Christopher Jon Bjerknes

THE MANUFACTURE AND SALE
OF
SAINT EINSTEIN

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17 EINSTEIN'S *MODUS OPERANDI*

Einstein and his followers promoted and promote the theory of relativity as if it were perfectly logical. The theory is demonstrably irrational. In his efforts to hide his plagiarism, Einstein confused induction with deduction; and, like many of his predecessors, Einstein made too hasty of generalizations out of specific experimental results.

> "Die Relativitätstheorie ist aus einigen mißverstandenen Anregungen des philosophischen Physikers MACH und aus Gedanken des mathematischen Physikers LORENTZ enstanden, die ins Groteske weitergesponnen wurden."—ERNST GEHRCKE[3443]

> "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."—OLIVER HEAVISIDE

> "Einstein simply postulates what we have deduced, with some difficulty and not altogether satisfactorily, from the fundamental equations of the electromagnetic field. [***] I have not availed myself of his substitutions, only because the formulae are rather complicated and look somewhat artificial".—HENDRIK ANTOON LORENTZ[3444]

17.1 Introduction

Logic forbids a theorist from asserting as a premise that which she wishes to deduce as a conclusion. Such is the fallacy of "begging the question" or *Petitio Principii*. One cannot logically assert that light speed is invariant as a premise in order to deduce from that premise the conclusion that light speed is invariant. One cannot logically assert that the laws of physics are invariant in inertial systems in order to deduce from that premise that the laws of physics are invariant in inertial systems. One cannot assume that $\frac{E}{(m_0 - m_1)c^2} = 1$, in order to prove that $\frac{E}{(m_0 - m_1)c^2} = 1$. One cannot logically assert a gravitational and inertial mass equivalence in order to deduce from that premise the conclusion that gravitational and inertial mass are equivalent. However, Albert Einstein committed all of these sins against reason, and more.

A logical synthesis proceeds from the most general and simple (as opposed to complex—singular as opposed to compound) *a priori* statements made in the theory, to the specific conclusions of the theory, which are empirically observable. The supposed empirical fact that light speed is invariant cannot logically be taken as an *a priori* principle. Speed is composed of the more fundamental elements of space and time; and a physical observation is the point of departure for an *a posteriori* analysis, not an *a priori* synthesis. The more fundamental elements of the Lorentz Transformation deduce all velocity comparisons, and are more general and fundamental than the specific speed of light. Likewise, the principle of relativity is an alleged empirical observation, which depends upon the more general and fundamental elements of that which defines an inertial system, the laws of Physics, the definitions of measurement procedures, etc.; and it is a corollary to these, not an *a priori* principle.

17.2 "Mach's" Principle of Logical Economy

Following David Hume,[3445] Ernst Mach argued from the 1860's on that,

> "There is no cause nor effect in nature; nature has but an individual existence; nature simply *is*."

Mach, who was not a materialist, a point Einstein missed, wrote,

> "Nature is composed of sensations as its elements. [***] In nature there is no *law* of refraction, only different cases of refraction. [***] We must admit, therefore, that there is no result of science which in point of principle could not have been arrived at wholly without methods. But, as a matter of fact, within the short span of a human life and with man's limited powers of memory, any stock of knowledge worthy of the name is unattainable except by the *greatest* mental economy. Science itself, therefore, may be regarded as a minimal problem, consisting of the completest possible presentment of facts with the *least possible expenditure of thought*."[3446]

In 1853, Sir William Hamilton called this the "law of parsimony", and phrased it as follows,

> "Neither more, nor more onerous, causes are to be assumed, than are necessary to account for the phenomena."[3447]

Albert Einstein liked to appear wise. One of his ploys was to repeat the principle of logical economy as if it were his own. Here are but a few examples of many to be found in his writings and the accounts of others:

> "The aim of science is, on the one hand, a comprehension, as *complete* as possible, of the connection between the sense experiences in their totality,

> and, on the other hand, the accomplishment of this aim *by the use of a minimum of primary concepts and relations*. (Seeking, as far as possible, logical unity in the world picture, i.e., paucity in logical elements).”[3448]

and,

> “The grand aim of all science is to cover the greatest number of empirical facts by logical deduction from the smallest number of hypotheses or axioms.”[3449]

and,

> “A theory is the more impressive the greater the simplicity of its premises, the more different kinds of things it relates, and the more extended its area of applicability.”[3450]

As Abram Joffe noted, Albert Einstein held no priority for the principle of logical economy, could not comprehend it, and certainly did not fulfill it,

> “As regards Einstein’s philosophical views, in my judgement, they were as inconsistent as his political positions. Obviously [Einstein] was raised in the period of Mach and so [Einstein] accepted [Mach’s] concept of physics, but on the other hand, ideas on the economy of thought such as the justification of theoretical physics, were foreign to [Einstein]. The reality of the outside world and understanding the outside world were the real truths, which called for this need of a single picture of the outside world [Unified Theory of an absolute universe]. It seemed to me that when we touched upon these questions, and that was very rarely and without any interest from Einstein’s side, in Einstein one found both a materialist and an admirer of Mach, whose system seemed nicely built to Einstein.”[3451]

Though Einstein cited Mach as a source of ideas,[3452] Mach rejected Einstein’s relativity theory and asked not to be associated with the “dogmatic” and “paradoxical” “nonsense”, in spite of the fact that Joseph Petzoldt sought to give Mach his due credit for major elements of the theory of relativity.[3453] Traugott Konstantin Oesterreich wrote in the fourth volume of *Friedrich Ueberwegs Grundriss der Geschichte der Philosophie* published in Berlin in 1923,

> “Zur Relativitätstheorie verhielt sich Mach (im Gegensatz zu der von Petzoldt (s. S. 394f.) gegebenen Interpretation seiner Lehren persönlich ablehnend.”[3454]

Einstein initially adored Mach, and asked for his guidance and help.[3455] When it became known, after Mach’s death, that Mach rejected Einstein and his views, Einstein ridiculed Mach.[3456]

Einstein was interviewed in *The London Times*, on 13 June 1921, pages 11 and 12, and expressed the principle of logical economy; but Einstein failed in his theories to distinguish what was assumed from what was empirical, and stated empirical facts as if assumptions, to then introduce very complicated geometries without acknowledging that these complications were the fundamental assumptions of his theories and violated the principle of logical economy,

> "'My own philosophic development,' [Einstein] went on, 'was from Hume to Mach and James.'
>
> This was illuminating. James, I reflected, is the philosopher who held that we take to be true what we find it most convenient to believe. This had always struck me as a very sensible philosophy, and accordingly I asked Einstein whether he considered Relativity to be true in the sense that it leads to a more convenient set of mathematical expressions for natural phenomena, or whether he held that it actually penetrated deeper into reality.
>
> He smiled broadly at this question, and then gave a little chuckle. 'That is very complicated,' he said, with evident enjoyment, and sat thinking. At these moments his eyes have a still, but very living expression, reminding one of Carlyle's description of the eyes of Herr Teufelsdröck, which had the deceptive peace of a 'sleeping' top, spinning so rapidly as to appear immobile. There is no look of strain in the face, as there is with so many scientific men, and a little smile comes and goes perpetually at the corners of his mouth, as one implication after another opens before him.
>
> When he did answer the question his answer was rather technical, dealing with the assumptions which lie at the base of Euclidean geometry. He gave me to understand, however, that his general attitude towards this question of convenience or deeper reality was the same as that of the late Henri Poincaré, the great French mathematician, who regarded the fundamental assumptions of geometry as *conventions*, but not as arbitrary conventions.
>
> 'An infinite number of theories can always be devised,' said Einstein, 'which will serve to describe natural phenomena. We can invent as many different theories as we like, and any one can be made to fit the facts.'
>
> 'Then perhaps the essentials of the old Newtonian assumptions could still be preserved,' I said, 'by endowing the ether with a sufficient number of extraordinary properties. Why do you prefer your theory of Relativity to one which assumes a very complicated ether?'
>
> His answer was emphatic. 'That theory is always to be preferred,' he said, 'which makes the fewest number of assumptions. Amongst the innumerable theories which can be constructed to fit the facts of science we choose the theory which starts off with the fewest assumptions. That is the criterion of theories.'"

