

It is Impossible to Teach Special Relativity Without Deceiving the Student

Denis Thomas^{*†}

Abstract

As the title asserts, it is impossible to teach the theory of special relativity without deceiving the student, which means that everyone who already accepts the theory as truth has been deceived. The resulting problem from this deception is, not only is science being held back as people not being told truth, these people are passing their deception onto others, even using time dilation as an answer to the distant starlight problem which many use to attack the account of Biblical creation instead of focusing on the error which yields such exaggerated stellar measurements. The focus of this paper is to expose many of the deceptions within physics texts used to deceive the student, along with several lies which have been told in support of the theory, such as GPS requiring relativity, the Hafele-Keating experiment, muons, etc., while also revealing Einstein's confusion concerning light.

Keywords: Hafele-Keating, GPS, light clock, length contraction, Lorentz transformation^{‡§}

[†] 160 Indian Ridge Drive, North Augusta, South Carolina 29860, USA. Drillstop0@gmail.com; 803-845-0936

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1. Introduction

Special Relativity is a false theory which many people have accepted as truth. This theory has negatively impacted many of the areas of science, including astronomy, where some astronomers have tried to invoke time dilation as an answer to how we can observe distant starlight if the Earth was only created about 6,000 years ago. But if these men would have instead applied God's advice and examined the flaw of stellar magnitude, which is invalid because of wave interference, they would have reached the same conclusion which astronomer Alan Hirshfield wrote: "a star's brilliance reveals nothing about its remoteness,"[1] and thereby removed one of the obstacles which cause some to reject the truth of the Bible. And words such as spacetime would not be heard from the pulpit. Special Relativity rejects the fact that all truth is absolute as words get redefined, with claims such as simultaneous does not mean simultaneous for everyone.

Special Relativity is a comparative relationship between two or more vantage points, with the claim of a difference from classical relativity as the movement of one vantage point, or frame of reference, approaches the speed of light. The confusion and math of Hendrik Lorentz is what Einstein accepted and based this theory upon, along with his own confusion as he pondered different scenarios referred to as a gedankenexperiment, or a thought experiment. Because Einstein did this and many elevate him to god status, several texts equate these examples of mental reasoning to scientific experiments.

Several of these thought experiments from physics texts will be presented here. Most of the examples and illustrations requires at most some simple math to understand the error being presented to the student. Look for the error in the examples. The error will be explained following the example. Although the velocity of light is very fast, approximately 300,000,000 meters per second, in most cases the mathematical variable c is used to denote it.

Many people have been confused into thinking Einstein's theory of mass equivalence, $E=MC^2$, is related to special relativity, but it is not. However, because of the deception of special relativity, the deception of relativity has expanded to include relativistic mass, and relativistic energy. Einstein's theory of mass equivalence was published on November 2, 1905, while the theory of special relativity was published on September 26, 1905. Einstein also had two other papers published earlier that same year.

Special Relativity is taught like a magician's trick, as the magician tries to confuse the audience and divert attention from the truth of what he is doing, which is done with a wide variety of examples. A good magician can easily fool you, requiring extra thought to understand the deception. If you can imagine the number of text pages a student must cover from a near 1,000-page text during

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

each physics class, along with that of his/her other classes and reports to write, it is easy to understand how the unsuspecting student does not take the time to verify what is being taught is true, especially after having for years been indoctrinated to believe that science is an unbiased pursuit of truth.

Within most physics texts teaching special relativity will be a statement such as “contrary to common sense”, which should be a red flag to the reader, but the authors will try to persuade the student to ignore common sense and accept “the reality of special relativity”. Common sense is something God has given man, and he should use it. “According to the principle of relativity, no inertial frame of reference is more correct than any other in the formation of physical laws. Each observer is correct in his or her own frame of reference.”[2]

2.1 Example #1: time dilation

The following example[3] occupies six pages of the students’ text, with enough quoted and summarized here that the deception should be apparent: “A dramatic illustration of time dilation is provided by identical twins, one an astronaut who takes a high-speed round-trip journey in the galaxy while the other stays home on Earth. When the traveling twin returns, he is younger than the stay-at-home twin. How much younger depends on the relative speeds involved. If the traveling twin maintains a speed of 50% the speed of light for one year (according to clocks aboard the spaceship), 1.15 years will have elapsed on Earth.... One question often arises: Since motion is relative, why doesn’t the effect work equally well the other way around? Why wouldn’t the traveling twin return to find his stay-at-home twin younger than himself? We will show that, from the frames of reference of both the earthbound twin and the traveling twin, it is the earthbound twin who ages more.”

A spaceship has a flashing light on it which blinks once every six minutes. If the spaceship is at rest relative to Earth, once the initial flash is received on Earth, another flash will be observed every six minutes. Nothing special about that. “When motion is involved, the situation is quite different. It is important to note that the speed of the flashes will still be c , no matter how the ship or receiver may move. How frequently the flashes are seen, however, very much depends on the relative motion involved. When the ship travels toward the receiver, the receiver sees the flashes more frequently. This happens not only because time is altered due to motion, but mainly because each succeeding flash has less distance to travel as the ship gets closer to the receiver. If the spaceship emits a flash every six minutes, the flashes will be seen at intervals of less than six minutes. Suppose that the ship is traveling fast enough for the flashes to be seen twice as frequently. Then they are seen at intervals of 3 minutes.

