

Mohl's statement, that the pollen of *Mimulus moschatus* and *Mimulus luteus* takes several forms, before writing his letter. I may inform him that the figure—in the "One Thousand Objects"—to which he alludes was *not* copied from the "Micrographical Dictionary," as he states. Had Mr. Smith first taken the pains to read what so excellent an authority as Dr. Hugo Mohl has written on pollen, and seen his figures, perhaps his remarks would have taken a different form. He may have observed but one form or one aspect of the pollen grains of *Mimulus* differing from the figures criticised, yet botanists will hesitate to accept his interpretation in opposition to so excellent a physiologist as Dr. H. Mohl, on the faith of his *ad captandum* observations.

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OUR ASTRONOMICAL COLUMN

VARIABLE STARS.—Amongst the stars which deserve attention on account of probable variability, the following may be mentioned; we take them in order of right ascension.

1. λ Eridani, first suspected by the late Capt. Gilliss, of the U.S. Naval Observatory, Washington. It has been variously estimated between mag. 4 (Lalande, Argelander, Heis) and 6 (Gilliss, Santini).

2. β Herculis. The variation of this star hardly admits of doubt. It is called 6 mag. by Flamsteed, Bradley, Piazzini (who observed it nine times), Taylor, and Robinson, and is so entered on Wolfers' Chart; Lalande calls it 7, and this is the magnitude assigned in the Radcliffe observations 1867-68. Bessel and Argelander (in the "Durchmusterung") considered it only 8; Gilliss also drew attention to this star.

3. Lalande 31384. In the "Histoire Céleste," p. 291, this star is called 6 $\frac{1}{2}$. Sir John Herschel, in his third series of observations with a 20-ft. reflecting telescope, estimated it 5, and remarked that it is not in Piazzini. Bessel and Santini, who has four observations, call it 7; it is 5.5 in the "Durchmusterung," and 6 on Bremicker's Chart.

4. ϵ Aquilæ looks suspicious; D'Agelet has four observations, 6, 4.5, 6, 6; Lalande two, 3 $\frac{1}{2}$, 4; it is 5 in Piazzini, 4.2 in "Durchmusterung."

5. Piazzini XXI. 21. D'Agelet, who observed this star twice, calls it 8 on one occasion, and 9.10 on the other. It is 8 in Piazzini, 6 and 6 $\frac{1}{2}$ in Lalande, 9 in Bessel, and 7.5 in Argelander (Durch.).

6. γ Andromedæ. This star has been variously estimated between 3.4 and 7. Flamsteed says 4, Bradley 7, D'Agelet 3.4 in 1783, and 6 in 1784; Lalande twice calls it 5, and once 4; Piazzini, who has ten observations, 7; it is 4 in the Atlases of Argelander and Heis, and 3.9 in the first Radcliffe catalogue. Bradley and Piazzini compared with the Oxford catalogue, in which much attention was given to magnitudes, appear to certify the variability of light.

Piazzini I. 4, 16 Leonis Min., and 32 Vulpeculæ, one of Gilliss's suspected stars, also deserve attention, and observations of χ (Bayer) Cygni are especially desirable, great perturbations having been exhibited in the times of maxima of late years, which, with others previously indicated, it has not yet been found possible to represent satisfactorily by any formula. The variable is the true χ Cygni, Flamsteed having affixed this letter to his No. 17 in this constellation; the cause of it is now understood, Bayer's χ having been faint at the dates of Flamsteed's observations. The var. has (1875.0) R.A. 19h. 45m. 46s., N.P.D. 57° 24'.

Prof. Schönfeld, in his new catalogue, enters the Rev. T. W. Webb's variable in Orion, as δ Orionis, and places it (for 1855) in R.A. 5h. 21m. 51s., and N.P.D. 94° 48' 7". As a first rough approximation to elements, he fixes a minimum to the beginning of December 1872, and assigns a period of from thirteen to thirteen-and-a-half months, the limits of variation 8.3 to less than 12.3.

OCCULTATION OF ANTARES, 1819, April 13.—We refer to this occultation on account of an interesting observation made by Burg at Vienna. He records the emersion on the dark limb of the moon at 12h. 3m. 22s. or 23s. apparent time, but remarks that at 12h. 3m. 17s. he noted the emergence of a star of from sixth to seventh magnitude, which after nearly five seconds suddenly appeared as a star of the first magnitude; and, writing to Bode, he suggests that Antares might be a double star, with the companion so close to the principal star, that good telescopes had not shown it. Bode's explanation was not a happy one. In a note he remarks: "Antares is no double star," and he goes on to attribute the phenomenon witnessed by Burg to the intervention of a lunar atmosphere. The Vienna observation, however, proves that the small star was then separated from the large one by a measurable quantity. It may be remembered that at the emersion of Antares in the occultation of 1856, March 26, which was observed by the late Rev. W. R. Dawes, at Wateringbury, and Mr. Whitbread, F.R.S., at Cardington, both observers noted the interval between the appearance of the small blue star and its bright neighbour as seven seconds; the difference of colour was very marked on this occasion; Burg does not refer to it. Occultations of Antares are coming on again, but no one of them is visible in this country up to the end of the year 1878.

ENCKE'S COMET.—From M. Stéphan's observations at Marseilles on January 27 and 29, published in M. Leverrier's *Bulletin International* of the 11th inst., it appears that Dr. von Asten's ephemeris gives the comet's place with great precision; indeed, the error on the 29th (the best observation) was less than fifteen seconds of arc. M. Stéphan remarks:—"La comète offre l'apparence d'une petite tache laiteuse, à peine perceptible, produisant sur la rétine plutôt des pulsations intermittentes qu'une sensation continue." We are able to add, that on the 31st ult. it was the *extremum visibile* with a 7-inch refractor. The following positions are for 8 P.M. Greenwich time:—

	R.A.	N.P.D.	DISTANCE
	h. m. s.	° ' "	from the Earth.
Feb. 21	0 10 25	81 5' 3"	1.818
" 23	0 14 33	80 41' 0"	1.798
" 25	0 18 49	80 16' 1"	1.776
" 27	0 23 13	79 50' 7"	1.754
March 1	0 27 45	79 24' 7"	1.730
" 3	0 32 26	78 58' 2"	1.705
" 5	0 37 16	78 31' 1"	1.678

WINNECKE'S COMET.—Prof. Oppölzer considered that the error of his predicted time of perihelion passage in the present year would probably not exceed two hours. We find, on comparing the Marseilles observation on the morning of the 2nd inst. with his elements, that the error is likely to be within this limit, or about 0^d.0764, the predicted time too late. With this correction the error in geocentric longitude disappears, and that in latitude is very trifling.

MR. HAMILTON'S STRING ORGAN

IN the *Philosophical Magazine* for February there is a paper by Mr. R. Bosanquet on the mathematical theory of this instrument, in which, however, as it appears to me, the principal points of interest are not touched upon. As the remarks that I have to offer will not require any analysis for their elucidation, I venture to send them to NATURE as more likely than in the *Philosophical Magazine* to meet the eyes of those interested.

The origin of the instrument has led, as I cannot but think, to considerable misconception as to its real acoustical character. The object of Mr. Hamilton and his predecessors was to combine the musical qualities of a string with the sustained sound of the organ and harmonium. This they sought to effect by the attachment of