the general science journal

Albert in Relativityland

A critical introduction to "Einstein's theory of relativity", written by a non-scientist for other non-scientists who have some intellectual curiosity about this famous theory, with pictures in it and 140 references and citations to authority. 30 pages.

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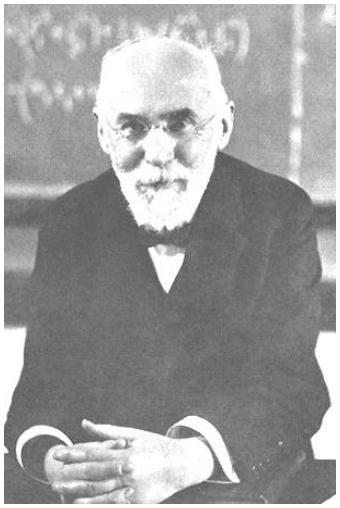


Preliminaries

A distinction must be made between:

1. Firstly, the common-sense Principle of Relativity of Galileo Galilee, one of the basic principles of physics;

2. Secondly, the Poincaré-Lorentz Theory of Relativity that French mathematician and physicist Henri Poincaré (1854-1912)(right), Dutch physicist Hendrik Lorentz (1853-1928)(left), and Irish physicists George FitzGerald (1851-1901) and Joseph Larmor (1857-1942) developed from about 1889 through 1904;

3. And thirdly, the mostly unoriginal gathering of earlier scientific research along this line by a young Albert Einstein and possibly his wife Mileva, without citing their sources, that came to be known after 1905 as "Einstein's Special Theory of Relativity".

Galileo's Principle of Relativity

In 1632, Italian Galileo Galilee (1564-1642), a contemporary of Francis Bacon, the two usually recognized as co-founders of the scientific method, set forth the Principle of Relativity in his *Dialogue Concerning the Two Chief World Systems*.

To use Galileo's ship example, imagine you are a passenger in a spacious cabin in a ship with the window shuttered. The ship is sailing in calm weather at 20 mph. You find you can walk the length of your cabin from the rear to the front and from the front to the rear at a normal pace—about 5 mph—as if the ship were at anchor in harbor. In relativity theory jargon your cabin is your "inertial frame of reference" within which you were walking at 5 mph.

Now imagine that a sailor is on deck and the ship is passing a lighthouse on land. The sailor walks from the stern to the bow at the same velocity—5 mph—as you were. But because he can see the lighthouse and land, his "inertial frame of reference" includes them. Hence his speed *relative to them* is 25 mph while walking forward and -15 mph while walking from bow to stern, even though he was walking at the same pace that you were.

Now, if there were a lighthouse keeper on duty observing the ship, he would have his own frame of reference. This would be called his *relativistic frame of reference*. His position and the sailor's would change every time the sailor moved.

Later there were introduced Cartesian line coordinates, which are taught today in secondary school mathematics as the three axes *x*, *y*, and *z* representing width, height and depth, which give every point or object a three-coordinate position. So you in your cabin, the sailor on deck and the lighthouse keeper would each have his own coordinates.

These are the essentials of the Galilean Principle of Relativity, although it might be added that Galileo himself did not test this principle by experiment. For he states on the following page, "it did not occur to me to put these observations to the test when I was voyaging."

Some Relevant Science History leading to the Poincare-Lorentz Theory of Relativity

In 1675, after studying the eclipses of the Jupiter moon Io, which Galileo had discovered, Danish mathematician and astronomer Olaus Romer estimated that the velocity of light was about 210,000 km/sec (about 90,000 km/sec less than today's value).[1]

In his *Principia* of 1684, the views of Isaac Newton, who was introduced in Chapter 1, were in agreement with Galileo's Principle of Relativity. Newton also theorized that visible light was "corpuscular", that is to say, that a light beam was made up of a stream of small particles.

In 1801, German physicist and astronomer Johann Georg Soldner (1776-1833) predicted that the gravitational attraction of a heavenly body would have the effect of slightly bending starlight that was passing near it. This supported Newton's corpuscular theory of light.

However, in 1803, English polymath Thomas Young (1773-1829) conducted the famous double-slit experiment, which indicated that light had some wave-like properties.

During the nineteenth century, "the accumulation of exact knowledge about what Earth is made of and how it moves had become so large that natural philosophy came to be called 'scientific' knowledge, and its specialized practitioners became known as "scientists.'"[2]

Later experiments, particularly by French scientist Augustin Fresnel, supported Young's wave theory of light.[3]

In 1849, French physicist Armand Hippolyte Fizeau (1819-1896), measured the speed of light using a rapidly rotating toothed wheel and a mirror positioned more than five miles away. He obtained a value of 313,300 km/sec, close to today's value of 299,792 km/ sec.[4]

In 1851, Fizeau also found that when a beam of light is passed through flowing water, the velocity of light is greater when it is flowing downstream with the flow, and lesser when it is flowing upstream against the flow.

Beginning in the 1850s, a young Cambridge scientist J. Clerk Maxwell (1831-1879) (right) brought together the research of earlier scientists, such as Faraday and Ampere, and conducted many experiments of his own with electricity and magnetism. He found that electric and magnetic fields travel through space in the form of waves approximately at the speed of light as it was then known. Because his estimate of the speed of the electromagnetic field was so close to the estimated velocity of light, he suggested that light was an electromagnetic wave. This observation supported the theory that light was a wave, not a particle. Maxwell's equations were published in 1861 and form the foundation of modern electromagnetic engineering and technology. "After Maxwell, *electromagnetism* became a single word, not even hyphenated." And consistent with Galileo and Newton, and to later developments in science, Maxwell once observed, "All our knowledge, both of time and place, is essentially relative."[5]

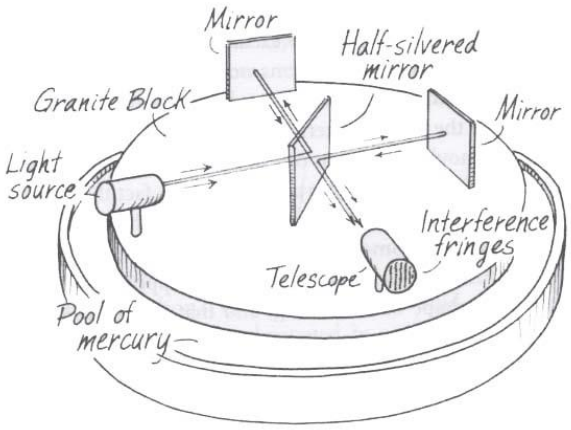
Thus, scientists came to look upon light as a wave that must be propagated like a wave in water or like sound. As sound passes through air molecules, scientists theorized that there must be some kind of a "Luminiferous Aether" (also spelled *ether*), a finer matter through which

visible light traveled, and through which the whole Earth and all heavenly bodies were constantly passing, also.

In his book *Physics of the Ether* (1875), English scientist S. Tolver Preston proposed that a vast amount of energy can be produced from matter. His deductions essentially yielded the $E=mc^2$ equation.

In 1881, English physicist, J. J. Thompson, arrived at a mass-energy conversion formula that was essentially $E=3/4\ mc^2$. In 1889, Oliver Heaviside published the same equation, which he derived from determining the energy of the electromagnetic field.[6]

In 1887, two American scientists, Albert Michelson (1852-1931) and Edward Morley (1838-1923) conducted a famous experiment (MM) with a device called an interferometer, which they had built to exacting standards and installed in the basement of Michelson's house in Cleveland, Ohio. There they split a light beam to travel in perpendicular directions, reflect off two mirrors and return (see illustration below). They hypothesized that if there were a "Luminiferous Aether," there would be an "ether wind," somewhat like atmospheric wind, which is caused by the rotation and movement of the Earth, and that this wind would slow down light, so the beam traveling against the imagined ether wind would return after the other.



However, after extensive and painstaking experiment at different times of day, both beams returned at slightly different times as predicted, but only one-sixth to one-forth as much as they had predicted. The experiment yielded a "small positive result," not a "null" result as is commonly reported. In a 1948 paper, outstanding Bell Laboratories scientist Herbert Ives (1882-1953) observed, "The frequent assertion that 'the Michelson-Morley experiment abolished the ether' is a piece of faulty logic."[7]

The results of MM were controversial, to say the least, and continue to be so. Over the following years Michelson repeated this experiment with some variations, yet with similar, frustratingly disappointing, results. Neither Michelson, Morley nor Dayton Miller (Michelson's successor at Case Western when the former moved to Clark University in Worcester, Massachusetts) thought of MM as settling the issue of the existence of the Luminiferous Aether. Indeed, Dayton Miller would continue aether drift experiments well through the 1920s, with consistent although moderate results.

Also in 1887, and in *support* of ether theory, German physicist Heinrick Hertz (1857-1894) demonstrated the existence of aether-waves. This led to the development of wireless communication and the radio.[8]

One explanation that could be offered for MM's near null results is that the Earth entrains its aether, carries it around with itself as it rotates, much like it does its electromagnetic field and atmosphere. Hence the interferometer would not have detected any or much ether drift. This hypothesis could be tested today by conducting a similar interferometer experiment on board, and along side of, the International Space Station, where the Luminiferous Aether, if it exists, would not be entrained and hence would be detectable. However, as will be seen in the

following pages, the integrity of scientists in this area has fallen so low that to be credible such an experiment would have to be conducted on video camera, and data should be independently gathered and evaluated, hence double-blind.

As a result of MM, most scientists eventually came to accept the idea that light can travel without any "Luminiferous Aether" if there was one to begin with, and, to accommodate the findings of Hertz, that light has some wave properties and some particle properties.

As the case may be, some scientists—brilliant men yet perhaps overly imaginative—could not accept the result of MM or the above explanation for it. As a result of these few, science took a wrong turn from the noble science of Galileo, Newton and Maxwell to weird pseudo-science.

The Wrong Turn #1: FitzGerald Length Contraction. Irish physicist George FitzGerald (1851-1901) apparently thought that a world without Luminiferous Aether would be like a world without angels, fairies and Heaven. So he concocted the idea of length contraction to explain away the MM results. "Surely this was like moving the goal posts after the game to change the outcome."[9] As an object neared the speed of light, he argued in a short 1889 paper, "The Ether and the Earth's Atmosphere", the Earth supposedly would shrink in the direction of its velocity. Hence the interferometer was shrinking at one end during the experiments. This would somehow correct MM results to not be offensive to Aether theory. And he worked out an algebraic formula, known as the *gamma* formula—the square root of $(1-v^2/c^2)$—to support his argument. His formula also implied that contraction would reduce length to zero at the speed of light. Hence, according to this hypothesis, travel over the speed of light was not possible.

By 1895, Lorentz had concluded that, despite the results of MM, there was a stationary Luminiferous Aether anyway, and developed the idea of FitzGerald further with what came to be called the Lorentz transformation equations to explain away MM results. However, if the concept or premise is faulty to begin with, the math that follows to add detail is not worth the paper it is printed on.