Newton's gravitational inverse square law of universal attraction is considered by many to be the epitome of "universality and simplicity" in Natural Philosophy.[3457] Einstein sought in vain for a similar law of such universality and simplicity. H. A.

Lorentz wrote in *The New York Times* on 21 December 1919 page 20,

> "For centuries Newton's doctrine of the attraction of gravitation has been the most prominent example of a theory of natural science. Through the simplicity of its basic idea, an attraction between two bodies proportionate to their mass and also proportionate to the square of the distance; through the completeness with which it explained so many of the peculiarities in the movement of the bodies making up the solar system; and, finally, through its universal validity, even in the case of the far-distant planetary systems, it compelled the admiration of all."

Encapsulating Aristotle's beliefs, Newton wrote in his *Principia*, Book III, "The Rules of Reasoning in Philosophy",

> "RULE I.
>
> *We are to admit no more causes of natural things, than such as are both true and sufficient to explain their appearances.*
>
> To this purpose the philosophers say, that Nature do's nothing in vain, and more is in vain, when less will serve; For Nature is pleas'd with simplicity, and affects not the pomp of superfluous causes.
>
> RULE II.
>
> *Therefore to the same natural effects we must, as far as possible, assign the same causes.*
>
> As to respiration in a man, and in a beast; the descent of stones in *Europe* and in *America*; the light of our culinary fire and of the Sun; the reflection of light in the Earth, and in the Planets.
>
> RULE III.
>
> *The qualities of bodies, which admit neither intension nor remission of degrees, and which are found to belong to all bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever.*
>
> For since the qualities of bodies are only known to us by experiments, we are to hold for universal, all such as universally agree with experiments; and such as are not liable to diminution, can never be quite taken away. We are certainly not to relinquish the evidence of experiments for the sake of dreams and vain fictions of our own devising; nor are we to recede from the analogy of Nature, which uses to be simple, and always consonant to itself. We no other ways know the extension of bodies, than by our senses, nor do these reach it in all bodies; but because we perceive extension in all that are sensible, therefore we ascribe it universally to all others also. That abundance of bodies are hard we learn by experience. And because the hardness of the whole arises from the hardness of the parts, we therefore justly infer the hardness of the undivided particles not only of the bodies we feel but of all

others. That all bodies are impenetrable, we gather not from reason, but from sensation. The bodies which we handle we find impenetrable, and thence conclude impenetrability to be an universal property of all bodies whatsoever. That all bodies are moveable, and endow'd with certain powers (which we call the *vires inertiæ*) of persevering in their motion or in their rest we only infer from the like properties observ'd in the bodies which we have seen. The extension, hardness, impenetrability, mobility, and *vis inertiæ* of the whole, result from the extension, hardness, impenetrability, mobility, and *vires inertiæ* of the parts: and thence we conclude the least particles of all bodies to be also all extended, and hard, and impenetrable, and moveable, and endow'd with their proper *vires inertiæ*. And this is the foundation of all philosophy. Moreover, that the divided but contiguous particles of bodies may be separated from one another, is matter of observation; and, in the particles that remain undivided, our minds are able to distinguish yet lesser parts, as is mathematically demonstrated. But whether the parts so distinguish'd, and not yet divided, may, by the powers of nature, be actually divided and separated from one another, we cannot certainly determine. Yet had we the proof of but one experiment, that any undivided particle, in breaking a hard and solid body, suffer'd a division, we might by virtue of this rule, conclude, that the undivided as well as the divided particles, may be divided and actually separated to infinity.

Lastly, If it universally appears, by experiments and astronomical observations, that all bodies about the Earth, gravitate towards the Earth; and that in proportion to the quantity of matter which they severally contain; that the Moon likewise, according to the quantity of its matter, gravitates towards the Earth; that on the other hand our Sea gravitates towards the Moon; and all the Planets mutually one towards another; and the Comets in like manner towards the Sun; we must, in consequence of this rule, universally allow, that all bodies whatsoever are endow'd with a principle of mutual gravitation. For the argument from the appearances concludes with more force for the universal gravitation of all bodies, than for their impenetrability; of which among those in the celestial regions, we have no experiments, nor any manner of observation. Not that I affirm gravity to be essential to bodies. By their *vis insita* I mean nothing but their *vis inertiæ*. This is immutable. Their gravity is diminished as they recede from the Earth.

RULE IV.

In experimental philosophy we are to look upon propositions collected by general induction from phænomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined, till such time as other phænomena occur, by which they may either be made more accurate, or liable to exceptions.

This rule we must follow that the argument of induction may not be evaded by hypotheses."[3458]

Newton wrote, in his *Opticks*,

> "As in Mathematicks, so in Natural Philosophy, the Investigation of difficult Things by the Method of Analysis, ought ever to precede the Method of Composition. This Analysis consists in making Experiments and Observations, and in drawing general Conclusions from them by Induction, and admitting of no Objections against the Conclusions, but such as are taken from Experiments, or other certain Truths. For Hypotheses are not to be regarded in experimental Philosophy. And although the arguing from Experiments and Observations by Induction be no Demonstration of general Conclusions; yet it is the best way of arguing which the Nature of Things admits of, and may be looked upon as so much the stronger, by how much the Induction is more general."

William of Occam (ca. 1285-1348) iterated "Occam's Razor",

> "Entia non sunt multiplicanda praeter necessitatem."

> "Pluralitas non est ponenda sine neccesitate."

> "Frustra fit per plura quod potest fieri per pauciora."

And from the Scholasticism of the medieval period, we have,

> "Principia non sunt cumulanda."

> "Natura horret superfluum."

Today, we simply say, "Keep it simple, stupid!"

Einstein was fond of copying William Kingdon Clifford, Karl Pearson and Henri Poincaré, when Einstein wished to play the rôle of savant. Karl Pearson wrote long before Einstein, and Einstein had read him,

> "The laws of science are, as we have seen, products of the creative imagination. They are the mental interpretations—the formulæ under which we resume wide ranges of phenomena, the results of observation on the part of ourselves or of our fellow men."[3459]

Henri Poincaré averred,

> "This principle of physical relativity can serve to define space; it provides us, so to speak, with a new measuring instrument. [***] Moreover, the new convention not only defines space, it also defines time. It teaches us what two simultaneous instants are, what two equal intervals of time are or what double an interval of time is of another. [***] Only then does the principle

> present itself as a convention, and this removes it from the attacks of experience. [The principle of physical relativity] is a convention which is suggested to us by experience, but which we freely adopt."[3460]

and,

> "We are, therefore, forced to conclude that this notion has been created entirely by the mind, but that experience has given the occasion."[3461]

Einstein was quite familiar with Poincaré's views on the rôle of experience in science and knew that Poincaré stated the principle of relativity and the relativity of simultaneity, which appear in *Science and Hypothesis*,[3462] before him. Contrary to Stanley Goldberg's assertions that Einstein's views differed from Poincaré's,[3463] Einstein stated,

> "We now come to our conceptions and judgements of space. It is essential here also to pay strict attention to the relation of experience to our concepts. It seems to me Poincaré clearly recognized the truth in the account he gave in his book, 'La Science et l'Hypothese.' Among all the changes which we can perceive in a rigid body those which can be cancelled by a voluntary motion of our body are marked by their simplicity; Poincaré calls these, changes in position."[3464]

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William Kingdon Clifford, who died in 1879, held that,

"§ 19. *On the Bending of Space*

The peculiar topic of this chapter has been position, position namely of a point P relative to a point A. This relative position led naturally to a consideration of the geometry of steps. I proceeded on the hypothesis that all position is relative, and therefore to be determined only by a stepping process. The relativity of position was a postulate deduced from the customary methods of determining position, such methods in fact always giving relative position. *Relativity of position is thus a postulate derived from experience*. The late Professor Clerk-Maxwell fully expressed the weight of this postulate in the following words:—

