

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

from the German documentation of G.O. Mueller

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O: Experiment / Error No. 1

Although Lorentz' ether theory and Albert Einstein's STR do not differ mathematically, it is said that experimental results prove the correctness of the STR

Even the authors of the world of relativity must concede that the mathematical apparatus of the two theories of Lorentz and Albert Einstein is the same. This forces one to the unavoidable conclusion that all calculations of experimental results undertaken in the context of this mathematical apparatus must always prove - or refute - both theories. The fundamental difference first arises with the interpretation of the results of the calculation, namely with or without a hypothesis of the ether.

Since without a change in the structure of the mathematics for one or for both theories, no different calculation results can be derived, and since such a change in one or in both theories has not taken place, the search for an experiment to differentiate between the two theories has remained unsuccessful, something which, for reasons of logic, will not change until a change in the mathematical structure occurs.

For this we have an unsuspected chief witness in the relativist M. v. Laue (1913, p. 20): "A true experimental decision between the extended Lorentz theory and the theory of relativity, on the other hand, cannot be provided, and if the first [of these theories] has nevertheless assumed more of a background role, this has mainly to do with the fact that, although it so closely approaches the theory of relativity, it fails to possess the great, simple, general principle which lends the theory of relativity something imposing right from the start." One is unable to decide between the two theories empirically, but the STR is more imposing. The ideological dogmatic preference for the imposing is said to be a physical justification.

All claims of the relativists as to experimental confirmation of their STR are therefore incorrect and misleading. In the event of such supposed proof, should it ever be provided, they would have to honestly admit that both theories had been confirmed, but that it remains unclear which of the two (if either of the two) is correct.

The previous state of affairs regarding the identical mathematics of both theories was a position also taken by Lorentz (1910, p. 1236), i.e. that it was purely a matter of opinion, a "way of thinking", determining which of both theories one adopted: "One thus arrives at the same results, as when one follows EINSTEIN and MINKOWSKI in denying the existence of the ether and of the true time and sees all reference systems as being equivalent. Which of these two ways of thinking one adopts, is up to each individual to decide."

Theimer (1977, p. 77): "The theory of relativity and the Lorentz theory have the same mathematical structure (Maxwell + Lorentz transformation), though the physical interpretation is different. The electromagnetic experiments prove only that, in certain cases, Maxwell must indeed be corrected by the Lorentz transformation."

The proofs and information on the indistinguishability of the theories due to the identity of the mathematical structures are given repeatedly, e.g. Raschevsky (1923, p. 108): "... so that every experiment, regardless of its results, can always be interpreted in the sense of both the theory of relativity and the absolute theory."

A nice ditty on this topic is told by Herbert Eugene Ives, who in 1938 allowed himself to explain his atomic clock to the visiting Harvard professors with the Lorentz theory (and not, as expected, with Albert Einstein's STR), which didn't amuse them at all, which is why the "Princeton lads", as he amusedly reports in 1950, thereafter no longer greeted him on the street. - Due to his great renown, Ives got off lightly with the refused greetings. Herbert Dingle's report on his years-long vain enquiry in Great Britain (Science at the crossroads, 1972) is less amusing.

Lorentz, Hendrik Antoon: Alte und neue Fragen der Physik : 6 lectures, Göttingen, Oct. 1910, on: Äther; RP; Gravitation; Strahlung; in Referaten v. Max Born. In: Physikalische Zeitschrift. 11. 1910, p. 1234-1257. - Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 S. (Die Wissenschaft. 38.) - Raschevsky, Nicolas v.: Kritische Untersuchungen zu den physikalischen Grundlagen der Relativitätstheorie. In: Zeitschrift für Physik. 14. 1923, 107-149. - Ives, Herbert Eugene: [Discussion, 24.10.1950] In: The Einstein myth and the Ives papers. Ed.: R. Hazelett, D. Turner. 1979, p. 90. - Theimer 1977, p. 77.