

obscurations during which stars were partly visible, as in total solar eclipses.

- 626 A.D. According also to Abu'l-Farag. (*Hist. Dynast.*, p. 94, 99), half of the Sun's disk continued obscured for eight months.
- 733 A.D. One year after the Arabs had been driven back across the Pyrenees after the battle of Tours, the Sun was so much darkened on the 19th of August as to excite universal terror.—Schnurrer, *Chron.*, theil i., p. 164.
- 807 A.D. A Sun-spot was observed, which was believed to be the planet Mercury.—Reuber, *Vet. Script.*, p. 58 (see p. 70).
- 840 A.D. From the 28th of May to the 26th of August (Assemaui singularly enough gives the date of May, 839), the so-called transit of Venus across the Sun's disk was observed. (See above, p. 73-74.) The Calif Al-Motassem reigned from 834 to 841, when he was succeeded by Harun-el-Vatek, the ninth Calif.
- 934 A.D. In the valuable work *Historia de Portugal*, by Faria y Souza, 1730, p. 147, I find the following passage: "En Portugal se vió sin luz la tierra por dos meses. Avia el Sol perdido su splendor." The Earth was without light for two months in Portugal, for the Sun had lost its brightness. The heavens were then opened in fissures "por fractura," by strong flashes of lightning, when there was suddenly bright sun-light.
- 1091 A.D. On the 21st of September, the Sun was darkened for three hours, and when the obscuration had ceased, the Sun's disk still retained a peculiar color. "Fuit eclipsis Solis, 11 Kal. Octob. fere tres horas: Sol circa meridiem dire nigrescebat."—Martin Crusius, *Annales Suevici*, Francof., 1595, tom. i., p. 279; Schnurrer, th. i., p. 219.
- 1096 A.D. Sun-spots were seen by the naked eye on the 3d of March. "Signum in Sole apparuit V., Nono Marcii feria secunda incipientis quadragesimæ. Joh. Staindelii, Presbyteri Pataviensis, *Chronicon Generale*, in *Oefelii Rerum Boicarum Scriptores*, tom. i., 1763, p. 485.
- 1206 A.D. On the last day of February there was, according to Joaquin de Villalba (*Epidemiologia Española*, Madr., 1803, tom. i., p. 30), complete darkness for six hours, turning the day into night. This phenomenon was succeeded by long-continued and abundant rains. "El dia ultimo del mes de Febrero hubo un eclipse de Sol que duró seis horas con tanto obscuridad como si fuera media noche. Siguiéron á este fenomeno abundantes y continuas lluvias." A very similar phenomenon is recorded for June, 1191, by Schnurrer, th. i., p. 258, 265.
- 1241 A.D. Five months after the Mongolian battle at Liegnitz, the Sun was darkened (in some places?), and such darkness caused that the stars could be seen in the heavens at three o'clock on Michaelmas day. "Obscuratus est Sol (in quibusdam locis?), et factæ sunt tenebræ, ita ut stellæ viderentur in cælo, circa festum S. Michaelis hora nona."—*Chronicon Claustro-Neoburgense* (of the Monastery of Neuberg, at Vienna: this chronicle comprises the annals of the period from the year 218 A.D. to 1348); Pez, *Scriptores Rerum Austriacarum*, Lips., 1721, tom. i., p. 458.
- 1547 A.D. The 23d, 24th, and 25th of April, consequently the days preceding and immediately succeeding the battle of Mühlbach, in which the Elector John Frederick was taken prisoner. Kepler says in *Paralipom. ad Vitellium, quibus Astronomiæ pars Optica traditur*, 1604, p. 259, "The elder and younger Gemma record that in the year