If the ship recedes from the receiver at the same speed and still emits flashes at 6-minute intervals, these flashes will be seen half as frequently by the receiver – that is, at 12-minute intervals. This is mainly because each succeeding flash has a longer distance to travel as the ship gets farther away from the receiver. The effect of moving away is just the opposite of moving closer to the receiver. So, if the flashes are received twice as frequently when the spaceship is approaching (6-minute intervals are seen every 3 minutes), they are received half as frequently when it is receding (6 minute intervals are seen every 12 minutes).” Examples are given with the conclusion the astronaut twin aged less.

2.2 Comments on Example #1

Contrary to what the student was told in the text, time is not altered due to motion. Such a claim reveals a lack of understanding of what time is. Simply defined: “time is a system of information exchange, how that God and men communicate events with respect to the rotation of earth. What you plan to do tomorrow, what you did last year, how long Jesus was in the tomb, how long it took God to create the heaven and the Earth, how fast something travels,”[4] including the speed of light, cars, etc. and time itself all relate to the rotation of Earth. A clock does not determine time any more than a barometer determines atmospheric pressure. Both are merely instruments attempting to measure quantities. Yet it is a fundamental flaw with special and general relativity, the concept that “time is different for different observers.”[5]

The formula to solve the problem correctly is $t = f \pm (f \times v_c)$, where t equals the time between the flashes observed on Earth; f equals the actual time between flashes on the spaceship; \pm equals the travel direction of the spaceship with + distance getting farther from Earth, and – as distance gets less to Earth; v_c equals the velocity of the spaceship expressed as a fraction of the speed of light. The author had stated the actual time between flashes of light on the spaceship was 6 minutes and the velocity of the spaceship was such that the flashes are received every 3 minutes while traveling toward Earth. Inserting this information into the formula we have $3 = 6 - (6 \times v_c)$; $0 = 3 - 6v_c$; $v_c = 0.5$. He claimed that if going away from Earth at the same velocity the flashes would be observed on Earth every 12 minutes. We get a different answer when we input the information into the formula: $t = 6 + (6 \times 0.5)$; $t = 9$ minutes. Special relativity does not factor in direction of travel. The example was that of the magician trying to confuse the student. Why did the author lie?

In another physics text[6], the authors provide an example of the twin paradox with Helen taking a starship flight to a star 9.5 ly from Earth and instantly returning at the same velocity, $0.95c$, where she left her brother George. The calculations are given, showing George has aged 20 years and Helen has aged only 6.25 years. The authors had stated: “only one inertial

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

reference frame measures proper time”, and Helen’s clock is “the clock that measures proper time. “George is expecting Helen to be younger than he is. Helen is expecting George to be younger than she is. Here’s the paradox! It’s logically impossible for each to be younger than the other at the time when they are reunited.” The authors try to explain the paradox by stating: “George spends the entire time in an inertial reference frame, but Helen does not. The situation is not symmetrical. The principle of relativity applies only to inertial reference frames... Helen’s analysis and calculations are not correct because she was trying to apply an inertial reference frame result to a non-inertial reference frame.” This contradicts what the authors stated about Helen’s clock. While the authors refer to the acceleration Helen felt, (the Lorentz calculations which George used are based upon Helen moving at constant velocity, which also contradicts what the author claims about Helen’s motion being non-inertial) relative motion teaches us that, if physical sensations are ignored, she would be viewing George as the one experiencing the acceleration, thus they should reach the same conclusion about each other. So why did these authors lie?

3.1 Example #2: simultaneity

“Two events are simultaneous if they occur at the same time. Our everyday experiences and intuition suggest that the notion of simultaneity is “absolute”; that is, two events are either simultaneous or not for all observers. However, to determine if two events are simultaneous (or not), involves the measurement of time, and our studies of time dilation show that different observers do not always agree on measurements involving clocks and time intervals.” An illustration is provided showing two lightning bolts striking both ends of a moving boxcar at the same instant an observer on the ground is located equal distance from the front and rear of the boxcar. Ted is the observer centered on the boxcar while Alice, the ground observer is equal distance from the front and rear of the railcar as the lightning bolts strike while the railcar passes by. “We now ask, Did the two lightning bolts strike simultaneously?” The author then tells that Alice viewed the lightning bolts as simultaneous, while explaining that because of Ted’s motion he viewed the forward lightning strike first, and then states: “two observers must always agree on the order of two events that occur at the same point in space....In Ted’s reference frame, the two lightning bolts are not simultaneous....Time dilation and the relative nature of simultaneity mean that special relativity conflicts with many of our intuitive notions about time...That is very different from Newton’s picture, in which time is an absolute, objective quantity, the same for all observers.”[7]

3.2 Comments on Example #2

With both the stationary and the moving observer, the event of the lightning strikes is simultaneous. But, because of motion the moving observer's perception of the event differs from that of the stationary observer. Had the moving observer realized that he was moving, he could have calculated which flash occurred first, or if they were simultaneous, if he also knew his velocity. Indeed, the moving observer could claim that the forward pulse of light arrived at him first. But the stationary observer would also make the same claim, that the forward pulse arrived at the moving observer prior to the rear light pulse. One of the tricks of the magician is to confuse you, which is what these authors try to do when claiming simultaneous does not mean simultaneous for everyone. But truth is true for everyone. There is no such thing as a relative truth. So why did the author lie?

