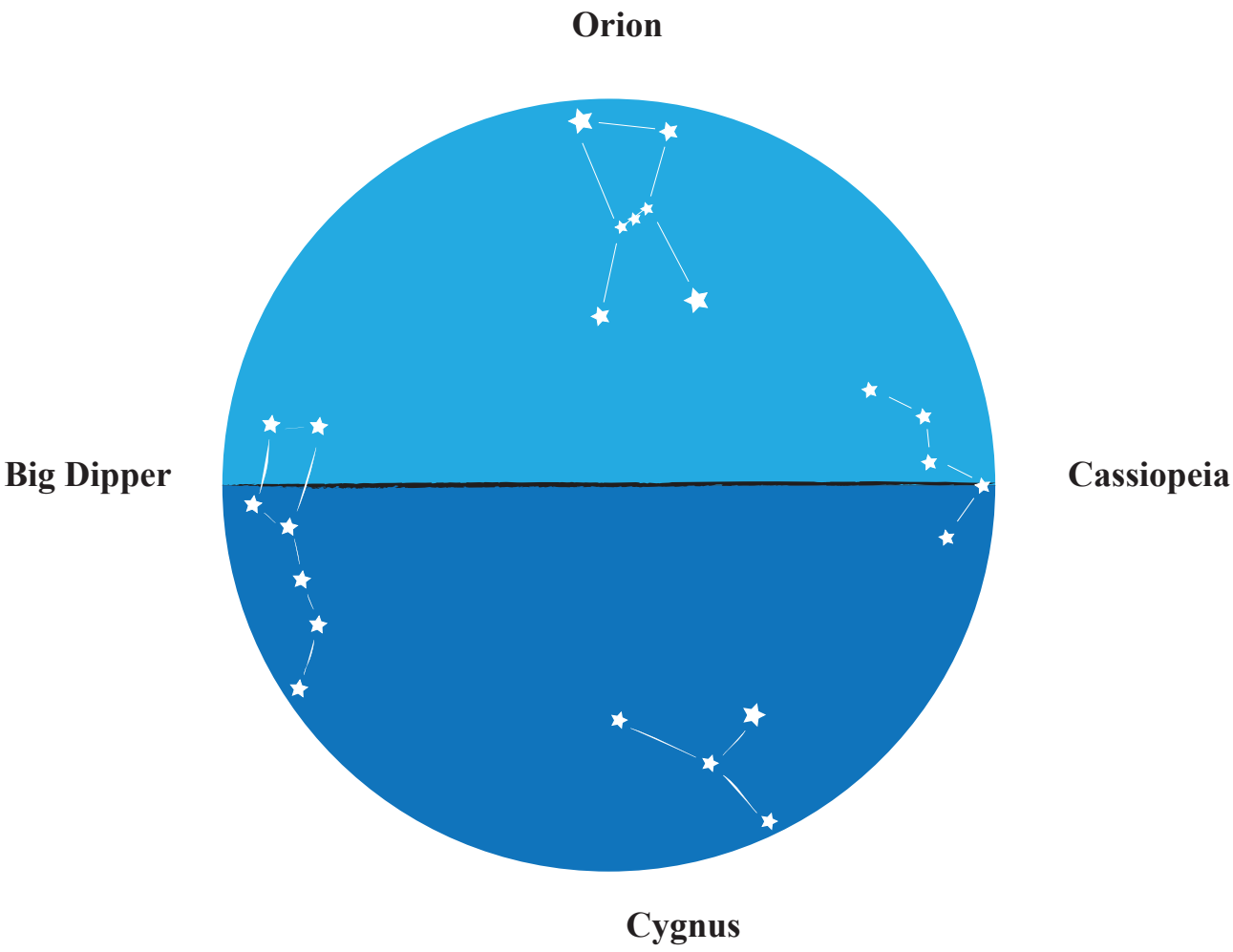
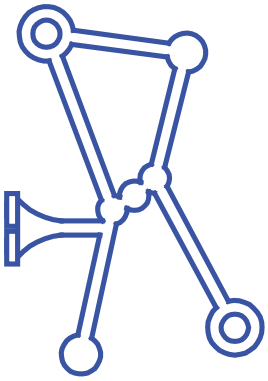
Guidepost Constellations

The guidepost constellations are special groups of stars that are easy to identify and occupy strategic positions in four quadrants of the sky. We use these guideposts to orient ourselves and provide a framework for remembering the surrounding constellations.

The four guidepost constellations that anchor quadrants of the sky are shown in the diagram on the facing page. They are Orion, the Big Dipper, the Summer Triangle (featuring Cygnus), and Cassiopeia.

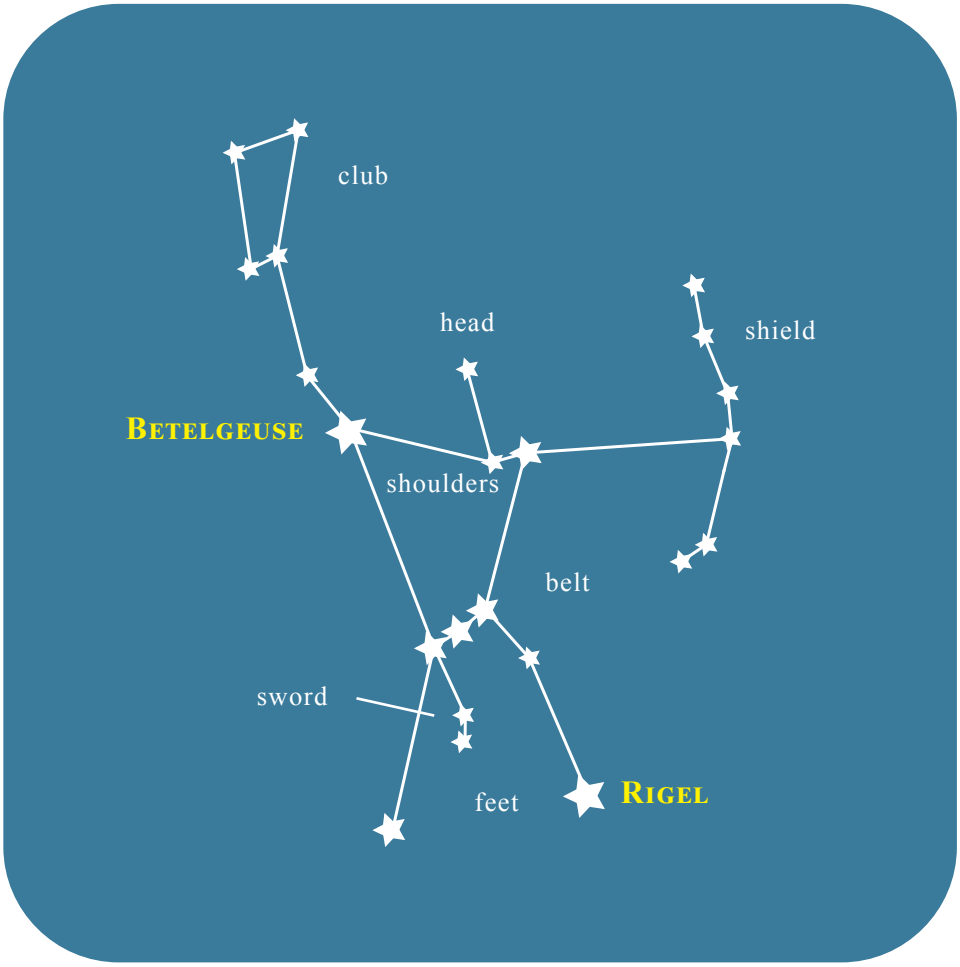
We will begin placing constellations with these four, then place the rest of the constellations with respect to these. Let's start with Orion, Guidepost #1, on the following pages.


Orion
Big Dipper
Cassiopeia
Cygnus

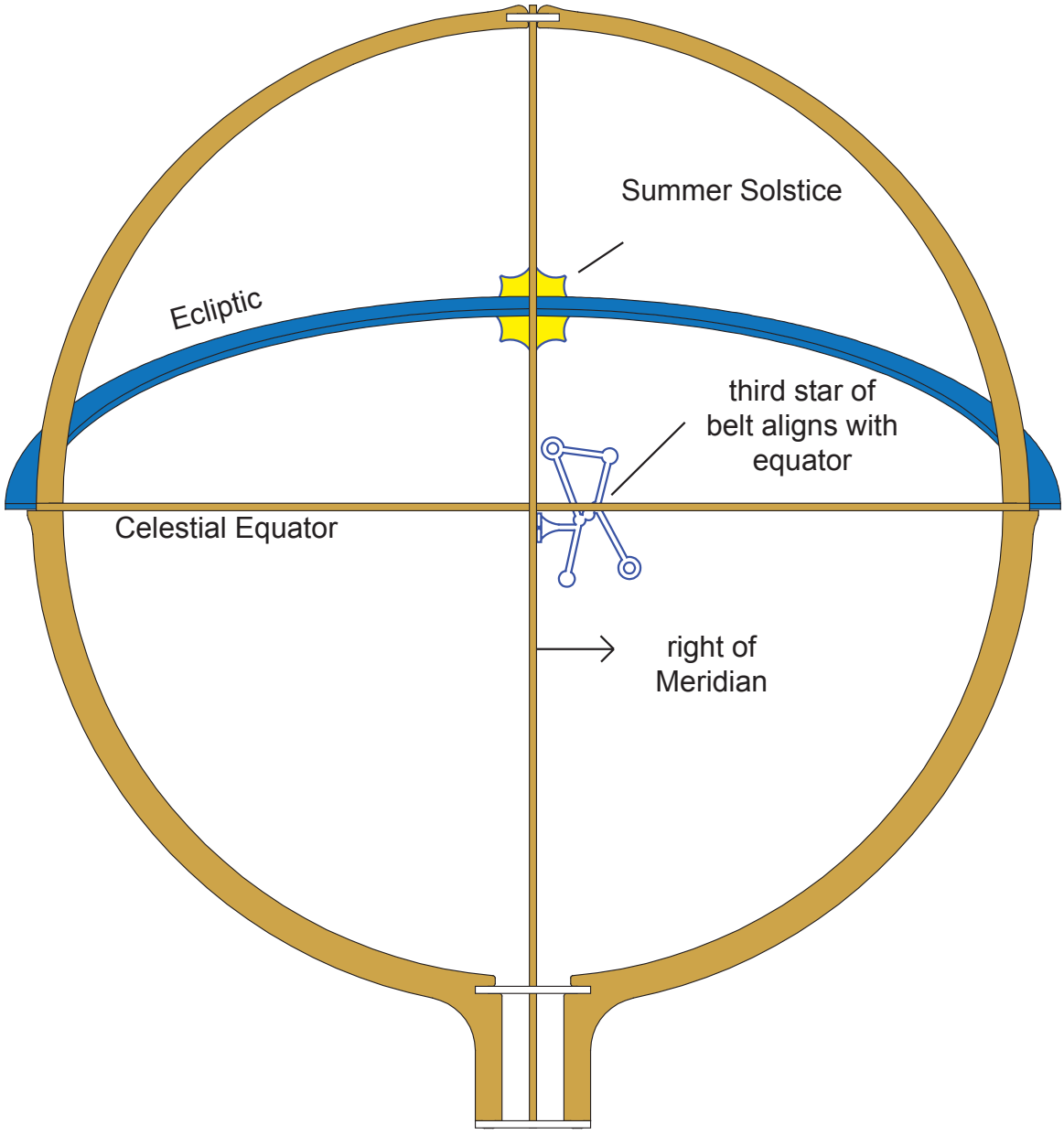


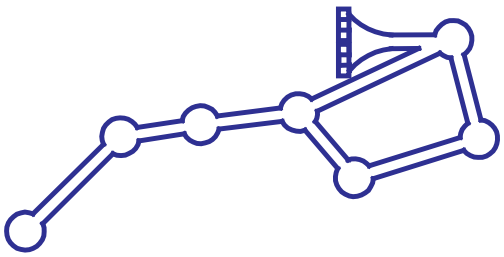
The first guidepost is Orion.

To place Orion, locate the point of the summer solstice, the highest, or most northern, part of the ecliptic. Position Orion so that the third star of his belt is on the equator. As the sphere turns, the bright star in Orion's right foot, Rigel, leads the way and the bright star in his shoulder, Betelgeuse, trails.