There has never been any experimental or observational support for this big idea of FitzGerald length contraction. To be credible the hypothesis should precede the experiment, anyway. Most of FitzGerald's scientific friends just laughed at his idea.[10]

Wrong Turn #2: Relativistic Time Dilation. Following FitzGerald, another Irish physicist, Joseph Larmor (1857-1942), who taught for many years at Cambridge, also tried to defend Aether theory against the MM results. In about 1893, he proposed the concept of time dilation. As an object's velocity approached the speed of light time would slow for it. This he argued, like FitzGerald with some fancy algebra, to somehow explain away the MM results. However, as with length contraction, there has never been any persuasive and unambiguous observational or experimental support for this hypothesis. The three most commonly asserted allegations in support of time dilation are dubious. A brief discussion of each follows:

Non-Evidence A: Flights of Fantasy. One example of such dubious experimental evidence usually passed off as evidence in support of relativistic time dilation is the famous Hafele-Keating (H & K) experiment of 1972, where four atomic clocks were flown around the world in commercial airliners, first westward, then eastward. Their result allegedly supported Larmor time dilation. Such was relativist propaganda anyway.

This experiment has since been cited by over one thousand physics text books, professional journal articles, encyclopedia and Wikipedia articles, papers, etc, as scientific proof of Poincare-Lorentz relativity theory, or more commonly, "Einstein's theory of relativity" although he was still in high school when Larmor developed this idea. And for their alleged contribution to modern science, Hafele and Keating were nominated for the Nobel Prize in Physics.

However, Irish engineer Alphonsus G. (Al) Kelly, PhD obtained H&K's original experimental data from the U.S. Naval Observatory in Washington, DC. This he meticulously and competently analyzed. He also researched the type of atomic clocks they used and discussed his findings in a 1995 paper and in a12-page appendix to his *Challenging Modern Physics* (2005) wherein he concluded:

> **1.** Atomic clocks are very sensitive, certainly when it comes to measuring a few nanoseconds (billionths of a second). The atomic clocks used in this experiment were not of sufficient stability to support the conclusions drawn. Dr. Louis Essen (1908-1997), the British physicist who invented the atomic clock in 1955, similarly commented on this experiment that, "the clocks were not sufficiently accurate to detect the small effect predicted." [11]
>
> **2.** The clocks suffered considerable alterations in performance.
>
> **3.** These alterations were greater than the net effect forecast by the experimenters.
>
> **4. The experimenters made undisclosed alterations to the raw data. This was tantamount to fabricating new data that would add up to the predicted values.** That is to say, published data were fraudulent and bore no relation to the actual experimental results, with intention to add up to the predictions that were published before the experiment was conducted.[12]

Thus this experiment may have been the biggest hoax in modern science history, and took place under the supervision of a U.S. government agency.

The alleged repetition of H&K in 2005, sponsored by the BBC and the National Physical Laboratory (UK), was nothing but a media event with few if any controls, hence was of no scientific value.[13] Flights should have been repeated several times with more than one atomic clock so that an average of results could be calculated that could not be due to chance. The Earth's weaker electromagnetic field at a higher altitude must have affected the flying clock, and would be very difficult to adjust for in the data. Experimental design was not described on their website. Data should have been collected by blind (as in double-blind) personnel who were not informed of the purpose of the experiment. And the scientists who evaluated the data should have been an independent panel of qualified experts who had no role in the design, planning or financing of the experiment. In summation, with so many procedural flaws and uncontrolled variables, both H&K and its 2005 successor were without scientific value.

In a more recent experiment, C.W. Chou *et al*, allegedly used more accurate atomic clocks in a laboratory and obtained results that supported "time dilation". However, Chou relies on Hafele and Keating, suggesting that his experiment is of the same caliber. His experimental design was not double-blind, which allowed for expectations to influence results (to say the least). Furthermore, observed results may have had other causes, such as gravitation, air pressure

or the earth's electromagnetic field, all of which could affect an atomic clock. Neither has Chou's experiment been replicated. Hence, his conclusions have no scientific value.[14]

Non-Evidence B: GPS Satellites. The Global Positioning System was developed by the U.S. Department of Defense to provide a satellite-based navigation system for the U.S. military. It was later put under joint DoD and Department of Transportation control to provide for both military and civilian uses. This system consists of about 24 satellites which orbit the Earth at an altitude of about 20,000 km at a speed of about 14,000 km/hr. Atomic clocks on global positioning satellites are accurate to about one nanosecond (billionth of a second).[15]

A weaker gravitation field effects the operation of the atomic clocks that are on board the GPS satellites. Hence at such a high altitude the clocks run *slightly faster*, by about 45 microseconds (millionths of a second) per day. This factor cannot be attributed to "general relativity theory", no more so than to Newton's law of gravitation.

Secondly, the atomic clocks on board GPS satellites appear to *run slow* by about seven microseconds per day "in direct proportion to their speed with respect to the Earth's center." This is what is called the Sagnac effect as applied to the rotating Earth, and has nothing to do with, in fact contradicts, relativity theory.[16]

Hence the clocks have to be set to run faster by 45-7=38 microseconds per day.

The DoD, DoT and several international organizations govern the synchronization of clocks by GPS satellites. For political reasons they disseminate the propaganda that the adjustments that have to be made to the atomic clocks aboard GPS satellites are explained by relativity theory time dilation and general relativity theory. However, as we have seen, this is not the case. And their propaganda is picked up and repeated on website after website and book after book on relativity. Dr. Kelly spends a whole chapter on this subject. Adjustments do have to be made to the atomic clocks on board GPS satellites, but such adjustments are not "relativistic", have nothing to do with Larmor time dilation or general relativity theory.

Ronald Hatch (right) is a former president of the Institute of Navigation and current Director of Navigation Systems Engineering of NavCom Technologies. He has spent his whole career as a leader in satellite navigation systems, is one of the world's foremost experts on the GPS and holds many patents on GPS-related hardware.

Hatch agrees with Kelly. In a two-part 1995 paper *Relativity and GPS*, he states that the observed effect of velocity on the GPS clocks flat out contradicts the predictions of special relativity.[17] And after careful analysis in a 2004 paper, Hatch concludes that the application of relativity theory to the atomic clocks on board GPS satellites "is clearly incorrect."[18]

Non-Evidence C: Muon Decay. Similarly, relativists have alleged that the decay of the charged muon particle supports relativistic time dilation. Book after book, website after website on relativity, makes this claim. But such claims are based on experimental error, tricky math ("mathemagic"), invalid inferences, assumptions, speculation, and circular argument all in search of any *post hoc* (after the fact) evidence they can find.[19]

Muons were first discovered in 1936 by Carl Anderson at Cal Tech, among others, forty-three years after Joseph Larmor first proposed his time-dilation idea. Muons were then called *mesons* or *mesotrons*.[20]

A muon is a charged particle, similar to but about 200 times larger than an electron. Muons are naturally formed in the upper atmosphere as a result of collisions between solar particles and upper atmosphere molecules, such as of oxygen or helium. Upon creation some muons are highly energized and travel at velocities beginning at almost *c*, but the density of the atmosphere gradually slows them down a little. They scatter in every direction before disintegrating into an electron and two neutrinos. Since 1948, physicists have been able to create muons in laboratory cyclotrons, that are often connected to a particle accelerator, where they can increase or decrease muon velocity.

In a 1941 paper, Bruno Rossi trumpeted muon decay as evidence of relativistic time dilation.[21] He claimed that the average lifetime of a muon was 2.4 microseconds, and that any longer life was due to relativistic time dilation. That is to say, he expected people to believe that a muon that travels at almost *c* and exists for possibly a few thousand microseconds really only exists for about 2.4 microseconds because at a velocity near *c* time slows down for it! Later that year, Italian physicist Franco Rasetti estimated that the average life of a muon, at least from the time of detection in a laboratory cloud chamber to the time of decay, was 1.5 microseconds.[22]

Both Rossi and Rasetti seemed to think that they could calculate the average life of atmospheric muons from their momentum (mass *x* velocity) at sea level. However, this writer would submit that this is not possible as a particle's momentum only does not reveal the time and place of its creation. There is a difference between average particle lifetime and average particle decay time from capture within the capturing device (called a scintillator, essentially a block of plastic) on the ground, to decay into electrons and neutrinos.

It is possible today to load atmospheric muon detector equipment onto an aircraft to detect falling muons per square foot per hour at varying altitudes, such as at 10,000 feet, 20,000 feet, 30,000 feet, etc. From such data it should be possible to accurately estimate the average altitude of muon creation. This figure could then be used to calculate average muon lifetime in such experiments as Rossi's and Rasetti's. However, to this writer's knowledge, no such atmospheric muon origin collection project has ever been undertaken. If such a project has been undertaken its results may not have been published because they conflicted with the hypothesis of time dilation.

Although lab muons may not be comparable to atmospheric muons because their respective environments are so different, if particle physicists today can speed up and slow down muons in particle accellerators, then they can keep a group of muons moving at 0.990*c* for the duration of their lifetime. Then they can keep a group of muons at 0.991*c* for their lifetime. Then another group at 0.992*c*, 0.993*c*, etc. through 0.999*c*, then plot the average lifetimes of each group with each group's velocity. If relativistic time dilation is for real the resulting graph should conform to the gamma curve. But to this writer's knowledge, no team of particle physicists has ever done this, although they have had over sixty years to do so.

In 1962, David Frisch and James Smith, professors at MIT and U. Illinois, Urbana, respectively, conducted an experiment similar to Rossi's in 1941. They measured muon decay rates on top of Mt. Washington in New Hampshire, and then again at near sea level in

Cambridge, Massachusetts. They claimed that the average lifetime for a muon was 2.2 microseconds and that their results supported the hypothesis of time dilation.[23]

However, in a disciplined paper published in the *General Science Journal*, Alan Newman knowledgably and meticulously criticizes the Frisch and Smith experiment to the effect that at sea level they reduced the amount of iron above the scintillator by too much. Correcting this error nullifies their results. Thus, unless errors can be found in his calculations, Newman's paper invalidates the result of the Frisch and Smith experiment. And inasmuch as Frisch and Smith relied on and followed the procedures of Rossi, Newman's paper also discredits Rossi's findings and conclusions. Frisch and Smith may have made this error intentionally to obtain the desired outcome to impress someone in Washington, DC who oversees science research grants, as Rossi may have done, also. Newman concludes, "Muon detection [at Earth's surface] is easy to explain without 'time dilation', provided you know how to apply the ordinary gravitational field equations. In short, relativist scientists are seeing 'time dilation' where there is none, and where there are more reasonable alternative explanations." [24]

This writer would agree with Newman that Frisch and Smith could have adjusted the thickness of the stack of iron over the scintillator so that experimental results would agree with the time dilation hypothesis. Furthermore, if they did not know the altitude of muon creation, then they could not accurately estimate atmospheric density from that altitude to the scintillator. At this point their whole experimental design falls apart. To their credit Frisch and Smith made a film of their experiment, which is on line at www.scivee.tv/node/2415, so the interested reader can watch them confuse *average particle lifetime* with *average particle decay time* within the scintillator. This is like trying to figure out how a stage magician appears to take an egg or quarter out of someone's ear.

Wherefore, certainly a 2.2 or so average muon life-time cannot be considered a scientific fact, and hence it cannot be evidence for relativistic time dilation. 2.2 microseconds may represent the average time between detection in the scintillator and a muon's decay into an electron and two neutrinos, among muons that decay in the scintillator, and depending on the type of scintillator. However, there is a big difference between this figure and the probable lifetime of an atmospheric muon from creation to decay, which is not possible to measure as the time of creation is not known, and it is not known when the muon would have naturally decayed had it not been intercepted by the scintillator. Furthermore, as Frisch and Smith admit, the large majority of muons that enter the scintillator pass right through it without decaying.