Imagine you are in an electric golf cart and your friend is on the 50-yard line, which is located equal distance from speakers at each end of the field. At the instant you pass your friend, an announcement comes from the speakers. Your friend hears the sound from both speakers simultaneously, but because of your motion you hear the announcement from the closest speaker, prior to the echo sound from the other speaker. You are intelligent enough to know that the sound from both speakers was simultaneous, and it was because of your motion the sound had farther to travel from the distant speaker, you heard it last. Apply your intelligence to the lightning bolt thought experiment.

With special relativity, it is essential that you believe that simultaneous does not mean simultaneous for each observer. As one author, who used two firecrackers exploding instead of the two lightning bolts, wrote: "The paradox of Peggy and Ryan contains the essence of relativity, and it's worth careful thought. First, review the logic until you're certain there is a paradox, a logical impossibility. Then convince yourself that the only way to resolve the paradox is to abandon the assumption that the explosions are simultaneous in Peggy's reference frame. If you understand the paradox and its resolution, you've made a big step toward understanding what relativity is all about." [8] (Peggy was the moving observer.) Just say it to yourself: special relativity is true until you convince yourself.

"To talk about time, about simultaneity at a distance, you have to synchronize your clocks." [9] The issue of simultaneity is one of the errors Einstein made within the theory of special relativity. He describes two clocks, A & B and expands it to include clock C, in space and proposes an imaginary but incorrect way to synchronize the clocks:

"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

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

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” to be reflected at B in the direction of A, and arrive again at A at the “A time” t_B . In accordance with definition the two clocks synchronize if $t_B - t_A = t_{0A} - t_B$. 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 “simultaneous,” or “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.”[10]

It is impossible to synchronize three remotely isolated stationary clocks, A, B, & C using only a ray of light. While Einstein’s example required the ray of light to be emitted, reflected, received back with the first clock calculating the flight time of the light ray and thus adjust the clock (although he does not mention adjusting the clock), that at best could only work for two stationary clocks. Imagine clocks A & B are remotely separated by exactly 5 light-seconds. Clock A starts at time 0 and sends a light pulse to B. As B receives the pulse and reflects it back, it now starts and is lagging clock A by 5 seconds. Clock A receives the reflected pulse at $A = 10$, just as $B = 5$. Clock A must now calculate the round-trip time of the light pulse, divide that by 2, and subtract that from its own time in order to synchronize with clock B. That was with both clocks stationary. To also synchronize clock C as Einstein proposed would be impossible. While Einstein claimed that his imaginary physical experiments “settled what is to be understood by synchronous stationary clocks located at different places”, he then applied his definition of clock synchronization in the next section of his theory to moving clocks. He stated: “let the time τ of the

moving system be determined for all points of the moving system at which there are clocks at rest relatively to that system by applying the method, given in §1". The two lightning bolt thought experiment shows the impossibility of the clocks of the moving system synchronizing, as the motion would cause the time for the light to go from A to B to not equal the time from B to A, just as the motion of the boxcar caused the flash from the forward lightning bolt to strike the rear of the boxcar prior to the rear flash arriving at the front. It also provides support for the claim that the one-way velocity of light has never been measured, only the two-way velocity such as with the Michelson-Morley experiment.

Imagine today's atomic watches which are adjusted via a radio signal broadcasted by the Naval Observatory. On Earth, they would each be accurate to within microseconds. It would be impossible for astronauts on the moon and on Mars to have their watches synchronized using this radio signal, which travels at the speed of light. Einstein referred to his imaginary method of synchronization numerous times within his theory.

4.1 Example #3: Newtonian mechanics

"A spaceship (S') moves with speed $v_{S'/E} = 1000$ m/s relative to the earth (E). It fires a missile (M) with speed $v_{M/S} = 2000$ m/s relative to the earth. (a) Newtonian mechanics tells us that the missile moves at a speed of 3000 m/s relative to the earth. (b) Newtonian mechanics tells us that the light beam emitted by the spaceship moves at a speed greater than c relative to earth; this contradicts Einstein's second postulate." [11]

4.2 Comments on Example #3

All types of waves travel at a constant velocity until conditions change. Contrary to the claim of the textbook author, Newtonian mechanics does not teach that the velocity of waves is added to the velocity of the craft. "Water waves produced by a slow-moving tugboat have the same speed as those produced by a high-powered speedboat." [12] The waves of a train horn do not travel faster when the train is moving. However, when the medium upon which the wave is traveling is also moving, only then is the wave traveling faster with respect to something which is stationary. Boat waves in a river move faster than on a lake with respect to shore; audible voices inside a moving vehicle travel faster with respect to the ground; light waves in an expanding section of space would move faster if space actually expands. While galaxies expand, there is zero real evidence that space expands. (The example of inflating a balloon with dots on it provides zero evidence of space expanding, but is a visual aid for those teaching the Big Bang.) Why did the author lie?

