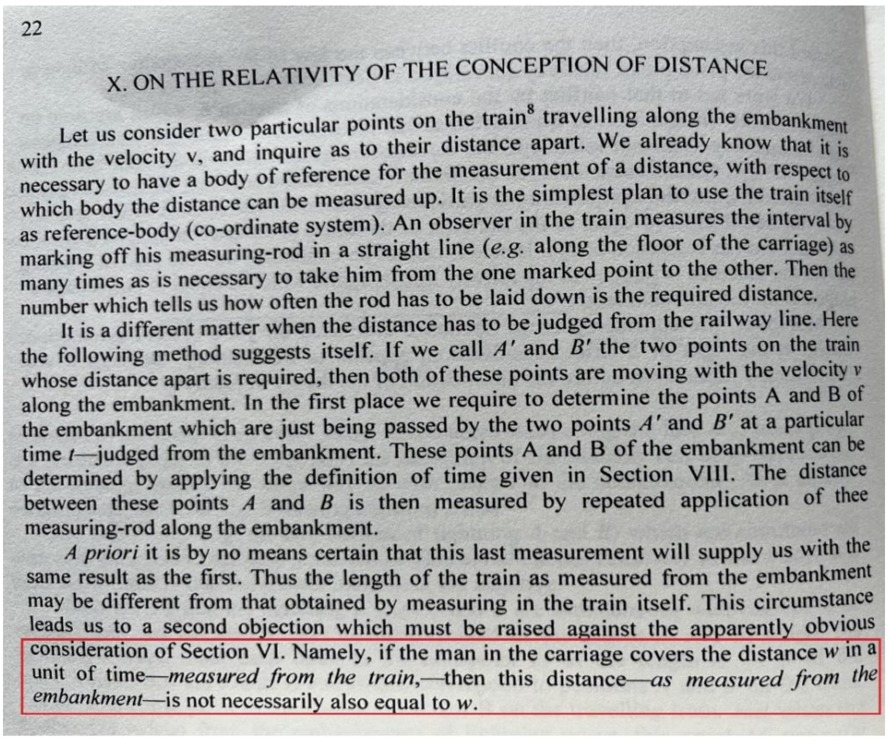
What is the speed W of the person relative to the embankment? Einstein gave the answer in his book:

The speed of the joint movement of the man and the train is the speed W of the person relative to the embankment.

When man and the carriage move in the same direction, the combined speed of man and carriage relative to the embankment is: W = v + w,

When the man and carriage move in opposite directions, the combined speed of the man and carriage relative to the embankment is: W = v – w.

Now please look at an example of Einstein using this non-relativistic system to discuss the theory of relativity in Section X of the book (Figure 4).



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X. ON THE RELATIVITY OF THE CONCEPTION OF DISTANCE

Let us consider two particular points on the train[8] travelling along the embankment with the velocity v, and inquire as to their distance apart. We already know that it is necessary to have a body of reference for the measurement of a distance, with respect to which body the distance can be measured up. It is the simplest plan to use the train itself as reference-body (co-ordinate system). An observer in the train measures the interval by marking off his measuring-rod in a straight line (*e.g.* along the floor of the carriage) as many times as is necessary to take him from the one marked point to the other. Then the number which tells us how often the rod has to be laid down is the required distance.

It is a different matter when the distance has to be judged from the railway line. Here the following method suggests itself. If we call A' and B' the two points on the train whose distance apart is required, then both of these points are moving with the velocity v along the embankment. In the first place we require to determine the points A and B of the embankment which are just being passed by the two points A' and B' at a particular time t—judged from the embankment. These points A and B of the embankment can be determined by applying the definition of time given in Section VIII. The distance between these points A and B is then measured by repeated application of thee measuring-rod along the embankment.

A priori it is by no means certain that this last measurement will supply us with the same result as the first. Thus the length of the train as measured from the embankment may be different from that obtained by measuring in the train itself. This circumstance leads us to a second objection which must be raised against the apparently obvious consideration of Section VI. Namely, if the man in the carriage covers the distance w in a unit of time—*measured from the train*,—then this distance—*as measured from the embankment*—is not necessarily also equal to w.

Figure 4. Pay attention to the picture above (the framed text at the bottom of page 22 of Einstein's monograph "Relativity: Special and General Theory")

In fact, the bottom box in Figure 4 also has given a preliminary explanation of why this example is wrong. However, Einstein himself was immersed in his wrong thinking and could not extricate himself, and the experts who opposed or supported Einstein did not either.

However, the **most basic requirement** for a relative system that satisfies Einstein's requirements is that **each reference body must maintain uniform non-rotate motion.** When the speed of an object changes, the object cannot be used as a reference body in a relativistic system.

Now, W is the combined speed of the man and the train carriage. This combined speed W does not always maintain the same speed. Its back-and-forth speed is different. Therefore, the system formed by the reference body composed of man and carriage relative to the reference body of the embankment is not a relativistic system that meets Einstein's requirements. A man and a carriage form a reference body A, and the embankment serves as the reference body B. The system composed of A and B is not a relativistic system that meets Einstein's requirements! Compared with the ray used by Einstein as a reference body, the ray moves back and forth at the same speed in the moving train carriage, or above the carriage.

Einstein believed that the speed of a ray was constant. Later, he extended the reference body of motion to flying crows, lightning in the sky, etc. They are all objects flying back and forth in the air, and the speed back and forth is the same.

In sections 6 to 10 of "Relativity: Special and General Relativity", Einstein confused himself with a composite system (a reference body consists of two or more objects, like a man——a train carriage). And he used this wrong system as an important tool for his discussion of special relativity in his only monograph on relativity, "Relativity: Special and General Theory, “which was repeatedly used in sections 6 to 11.

I do not believe anybody, including Einstein, can possibly abstract out correct results from a wrong model!

Of course, Einstein also confused the world. He overturned his own definition of the relativity system, leaving an embarrassment to "a few people in the world who understand the theory of relativity"! Because it is ridiculous that experts can "understand" the theory of relativity from such large number of incorrect descriptions.

This problem is not so easy to detect from Einstein's messy writing method. This is also the main reason why the theory of relativity has not been defeated for decades. Please go back and read the relevant chapters in "Relativity: Special and General Theory" several times then perhaps one will understand.

In fact, it is just some elementary school arithmetic. He could write it in such a way that people can't understand it and make himself confused. Do not know how to comment it!