However, for decades, ever since the Frisch and Smith experiment, a 2.2 or so microsecond average muon life-time has been dogma, a law of physics, not to be challenged or disputed. It is found today in textbook after textbook, on website after website, on the subject as dogma, a law of physics. This is not science.

In recent years muons have been created in laboratory particle accelerators to study their lifetime, among other characteristics. It should come as no surprise that every test of muon time dilation since 1963 that this writer has been able to uncover has concluded that the average lifetime of a muon is about 2.2 microseconds, even if by means of fudged data, circular logic and mathemagic. The particle physicists who have conducted such experiments were just pledging allegiance to relativity theory for career advancement purposes.[25]

"The concepts of FitzGerald space contraction and Larmor time dilation were so preposterous they were initially met with utter disbelief."[26] However, the idea that time slows as a person approaches the speed of light has been a favorite subject for science fantasy writers and physicists on all-night radio talk shows ever since.

There once was a lady named Bright,
Whose speed was faster than light.
She went out one day,
In a relative way,
And returned on the previous night![27]

Retired Serbian scientist, Milan Pavlovic, made a careful, competent and detailed study of length contraction and time dilation and concluded that they are "not a physical reality, but an illusion, realized through a particular mathematical procedure."[28] There is no such thing as magic in science. If results looks like magic, then someone has not done their math right, and/or has made some incorrect assumptions or estimates.

The Wrong Turn #3: Mass Distortion. With the same motives, a few years later Lorentz extended the idea of Length Contraction to include Mass Distortion.[29] In 1897, British physicist J. J. Thompson found that cathode rays would deflect in the field of a large magnet. He concluded that they were really a series of negatively charged particles which he soon named electrons.[30] In 1901, Walter Kaufmann (1871-1947) "experimentally confirmed that an electron's [apparent] mass increases with the increase of its speed."[31] He concluded that an electron in motion generates an electromagnetic field, which resists increases in the electron's velocity, thus increasing the inertia of the electron, and hence its apparent mass. However, Kaufmann's conclusions may be invalid today because he looked upon the electron as having no real mass, but only an "electromagnetic mass", or, the apparent mass of an electron was only "an electromagnetic phenomenon."[32] Today the electron is commonly looked upon as having a real mass of about 9.11×10^{-31} kg. In 1904, Lorentz argued that "electrons are ellipsoids flattened in the direction of their motion."[33]

Relativists commonly claim that with Mass Distortion not just electrons but *any* object increases in mass as it approaches the speed of light. Relativistic Mass Distortion is based on the same formula as length contraction.

An electron is a small negatively charged particle, not molecular matter. Such an electron may have an *apparent* mass increase as its speed increases. This *apparent* increase in mass may be due to a change in the electromagnetic field around it as its speed increases. The electron may be picking up mass from the surrounding electromagnetic field through which it is passing at increasing velocity. After all, such acquired mass would have to come from somewhere.

Physicists also argue that such an apparent mass increase occurs only with electrons that are within an atom. Free electrons outside of an atom at higher speeds have higher kinetic energy but not greater mass.[34]

The higher the velocity of any object, including an electron, the greater the object's kinetic energy (of motion on impact) pursuant to the Newtonian formula $KE = \frac{1}{2} mv^2$. A baseball when lightly tossed at a window pane may bounce off without damaging it. The same baseball when vigorously thrown at the same pane would be more likely to smash through it. This is called energy of motion or momentum. But in either case it is the same baseball with the same

mass. Kinetic energy cannot be added to a particle's rest mass to claim that the particle increases in mass as it increases in speed. However, admittedly there is a relationship between the *effect on impact* of a lesser mass at a higher velocity and a greater mass at a lower velocity. Hence the Huygens-Leibniz equation $E=mv^2$ (kinetic energy equals mass times the velocity squared).

Furthermore, to justify this relativistic mass distortion hypothesis, some physicists are using the mass-energy conversion formula ($E=mc^2$, which will be introduced in a few pages) to convert kinetic energy to mass and then claim this increase in mass is relativistic. It is not. The *m* in mc^2 is mass at rest, like a lump of lead or radium. It is not the equivalent of kinetic energy. Hence there may be an increase in mass as an electron increases in speed, as when it jumps to a higher valence in an atom—no one has ever seen one—but it is not caused by any relativistic "mass distortion", and whatever is causing it would not necessarily apply to *molecular matter* as it approaches the velocity of light. "The mass of a neutral particle does not change with motion."[35]

Hence, when relativist scientists apply this mass distortion hypothesis to all molecular matter, any mass, they are doing so without the support of observational or experimental evidence.

In summation, there is no persuasive and unambiguous evidence that supports any of the above three big ideas: relativistic length contraction, time dilation, or mass distortion. The purported experimental evidence that is alleged to support these three hypotheses does not withstand close scrutiny. We can conclude that such purported phenomena are pure illusion based on mathematics, or, more correctly, *mathemagic*.[36]

The Wrong Turn #4: The Universal Speed Limit. Apparently Poincare shared the sentiments of FitzGerald in rejecting the MM results. For in 1900, at the International Congress of the Sciences in Paris, where Poincare was a featured speaker, he "first postulated that the speed of light should be recognized as a new absolute limit for natural velocities."[37] And on September 24, 1904 in St. Louis, Poincaré, stated, "No velocity can exceed the velocity of light." And, "Any velocity compounded with *c* (the speed of light) gives as the resultant *c* over again,"[38] essentially offering the velocity of light as a universal speed limit.

This was tantamount to saying "God is light" (1John 1:5) and beyond time and space, the Velocity above all Velocities. Indeed, one of Poincare's motives for proposing the *c* speed limit may have been to replace the Luminiferous Aether as an Absolute that was lost with the MM results with another Absolute—an Absolute being like God, a necessity of life.

This hypothesized universal speed limit, as well as the constancy of *c*, must now be considered to be invalid for the following reasons:

1. As we have seen, one explanation of the MM results was that the apparent speed of light is not affected by the motion of the Earth. Poincare apparently interpreted this broadly to mean that *c* is constant everywhere, and no other velocity or combination of velocities can ever exceed it. However, such an interpretation goes beyond the experimental evidence. MM established that visible light as measured on Earth travels over the surface of the Earth (where gravity is equal) in any direction independent of the Earth's motion. This does not mean that *c* is constant and absolute, always and everywhere, and that no other velocity or combination of velocities can ever exceed *c*. Nothing in MM results even suggested that no velocity can exceed *c*.

2. In 1913, French physicist Georges Sagnac (1869-1926), used a rotating interferometer to conclusively establish experimentally that the speed of light is not constant to all observers. The Earth at its equator is like a large rotating disk with a speed of 463.8 m/s to the east. Many tests have proven that, because of this Sagnac effect, the velocity of electromagnetic radio signals from GPS satellites is unequal in east-west directions. This irrefutably invalidates the hypothesis that *c* is constant to all observers.[39]

3. $c + c$ cannot equal c. Unlike a missile fired from a jet fighter, which would travel faster than the same missile fired from the ground, at least at first, the velocity of light appears to be independent of its source, much like sound is. But its source would never be c. $c + c = c$ cannot be true, unless $c = 0$.

To return to Galileo's ship, if it were passing another ship sailing at the same speed yet in the opposite direction, the two ships would pass each other at 20 + 20 = 40 mph. If they were sailing at night and each ship had a headlight on its bow, the light beam photons from one ship would pass the light beam photons from the other at $c + c = 2c$ (disregarding for the moment the insignificant velocity of each ship). Similarly, the separating velocities of the two light beams, after they had passed each other and were moving in opposite directions, would be $2c$, also.

Now imagine yourself as the pilot of a jet aircraft with a horn and a headlight in its nose cone. You are flying at 650 mph. If you sound the horn, because sound travels at about 700 mph, the sound is only traveling 50 mph faster than you are. Yet, according to relativity theory apologists, if you turned the headlight on, because *c* is supposed to be constant within any reference frame, the light beam would travel at *c* ahead of you, not *c* minus 650 mph. This is patent, unmitigated nonsense.

4. Light is affected by gravity. This German physicist Johann von Soldner (1776-1833), among others, had established as long ago as 1801.[40] Therefore, if a light beam traveled from the Sun to the Earth, was reflected by a large mirror right back to the Sun, its speed from the Sun to the Earth would be slightly slower than its return speed from Earth to the Sun because the gravitational field of the Sun is about 300 times greater than that of the Earth.[41] To the velocity of light from Sun to Earth must be subtracted the gravitational influence of the Sun and added the gravitational influence of the Earth. On its return trip, to the velocity of light must be added the gravitational influence of the Sun and subtracted the gravitational influence of the Earth. Hence the two cannot be equal and the velocity of light cannot be constant. That the velocity of photons can be affected by gravity was experimentally confirmed by Nobel laureate Robert Pound and J. Snider in 1965. They concluded that gravitation would influence photons identically "with a material object".[42] Furthermore, it is an observed scientific fact that when electromagnetic (radio) signals from the Viking craft on Mars passed near the Sun they slowed down. The closer they came to the Sun, the more they slowed down.[43]

According to science historian and Einstein biographer, Banesh Hoffmann, PhD, in developing his "general theory of relativity," Albert came to the conclusion that if a light beam can be affected by gravitation, *c* cannot be constant. His "discovery [sic] that gravitation affects the speed of light must have shaken" him because it contradicted this second postulate.[44] Hence in 1919, when Cambridge astronomer

Arthur Eddington trumpeted his eclipse observations (that will be mentioned in a few pages) in support of "general relativity",[45] he was actually discrediting "special relativity" because he was asserting that a light beam from a star could be deflected by the gravitational influence of the Sun.

5. Generally accepted by astronomers, modern black hole theory also discredits this postulate. A black hole is hypothesized to be an extremely dense, compact interstellar object which has such a powerful gravitational field that even light cannot escape from it—hence it is black.[46] Wherefore, if a light beam were to enter the gravitational field of a black hole, it would not be able to exit. According to the calculations of Cambridge-trained theoretical physicist Joao Magueijo, PhD and his VSL (varying speed of light) model, at the horizon of a Black Hole *c* may be reduced to zero—light photons may stop entirely.[47] It is reasonable to assume that before gravitational attraction of the Black Hole stops a light beam, it must slow it down first. Hence, the velocity of the light cannot be constant.

