

Letters to the Editor

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NOTES ON POINTS IN SOME OF THIS WEEK'S LETTERS APPEAR ON P. 81.

CORRESPONDENTS ARE INVITED TO ATTACH SIMILAR SUMMARIES TO THEIR COMMUNICATIONS.

The Corona during the Total Solar Eclipse of June 19

OUR small amateur party (Miss Gerasimova and I) had an opportunity of observing the total solar eclipse of June 19, from the eclipse camp at Ak Boulak (near Orenburg, U.S.S.R.). The expedition of Poulkova Observatory and that of Harvard University conducted their work there.

For taking photographs of the total phase, we had two reflecting telescopes equipped with parabolic mirrors, which were ground, polished and figured by myself. The installation was a most primitive one. No guiding mechanism was available; consequently, only short exposures (from half a second to one second) could be used in order to obtain good definition.

Atmospheric conditions were splendid, which was an agreeable surprise to us, since the weather was very poor during three preceding days. To see the eclipse, thousands of people gathered on the hill where the camp was situated. Many of them came from Orenburg and even from farther distant localities.

The magnificent panorama of the total eclipse was opened to our eyes at the expected moment. The sky became of deep steel tint with a conspicuous shade of lilac. Venus appeared on the right upper side quite close to the sun; between the two, Mars was clearly seen. The horizon was orange red. The singing of skylarks seemed louder in the profound silence.

The corona was unusually bright; it emitted apparently more light than the full moon. Its colour could be described as silvery and silky. The shape of the corona was typical of the period of high activity of the sun, and somewhat reminded us of a five-pointed star. Two prominences of a bright ruby colour could be easily seen by the naked eye at the edge of the velvety black disk of the moon.

The photograph reproduced here (Fig. 1) was taken directly in the focus of our six-inch mirror (140 cm. focal distance), and gives some idea of the appearance of the inner corona viewed through a low-power telescope; in reproduction it has been enlarged about 5 diameters. This photograph was

taken shortly after the beginning of the total phase. A second was taken somewhat after the central moment, and the third a few seconds before the end of the total phase. Prominences are very conspicuous on all the photographs; the greatest of them attains the height of at least 100,000 km.

The duration of the total phase was almost two minutes, a period of time sufficient for making more than three photographs, even with our primitive equipment. However, we were able to make only

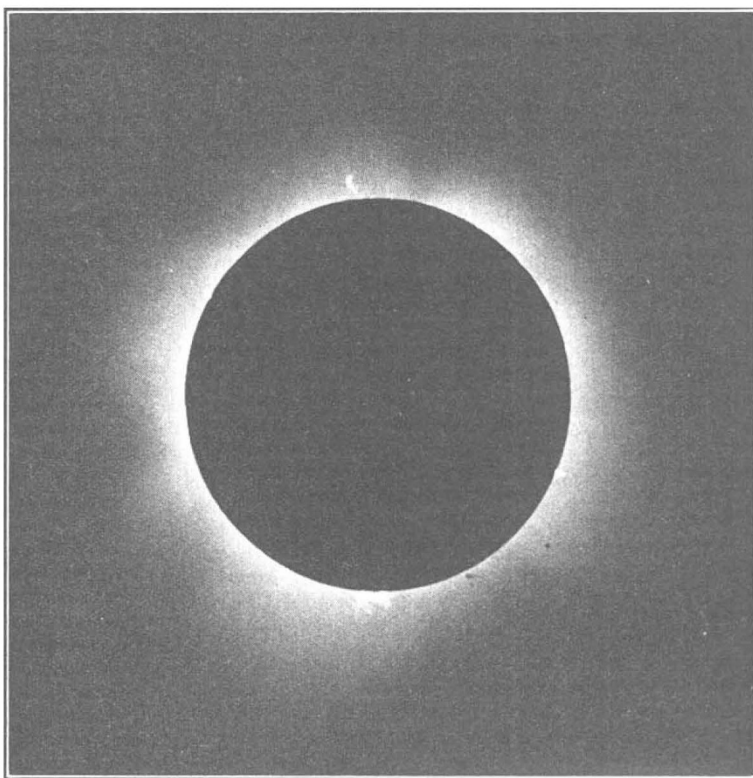


FIG. 1. Total solar eclipse of June 19, photographed at Ak Boulak.

three exposures; the precious instants were gone surprisingly soon. This psychological effect should be undoubtedly attributed to great excitement caused by viewing this rare natural phenomenon.

Thanks are due to Prof. B. P. Gerasimovič, head of the Expedition, for admitting us to the Ak Boulak eclipse camp.

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