

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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H: Mathematics / Error No. 4

In the STR it is claimed that, in constant motion relationships, lengths are contracted and times are dilated

Pagels (1985, pp 40-45) draws attention to the fact that "the principle of the absolute constancy of the speed c ... [can] only be satisfied with covariant dimensions". The covariance of all dimensions means contraction or dilation both for length and for time. Only under these conditions can the quotient [distance per time], which gives speed, remain constant. If the distance is contracted (shortened) and the time dilated (lengthened), the value of the quotient alters, in contradiction to the announced principle.

With this, Pagels touches on another weak point of the theory; whereas in the case of rigid bodies and the rigid measuring rod one has an explicit idea of what "shorter" and what "longer" is intended to mean, in the case of the concept of time it is difficult to distinguish between the subject matter (time) and its unit of measure (the clock). It must be clear here whether the time, in its rate of passage or expiry, supposedly changes or whether it is only the unit of measure, as represented by the clock indicators, that changes.

This also makes it immediately understandable why arbitrary natural processes cannot serve as clocks. Because with these one cannot distinguish in the least between the measured subject matter and the unit of measure. Instead, for such supposed "clocks", the subject matter is always the unit of measure at one and the same time. The clock is an instrument created by man, an artificial product that establishes a standard. Without such standards, nothing can be measured anywhere. Only the relativists want to determine the time without any clearly established standard.

Pagels' insistence on similar types of change in distance and time, so that the quotient can be retained as the measured constant of the speed of light, shows the complete naivety of the theory in this respect.

With his point of criticism Pagels draws attention to the consequence that a supposed contraction of length and dilation of time need not apply to rigid bodies and clocks alone, but to all processes in observational space, i.e. also to light propagation. A ray of light that runs parallel to the rigid rod would receive an altered quotient for its speed, namely a "shorter path" per "extended time", which implies a reduction (!) of the speed of light. Only for a "shortened path" per "shortened time" - with the same factor of shortening for both values (!) - could the quotient (the speed) remain unaltered.

The unremitting calculations of the relativists have failed to address the question of the supposed change in the concrete units of measure to be applied and the corresponding adaptations for calculation of the supposedly absolutely constant speed of light. The relativists calculate keenly to show how many years younger the travelling twin returns, but they are unable to demonstrate mathematically the central, supposed constant of their theory. The reason? The implications of an "extension of time" depends on whether it is the "matter" of time that changes or its unit of measure, and what consequences a physical and a mathematical interpretation have. The concept of the "extension of time" implies a reference to the initial size, the "non-extended time". Other than in the case of the rigid rod and the recorded unit of measure, one cannot make a concrete distinction, in the case of time, between "matter" and its "unit of measure". Poking around in this fog does not release one from the obligation to answer the question as to whether it is the subject matter (time) or the ascribed unit that changes, and as to how the supposed constant speed of light (a quotient) can remain constant. Pagels called for an answer, and naturally the relativists were unable to give it.

Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.