

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

M: The General Theory of Relativity / Error No. 7

Albert Einstein's alleged explanation of the perihelion advance of Mercury is said to be a fundamental achievement of his GTR and its confirmation is said to confirm the GTR

Here, the introduction to Error M 5 can be repeated, shortened and varied. The question as to from whom and when a certain explanation in physics was given must be put due to the question of the factual interdependencies. An explanation that is given by several theories can no longer be claimed by any of these theories as compelling proof of the validity of this particular theory. An explanation that has already been given cannot be subsequently claimed as the special performance of a later-developed theory, and its empirical confirmation is no compelling confirmation of the later theory, but shows at best the compatibility of the subsequent theory with the earlier explanation.

The last-mentioned circumstances apply to Albert Einstein's explanation and calculation of the advance of the Mercury perihelion. The ellipse of the orbit of Mercury around the sun turns constantly at a very small angle, the point of the shortest distance to the sun (the perihelion) travelling ahead of it (advance). The circumstances of the advance are known from Le Verrier since 1859 (Roseveare 1982, p. 1).; The observed value amounts to 5600" per century; of which 5557" can be explained by the gravity of other celestial bodies and other factors in keeping with Newton's classical theory. A remainder of 43" still needs explaining. Albert Einstein maintains his ability to account for this remainder in terms of the GTR, and to deliver compelling proof of his theory with this explanation.

*Contesting the evidential force of Albert Einstein's explanation as confirmation of the GTR, critics have pointed to the explanation of the remainder in the work of Paul Gerber published initially in 1898 and in more detail in 1902. Gerber's publications were cited in 1903 in the *Enzyklopädie der mathematischen Wissenschaften* [Encyclopaedia of the Mathematical Sciences] and in 1904 in *E. Mach: Die Mechanik in ihrer Entwicklung. [Mechanics and its Development] 5. edition*. This allusion is not unimportant, since the relativists later attempt to put down Gerber's achievements as irrelevant.*

Gerber explains the remainder of the perihelion rotation without relativity, solely on the assumption that gravity spreads at the speed of light. In view of this, Albert Einstein's explanation can no longer be held to be compelling proof of the GTR. No mention of Gerber's work is made in the accounts of Albert Einstein and the relativists.

In view of the possibilities of explanation without relativity the Mercury perihelion is no support for the GTR: The explanation of the Mercury perihelion proves only the non-contradiction between the theory and a certain circumstance. The importance of the Mercury-perihelion explanation appears in a completely different light if one considers the perihelion motion that occurs in the case of all of the planets of the solar system, these being of different magnitudes and, in the case of Venus, even negative, i.e. a retreating perihelion. These are values that the GTR cannot explain.

A fundamental argument as to the importance of empirical findings for the correctness of a theory can be found in Hugo Dingler's "Die Ergreifung des Wirklichen." (Munich, 1955. Reprint 1969, p. 207). This criticizes the mistaken inference, frequently encountered in physics, from a differential equation (for experimental measurements) to the correctness of the premises of the experiment. First interpolations and smoothing effects are applied to the equations, these having by no means empirical origins, and second, the correctness of the premises can be relied on only after the furnishing of proof that the same differential equation cannot also be deduced from other premises. Without this evidence, the inference to the correctness of the premises is "also a purely logically untenable claim, i.e. a logical error" (p. 207).

The mistaken inference to the premises is virtually the basis of justification for the STR and the GTR. Proof of its inadmissibility has been furnished repeatedly, (1) by Hasenöhl for the mass-energy relationship; (2) by Soldner for aberration; (3) by Gerber for the Mercury perihelion.

The relativists would like to dismiss these proofs as a ridiculous squabble over priorities. Dingle shows their true methodical importance for the inadmissibility of quick inferences to premises.

Gerber, Paul: Die räumliche und zeitliche Ausbreitung der Gravitation. In: Zeitschrift für Mathematik und Physik. 43. 1898, H. 2, pp 93-104. - Gerber, Paul: Die Fortpflanzungsgeschwindigkeit der Gravitation. Schulschrift. Stargard: F. Hendess [Drucker], 1902. 24 pages (Stargard i. Pommern, Städt. Realgymnasium. Programmabhandlung 1902.) - Wiechert, Johann Emil: Perihelbewegung des Merkur und die allgemeine Mechanik. In: Physikalische Zeitschrift. 17. 1916, pp 442-448. - Gerber, Paul: Die Fortpflanzungsgeschwindigkeit der Gravitation / Note, p. 415: E. Gehrcke. In: Annalen der Physik. Ser. 4, Vol. 52. 1917, H. 4, pp 415-444. (page number "444" is correct; page number "441" referred to in the literature is due to unclear print). - Glaser, L. C.: Über Versuche zur Bestätigung der Relativitätstheorie an der Beobachtung [Teil 1]. In: Annalen für Gewerbe und Bauwesen. 87. 1920, No. 1036, pp 29-33. - Brown, George Burniston: A theory of action-at-a-distance. In: Physical Society. London. Proceedings. Sect. B. 68. 1955, pp 672-678. - Roseveare, N. T.: Mercury's perihelion : from Leverrier to Einstein. Oxford 1982. 208 S.