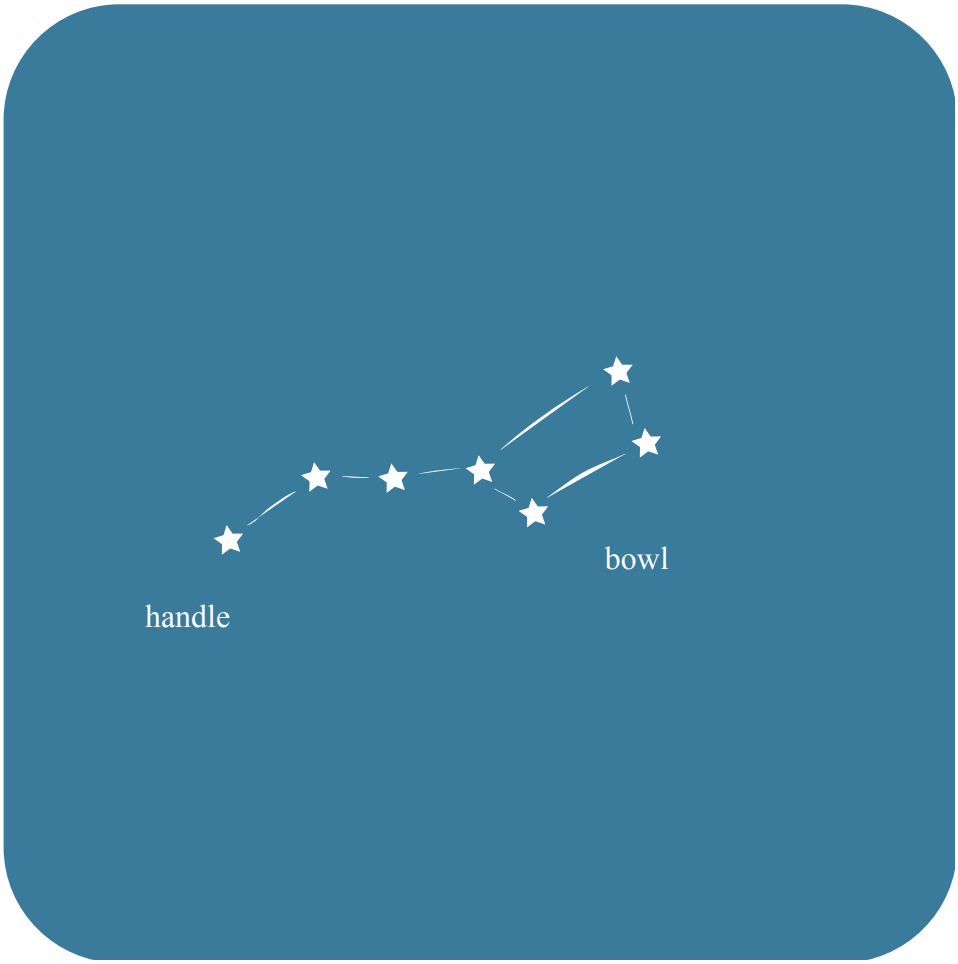
Guidepost #1
Orion



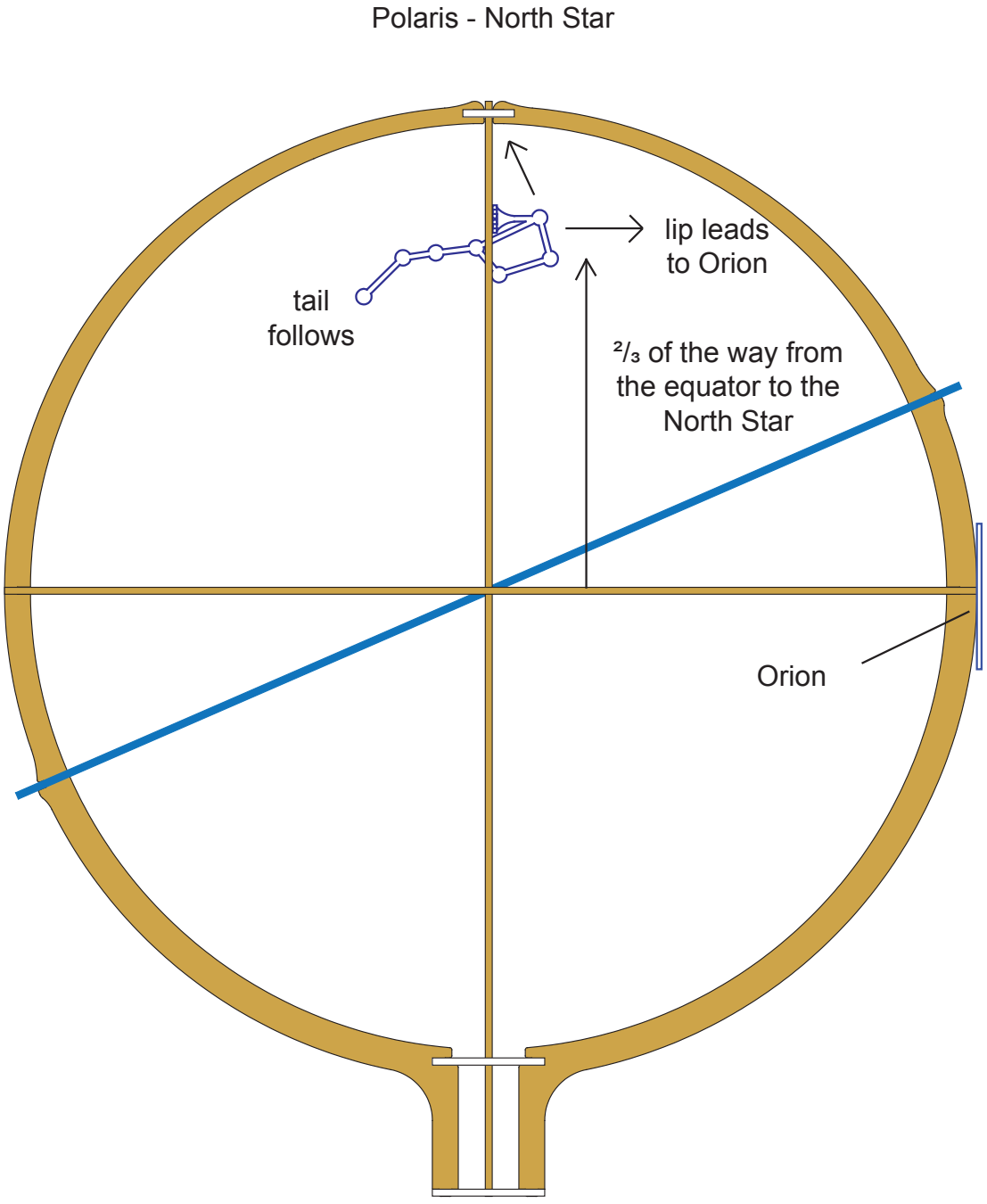


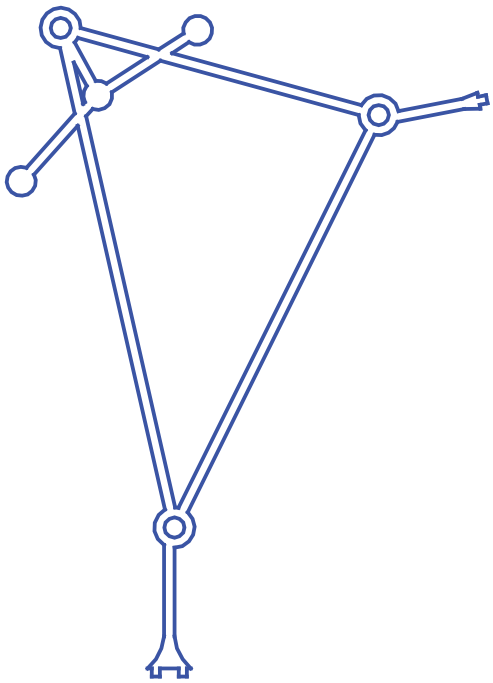
The second guidepost is the Big Dipper.

To place the Big Dipper, after placing Orion, rotate the globe ¼ turn clockwise from south-facing TOM's perspective. The Dipper is upright, with the lip leading and the handle following.



Guidepost #2
Big Dipper

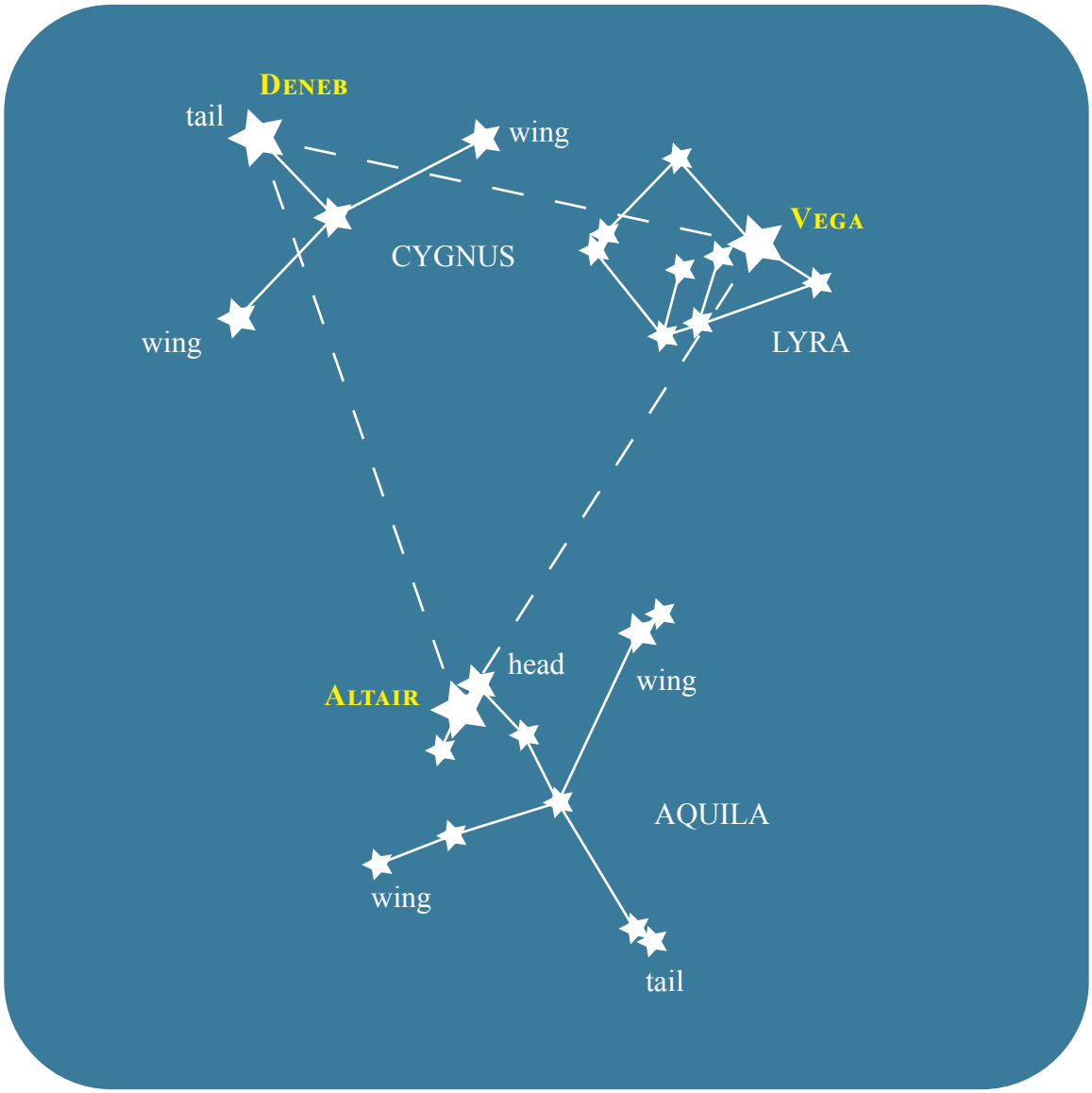




The third guidepost is Cygnus, the Swan, part of the Summer Triangle.

