

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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G: Minkowski's World / Error No. 8

According to Minkowski, length contraction is "a gift from above"

In his lecture of 1908 Minkowski addresses length contraction (pp 58-59). Lorentz had introduced this as a hypothesis for explaining the Michelson-Morley experiment. "This hypothesis sounds extremely fantastic, since the contraction is not to be seen as a consequence of resistance in the ether, but purely as a gift from above, as an attendant circumstance of the state of motion."

Whereas Lorentz indeed saw contraction hypothetically as a physical effect of motion against the ether, in the form of elastic deformation of the absolutely moving body, as did M. v. Laue without the ether hypothesis, Minkowski wants to get rid of the inevitable and disagreeable question as to the cause of the alleged contraction and he asserts, to this end, the following three aspects of contraction:

- (1) it is not a consequence of resistance in the ether;*
- (2) it is the attendant circumstance of a circumstance;*
- (3) it is a gift from above.*

Only the first of these assertions is clear. A negative assertion that is not, as such, of much value. The term "attendant circumstance of a circumstance" embodies something of the notion of consequence, of cause and effect, though this idea is not pursued in a physically context. The third statement, the true explanation, is at least astonishing for someone who plans to revolutionize physics, particularly when one recalls how the relativists rant and rave against Newton's religious concepts as to absolute space.

For the physicists, at any rate, "a gift from above" is not a physical explanation, but merely an unexpected admittance of helplessness that notably contrasts with the high spirits with which Minkowski otherwise describes his magnificent "remodelling of our conception of nature". Contraction as a consequence of relative motion is linguistically conceded in a roundabout way, but cannot be physically explained. And with the assurance as to what is not the cause (i.e. the ether), Minkowski merely restricts his own alternatives. All in all, the effort is more of a non-explanation.

The subsequent treatment of length contraction by Minkowski (p. 59) is not uninteresting. He gives assurances that the Lorentz hypothesis is "fully equivalent" to his own "new view of space and time", "whereby it becomes much more understandable in the process". Finally, Minkowski again gives assurances as to the complete symmetry (reciprocity) of length contraction: "We will find the same shortened relationship between the first electron and the second one". With this, however, Minkowski finds himself, contrary to his belief, at opposites with Lorentz, who sees his contraction as real. Although one of the fathers of the STR, Minkowski (1908) with his commitment to reciprocity, would have been no witness on behalf of the alleged one-sided effects of contraction, or of time dilation extending to the twins paradox.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6. Edition 1958, pp 54-66; cited from this.