ness; but the **Antarii** has puzzled all, unless it be Professor Young, who suggests that it may be the reins diverging from the Driver's hand like guy-ropes, which the original means as used by Vitruvius in his description of a builder's derrick.

The Arabians translated the classic titles for the Rein-holder into **Al Dhu al 'Inān, Al Māsik al 'Inān,** and **Al Mumsik al 'Inān,**— Chilmead's **Mumassich Alhanam;** but the Rabbi Aben Ezra[1] mixed things up by calling the figure **Pastor** *in cujus manu est frenum.*

Some have illustrated it as **Saint Jerome,** but Caesius likened it to **Jacob** deceiving his father with the flesh of his kids; and Seiss says that it represents the **Good Shepherd** who laid down his life for the sheep. A Chariot and Goat are shown on coins of consular Rome, and a Goat alone on those of Paros, that may have referred to this constellation.

Argelander counts 70 naked-eye stars here, and Heis 144.

Capella's course admiring landsmen trace,
But sailors hate her inauspicious face.
Lamb's *Aratos.*

α, 0.3, white.

This has been known as **Capella,** the Little She-goat, since at least the times of Manilius, Ovid, and Pliny, all of whom followed the Κινῆσαι Χειμῶνας of Aratos in terming it a *Signum pluviale* like its companions the Haedi, thus confirming its stormy character throughout classical days. Holland translated Pliny's words the **rainy Goat-starre;** Pliny and Manilius treated it as a constellation by itself, also calling it **Capra, Caper, Hircus,** and by other hircine titles.

Our word is the diminutive of **Capra,** sometimes turned into **Crepa,** and more definitely given as **Olenia, Olenie, Capra Olenie,** and the **Olenium Astrum** of Ovid's *Heroides.* In the present day it is **Cabrilla** with the Spaniards, and **Chevre** with the French.

Amalthea came from the name of the Cretan goat, the nurse of Jupiter and mother of the Haedi, which she put aside to accommodate her foster-child, and for which Manilius wrote:

The Nursing Goat's repaid with Heaven.

From this came the occasional **Jovis Nutrix.**

[1] This celebrated man, often cited in bygone days as Abenare, Avenore, Evenare, was Abraham ben Meir ben Ezra of Toledo, the great Hebrew commentator of the 12th century, an astronomer, mathematician, philologist, poet, and scholar, and the first noted biblical critic.

But, according to an earlier version, the nurse was the nymph Amalthea, who, with her sister Melissa, fed the infant god with goat's milk and honey on Mount Ida, the nymph Aigē being sometimes substituted for one or both of the foregoing; or Adrasta, with her sister Ida, all daughters of the Cretan king Melisseus. Others said that the star represented the Goat's horn broken off in play by the infant Jove and transferred to the heavens as **Cornu copiae**, the Horn of Plenty, a title recalled by the modern Lithuanian **Food-bearer.** In this connection, it was Ἀμαλθείας κέρας, also brought absurdly enough into the *Septuagint* as a translation of the words Keren-happuch, the Paint-horn, or the Horn of Antimony, of the *Book of Job* xlii, 14,—the Cornus tibii of the *Vulgate.* Ptolemy's Ἄιξ probably became the Arabo-Greek Ἀιοὺκ of the Graeco-Persian Chrysococca's book, and the **Ayyūḳ, Alhajoc, Alhajoth, Alathod, Alkatod, Alatudo, Atud,** etc., which it shared with the constellation; but Ideler thought 'Ayyūḳ an indigenous term of the Arabs for this star. Assemani's **Alcahela** may have come from Capella. The Tyrians called it **'Iyūthā**, applied also to Aldebaran and perhaps to other stars; but the Rabbis adopted the Arabic 'Ayyūḳ as a title for their heavenly Goat, although they greatly disagreed as to its location, placing it variously in Auriga, Taurus, Aries, and Orion. The "armborne she goat," however, of Aratos, derived from the priests of Zeus, would seem to fix it positively where we now recognize it. Hyde devoted three pages of learned criticism to this important (!) subject, but insisted that the Arabic and Hebrew word **'Āsh** designated this star.

With ζ and η, the Kids, it formed the group that Kazwini knew as **Al Ināz**, the Goats, but others as **Al 'Anz**, in the singular.

The early Arabs called it **Al Rākib**, the Driver; for, lying far to the north, it was prominent in the evening sky before other stars became visible, and so apparently watching over them; and the synonymous **Al Hāḍī** of the Pleiades, as, on the parallel of Arabia, it rose with that cluster. Wetzstein, the biblical critic often quoted by Delitzsch, explains this last term as "the singer riding before the procession, who cheers the camels by the sound of the *hadwa*, and thereby urges them on," the Pleiades here being regarded as a troop of camels. An early Arab poet alluded to this Hāḍī as overseer of the *Meisir* game, sitting behind the players, the other stars.

Bayer's **Ophiultus** now seems unintelligible.