As relativists generally accept the above-described Lorentz mass distortion as a scientific fact, they find themselves in a bind when it comes to the mass of a photon. Because if a photon had mass and travels at *c*, it would have infinite mass. So the only way out they have is to deny that photons have mass, or are massless particles (an oxymoron). Yet how can a particle of anything have no mass? If a photon had no mass it could not be attracted or slowed down by gravitation. Every second roughly 60 billion solar neutrinos pass through every square centimeter of your body, from over your head during the daytime, and through the Earth and up during the nighttime.[48] The UC Davis Physics Department states on its website, "Today we know the neutrino has a very small nonzero mass (<0.3eV)."[49] If a neutrino, much smaller than a photon, has mass, and an electron has mass, certainly a photon has mass, also. And if an X-ray photon can penetrate bone before it stops, and a gamma ray photon can penetrate lead before it stops, it seems like photons have mass. Physicists Brian Cox and Jeffery Forshaw state, "there is no fundamental reason in particle physics that guarantees that the proton should be massless."[50] And theoretical physicist Joao Magueijo, PhD has specifically stated, "light and electricity are heavy," i.e. have some mass.[51] In addition, there would be no such thing as radiation pressure, first discovered by Maxwell and further experimentally confirmed in the late nineteenth century, if photons did not have mass. Lastly, and being most specific, in 1990, prominent French physicist Jean-Pierre Vigier (1920-2004) proposed that the mass of a photon was "in the order of 10^{-65}grams.[52]

6. Moreover, in recent decades experimental evidence has suggested that the speed of light is variable and that under certain circumstances matter can reach superluminal velocities greater than that of light. For example, in 1981 celebrated French physicist Alain Aspect, while at the University of Paris, reported the results of a carefully designed experiment in which the experimenters found that information could pass between two filters faster than the speed of light. This caused physicist Eric Lerner to quip, "Unless one believes in magic, Aspect's experiment clearly demonstrates that some form of communication faster than the speed of light occurs."[53] Then in 1991 Dr. George C Giakos and T. Koryu Ishii of the University of Akron reported that they had transmitted microwaves at faster than light speeds. Shortly afterward in 1994, Dr.

Gunter Nimtz and A. Enders, physicists at the University of Cologne in Germany, "described transmitting microwaves through an undersized waveguide at superluminal velocity. This work became more widely known after 1995 when this group succeeded in transmitting Mozart's 40th symphony through a narrow 11 centimeter long waveguide at a speed 4.7 times faster than that of light."[54] The results of other experiments support these two.[55]

7. Recent experimental evidence also suggests that the speed of gravity is much greater than the speed of light. It is reasonable to assume, for example, that if the speed of light is measurable and the speed of gravity has not yet been measured, then the speed of gravity must be greater than the speed of light. Yale-trained astronomer Thomas Van Flandern concludes, "the alleged Einstein 'general speed limit' of *c* must be invalid."[56]In his *Dark Matter, Missing Planets and New Comets* (1993) Dr. van Flandern gives several reasons why the speed of gravitons must be at least twenty times the speed of light.

8. Physicists are much more knowledgeable today about the wave-particles of the electromagnetic (EM) spectrum than they were in 1905, when *light* meant *visible* light. Today it is known in science that x-rays and gamma rays have much shorter wavelengths and more kinetic energy than visible light. The fact that they also penetrate solid physical matter on impact much more so than visible light suggests that they are smaller and/or travel faster than visible light photons. Furthermore, it seems unlikely that the photons traveling in an extremely low frequency (ELF) radio wave pattern, on one end of the EM spectrum, travel at the same velocity as the photons of extremely high frequency gamma rays, at the other end of the EM spectrum, with visible light being somewhere in between the two. Princeton physicist Milton Rothman published a paper in *Scientific American* wherein he stated that for some portions of the electromagnetic spectrum, such as ultraviolet light, "the phase velocity in a medium is often greater than *c*." As a second example of velocities greater than *c*, he observed that radio waves that bounce off the upper atmosphere to make short wave radio possible travel at a velocity greater than *c* also.[57] It might be added that today the term *electromagnetic spectrum* is somewhat of a misnomer because electric and magnetic waves are not included in it. It would be better termed the *photon spectrum* because all the different wavelengths are supposed to be made up of a stream of photons of one frequency or another.

9. In 1961, the late physicist Bryan G. Wallace (d. 1997) discovered that radar distance measurements of the surface of the planet Venus "did not confirm the constancy of the speed of light." These radar measurements "clearly showed that the speed of light in space is not constant."[58] Furthermore, careful astronomical observations during the 1980s indicated that visible light and other electromagnetic radiations from distant quasars travel at velocities much higher than *c*—from 9.6*c* to $3x10^{13}c$.[59] A quasar is "an extremely powerful energy source located at the center of a distant galaxy."[60]

10. During the 1990's, theoretical physicists John Moffat, John Barrow, Joao Magueijo, and Andrew Albrecht, (not necessarily in this order of their contribution) developed the Variable Speed of Light (VSL) Theory, which basically proposes that the velocity of light was greater in the early part of the history of the Universe than it is today, not

slightly but with "more than 32 zeros" added to today's commonly accepted value of *c*. Because VSL ties in with existing theories so well, and is supported by observational evidence, it has become widely accepted.[61] This refutes the Second Postulate.

11. In any case, the burden of proof of a hypothesis, or the burden to present evidence in support of it, is upon the scientist asserting it as true, not upon its critics. It is probably true that no person can run faster than 100 mph. But why should this become a postulate in theoretical physics? This postulate puts critics in the position of having to prove a negative.

In summation, there are many kinds of superluminal (faster than light) velocities known today that were not known in 1904. These invalidate Poincare's hypothesis on the *c* speed limit. Experimental evidence since then also invalidates the hypothesis that *c* is constant always and everywhere to every observer. It is not.

Put up or shut up. As we have seen in Chapter 4, the "double-blind" procedure is the gold standard by which scientific experiments are evaluated. Yet it has been over 100 years since FitzGerald, Larmor, Lorentz and Poincare set forth their big ideas that today are generally considered to be part of "Einstein's special theory of relativity." Claims and theories, particularly those that are counter-intuitive and unreasonable—such as time dilation, length contraction and mass distortion—require extraordinary evidence before they can be accepted as valid scientific fact. Yet nowhere in the literature has this writer discovered even one double-blind experiment that has been conducted by competent scientists with results that supported these imaginative hypotheses and that has been replicated by another team of competent scientists. Not one.

In 1900, Henri Poincaré set forth a mass-energy conversion expression that he called the "momentum of radiation." His calculations essentially yielded $E=mc^2$. Science historian Edmond Whittaker credited Poincare with the derivation of this formula.[62]

At the risk of oversimplification, this, briefly represents the state of the Theory of Relativity in 1904.

Albert in Relativityland . Now then. The story of Albert Einstein (1879-1955) and "his" Theory of Relativity began in 1896 when he and Mileva Marec, another physics student at the Polytechnic Institute in Zurich, became friends.

In 1900, Albert graduated with a teaching diploma. Because his personality was so obnoxious, he was not offered a teaching position at the Institute.[63] It was only after two years of unemployment that he took the only job he could find as a clerk in the Swiss Patent office in Bern. They continued to see each other on weekends.

There was no pill in those days, so by the following year Mileva was pregnant. Because of this she did not pass her finals for the second time and could not continue her studies. She thus left the Institute and returned to her parents' home in Hungary. When the baby, a daughter Lieserl, was born, Albert was nowhere to be found. The baby either died or was put up for adoption. Albert finally married Mileva in a civil ceremony in 1903. Both families disapproved of the marriage. Mileva's family disapproved because Albert

had disgraced and neglected her, was eccentric and Jewish while the Marecs were Serbian Christians. Albert's family disapproved because Mileva was *not* Jewish, walked with a limp and was three years his senior. Their first son, Hans, was born in 1904. Their second, Eduard, was born in 1910. Edward would spend most of his life in a mental hospital.

Because of her responsibilities as a mother, Mileva never graduated from the Polytechnic. Meanwhile, in 1905, Albert somehow obtained his PhD from the University of Zurich.

By 1905 Albert was paying little attention to either Mileva or Hans. Mileva began to suffer from depression (probably her anger towards him held inside and turned against herself). Their economical apartment in Bern was a mess.

In June of 1905, a paper appeared in the scientific journal *Annalen der Physik* entitled "On the Electrodynamics of Moving Bodies" with A. Einstein as its author. There is some evidence that Mileva may have substantially contributed to this paper. However, this evidence becomes dubious on close scrutiny.[64] The question of Mileva's possible contribution to this paper is not pursued much here because from a science perspective the validity of a postulate is not dependent upon its author.

This 25-page paper contains only two postulates, assumptions that must be accepted without question (three, really, but commentators usually group the second two together):

1. "The same laws of electrodynamics and optics will be valid for all frames of reference…," which is to say, the speed of any object is relative to the observer.
2. (a) "Light is always propagated in empty space with a definite velocity *c*..." Or, as an exception to (1.) above, the speed of light in a vacuum, *c*, is a universal constant.

   (b) "From a composition of two velocities which are less than *c*, there always results a velocity less than *c*," i.e. nothing can exceed the speed of light.[65]

These are the two basic postulates of what came to be called "special relativity". And they were both unoriginal. This paper also discusses time dilation (the relativity of time), simultaneity and length contraction (the relativity of lengths), which, as we may conclude from the foregoing discussions, were also largely unoriginal.

Scientists are sensitive about the issue of priority—about who receives credit for an advancement in science. Edmond T. Whittaker, PhD (1873-1956) was a contemporary of Einstein and a celebrated English mathematician who was awarded the Copley Medal by the Royal Society of London "for his distinguished contributions to both pure and applied mathematics and to theoretical physics". In his detailed, three-volume *History of the Theories of Aether and Electricity* (1953), he credited Poincare and Lorentz with developing the theory of relativity. Whittaker attributed only little importance to Albert's 1905 paper on "special relativity".[66]

The First Postulate restated the principle of relativity that had already been set forth by Galileo, who was introduced in Chapter 4, in *Dialogue Concerning the Two Chief World Systems* in 1632, and on which Dutch physicist Hendrik Lorentz (1853-1928) and French mathematician and physicist Henri Poincaré (1854-1912) had already expanded.

This so-called postulate is both vague and ambiguous. By comparison, the postulates of Euclid, Pythagoras, Kepler and Newton are concise and clearly worded. Furthermore, to the

extent that it is intelligible, this postulate is more of a conclusion that needs to be argued beforehand than a premise that is given. The vagueness of this postulate has given relativists plenty of "wiggle room" to change their arguments and perpetuate debate endlessly.

The First Postulate is more philosophy than science. Even as philosophy, it is idle speculation because all influential factors must be included within a reference frame. For example, returning to your cabin on Galileo's ship, you walked on the floor, not on the ceiling. Why? Because of the Earth's gravitational field. So your reference frame cannot be limited to the walls of the cabin. It must include the center of the Earth. Hence textbooks on relativity usually limit their examples of the First Postulate to space ships in distant space beyond any significant gravitational influence. But is there any such place? Even galaxies have gravitational fields. Hence the First Postulate is both philosophically and scientifically impractical.

Math can help to compile and describe experimental observations and discuss data, but it cannot replace reason. And math does not create experimental or observational evidence. Scientists and engineers usually like math. It is like a second language to them, a language of technical logic. But language is inherently imperfect. If replicated observational and experimental evidence does not support a mathematical conclusion, then it is reasonable to conclude that there is something wrong with that conclusion and the math that preceded it. Math does not substitute for observational or experimental evidence.

It might be added that Albert could not have been much above average in his mathematical aptitude because in OEMB his math contains several substantial errors.[67] And a few years later, when he was developing his so-called "general theory of relativity" his friend at the Polytech Institute, Marcel Grossman, had to give him extensive help in the tenser calculus and Reimann geometry necessary for it.[68] In the end Albert gave up and plagiarized David Hilbert's equations, as will be discussed in a few pages.