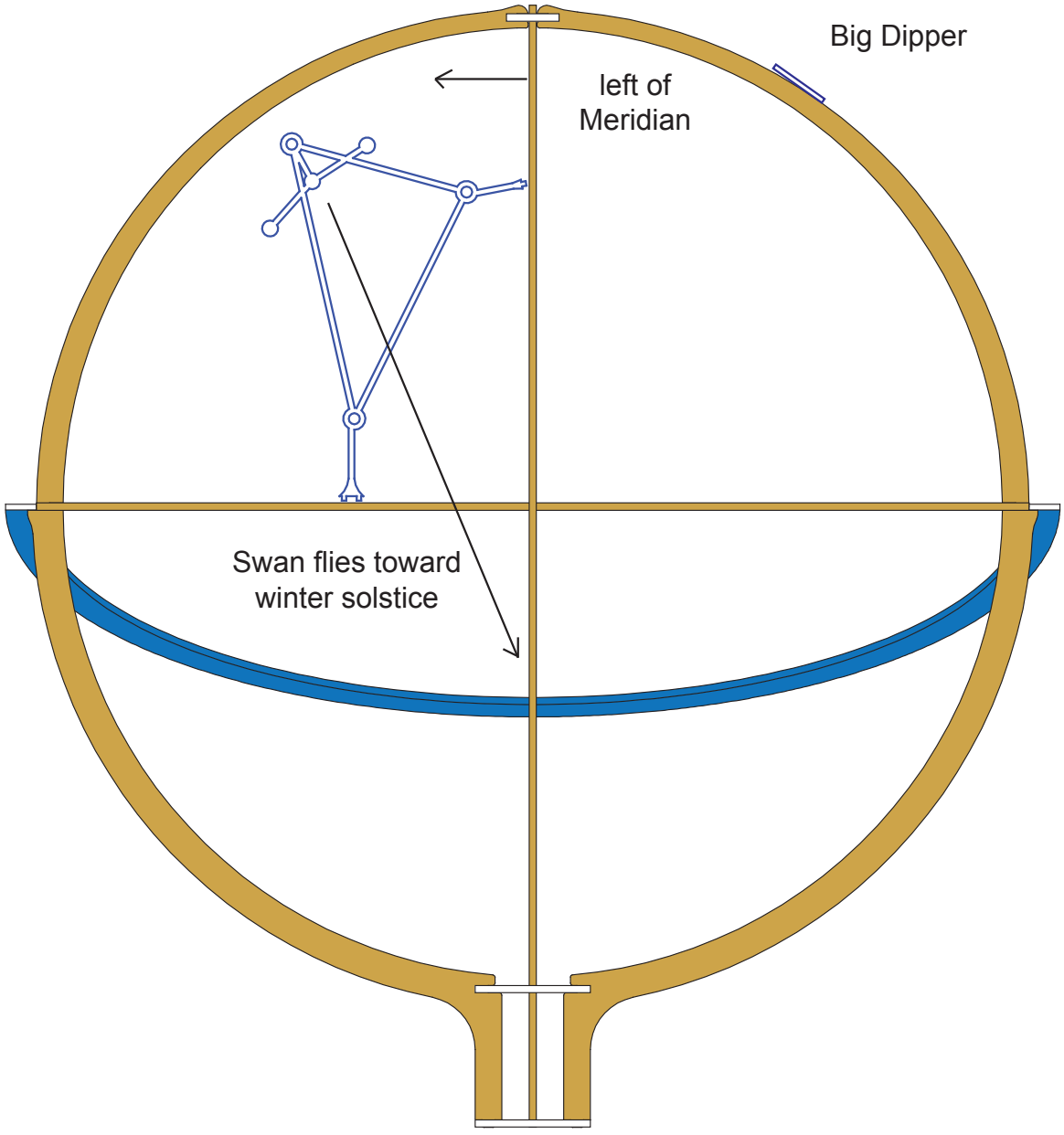
To place Cygnus, after placing the Big Dipper, rotate the globe ¼ turn clockwise, from south-facing TOM's perspective.

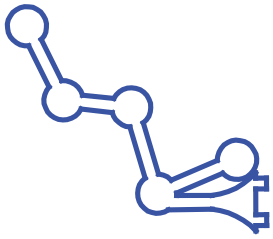
Vega leads Cygnus and Altair points south.



Guidepost #3

Summer Triangle/Cygnus the Swan

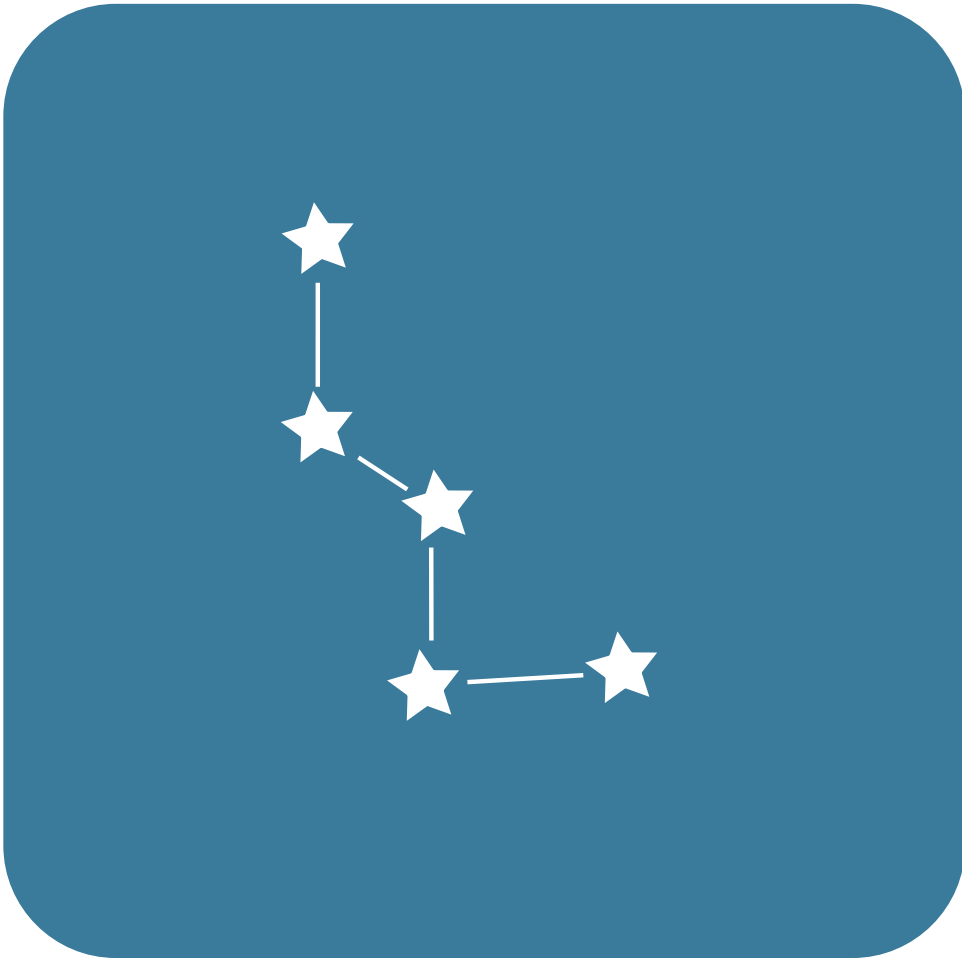




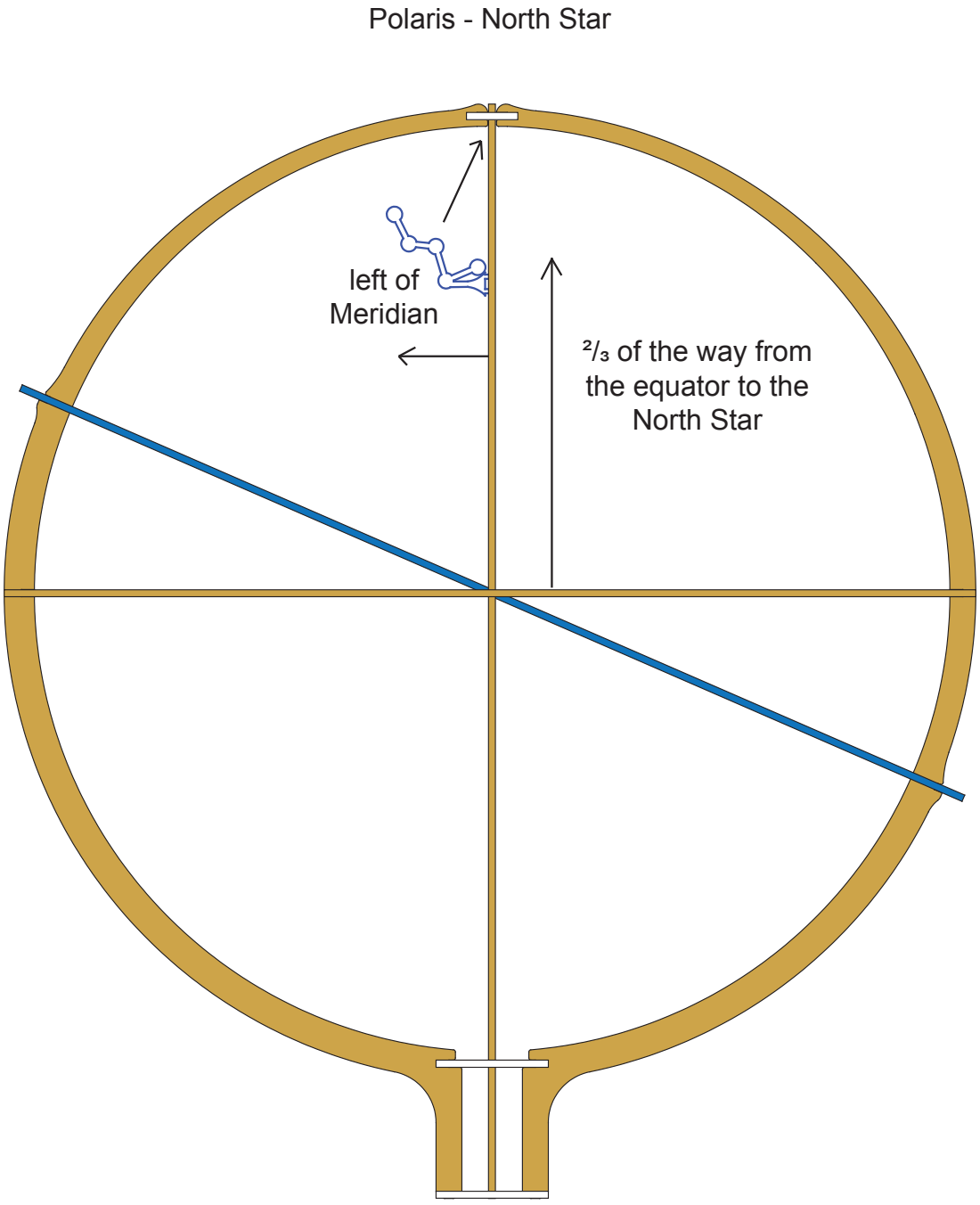
The fourth guidepost is Cassiopeia.

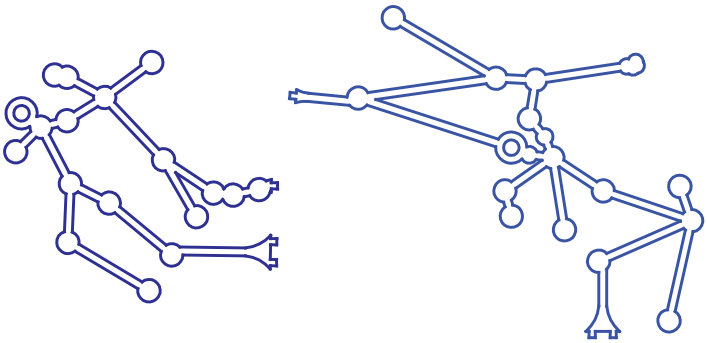
To place Cassiopeia, after placing Cygnus, rotate the globe ¼ turn clockwise from south-facing TOM's perspective.

Cassiopeia forms an upright W-shape in this position.