5.1 The light clock

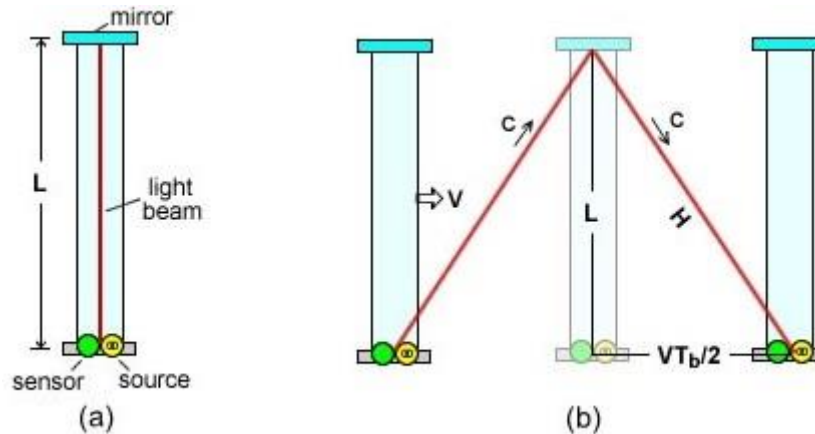


Fig. 1 the imaginary light clock

Figure 1, illustrated above[13], is an imaginary clock, which is the most frequently used example in the teaching of special relativity. In most physics texts, it is comprised of two horizontal mirrors with a pulse of light bouncing between the mirrors, while in the illustration above, and in some other physics texts, there is only one mirror, with the light source and sensor at the bottom. The diagonal path of figure (1b) is what is taught as the “path of light as seen from a position of rest.” [14]

5.2 Comments on the light clock

There are numerous errors with the light-clock illustration. Can you spot them? The light clock errs in that light is portrayed as behaving as would an object with mass, acceleration is ignored, the stationary observer’s observation is never shown from a point of inertial motion, the observational delay is ignored, and the thought that it is the clock which determines the time is completely wrong. A clock is merely an instrument attempting to measure a quantity. It can no more determine time than a barometer determines atmospheric pressure. Every instrument is subject to instrument error.

For the motion of one object to be considered inertial, it must be compared to another object and its movement must be perpendicular along a straight line to the other object. For simplicity, it is easiest to reference this line as the x axis, along with placing the “stationary” reference at x_0 .

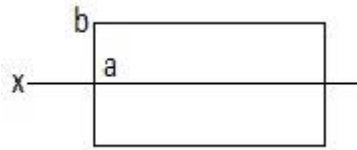


Fig. 2

Consider the box above, Fig. 2, moving along the x-axis. Only those points touching the x-axis can be considered inertial with respect to x, while the distance from x to b would be constantly changing at a nonlinear rate. Suppose the distance from a to b is 5', which would remain unchanged as the box moves. If the distance from x to "a" is 10', then by Pythagorean's theorem the distance from "x" to "b" would be determined to be 11.18'. As the box moves to the right to $x_a = 15'$, the distance from x to b becomes 15.81'. The stationary observer watching a moving lightclock would only view the vertical motion of the light along the y-axis, and not from the off-to-the-side vantage point illustrated in physics texts.

Space has only three dimensions. These can be plotted on an x, y, z graph. Adding t for time to a graph shows the position of these co-ordinates at a particular instant. But time is not a fourth dimension. Time is not a dimension, but a measurement of quantity which can be plotted on a straight line, with "The Beginning" at $t = 0$, the past to the right of that, counting up to the present, with the future to the right of that.

Often within physics texts, the time for the light to go from the bottom mirror to the top mirror and back to the bottom mirror is defined as one tick of the clock, while some define it as two ticks. Consider the following example: Bob is our moving observer, while Alice is stationary. Each time the pulse of light of the light clock hits the bottom mirror it causes a flash of light (one tick of the clock) to be emitted in the direction of Alice. Our clock could then be compared with the spaceship from example #1 which now flashes a light every second. We can then use our formula from "comments on example #1" to determine the time Alice would observe between flashes: $t = f \pm (f \times v/c)$. Bob is moving away at $0.50c$. The flashes from his light clock, which are at one second intervals, are then observed every 1.5 seconds by Alice, and if Bob instantly reverses directions, returning at the same velocity, Alice will observe the flashes every 0.5 second. However, if we apply the Lorentz equation to the problem the answer is quite different, so let's solve the problem as the students of physics are taught to do and look for the error. (Fig. 3 is another illustration of the light clock.)