> All our knowledge, both of time and place, is essentially relative. When a man has acquired the habit of putting words together, without troubling himself to form the thoughts which ought to correspond to them, it is easy for him to frame an antithesis between this relative knowledge and a so-called absolute knowledge, and to point out our ignorance of the absolute position of a point as an instance of the limitation of our faculties. Any one, however, who will try to imagine the state of a mind conscious of knowing the absolute position of a point will ever after be content with our relative knowledge.[3465]

It is of such great value to ascertain how far we can be certain of the truth of our postulates in the exact sciences that I shall ask the reader to return to our conception of position albeit from a somewhat different standpoint. I shall even ask him to attempt an examination of that state of mind which Professor Clerk-Maxwell hinted at in his last sentence."[3466]

In typical fashion Einstein would later repeat these ideas without citation to Maxwell, Clifford or Poincaré,

> "In the previous paragraphs we have attempted to describe how the concepts of space, time and event can be put psychologically into relation with experiences. Considered logically, they are free creations of the human intelligence".[3467]

and,

> "The most satisfactory situation is evidently to be found in cases where the new fundamental hypotheses are suggested by the world of experience itself."[3468]

and Einstein stated together with Infeld,

> "Physical concepts are free creations of the human mind, and are not, however it may seem, uniquely determined by the external world."[3469]

Einstein stated, in 1911,

> "The principle [of relativity] is logically not necessary: it would be necessary only if it would be made such by experience. But it is made only probable by experience."[3470]

17.3 Einstein's Fallacies of *Petitio Principii*

Einstein's arguments were almost always fallacies of *Petitio Principii*. Einstein avowed that,

> "[A]ll knowledge of reality starts from experience and ends in it. [***] [E]xperience is the alpha and omega of all our knowledge of reality."[3471]

In order to mask his plagiarism, Einstein would irrationally state the experimental results others had obtained before him—the phenomena, *per se*, as his "first principles" or "postulates". He would then conduct an analysis of the problem, as if he were proposing a synthesis of the solution—he knowingly confused induction with deduction, and analysis with synthesis. Then he would slip in the hypotheses of others in the middle of his theories, as if "derivations", or "natural consequences", of the phenomena, which he had also proposed as "postulates", in order to deduce the same "postulates/phenomena" as conclusions, in an *Argumentum in Circulo*. Friedrich Paschen described Einstein as, "the theoretician who conceived the novel ideas of relativity theory from the finest analysis of empirical facts[.]"[3472] However, Einstein pretended that analysis was synthesis and induction, deduction. The ideas had already been published before Einstein copied them.

Einstein was accused of plagiarism from 1905 onward throughout his career. His friends leveled the same charges against him as those who opposed him. His closest

friends knew that he had re-derived Gerber's solution, working inductively from Gerber's solution. Gerber's work was common knowledge and the plagiarism was obvious. Einstein wrote in his private correspondence that his theory of the bending of the path of light around the Sun was an exact repetition of the Newtonian prediction made long before he copied it without an attribution—this long before the accusations of plagiarism were made against Einstein in public. And, of course, Einstein is proven to have plagiarized the generally covariant field equations of gravitation from David Hilbert by taking Hilbert's finalized equations as a point of departure for a pseudo-inductive analysis, whereby he merely asserted Hilbert's equations without an attribution, and showed that they solved many problems.

Einstein wanted it to appear that he was following Newton's fourth rule, but Einstein was really simply disguising his piracy of the hypotheses of others through illogical fallacies. In so doing, Einstein would claim the priority that he had "derived" what his predecessors were forced to "hypothesize". Einstein turned the synthetic scientific theories of his predecessors on their heads rendering them bizarre metaphysical delusions in order to steal credit for them. Einstein avowed that all scientists should abandon induction, state phenomena as premises, and use his method of divine inspiration, instead of induction. Even here Einstein plagiarized the thoughts of others.

In a work somewhat reminiscent of Duhem's *The Aim and Structure of Physical Theory*, Einstein disclosed his *modus operandi* for manipulating credit for the synthetic theories of others, when he stated in 1936,

> "There is no inductive method which could lead to the fundamental concepts of physics. Failure to understand this fact constituted the basic philosophical error of so many investigators of the nineteenth century. [***] Logical thinking is necessarily deductive; it is based upon hypothetical concepts and axioms. How can we expect to choose the latter so that we might hope for a confirmation of the consequences derived from them? The most satisfactory situation is evidently to be found in cases where the new fundamental hypotheses are suggested by the world of experience itself."[3473]

Einstein wanted people to believe that it is irrelevant that his predecessors induced the theories he later copied, because Einstein just invented them, *sua sponte*, irrationally, after he had read them, and therefore deserved credit for them,

> "Invention is not the product of logical thought, even though the final product is tied to a logical structure."[3474]

Many philosophers have stressed the importance of "experience" and an *Experimentum Crucis*, which excludes an unsuccessful theory in science. Bacon wrote about it in his *Novum Organum*.[3475] Robert Boyle explained it in his work *Some Considerations Touching the Usefulness of Experimental Natural Philosophy. Propos'd in a Familiar Discourse to a Friend, by Way of Invitation to the Study of It*.[3476] Sir John F. W. Herschel explained it in his *A Preliminary Discourse on the*

Study of Natural Philosophy.[3477] Lord Kelvin and Peter Guthrie Tait had their *Elements of Natural Philosophy*.[3478] David Hume wrote a great deal about induction and its validity.[3479] Jevons, in the Nineteenth Century, in response to Mill's admiration for induction, provided us with a more lucid and prior statement than Einstein's regarding the deductive aspect of induction, and keep in mind that Jevons was busying himself with the invention of the computer, a machine without creative reasoning powers,

> "In a certain sense all knowledge is inductive. We can only learn the laws and relations of things in nature by observing those things. But the knowledge gained from the senses is knowledge only of particular facts, and we require some process of reasoning by which we may collect out of the facts the laws obeyed by them. Experience gives us the materials of knowledge: induction digests those materials, and yields us general knowledge. When we possess such knowledge, in the form of general propositions and natural laws, we can usefully apply the reverse process of deduction to ascertain the exact information required at any moment. In its ultimate foundation, then, all knowledge is inductive—in the sense that it is derived by a certain inductive reasoning from the facts of experience. It is nevertheless true,—and this is a point to which insufficient attention has been paid, that all reasoning is founded on the principles of deduction. I call in question the existence of any method of reasoning which can be carried on without a knowledge of deductive processes. I shall endeavor to show that *induction is really the inverse process of deduction*. There is no mode of ascertaining the laws which are obeyed in certain phenomena, unless we have the power of determining what results would follow from a given law. Just as the process of division necessitates a prior knowledge of multiplication, or the integral calculus rests upon the observation and remembrance of the results of the differential calculus, so induction requires a prior knowledge of deduction. An inverse process is the undoing of the direct process. A person who enters a maze must either trust to chance to lead him out again, or he must carefully notice the road by which he entered. The facts furnished to us by experience are a maze of particular results; we might by chance observe in them the fulfilment of a law, but this is scarcely possible, unless we thoroughly learn the effects which would attach to any particular law. Accordingly, the importance of deductive reasoning is doubly supreme. Even when we gain the results of induction they would be of no use unless we could deductively apply them. But before we can gain them at all we must understand deduction, since it is the inversion of deduction which constitutes induction. Our first task in this work, then, must be to trace out fully the nature of identity in all its forms of occurrence. Having given any series of propositions we must be prepared to develop deductively the whole meaning embodied in them, and the whole of the consequences which flow from them."[3480]

Jevons asserts that, "An inverse process is the undoing of the direct process. [***] The facts furnished to us by experience are a maze of particular results; we might by chance observe in them the fulfilment of a law, but this is scarcely possible, unless we thoroughly learn the effects which would attach to any particular law."