Guidepost #4
Cassiopeia

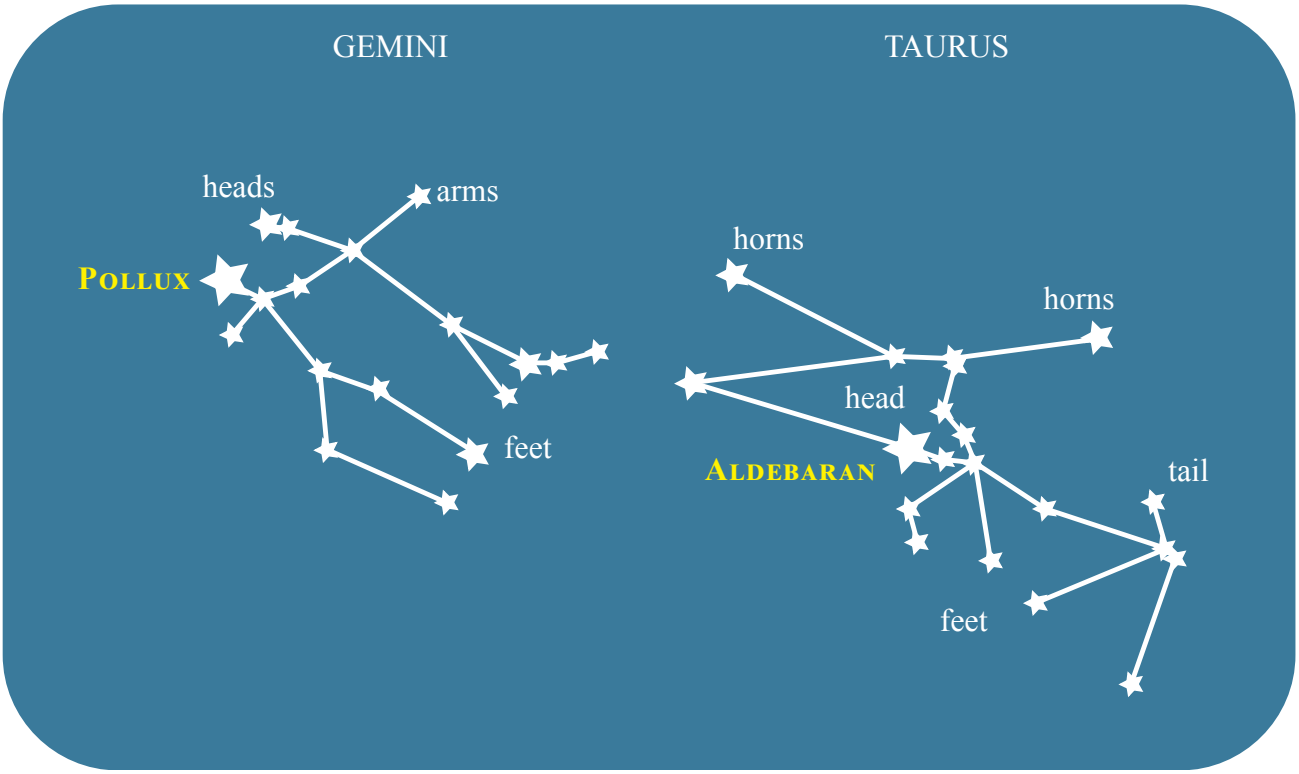


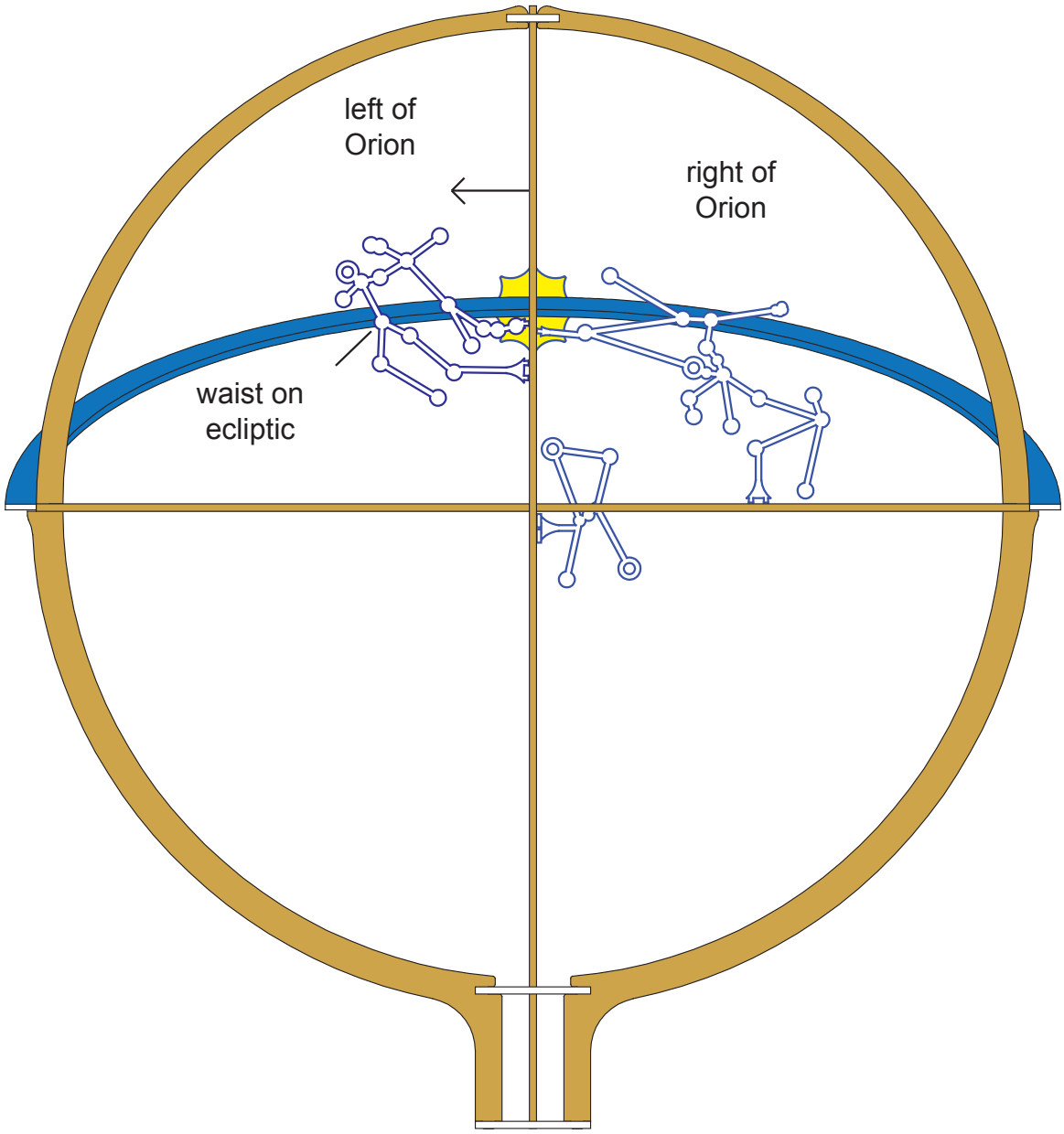


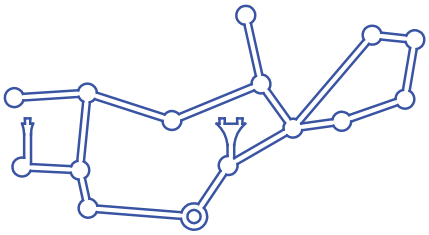
Two of the most prominent and easiest-to-find zodiac constellations are Taurus and Gemini.

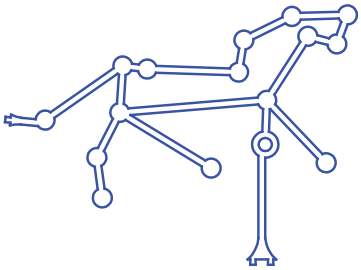
To place Taurus, rotate the globe so that Orion is up. Taurus leads Orion, traveling backwards.

Gemini follows Orion. The waist star of the twin Pollux is on the ecliptic. It looks as if the twins are fleeing from the Bull.