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

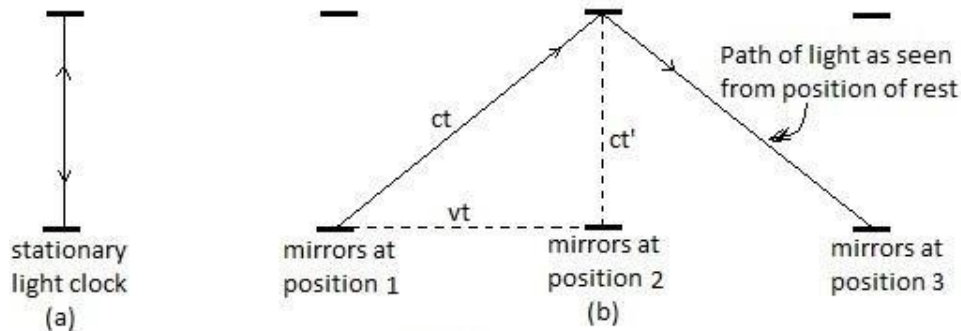


Fig. 3

We know that we can find the length of the hypotenuse of a right triangle using Pythagorean's theorem, where the square of the hypotenuse (c) is equal to the sum of the square of the adjacent side (a) of the triangle and the square of the opposite side (b) of the triangle. $a^2 + b^2 = c^2$. This equation works, whether the dimensions are expressed as length, velocity, or time. Since distance equals velocity multiplied by time, we can substitute that into our Pythagorean equation. Thus, we have $(ct)^2 = (vt)^2 + (ct')^2$, (with c being the velocity of light, and v being the velocity of the moving observer), which can be reduced to that of Fig.4:

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

Fig. 4

Inputting Bob's velocity, $0.5c$, and the time of t' (1 second), we come up with $t = 1.15$ seconds in both directions, considerably different than the 1.5 seconds while receding and 0.5 seconds while returning we concluded above. So, which one is wrong? Actually, they both are. If Bob's clock merely consisted of a timer which caused a light to flash, then the 1.5 seconds between observed flashes while moving away from Alice, and the 0.5 seconds while approaching would be correct. But, since we used the imaginary light clock, we need to understand Bob's clock stopped functioning once he went into motion, a result of one of the characteristics of light. But first, let's expose another lie told to the students.

Relative motion means that a person's motion is relative to another, and that each can consider themselves as the one who is stationary. This is true whether or not the motion considered is inertial, accelerating, or decelerating, as each can, if the feelings of acceleration and deceleration are ignored, view the other as the one experiencing these types of motion, which is probably why early astronomers viewed the celestial objects as rotating around Earth. They

did not feel their motion. In most physics texts which I have reviewed, the authors claim the reason why the moving observer did not reach the same conclusion as the Earth-bound stationary observer is because the moving observer was not in an inertial frame of reference. This would mean that only during the acceleration and deceleration would Bob's motion be non-inertial, and once at inertial velocity he would be considering Alice's clock as moving slower at the same rate she views his clock. But no physics text will factor the non-inertial motion into their math, but only make the statement this is why there is a difference. So why did the authors lie? The Lorentz transformation formula ONLY applies when both frames of reference are inertial with respect to each other.

Imagine the following thought experiment: an apparatus is located on the floor of an airplane and shoots paintballs vertically at the ceiling at regular intervals. We know that once the plane is traveling at a constant velocity, the paintballs will follow a vertical path to the ceiling. This is because the paintballs located inside the apparatus gained potential energy upon acceleration, which was changed into kinetic energy upon launch, giving the paintball the momentum of the forward velocity of the plane. For something to be moving, even at an inertial rate, it had to at some time in the past experience acceleration. The paintballs launched during acceleration will follow a diagonal path toward the rear of the plane. Now consider the light clock with its ball of light bouncing between two mirrors. Upon acceleration, the mirrors would move out of the path of the light pulse and the clock would stop working. Consider the light clock illustrated in Fig. 1, with a light flashing at regular intervals, bouncing off a mirror and returning to a sensor, the clock will still not function once the plane is in motion. This is because the photon of light did not exist prior to being emitted, and does not contain physical mass, wherewith to gain the potential energy to give it the forward momentum once emitted. As it travels up toward the upward mirror, the movement of the plane will move the mirror out of the light's path. One author used a laser pulse in the light clock (Fig. 1) and wrote: In other words, the stationary observer "concludes that because of the motion of the vehicle, if the light is to hit the mirror, it must leave the laser at an angle with respect to the vertical direction." [15] This meant the comparison of the light shot vertical in the case of the stationary light clock to when the laser was fired at an angle to hit the moving mirror. It is not comparing apples to apples, yet the author still guides the student into comparing the angled to the vertical light path to conclude time dilation. So why do these authors lie?

From Alice's perspective, our stationary observer, she could only view the vertical up and down motion of Bob's imaginary light clock, and not the diagonal path presented in each physics text. If, for example, the upper limit of the flight path of light pulse of the light clock is coordinate y_0 on a graph, by drawing in the vanishing point of a perspective drawing, and considering the

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

flight time of the light back to Alice, you should recognize the pulse of light is not rising and falling at a linear rate. However, if Bob's clock just emitted a flash of light every second (or at the same intervals as Alice's flashing clock), Alice could determine both the direction and velocity of Bob using our formula from comments on example #1: $t = f \pm (f \times v_c)$.

Because the illogical light clock is used in the majority of texts, physics and astronomy, which cover special relativity, another thought experiment will be provided here. Alice and Bob each have two radio receivers and one transmitter beside them. One receiver is tuned to receive the transmitter beside it, while the other is tuned to receive the other observer's transmitted signal. Both transmitters broadcast a pulse every second, similar to that of the U.S. Naval Observatory's WWV radio. Alice's transmitter broadcasts on 10 MHz, while Bob's on 20 MHz. Each receiver is equipped with a counter, counting each pulse received. Each counter reads zero just as Bob travels away from Alice. The Doppler effect causes a shift in the frequency (which can be calculated with the wavelength formula) each of them are receiving from the other's transmitter, but our imaginary receivers have auto tune ability and continues to receive the signal which travels at the same speed as light. In this imaginary scenario, regardless of acceleration, velocity, deceleration, or direction of movement, both observers conclude the exact same about the other and the four counters will not again synchronize until Bob returns back to his original position.

