

The **Keepers** was Arago's name for them; while, as the **Pointers**, they indicate to beginners in astronomy the pole-star,  $28\frac{3}{4}^{\circ}$  distant from  $\alpha$ , and Regulus,  $45^{\circ}$  away towards the south; and they have been called the **Two Stars**.

They are circumpolar north of about  $32^{\circ} 45'$ ; and, with Polaris, received much attention in the first almanac<sup>1</sup> that was printed in London, in 1473.

Klein surmised, in 1867, that Dubhe shows remarkable, although irregular, variations in color,—not in light,—from red to yellow, in a period of  $54\frac{1}{2}$  days; but this is still in doubt. Its spectrum is Solar, and it is approaching our system at the rate of twelve miles a second.

The 11th-magnitude companion, .97 of a second away, was discovered by Burnham in 1889, and is thought to be in rapid revolution around it.

$\beta$ , 2.5, greenish white.

**Merak**, or **Mirak**, is from **Al Marāḳḳ**, the Loin (of the Bear); but Chilmead said **Miraḳ**, and Scaliger, **Mizar**. It may have been known by the Greeks as **Helike**, one of their names for the whole.

The Chinese called it **Tien Seuen**, an Armillary Sphere, and the Hindus, **Pulaha**, one of the Rishis.

Its spectrum is Sirian, and it is moving toward us about  $18\frac{1}{2}$  miles a second.

Close to it, on the west, lies the **Owl Nebula**, N. G. C. 3587, 97 M., discovered by Mechain in 1781, and so called from the two interior circular spaces, each with a central star representing the eye; although one of these stars seems to have disappeared since 1850. The angular diameter of this nebula —  $2' 40''$  — indicates a magnitude sufficient to contain thousands of solar systems.

$\gamma$ , 2.5, topaz yellow.

**Phacd** and **Phachd**, **Phad**, **Phaed**, **Pheoda**, **Phekda**, and **Phegda**, are all from **Al Falidh**, the Thigh, where this star is located in the figure.

Al Birūnī said that it was **Pulastya**, one of the Hindu Seven Sages.

The Chinese knew it as **Ke Seuen Ke**, and as **Tien Ke**, another Armillary Sphere.

Its spectrum is similar to that of  $\beta$ , and the star is approaching us at the rate of 16.6 miles a second. It is  $8^{\circ}$  distant from  $\beta$ , and  $4\frac{1}{2}^{\circ}$  from  $\delta$ .

<sup>1</sup> This is said to have been the second of such works; the first being variously given as published in Vienna by Purbach, or in Buda, or in Poland a few years previously.