

## NEW GERMAN EXPERIMENTS CONFIRM EINSTEIN THEORY

Failure to find any evidence of the motion of the earth through the ether which is supposed to pervade all space, and thus to confirm the recent work of Dr. Dayton C. Miller, at the Mt. Wilson Observatory in California, is announced by Dr. Rudolph Tomaschek, of the University of Heidelberg, in the "Annalen der Physik."

Dr. Miller, who is professor of physics at the Case School of Applied Science at Cleveland, repeated the Michelson-Morley experiment on Mt. Wilson, 6000 feet above sea level. This experiment measures the difference in the time taken by two beams of light to travel in two paths at right angles to each other. While a negligible effect was obtained when it was performed at Cleveland, the Mt. Wilson results showed what was apparently a drift through the ether, because the light beam travelling in the direction of the supposed ether drift took longer to return to the starting point than the one going at right angles to it.

Dr. Tomaschek has repeated two other experiments designed to test the ether drift, both of which use a charged condenser, somewhat similar to the condensers used in radio receiving apparatus. In the first one he sought to observe the magnetic field which should be produced by the motion of such a condenser through the ether, but none was observed, even though it was performed at altitudes of 65 feet, 1850 feet and 11,400 feet, the latter being on the Jungfrau, one of the highest peaks in the Alps.

The other experiment was one originally performed in England by Prof. F. T. Trouton and H. R. Noble, of the University of London, in 1903. This consisted in suspending a light disc-shaped condenser, also electrically charged, by a fine wire, so that it was free to turn. If the ether is drifting by, the condenser would tend to hang at right angles to the direction of the drift, so the experimenters hung it with its plane in the direction of the supposed motion through the ether, and sought to observe the slight turning of the condenser.

No such turning was observed by the original experimenters, or by Dr. Tomaschek at any of the altitudes, although his apparatus was sufficiently delicate to detect a relative motion of the ether and the earth much smaller than that indicated by Dr. Miller's results. As the Einstein theory of relativity was based partly on the fact that no such ether drift could be observed, and as Prof. Miller's work has been said by some authorities to necessitate a considerable modification of the relativity theory, Dr. Tomaschek's work is taken as evidence in its favor.

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## GOVERNMENT PERFECTS SYSTEM TO MAKE UNBREAKABLE GLAZE

Housewives and incidentally the whole ceramic industry need no longer suffer great losses in temper and in money from the cracking of the glaze on kitchen pots and pans. Experts at the U. S. Bureau of Standards have developed a system of measuring the rate of expansion of the glaze used on pottery and enameled ware that will help manufacturers in making a product, the surface of which will not crack.

All glazed ware consists of a body of clay or metal covered with a thin glassy layer having a composition quite different from that of the base. These