The following example, in addition to the comments on example #5, will further illustrate this flaw in Einstein's thinking. We live on a rotating Earth. "The moon's average distance from Earth is 238,855 miles. Since light travels at 186,000 miles per second, it would take 1.28 seconds for a pulse of light to go to the moon. If we make an imaginary circle of average lunar orbit based upon $2\pi r$, we have a circle of 1,500,770 miles. Divide that by 86,400, the number of seconds in a day. Our zenith moves along this circle at 17.37 miles per second. Multiply that by the light travel time of 1.28 seconds for 22.2 miles. If, as claimed by Lorentz, Einstein, and those claiming special relativity is true, light carries the forward momentum of motion, it would be necessary to aim the laser for lunar laser ranging at a spot 22.2 miles away from the retroreflectors left by the Apollo astronauts. But they don't do that!"(Thomas, 2022)[16] (Lunar laser-ranging, contrary to the true science of laser ranging, is another of the deceptions taught to students, but is not the focus of this paper.)

Hendrik Lorentz recognized the speed of light is constant, and wrote the somewhat simple equation which is now referred to as the Lorentz factor, which seems to be based upon the math of Woldemar Voigt.[17] Since distance = velocity multiplied by time, the formula became $c^2t^2 = v^2t^2 + c^2t'^2$ with the conclusion that t was a longer duration of time than t' (t prime). The formula was

further reduced to $\gamma = \frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$, which is the relationship of the velocity of the moving object to the speed of light. (The Greek letter gamma, γ , is often used to designate the Lorentz factor.) But Lorentz erred in thinking light would behave similar to objects with physical mass. Einstein accepted Lorentz's confusion and wrote his theory based upon it. The Lorentz transformation formula is used not only in time dilation, but also in length contraction, relativistic momentum, and several others, such as relativistic mass. Since the formula is based on the thought that light would have the forward momentum as objects with physical mass, which are illustrated with the light clock and disproven with our examples, it should be recognized that in whatever application the Lorentz transformation formula is used, that it is a part of false science.

6.1 The moving elevator

Although Einstein's elevator thought experiment is considered foundational for general relativity, and not thought of until 1907, it offers further proof of Einstein's confusion along with revealing one of the flaws with the light clock thought experiment, again disproving special relativity. This "experiment" is also referred to as the moving lab, where a moving lab is referenced instead of an elevator.

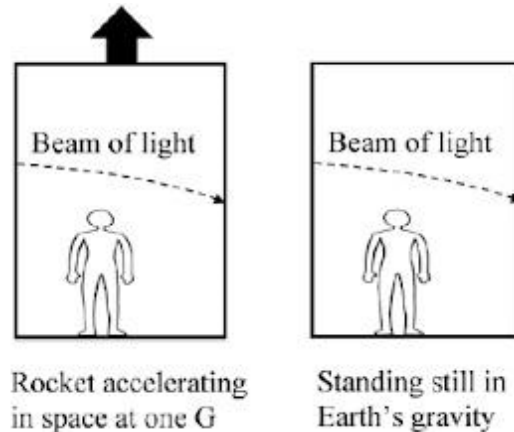


Fig. 5

The clipart image, Fig. 5 above[18] is similar to what is in numerous physics texts.

6.2 Comments on the moving elevator

The illustration on the left of Fig. 5 is correct because as the light waves leave the source on the left the motion of elevator, or rocket, is causing the walls to rise, giving the illusion that the light beam is bending with respect to the walls. That illusion would exist whether the elevator was accelerating, decelerating, or in inertial motion. Simply by rotating that illustration 90°, such that the elevator is now going horizontal and the light vertical, you invalidate the claims of the light clock, as it would be obvious that the light would not bounce between the mirrors as taught in physics texts. The illustration on the right shows Einstein's illogical thinking upon which he theorized that gravity would bend light in a similar manner, which has led to the misconception of curved space. He had thought that since acceleration of the elevator or rocket would "bend" the light that the acceleration of gravity would also bend light. However, the accelerating elevator only gave the illusion of light bending. Light is not deflected by gravity. While Newton may have theorized gravity bending light, gravity is similar to a permanent magnet in that its attraction is steady and on objects with mass, while the electromagnetic waves of radio and light alternate and are not affected by stationary magnets. Because you are possibly thinking of the 1919 eclipse, that will be covered next.

