

(g) March, 393. This star was also in Scorpio, in the tail of that constellation. From the Records of Ma-tuan-lin.

(h) The precise year (827) is doubtful. It may with more certainty be assigned to the first half of the ninth century, when, in the reign of Calif Al-Mamun, the two famous Arabian astronomers, Haly and Giafar Ben Mohammed Albumazar, observed at Babylon a new star, whose light, according to their report, "equaled that of the moon in her quarters." This natural phenomenon likewise occurred in Scorpio. The star disappeared after a period of four months.

(i) The appearance of this star (which is said to have shone forth in the year 945, under Otho the Great), like that of 1264, is vouched for solely by the testimony of the Bohemian astronomer Cyprianus Leoviti-
vius, who asserts that he derived his statements concerning it from a manuscript chronicle. He also calls attention to the fact that these two phenomena (that in 945 and that in 1264) took place between the constellations of Cepheus and Cassiopeia, close to the Milky Way, and near the spot where Tycho Brahe's star appeared in 1572. Tycho Brahe (*Progym.*, p. 331 and 709) defends the credibility of Cyprianus Leoviti-
vius against the attacks of Pontanus and Camerarius, who conjectured that the statements arose from a confusion of new stars with long-tailed comets.

(k) According to the statement of Hepidannus, the monk of St. Gall (who died A.D. 1088, whose annals extend from the year A.D. 709 to 1044), a new star of unusual magnitude, and of a brilliancy that dazzled the eye (*oculos verberans*), was, for three months, from the end of May in the year 1012, to be seen in the south, in the constellation of Aries. In a most singular manner it appeared to vary in size, and occasionally it could not be seen at all. "*Nova stella apparuit insolitæ magnitudinis, aspectu fulgurans et oculos verberans non sine terrore. Quæ mirum in modum aliquando contractior, aliquando diffusior, etiam extinguebatur interdum. Visa est autem per tres menses in intimis finibus Austri, ultra omnia signa quæ videntur in cælo.*" (See Hepidanni, *Annales breves*, in Duchesne, *Historiæ Francorum Scriptores*, t. iii., 1641, p. 477. Compare also Schnurrer, *Chronik der Seuchen*, th. i., s. 201.) To the manuscript made use of by Duchesne and Goldast, which assigns the phenomenon to the year 1012, modern historical criticism has, however, preferred another manuscript, which, as compared with the former, exhibits many deviations in the dates, throwing them six years back. Thus it places the appearance of this star in 1006. (See *Annales Sangallenses majores*, in Pertz, *Monumenta Germaniæ historica Scriptorum*, t. i., 1826, p. 81.) Even the authenticity of the writings of Hepidannus has been called into question by modern critics. The singular phenomenon of variability has been termed by Chladni the *conflagration* and *extinction* of a fixed star. Hind (*Notices of the Astron. Soc.*, vol. viii., 1848, p. 156) conjectures that this star of Hepidannus is identical with a new star, which is recorded in Ma-tuan-lin, as having been seen in China, in February, 1011, between σ and ϕ of Sagittarius. But in that case there must be an error in Ma-tuan-lin, not only in the statement of the year, but also of the constellation in which the star appeared.

(l) Toward the end of July, 1203, in the tail of Scorpio. According to the Chinese Record, this new star was "of a bluish-white color, without luminous vapor, and resembled Saturn." (Edouard Biot, in the *Connaissance des Temps pour 1846*, p. 68.)

(m) Another Chinese observation, from Ma-tuan-lin, whose astronomical records, containing an accurate account of the positions of comets