left of
Orion
right of
Orion
waist on
ecliptic

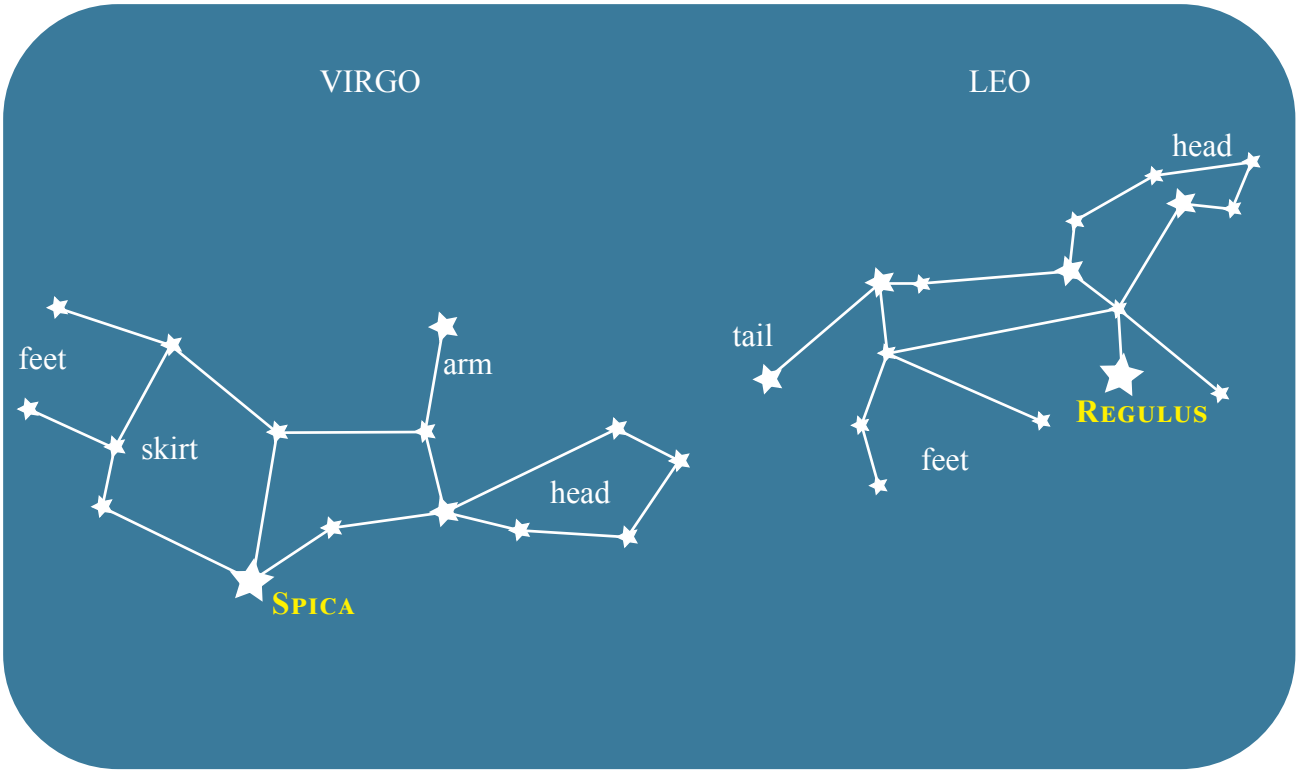


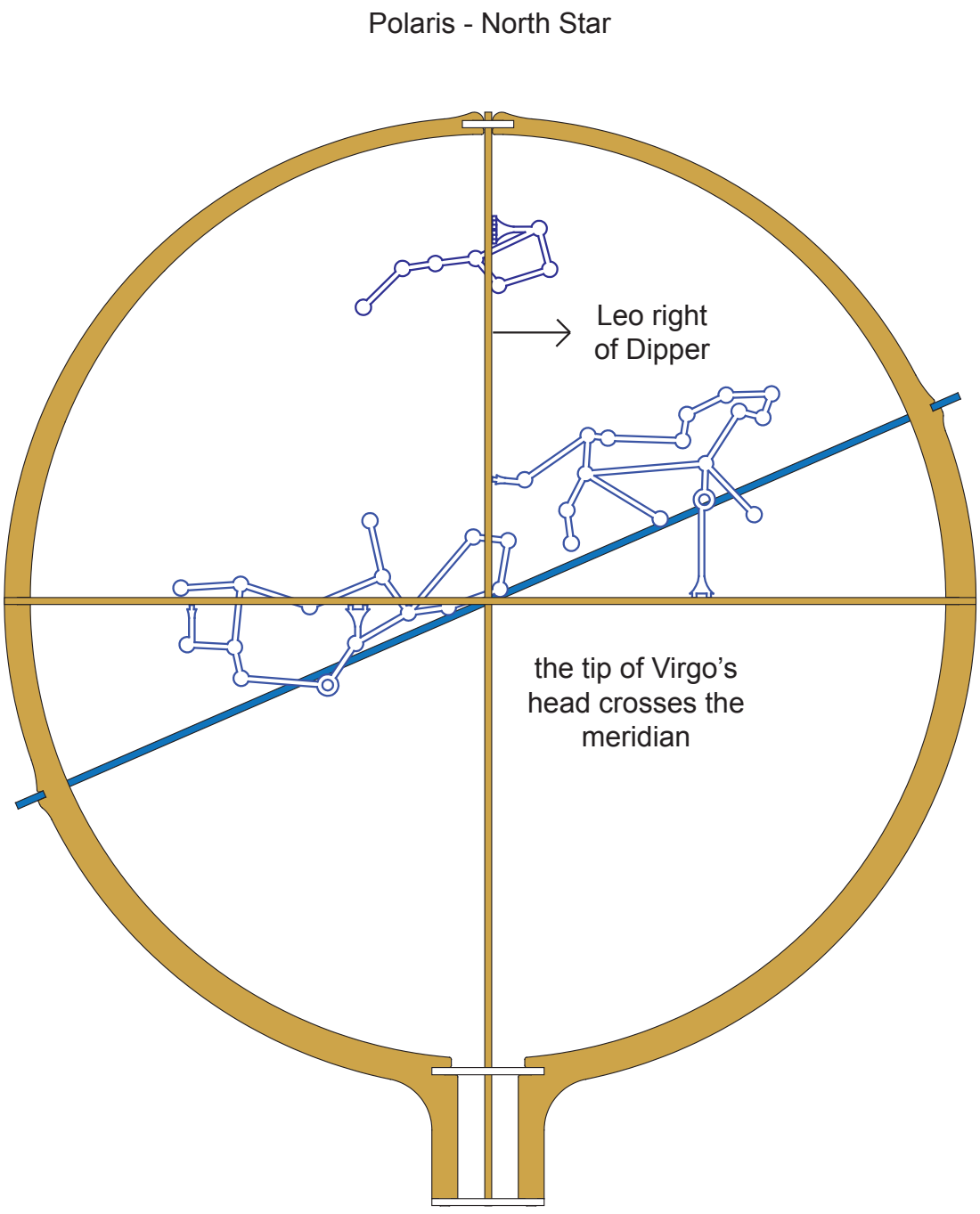


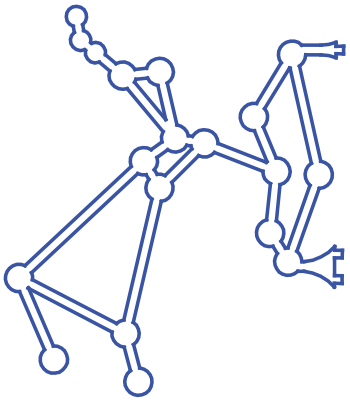
Leo and Virgo dominate the spring sky.

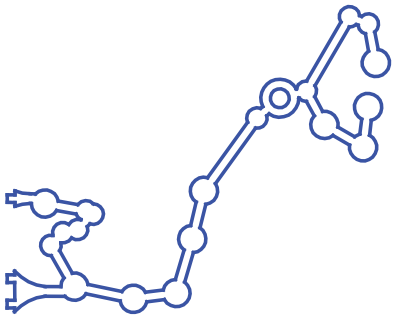
To place Leo rotate the globe so that the Dipper is up. Leo leads the Dipper. Regulus has his front foot on the ecliptic.

Virgo trails the lion, lying on her back and traveling head-first. Her head just crosses the meridian.




Polaris - North Star
Leo right
of Dipper
the tip of Virgo's
head crosses the
meridian

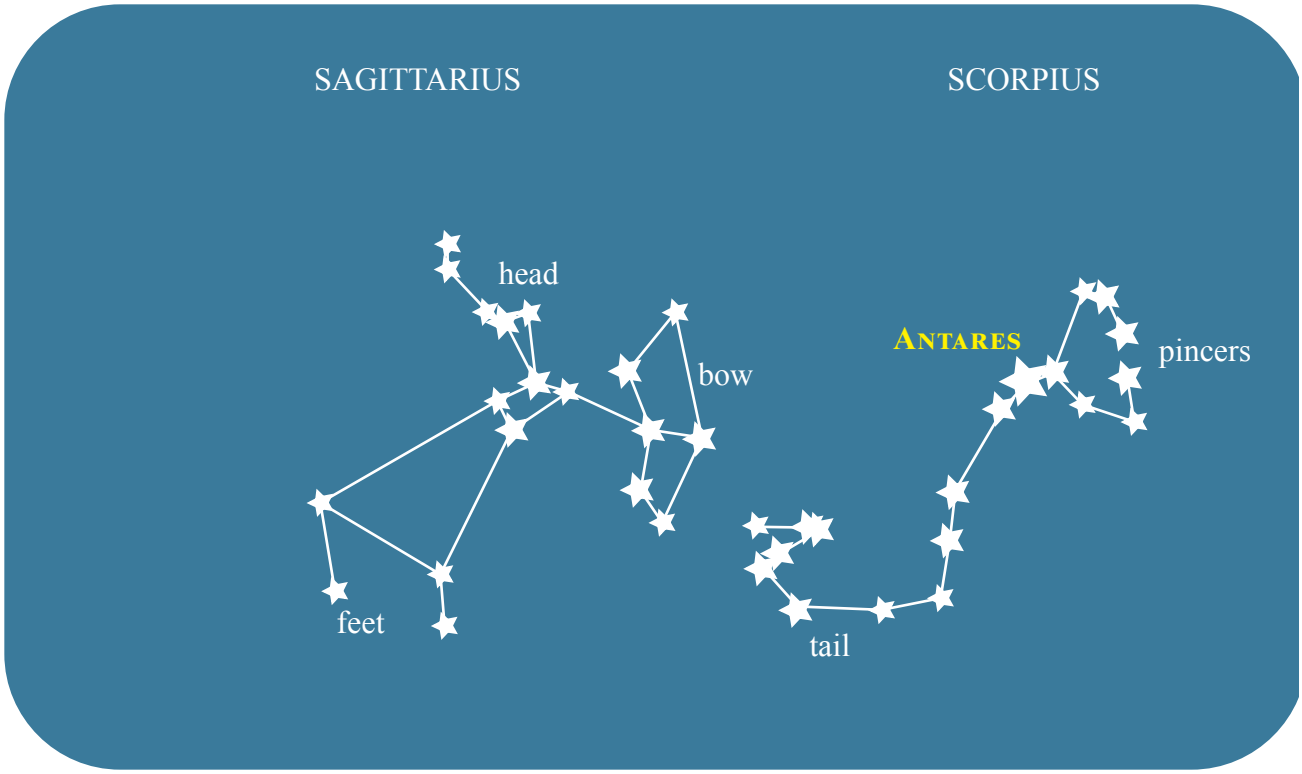


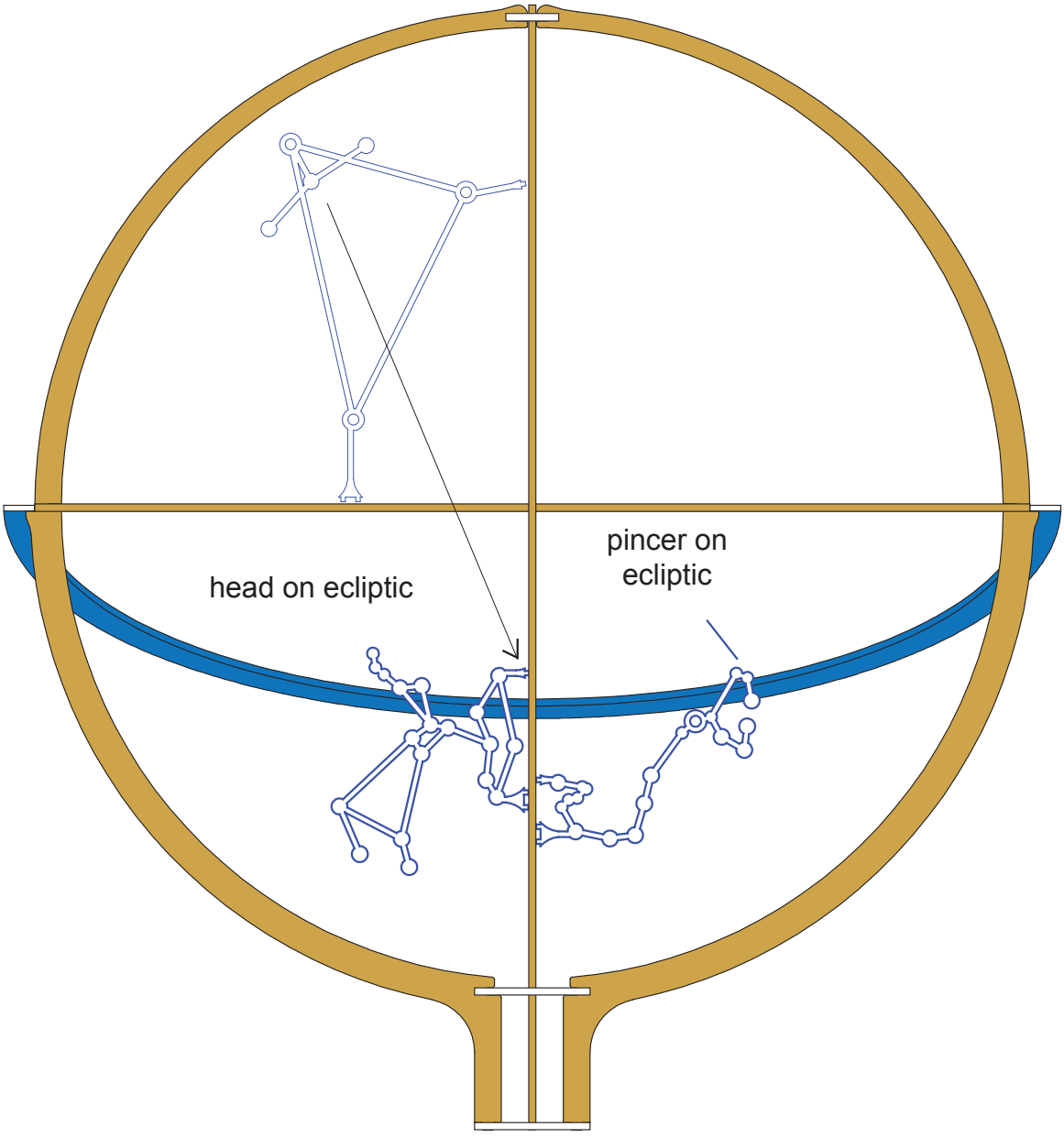


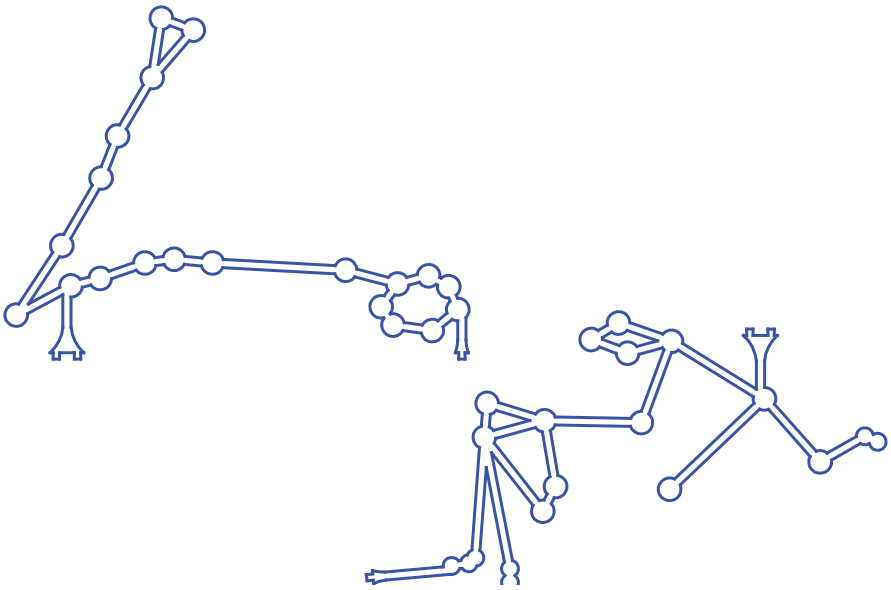
The Summer Triangle helps to locate Scorpius and Sagittarius.

