

Parthenope.

Greenwich M.S. Time.		R.A.	N.P.D.
1855, Dec. 12	^{h m s} 9 27 47.6	^{h m s} 2 51 49.88	80° 21' 43".13
15	9 14 40.5	2 50 30.36	80 19 6.55
18	9 1 49.6	2 49 26.99	80 15 16.37
19	8 57 35.1	2 49 8.41	80 13 36.01

Proserpine.

Greenwich M.S. Time.		R.A.	N.P.D.
1855, Dec. 6	^{h m s} 11 30 47.1	^{h m s} 4 31 30.31	65° 42' 57".74
19	10 27 16.5	4 19 4.49	66 0 43.44

Psyche.

Greenwich M.S. Time.		R.A.	N.P.D.
1855, Dec. 15	^{h m s} 10 13 29.8	^{h m s} 3 49 29.31	74° 42' 12".09
18	9 59 49.6	3 47 36.52	74 44 32.37
21	9 46 19.6	3 45 55.98	74 46 8.70

The north polar distances are corrected for refraction, but not for parallax.

In one or two cases the identity of the object observed for the planet is not quite certain.

Observations of the Solar Spots in the Year 1855. By M. Schwabe.

	Number of Groups.	Days of no Spots.	Days of Observation.
January	4	5	21
February	3	1	20
March	6	0	20
April	4	12	29
May	5	15	31
June	2	12	28
July	2	27	30
August	1	24	30
September	1	25	27
October	5	6	30
November	3	9	17
December	2	10	21

“The above catalogue indicates 313 days of observation and 38 observed groups of spots, which I could perceive with the $2\frac{1}{2}$ -foot Fraunhofer and a magnifying power of 40; with the $3\frac{1}{2}$ -foot instrument and a magnifying power of 42, and with the 6-foot instrument and a magnifying power of 64, I remarked 41 additional small groups, so that, if I retained my earlier system, I should have registered 79 groups. On 146 days the sun, when viewed with the $2\frac{1}{2}$ -foot refractor, appeared free of spots. The spots were always small; their diameter never exceeded $17''$; only a few exhibited any appearance of a penumbra around them. There were very few penumbrae without a nucleus. On the other hand, the whole surface of the sun, especially from October, appeared to be diversified with furrows and pores, which gave it a marble aspect.

“On several cloudy days, when I could observe the sun with the most transparent screen-glass, or even without a glass at all, the light of the sun’s border appeared so remarkably faint, that the effect can only be satisfactorily accounted for by a light-eneebing solar atmosphere.

“No faculae were visible on the sun’s disk.

“*Dessau, December 31, 1855.*”

M. Schwabe has prosecuted observations of the solar spots without interruption since the year 1826, and has found that the number of groups is subject to a periodic recurrence. The following table exhibits the results of his observations for each succeeding year:—

Year.	Days of Observation.	Days of no Spots.	New Groups.
1826	277	22	118
1827	273	2	161
1828	282	0	225
1829	244	0	199
1830	217	1	190
1831	239	3	149
1832	270	49	84
1833	247	139	33
1834	273	120	51
1835	244	18	173
1836	200	0	272
1837	168	0	333
1838	202	0	282
1839	205	0	162
1840	263	3	152
1841	283	15	102
1842	307	64	68
1843	312	149	34
1844	321	111	52

Year.	Days of Observation.	Days of no Spots.	New Groups.
1845	332	29	114
1846	314	1	157
1847	276	0	257
1848	278	0	330
1849	285	0	238
1850	308	2	186
1851	308	0	151
1852	337	2	125
1853	299	3	91
1854	334	65	67
1855	313	146	79

In 1852, Dr. Wolf, of Berne, by an examination of old documents, obtained a confirmation of the period deduced by M. Schwabe. He also remarked that the period of the mean annual value of the diurnal variation of the magnetic needle in declination coincides with the period of the solar spots. Dr. Lamont, who first remarked the periodicity of the magnetic phenomenon, inferred that its variations recurred in intervals of about $10\frac{1}{3}$ years. Dr. Wolf, however, found that a period of 11.11 years would more satisfactorily represent the observations.

The following synopsis of the magnetic variations from 1835 to 1850, both years included, is extracted from a paper by Dr. Lamont on the subject. The results in the first column have been deduced from the *Göttingen Observations*; those in the second have been established by Dr. Lamont himself at the Munich Observatory.*—

Mean Diurnal Variation in Declination of the Magnetic Needle.		Mean Diurnal Variation in Declination of the Magnetic Needle.	
1835	9.57	1841	7.82
1836	12.34	1842	7.08
1837	12.27	1843	7.15
1838	12.74	1844	6.61
1839	11.03	1845	8.13
1840	9.91	1846	8.81
1841	8.70	1847	9.55
		1848	11.15
		1849	10.64
		1850	10.44

Dr. Lamont has also shown that the observations of Colonel Beaufoy from 1813 to 1820, and the earlier observations of Gilpin and Cassini, indicate the same period of variation.

* Poggendorf's *Annalen*, vol. lxxxiv. p. 572.