3. The Synchronous Transmission Rule Defined by Einstein Is Wrong

In §1 of "*On the Electrodynamics of Moving Bodies*" (Figure 5), after giving the synchronization condition formula (1), Einstein asserted: “***2. If the clock at A synchronizes with the clock at B and also with the clock at C, the clocks at B and C also synchronize with each other.***”

However, simply using the system of a man, carriages, and embankment just discussed above, we can prove that Einstein's assertion is wrong.

Using Einstein's above non-relativistic physical model, the human, carriage, and embankment systems are respectively composed into two relative systems as follows:

The person moving back and forth in the carriage at a speed V and the carriage with a moving length of L form a relativistic system. Then, the clock on the person and the clock in the carriage are synchronized. Because the time it takes for a person to walk from one end of the carriage to the other is $t = L / V$, and the time it takes for a person to walk from the other end of the carriage back to the starting point is still t. Therefore, the man and the carriages are synchronous.

The moving carriage relative to the embankment is the same old friend of the static system, and they are always in synchronous.

However, as Einstein himself proved, people moving in a moving carriage are not synchronous with respect to the embankment. In other words, the carriage (we call it as A) is synchronized with the person (it is called as B), and the carriage (A) is also synchronized with the embankment (we name it as C), but the person (B) and the embankment (C) are not synchronized.

This shows that Einstein's synchronous transmission rule is wrong.

4. The Physical Model (Rays in Inertial Motion Relative to a Rigid Rod) Used by Einstein to Derive the Special Theory of Relativity Was Wrong, and the Resulting Mathematical Model (Lorentz Transformation, etc.) Was Also Incorrect

Figures 5 and 6 below are **full** descriptions of the physical models used by Einstein to derive the mathematical models of special relativity in "*On the Electrodynamics of Moving Bodies*".

The physical model of the Big Bang is the explosion of an atom. The physical model of special relativity is the relative motion of a ray and a rod. They are also things that only God can operate. It is just that the universe generated from an explotion by an atom is too amazing, and the results obtained by analyzing the mutual motion of a rod and a ray are not so directly sensational.

Here we focus on discussing following: when deriving a mathematical model from a physical model, a correct and comprehensive physical model is the most decisive and necessary first condition to ensure is that the mathematical model deduced from this physical model is also correct! If the physical model is not correct and comprehensive, the mathematical model derived from it will never be correct and comprehensive, and the resulting application of the mathematical model will be wrong. Specifically, we need consider following questions:

4.1 Is it possible that a ray that moves inertially relative to a rigid rod will cause the moving rigid rod shorter, and the time on the rod slower? From a physical point of view, ray and rigid rods are independent of each other. So, can any two independent objects affect each other? Can we directly conduct an experiment using a rod and ray to verify it? How can the movement of ray relative to a rigid rod cause the length of the rod to become shorter and time on the rod to slow down?

This kind of shortening of the moving ruler and slowing down of the moving clock is not just talk, Einstein really thought so. The following is an excerpt from "On the Electrodynamics of Moving Bodies": ***"§ 4. Physical Meaning of the Equations Obtained in Respect to Moving Rigid Bodies and Moving Clocks: ......****Thence we conclude that a balance-clock at the equator must go more slowly, by a very small amount, than a precisely similar clock situated at one of the poles under otherwise identical conditions*.**"** **(**Einstein, A., 1905). It has been hundreds of years. Why haven't scientists carefully conducted a long-term experiment to compare the long-term accumulated errors of clocks at the equator and clocks at the poles? That is because experts knew there was no point in doing the experiment and the clocks would not make a difference.

§ 1. Definition of Simultaneity

Let us take a system of co-ordinates in which the equations of Newtonian mechanics hold good.[2] In order to render our presentation more precise and to distinguish this system of co-ordinates verbally from others which will be introduced hereafter, we call it the "stationary system."

If a material point is at rest relatively to this system of co-ordinates, its position can be defined relatively thereto by the employment of rigid standards of measurement and the methods of Euclidean geometry, and can be expressed in Cartesian co-ordinates.

If we wish to describe the *motion* of a material point, we give the values of its co-ordinates as functions of the time. Now we must bear carefully in mind that a mathematical description of this kind has no physical meaning unless we are quite clear as to what we understand by "time." We have to take into account that all our judgments in which time plays a part are always judgments of *simultaneous events*. If, for instance, I say, "That train arrives here at 7 o'clock," I mean something like this: "The pointing of the small hand of my watch to 7 and the arrival of the train are simultaneous events."[3]

It might appear possible to overcome all the difficulties attending the definition of "time" by substituting "the position of the small hand of my watch" for "time." And in fact such a definition is satisfactory when we are concerned with defining a time exclusively for the place where the watch is located; but it is no longer satisfactory when we have to connect in time series of events occurring at different places, or—what comes to the same thing—to evaluate the times of events occurring at places remote from the watch.

We might, of course, content ourselves with time values determined by an observer stationed together with the watch at the origin of the co-ordinates, and co-ordinating the corresponding positions of the hands with light signals, given out by every event to be timed, and reaching him through empty space. But this co-ordination has the disadvantage that it is not independent of the standpoint of the observer with the watch or clock, as we know from experience. We arrive at a much more practical determination along the following line of thought.

If at the point A of space there is a clock, an observer at A can determine the time values of events in the immediate proximity of A by finding the positions of the hands which are simultaneous with these events. If there is at the point B of space another clock in all respects resembling the one at A, it is possible for an observer at B to determine the time values of events in the immediate neighbourhood of B. But it is not possible without further assumption to compare, in respect of time, an event at A with an event at B. We have so far defined only an "A time" and a "B time." We have not defined a common "time" for A and B, for the latter cannot be defined at all unless we establish *by definition* that the "time" required by light to travel from A to B equals the "time" it requires to travel from B to A. Let a ray of light start at the "A time" t_A from A towards B, let it at the "B time" t_B be reflected at B in the direction of A, and arrive again at A at the "A time" t'_A.

In accordance with definition the two clocks synchronize if

$$t_B - t_A = t'_A - t_B.$$

We assume that this definition of synchronism is free from contradictions, and possible for any number of points; and that the following relations are universally valid:—

1. If the clock at B synchronizes with the clock at A, the clock at A synchronizes with the clock at B.
2. If the clock at A synchronizes with the clock at B and also with the clock at C, the clocks at B and C also synchronize with each other.