Relativists, to whom Einstein's theory of special relativity is as much a belief system as a science, would defend their faith and holy theory by arguing that Albert developed Galileo's principle of relativity and ingeniously applied it to the physics of his day, e.g. to the propagation of light. As they control most of the literature and information on this subject, it is difficult to avoid their brainwashing in studying it. This brings us to the second postulate.

The Second Postulate regarding the speed of light as both constant and unsurpassable was unoriginal because it came right from Poincaré, as we have just seen.

Both of these postulates are set forth in the introduction of this paper, second paragraph. Yet, inasmuch as Albert presents no persuasive experimental or observational evidence in support of them, they are simply not acceptable and we need not proceed with any of his reasoning or arguments, mathematical or otherwise, that follow, as they are not worth the paper they are printed on. To do so would be philosophy or academic math, maybe, but not science.

In fact, in this paper Albert violates his own postulate. The Second Postulate states that nothing can exceed the speed of light, hence the term c+v is not possible as nothing, no other velocity, can be added to c. However, in the third equation of this paper Albert uses this very term, c+v. Thereby he contradicts his own postulate.

The only element of the Second Postulate that was original was that the constant c be in a vacuum. This was probably a reference to the Fizeau experiment of 1851 where the speed of light through water was found to differ when traveling with or against the current. So this

requirement really means *in the open air*, because there is no such thing as empty space. As we learned in Chapter 1, matter is mostly space. But there is no such thing as empty space. Finer and finer degrees of matter are constantly interpenetrating and passing between the coarser. Iron filings that have been placed in a glass vacuum tube would still be affected by gravity. Thus gravitons are passing through the so-called vacuum. And they would also be affected by an electromagnetic field if a magnet were passed near them. Therefore, there would be electrons passing through it, as well as radio waves, microwaves, neutrinos, etc. In 1894, German physicist August Foppl (1854-1924) wrote "empty space in actuality does not exist at all. Even the so-called vacuum is filled with a medium, the ether…."[69] Roemer, Fizeau among other scientists before Einstein, had calculated the velocity of light without the use of a vacuum.

In 1962, J. Fox, of the Carnegie Institute of Technology published a paper in the *American Journal of Physics* in which he reviewed the experimental evidence in support of the Second Postulate and concluded that the evidence was "either irrelevant or inconclusive."[70] This was over "half a century after the inception of special relativity". Yet even today relativist scientists would have us turn our minds off and accept the Second Postulate as dogma and an absolute law of physics. To claim that there is no greater velocity than *c* is like saying nothing is greater than God, and we are expected to bow down before Albert, the High Priest of Relativity, and slaughter physics students on his altar—or at least brainwash them into accepting this hogwash. This is not science.

Despite the clear, incontrovertible evidence against the *c* speed limit, some relativists try to wiggle out of their conundrum by claiming that it only applies to the transmission of "information", as if a Mozart symphony were not information. But neither Poincare nor Einstein so limited their c-speed limit. And a visible light beam itself is not necessarily information.

With the discrediting of the Second Postulate, in the words of MIT-trained geophysicist Enders Robinson, PhD "we must kiss relativity theory goodby."[71]

A "sum of deceptions". In 1994, retired Serbian scientist Milan Pavlovic (b.1931) published *Einstein's Theory of Relativity: Scientific Theory or Illusion?*, which is presently on-line. In this monumental work, he competently, extensively and meticulously examined the special theory—its premises, equations and conclusions—and found that Einstein had made many substantial mathematical and other errors, and speculated that some of such errors were so grave that they must have been intentional. In other words, he implicates Einstein of fraud. He concludes, "it is difficult to find a theory so popular, and yet so unclear, incomplete, paradoxical and contradictory, as is the theory of relativity….[T]he special theory of relativity can be said to be, in essence, a sum of deceptions."[72]

In Conclusion. Tall claims require tall evidence. We have seen that some of the claims of Special Relativity are tall indeed, both irrational and counter-intuitive. Hence to be acceptable as scientific theory they must be supported by persuasive scientific evidence—experimental and/or observational. Not just *some* scientific evidence, or a "thought experiment", but substantial, persuasive evidence. Yet we have seen that most of the tenets of "special relativity" are supported by no scientific evidence whatsoever. Some of the tenets are supported by some weak evidence that is interpreted to support "special relativity", but which could also be otherwise interpreted. But after more than 100 years, no tenet of "special relativity" is supported by persuasive scientific evidence. On the contrary, a major tenet of "special relativity", the *c* speed limit and the constancy of *c* of the Second Postulate, have been soundly refuted by

persuasive observational and experimental evidence. Wherefore, we may reasonably conclude that "special relativity" is an invalid theory that was substantially built on invalid premises. It may be considered an intellectually interesting form of philosophy, but cannot be considered to be a valid scientific theory. Upon close examination, the framework of "Einstein's theory of special relativity" collapses like a house of cards, with nothing left but a few usable scraps that already existed before his 1905 paper on the subject.

As usual, in his paper Albert never acknowledged his indebtedness to FitzGerald, Larmor, Poincaré, Lorentz or to Maxwell and Hertz (other than a passing reference), or any other scientists whose books he had studied, although in a closing footnote he did acknowledge his indebtedness to his friend Michele Besso.

The famous formula $E=mc^2$. Later that year, Albert published another paper in this same journal entitled "Does the Inertia of a Body depend upon its Energy-Content?" In this paper he proposed a mass-energy equivalence equation, $m=L/c^2$, meaning "the mass of a body is a measure of its energy-content."[73] Two years later he rewrote this to $E=mc^2$.

This equation was entirely unoriginal, as the preceding science history has established. Albert essentially plagiarized it. To mostly review, and making a long story short, Dutch scientist Christian Huygens (1629-1695) and German polymath Gottfried Leibniz (1646-1716) had both studied mass-energy equivalence and developed the equation $E=mv^2$.[74] And in 1704, Isaac Newton (1642-1727) speculated that "gross bodies and light are convertible into one another." In his book *Physics of the Ether* (1875), English scientist S. Tolver Preston proposed that a vast amount of energy can be produced from matter. His deductions essentially yielded the $E=mc^2$ equation. In 1881, English physicist, J. J. Thompson, arrived at a formula that was essentially $E=3/4\ mc^2$. In 1900, Henri Poincaré set forth an expression for what he called the "momentum of radiation." His calculations essentially yielded $E=mc^2$. In 1903, Italian engineer/industrialist Olinto De Pretto theorized that $E=mc^2$. His paper, in which he provided a detailed derivation, was published twice, in 1903 and 1904. Albert may have obtained a copy of De Pretto's paper from his closest friend at the time, Italian Michael Besso, who was a family friend of the De Prettos. And Albert was fluent in Italian as he had lived in Italy for a while with his family when he was a teenager.[75] And lastly, in 1904, six months before Albert submitted his paper, Austrian physicist Friedrich Hasenohrl (1874-1915) published a similar paper in the same journal. Hasenohrl reached the same mass-energy conversion result—agreeing with Thompson—from which $E=mc^2$ could be derived.[76]

Edmond Whittaker credited Poincare with the derivation of this formula.[77] Irish mechanical engineer Al Kelly credits De Pretto. "One thing is certain, **it was not Einstein who first developed the equation $E=mc^2$.**" (boldface in original)[78] Proper credit would go to the above scientists.

It is paradoxical to note that, in addition to being a man of science, Hasenohrl was also an Austrian patriot who was fatally wounded in combat in 1915 during the First World War, while draft-dodger plagiarist Einstein would go on to receive the Nobel Prize in part for Hasenohrl's, among the others', work. Albert had become a Swiss citizen in 1900 to avoid the draft in a peace-time Germany. He would always be a citizen of convenience—living in, and becoming a citizen of, any country that suited his purposes, including the U.S.

It should also be noted that the above scientists were probably applying the mass-energy equivalence concept in different contexts. For example, the Huygens-Leibniz equation, $E=mv^2$,

probably applied to kinetic energy, the energy of motion, that is to say *momentum*. Poincaré applied this concept to the electronics of Lorentz, whereas Hasenohrl applied this concept to radiant energy.

Certainly the most famous equation in science, $E=mc^2$, as Albert applied it to mass in general, without experimental evidence, asserts that the energy contained in a certain unit of matter, any mass, equals that quantity multiplied by the speed of light squared. Probably from the Latin *celeritas* (swiftness, speed), at least since the 1850s, scientists had been using the letter *c* to designate the speed of light. Using the old French system, energy was measured in ergs, "the mass in grammes" (*sic*) and the speed of light in centimeters per second.[79] Thus, according to this equation, one gram of water, for example, would contain, by Einstein's own figures, $9x10^{20}$ ergs of radiant energy.

Equations express relationships. The = in this equation really means *proportional to*, for as an apple cannot equal an orange, so a gram of any mass cannot equal an erg of any energy. Therefore, if in a nuclear reaction, a gram of any mass is lost—disappears—and presumably converts to so many ergs of energy, then two grams of the same mass would convert to twice as many ergs of energy, other factors remaining equal.

Another difficulty with this equation, or Albert's version of it, is the fact that because it uses the speed of light squared, $9x10^{20}$ cm/sec, *as a whole number* and not as a velocity, the amount of energy in any given mass actually has nothing to do with the speed of anything—squared or not.

Thirdly, the reader should know that this equation had been derived before, and is hence not dependant upon, special relativity. Albert did not derive this formula from his special theory of relativity, but from Maxwell's equation for electromagnetic radiation pressure, which was published in the 1860s. Thompson, Heaviside, Hertz, Lorentz, and Poincare derived this equation for the kinetic energy of an electron, also without reference to relativity theory. Both Carl Zapffe in 1982 and Milan Pavlovic in 1994 have meticulously and independently demonstrated that this equation can be derived by classical means without reference to special relativity.[80] Wherefore, this equation cannot be considered a product of, or even a part of, relativity theory. The relationship $E=mc^2$ "arises just as readily from Maxwellian field theory and the momentum conservation law—as Einstein himself admitted in a generally overlooked essay written during his later years."[81]

Attempted experimental confirmation of mass-energy equivalence. In order for an equation to be valid, it must be supported by observational or experimental evidence. The equation $E=mc^2$, as derived by Thompson, Heaviside, Poincare, etc. was derived within the context of the electromagnetic mass which was attributed to the electromagnetic field created by the movement of a charged particle (an electron). Albert did not derive the mass-energy conversion formula by experiment or even by observation, but by algebraic contrivance beginning with Maxwell's and Lorentz's equations with some unacknowledged help from the above scientists. His applying this equation to mass or molecular matter in general was dubious at best because it was without observational or experimental evidence.

Einstein himself admitted in a 1946 paper that the $E=mc^2$ equation "is not completely accurate"[82] In a 1979 paper, John Chappell, PhD, observed "that the famous equation $E=mc^2$ *has never been directly confirmed by experiment*" (italics in original).[83] And in 2000, in his

meticulous analysis of "Einstein's Theory of Relativity", Milan Pavlovic concluded that it seems that "the amount of energy contained in matter, any given mass, is still unknown."[84]

Towards the end of his 1905 paper on the subject, Albert suggested that the recently discovered radioactive element radium might be used to experimentally validate this formula, as radium decays by the regular emission of alpha particles, beta particles and gamma ray photons. As the quantity of alpha and beta particle mass and the energy in gamma ray photons (if not mass also) are now known, it should be possible to calculate the E in ergs on the left and the change in mass on the right multiplied by $9x10^{20}$. However, no one has ever done this.

