vard Observatory, although Wega had been pictured by the same process at the same observatory seven years previously by the elder Bond.

The components are within 14″ of arc of each other, with a position angle of 149°.5, and may be a binary system with a long period of revolution; while Pickering has shown, by study of its spectrum photographed in 1889, that the brightest component is itself double, the two bodies, of nearly equal brightness, revolving around their common centre of gravity at a speed of 100 miles a second in 104 days, 140 millions of miles apart, and with a united mass forty times that of our sun. This spectrum is Sirian, and the star is in approach to us at the rate of 19.5 miles a second.

ζ is 4½° from ε, and 7° from η; and a straight line from it to Polaris passes through the exact pole 1° 14′ before reaching Polaris.

Mizar and Alcor are 11′ 48″ apart, and, since they have nearly identical proper motion, some think that they may also be in mutual revolution, although so distant from each other. With their attendant stars they form one of the finest objects in the sky for a small telescope, being readily resolved by a terrestrial eyepiece of 40 diameters with a 2¼-inch objective.

η, 1.9, brilliant white.

Alcaid, Alkaid, and **Benatnasch** are our present titles, from **Ḳā'id Banāt al Na'aah,** the Governor of the Daughters of the Bier, *i. e.* the Chief of the Mourners. Some of the Arabic poets wrote that these Daughters — the stars ε, ζ, and η — were

Good for nothing people whose rising and setting do not bring rain.

Bayer included **Elkeid** in his list of names for the stars as well as for the constellation, and had authority for it from Kazwini; but he added for η "**Benenaim, Bennenatz** *correctius* **Benetnasch,**" and in his text of Boötes alluded to it as **Benenacx.** The *Alfonsine Tables* of 1521 say **Bennenazc;** Riccioli, **Benat Elnanschi, Beninax, Benenath, Benenatz;** while Al Ḳā'id often has been turned into **Alchayr,** Arago's **Ackaïr,** and others' **Ackiar.** In this Al Ḳā'id we see the derivation, through the Moors, of the modern Spanish word Alcaide; and, with the same idea, Ideler translated the original as the "Stadtholder."

Assemani transcribed from the Borgian globe "**Alcatel,**" Destroying. Al Bīrūnī gave it as **Marīci,** one of the Seven Rishis of India.

In China it was known as **Yaou Kwang,** a Revolving Light.

Boteler has an amusing reference to it in *Hudibras:*

Cardan believ'd great states depend
Upon the tip o' th' Bear's tail's end;
That, as she whisk'd it t'wards the Sun,
Strew'd mighty empires up and down;
Which others say must needs be false,
Because your true bears have no tails.

η is 7° from ζ, and 26° from a; and with ζ forms another pair of Pointers — towards Arcturus. It is noted as marking the radiant of one of the richest minor meteor streams, the **Ursids** of the 10th of November.

Bradley's earliest observations for parallax were made on this star and γ Draconis, but unsuccessfully, as his instruments were inadequate; yet even in our own day Pritchard's work on η for the same purpose showed a negative result,—0″.046, and equally unsatisfactory.

Alkaid's spectrum is Sirian, and the star is approaching us at the rate of 16.1 miles a second.

Sir John Herschel thought it, in 1847, the *lucida* of the seven stars.

θ, Double, 3.4 combined, brilliant white.

This, with τ, h, v, ϕ, e, and f in the Bear's throat, breast, and fore knees, which describe somewhat of a semicircle, was the Arab star-gazers' **Sarīr Banāt al Na'ash,** the Throne of the Mourners.

This space also has been **Al Ḥaud,** the Pond into which the Gazelles sprang for safety at the lashing of the Lion's tail; although Hyde applied this title to the stars now our Coma Berenices, and **Ṭhufr al Ghizlān,** the Gazelles' Tracks, to the small outlying stars near the Bear's feet. But the engraver of the Borgian globe placed them at stars in the neck.

In China θ, v, and ϕ were **Wan Chang,** the Literary Illumination.

ι, Binary, 3.2 and 13, topaz yellow and purple, and $\varkappa$, 3.5.

Smyth wrote that

this star has obtained the name of **Talita,** the third vertebra, the meaning of which is not quite clear. Ulug Beigh has it **Al Phikra al Thalitha,** perhaps for *Al Ḳafzah al-thālithah*, the third spring, or leap, of the ghazal;

but he was not sufficiently comprehensive, for this last title was applied by the Arabs to ι and $\varkappa$ together; al Ūla, the First (leap), being shown by ν and ξ, and al Thānīyah, the Second (leap), by λ and μ,— not δ and μ as that