Thus with the help of certain imaginary physical experiments we have settled what is to be understood by synchronous stationary clocks located at different places, and have evidently obtained a definition of [redacted] "synchronous," and of "time." The "time" of an event is that which is given simultaneously with the event by a stationary clock located at the place of the event, this clock being synchronous, and indeed synchronous for all time determinations, with a specified stationary clock.

In agreement with experience we further assume the quantity

$$\frac{2AB}{t'_A - t_A} = c,$$

to be a universal constant—the velocity of light in empty space.

It is essential to have time defined by means of stationary clocks in the stationary system, and the time now defined being appropriate to the stationary system we call it "the time of the stationary system."

Figure 5. We name the formula ($t_B - t_A = t'_A - t_B$) in the figure as formula (1), This formula will be used extensively later, The darkened area is the two key words added 15 years later by Einstein.

4.2 Einstein did not specify the physical distance between the moving ray and the rigid rod in his physical model, which resulted in many errors. The most obvious problem is to use a clock on a spacecraft ten of thousands of meters above the ground to form a relativistic system with a ground clock to conduct a time dilation experiment (Nave, C. R., 22 August 2005). This experiment shows that the academic community officially attitude with the theory of relativity. So, can the American flagpole on the moon form a relative system with the train on the ground? We can think of various cross-border and even inter-galactic relative methods. In addition, assuming that the distance between the ray and the rigid rod is 1 light-year, will the movement of the ray still affect the length of the rigid rod and the time on the rod?

§2. On the Relativity of Lengths and Times

The following reflexions are based on the principle of relativity and on the principle of the constancy of the velocity of light. These two principles we define as follows:—

1. The laws by which the states of physical systems undergo change are not affected, whether these changes of state be referred to the one or the other of two systems of co-ordinates in uniform translatory motion.
2. Any ray of light moves in the "stationary" system of co-ordinates with the determined velocity *c*, whether the ray be emitted by a stationary or by a moving body. Hence

   velocity = light / time interval

   where time interval is to be taken in the sense of the definition in §1.

Let there be given a stationary rigid rod; and let its length be *l* as measured by a measuring-rod which is also stationary. We now imagine the axis of the rod lying along the axis of *x* of the stationary system of co-ordinates, and that a uniform motion of parallel translation with velocity *v* along the axis of *x* in the direction of increasing *x* is then imparted to the rod. We now inquire as to the length of the moving rod, and imagine its length to be ascertained by the following two operations:—

(a) The observer moves together with the given measuring-rod and the rod to be measured, and measures the length of the rod directly by superposing the measuring-rod, in just the same way as if all three were at rest.

(b) By means of stationary clocks set up in the stationary system and synchronizing in accordance with § 1, the observer ascertains at what points of the stationary system the two ends of the rod to be measured are located at a definite time. The distance between these two points, measured by the measuring-rod already employed, which in this case is at rest, is also a length which may be designated "the length of the rod."

In accordance with the principle of relativity the length to be discovered by the operation (**a**)—we will call it "the length of the rod in the moving system"—must be equal to the length *l* of the stationary rod.

The length to be discovered by the operation (**b**) we will call "the length of the (moving) rod in the stationary system." This we shall determine on the basis of our two principles, and we shall find that it differs from *l*.

Current kinematics tacitly assumes that the lengths determined by these two operations are precisely equal, or in other words, that a moving rigid body at the epoch *t* may in geometrical respects be perfectly represented by **the same** body **at rest** in a definite position.

We imagine further that at the two ends A and B of the rod, clocks are placed which synchronize with the clocks of the stationary system, that is to say that their indications correspond at any instant to the "time of the stationary system" at the places where they happen to be. These clocks are therefore "synchronous in the stationary system."

We imagine further that with each clock there is a moving observer, and that these observers apply to both clocks the criterion established in § 1 for the synchronization of two clocks. Let a ray of light depart from A at the time[4] t_A, let it be reflected at B at the time t_B, and reach A again at the time t'_A. Taking into consideration the principle of the constancy of the velocity of light we find that

$$t_B - t_A = r_{AB}/(C-V) \qquad t'_A - t_B = r_{AB}/(C+V)$$

where r_{AB} denotes the length of the moving rod—measured in the stationary system. Observers moving with the moving rod would thus find that the two clocks were not synchronous, while observers in the stationary system would declare the clocks to be synchronous.

So we see that we cannot attach any **absolute** signification to the concept of simultaneity, but that two events which, viewed from a system of co-ordinates, are simultaneous, can no longer be looked upon as simultaneous events when envisaged from a system which is in motion relatively to that system.

Figure 6. " §2. On the relativity of length and time" in Einstein's "On the Electrodynamics of Moving Bodies"

4.3 Einstein did not specify the mass of the rigid rod in his physical model. For example, if the rigid rod is an alloy steel rod with a diameter of 1,000 meters, and a small light ray flies around on it, can its length be shortened? Follow this, wouldn't it be possible to invent a new efficient casting method? Can the railway embankments that Einstein always used also be regarded as rigid poles? Can railway rails also be regarded as rigid rods? What about railroad cars?

4.4 The model of the ray and the rigid rod does not explain **how the two reference bodies are bound to each other to become a relativistic system?** So, how does the light ray and the rigid rod form a relative system? For example, assuming there are 10 or 100 rigid rods, how could Einstein make his ray form a relative system with one of the rigid rods he wanted to be relatived? Is there any way to bind the ray and this rigid rod together so that they can be relativistic to each other? And if there are many light rays moving relative to the rigid rod, how to bind a certain ray to the rigid rod? How to prevent rigid rods with completely opposite movement directions from facing this light ray at the same time? For another example, in the experiment between a clock on the spacecraft and a ground clock, why does the clock on the spacecraft be relative to the experimental clock on the ground? Does the clock on the spacecraft also would be relative to the clocks on the planes, the clocks on the trains, or even the clocks of runners? Is there any way to prevent this situation? This relative situation that does not in the experimenter's mind but automatically enter the relativistic systems passively are called **passive relative**. Due to the crude and unscientific design of Einstein's physical model, passive relativity is unavoidable. and this resulted out many errors.

There are many more similar questions that can be asked. Einstein did not elaborate on all these, but used such a primitive and unconstrained light ray and rigid rod to calculate out the mathematical model of the special theory of relativity such as the Lorenz transformation. This was against the most basic scientific rules.