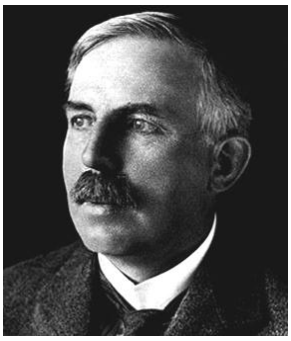
Only two notable experiments have been conducted that are alleged to support the accuracy of this formula. The first was by Cockcroft and Walton at the Rutherford lab, Cambridge in 1932, during the early days of particle physics. They fired a neutron at a lithium nucleus which became part of it. Hence there was an increase of both mass (the neutron) and energy (the additional strong force necessary to hold the new neutron in place) in the lithium nucleus. Another result of this event was the release of two alpha particles (causing a loss of mass and energy). But in neither case did the experimenters calculate a value for the gains or losses of any mass or energy to find out if they agreed with the $E=mc^2$ equation. Only decades later did relativist propagandists began to claim that this experiment supports the accuracy of the mass-energy equivalence formula.

The second experimental test of the accuracy of this formula was conducted in 2005 by Simon Rainville of MIT along with several others.[85] Their experiment was very similar to that of Cockcroft and Walton. Rainville and team also fired a neutron at a nucleus causing neutron capture. This should have caused a measurable increase of both mass and energy of the nucleus. And this event also caused the emission of gamma rays, the mass and energy of which should also be measurable. The Rainville team made extremely accurate measurements but they never multiplied any change in mass by $9x10^{20}$ to find out if it equaled the amount of energy released. Some of their measurements may have been accurate to 0.00004%, as they claim, but not one that supports the accuracy of $E=mc^2$. The units of measurement that Rainville used may have been for convenience to yield the desired results. Neither was this experiment double blind, so results could have been influenced by expectations, to say the least. And there was no independent evaluation of the data. MIT researchers have been known (or suspected of) fudging data to support the position of establishment science on a controversial issue.[86] Nevertheless, a 2005 article in the prestigious science journal *Nature* claims that the Rainville experiment *proves* the accuracy of this equation. This is typical relativist propaganda, possibly on the same order as Hafele-Keating.[87] In fact, all this experiment proved was that MIT receives a lot of government research funds and wants to keep it that way. "The theory of relativity enjoys a disproportionate share of federal funding of physics research today."[88]

However, as has been previously stated, this equation was developed *before* "special relativity", and can be derived by classical means without it. Thus it follows that, even if the Rainville test could withstand the above (constructive and humble) criticism, such an experimental confirmation of the accuracy of this equation cannot be construed as a confirmation of the accuracy of "special relativity", which is an all-to-common practice to deceive the public. In the paper's introductory paragraph Rainville erroneously refers to this equation as part of special relativity theory and erroneously calls it Einstein's, perhaps for political reasons as this was a government funded project. The Rainville test was partially funded by the National

Institute of Standards and Technology, which similarly misrepresents historical fact in the title of its news release, *Einstein was Right (Again)*. This is typical relativist propaganda.[89]

Theorized electron-positron annihilation, if such exists, has also been proffered as evidence supporting the mass-energy conversion formula. However, in his substantial review of the theories of modern physics, Guido Grznic, PhD concludes that Einstein's theory does not apply to electron-positron annihilation.[90]



Contrary to the usual allegations and public perceptions, the $E=mc^2$ equation has had *no* influence on the Twentieth Century development of nuclear physics. In fact, British physicist and Nobel laureate Ernest Rutherford (1871-1937)(right), who discovered the proton in 1911, is generally looked upon as the "father of nuclear physics," not Albert Einstein. This equation was useless to scientists who worked on the Manhattan Project in Los Alamos, New Mexico, which built the two atomic bombs, Little Boy and Fat Man, which were dropped on Japan in 1945. Robert Serber was one of those scientists. He wrote in *The Los Alamos Primer, The First Lectures on How to Build an Atomic Bomb*, how the theory of fission is "nonrelativistic," that is to say, has nothing to do with Einstein's theory of relativity and the $E=mc^2$ equation. On the contrary, Manhattan Project scientists based their estimate of the amount of energy in enriched uranium and plutonium on the known amount of energy in chemical explosives such as TNT.[91] Hence the TNT equivalent method (kiloton, megaton, etc.) of measuring the energy output of nuclear weapons.

Wherefore, the most famous equation in the history of science remains nothing more than speculation, an unverified and untestable hypothesis, an educated guess or concept of DePretto and many others.

The previously discussed hypotheses of FitzGerald length contraction, Larmor time dilation and Lorentz mass distortion have come to be looked upon as three corollaries of special relativity because Albert included and used them in his 1905 papers, as if they were scientific fact, without citing his sources. Today they are usually considered to be his.

Already by his second paper in 1905, Albert's version of the scientific method was becoming apparent. He never conducted his own experiments. He would only adapt and rephrase the ideas of other scientists, yet without acknowledging their work. Then he would carefully select an example or two to support his argument, and then add some complicated math to both impress and confuse the reader. He would often rely on circular argument, the fallacy of *Petitio Principii*. Then he would slip in a conclusion that was not supported by the evidence.[92] Lawyers do this sort of thing all the time, but without the math. In a 1952 paper, outstanding Bell Laboratories scientist Herbert Ives describes how Einstein derived his $E=mc^2$ equation by circular argument, essentially arguing $E=mc^2$ because $E=mc^2$.[93]

Wrong Turn #5: Space-time. For years neither of Albert's two papers caused any great commotion in the science community or anywhere else. However Max Planck, introduced in Chapter 1, took an interest in the second one. And one of Albert's former teachers, Hermann Minkowski (1864-1909), took an interest in the first. In 1908, Minkowski proposed the concept of space-time and time as a fourth dimension, which Albert eventually adopted and included as a principal postulate of general relativity. There, in fact, he combined *space-time* with another big idea of his into *curved* space-time.

In a lecture on September 28, 1908, Minkowski stated, "Henceforth space by itself, and time by itself, are doomed to fade away into mere shadows, and only a kind of union of the two will preserve an independent reality."[94]

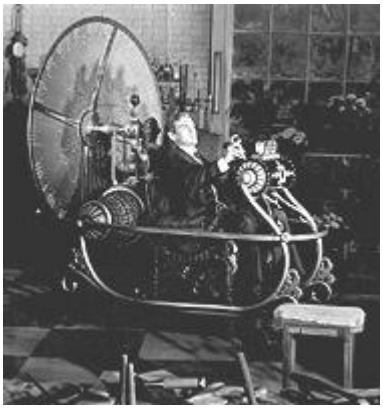
However, space-time as a fourth dimension is nothing more than the product of professor Minkowski's cerebral and mathematical imagination. As opined above, mathematics can assist in the compiling and discussion of data, but it cannot replace reason. Both Einstein and Minkowski made the mistake of trying to use math as evidence. But math is not evidence. It may be a help in analyzing evidence, but math itself cannot rise to the level of evidence.

It is obvious that time can be a factor in the transmission of light over great distances, such as in interstellar space—hence the term *light-year* (the distance light can travel in one year). But it does not follow that time is a fourth dimension in addition to the three dimensions (height, width, depth) of Cartesian space.

Time is not fourth-dimensional. It is simply a concept of convenience that relates to three-dimensional sequential relationships and experience. For an example in the simplest terms, the Earth rotates on its own axis beginning at point A. Many things happen in human experience, one event after another, some simultaneous. The Earth makes a complete rotation and returns to point A. Thus all these experiences occurred within what we call one day, a concept of convenience, which is divided into 24 hours of 60 minutes each, etc, as convenient divisions of one day. This same concept applies to years. This is not absolute Newtonian time, nor philosophical time, but simply time as a concept of practical convenience.

Prominent English astronomer Herbert Dingle (1890-1978) rebutted Minkowski's above-quoted opinion asserting that it was "utterly unwarranted: it is a conclusion about things not dealt with in physics, drawn from a purely gratuitous interpretation of an arbitrarily adopted mathematical formula. It is just as true or false or meaningless as an assertion that pressure and volume are shadows and only a kind of union of the two is real."[95] What the "wormhole" is to modern astronomy is what "space-time" is to modern physics. Both should be relegated to the shelf of science fantasy.

The concept of *time* is a product of three-dimensional experience. The misperception of it as a fourth-dimensional phenomenon, as well as of a Universe curved by it, are invalid products of an overly cerebral imagination.



Apparently, like after Alice entered the door to Wonderland, after one enters the door to Relativityland, anything goes. Why not space-time?

Neither was this space-time idea original. Several scientists had written on this imaginative subject prior to 1908.[96] It is reasonable to assume Minkowski had read a few of them. Popular science fiction writer H.G. Wells expressed the same concept in his 1895 novel *The Time Machine*. Minkowski must have liked reading *The Time Machine*. To this day relativist fantasies of "time travel" often include a reference to this popular science fiction novel.

Minkowski died the following year from appendicitis. He had to find out what the fourth dimension is in his own experience, which could be looked upon as the perspective of spirit within three-dimensional Cartesian matter. When through the practice of daily meditation you can function as Spirit in matter, then you may be living in four dimensions. Be that as it may:

For years Albert would be defending himself against accusations of plagiarism.

As noted above, none of Albert's papers caused any commotion at the time. It wasn't until 1907, when Minkowski began to promote special relativity and his own space-time idea that Albert began to achieve notoriety. In fact, through 1919 the term *relativity theory* would have been commonly understood to refer to the theory of Poincare and Lorentz, not to Einstein.[97] However, Albert's papers did give him some visibility within the German science community and certainly helped him to obtain his first career teaching position at the University of Bern in 1908. From there he became an associate physics professor at the University of Zurich in 1911, and eventually moved to the University of Berlin.

General Relativity. From 1911-1915, Albert worked on his so-called general theory of relativity, which was a broadening of special relativity to include gravitation. The following year he published it in a 53-page paper of 5 parts, 22 sections in all, entitled "The Foundation of the General Theory of Relativity,"[98] wherein he argued that gravity is not an exterior force, but is a property of a curved four-dimensional space-time. Only in a few closing paragraphs did he tack on some ideas on the gravitational bending of light rays and on a slight wobble of the planet Mercury when it is closest to the sun.

