

Translation into English: [Chapter 2 - Catalogue of Errors for Both Theories of Relativity](#)

from the German documentation of G.O. Mueller

"On the Absolute Magnitude of the Special Theory of Relativity - A Documentary Thought Experiment on 95 Years of Criticism (1908-2003) with Proof of 3789 Critical Works" - Text Version 2.1 - June 2004
<http://www.ekkehard-friebe.de/kap2.pdf>

Translator: Rothwell Bronrowan

© Copyright Ekkehard Friebe – Oct. 2012

H: Mathematics / Error No. 1

Albert Einstein's mathematical derivations of the Lorentz transformations contain fundamental errors

Pagels (1985, pp 9-34) first criticizes Albert Einstein's derivations of the Lorentz transformations of 1916 (in a later edition dating from 1969) and subsequently those of 1905. A central point of criticism (pp 11-12): "The formulas of the TF [Lorentz transformation] represent ... always and everywhere, a function equation the independent variables of which are variable within a functional relationship. On principle, therefore, the independent variables of the TF may not be seen and treated as freely selectable variables. In other words, if one has determined the value of a variable of the TF - then one has, at the same time, also determined the other two variables." Since the STR disregards this condition, its kinematics are "mathematically incorrect and thus without any scientific value" (p. 12).

Albert Einstein (1969, pp 91-96) introduces the speed equation (velocity = distance per time), solves it for distance x :

$$x = ct$$

and writes it for both systems in the form:

$$x - ct = 0 \text{ and } x' - ct' = 0$$

For his further calculations he introduces the condition $x' = 0$. To this Pagels remarks (p. 15): "If one now puts, in (2), $x' = 0$, then inevitably $ct' = 0$ and thus also $c = 0!$ " So these Einstein mathematics lead, for the supposedly absolute constant speed of light c , to the value null, and thereby contradict the second theory of his principle. Moreover, as a result of $c = 0$, also $x = 0$ and not, as Einstein further calculates, $x = bct / a$.

With the condition $x' = 0$, as set by Albert Einstein, and one further formal calculation, one arrives at results that are clearly physically absurd.

What physical meaning does Albert Einstein's condition $x' = 0$ have for his subsequent calculations? The x' in his treatise is the path of the light signal relative to the system K' . If $x' = 0$, the light signal traces no path back, i.e. the alleged process does not take place at all, and the physical consideration is limited to the null point of the coordinate system. From this null point, however, without a physical process no physical findings whatsoever can be won. All (formally correct) mathematical deductions based on this condition are physically meaningless, and claims as to their supposed physical meaning are incorrect.

Pagels uncovers in Albert Einstein's leaflet "Über die spezielle und die allgemeine ..." [On the special and the general ...] (1969) further mathematical errors and criticizes subsequently (pp 17-26) the mathematics of Albert Einstein's derivation in his original work (AE 1905). He points to mathematical errors - not formal mathematical errors, but incorrect and impermissible physical references that lead to contradictions and to meaninglessness (p. 19): "Already here, at a very elementary level, we can see a general confusion in Einstein's argumentation. With respect to K , the argument rests on classically justified relative speeds [$c+v$, $c-v$] - although these relative speeds can in fact only be valid in the moving system K' !" Summing up his criticism, Pagels says (p. 21): "Thus this Einstein "derivation" of the TF [= Lorentz transformation] takes the form of a ceaselessly intensified mathematical error". And finally (p. 26): "That such a mathematically incorrect and unprincipled formalism, as represented by this Einstein "derivation" of

the TF, should be held to be high wisdom for far more than half a century ... and be followed as an almost omnipotent "view of the world" - that is indeed depressing."

With this, the core of Albert Einstein's procedure is exposed in an example. Without regard for the physical meaning of the equations, a solely formally correct mathematics is presented. In the process, the author relies on the public's widespread and mistaken opinion that mathematics is something purely formal. Something which the author can subsequently fill up at will with his or her random content. The mathematics of the STR, however, processes avowedly physical measurements and as such is subject to the control of the physical meanings. Conclusion: " $x' = 0$ " are not mere chalk scratches on the board, but has a physical meaning. Disregard of this is what Pagels denounces as "lacking principles".

The relativists like to dismiss critical enquiries with the claim that the theory is mathematically flawless and completely perfect and is therefore already fully justified, regardless of any small defects or blemishes and not-yet fully provided proofs. In other words, a supposedly flawless mathematics is held to be the guarantee of a correct physics.

This position is fundamentally contested by the critics. In particular the supposedly flawless mathematics of the STR has been repeatedly analyzed and errors in the mathematical derivations of the equations have been proven, the main focus in this connection being placed on the transformations of H. A. Lorentz, which are central to the theory and were taken over by Albert Einstein in 1905. In the literature there are more than half a dozen (!) various derivations of the transformations, some of these based on purely classical assumptions.

AE 1905 (pp 892-902). - Strasser, Hans: Die Grundlage der allgemeinen Relativitätstheorie. eine kritische Untersuchung. Bern: Haupt, 1922. 110 pages - Braccialini, Scipione: Discussione sulle formole di Lorentz. In: Politecnico (II). 16. 1924, pp 353-375. - Einstein, A.: Über die spezielle und die allgemeine Relativitätstheorie : with 4 "Abb." / 21st edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 130 pages (Wissenschaftliche Taschenbücher. 59.) - Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.