The particular results cited in the 1905 paper on the "principle of relativity" are the failure of experiments to detect the æther wind on Earth, viz. the Michelson experiments, and the symmetry of phenomena in alleged violation of Maxwell's equations. In other words, the alleged particular results are the phenomenon of invariant light speed, and the phenomena of the identity of inertial systems.

These phenomena are automatically taken to be general in science, because,

> "from a series of similar events we may infer the recurrence of like events under identical conditions [***] all science implies generalization."[3481]

There is an ancient occult belief, which asserts, "as above, so below", meaning that the laws of nature are universal and uniform, and that the microscopic world mirrors the macroscopic world. The *Hekaloth* in the *Zohar* states,

> "SAID Rabbi Simeon: It is a tradition from the most ancient times that when the Holy One created the world he engraved and impressed on it in letters of brilliant light, the law by which it is sustained and governed. Above, below and on every side of it, it is engraved on every atom that man, by research and discovery, might become wise and conform himself to it as the rule of his life. The world below is, in shape and form, the reflection and copy of the world on high, so that there may be no discontinuity between them, but reciprocally act and react upon each other. This being so, we purpose to show that the same principle or law that operated in the creation of the physical world, operated also in the origin of man, and that both alike are manifestations of one and the same law. That this great fact may be more fully perceived, let us first consider the esoteric meaning of the words, 'But they, like Adam, have transgressed the covenant, there have they dealt treacherously against me' (Hos. vi. 7)."[3482]

In the tradition of Plato's call for a search for the one among the many, the identities of Nature, Jevons asserted,

> "The general principle of inference, that what we know of one case must be true of similar cases, so far as they are similar, prevents our asserting anything which we cannot apply time after time under the same circumstances."[3483]

Ernst Mach wrote,

> "Very clearly, Fechner [*Footnote: Berichte der sächs. Ges. zu Leipzig*, Vol. II, 1850.] formulated the law of causality: 'Everywhere and at all times, if the

> same circumstances occur again, the same consequence occurs again; if the same circumstances do not occur again, the same consequence does not.' By this means, as Fechner remarked further on, 'a relation is set up between the things which happen in all parts of space and at all times.'"[3484]

The so-called "Principle of Relativity" is just this "law of causality", this primary generalization upon which all science is founded. However, it has no meaning in the special theory of relativity, unless and until the "same circumstances" are defined in an experimentally meaningful way.[3485] This is why the Einsteins required *two* postulates. One to establish *a resting system* of æther in which the velocity of light is axiomatically constant and a vector, and a second postulate to assert that the speed of light must also be constant in *a second, moving, system*—though this is a *non sequitur*. The generalization is already present in the *resting system* and does not logically lead to the conclusion that the speed of light must also be the same constant in a *moving system.* That broader generalization does not result from logic or from the principle of relativity, but instead from a too hasty generalization of experience based on the false premise that the Michelson experiments contain two reference systems in relative motion to each other in which light speed is measured to be invariant, when it has not been proven that they do. That interpretation of the Michelson experiment presumes an æther at absolute rest in which light speed is axiomatically constant. Robert A. Millikan wrote in 1949,

> "The special theory of relativity may be looked upon as starting essentially in a generalization from Michelson's experiment. And here is where Einstein's characteristic boldness of approach came in, for the distinguishing feature of modern scientific thought lies in the fact that it begins by discarding all *a priori* conceptions about the nature of reality—or about the ultimate nature of the universe—such as had characterized practically all Greek philosophy and all medieval thinking as well, and takes instead, as its starting point, well-authenticated, carefully tested *experimental* facts, no matter whether these facts seem at the moment to be reasonable or not. In a word, modern science is essentially empirical, and no one has done more to make it so than the theoretical physicist, Albert Einstein. [***] Then Einstein called out to us all, 'Let us merely accept this as an established experimental fact and from there proceed to work out its inevitable consequences[.]'"[3486]

Again, the Einsteins, Lorentz and Poincaré were irrational to so generalize the Michelson results in the way that they did, and even if it had been rational to generalize the empirical result in the way that they did those empirical results would not have been *a priori* principles, but *a posteriori* problems. The only revolution that took place was the Einsteins' and their followers misuse of terms.

Robertson points out (though, as Millikan made clear, Robertson mistakenly asserts that Einstein deduced what he clearly induced, in that the Einsteins "starting point" was empirical not *a priori*; and the operational interpretation asserted by Poincaré and parroted by the Einsteins without an attribution is dynamic not

kinematic, in that it depends upon dynamic light signals for measurement, dynamic clocks, dynamic measuring rods, dynamic observers in a dynamic inertial reference system, etc.),

> "The kinematical background for this theory, an operational interpretation of the Lorentz transformation, was obtained deductively by Einstein from a general postulate of concerning the relativity of motion and a more specific postulate concerning the velocity of light. At the time this work was done an inductive approach could not have led unambiguously to the theory proposed, for the principal relevant observations of Michelson and Morley [*Footnote:* A. A. Michelson and E. H. Morley, Am. J. Sci. **34**, 333 (1887).] (1886), could be accounted for in other, although less appealing, ways."[3487]

Michelson would likely have said "less appalling!" The Lorentz transformation was obtained inductively, not deductively, from the empirical results of Michelson's experiments, which results were not postulates, but rather they were physical observations.

One must first establish the definition of an "inertial system", the means of finding it in Nature and of measuring it. This "principle" of relativity thereby becomes a corollary to these *prior* definitions, one that states that light speed is invariant and the laws of physics are covariant in these dynamic "inertial systems". The "principle of relativity" is in no sense a postulate in the theory, for it is deducible from the light postulate, which is deducible from the hypotheses of the Lorentz transformations and Lange's theoretical "inertial systems". Therefore, neither of the Einsteins' "postulates" is in fact a postulate, because both are deducible from more fundamental terms and both are summations of supposed physical facts.

It is irrational to assert the phenomena as causes of the same phenomena. There is no inverse process in "postulating" that light speed is invariant, and that under like conditions like results ensue; in order to "deduce" that those assumptions that light speed is invariant and that under like conditions like results ensue, for such is a redundancy, not a deduction. In a truly scientific approach to the problem, one must induce the postulates which then deduce the phenomenon of invariant light speed and deduce the like conditions and like results, from these same postulates of length contraction, time dilatation, relative simultaneity, inertial motion, etc. Jevons is not telling us to abandon induction, but to realize that it has an eye toward deduction, *i. e*. that it must be rational, and that our minds draw from experience. In Einstein's case, the experience of reading the writings of his predecessors and then restating them in irrational terms, without citation to the prior works.

Jevons,

> "It cannot be said that the Inductive process is of greater importance than the Deductive process already considered, because the latter process is absolutely essential to the existence of the former. Each is the compliment and counterpart of the other. The principles of thought and existence which underlie them are at bottom the same, just as subtraction of numbers

> necessarily rests upon the same principles as addition [both deduction and induction must be rational]. Induction is, in fact, the inverse operation of deduction [Jevons contradicts himself again with his wavering analogies. Both induction and deduction rely upon the same principles of rationality. They are really convertible. Induction is not, in practice, the inverse process undoing prior direct deduction. Induction is a method in science of discovering more general truths from particular ones, which, if the more general truths were already known, it would not be necessary to induce them. Of course, when presenting a theory *after it has been created*, it is not necessary to demonstrate the induction, but simply the deduction to phenomena from first principles.], and cannot be conceived to exist without the corresponding operation, so that the question of relative importance cannot arise [Jevons' conclusion is a *non sequitur*. Induction is of greater importance, because it delves into the unknown, developing rational inferences, *a posteriori*. Deduction truly is the inverse process undoing prior direct induction, and should not proceed *a priori*, without prior induction. However, should deduction predict as yet unobserved, but observable, phenomena, it then becomes quite significant, though yet relying on the induction which preceded it.]. Who thinks of asking whether addition or subtraction is the more important process in arithmetic? But at the same time much difference in difficulty may exist between a direct and inverse operation; the integral calculus, for instance, is infinitely more difficult than the differential calculus of which it is the inverse. Similarly, it must be allowed that inductive investigations are of a far higher degree of difficulty and complexity than any questions of deduction".[3488]

Einstein lacked the insight and reasoning skills needed to induce hypotheses, so he condemned the practice. He was forced, due to his inability to cope with the "higher degree of difficulty and complexity" needed to induce hypotheses, to copy hypotheses from others, but sought to disguise the fact. Einstein insisted that empirical results be argued as first principles in order to *deduce* the same phenomena as results, which are argued as first principles, in a fallacy of *Petitio Principii*. This is the method he used in his "theories" in order to assume credit for the induced hypotheses of others, which he then slipped into the theories somewhere in the middle, without rational justification, calling them "derivations".