What we need to know is that if we understand the precise definition of simultaneity, we can use this definition to find a qualified system that meets all the conditions specified by Einstein, and adheres to absolute simultaneity. Then the theoretical basis of Einstein's theory of special relativity will be completely shattered. However, due to errors and vague descriptions in Einstein's paper, people could not accurately understand his theory of relativity, which protected Einstein's errors in disguise. At the same time, several authorities who claimed that only a few people in the world understood the theory of relativity pushed Einstein to the throne of the god of science (of course, they themselves also climbed to high places.) The paper "On the Electrodynamics of Moving Bodies" that is full of errors and omissions has turned into a scientific bible that has ruled all mankind's scientific thinking for hundreds of years. Countless people who do not understand it firmly defend it, including some governments and academies of science. What a century farce!

5. Numerous Contradictory Calculation Results Caused by Passive Relative

A basic concept established by Lorentz theory in 1895 is the "correspondence state theorem" of v/c order terms. The theorem states that a moving observer relative to the ether can use the same electrodynamic equations as an observer in a stationary ether system, so they make the same observations. The most important thing here is that Lorentz theory is an electrodynamic equation applied to the ether. **Einstein extended the Lorenz transformation from the application of ether or electromagnetic fields to the application of general objects without any consideration**, leading to various mistakes.

Below we calculated and displayed the conflicting result of one ground clock doing relativistic calculations simultaneously with multiple clocks at different speeds, each doing simultaneous calculations

We construct a relativistic system to perform ideological Lorenz transformation calculations. Eight relative systems are formed using one ground atomic clock and atomic clocks in each of eight spacecrafts with different speeds. These 8 relative systems are divided into two groups. Each group starts at the same time and goes through the same period, and uses the calculator in Figure 7 below to calculate its experimental results shown in Table 1.

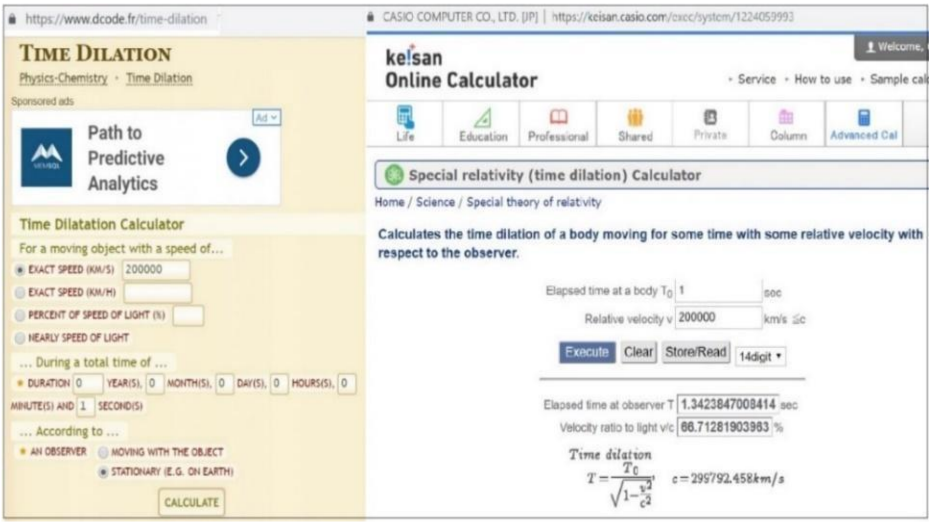

Figure 7. One of many special relativity time dilation calculators provided by CASC COMPUTER CO, LTD

The study was divided into two groups. The duration of the first group is 1 second and the duration of the second group is 30 minutes. The calculator in the figure is used to perform Lorentz transformation calculations to calculate the time dilation for each system of interested. The results are shown in Table 1. It can be seen from Table 1, as the duration increases, the time dilation value also increases significantly. Therefore, it is easy to verify experimentally whether time dilation is true.

Test start time: 12:00 noon. The calculation results obtained are listed in Table 1:

Table 1. Calculation results of ground clocks corresponding to multiple spacecraft internal clocks with different speeds

Experiment time (s)	**Spacecraft speed (km/s)**	**Ground clock indicates Experiment time (s)**	**Spacecraft clock indicates Experiment time (s)**
1 **(s)**	200000	0.74494293578673 **(s)**	1.3423847008414 **(s)**
1 **(s)**	150000	0.86582546589248 **(s)**	1.1549671837952 **(s)**
1 **(s)**	100000	0.94272742316888 **(s)**	1.0607520004442 **(s)**
1 **(s)**	10000	0.99944352013705 **(s)**	1.0005567897052 **(s)**
1800 **(s)**	200000	59.3589994339 **(s)**	0.64122891504257**(s)**
1800 **(s)**	150000	58.48583860647 **(s)**	38.940930831342**(s)**
1800 **(s)**	100000	16.909361703985 **(s)**	49.353600799567 **(s)**
1800 **(s)**	10000	58.998336246698 **(s)**	1.0022214693684 **(s)**

The ground clock in Table 1 yields four calculation results at 12:01 and four results at 12:30. So, at 12 12:01, which of the four results should the ground clock indicator point to? At 12:30, which time instance should the ground clock indicator point to?

According to the moving ruler shortening theory in Einstein's Lorenz transformation, in a system running at high speed, only the length in the same direction as the X-axis in the running direction will change, while the length perpendicular to the X-axis in the running direction remains.

In this way, a disaster arises in the theory: If the spacecraft flies along its X-axis at high speed, then according to the theory of relativity, the length of all parts of the spacecraft, including the spacecraft itself, will become shorter, which will inevitably cause the spacecraft to be unable to fly or even collapse.

Please see the calculation results example in the table below.

Table 2. The changes of the spacecraft length when flying at different speeds according to Einstein's Lorenz transformation

Spacecraft speed	Observed length	Observed height	Observed width
0	200 meters	40 meters	60 meters
10 % Light-speed	199 meters	40 meters	60 meters
86.5 % Light-speed	100 meters	40 meters	60 meters
99 % Light-speed	28 meters	40 meters	60 meters
99.99 % Light-speed	3 meters	40 meters	60 meters

The information in Table 2 tells us that if the length of the spacecraft is 200 meters at stationary, then when the spacecraft flies at 10% of the speed of light, the length of the spacecraft is shortened to only 199 meters. If the spacecraft speed is 14% of the speed of light, then the length in the X-axis direction will be shortened by approximately 1%. Mr. Einstein believed that this was a systematic actual contraction. So, when the spacecraft flies at 0.14 speed of light, its engine will shorten by 1% along the spacecraft. The engines would not be able to work properly, and the spacecraft itself would not be able to fly. In this way, there will be a catastrophe for space navigation due to the shortening of the relativistic moving ruler.

