The long period variation in velocity, on the other hand, appears to be very definite evidence that *Polaris* is a binary system, the two components of which (one a Cepheid variable) revolve about their common center of gravity in a period of more than thirty years.

J. H. MOORE.

NOTE ON THE LONGITUDE OF THE LICK OBSERVATORY

Advantage was taken of the Radio Time Signals for the World Longitude Determination to effect a re-determination of the longitude of the Lick Observatory.

The instrument used for time determinations was the Repsold Meridian Circle, fitted with a self registering micrometer, hand driven. Observations were secured on eleven nights, on seven of which the instrument was reversed. Twenty-six determinations of the collimation were made, both with the collimators and at the nadir. The level was determined by nadir observations, as usual, and the azimuth from circumpolar stars. The separate determinations of clock correction were plotted on a large scale and the curve was drawn which seemed best to represent the going of the clock. With the exception of a discontinuity of five hundredths of a second at the epoch of an earthquake, the curve is nearly straight, indicating a fairly constant rate. The Riefler clock was used, running under conditions of constant pressure, but not constant temperature.

There is decided evidence that our time determinations are affected by a reversing error, such as has been found elsewhere. Observations made with the telescope in the position clamp West indicate the clock to be five hundredths of a second faster, on the average, than similar observations made in the position clamp East. Pending a more complete investigation of the effect, the best that could be done was to take the average of the results in the two positions.

The radio signals emitted from Washington, through Annapolis and Bellevue, and from Honolulu were observed. Saigon and Bordeaux were heard, but no attempt was made to use these transmissions. The signals were recorded on the chrono-