7.1 The eclipse of 1919

"Einstein predicted that starlight passing close to the Sun would be deflected by an angle of 1.75 seconds of arc – large enough to be measured....(Measuring this deflection has become a standard practice at every total eclipse since the first measurements were made during the total eclipse of 1919.)....In every instance, the deflection of starlight has supported Einstein's prediction." [19]

7.2 Comments on the 1919 eclipse

Frequently, lies are supported by additional lies. That is the case with special and general relativity, as many scientists have claimed their experiment or test proves the theory. Arthur Eddington's claim of the 1919 solar eclipse is such an example, which many cite as proof of relativity. His bias certainly added to his lack of objectivity, having the year prior written a book on general relativity, and counted himself as one of three men who understood the theory. "It is worthwhile mentioning at this point that none of later solar eclipse missions in 1922, 1929, 1936, 1947 and 1952 yielded conclusive results about

the amount of light deflection (Newtonian or Einsteinian, cf. [10, p. 68]).”[20]
So why did the author lie?

Amateur astronomer Donald Bruns attempted to repeat Eddington’s exercise with the eclipse observation of August 21, 2017, with the claim that his test also confirms general relativity, and some hail this as further proof of general relativity. But Domingos Soares (2019) of the Physics Dept. of Federal University of Minas Gerais, when comparing Eddington’s claim with that of Bruns, wrote “the impossibility of a conclusive result therein will clearly emerge.”[21] We know that light bends when going through mediums of different densities on angle. The hot, interplanetary gases surrounding the sun are responsible for the observed deviation, similar to the fact that the starlight of our sun traveling through Earth’s atmosphere makes the upper limb of the sun visible at sunrise when it is actually more than 34 minutes of a degree below the horizon.[22]

8.1 Length contraction

“In relativistic mechanics, there is no such thing as absolute length, or absolute time.”[23] “Length contraction suggests that objects in motion are measured to have a shorter length than they do at rest. No actual shrinkage is implied, merely a difference in measured results, just as two observers in relative motion measure a different frequency for the same source of sound (the Doppler effect).”[24]

8.2 Comments on length contraction

“No actual shrinkage is implied, merely a difference in measured results.” Oh! What nonsense that students are being indoctrinated to believe. Many, if not most, other physics texts do not suggest that length contraction is not actual.

Since distance, time, and velocity are mathematically related, and the velocity of light is constant, a change in the value of time in time dilation requires a change in the value of distance, length contraction. The comments on sections 5.2 and 6.2 should be clear enough for you to recognize the impossibility of time dilation, and that would invalidate claims of length contraction, relativistic mass, relativistic energy, relativistic momentum, etc.

9.1 The Hafele-Keating experiment

“Time dilation has been confirmed also for not-so-fast motion.”[25]
Four cesium clocks were, in 1971, flown around the world both in an eastward,

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

and again in a westward direction, in what is referred to as the Hafele-Keating experiment. Compared to the U.S. Naval Observatory clock, the clocks are reported to have gained 273 ± 7 nanoseconds on the westward flight, and to have lost 59 ± 10 nanoseconds on the eastward flight. “These results provide an unambiguous empirical resolution of the famous clock “paradox” with macroscopic clocks.”[26]

9.2 Comments on the Hafele-Keating experiment

It is impossible for an experiment to prove a deceptive theory true. Dr. Louis Essen, the man who invented the cesium atomic clock, and who was one of two men to determine the number of oscillations of cesium to equal the ephemeris second of 1900 (which became the 1966 definition of the atomic second)(determining the definition to have an error tolerance of ± 20 oscillations, although the error tolerance was not included when the definition of the SI second was changed), and who more accurately measured the speed of light, proving it to be 16 km/s higher than what the scientific community believed, stated that special relativity “would retard the rational development of science.”[27] He was right, as so much of the student’s time has been wasted on learning a false theory, supported with lies. This man who invented the atomic clock also wrote the following concerning the Hafele-Keating experiment: “Four atomic clocks were flown round the world and the times recorded by them were compared with the times recorded by similar clocks in Washington. The results obtained from the individual clocks differed by as much as 300 nanoseconds. This absurdly optimistic conclusion was accepted and given wide publicity in the scientific literature and by the media as a confirmation of the clock paradox. All the experiment showed was that the clocks were not sufficiently accurate to detect the small effect predicted.”[28]

Within years of adopting the atomic second, scientists observed that elevated atomic clocks were not staying in sync with those of lower elevations. Some attributed this to special and general relativity, yet the cause is gravity affects the resonant frequency of every isotope. The IAU in 1976 revised the definition of the System International, SI, second, effective 1977, such that it is the atomic second at sea level.[29] The atomic clocks used in the Hafele-Keating experiment were not counting what is now SI seconds. Therefore, it would be incorrect to compare them to a clock that was counting accurately. That statement is also true for those atomic clocks in GPS satellites. Unless the elevated or moving atomic clock, such as is in a GPS satellite, uses a different definition of the number of oscillations to equal a second, it will not be counting SI seconds and would accrue instrument error which would require regular corrections. The student was told the Hafele-Keating experiment confirmed time dilation. Why did the author lie?

