

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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Translator: Rothwell Bronrowan

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V: Motives for Generation and Preservation / Error No. 1

The desire to eliminate the idea and the hypothesis of an ether as a medium for the spreading of electromagnetic radiation

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

Bourbaki (1996, pp 24-29, and from this also all quotations of other authors) supported very explicitly the theory - which also makes sense to other critics - that it was Max Planck's decisive motive (and thereafter that of all relativists) for the acceptance of Albert Einstein's STR, that with the STR the ether hypothesis was discredited, that the hypothesis could be declared unnecessary and that something like an ether could be declared non-existent and abolished.

Thereafter the emphasis would be placed on the non-existence of an idea, an unexplained and misunderstood concept, because around 1900 the ether was presented in the greatest variety of forms and was enhanced by fantastic properties that served to explain what the particular author in question wanted to bring over. The concept of the ether had at least 5 great and obvious weaknesses: (1) it could not be directly proven; (2) and one new nothing about its material or non-material properties; (3) and nothing about its state of motion; (4) the ether was just a necessary assumption required to explain the propagation of electromagnetic radiation, e.g. for light, which is also why it was referred to as the luminiferous ether; (5) in addition, the ether was also used to declare other physical phenomena (e.g. gravity).

This unsatisfactory state of knowledge with respect to the ether was incontestable and having to tolerate such a situation psychologically requires a high capability of frustration tolerance. The temptation to get rid of this great unknown at a stroke was therefore present and indeed understandable, but not well conceived as the abolition of an idea, because one cannot abolish ideas. One can only develop better ideas so that the unwanted ideas prove to be useless and are then forgotten.

According to Bourbaki's analysis of the comments made, particularly those made by Max Planck, there were clear indications that Planck was motivated by the idea of disposing of the ether and Albert Einstein's theory was a welcome opportunity to this end and for this reason he supported the enforcement of the STR with all means available:

(1) After the statements by Heinrich Hertz (1889) that the ether was a primeval substance of the cosmos and that research into it was a "gewaltige Hauptfrage" [enormous, major question], Max Planck alleged (1894, in his commemorative address for Hertz, who had died just a few weeks earlier) that he had (p. 26) "decided ... that it must be assumed that the motion of the ether was co-determined by the measurable matter. Then he distanced himself from the theory [concluding that] one need not speak of the ether any more". Here, already instigated by Planck, a considerable falsification of the position taken by Hertz vis-à-vis the ether takes place. An ether that takes on the motion of measurable bodies, i.e. is not at rest, and one therefore need no longer speak about it.

(2) In 1905 Max Planck sat on the board of trustees of the "Annalen der Physik", in which the work of Albert Einstein "Zur Elektrodynamik bewegter Körper" [On the Electrodynamics of Moving Bodies] had been printed.

(3) Already in Max Planck's colloquium of the winter semester 1905/06 the STR was treated.

(4) 1906. Planck's article in the *Verh. Dt. Phys. Ges.* (pp 136-141: *The Principle of Relativity and the Fundamental Equations of Mechanics*).

(5) 1909. *Scientists in Salzburg, lecture by Albert Einstein On the Development of Our Perceptions as to the Nature and Constitution of Radiation* (p. 27): "today, however, we have to regard the hypothesis of the ether as a standpoint that has been overcome." Directly thereafter, Planck says in the discussion: "Most of what the speakers have said will not be contradicted."

(6) 1919. *Lecture by Planck: "The Nature of Light"*. The original mechanical conception of nature, which envisages the ether as the "carrier of all electrical phenomena", has (p. 28) "meanwhile very much taken a back seat by most physicists. What brought about this situation most is the conclusion from Einstein's theory of relativity that there can be no such thing as an objective ether, i.e. one that exists substantially independent of the measuring observer." In the following year in his lecture in Leiden Albert Einstein spoke of the necessity of the ether!

The comments made by Planck and referred to by Bourbaki enable one to recognize the former's strong tendency towards the abolition of the ether, even under incorrect, subsequent recruitment of Heinrich Hertz, whereby Albert Einstein and the STR are his main arguments. This battle against an idea has something dogmatic about it and is clearly irrationally motivated.

At another point (Foreword, p. 4) Bourbaki summarizes the motivation status: "The theoretical physicists in those days had the following difficulty. Seen in terms of the propagation of light, empty space was said to be filled with an imponderable unknown substance which one named the 'ether'. This substance disturbed the theorists in their calculations; how was one to calculate in a cosmos which was filled with an unknown substance whose properties were unknown?"

The short-cut solution of abolishing the unwanted ether, implemented by Planck, was very popular with most physicists, as were most short-cut solutions. Physics has paid dearly for this and will still have to pay more, with the standstill of research and with gagging both internally and with respect to the outside world, and the dues to the public at large for an unmatched break with tradition have still to be settled.

Bourbaki, Georges A.: *Die Hin-Krieger*. Uncensored original version, limited preprint. München: Aether-Verl., 1996. 394 pages. (Deutsche Nationalbibliographie:) 2. Verlag, eingeklebt: Windeck/Sieg: Verl. Krit. Wiss. 1996.