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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Q: Methodology / Error No. 1

The transfer of the "principle of the relativity of electrodynamics" to mechanics is said to contradict no empirical result

M. v. Laue (1913, p. 1-7) develops the foundation connections and the real purpose of Albert Einstein's STR as follows

(1) There is a principle of relativity for mechanics (Galilei);
(2) There is a principle of relativity for electrodynamics (Maxwell);
(3) p. 7: "If both of the principles of relativity were valid, one for electrodynamic phenomena and the other for mechanical phenomena, both together would create an excellent system. They would mutually enhance their respective importance. In processes that are neither purely mechanical nor purely electrodynamic - purely electrodynamic processes can anyway only be found in empty space, otherwise there is always some other body involved, with its mechanical properties - absolute motion must be detectable." A footnote is also entered here in which he points out the possibility that "the velocity of the earth" can also be determined "by measurement of the speed of light relative to the earth, parallel and opposite to the velocity of the earth." Directly thereafter he continues, in spaced-out print: "There can therefore be only one principle of relativity in the whole of physics, if it is truly to deserve the name."
(4) After the supposed compulsion towards unity the question arises as to which of two principles of relativity the physicists will allow to be victorious: "We come into contradiction with no empirical result if we transfer the principle of relativity of electrodynamics to mechanics. The reverse procedure, by contrast, would not be possible." Subsequent text in spaced-out print: "It is therefore the principle of relativity of electrodynamics to which we must ascribe universal validity if we do not want to relinquish it."

Under point 3, M. v. Laue openly reveals the core of all motives: "an absolute motion would then have to be recognizable". That is the true horror! At this point M. v. Laue does not even contest that the absolute motion can be empirically established, but presents this possibility as something that must be prevented!

There are, then, clearly possible findings in physics that are unwelcome and that must therefore be prevented, e.g. proof of absolute motion. This, too, is physics and deserves to be made known to a wider circle of the public. Several pages later (pp 13-16) M. v. Laue (1913) presents the well-known, supposed result of the Michelson-Morley experiment, stating that "no trace" of a displacement of the interference bands had been observed. Because he had in fact found only a trace, Michelson had given up and had discontinued the experiment without even fully completing it. Previously (in 1905) Morley / Miller in Cleveland had measured a drift of 8.7 km/sec, and in the same year in which v. Laue's 2nd edition appeared (1913), Sagnac in France published his measured running-time differences.

Since it is therefore the declared main objective of the relativity organization to prevent the measurement of an absolute velocity (e.g. of the earth against light), it is understandable why the minor running-time differences detected by Michelson in 1887 had to be denied as "no trace". The supposed null result was to serve as the foundation of the theory and must therefore never be revised. Unfortunately it was conclusively demolished by Sagnac already in 1913 and by Dayton C. Miller in 1925/1926, though fortunately this never leaked through to the public in the course of 80 years.

For a layman it is difficult to understand why the physicists barricade themselves up against the possibility of a discovery so persistently. Who would be harmed by the possible proof of an absolute motion (of the earth, for example)? Why would this knowledge, if it could be attained, be of no value? Why must the advancement of knowledge, which in principle is already faced with enough difficulties, be further and deliberately prevented?

M. v. Laue also gives us an explanation or motive for this (p. 6): "In this way the question of relativity would become very closely associated with the old controversy: action at a distance or transfer with finite velocity through an interim medium?" The interim medium is the ether. And the old controversy is indeed old. One cannot give a clear answer. Because the Michelson-Morley experiment brought "no trace" of a running-time difference. One would prefer to have no unresolved controversies. One would like to have controversies that one can resolve - and finds as a remedy the theory of Albert Einstein. Naturally one does not want to allow this nice change to a new controversy to be taken away again at once. That is physics, from 1913 right up to the present day.

The findings in the year 2000:

(1) the running-time differences of the beams of light have been measured and the drift of the earth in the space-ether or ether-space has been confirmed,

(2) unipolar induction without relative motion between the instruments, but alone with respect to the space-ether or ether-space, is empirically observable at any time,

(3) rotation as an absolute motion has in any case never been domesticated by the STR,

(4) the mass-energy relationship $E = mc^2$ stipulates an absolute effect that is not subject to relativity,

(5) and thermodynamics is also non-dependent on relativity.

With these five examples of absolute motion and "transformations", the principle of relativity of the STR has been robbed of its general applicability, and all notions of compulsion in the world of relativity have lost their footing. M. v. Laue's ideological program of 1913 is in contradiction to five non-relative empirical findings and has thereby, in keeping with his own criterion, failed. All that remains is the alternative that he himself identified: "to relinquish it [namely a principle of relativity]".

What strange justifications were held valid in physics in 1913: "There can therefore be only one principle of relativity in the whole of physics, if it is truly to deserve the name." Why "only one"? If there is only to be one principle, it must be physically conclusively justified - nothing more. It need not deserve a name. And for two principles the same applies. And the same holds for the transfer of a principle from one field to another. On basic issues only compelling reasons can be accepted, but not merely the absence of contradiction to facts, or the danger of discovering absolute motion. One must clearly distinguish between natural discoveries and the fulfilment of the favourite ideas of major physicists.

M. v. Laue wants to tighten the ideological corset bones of the world of relativity so that the accumulation of factual errors, logical contradictions and other inconsistencies is seen from a higher vantage point of physics ideology than is necessary, and [relativity] therefore appears as a desirable solution.

Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. (Die Wissenschaft. 38.)