MOUNT WILSON EXPERIMENTS NOT FATAL TO RELATIVITY

Experiments performed by Dr. Dayton C. Millet, of the Case School of Applied Science, Cleveland, at the Mount Wilson Observatory, California, do not disprove the theory of relativity, as many astronomers have claimed, says Prof. A. S. Eddington, professor of astronomy at Cambridge University, England, in a letter to Nature. Referring to the article written for Science Service by Dr. Ludwik Silberstein, mathematical physicist of the Eastman Research Laboratory at Rochester, following Prof. Miller's presentation of his results at the recent meeting of the National Academy of Sciences at Washington, Prof. Eddington says, "The brief messages in regard to Prof. Miller's experiment have aroused much interest and bewilderment; it is therefore of great value to have Dr. Silberstein's authoritative account."

Prof. Miller's experiment was a repetition of one originally performed by Dr. Albert A. Michelson, now at the University of Chicago, and Prof. Edward Morley, by which a beam of light was divided into two parts and reflected back and forth indirections at fight angles to each other. They were then reunited and a series of light and dark bands resulted. From the position of these bands the physicist can tell which beam takes the longest time to return. When first performed, in the basement of the Case School, Cleveland, in 1887, no effect was obtained, but when he repeated it last summer at Mt. Wilson, Prof. Miller obtained a marked effect.

Prof. Eddington disagrees with Dr. Silberstein's interpretation of the new experiment as indicating that the ether, by which light is supposed to be transmitted, is gliding over the earth with a speed which varies from about zero at sea level to about six miles per second at the altitude of the Mt. Wilson Observatory. "There is thus, " says the Cambridge astronomer, "a rapid rotational motion of this part of the ether."

In order to account for the astronomical facts, however, this motion must be the same at all levels, he continues. Just as a boat set to steer a straight course would be turned to one side if it entered a current of water moving at a different speed, a ray of light which is vertical at the level of Mt. Wilson would be inclined a small amount at sea level, and the direction in which it is inclined would vary according to the time of day or night. The amount of inclination would be about 7 seconds of arc, but astronomical observations capable of detecting a much smaller deflection have never revealed any such discordance of positions of stars as seen from sea level and mountain observatories.

"The Michelson-Morley experiment, "Prof. Eddington concludes, " was originally performed because it was thought - mistakenly as we now realize - that it would measure absolute ether drift. In the new application, it is invading a field in which the facts have long been established by delicate observations and it is difficult to regard it as a serious competitor."

Farm boys of today are getting less education than any other group of children in the country, and the coming generation of farm women will be better educated than the farm men, according to a study of rural schools made by the U.S. Bureau of Education.

Over 900 species of flowers grow in regions north of the Artic circle.