Fortunately, Einstein's theory was wrong!

6. Why Did Einstein Repeatedly Emphasize That There Is No "Relative System That Maintains Absolute Simultaneity"? But in Fact, There Are Countless Relative Systems in the World That Maintain Absolute Simultaneity. Why Before Cannot We Find a Relative System That Maintains Absolute Simultaneity?

Einstein gave the following model in §2 of "On the Electrodynamics of Moving Bodies":

Let a ray of light depart from A at the time t_A, let it be reflected at B at the time t_B, and reach A again at the time t'_A. Taking into consideration the principle of the constancy of the velocity of light we find that

$$t_{\mathrm{B}} - t_{\mathrm{A}} = \frac{r_{\mathrm{AB}}}{c-v} \text{ and } t'_{\mathrm{A}} - t_{\mathrm{B}} = \frac{r_{\mathrm{AB}}}{c+v}$$

where r_{AB} denotes the length of the moving rod—measured in the stationary system. Observers moving with the moving rod would thus find that the two clocks were not synchronous, while observers in the stationary system would declare the clocks to be synchronous.

In the above model, the reference bodies in this relative system are ray and rigid rod. The equation means that when the rod is moving, the ray and the rod are not synchronized. But when the rod is stationary, the light and the stationary rod are synchronized, as stated in (1) in §1 of Figure 5.

From here, Einstein came to the following conclusion, which is the basis for the establishment of special relativity:

So we see that we cannot attach any absolute signification to the concept of simultaneity, but that two events which, viewed from a system of co-ordinates, are simultaneous, can no longer be looked upon as simultaneous events when envisaged from a system which is in motion relatively to that system.

In other words, Einstein believed that: in the relativistic system, the static systems are all synchronous; while the dynamic systems are not synchronous; absolute simultaneity does not exist, so there is only relative simultaneity. This is the most basic **theoretical basis for the establishment of special relativity**.

But……, We prove below that in a qualified relative system that meets Einstein's regulations, absolute simultaneity completely exists. Therefore, the most basic theoretical basis for the establishment of the special theory of relativity is not solid.

Why we say the absolute simultaneity exists? We discuss this issue in the following four parts:

6.1 What Is a Relative System That Meets Einstein's Requirements — A Qualified Relative System?

In his basic paper "On the Electrodynamics of Moving Bodies" published in 1905 and his monograph "Relativity: Special and General Theory" published 18 years later, Einstein perfected various conditions for relative systems and added many relative system examples met the conditions.

According to Einstein's discussion, the composition conditions of a qualified relative system that meets the requirements are roughly as follows:

The relative system consists of two reference bodies that perform inertial motion (ie, uniform linear non-rotational motion). One of the reference bodies must be moving. If another reference body is moving, then this relative system is a **dynamic system**; if this reference body is stationary, then this relative system is a **static system**. We will not use the rest of the conditions, so we will not list them one by one. Just make sure that we are discussing using a qualified relative system that meets all of Einstein's requirements. The "**relative system"** we use in our discussion below refers to such **qualified relativistic systems**.

6.2 Absolute and Relative of Simultaneity in a Relativistic System

First, we need to clarify what is the definition of simultaneity in a relative system? What are the conditions for maintaining simultaneity? Then one can talk about the absoluteness of simultaneity, and then one can look for a relative system that maintains absolute simultaneity.

The question seems easy to answer, because the title of §1 of "On the Electrodynamics of Moving Bodies" is "§1 Definition of Simultaneity". As the name suggests, this section is used to define the concept of "simultaneity".

Please read §1 carefully and then answer: "What is the exact definition of simultaneity in Einstein's theory of relativity?" The title of §1 in Einstein's paper is "The Definition of Simultaneity", which is only about 1,000 words. Therefore, it should be easy to answer this question after reading it. But in fact, reading it ten times cannot answer this simple question confidently and accurately.

As can be seen from §1, Einstein did not give a clear definition of "simultaneity" as the title of the section stated. Instead, the mathematical definition of "synchronization" was given as ollows (according to the translation of the original German text)

Let a ray of light start at the "A time" t_A from A towards B, let it at the "B time" t_B be reflected at B in the direction of A, and arrive again at A at the "A time" t'_A. In accordance with definition the two clocks ***synchronize*** *if*

$$t_B - t_A = t'_A - t_B \tag{1}$$

…… Thus with the help of certain imaginary physical experiments we have settled what is to be understood by synchronous stationary clocks located at different places, and have evidently obtained a definition of "synchronous," and of "time."

Reading the above paragraph, there is no way to accurately answer the question "What is the exact definition of simultaneity?" This is due to Einstein's bizarre thesis writing. In §1, he repeatedly discussed and used "synchronous" and "simultaneous", and gave the mathematical definition of "synchronous" using equation (1), but did not give a precise definition of "simultaneous". In this way, people cannot accurately and correctly understand what Einstein's definition of "simultaneity" is, and of course there is no way to make a correct evaluation of the special theory of relativity based on denying the absoluteness of simultaneity. There is no way for people to assume that "synchronization" and "simultaneity" are equivalent, because there is also a "time" juxtaposed with "simultaneity" in this sentence.

Then there are masters who preach that "only a few people in the world understand the theory of relativity", which makes people even more daunting and think that they don't understand it. In fact, §1 and §2 are just descriptions and definitions of physical models. Only wo elementary school level mathematical formulas were used. How could ordinary people not understand them? In fact, those masters themselves did not understand them either, they just pretended to understand. Because Einstein later quietly corrected his writing mistake and original intention in an almost shameless manner. Why? Because for people who have not read this correction, it is impossible to answer this question accurately!