Capella's place on the Denderah zodiac is occupied by a mummied cat in the outstretched hand of a male figure crowned with feathers; while, always an important star in the temple worship of the great Egyptian god **Ptah**, the Opener, it is supposed to have borne the name of that divinity and probably was observed at its setting 1700 B. C. from his temple, the

noted edifice at Karnak near Thebes, the No Amon of the books of the prophets *Jeremiah* and *Nahum*. Another recently discovered sanctuary of Ptah at Memphis also was oriented to it about 5200 B. C. Lockyer thinks that at least five temples were oriented to its setting.

It served, too, the same purpose for worship in Greece, where it may have been the orientation point of a temple at Eleusis to the goddess Diana Propyla; and of another at Athens.

In India it also was sacred as **Brahma Ridaya,** the Heart of Brahma; and Hewitt considers Capella, or Arcturus, the **Āryaman,** or **Airyaman,** of the *Rig Veda*.

The Chinese had an asterism here, formed by Capella with β, θ, κ, and γ, which they called **Woo Chay,** the Five Chariots — a singular resemblance in title to our Charioteer; although Edkins says that this should be the Chariots of the Five Emperors.

The Akkadian **Dil-gan I-ku,** the Messenger of Light, or **Dil-gan Babili,** the Patron star of Babylon, is thought to have been Capella, known in Assyria as **I-ku,** the Leader, *i. e.* of the year; for, according to Sayce, in Akkadian times the commencement of the year was determined by the position of this star in relation to the moon at the vernal equinox. This was previous to 1730 B. C., when, during the preceding 2150 years, spring began when the sun entered the constellation Taurus; in this connection the star was known as the **Star of Mardūk,** but subsequent to that date some of these titles were apparently applied to Hamal, Wega, and others whose positions as to that initial point had changed by reason of precession. One cuneiform inscription, supposed to refer to our Capella, is rendered by Jensen **Askar,** the Tempest God; and the *Tablet of the Thirty Stars* bears the synonymous **Ma-a-tu;** all this well accounting for its subsequent character in classical times, and one of the many evidences adduced as to the origin of Greek constellational astronomy in the Euphrates valley.

The ancient Peruvians, the Quichuas, whose language is still spoken by their descendants, appear to have devoted much attention to the stars; and José de Acosta, the Spanish Jesuit and naturalist of the 16th century, said that every bird and beast on earth had its namesake in their sky. He cited several of their stellar titles, identifying this star with **Colca,** singularly prominent with their shepherds, as Capella was with the same class on the Mediterranean in ancient days; indeed in later also, for the **Shepherd's Star** has been applied to it by our English poets, although more commonly to the planet Venus.

In astrology Capella portended civic and military honors and wealth.

Tennyson, in some fine lines in his *Maud*, mentions it as "a glorious crown."

As to its color astronomers are not agreed; Smyth calling it bright white; Professor Young yellow; and others say blue or red, which last it was asserted to be by Ptolemy, Al Ferghani, and Riccioli; while those whose eyes are specially sensitive to that tint still find it such.

Capella perhaps has increased in lustre during the present century; but, brilliant as it is, its parallax of 0″.095, obtained from Elkin's observations, indicates a distance from our system of 34¼ light years; and, if this be correct, the star emits 250 times as much light as our sun.

Its spectrum resembles that of the latter; indeed spectroscopists say that Capella is virtually identical with the sun in physical constitution, and furnishes the model spectrum of the Solar type,[1] yellow in tinge and ruled throughout with innumerable fine dark lines.

Vogel thinks it receding from our system at the rate of 15¼ miles a second. It is the most northern of all the 1st-magnitude stars, rising in the latitude of New York City at sunset about the middle of October, and culminating at nine o'clock in the evening of the 19th of January. Thus it is visible at some hour of every clear night throughout the year.

β, 2.1, lucid yellow.

Menkalinan, Menkalinam, and **Menkalina** are from **Al Mankib dhi'l 'Inān,** the Shoulder of the Rein-holder, which it marks, the solstitial colure passing it 2° to the east; the star itself being about 10° east of Capella. It is supposed to be a very close binary, receding from us about 17½ miles a second; the two practically equal stars that compose the pair being only 7½ millions of miles apart, and revolving in a period of about four days, with a relative velocity of fully 150 miles a second. This discovery was made by Pickering from spectroscopic observations in 1889. The lines in the spectrum double and undouble every two days.

γ, 2.1, brilliant white,

was **Al Ḳa'b dhi'l 'Inān,** the Heel of the Rein-holder, of Arabian astronomy, so showing its location in the figure of Auriga. From the earliest days of descriptive astronomy it has been identical with the star **Al Nath,** the β of Taurus at the extremity of the right horn, and Aratos so mentioned it. Vitruvius, however, said that it was **Aurigae Manus,** because the Charioteer was supposed to hold it in his hand, which would imply a very different drawing from that of Rome, Greece, and our own; and Father Hell, in 1769,

1 This is the ad of the classification of Father Angelo Secchi, the modern Roman astronomer.