General relativity relies substantially on the validity of special relativity. And as we have seen, special relativity is substantially, but not entirely, invalid. Therefore, at least some parts of general relativity are invalid, also. Einstein and Infield wrote in *The Evolution of Physics* (1938), "…the theory of relativity resembles a building consisting of two separate storeys (*sic*), the special theory and the general theory. The special theory, on which the general theory rests, applies to all physical phenomena with the exception of gravitation." On this Dr. Kelly comments, "So, if the special theory loses its basis, the general theory is also without foundation."[99]

The slight wobble in the orbit of the planet Mercury (the "rotation of the perihelion" of Mercury's orbit) is caused by the gravitational influence of other planets. In the Nineteenth

Century, French astronomer LeVerrier had studied the shift in the perihelion of other planets and had predicted the existence of the then unknown planet Neptune. In 1898, Paul Gerber had established the scientific theory that predicted the Mercury wobble *without the use of any relativity theory*. It was known that according to Newton's law the total rotation should take 23,321 Earth years, but more recent calculations put the total rotation at 23,143 Earth years, there being only about a one-percent difference between the two.[100] Albert knew what the result had to be, he needed only to develop a few equations to end with that figure. (Albert demonstrated his willingness to use fudge factors in his 1919 "cosmological constant" or Lambda, a debacle he later recanted in embarrassment. Why not in 1915, also?) And in 1930, scientists would further improve upon the accuracy of this figure. Hence the usual claim that Einstein's derivation of the perihelion of Mercury is proof of General Relativity is without factual basis.[101]

As usual, Albert borrowed most of his ideas for general relativity from other scientists without acknowledging them. In 1915, German mathematics genius David Hilbert (1862-1943) completed the field equations of general relativity a month or so before Einstein.[102] Both Einstein and Hilbert were working on the same idea and were in communication about it. In November 1915, Hilbert completed his manuscript and was about to submit it. Einstein asked to see a draft. Hilbert agreed and brought, or had delivered, a copy to Einstein, who acknowledged receiving it in a letter that still exists. Just a few days later, Einstein submitted his general theory of relativity for publication with Hilbert's equations in it. The following year Einstein resentfully admitted that Hilbert had priority.[103] Thus if the field equations are a better theory of gravitation than Newton's, it is because of Hilbert, not because of Einstein. And, as we have seen, the bending of light by gravity had already been predicted by Soldner and others long before Einstein. Furthermore, inasmuch as there was only about a one-percent difference between the two figures to begin with, Hilbert's or Einstein's gravitational field equations were only a one-percent improvement in Newton's universal law of gravitation in some applications. Today's rocket scientists still use Newton's law.[104] Lastly, the Hilbert-Einstein gravitational equations may be only slightly more accurate than Newton's in some circumstances, but neither explain what *causes* gravitation.

Thus, of the several tenets of general relativity, space-time was Minkowski's, Mercury wobble was Gerber's, gravitational deflection of light was Soldner's, and the field equations for gravitation were Hilbert's.

The only original big idea in "Einstein's" so-called theory of general relativity was curved space. Yet through the 1980s and '90s, and today with the Hubble space telescope, astronomers can observe the universe for billions of light years in every direction. They have methodically and painstakingly developed three-dimensional atlases of the universe. However, they have detected *no* curvature of space. Theoretical physicist Paul LaViolette observes, "If space were curved by even the slightest amount, evidence of this would have shown up in astronomical surveys. When the data are checked, however, no evidence of curvature is found. Observations of the density of galaxies found at distant locations of the universe indicate that space is Euclidian out to the farthest limits of observation."[105]

In 1916 Albert and Mileva separated. She took their two boys and returned to Zurich. He stayed in Berlin and moved in with his cousin Elsa Lowenthal, who already had two teenage daughters. Albert made repeated physical advances to one daughter, Ilse, and proposed marriage to her in 1918 while sleeping with her mother, but she turned him down, as she wrote to a friend.[106]

Elsa and Mileva had two things in common. One was that they were both three years older than Albert. Albert became extremely ill from some kind of stomach ailment and almost died. Elsa must have made him some chicken soup, and he gradually became well. During this time Albert came to hate Mileva and wrote several abusive letters to her, some of which became public in 1987. The divorce was not final until 1918. Within months thereafter he and Elsa were married.

For the rest of his life, Einstein would accomplish little. The fact that he accomplished little of significance after his divorce from Mileva supports the argument that she was the real genius in the family, not Albert. By this time Albert had a few well placed scientist friends who had connections with the Nobel selection committee in physics. They were apparently telling him that he might be in line for a Nobel Prize because the subject came up in the divorce settlement. He agreed to give Mileva the Nobel Prize if he should ever receive it. In one of his abusive letters to her he suggested that it would be better to "keep your mouth shut."[107] This suggests that he was to give the prize money to her as hush money, to keep quiet about her contribution to relativity theory. Few other people could have so credibly exposed him as a fraud and plagiarist.

Christopher Jon Bjerknes (right) is an outstanding science historian. *The Manufacture and Sale of Saint Einstein* (2006), which is on-line, has over 2,800 pages and over 3,600 references. In this exhaustively researched book he convincingly argues that in pre-Nazi Germany several Jews were influential in the German media industry, such as owners of major newspapers, publishing houses, and as well-placed journalists. After 1916, they were the ones who began glorifying Einstein because he was one of them and because it would suit their Zionist purposes to do so. Zionism is the political philosophy that justified creating the fascist state of Israel, and dispensing with the Palestinian people in the most convenient manner. In its wilder versions it envisions Jewish world domination and the enslavement of unchosen humanity, the *goyem*, to Jews. Although none of the four founders of modern relativity theory—FitzGerald, Larmor, Lorentz and Poincare—were Jewish (they were probably all Roman Catholics, if not practicing and with a bias towards intellectual agnosticism) these Jewish journalists praised Albert in their publications as if relativity were all his idea, a product of his astounding genius, calling him the greatest scientist since Newton who had revolutionized physics, the Galileo of the Twentieth Century, etc, etc. And they would rebuke criticisms of Einstein's theories as simply "anti-Semitism."[108] Their efforts would develop into a worldwide Zionist propaganda campaign to defend Einstein's theory of relativity, which continues to this day. Book after book, website after website on "Einstein's theory of relativity" is filled with the same praise and adulation, glamour, gibberish and deception, citing the shoddiest of scientific evidence, if any at all. Furthermore, this is why among mainstream science journals there is a 100% rejection rate for papers that are critical of relativity theory. 100%. Dissident scientists have to submit their research papers that are critical of Einstein to smaller journals of lesser reputation, which are more ignorable. Such censorship policies extend to college campuses, as many a physics student has found out.[109] And after such censorship some relativists preposterously claim that "Einstein's theory of relativity" is universally accepted among scientists because no papers criticizing it are to be found in major peer reviewed science journals.

This writer proffers the speculation that the same Zionist political influence that brought about the British Balfour Declaration in 1917, which favored the creation of a Jewish homeland in Palestine, also caused a few well-placed British scientists to make exaggerated claims in favor of Einstein's general theory of relativity in 1919.

Walter Rothschild was a politically active Zionist Jew who ran his family's bank in London, the assets of which were reportedly greater than the assets of the Bank of England. He certainly had the money to spread around in the right places. Walter was a close friend of Chaim Weisman, chemistry professor at the University of Manchester, president of the World Zionist Organization, and future first President of Israel. Weisman developed a process of producing acetone, which was used in the manufacture of explosives. As Director of British Admiralty laboratories from 1916-1919, he oversaw the manufacture of significant quantities of explosives that were critical to the Allies during the First World War.

It was payback time.

Both Rothschild and Weisman lobbied for the Balfour Declaration, which came in a personal letter from Prime Minister Arthur Balfour to Rothschild.[110] Meanwhile in Germany Albert Einstein covertly supported the Allies during the War.[111] Rothschild and Weisman could easily have requested another, more discrete, favor.

And so it was that in November of 1919, at a royal meeting of the Royal Astronomical Society in London, Cambridge astronomer Arthur Eddington and a few colleagues declared that they had "conclusive" and "overwhelming" proof that confirmed the accuracy of Einstein's prediction regarding the gravitational deflection of starlight by the sun, and called this "one of the greatest—perhaps the greatest—of achievements in the history of human thought."[112] The actual evidence they had was from photographs of a solar eclipse taken earlier that year and was little more than imaginary, as even relativists admit today.[113] For good measure, they threw in the claim that they had proof of the accuracy of general relativity's explanation for the slight wobble in the orbit of the planet Mercury. It was irresponsible of Eddington to claim that the arguable validation of two sections of Einstein's 1916 paper confirmed all 20 other sections of that paper.

In response to such claims, unscientific exaggerations and media hype, Dr. Charles Lane Poor (1866-1951), Professor of Celestial Mechanics at Columbia University, attempted to maintain reason and integrity in science. In a *New York Times* article of November 16, 1919, he articulately and competently offered at least equally plausible alternate explanations for these two phenomena. He asserted that the wobble in the orbit of Mercury could be explained, not by some imagined "space-time" or a fourth dimension, but by the fact that the Sun is not a perfect sphere and the space between the Sun and the planets is not completely empty, which would affect planetary orbits. And he opined that Eddington's alleged evidence in the eclipse photographs could be due to the refraction of starlight as it passed through the gasses that surround the Sun. Modern theoretical physicist Paul LaViolette agrees that the gravitational bending of starlight "is just as easily explained as a refraction effect."[114]

Other prominent scientists who concurred with Professor Poor included Sir Oliver Lodge, Sir Joseph Larmor (author of time dilation), Alfred North Whitehead, and none less than H.A. Lorentz (one of the principal authors of relativity theory).[115]

But the world press generally fed on Eddington's view. This began an "Einstein frenzy" of praise and adulation in the world press that would last for months and would give Albert a divine, greater-than-life image, which is largely still out there. People were tired of war and wanted something higher and peaceful to think about. Relativity theory, valid or fallacy, original or plagiarized, seemed to fill that need.

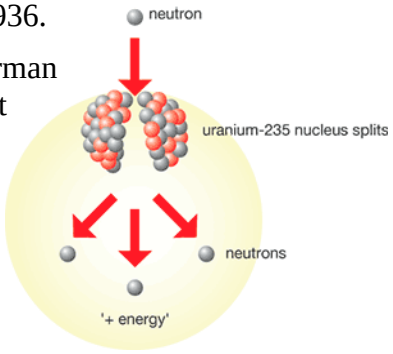
The following year, in September 1920, Albert publicly disgraced himself at a well-publicized debate on relativity theory with Nobel laureate Phillip Lenard in Nauheim, Germany. Albert could not defend himself against Lenard's accusations of plagiarism and fraud, and could not articulately defend his relativity theories, even though his friend Max Planck had arranged the debate so that Albert would have every conceivable advantage. At the first break Albert left the building and went home, giving the public appearance of running away from his critics like a coward.[116]

In part to escape from this, and other, public embarrassments, in 1921 Albert went on a tour of the United States with Chaim Weisman to raise funds for a Hebrew University in Jerusalem. Albert was given a secretary and translator so he would not again make a fool out of himself. Such a political tour by a publically visible theoretical physicist was most unfortunate for science because ever since then even constructive criticism of Einstein's relativity theory is often interpreted as an attack on his political philosophy, Zionism, Jews and their country Israel. Relativity theory can no longer be discussed objectively. Science majors are brainwashed into accepting it. And career scientists must pledge allegiance to it, much like American presidential candidates must pledge allegiance to Israel. In such an environment that confuses science and politics, experimental results, alleged or real, often become political propaganda. Experimental results that allegedly support relativity theory are celebrated and applauded, while experimental results that contradict relativity theory are suppressed, attacked, smeared or ignored. This is not science; this is rough, hard-nose politics. "Einstein's theory of relativity" has become part of the Zionist conspiracy. Scientists will not criticize it for the same reason American politicians will not criticize the so-called state of Israel: fear, fear of adverse career action and of being ostracized from their profession. Young physics students are brainwashed into accepting relativity theory nonsense without question. For example, when John Chappell was a graduate student at Yale, he was prohibited from writing a PhD thesis that was critical of relativity theory. He had to write it on another subject and ended up with a career outside of physics. However, this injustice motivated him to eventually found the Natural Philosophy Alliance, www.worldnpa.org, which hosts conferences on theoretical sciences that present alternative views, and presently has hundreds of members, mostly dissident scientists who have published thousands of papers.[117]

In 1922, Albert was awarded the Nobel Prize in Physics for 1921. The delay was due to the unusual amount of controversy surrounding this award. The Nobel committee could not award Albert the prize for relativity theory because they knew it was not his. It was not original. But due to the world-wide Jewish propaganda campaign and all the media hype that followed, by then Einstein was the most famous scientist in history. The Nobel committee felt that they had to give him the prize for something. So in the end they purportedly gave it to him for his contribution to the photoelectric effect (the absorption of a photon through its interaction with an electron inside an atom), the subject of his first 1905 paper.[118] However, although intellectually creative, in this paper Albert only commented on and discussed the implications of the prior experimental results of other scientists, Maxwell and Planck—hardly the stuff Nobel laureates

are made. (In this paper Einstein essentially resurrected the Newtonian particle theory of light. In 1926, chemist Gilbert Lewis proposed that this particle be called a photon.[119]) Suggesting embarrassment over the issue, the Swedish ambassador delivered the check, medal and certificate "secretly or at least discreetly, in person."[120] Contrary to their divorce settlement, Albert invested most of the money in the United States, where most of it was lost in the stock market crash of 1929. Neither he nor Mileva deserved it in the first place.

