

ASTRONOMY

THE ASTRONOMICAL DIVISION OF THE MANILA OBSERVATORY

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A little resume' of the routine activities of the Astronomical Division of the Observatory may be of interest to the readers of the Bulletin.

We may divide the work into three parts: a) the time service, b) observations of variable stars, c) work on atmospheric electricity.

a) With regard to the time service, the correct time must be obtained, it must be preserved, it must be given out. Every two or three days, weather permitting, the sidereal time is determined by means of the Repsold Broken Transit. Though the instrument is not of the latest type, and though the disturbed atmosphere often makes the stars "dance a jig", still it is surprising how for a single night the values of the time obtained from different stars agree among themselves. The average deviation is usually only one or two hundredths of a second from the mean. This is due in good measure to the elimination of the collimation error by reversing the instrument for each individual star, together with level reading for the same. The "tap key" method is used, since the impersonal micrometer provided with the instrument does not permit of very smooth movement. My personal equation is small, so that it is safe to use the older method. In fact, the deviation from the mean is one half that obtained when the impersonal micrometer is used. When the weather is poor for a good stretch, e. g. during the rainy season, recourse must sometimes be had to radio to get the time signals from Bordeaux, Nauen and Rugby. Annapolis is not often heard. Besides, the best signals, those of Bordeaux and Rugby, can only be heard at the hours of two and four o'clock in the morning. Three radio sets are at our disposal, one a long wave "barrage" set, a gift from the Navy, a medium wave set, and a Superwasp short wave set. The last mentioned is also used to get the weather reports every morning from Father Gherzi, at Zi-ka-wei (Shanghai).

By the above means we check the rates of our master clocks, of which there are three, one sidereal and one mean time Riefler, and one mean time synchronome. When the weather is steady, all three clocks, especially the synchronome, keep excellent time. Strange to say, al-