

Just north of  $\gamma$  is  $\pi$ , the only pretty and fairly easy double in the constellation. The components, of 6 and 6.8 magnitudes, 1".5 apart, are at a position angle of 120°.7.

$\delta$ ,  $\eta$ , and  $\theta$ , of 3d to 4th magnitudes, in Antinoüs, were **Al Mizān**, the Scale-beam, of early Arabia, from their similar direction and nearly equal distances apart.

$\epsilon$ , 4.3, and  $\zeta$ , 3.3, green.

Each of these is known as **Deneb**, from **Al Dhanab al 'Oḡāb**, the Eagle's Tail, which they mark.

In China they were **Woo** and **Yuē**, names of old feudal states.

$\eta$ , in Antinoüs, is a noteworthy short-period variable of the 2d type, discovered by Pigott in 1784, yellow in tint, and fluctuating in brilliancy from 3.5 to 4.7 in a period of about seven days and four hours, and thus a convenient and interesting object of observation for midsummer evenings.

Its spectrum is similar to that of our sun, and Lockyer and Belopolsky think it a spectroscopic binary.

$\theta$  was the Chinese **Tseen Foo**, the Heavenly Raft.

$\iota$ , 4.3, and  $\lambda$ , 3.6,

were **Al Thalimain**, the Two Ostriches, by some confusion with the not far distant stars of like designation in Sagittarius; but the Grynæus *Syntaxis* of 1538 gave  $\lambda$ , with some others unlettered, as belonging to the Dolphin.

$\iota$ , with  $\delta$ ,  $\eta$ , and  $\kappa$ , was **Yew Ke** in China, the Right Flag;  $\rho$  being **Tso Ke**, the Left Flag.

$\lambda$ , with  $h$ ,  $g$ , and some stars in Scutum, was **Tseen Peen**, the Heavenly Casque.

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And this you note but little time aloft;  
For opposite Bear-watcher doth it rise.  
And whilst his course is high in air,  
It quickly speeds beneath the western sea.

Robert Brown, Junior's, translation of the *Phainomena* of Aratos.

### **Ara, the Altar,**

**Altar** in Germany, **Altare** in Italy, **Autel** and **Encensoir** in France.

It is located as Aratos described it —

'neath the glowing sting of that huge sign  
The *Scorpion*, near the south, the *Altar* hangs;

and in classical times was intimately associated with Centaurus and Lupus, which it joined on the west before Norma was formed.

The Latins knew it under our title, often designated as **Ara Centauri**, **Ara Thymiamatis**, and as **Thymele**, the altar of Dionysus; and occasionally in the diminutive **Arula**. It also was **Altare**, **Apta Altaria**, **Altarium**; **Sacrarium** and **Sacris**; **Acerra**, the small altar on which perfumes were burned before the dead; **Batillus**, an Incense Pan; **Prunarum Conceptaculum**, a Brazier; **Focus**, **Lar**, and **Ignitabulum**, all meaning a Hearth; and **Ἑστία**, or **Vesta**, the goddess of the hearth.

**Thuribulum** and **Turribulum**, a Censer, more correctly **Turibulum**, were customary titles down to the 18th century.

**Pharus** also appears, altars often being placed upon the summits of temple towers and thus serving the ancients as lighthouses, of which the Alexandrian Pharos was the great example.

The *Alfonsine Tables* added to some of these titles **Puteus**, a Pit; **Sacrarius**, and **Templum**, a Sacred Place; but represented it as a typical altar. The *Leyden Manuscript* made it a tripod censer with incense burning; the illustrated editions of *Hyginus* of 1488 and 1535, an altar from which flames ascend, with demons on either side; and an illustrated German manuscript of the 15th century showed the Pit with big demons thrusting little ones into the abyss. This recalls the story of Jove's punishment of the defeated giants after he had, as Manilius wrote,

Rais'd this Altar, and the Form appears  
With Incense loaded, and adorn'd with Stars;

the occasion being the war with the Titans, when the gods needed an altar in heaven for their mutual vows. That poet also described it as

ara ferens turris, stellis imitantibus ignem,

which would show that the flame was conceived of as rising northwards through the Milky Way, or that the latter itself was the smoke and flame; and it was so thought of and represented by the ancients, and down to the times of Arabic globes and Middle Age manuscripts. But from Bayer's day to ours it has been shown in an inverted position, which for a southern constellation is appropriate.

Aratos called it **Οὐστήριον**; others, **Θύσιαστήριον**, both signifying an Altar: Proclus and Ptolemy, **Θυματήριον**, a Censer; and Bayer cited **Ἐχάρα** that should be **Ἑσχάρα**, a Brazier; **Πυράμνη**, not a lexicon word; and **Λιβανωτής**, by which he doubtless intended the **Λιβανωτρίς**, or Censer, where the votive

plant was burned. Eratosthenes had Νέκταρ ἡ Θυτήριον, which Ideler and Schaubach, however, did not understand, and thought a corrupted reading.