Albert and Elsa moved to Princeton, New Jersey in 1932. She died in 1936.



In 1938 there was the first splitting of the uranium atom by German physicists Otto Hahn and Fritz Strassman. In only a few short years the first atomic bomb would be detonated near Los Alamos, New Mexico. Albert Einstein had nothing to do with either.

There have been many prominent critics of Einstein's special theory of relativity, as well as his general theory of relativity, although they are routinely ignored by the scientists who control physics departments and scientific institutions.

For example, Oliver Heaviside (1850-1925) was an influential English scientist who concentrated on electrical circuits and mathematics. He is most remembered for his simplification of the Maxwell equations of electromagnetism, for developing vector calculus, for his proposal to add induction coils to the transatlantic cable, and for his invention and patenting of the co-axial cable.[121] Furthermore, in 1889, when Albert Einstein was still in knee pants, Heaviside published a paper, in which he is often credited with deriving the relationship underlying the famous $E=mc^2$ formula.[122] Years later, after Einstein had published his relativity papers, Heaviside commented, "I don't find Einstein's Relativity agrees with me. It is the most unnatural and difficult to understand way of representing facts that could be thought of. . . . And I really think that Einstein is a practical joker, pulling the legs of his enthusiastic followers, more Einsteinisch than he."[123]

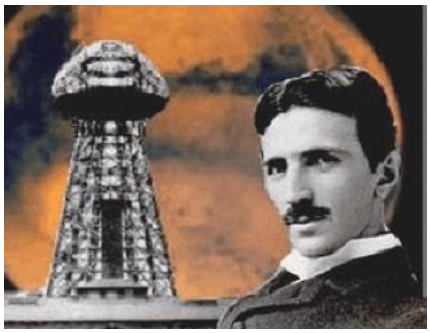
In the same vein, the above mentioned Ernest Rutherford called Relativity Theory "a joke."[124]

Similarly, English chemist and Nobel laureate Frederick Soddy (1877-1956), an associate of Rutherford, called relativity theory "an arrogant swindle."[125]

Although such comments are so brief we do not know exactly what aspect of Einstein's theories these scientists were criticizing, in the absence of some objective evidence we cannot simply dismiss them as caused by jealousy or some other unworthy motive.

Columbia University astronomer Charles L. Poor was another of the early prominent critics of relativity theory. In his 1922 book *Gravitation versus Relativity*, he competently and meticulously refuted the purported evidence and alleged proofs of general relativity. Then he discussed how classical Newtonian physics can explain the same phenomena. Referring to Eddington's shoddy eclipse "experiment" of 1919 that was proffered to the media as a proof of general relativity, Poor asked, "How can an experiment, equally well explained by several different theories, be a 'crucial test' in favor of one of them?"[126]

Another distinguished American scientist who was critical of relativity theory was Dayton Miller (1866-1941). He had earned his PhD at Princeton, for many years was Chairman of the Physics Department at what is today Case Western University, served as President of the American Physical Society and Acoustical Society of America and was a member of the National Academy of Sciences. He was the consummate scientist who paid scrupulous attention to detail. One of the fundamental premises of special relativity was that the universal ether did not exist. On Mt. Wilson, near Los Angeles, Miller constructed a much larger and more sophisticated light-beam interferometer than the one Michelson and Morley had used in their famous 1887 ether-drift experiment, the less than expected result of which had largely been misinterpreted as a "null result". There on Mt, Wilson, from 1906 through the mid-30s, Miller conducted many ether-drift experiments, meticulously documenting each. In 1921, Einstein wrote to a friend that if "the Miller experiments" produced positive results "the whole relativity theory collapses like a house of cards." Miller's experiments produced consistently positive results.[127]



Now we have Serbian-American electronics genius, Nicola Tesla (1856-1943), who developed alternating current (AC) electric power that is in common use today, was also critical of relativity theory. In a 1935 *New York Times* interview he called it, "...[a] magnificent mathematical garb which fascinates, dazzles and makes people blind to the underlying errors. The theory is like a beggar clothed in purple whom ignorant people take for a king..., its exponents are brilliant men but they are metaphysicists rather than scientists...".[128]

Dr. Herbert Ives (1882-1953) led AT&T's television research during the 1920s and 30s. He retired in 1947 having published more than 200 papers and secured more than 100 patents.[129] In the 1940s he studied relativity theory. He found several substantial errors in Einstein's mathematics and method. In a 1952 paper[130] he discussed these errors, asserting that Einstein's arguments were often deceptive and that Einstein's reasoning was often circular to arrive at a desired conclusion. Ives concluded that Einstein's relativity theory is a fallacy,[131] and that its continued acceptance has become a ritual without a scientific basis.[132]

Dr. Herbert Dingle (1890-1978) was a prominent English astronomer who was President of the Royal Astronomical Society from 1951 through 1953. In a 1972 book *Science at the Crossroads*, he laments how the ethical standards of scientists have fallen so low that they would cover for the fallacy of relativity theory. His arguments against it concentrated on the "twin paradox," where special relativity's nonsense cannot reasonably be denied.[133]

Dr. Leon Brillouin (1889-1969) was a leading French-born physicist who came to the United States in 1940, where he held several teaching and research positions including at Brown, Columbia, Harvard and IBM. In 1953, he was elected to the U.S. Academy of Sciences. In an eight-part essay *Relativity Reexamined*, which was not published until the year after he died, he expressed the opinion that, "General Relativity is a splendid piece of mathematics built on

quicksand and leading to more and more mathematics about cosmology (a typical science-fiction process).” He observed that the experimental results supporting general relativity’s predictions regarding the advance of the perihelion of Mercury “are actually very poor.” And he concluded with a call for a “painful and complete reappraisal” of relativity theory.[134]

Louis Essen, PhD (1908-1997) was a prominent English physicist who is mostly known for his invention of the atomic clock in 1955. In 1988, he wrote that he rejected relativity theory because:

1) "Einstein's theory of relativity is invalidated by its internal errors,"

2) "Einstein's use of a thought experiment, together with his ignorance of experimental techniques, gave a result which fooled himself and generations of scientists,"

3) "Claims frequently made that the theory is supported by experimental evidence do not withstand close scrutiny."[135] As we have seen.

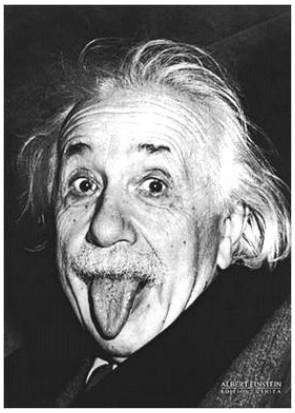
A close Essen relative has stated that after criticizing Einstein’s theory of relativity, his superiors at the National Physical Laboratory (UK) warned him that “to persist in his criticism of relativity may affect his career and hence pension prospects….” He himself reportedly stated, “No one has refuted my arguments, but I was warned that if I persisted I was likely to spoil my career prospects.”[136]

Lastly, Canadian science researcher, Walter Babin (b. 1934) has a website where he publishes the *General Science Journal*, wherein he has published his knowledgeable and persuasive paper "An Analysis of the Theoretical Foundations of Special Relativity," among others, as well as thousands of papers by hundreds of other authors, mostly dissident scientists. Like many competent scientists and science researchers of integrity before him, Babin discusses Einstein's mathematical and other errors and persuasively concludes that the special theory of relativity is null and invalid.[137]

In his later years—to his credit—Albert confessed his sins. In 1948 he wrote, “In the course of my long life I have received from my fellow-men far more recognition than I deserve, and I confess that my sense of shame has always outweighed my pleasure therein.”[138]

Albert died in 1955. His body was cremated, except for his brain—to end this weird story—which remains in a glass jar at Princeton University.[139]

In summation



As we have seen, Relativity Theory was largely a result of the confusion and disorientation that several scientists experienced after MM in 1887. It could be said to have at least seven founders: FitzGerald, Larmor, Lorentz, Poincare, Einstein, Minkowski and Hilbert. Einstein was no more of a creative intellectual genius than any of the others.[140] In fact, he may have been less so. Why else would he have needed to steal or plagiarize their ideas? He certainly had character problems, at least in his earlier years.

Because two of these founders were Jewish, early Zionist leaders saw this as an opportunity to promote their cause. So they began to ballyhoo the theory and its only living Jewish founder, Albert Einstein. This was not science. And such pro-relativity propaganda continues to this day. On the other

hand, some pre-Nazi anti-Semites criticized relativity theory as "Jewish physics." This was not science, either. Because of all this brouhaha, relativity theory became a popular subject that has intellectually perverted and brainwashed scientists and educated laymen alike.

"Einstein's theory of relativity" is substantially science fiction, fantasy or philosophy, and represents the worst of science: how science can become political, how political factors can affect funding, how funding can affect scientists' jobs and careers, how experimental data can be manipulated to serve as propaganda, and how theory can be presented as fact.

Scientific theories come and go. It is about time "Einstein's theory of relativity" went. Special Relativity and Zionism will fall together because they are inseparable. The day will come when nobody even mentions either of them anymore. Physicists need only scrap the erroneous hypotheses of length contraction, time dilation, mass distortion, the *c* speed limit, space-time and curved space, and science will be reasonable and back on track again.

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[1] Hoffmann, Banesh *Relativity and its Roots*, Scientific American Books, 1983, pp. 44-45

[2] Swenson, Loyd S. *Genesis of Relativity*, Franklin, 1979, p. 9

[3] Hoffmann, Banesh *Relativity and its Roots*, Scientific American Books, 1983, p. 51

[4] Hoffmann, Banesh *Relativity and its Roots*, Scientific American Books, 1983, p. 49

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