the wind-laid cover; the actual floor of the valley is the east-dipping sand layer on top of the clay.

The profiles of these escarpments are distinctly suggestive of new fault blocks, and according to their own statement, Dake and Nelson based their fault hypothesis on profiles only, as viewed from the road. Further study of alignment, continuation into water-lines, character of material, structure and coincidence of levels makes the fault hypothesis wholly untenable.

These are not fault scarps. They are simply two wave-cut cliffs in wind-built mounds, lying essentially parallel and arranged *en echelon* on the zigzag shoreline of the same lake.

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LIGHTNING PROTECTION FOR TREES

REFERRING to my brief article on this subject in the December 1, 1933, issue of SCIENCE, Dr. M. G. Lloyd, of the Bureau of Standards, takes exception, in the issue of December 29, to my statement that the slow discharge from the point of a lightning rod tends to minimize the probability of a direct stroke to the rod. The grounds for his criticism are apparently limited to a belief, which he states is held by those who have studied the general experience with lightning rods, that the points do not function as indicated. Dr. Lloyd quotes no specific observations, experiments nor measurements. On the other hand, he admits that the results of controlled laboratory studies indicate the effectiveness of point discharge to the lowering of over-all potential difference.

In my article, it is clearly pointed out that the protective value of a lightning rod point is directly related to the rate at which it discharges, and that often the accumulation of potential difference by the approach of a thunder cloud may be so rapid as to offset completely any lowering due to point discharge, with resulting direct stroke to the rod. This certainly happens in many and perhaps the majority of cases. There are, however, no certain records and apparently no available methods for determining whether, even in these cases, the intensity of the stroke is not diminished by the foregoing discharge of the point.

Certainly the claim that the rod point has no value in reducing over-all potential would appear to be an extreme one. There is in fact much indirect experience to the contrary. Laboratory experiments readily show such value. Visual discharge from elevated points of all character is frequently visible, even in the absence of storm clouds, as, for example, in St. Elmo's fire, the discharges from mountain peaks and particularly from lightning rods. Experimental points on the latter have been found to be melted without any evidence of lightning stroke. Even in storms, lightning rods have been frequently seen to discharge with streamers of varying length, some of them reaching to great heights, thus giving evidence of moderate discharges, which do not, however, mount to the magnitude of a direct stroke or completed cloud discharge. Certainly the most important return from the initial cost of a lightning rod is in its function of receiving the stroke when it comes. On the other hand, the view that the rod never serves to prevent a direct stroke nor to minimize its intensity seems to me to be somewhat extreme and to be not justified by existing record.

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WEIGHTS AND MEASURES AND THE PUBLIC

A FEW years ago a butcher drowned himself in one of Minneapolis' million dollar reclaimed lakes because he was indicted on the ground that his pounds of meat were not sixteen ounces. Had he taken the trouble to can his meat he might have saved himself this disagreeable experience, as I understand that during the Hoover administration the "pound can" was "standardized" to fifteen ounces.

Few people know that the United States Government does not possess a standard yard, and there is no assurance that the yard standards of the different states are the same. The land surveys in Texas are made on the Spanish yard or "vara," whereas when one crosses the border into Mexico he finds the meter is used rather extensively. A typical American reaction to the metric system is expressed in a remark made by our mechanic, who stated that a professor asked him to cut a metal bar exactly one meter and one inch long. In 1916 there was a bill before a Congressional committee on the legalizing of the Centigrade thermometer. At the same time millions of Centigrade thermometers were being manufactured in this country and sold abroad. Americans have claimed that it is impossible to change to the metric system because of the expense of changing machinery. At the Baltimore fire, the fire apparatus sent from New York, Washington and Philadelphia did not fit, and a meeting of fire chiefs was held, but they could not agree, and so they called in Stratton, director of the Bureau of Standards, to suggest a standard coupling. He gave them a figure in fractions of an inch, but it was really a metric thread and his suggestion was accepted without question.

In Tokyo in 1932 I saw a procession which was said to be a celebration of Buddha's birthday. The next day I traveled to Sendai; the day following I saw a procession which looked similar to the one seen at Tokyo since I could not read the Chinese characters, and I asked my interpreter if Buddha's birthday was on a different day in Sendai from Tokyo. He replied