Rotate the globe so that Cygnus is up. Scorpius is ahead of the meridian, with his top pincer on the ecliptic.

Sagittarius follows as if hunting the Scorpion. The Archer's head is on the ecliptic.



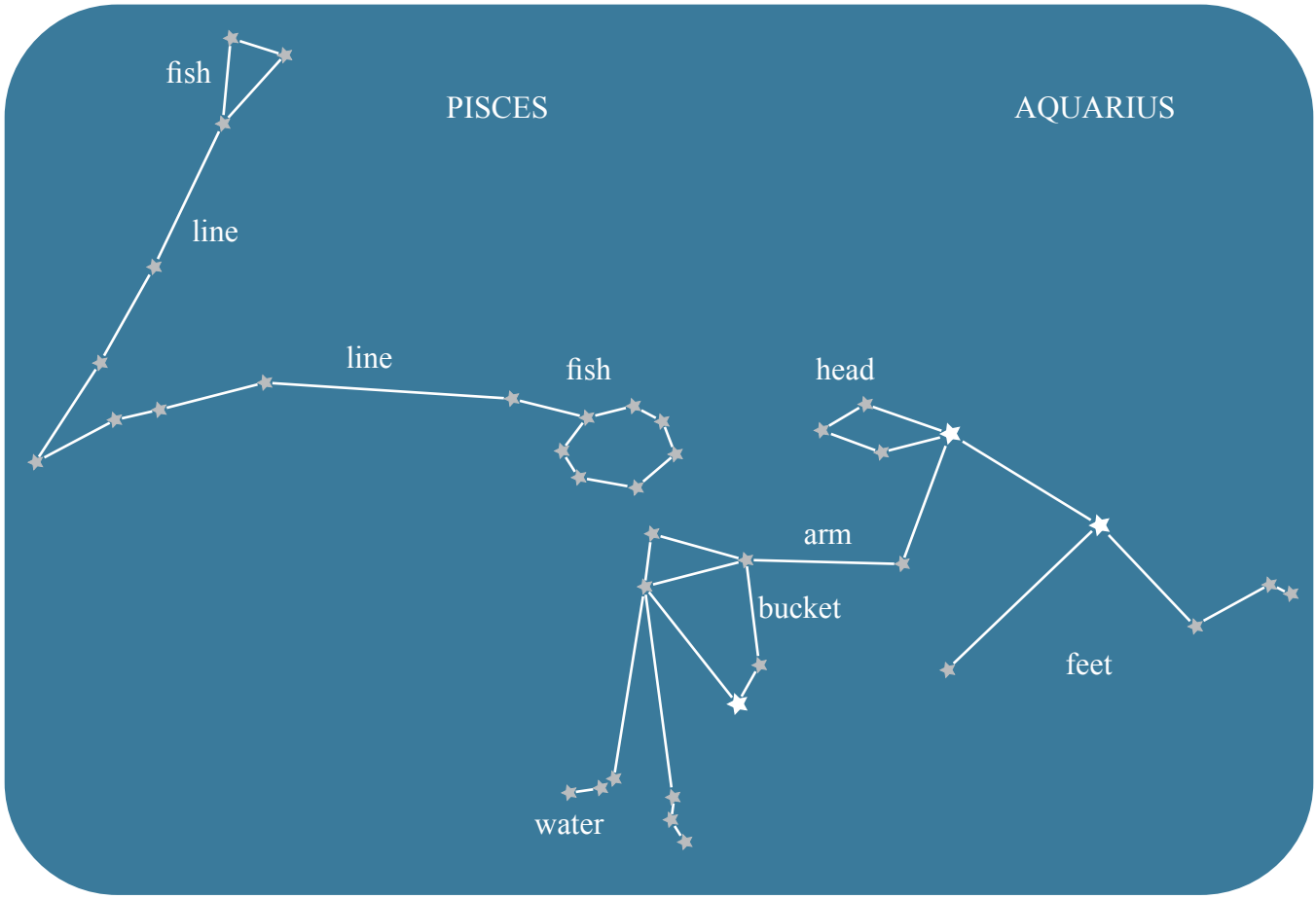

head on ecliptic
pincer on
ecliptic



Aquarius and Pisces occupy the autumn quadrant of the sky, but are difficult to actually see.

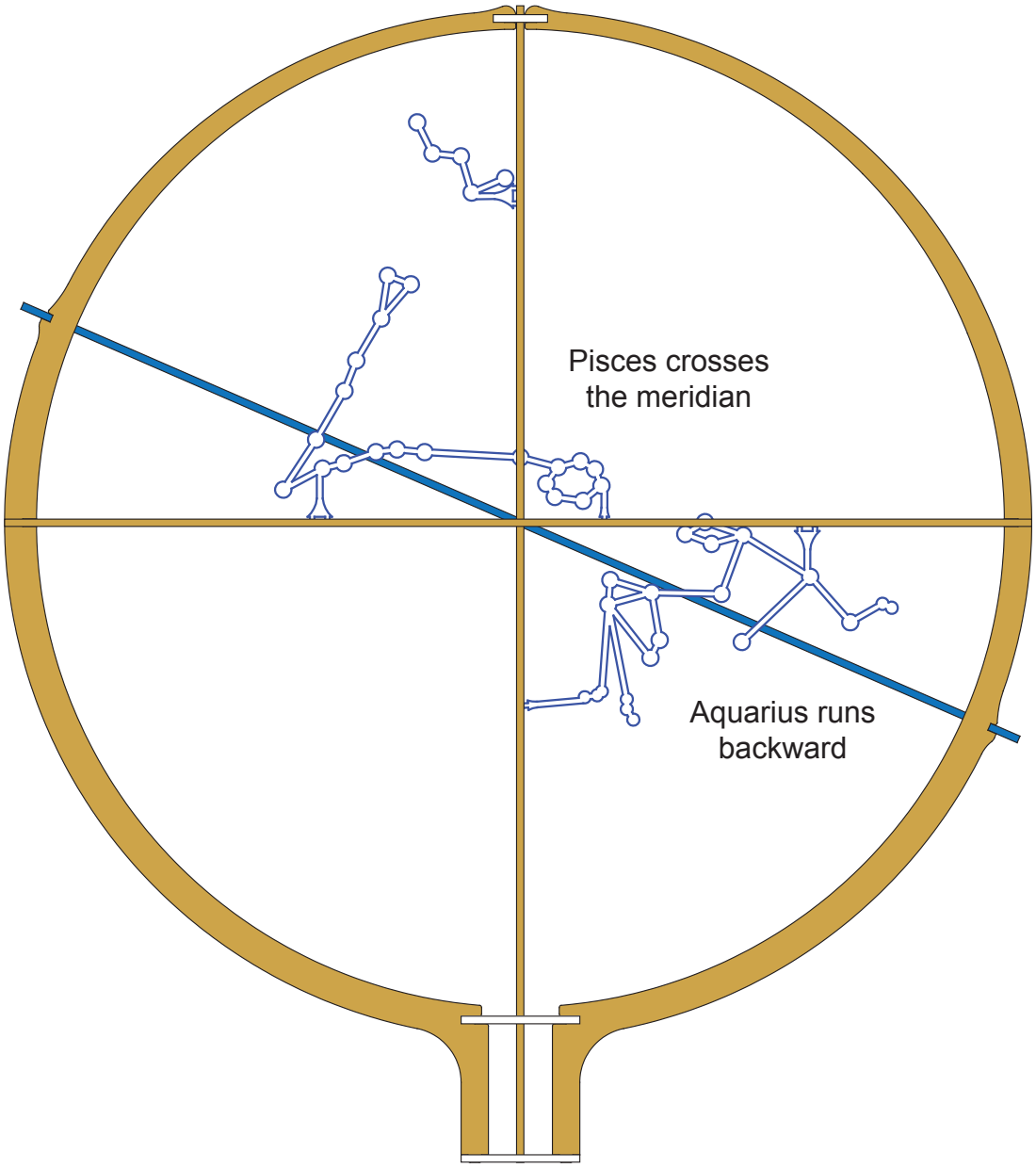
Rotate the sphere so that Cassiopeia is up. Aquarius leads Cassiopeia, facing backwards just below the celestial equator.

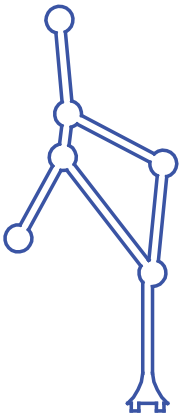
Pisces is just below Cassiopeia and above the celestial equator, with one of the fish ahead of the meridian.

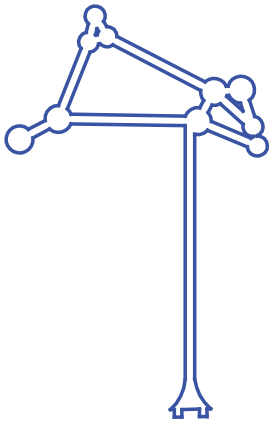


Zodiac

Water Carrier & Fishes



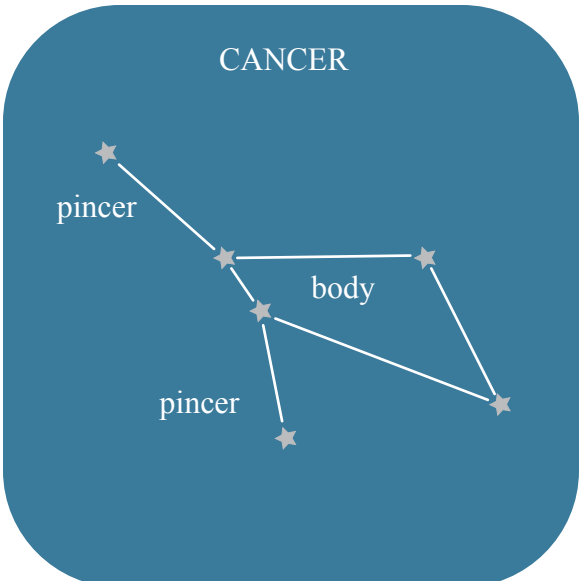


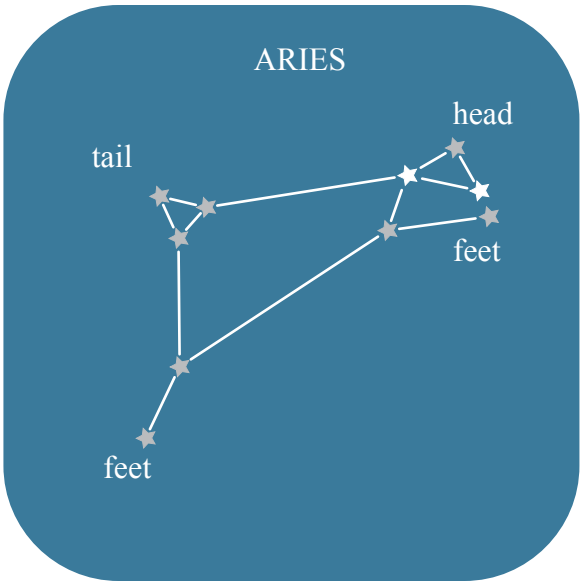


The remaining four Zodiac constellations fit in between the dominant eight we have already placed in the four quadrants.

