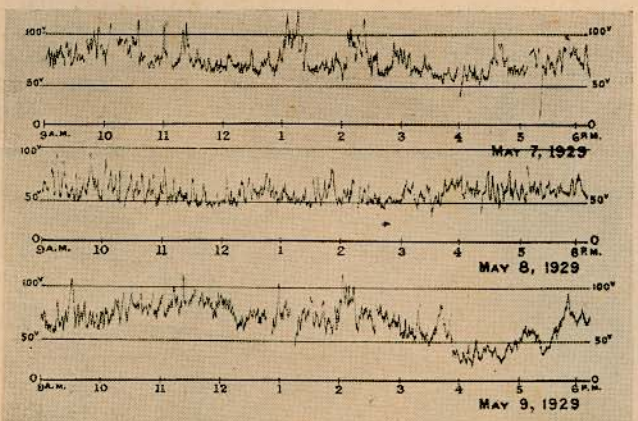
ATMOSPHERIC POTENTIAL-GRADIENT RESULTS AT CEBU DURING SOLAR ECLIPSE, MAY 9, 1929

The accompanying figure is a reproduction of the atmospheric-electric curves taken with the Wulf electrometer of the Weather Bureau, Central Office, Manila, at Sogod, Cebu, Philippine Islands, on the day of the total eclipse of the Sun, May 9, 1929, together with the two curves for the days preceding.

First contact was calculated as $14^h\ 10^m\ 29^s$ and was correct practically to the second; totality began at $15^h\ 29^m\ 47^s$ and lasted for 3 minutes and 38 seconds; last contact was at $16^h\ 42^m\ 7^s$.

It will be noticed that while for the two days preceding the eclipse, days that were comparatively normal, the curve keeps to a pretty even keel, on the afternoon of the eclipse there is a deep trough from about 14^h to 18^h. Also there is a slight minimum at



POTENTIAL GRADIENT, ATMOSPHERIC ELECTRICITY ON DAY OF TOTAL ECLIPSE OF SUN, MAY 9, 1929, SOGOD, CEBU, P. I, WITH COMPARISON RECORDS FOR MAY 7 AND 8, 1929

almost exactly the time of the totality. On the face of it, this would look something like a "night-effect," that is, the usual lowering of potential gradient at night upon the withdrawal of the Sun's ionizing effect. But there is a fly in the ointment and a big fly at that, namely, clouds. Rather slight cirro-stratus at the time of first contact rapidly developed to more decided cloudiness as the eclipse proceeded. In fact, the clouds at totality were so pronounced that they spoiled practically all pictures of the corona, and the corona was completely hidden during the last forty seconds or so of totality. The clouds persisted until the evening, when they cleared away. It seems probable that the cooling of the air, as the Sun's heat was withdrawn, condensed the moisture in the air.

My judgment then is that while interesting, these atmospheric-electric records can by no means be taken as proof of an effect due to the eclipse itself; it may well be, as can easily be seen, an effect