

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  
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## M: The General Theory of Relativity / Error No. 4

### The principle of equivalence of the GTR is said to provide proof of the equivalence of the inertial system and the rotational system

Albert Einstein developed the following thought experiment in a space without a gravitational field. There is an inertial system. There is also a rotational system (a rotating disc) next to it.

(1) First an observer on the rotating disc must measure the diameter of the disc and the circumference (outer edge) of the disc, both with the help of a measuring rod (which should be chosen sufficiently small for an approximate measurement of the round circumference). At the edge that corresponds to the direction of motion the measuring rod, or ruler, suffers Lorentz contraction. On the diameter that is perpendicular to the direction of motion at the edge, the ruler suffers no contraction. The quotient derived from circumference divided by diameter will have a value greater than that of Pi, from which it is clear that Euclidean geometry no longer applies to the rotating disc.

(2) Two clocks are placed on the rotating disc, one at the edge and one at the centre-point of the rotating disc. Albert Einstein, 1916 (1923 reprint, p. 85): "According to a well-known result of the special theory of relativity it holds - observed from K [the inertial system] - that the clock located on the peripheral circle will run more slowly than the clock located at the starting point, because the first clock is in motion, whereas the latter is not." Immediately subsequently to this he writes: "An observer located at the same initial coordinates and also able to observe the clock located at the periphery by means of light, would also see the clock located at the periphery as running more slowly than the clock located next to him."

In the context of the GTR Albert Einstein now wants to take an excursion into the STR, in the gravity-free space and to Lorentz contraction and time dilation. However, this is impermissible on the basis of the STR, which has already been refuted by the fundamental assumptions of the GTR and relinquished: After proposing the GTR Albert Einstein himself had only claimed validity for the STR at the micro-level of particle physics (cf. Error M 1).

B. J. Gut (1981, pp 95-100) analyzes all of the assumptions and conclusions and finds them entirely untenable. He lists their most important defects:

- (1) application of the STR to systems adverse to the theory;
- (2) surrender of the constitutive symmetrical condition for the STR;
- (3) failure to recognize the system-specific nature of the applied formulae;
- (4) assumption of a universal nature for results calculated from K (the inertial system);
- (5) reinterpretation of the assumed universal nature of the results from K in supposed effects of a (rotating disc) in a K' prevailing gravitational field (that, according to Albert Einstein, should not - by definition - be present);
- (6) utilization of the transformation equations, for which no logically tenable relativistic derivation is known.

The conditions for the rotating disc have also been analyzed in very great detail by many other critics and Albert Einstein's reflections have been shown to be completely untenable. - For example, Theimer (1977, p. 120) in his conclusion on the rotating disc points out that the measurement of the circumference in keeping with the STR must not give any other result for Pi, because according to the STR the edge of the

disc will also have shortened together with the ruler. - O. Kraus (1925, open letters, pp 58-65) analyzes the problems of the supposed clock rates in the rotational system and puts the decisive questions to Albert Einstein and M. v. Laue. Albert Einstein never answered them, whereas v. Laue, who also failed to answer them specifically, nevertheless explained in a letter to a magazine, that when a philosopher criticizes the theory for internal contradictions, then he, v. Laue, by no means pursues the critical line of thought in great detail, but instead tells the philosopher to his face that he, the philosopher, has not quite understood the issue. With this attitude, v. Laue has "thus already adopted the dogma of infallibility" (Kraus, p. 93).

Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das Relativitätsprinzip. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124. - Einstein, Albert: Grundzüge der Relativitätstheorie. 5th edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 166 pages (Wissenschaftliche Taschenbücher. 58.) At the same time, 7th extended edition of 'Vier Vorlesungen über Relativitätstheorie'. - Kraus, Oskar: Offene Briefe an Albert Einstein u. Max v. Laue über die gedanklichen Grundlagen der speziellen und allgemeinen Relativitätstheorie. Wien (etc.): Braumüller, 1925, 104 pages - Theimer 1977, pp 118-120. - Gut, Bernardo Juan: Immanent-logische Kritik der Relativitätstheorie. Oberwil b. Zug: Kugler 1981. pp 95-100.