Its varied classical names show disagreement as to its form, yet great familiarity with its stars, on the part of early observers, with whom it was of importance as portending changes in the winds and weather; Aratos devoting twenty-eight lines—a large proportionate space—of the *Phainomena* to this character of Ara.

In Arabia it was **Al Mijmarah**, a Censer, which, being its only title in that country, implies that it was unknown there before the introduction of Greek astronomy. Derivations from this word are found in the **Alme-gramith** of Riccioli and the **Almugamra** of Caesius.

This last author said that Ara represented **one of the altars raised by Moses**, or the permanent **golden one in the Temple** at Jerusalem; but others of the biblical school considered it the **Altar of Noah** erected after the Deluge. Euphratean research seems to show a stellar Altar differently located, which Brown says probably was the lost zodiacal sign subsequently represented by the Claws and afterwards by the Balance; and identifies it with the 7th Akkadian month and sign **Tul-Ku**, the Holy Altar, or the Illustrious Mound, perhaps a reference to the mound-altar of the Tower of Babel. When these changes were accomplished this early zodiacal Altar was removed to its present position, and its diversified altar-censer form retained from the Euphratean figuring. This recollection of the first Altar will perhaps account for the otherwise strange prominence given in classical times to our visually unimportant Ara, when Manilius called it **Mundi Templum**; this last word also having another stellar signification, for Varro used it to indicate a division of the sky.

Other details of this early Euphratean Altar are noted under Libra.

Ara is not wholly visible now north of the 23d degree of latitude; and its brief period above the horizon—only about four hours—explains Aratos' allusion in our motto; his horizon being about the same as that of the city of New York.

Gould catalogues in it eighty-five stars, from 2.8 to the 7th magnitude; but none seem to be named except in China. There  $\alpha$ , 2.9 magnitude, was **Choo**, a Club or Staff; and with  $\beta$ ,  $\gamma$ , and  $\iota$ , **Low**, Trailing.

With  $\theta$  it marks the top of the Altar's frame, culminating, on the 24th of July, just above the horizon in the latitude of New York,— $40^{\circ} 42' 43''$  at the City Hall.

Bayer's map carries the latter star several degrees too far to the south-west; similar errors being found in others of his constellation figures of the southern heavens.

$\beta$ , a 2.8-magnitude,  $\gamma$ ,  $\delta$ ,  $\epsilon$ , and  $\zeta$  mark the flame rising toward the south.

In China  $\delta$ , 3.7, with  $\zeta$ , was **Tseen Yin**, the Dark Sky;  $\epsilon$ , a 4th-magnitude, was **Tso Kang**, the Left Watch; and  $\epsilon$  602 of Reeves was **Tseen O**, Heaven's Ridge.

La Lande stated that a constellation was supposed to exist here, containing Ara's stars, that was represented on the Egyptian sphere of Petosiris as a **Cynocephalus**.



So when the first bold vessel dar'd the seas,  
High on the stern the Thracian rais'd his strain  
While Argo saw her kindred trees  
Descend from Pelion to the main.  
Transported demi-gods stood round.

*Pope's Ode on St. Cecilia's Day.*

### **Argo Navis, the Ship Argo,**

generally plain **Argo**,— erroneously **Argus**, from confusion with its genitive case,— and **Navis**, is the German **Schiff**, the French **Navire Argo**, and the Italian **Nave Argo**.

It lies entirely in the southern hemisphere, east of Canis Major, south of Monoceros and Hydra, largely in the Milky Way, showing above the horizon of New York city only a few of its unimportant stars; but it covers a great extent of sky, nearly seventy-five degrees in length,— Manilius calling it *nobilis Argo*,— and contains 829 naked-eye components. The centre culminates on the 1st of March.

La Caille used for it nearly 180 letters, many of them of course duplicated, so that although this notation was adopted in the *British Association Catalogue*, recent astronomers have subdivided the figure for convenience in reference, and now know its three divisions as **Carina**, the Keel, with 268 stars, **Puppis**, the Stern, with 313, and **Vela**, the Sail, with 248. This last is the German **Segel**.

La Caille, moreover, formed from stars in the early subordinate division **Malus**, the Mast, **Pyxis Nautica**, the Nautical Box or Mariner's Compass, the German **See Compass**, the French **Boussole** or **Compas de Mer**, and the Italian **Bussola**; and this is still recognized by some good astronomers as **Pyxis**.