Einstein wrote in the *London Times* of 28 November 1919, on page 13,

> "There are several kinds of theory in Physics. Most of them are constructive. These attempt to build a picture of complex phenomena out of some relatively simple proposition. The kinetic theory of gases, for instance, attempts to refer to molecular movement the mechanical, thermal, and diffusional properties of gases. When we say that we understand a group of natural phenomena, we mean that we have found a constructive theory which embraces them.

THEORIES OF PRINCIPLE

> But in addition to this most weighty group of theories, there is another group consisting of what I call theories of principle. These employ the analytic, not the synthetic method. Their starting-point and foundation are not hypothetical constituents, but empirically observed general properties of phenomena, principles from which mathematical formulæ are deduced of such a kind that they apply to every case which presents itself."

Note that while Einstein correctly stated that his arguments were analytic, not synthetic, Einstein confused *induction*, working from specific known facts to general principles and hypotheses which account for all facts, with *deduction*, working from the general principles and hypotheses to account for all known specifics and perhaps to predict others. Einstein calls "induction", "deduction". Note that Einstein acknowledges that it is the plagiarized mathematical *hypotheses* he employed, which *generally* account for *all specific cases* and it is these fundamental hypotheses which build the synthetic and deductive theory, as opposed to the inductive analysis he deliberately confuses with deduction. Einstein continued,

> "Thermodynamics, for instance, starting from the fact that perpetual motion never occurs in ordinary experience, attempts to deduce from this, by analytical process, a theory which will apply in every case. The merit of constructive theories is their comprehensiveness, adaptability, and clarity, that of the theories of principle, their logical perfection, and the security of their foundation. The theory of relativity is a theory of principle."

Note that Einstein admits that his theories analytically (not synthetically) argue from specific known facts to the general hypotheses, which fundamental hypotheses then deduce these same specific facts, which were fallaciously argued as if first principles to in order begin the analysis in the first place. Einstein styles fallacies of *Petitio Principii* as "logical perfection" and admits that the same dreaded *ad hoc* hypotheses are found in his theory as in Lorentz' theory, though Lorentz follows proper scientific procedure in constructing a synthetic theory which deduces the observed phenomena from the *ad hoc* hypotheses, while Einstein merely analyzes Lorentz' theory after the fact to arrive at Lorentz' same *ad hoc* hypotheses, and then Einstein restates Lorentz' synthetic theory proceeding from the same *ad hoc* hypotheses to deduce the phenomena in a merry-go-round whirl in which Einstein pretends to have eliminated hypotheses which he has not eliminated. All Einstein has done is provide an analysis to show how Lorentz arrived at his *ad hoc* hypotheses, and then Einstein repeats Lorentz' theory and uses these *ad hoc* to deduce the phenomena. Mileva and Albert were expositors at best and not rational theoreticians.

Einstein professed in his article "Induction and Deduction in Physics" in the *Berliner Tageblatt* of 25 December 1919,

> "So, while the researcher always starts out from facts, whose mutual connections are his aim, he does not find his system of ideas in a methodical, inductive way; rather, he adapts to the facts by intuitive selection among the

conceivable theories that are based upon axioms."[3489]

But Einstein's axioms are those facts and his method is, therefore, *inductive*, not deductive, *analytical*, not synthetic. Since Einstein was not clever at induction, he simply chose among extant synthetic theories and turned them on their heads in order to manipulate credit for them. The only way Einstein's method can be successful as an approach to formulating a theory is to plagiarize the inductive ideas of others, so it does not appear likely that Einstein could have created much, if anything, on his own. Since he was clever at theft, Einstein would often simply repeat the known facts as if "axioms", then induce the plagiarized hypotheses of his predecessors from these well known facts, then deduce the known facts from these hypotheses. Is this guile a form of genius? Perhaps, but it seems Einstein always had someone behind the scenes, or as coauthor, doing the work for him. First it was Mileva Marić, then Jacob Laub, then Marcel Grossmann, then Erwin Freundlich, then Walther Mayer, etc.

It was necessary for Einstein to discourage scientists from using proper method, lest they discover the irrationality of his unoriginal works. In so doing, he converted the scientific method into a method of redundancy, whereby an empirical fact is deduced from itself. Carmichael, then later Moritz Schlick, took up the challenge of untangling Einstein's fallacies and were always forced to confront Einstein's confusion of induction with deduction.

The Michelson experimental result of invariant light speed was irrationally taken as a postulate to "derive" (in fact, induce) the Lorentz Transformation *hypotheses*, which general *a priori* hypotheses then deduce *all* velocity comparisons, not just invariant light speed. The Einsteins irrationally argued that invariant light speed deduces invariant light speed, in order to disguise the Lorentz Transformation *hypotheses* as "derivations", which general hypotheses are, in truth, induced *a posteriori*, not deduced *a priori*, from the specific speed of invariant light speed. Albert Einstein was well aware of the confusion he had caused, and he wrote to Paul Ehrenfest, who was having a difficult time explaining the theory of relativity,

> "It simply comes from your wanting to base the innovation of 1905 on *epistemological* reasons (nonexistence of the ether at rest) instead of on *empirical* ones (equivalence of all inertial systems against light). The epistemological requirement starts only in 1907."[3490]

Franz Kleinschrod wrote in 1920,

> "Aber auch das RP [Relativitätsprinzip] erscheint uns dadurch in einer neuen Beleuchtung, nicht als ein allgemeingiltiges Naturgesetz, wie Einstein und seine Anhänger glauben, sondern als die erkenntnistheoretische induktive Formel der Erforschung der Naturgesetze der leblosen Natur in Raum und Zeit, im Gegensatz zur Erforschung der Naturgesetze der lebendigen Natur in Zeit und Raum.—[***] In dem Additionstheorem der Geschwidigkeit rechnet er die

> Selbstbewegung des im Eisenbahnzug gehenden Mannes zur mechanischen Geschwindigkeit des Eisenbahnzuges, und setzt dann die mechanische Lichtausbreitung, relativ zum bewegten Eisenbahnzug betrachtet, wieder an die Stelle der Selbstbewegung des Mannes, und kommt dadurch zu zwei sich widersprechenden Formeln und zur Annahme der scheinbaren Unvereinbarkeit des Ausbreitungsgesetzes des Lichtes mit dem RP. (Einstein, l. c. Seite 10-13.[*Über die spezielle und die allgemeine Relativitätstheorie*]) Eine *petitio principii in optima forma*."[3491]

Herbert Ives published a paper in 1952, which argued that Einstein employed the same irrational method of *Petitio Principii* in "deriving" the mass-energy equivalence. This evinces a repeated pattern of Einstein's irrationality, on top of his pattern of unoriginality, each signifying one goal—plagiarism,