In "On the Electrodynamics of Moving Bodies" included in the paper collection of "The Principle of Relativity" published in 1923, Einstein quietly added two keywords, which is at the lower part of the paper that is blacked out in Figure 5 above. The blacked-out part covers ("simultaneous," or). Once these two words are added, the whole sentence becomes:

"*Thus with the help of certain imaginary physical experiments we have settled what is to be understood by synchronous stationary clocks located at different places, and have evidently obtained a definition of* **"simultaneous," or** *"synchronous," and of "time."*

Now the meaning of this whole sentence is clear, that is, in §1 of "On the Electrodynamics of Moving Bodies" (LORENTZ, A. & Einstein, A, et al, 1952), The words "**synchronous**" and "**simultaneous**" used by Einstein are equivalent. Therefore, there was later English translation texts (Einstein, A., & translated by Meghnad Saha, 1920) simply discarded "simultaneous" in this entire section and translated all into "synchronous".

I said "quietly corrected" because although Einstein's paper was published in German in 1905, the revision occurred 18 years later, in 1923, and was only revised in the English version of his collection of papers. It did not revise in any other paper or book, neither mentioned in any place. Please check the translation of "On the Electrodynamics of Moving Bodies" in any other language now, including the original German text, and you will see texts without these two keywords. I checked the Chinese text (Einstein, A., 2018), as well as the German paper (Einstein, A., 1905) and Spanish text (Einstein, A., 2005) that could be found on the Internet, but these two keywords were not found in those versions. Figure 8 below is an example.

I have Einstein's book "The Principle of Relativity" (Figure 8) at hand.

The publication instructions on the left clearly indicate that this "unaltered version" was published under special arrangements by Einstein. But in fact, he made changes on page 40 of the book and inserted the two keywords ("simultaneous," or) into page 40 of the book. at the end of backcount line 15. Apart from this, these two keywords are not in any other language versions in the world!

It is clearly stated above that the book collects the altered 1923 version, and in the middle of left side page of the Figure told us it was collected in Albert Einstein's book "The Principle of Relativity" that was reprinted through special arrangement with Einstein.

According to the above discussion, if a relative system wants to maintain absolute synchronization or simultaneity, the conditions that need to be met are: when the relative system is a dynamic system, the motion result of the dynamic system can always make equation (1) in §1 (i.e., $t_B – t_A = t'_A – t_B$) is established.

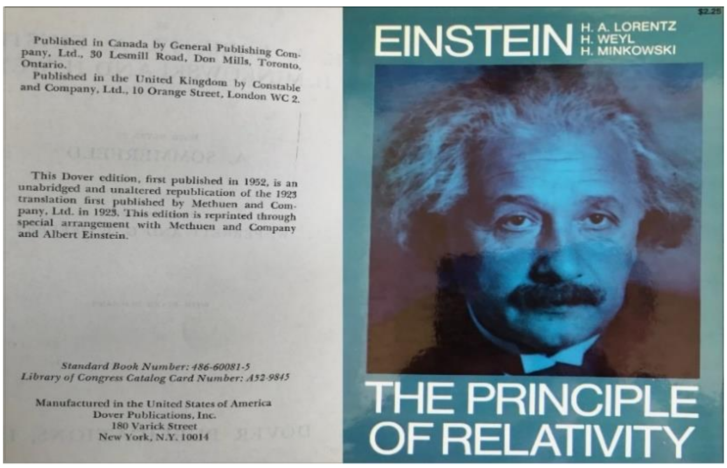

Figure 8. The cover of <The Principle of Relativity>

In Einstein's cognition, only the static system satisfies the equation (1), while the dynamic system does not. That is to say, Einstein believed that in a relative system, only the static system can maintain absolute simultaneity, while the dynamic system cannot maintain absolute simultaneity. Einstein was adamantly against the existence of a dynamic system that maintains absolute simultaneity, because if it existed, the theory of relativity would be untenable.

In **1905**, Einstein defined the concept of simultaneity in his foundation theory of relativity related in "On the Electrodynamics of Moving Bodies" and, for the first time, put forward the conclusion in §2 that "**we cannot attach any absolute significance to the concept of simultaneity.**"

In **1916**, Einstein published Relativity: Special and General Theories. In the book, Einstein used a lot of space and different roles to illustrate the special theory of relativity, and once again, he explained the significance of relative simultaneity. For example, in the book's Section IX, "Simultaneous Relativity," he used two lightning strikes sent out from its front and back ends of the running train at the same time, with each lightning speeding to the midpoint of the train, and the train also started to move at the same time. The example that lightning cannot meet at the midpoint of the train explains the relativity concept.

In **1920**, in a letter to the Russian philosopher and mathematician, Solovine, Einstein emphasized again: " That is why the theory of relativity **rejects the concept of absolute simultaneity, absolute speed, absolute acceleration**, etc., they can have no unequivocal link with experiences."

Since then, due to Einstein's influence, not only in relativity, but also in physical theory, there has been no absolute simultaneity. Einstein established the theory of relativity by negating absolute simultaneity.

Why did Einstein repeatedly deny the existence of absolute simultaneity?

Because the existence of absolute simultaneity illustrates the utopian nature of the pseudo-god of special relativity.

In philosophy, it is generally considered that relative and absolute are two indispensable aspects of all existence.

But in fact, according to Einstein's definition of absolute and relative simultaneity, we can identify many relative systems that maintain an absolute simultaneous or absolute synchronous character in reality, such as a raven walks back and forth on the running train, or a sprinter running on the Earth ……

Of course, there is no instance of such a relative system that maintains absolute simultaneity in Einstein's work. However, we can analyze the example of maintaining relative relativity in Einstein's work, and we can find what we need

6.3 Some Examples of Relative Systems Used by Einstein

In 1905, in "On the Electrodynamics of Moving Bodies," Einstein used a very long, rigid rod as Reference-body-B and a light ray moving back and forth at both ends of the long rod as the Reference-body-A. This system of a ray and the moving rigid rod is called a dynamic system. Obviously, this dynamic system is a relative system with relative simultaneity. When the ray moves back and forth over a stationary rigid rod, the relative system of this ray and a rigid rod is called a static system, which has absolute simultaneity.

In 1916, Einstein published <*Relativity: The Special and General Theory*>. In the book, Einstein used a lot of pages and different roles to illustrate the application samples of special relativity. Below we tried to collect **all** of the roles of the examples he used in the book.

In section V: A **raven** flies at a constant speed along the railway embankment. If we observe it from the railway embankment, its motion is uniform and straight. If we observe it from the moving carriage, we will find that it maintains a uniform linear motion, but has different speeds in different directions.

In section VI: The **railway carriage** has a velocity v; a **man** traverses in the same direction of the train carriage with a velocity w. According to classic kinematics, the combined velocity W that the man advances relative to the **embankment** during the process is W = v + w.

