ASTRONOMISCHE NACHRICHTEN.

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Remarkable solar spot, by the Revd. W. R. Dawes.

(Hierzu die beifolgende Steindrucktafel.)

Having turned my $8\frac{1}{4}$ inch refractor upon the sun, about noon on the 22. of October, I noticed that near the south eastern edge there was an unusually large mass of bright streaks, or faculae. With the whole aperture and power 234, the edge was at times extremely quiet and very sharply defined. During the best views I satisfied myself that a bright streak, which formed the very edge, projected irregularly beyond the circular contour of the edge; reminding me of a ridge of low hills often seen at the enlightened limb of the moon. Nearly parallel to this, and about 2 or 3 seconds from it, ran another streak nearly as bright; and the space between them was observed to be darker than is the ordinary limb of the sun, but not black like the umbra of a spot. I supposed it to be the penumbra of a large spot just entered on the disk, the umbra of which was as yet hidden by the inner bright streak.

At 2 p. m. I went again to the telescope. The state of the air was less favourable; but during the most tranquil moments I satisfactorily made out an excessively narrow black line, a little broken in two or three places, as if by irregularities in the inner bright streak, the top or outer edge of which was projected upon it. Clouds soon covered the sky, and prevented further observation on that day. The 23. was also cloudy.

On the 24. a fine spot was visible with a remarkably extensive penumbra. At about one o'clock I made a sketch of it. On the 26. I saw it again; and finding that the umbra had changed its form in a very extraordinary way, I carefully sketched it under tolerably favourable circumstances. I subsequently saw it well, and sketched it carefully on

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the 27., 29. and 31. of October, and on the 2. and 3. of November. The changes were more extraordinary than I ever before observed, and some of the forms which the umbra assumed were curiously grotesque. The accompanying sketches are as faithful representations of their outlines as my eye them could produce.

The last transient view which I had of the spot was on Nov. 4 in the afternoon, and it passed off in the night of that day.

It appeared to me very remarkable that in so violent and extensive a disturbance of the luminous envelopes, I could not find, in any part of the umbra, a really black nucleus. In spots of not one tenth part of the area I have in numerous instances perceived a decidedly black portion, not always central, but comparatively well defined, and totally devoid of any light visible through the darkening glass rendered necessary by the solar illumination of our own atmosphere. The umbra of this large spot was however of various depths of shade in different parts. It appears probable that the upward force by which the luminous envelopes were thrown aside must in this instance have acted upon them very obliquely.

To obtain ocular demonstration of the bright streaks being really elevated ridges or waves of the exterior luminous envelope, is of course a very rare occurrence: but in the present case the evidence was as complete as could be desired. The combination of circumstances was most fortunate; a bright streak of unusual size being precisely at the sun's edge, and the state of the air permitting the use of a large aperture and high power with full advantage.

W. R. Dawes.

Meridiankreis-Beobachtungen von Planeten auf der Sternwarte zu Kremsmünster im Jahre 1859 nebst deren Vergleichen mit den Ephemeriden, von Herrn Director Reslhuber.

In Betreff der Ephemeriden bemerke ich, dass, wo nicht ausdrücklich etwas anderes bemerkt ist, bei den älteren Planeten die Ephemeriden in dem Berliner Jahrbuche für das

Jahr 1859, bei den neueren jene im Berliner Jahrbuche für das Jahr 1861 benutzt worden sind.