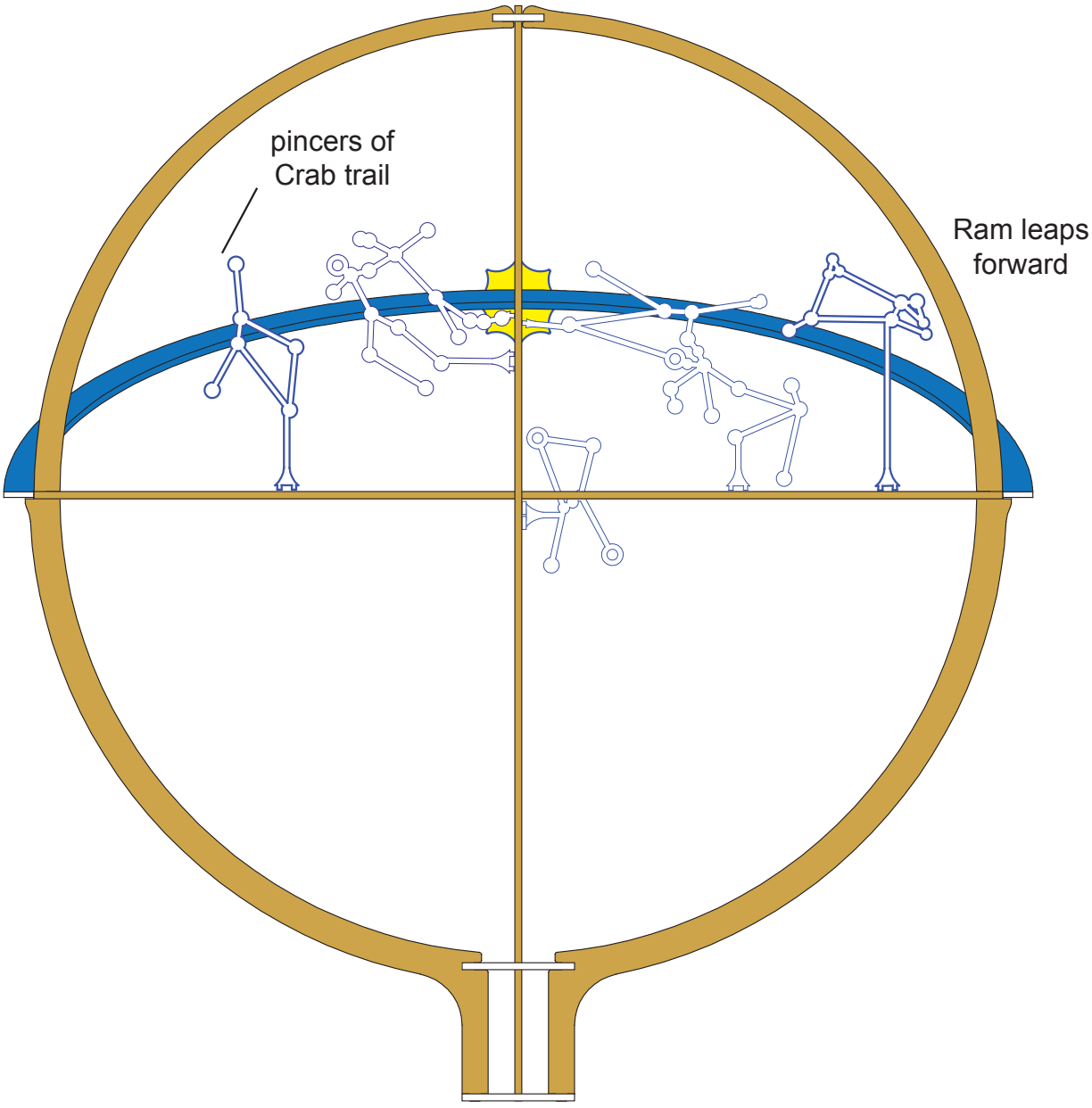
Aries leads Taurus in Orion's quadrant. The Ram leaps forward, his rear leg just above Taurus' tail.

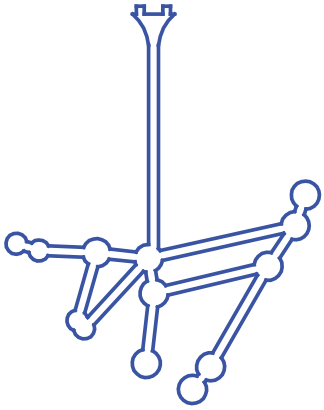
Cancer follows the Twins, leading with its body with pincers trailing.

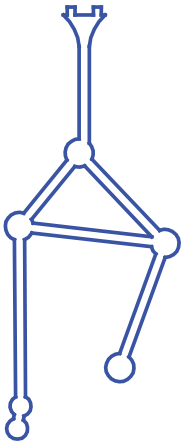




Zodiac
Ram & Crab

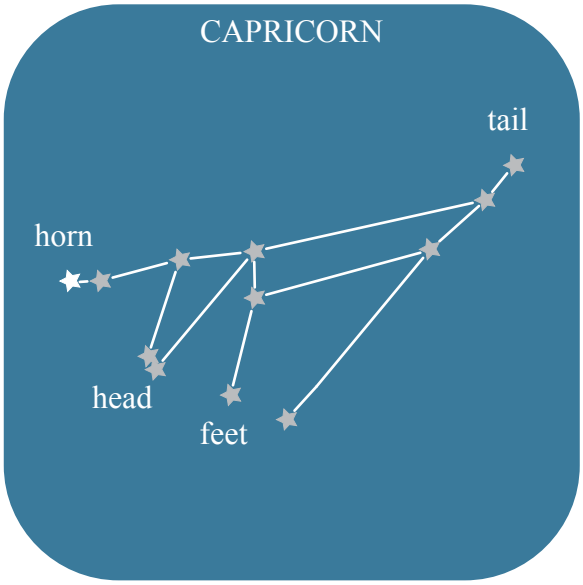


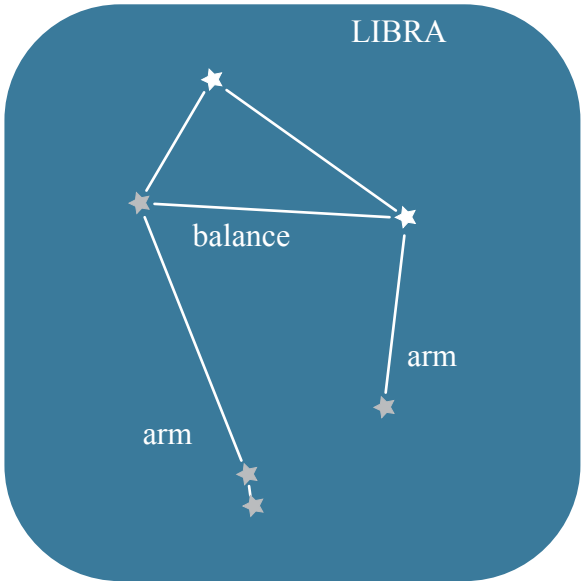




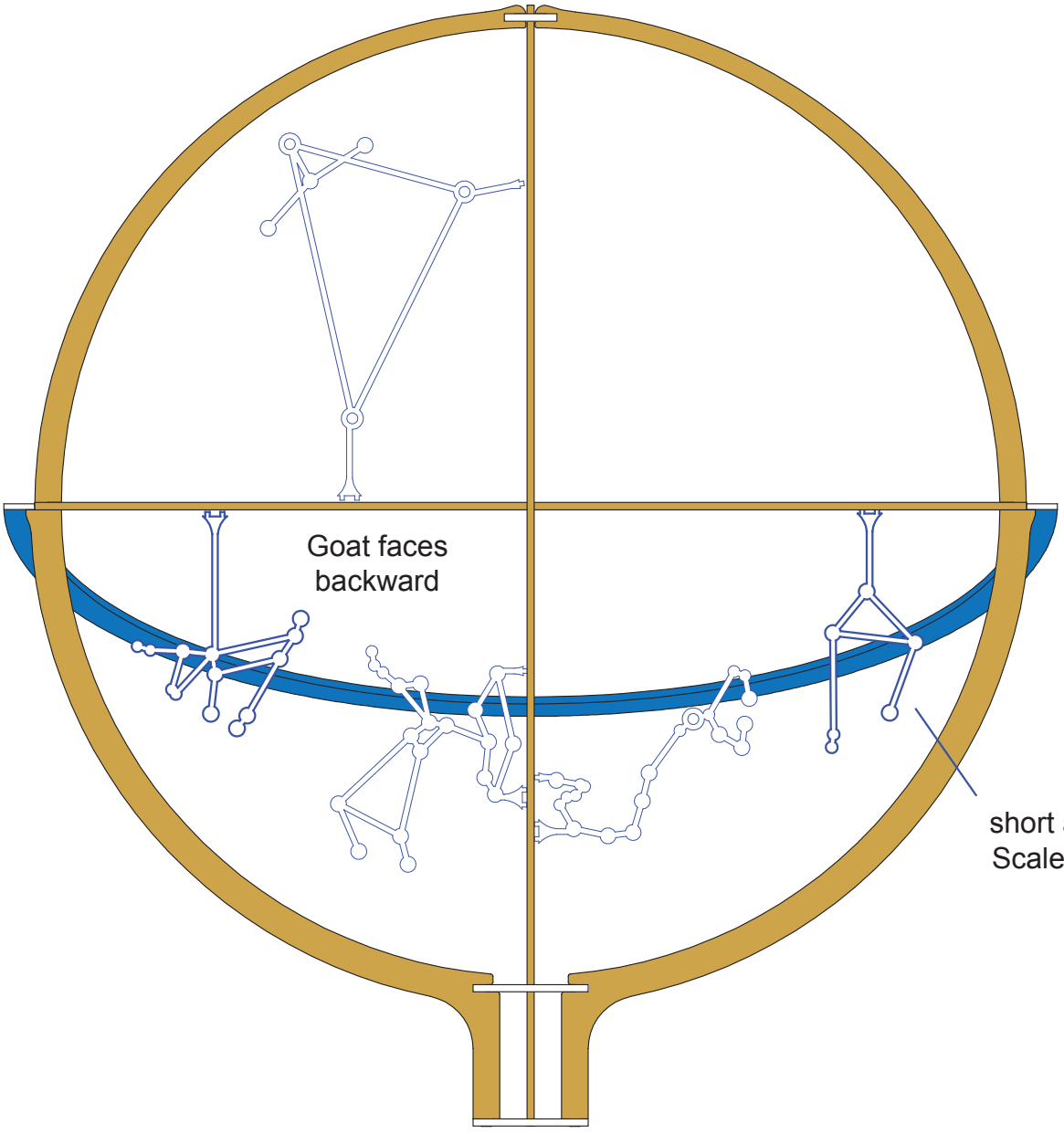
Libra leads Scorpius. Dangling from the celestial equator, Libra lead with the shorter arm.

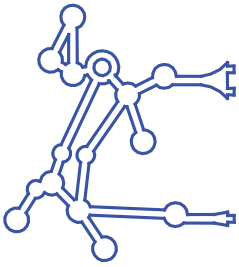
Capricorn faces backward, following the Archer. He is also anchored on the celestial equator.

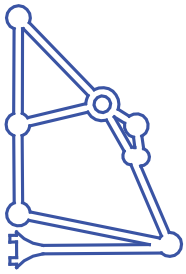




Zodiac
Scales & Goat





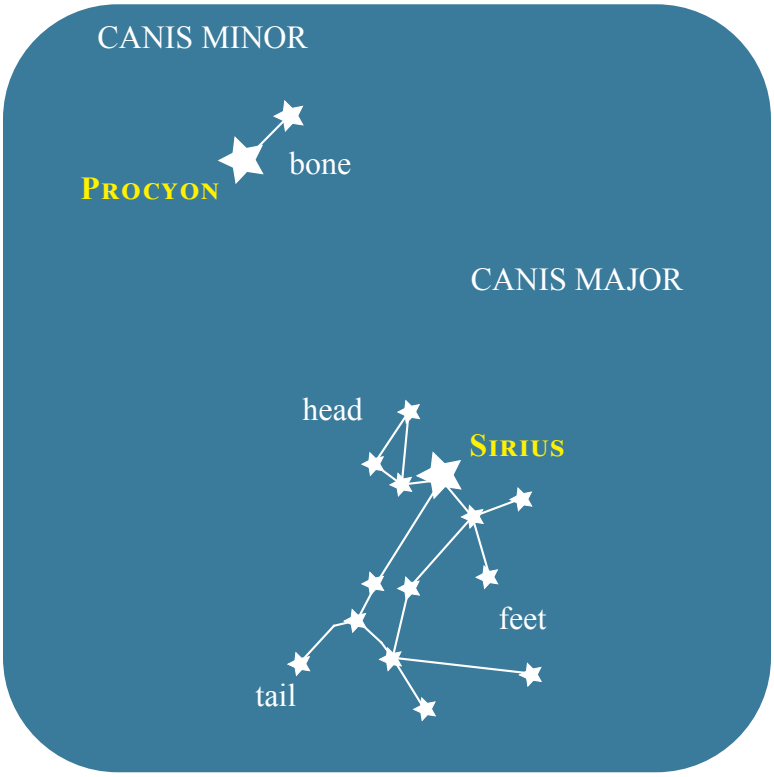


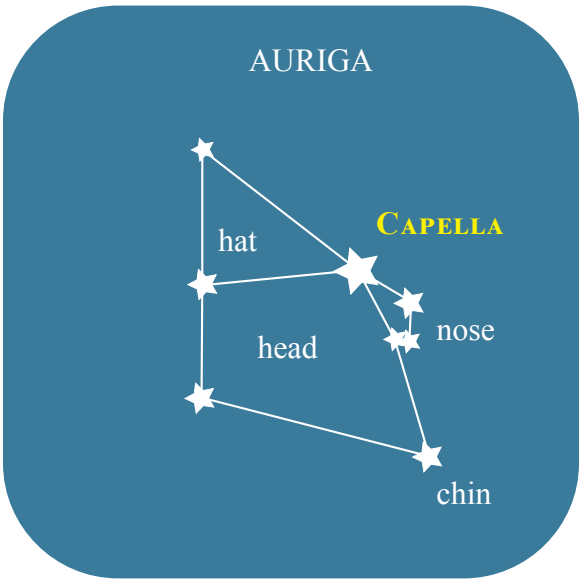
Auriga, Canis Major and Canis Minor fill out the sky around Orion.