In section VII: Replace the man above with a light ray whose velocity is c. w is the speed of light relative to the carriage, that is w = c - v.

In section VIII: There are train carriages running at a constant speed, the railway embankment, lightning from two points A and B opposite each other, and an observer at midpoint M of AB. Here, the definition of simultaneity is: A~TM =B ~TM; that is, if the observer sees lightning from A and B at the same time, then they are said to be simultaneous.

In section IX: There is the train carriage moving at speed v, the railway embankment, lightning from two points A and B, and people moving in the carriage. Two events (such as two lightning strikes, A and B) are simultaneous with respect to the railway embankment, but are they simultaneous with respect to a moving train? The answer is negative.

Section X: The **railway carriage** has a velocity v; a **man** traverses in the opposite direction of the train carriage with a velocity w. According to classic kinematics, the combined velocity W that the man advances relative to the **embankment** during the process is W = v - w.

6.4 There Are Many Relative Systems That Maintain Absolute Simultaneity in the World

By slightly changing the examples of relative system that Einstein used above, the following relative systems can be obtained:

Changing "A ray flies along the rod" to "light wheel rolls on the rod";

Changing "the raven flies back and forth over the train" to "the raven walks back and forth in the train".

Changing "man walks in the train carriage relative to the railway embankment" to " man walks in the train carriage relative to the carriage".

Such modified systems, then, are still qualified relative systems, without violating any of Einstein's rules for a qualified relative system. In fact, an instance of Einstein's relative system is that of a man walking in a train carriage. A raven walking in the train carriage follows the same pattern.

Now, please answer the following elementary-level arithmetic problems:

How long does it take for a person to walk a long train carriage in the same direction along the train's movement? What is the time it takes for a person to walk in the opposite direction to the motion of the train?

How much time does it take for the raven to walk a long train carriage in the same direction along the train's movement? What is the time it takes for the raven to walk in the opposite direction to the motion of the train?

The same questions about the light wheel to roll forward or backward on the moving rod.

The answer is that in all the above-mentioned paired relative system motions, the time used to go back and forth is the same, and they all satisfy formula (1), that is, they are all systems that maintain absolute simultaneity.

Einstein repeatedly denied the existence of relative systems that maintain absolute simultaneity, but in fact there are countless examples of relative systems that maintain absolute simultaneity.

It is straightforward to prove that a qualified relative system is one that preserves absolute simultaneity, which only need to prove that the relative motion in the system always satisfies (1).

Let's explain this with the following example. We call it **Example-A**.

A relative system consists of a train carriage and an attendant walking back and forth from both ends of the carriage between A to B, the speed of the train carriage is $V_{carriage}$, and of the attendant is V_{man}.

When the train attendant moves from end A to end B of the carriage, he moves in the same direction as the carriage. The speed of the attendant is $V_{man} + V_{carriage}$, but at the same time the carriage leaves him at the speed of $V_{carriage}$. So, his final speed is $(V_{man} + V_{carriage}) - V_{carriage} = V_{man}$.

When the attendant moves from end B to end A of the carriage, he moves in the opposite direction to the carriage moves. The speed of the attendant this is $V_{man} - V_{carriage}$, but at the same time the carriage also carries him at the speed of $V_{carriage}$. So, his final speed is $(V_{man} - V_{carriage}) + V_{carriage} = V_{man}$.

In other words, the speed of the carriage does not affect the speed of the attendant at all. Therefore, even if an ant walks slowly, whether it is from the A end to the B end, or from the B end to the A end, it can finally reach its destination.

In this way, the time it takes for an attendant to go from the A end to the B end of the carriage is always equal to the time from the B end to the A end of the carriage. In other words, Example-A is a relative system that maintains absolute simultaneity.

Moreover, even if the system is observed from outside the carriage and train, even if from Mars, it is a relative system that maintains absolute simultaneity.

The calculation results tell us:

The time it takes for a raven to walk through a train carriage in the direction of the train uses the same amount of time as it takes for the raven to walk in the opposite direction of the train!

It takes the same amount of time for a person to move back and forth in a moving carriage!

It takes the same amount of time for the light wheel to roll back and forth on the rod!

That is to say, they are all relative systems that **always conform to formula (1)**, that is, they are all **relative systems that maintain absolute simultaneity**!

Of course, we can cite many examples of relativistic systems that maintain absolute simultaneity, which pervade our lives. Please consider the following small quiz: Why do sprinters not need to consider the direction of rotation of the Earth when in competition?

Simply considered, the Earth turns from west to east, so when following the direction of the Earth's rotation, the speed should be faster than the reverse because the speed of running along the direction of the Earth's movement is the superposition of the speeds of the athlete and that of the Earth, and the reverse is the two speeds subtracted. Therefore, sprinters should run faster in the direction the Earth is moving than when running in the opposite direction. So, which direction should have a greater impact on world record times for sprinters? Is this correct? Why do races occur wherever they do, without considering the direction athletes run? Shouldn't the world record be as infinitely precise as possible?

An ant crawls at a constant speed on the wall of an elevator. Whether the ant climbs from the bottom of the elevator to the top or from top to bottom doesn't matter. If the ant crawls with the same speed, then the time required for it to go from bottom to top or from top to bottom is the same, no matter whether the elevator is running or not.

People walking back and forth on the deck of a moving ship maintain absolute simultaneity. Likewise, a stewardess walking back and forth on a high-altitude aircraft maintains absolute simultaneity ....

All of this means that systems that maintain absolute simultaneity exist in abundance.

In the relative system, if a relative system that always satisfies formula (1), then it is the relative system that maintains absolute simultaneity or absolute synchronization. This is determined by the definition (1) given by Einstein! That's why we insist on making it clear what "simultaneity" is.

Then why can't we find relative systems that maintain absolute simultaneity before?

To Recognize the existence of relative systems that maintain absolute simultaneity begins with answering the question posed at the beginning of this section:

Then what is the precise definition of "simultaneity"?

To clearly determine that equation (1) is not only a formula for defining synchronization, but also a formula for defining simultaneity, is a tough job. It is impossible to get the idea by reading the original German, Spanish, and Chinese versions of Einstein's paper "On the Electrodynamics of Moving Bodies". Only after reading the English version paper quietly revised by Einstein in 1923, 18 years later after the quiet modification made in the English version, added to the original German version published in 1905. Then **finally it can be determined that equation (1) is the key**.

