and fixed stars, go back to the year 613 B.C., to the times of Thales and the expedition of Colæus of Samos. This new star appeared in the middle of December, 1230, between Ophiuchus and the Serpent. It dissolved toward the end of March, 1231.

(n) This is the star mentioned by the Bohemian astronomer, Cyprianus Leovitius (and referred to under the ninth star, in the year 945). About the same time (July, 1264), a great comet appeared, whose tail swept over one half of the heavens, and which, therefore, could not be mistaken for a new star suddenly appearing between Cepheus and Cassiopeia.

(o) This is Tycho Brahe's star of the 11th of November, 1572, in the Chair of Cassiopeia, R. A. 3° 26'; Decl. 63° 3' (for 1800).

(p) February, 1578. Taken from Ma-tuan-lin. The constellation is not given, but the intensity and radiation of the light must have been extraordinary, since the Chinese Record appends the remark, "a star as large as the sun !"

(q) On the 1st of July, 1584, not far from π of Scorpio; also a Chinese observation.

(r) According to Bayer, the star 34 of Cygnus. Wilhelm Jansen, the celebrated geographer, who for a time had been the associate of Tycho Brahe in his observations, was the first, as an inscription on his celestial globe testifies, to draw attention to the new star in the breast of the Swan, near the beginning of the neck. Kepler, who, after the death of Tycho Brahe, was for some time prevented from carrying on any observations, both by his travels and want of instruments, did not observe it till two years later, and, indeed (what is the more surprising, since the star was of the third magnitude), then first heard of its existence. He thus writes: "Cum mense Maio, anni 1602, primum litteris monerer de novo Cygni phænomeno." (Kepler, De Stella Nova tertii honoris in Cygno, 1606, which is appended to the work De Stella Nova in Serpent., p. 152, 154, 164, and 167.) In Kepler's treatise it is nowhere said (as we often find asserted in modern works) that this star of Cygnus upon its first appearance was of the first magnitude. Kepler even calls it "parva Cygni stella," and speaks of it throughout as one of the third magnitude. He determines its position in R.A. 300° 46'; Decl. 36° 52' (therefore for 1800: R. A. 302° 36'; Decl. +37° 27'). The star decreased in brilliancy, especially after the year 1619, and vanished in 1621. Dominique Cassini (see Jacques Cassini, Elémens d'Astr., p. 69) saw it, in 1655, again attain to the third magnitude, and then disappear. Hevelius observed it again in November, 1665, at first extremely small, then larger, but never attaining to the third magnitude. Between 1677 and 1682 it decreased to the sixth magnitude, and as such it has remained in the heavens. Sir John Herschel classes it among the variable stars, in which he differs from Argelander.

(s) After the star of 1572 in Cassiopeia, the most famous of the new stars is that of 1604 in Ophiuchus (R. A. 259° 42'; and S. Decl. 21° 15', for 1800). With each of these stars a great name is associated. The star in the right foot of Ophiuchus was originally discovered, on the 10th of October, 1604, not by Kepler himself, but by his pupil, the Bohemian astronomer, John Bronowski. It was larger than all stars of the first order, greater than Jupiter and Saturn, but smaller than Venus. Herlicius asserts that he had previously seen it on the 27th of September. Its brilliancy was less than that of the new star discovered by Tycho Brahe in 1572. Moreover, unlike the latter, it was not discernible in the daytime. But its scintillation was considerably greater, and espe-