10.1 Muons

“Very detailed studies have been done on unstable particles called muons that are created at the top of the atmosphere, at a height of about 60 km, when high-energy cosmic rays collide with air molecules..... We wouldn’t detect muons at the ground at all if not for time dilation.”[30]

10.2 Comments muons

Hailed as evidence of time dilation and special relativity, this claim concerning muons is a prime example of dumbed-down education, where the claim is that muons could not reach Earth’s surface before decaying if it were not for the distance getting shorter from the muon’s perspective, length contraction, and the time of flight for the muon getting shorter from the ground’s perspective, time dilation. But what they are actually saying with their dumbed down philosophy is that if were not for length contraction, where a mile is no longer a mile, muons would be traveling at about fifteen times the speed of light. Meteorites fall through Earth’s atmosphere at a much slower velocity and most burn up, but the miraculous muons can do it because of special relativity. The claimants ignore the fact that if cosmic rays can cause muons to be formed at an elevation of 60 km (some physics texts say 100 km, while another states 4.8 km), these same rays can cause them to be formed at ground level. Ah! But the UV solar radiation is more intense at the upper atmosphere, causing more muons to form there.

11.1 The precession of Mercury

“From the special theory of relativity, we know that measurements of space and time undergo transformations when motion is involved. Likewise with the general theory: Measurements of space differ in different gravitational fields – for example, close to and far away from the Sun....Careful measurements showed that Mercury’s orbit precesses about 574 seconds of arc per century. Perturbations by other planets were found to account for all but 43 seconds of arc per century....And then came the explanation of Einstein, whose general relativity field equations applied to Mercury’s orbit predict an extra 43 seconds of arc per century!”[31] “Careful observations of Mercury’s orbit during the 1800’s showed that it does indeed precess, with each precession cycle taking more than 20,000 years.”[32]

11.2 Comments on the precession of Mercury

“The Sun will often move outside of its average location by over a full radius. For some reason this never appears to be considered when modelling Mercury’s perihelion motion.”[33] We now know that there are some minor planets which cross Mercury’s orbit and could be partly responsible for the deviation. In fact, the Jet Propulsion Lab Small-Body database lists 362 Mercury “crossers” and 561 Mercury “grazers”[34], with the distinction between the two on how they interact with Mercury’s orbit. At least two of these minor planets which cross Mercury’s orbit, 1998 RO₁ and 1999 KW₄, have their own moon. Thus, general relativity does not add anything to the science of Mercury’s orbit. It is not enough to calculate the effect of just one or two of these minor planets with the conclusion that since their gravitational influence is not enough to be responsible for Mercury’s precession, general relativity must still be true. The effects of all 923 minor planets must be considered along with the sun’s movement from its average location.

12.1 Problems resulting from the deception of special relativity

Most people critical of Einstein’s theory are ridiculed and several in the academic community have had their career threatened if they speak against this god of science. That is a human behavior problem. The deception of special relativity is foundational to many other deceptions the student is taught: general relativity; the Schwarzschild radius from which black holes are theorized; curvature of space; fabric of space; time as a fourth dimension; gravity bending light; spacetime, gravity affecting time; relativistic momentum; relativistic mass; wormholes; gravitational lensing; event horizon, the Lorentz transformation, the Minkowski calculations; etc. Time wasted learning these deceptions, along with learning evolution, the Big Bang, false claims as to the number of stars and stellar distances, is time in which the student is not learning truth.

Nothing has meaning, unless it is relative. And that especially includes words. Without reference to sci-fi movies, words such as Klingon and cyborg, have no meaning to the listener. Teaching the student into thinking simultaneous does not mean simultaneous for everyone, that one observer can be inertial while the other is not and yet use the Lorentz formula, which only applies when both observers are inertial, that the length of your measuring stick is not the same, or that people can have their own time is deceiving the student into not believing in absolute truth, truth is relative, you can have your truth while I have mine. Unfortunately, the deceived student then parrots their deception (thoughtless

repeating) to others as adults, instead of applying God's instruction: "prove all things, hold fast that which is good." (If you cannot find an error in the comments on sections 5.2 and 6.2, you should do as the child who had been deceived into believing in Santa does when he learns the truth: he quits believing the lie.) (Just as parents who deceive their children should be ashamed for lying, so also should anyone who teaches special or general relativity to be true. The Almighty Creator God hates lying.[35])

13 Conclusion

"A man may imagine things that are false, but he can only understand things that are true, for if the things be false, the apprehension of them is not understanding." Isaac Newton

Although "there have been hundreds of papers and dozens of books written on the refutation of special relativity over the last 100 years,"[36], I know of none pointing out some of the textbook deceptions used to teach the theory, or that it is based upon the misconception that light could have the same forward momentum as objects with physical mass. The examples presented represents the more common of the deceptions used to teach special relativity, followed by explanations revealing the deception. If the theory were true, the deceptions would not be necessary to explain it. Some people accuse Einstein of plagiarism, as he did not give credit to his sources. If he was guilty of plagiarism with the theory of relativity, it is likely he is guilty of it with his other papers. Others point out the mathematical errors Einstein made within the theory. As Dr. Louis Essen stated: "Einstein's use of a thought experiment, together with his ignorance of experimental techniques, gave a result which fooled himself and generations of scientists." Every area of science which uses the false equation of Lorentz should be viewed as producing deceptively false conclusions.

While Einstein had said that "the distinction between the past, present, and future is only an illusion",[37] I am confident my future with Jesus is not an illusion, nor what He has done for me in the present and in the past. You also can have confidence in the eternal promises of God, if you repent of your sins and believe that Jesus paid for your sins, or you can have the curses if you chose the path to hell.

It is Impossible to Teach the Theory of Special Relativity Without Deceiving the Student

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