Applying equation (1), we can find many relative systems that maintain absolute simultaneity.

Summaryary of Conditions of the Two Different Forms of Simultaneity in a Relative System

Due to the simplicity and specialty of static systems, we will not discuss them further. If it is not specified, the relative systems discussed in this book later refer to dynamic systems.

In the examples of relative systems that Einstein used, the majority involve light rays. As the Reference-body-A in the relative system, the light ray must be completely separated from the Reference-body-B, and therefore, they are **completely independent** of each other. The light ray disappears as soon as it meets the Reference-body-B.

Einstein also refers to several Reference-body-As that are not light rays. But they also are independent of the Reference-body-Bs.

Earlier, we mentioned the example of the flying raven that Einstein used. It is a lone ranger flying in the air. It has no direct connection with the other reference bodies and is an independent existence. But if the raven walks or runs on Reference-body-B, the two reference bodies are not independent of each other.

In short, looking at all the examples of various reference bodies in the relative system that Einstein used to aid him in proving the theory of relativity, we find this: The two reference bodies in all examples of the relative systems Einstein used, are completely independent of each other!

Through the above discussion, we can summarize the conditions for identifying whether a relative system maintains absolute simultaneity or only maintains relative simultaneity as follows:

In the dynamic system, if the Reference-body-A is **independent** of the Reference-body-B, the relative system maintains **relative simultaneity**; this is the relative system that Einstein strongly endorsed.

In the dynamic system, if the Reference-body-A **inter depends** on the movement of the Reference-body-B, then the relative system maintains **absolute simultaneity**. Einstein strongly denied the existence of this relative system. In such normal relative systems, the two reference bodies that make up the system are interdependent, and the movement of one reference body is necessarily affected by the other one.

Mr. Einstein said in his book <Relativity: Special and General Theory>: "As a result of an analysis of the physical conceptions of time and space, it became evident that in reality there is not the least incompatibility between the principle of relativity and the law of propagation of light, and that by systematically holding fast to both these laws a logically rigid theory could be arrived at. This theory has been called the special theory of relativity to distinguish it from the extended theory… (Einstein, A., 2012)"

Of course, light must exist independently of any other object! There is indeed no incompatibility between Einstein's relative system and the law of light propagation, because light, as a reference body, can only constitute a relative system that maintains relative simultaneity, that is, the system in the world of Einstein's theory of relativity. However, when Einstein extended light to other objects such as crows, it was like extending the Lorenz transformation from ether to rigid rods, which was completely wrong. When Einstein extended his theory of relativity from laws related to light to other systems composed of moving matter, irreconcilable contradictions emerged.

Below we give the conditions for the formation of two relative systems that maintain absolute simultaneity and relative simultaneity in line with Einstein's regulations:

- In a qualified relative system composed of moving reference body-A and reference body-B;
- If the reference body-B is stationary, the relative system is called a static system. A static system is always a relative system that maintains absolute simultaneity;
- If the reference body-B is moving, then the relative system is called a dynamic system;
- In the dynamic system, if the reference body-A moves independently of the reference body-B, then the relative system is a system that maintains relative simultaneity; this is the relative system highly recommended by Mr. Einstein;
- In the dynamic system, if the reference body-A does not move independently against the reference body-B, then the relative system is a system that maintains absolute simultaneity. This is a relative system **whose existence Mr. Einstein strenuously denies**. This type of system is a normal relative system. The two reference bodies that make up the system are interdependent. The movement of one reference body will inevitably be affected by the other reference body.

7. Conclusion

We explained the physical model used by Einstein to derive the special theory of relativity - a ray and a rigid rod are two independent objects that cannot affect each other; we pointed out that Einstein used a wrong, non-relativistic system to discuss the theory of relativity; proved that the synchronous transmission rule of relativity prescribed by Einstein was wrong; pointed out the error of passive relativity; and proved that there are a large number of relativistic systems in the world that maintain absolute simultaneity. We also summarized the constitutive conditions of two kind of relative systems complying with Einstein's regulations that maintain absolute simultaneity and relative simultaneity. Combining all the above results, we can be very sure that Einstein's special theory of relativity is a wrong theory. Interested readers can further discuss whether the application of Lorenz transformation in ether can be applied to ordinary things such as rigid bodies.

Acknowledgments

We greatly appreciate the valuable contributions of our community advisory committee members.

Authors' contributions

Dr. Sean Yuxiang Wu full in charge of this paper. He used his retire time to finish all necessary work.

Funding

NA.

Competing interests

The view points in this paper were discussed separately in my books. But all the thoughts are independent thinking results.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

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References

Einstein, A. (1905). *On the Electrodynamic of Moving Bodies*, German language version. Retrieved from https://astro1.panet.utoledo.edu/~ljc/bewegter_k.pdf

Einstein, A. (1920). *English language version of On the Electrodynamics of Moving Bodies* (1920 edition), translated by Meghnad Saha. Wikisource, the free online library.

Einstein, A. (2005). *On the Electrodynamic of Moving Bodies*, Spanish language version. Retrieved from http://webs.ftmc.uam.es/juancarlos.cuevas/Teaching/articulo-original.pdf

Einstein, A. (2012). Relativity: The Special and General Theory, translated by Robert W. Lawson, pp. 15-22, p. 17, A Digireads.com Book.

Einstein, A. (2018). *Letters to Solovine, 1906-1955,* p. 21. Phylosophycal Library.

Einstein, A. (2018). *On the Electrodynamic of Moving Bodies*, Chinese language version, The Collected Works of Einstein Volume 2 (爱因斯坦文集第二卷), p. 96. The Commercial Press (商务印书馆).

Lorentz, A., Einstein, A., *et al.*. (1952). *The Principle Of Relativity,* Translated by W. Perrett, & G. B. Jeffery Dover Publications, INC. On the Electrodynamics of Moving Bodies, 1905, pp. 35-65.

Nave, C. R. (2005, 22 August). Hafele and Keating Experiment. HyperPhysics. Retrieved November 20, 2023, from http://hyperphysics.phy-astr.gsu.edu/hbase/Relativ/airtim.html

Wu, Y. (2017). *Debate of Light and Dark – A 100 Year Bet with NASA*. Two-W Object.

Wu, Y., & Wu, J. (2023). *Big Bang Pseudo-Theology*. Two-W Object Company.