> "In 1905 Einstein published a paper with the interrogatory title 'Does the Inertia of a Body Depend upon its Energy Content?', [A. Einstein, Ann. Physik **18**, 639 (1905).] a question already answered in the affirmative by Hasenöhrl. This paper, which has been widely cited as being the first proof of the 'inertia of energy as such,' describes an emission process by two sets of observations, in different units, the resulting equations being then subtracted from each other. It should be obvious *a priori* that the only proper result of such a procedure is to give 0 = 0, that is, no information about the process can be so obtained. However the fallacy of Einstein's argument not having been heretofore explicitly pointed out, the following analysis is presented: [***] What Einstein did by setting down these equations (as 'clear') was to *introduce* the relation
>
> $$L / (m - m') c^2 = 1 .$$
>
> *Now this is the very relation the derivation was supposed to yield*. It emerges from Einstein's manipulation of observations by two observers because it has been slipped in by the assumption which Planck questioned. The relation $E = m_M c^2$ was not derived by Einstein."[3492]

Again in the "general theory of relativity" we find Einstein claiming priority based on his quasi-positivistic, and irrational, metaphysical analysis of others' earlier synthetic scientific theories, while acknowledging that others had enunciated the scientific theories before him. Here again, as with the special theory, all the relevant theories make the same *scientific* predictions, and differ only ontologically. Ironically, though not coincidentally, the ontology of the general theory returns to the æther the special theory had allegedly dismissed.

Einstein avowed, with respect to the equivalence of inertial and gravitational mass, which Newton and Planck had defined and generalized into laws, and which Galileo,[3493] Huyghens,[3494] Newton,[3495] Bessel,[3496] Stas,[3497] Eötvös,[3498] Kreichgauer,[3499]

Landolt,[3500] Heydweiller[3501] and Hecker had experimentally demonstrated before him,[3502]

> "I was in the highest degree amazed at its existence and guessed that in it must lie the key to a deeper understanding of inertia and gravitation. I had no serious doubts about its strict validity even without knowing the results of the admirable experiments of Eötvös, which—if my memory is right—I only came to know later."[3503]

This experimental fact, generalized into a universal law by Planck, became Einstein's sole first principle for the general theory of relativity,

> "This opinion must be based upon the fact that we both do not denote the same thing as 'the principle of equivalence'; because in my opinion my theory rests exclusively upon this principle."[3504]

Einstein stated in 1913,

> "[T]he equality (proportionality) of the gravitational and inertial mass has been proved with great accuracy in an investigation of great importance to us by Eötvös [***] *Eötvös's exact experiment concerning the equality of inertial and gravitational mass supports the view that such a criterion does not exist*. We see that in this regard Eötvös's experiment plays a role similar to that of the Michelson experiment with respect to the question of whether *uniform* motion can be detected physically."[3505]

Einstein gave a lecture at King's College in June of 1921. *The London Times* reported on 14 June 1921, on page 8,

> "PROFESSOR EINSTEIN said it gave him special pleasure to lecture in the capital of that country from which the most important and fundamental ideas of theoretical physics had spread throughout the world—the theories of motion and gravitation of Newton and the proposition of the electro-magnetic field on which Faraday and Maxwell built up the theories of modern physics. It might well be said that the theory of relativity formed the finishing stone of the elaborate edifice of the ideas of Maxwell and Lorentz by endeavouring to apply physics of 'fields' to all physical phenomena, including the phenomena of gravitation.
>
> Professor Einstein pointed out that the theory of relativity was not of any speculative origin, but had its origin solely in the endeavour to adapt the theory of physics to facts observed. It must not be considered as an arbitrary act, but rather as the result of the observations of facts, that the conceptions of space, time, and motion, hitherto held as fundamental, had now been abandoned.
>
> Two main factors, continued Professor Einstein, have led modern science

to regard time as a relative conception in so far as each inertial system had to be coupled with its own peculiar time: the law of constancy of the velocity of light in vacuo, sanctioned by the development of the sciences of electro-dynamics and optics, and in connexion therewith the equivalence of all inertial systems (special principle of relativity) as clearly shown by Michelson's famous experiment. In developing this idea it appeared that hitherto the interconnexion between direct events on the one hand, and the space coordinates and time on the other, had not been thought out with the necessary accuracy.

The theory of relativity endeavours to define more concisely the relationship between general scientific conceptions and facts experienced. In the realm of the special theory of relativity the space coordinates and time are still of an absolute nature in so far as they appear to be measurable by rigid bodies, rods, and by clocks. They are, however, relative in so far as they are dependent upon the motion peculiar to the inertial system that happens to have been chosen. According to the special theory of relativity the four-dimensional *continuum*, formed by the amalgamation of time and space, retains that absolute character which, according to the previous theories, was attributed to space as well as to time, each individually. The interpretation of the spatial coordinates and of time as the result of measurements then leads to the following conclusions: motion (relative to the system of coordinates) influences the shape of bodies and the working of clocks; energy and inertial mass are equivalent.

GRAVITATIONAL FIELDS.

The general theory of relativity owes its origin, continued Professor Einstein, primarily to the experimental fact of the numerical equivalence of the inertial and gravitational mass of a body; a fundamental fact for which the classical science of mechanics offered no interpretation. Such an interpretation is arrived at by extending the application of the principle of relativity to systems of coordinates accelerated with reference to one another. The introduction of systems of co-ordinates accelerated with reference to inertial systems causes the appearance of gravitational fields relative to the systems of coordinates. That is how the general theory of relativity, based on the equality of inertia and gravity, offers a theory of the gravitational field.

Now that systems of co-ordinates, accelerated with reference to one another, have been introduced as equivalent systems of co-ordinates, based on the identity of inertia and gravity, it follows that the laws governing the position of rigid bodies in the presence of gravitational fields do not conform to the rules of Euclidean geometry. The results as regards the working of clocks is analogous. These conclusions lead to the necessity of once more generalizing the theories of space and time, because it is no longer possible directly to interpret the co-ordinates of space and time by measurements with measuring rods and clocks. This generalization of metrics, which in the sphere of pure mathematics dates back to Gauss and Riemann, is based largely on the fact that the metrics of the special theory of relativity may be

considered to apply in certain cases also to the general theory of relativity. In consequence, the co-ordinate system of space and time is no longer a reality in itself. Only by connecting the space and time co-ordinates with those mathematical figures which define the gravitational field can the objects which may be measured by measuring rods and by clocks be determined.

The idea of the general theory of relativity has yet another basis. As Ernst Mach has already emphasized, the Newtonian theory of motion is unsatisfactory in the following point:—if motion is regarded not from the casual but from the purely description point of view it will be found that there exists a relative motion of bodies with reference to each other. But the conception of relative motion does not of itself suffice to formulate the factor of acceleration to be found in Newton's equations of motion. Newton was forced to introduce a fictitious physical space with reference to which an acceleration was supposed to exist. This conception of absolute space introduced by Newton *ad hoc* is unsatisfactory, although it is logically correct. Mach, therefore, endeavoured so to alter the mechanical equations that the inertia of bodies is attributed to their relative motion with reference not to absolute space but with reference to the sum total of all other measurable bodies. Mach was bound to fail considering the state of knowledge at his time. But it is quite reasonable to put the problem as he did. In view of the general theory of relativity this line of thought comes more and more to the fore, because according to the theory of relativity the physical properties of space are influenced by matter.

Professor Einstein said he was of the opinion that the general theory of relativity could only solve this problem satisfactorily by regarding the universe as spatially finite and closed. The mathematical results of the theory of relativity forced scientists to this view, if they assumed that the average density of matter within the universe was of finite, if ever so small a value."

On 13 June 1921, Einstein had stated,

"Turning to the subject of the theory of relativity, I want to emphasize that this theory has no speculative origin, it rather owes its discovery only to the desire to adapt theoretical physics to observable facts as closely as possible. [***] The law of the constancy of the speed of light, corroborated through the development of electrodynamics and optics, combined with Michelson's famous experiment that decisively demonstrated the equality of all inertial systems (principle of special relativity), relativized the concept of time, where every inertial system had to be given its own special time. [***] The theory of general relativity owes its origin primarily to the experimental fact of the numerical equality of inertial and gravitational mass of a body, a fundamental fact for which classical mechanics has given no interpretation."[3506]

Einstein irrationally argued known empirical results as first principles to "prove" phenomena by themselves, slipping in the "derivations" (induced hypotheses) in the middle, *Petitio Principii*. Of course, the principle of equivalence cannot be a fundamental *a priori* simple principle, simply because it is complex in its structure, containing more than one element, and it is deducible from more fundamental principles. It is a deduction, not a first principle, and it is irrationally the conclusion of the general theory of relativity, as well as its "premise"; just as the Michelson result of alleged invariant light speed is an alleged empirical fact, not an *a priori* principle, and signifies both the "premise" and the conclusion of the special theory of relativity.

Paul Gerber established an axiomatic scientific theory which predicted the perihelion of Mercury in 1898, a feat Einstein was never able to accomplish even after having the benefit of Gerber's equations. David Hilbert deduced the field equations of general relativity in an axiomatic synthesis, a feat Einstein was never able to accomplish even after having the benefit of Hilbert's equations.[3507]

Einstein published a childish, sophistic, arrogant and evasive polemic against his critics in 1918 and elected to completely hide from the accusations of plagiarism that Ernst Gehrcke had leveled against him for years, and instead relied upon self-contradictory Metaphysics to obfuscate the issues.[3508] In this polemic, Einstein copied Galileo's satiric style of speaking for his critics in a mock dialogue which bitterly degraded them, without acknowledging that he was copying Galileo.[3509] After Ernst Gehrcke had publicly confronted Einstein in the Berlin Philharmonic in 1920 with the fact that Gerber had published Gerber's formula first, Einstein again sought priority, based on his absurd Metaphysics,[3510] not on the science, in a frantic and arrogant hand-waving attack,

> ". . .Gerber, who has given the correct formula for the perihelion motion of Mercury before I did. The experts are not only in agreement that Gerber's derivation is wrong through and through, but the formula cannot be obtained as a consequence of the main assumption made by Gerber. Mr. Gerber's work is therefore completely useless, an unsuccessful and erroneous theoretical attempt. I maintain that the theory of general relativity has provided the first real explanation of the perihelion motion of mercury. I have not mentioned the work by Gerber originally, because I did not know it when I wrote my work on the perihelion motion of Mercury; even if I had been aware of it, I would not have had any reason to mention it."[3511]

Einstein's standards for awarding priority came back to haunt him. The 1905 paper on relativity, and the 1905 paper on the inertia of energy, were both fallacies of *Petitio Principii*,[3512] and the paper on relativity contains numerous acknowledged errors. Einstein's 1915 paper on the motion of the planet Mercury is a flawed and obsolete derivation. His theory prior to plagiarizing David Hilbert's generally covariant field equations of gravitation is untenable. There is an ongoing controversy as to whether or not Gerber's derivation is justifiable, but the charge of plagiarism is the accusation that Einstein took over Gerber's solution without acknowledgment,

and used it *inductively* to develop a different "derivation" of the identical solution.

As Hubert Goenner has noted,[3513] Gehrcke had pointed out that the eclipse observations did not establish the general theory of relativity as sound, and Einstein launched a condescending and accusatorial attack against Gehrcke on this point, though at other times Einstein himself admitted that the eclipse observations were not conclusive. It is widely known today that Gehrcke was absolutely correct. The eclipse observations which propelled Einstein to international fame in 1919 were a sham.

The theory of relativity is internally inconsistent in its ontology. Einstein stated,

> "With *Lorentz* [the ether] was rigid and it embodied the 'resting' coordinate system, a preferred state of motion in the world. According to the special theory of relativity there was no longer any preferred state of motion; this meant denial of the ether in the sense of the previous theories. For if an ether existed, it would have to have at every space-time point a definite state of motion, which would have to play a role in optics. But such a preferred state of motion does not exist, as shown by the special theory of relativity and therefore there also does not exist any ether in the old sense. The general theory of relativity, as well, knows of no preferred state of motion of a point, which one could possibly interpret as the velocity of an ether. But while according to the special theory of relativity, a portion of space without matter and without an electromagnetic field appears as simply empty, i.e., characterized by no physical quantities whatever, according to the general theory of relativity space that is empty in this sense also has physical qualities, which are characterized mathematically by the components of the gravitational potential, which determine the metric behavior of this portion of space, as well as its gravitational field. One can very well conceive this state of affairs by speaking of an ether, whose state varies continuously from point to point But one must be on one's guard not to attribute to this 'ether' matter-like properties (e.g., a definite velocity at every place)."[3514]

The special theory of relativity requires that masses in inertial motion relative to each other map, by their mutual motion, Galileo's equal spaces in equal times—spaces and times congruent to distance and times mapped by rigid rods and clocks. According to the general theory of relativity, this is a condition which cannot be met.

The theory of relativity is self-contradictory in many other ways. The theory of relativity depends upon "resting clocks". A clock must move in order to be a clock, and, therefore, cannot be a "resting clock". The theory of relativity depends upon "resting rigid rods". A "rod" is a mental abstraction of moving particles. No rod is rigid or resting. The theory of relativity pretends to be "kinematic", but requires that "inertial systems" be those in which Newton's laws attain their simplest form. Newton's laws are dynamic, not kinematic. In order to define an "inertial motion", *masses* must be *dynamically* set into motion—there is no kinematics in the theory of relativity, lest it be Newtonian absolutism with absolute space and absolute time as

a substratum and uniform translations of absolute space as a kinematic *absolutist* definition.[3515] While the general theory compels an æther, the special theory is allegedly incompatible with the concept. The theory requires that light signal clock synchronization procedures be performed, which cannot be performed. The theory irrationally requires that *dynamic* measurement procedures, which do not, and cannot take place, cause rigid rods, which do not exist, to "kinematically" contract, and relatively resting clocks, which cannot relatively rest, to "kinematically" desynchronize and dilate. In order for light speed to be a *measured* unit, length and time must first be *measured*, because light speed is a derived unit; but, in the theory, length and time cannot be *measured* until light speed is known—totally unworkable method, which precludes *measurement*.[3516]

Just as the pseudorelativists pretend that the dynamics of moving and accelerated masses signifies "relativistic kinematics", they confound unilateral dynamic effects, with pretend "reciprocal" "kinematic" effects. There is yet to be an experiment which tests, let alone establishes, *reciprocal or kinematic* length contraction, *reciprocal or kinematic* time dilatation, or *reciprocal or kinematic* relative simultaneity.

17.4 Conclusion

Historians all too often look to the conclusions of previous historians, rather than to the *complete* historic record, itself.[3517] Historians record their impressions and not history itself. They are politically motivated. Later historians all too often record the works of earlier historians, and the truth is lost in the process.

Bias is a double-edged sword, which cuts both ways. Many who are aware that Einstein was not an original thinker wrongfully attribute the special theory of relativity to Hendrik Antoon Lorentz, often believing that Minkowski first set in cement the notion of the uniform translation of space and the concept of four-dimensional being. Many worship Hendrik Antoon as a hero, just as many worship Einstein as a hero. However, Lorentz and Minkowski deserve little more credit than does Albert Einstein.

The real "credit" for the relativistic notions of space and time substantially belongs to Roger Joseph Boscovich, Ludwig Lange, Woldemar Voigt, George Francis FitzGerald, Heinrich Hertz, Joseph Larmor, Henri Poincaré, Emil Cohn[3518] and Jakob Laub, who are, with the possible exceptions of FitzGerald and Poincaré, almost never cited in the popular literature as contributors to the theory. And, of course, the theory would not exist without James Clerk Maxwell.

The so-called "Lorentz Transformation" is by no means proprietary to Lorentz. The much touted modern "Principle of Relativity"—the belief that an æther in absolute space is, in principle, undetectable—was nothing more than one very common interpretation of the negative result of Michelson's experiment, though not the conclusion Michelson, himself, reached. He believed his experiment discredited the then standard explanation of aberration via a resting æther. Einstein said that Michelson regretted that his experiment began the "monster" of the special theory of relativity.[3519]

Michelson turned to Stokes' theory of aberration[3520] and a "dragged æther" to explain the negative result of his experiments.[3521] Michelson was disciplined enough to realize that $c' = c$ amongst the two pencils of light passing through his interferometer on Earth was a particular case of velocity comparison in a unique system, not an inductively arrived at, synthetic general principle.

We observe a phenomenon and try to come up with rational possibilities as to how it occurs. This is an analysis of the problem which induces our first principles, which are better the more general and fundamental they are. This methodical analytical process is not a theory, but is an inductive analysis. The synthesis comes in forming the theory and arguing from the principles, which were arrived at through induction, deductively to the known phenomenon, such as the supposed phenomenon of the supposed observation that light speed is invariant.

If the Einsteins' 1905 relativity paper, as it is popularly interpreted to be a deduction of the Lorentz Transformation, truly were a synthetic theory, we would have to assume that it was the Lorentz Transformation which was observed, and not invariant light speed. We would have to assume that observed Lorentz Transformations led us through analysis to the unobserved, but induced, "principle of the invariance of light speed."

That is not what occurred. We supposedly observed invariant light speed, and given that science assumes Nature is predictable and universal, and since no experiment was taken to contradict the supposed observation of invariant light speed, this observed *phenomenon* was analyzed; and the analysis induced, as one approach, the *ad hoc* Lorentz Transformation, the elements of which are the true postulates of the synthetic Poincaré-Lorentz theory of relativity. The Einsteins simply disguised this synthetic theory as a quasi-positivistic analysis, using Poincaré's dynamics and nomenclature, which they called "kinematics".

In Einstein's famous lecture of 1922 in Japan,[3522] he recounts that he derived inspiration from "Michelson's experiment". On 21 September 1909, Einstein stated,

> "Michelson's experiment suggested the assumption that, relative to a coordinate system moving along with the earth, and, more generally, relative to any system in nonaccelerated motion, all phenomena proceed according to exactly identical laws. Henceforth, we will call this assumption in brief 'the principle of relativity.'"[3523]

R. S. Shankland recorded a letter Einstein had sent him in 1952, in which Einstein stated,

> "I learned of [the Michelson-Morley experiment] through H. A. Lorentz' decisive investigation of the electrodynamics of moving bodies, with which I was acquainted before developing the special theory of relativity."[3524]

However, on other occasions, Einstein denied having known of the experiment before the 1905 paper appeared.[3525]

He may have had grounds to lie. Einstein rarely cited papers which appeared

before the 1905 paper, and which presented the image of "relativity", as did Michelson's papers, *The Relative Motion of the Earth and the Luminiferous Ether*, and, *On the Relative Motion of the Earth and the Luminiferous Ether*. Einstein pretended that he invented the concept of relative motion, and by this I mean $c' = c$. But that, on its own, is a trivial matter.

Significantly, admitting to a knowledge of Michelson's work was an admission that Mileva and Albert based their supposedly deductive theory, which tacitly and incorrectly takes $c' = c$ as a general principle, on a particular case, the Michelson result, thereby admitting that their theory was in truth an inductive argument for Lorentz' deductive synthesis of 1904, and that $c' = c$ was a particular case of a given velocity comparison in a given static system, not a general principle; the actually held general principles being the hypotheses of the Lorentz Transformation, which deductively result in the particular case of Michelson's $c' = c$, whether there is relative motion in Michelson's experiments, or not. Furthermore, there is a tenuous connection between Michelson's experiments and the special theory of relativity, for pointing to said experiments as evidence in support of the theory admits of absolute space, for without absolute space, and given the supposedly superfluous nature of the æther, there is no relative motion in the Michelson experiments. Where is the "resting system" in the experiment? Where is the "moving system" in the experiment?

The Michelson-Morley experiment only signifies relative motion in Lorentz' theory, despite the fact that it has long been cited as supporting the Einsteins' theory.[3526] Of course, Albert's expressed policy was, "If the facts don't fit the theory, change the facts." Einstein told R. S. Shankland not to perform an experiment which might falsify the special theory of relativity,

> "[Einstein] again said that more experiments were not necessary, and results such as Synge might find would be 'irrelevant.' [Einstein] told me not to do any experiments of this kind."[3527]

After more than one hundred years, noted experts in the field are still in a quandary to establish any relative motion in the Michelson experiments, such as would place the same events in two systems in relative motion to each other *in the same experiment* in order to justify Poincaré's notion of relative simultaneity. Others take a different approach. The book *Spacetime Physics*,[3528] by Edwin F. Taylor and John Archibald Wheeler, which is perhaps the most respected introductory text to the field, argues for at least two separate experiments, but such is not a test of the special theory of relativity, *per se*, but is, in fact, more likely to detect or disprove any relative motion between the æther and the Earth.

From *Spacetime Physics:*

> "The Michelson-Morley experiment and its modern improvements tell us that in every inertial frame the round-trip speed of light is the same in every direction—the speed of light is *isotropic* in both laboratory and rocket frames

as predicted by the principle of relativity."

How can such a limited set of experiments, which can be explained in so many other ways with greater logical economy, tell us what happens at all times in all places in the universe? This is clearly "too hasty a generalization". Where is the "laboratory frame" and the "rocket frame" in the Michelson-Morley experiment? Unless one supposes a resting æther, as did Lorentz; or an absolute space filled with a resting æther, as did Mileva and Albert (they called the light medium "superfluous" while using it as the basis of their theory); there is only the effectively static frame of the laboratory.

From *Spacetime Physics:*

> "(1) The round-trip speed of light measured on earth is the same in every direction—the speed of light is isotropic. (2) The speed of light is isotropic not only when Earth moves in one direction around Sun in, say, January (call Earth with this motion the 'laboratory frame'), but also when Earth moves in the opposite direction around Sun six months later, in July (call Earth with this motion the 'rocket frame')."

Are we to assume that we have the "resting system" in one experiment, and the "moving frame" in an entirely different experiment? Where is the "resting frame" and where is the "moving frame" in any given experiment, such that there is a transformation of coordinates, which would compel or give evidence of the Lorentz Transformation and relative simultaneity? Where are the observers positioning events, the clocks, and the relatively moving rods? For that matter, where are the inertial reference systems?

From *Spacetime Physics:*

> "(3) The generalization of this result to any pair of inertial frames in relative motion. . ."

How are the lab and rocket frames, which are not inertial frames if they rest on the Earth, in relative motion, when they are the same laboratory at two distinct periods of time? The "frame" is composed of the laboratory equipment, not translations of absolute space, through absolute time. Not only is their argument a fallacy of "too hasty a generalization"; the premises, themselves, are false. There is no "pair of inertial frames in relative motion" in the experiment, from a relativistic perspective, which perspective denies the æther. A train leaving Chicago is not moving relative to the same train arriving in Denver.

From *Spacetime Physics:*

> ". . .in relative motion is contained in the statement, The round-trip speed of light is isotropic both in the laboratory frame and in the rocket frame."

Which are the same laboratory with two names at two different times.

From *Spacetime Physics:*

> "An experiment to test the assumption of the equality of the round-trip speed of light in two inertial frames in relative motion was conducted in 1932 by Roy J. Kennedy and Edward M. Thordike."

This experiment, likewise, contains no "resting system" and no "moving system" without the assumption of an absolute space, or a "resting" æther, or an æther resting in absolute space.

Einstein's fame is built upon fantasies, not facts. The events which led to Einstein's rise to fame are a fascinating story of hero worship and historic revisionism. The ongoing disclosure of documents related to Einstein's life raise many new questions. Was the man we are led to envision, with the Mark Twain persona and charisma, in fact a stumbling sadistic brute, who wrested his fame from his wife Mileva's misery?[3529]

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