Auriga is directly above Orion, attached to the meridian in the same way. Place him halfway between the equator and the pole.

Canis Major trails Orion on the meridian, his nose just lower than Orion's foot.

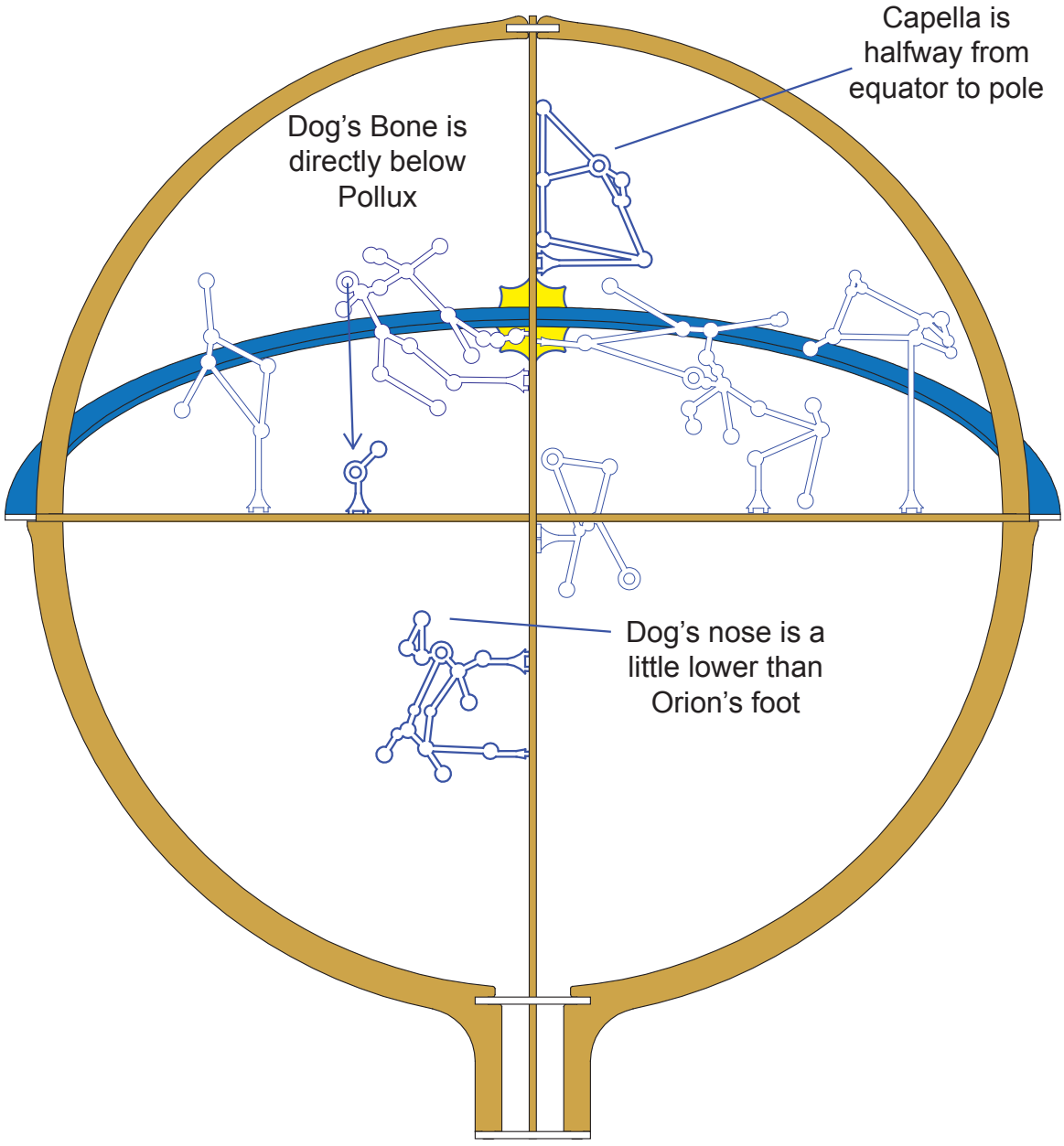
Canis Minor is the little dog, but calling it the dog's bone makes it easy to remember and find. It is placed on the celestial equator, directly below Pollux.

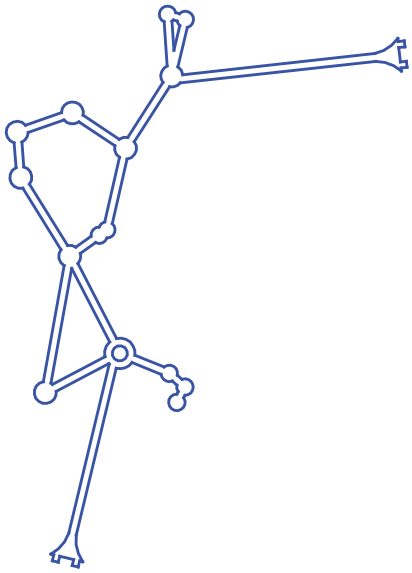




Constellations near Guidepost #1

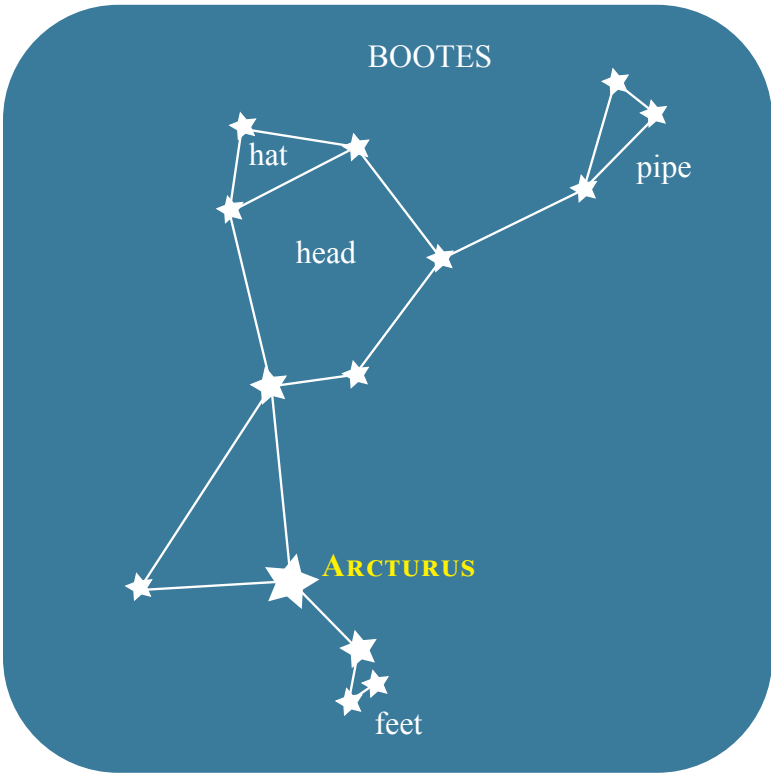
Charioteer, Dog & Bone





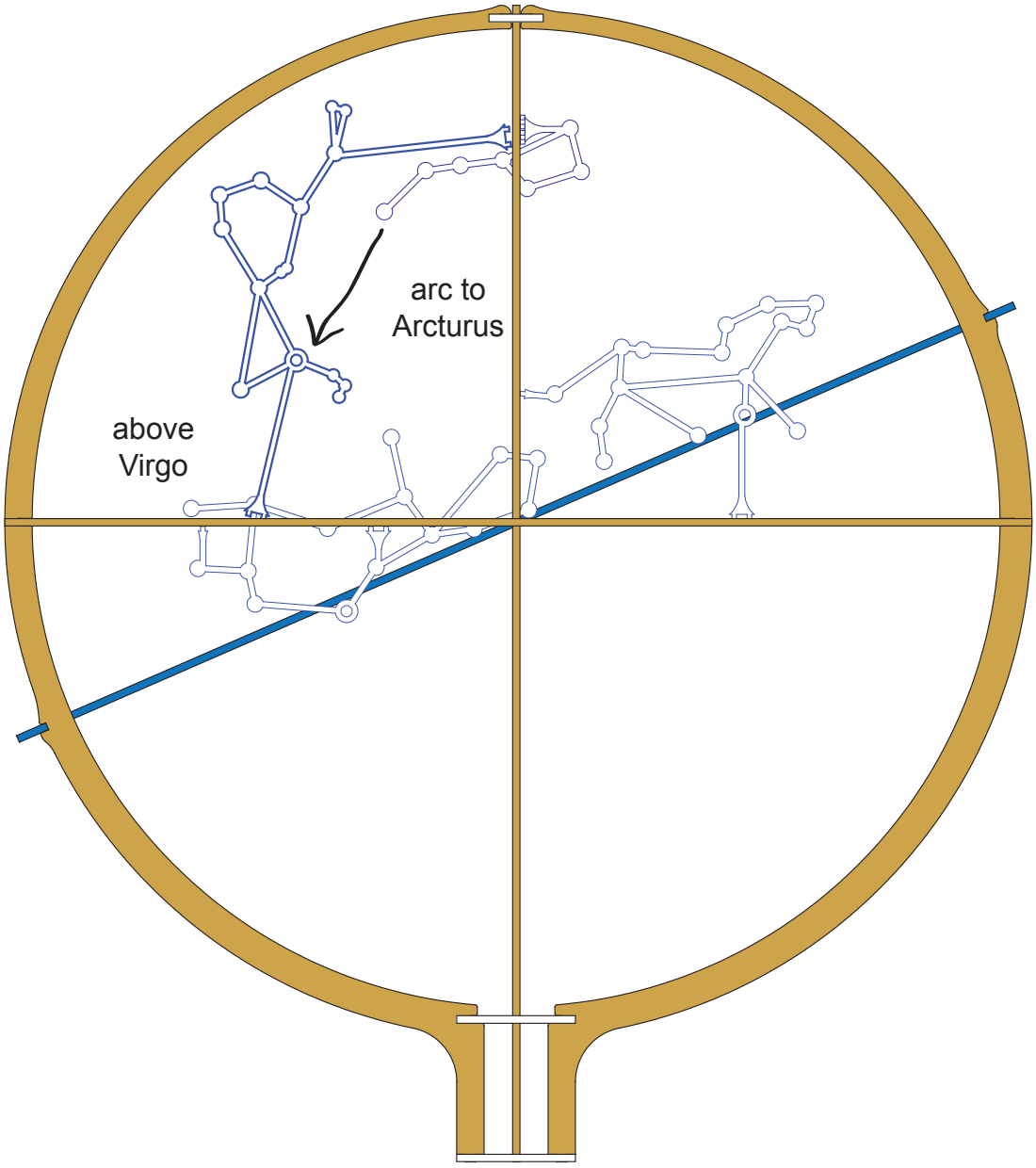
Bootes is the fourth major constellation in a grouping of the Big Dipper, Leo and Virgo.

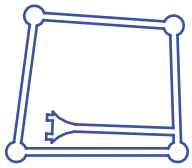
Bootes sits above Virgo and trailing the dipper. The Dipper's handle points toward Arcturus.



Constellations near Guidepost #2

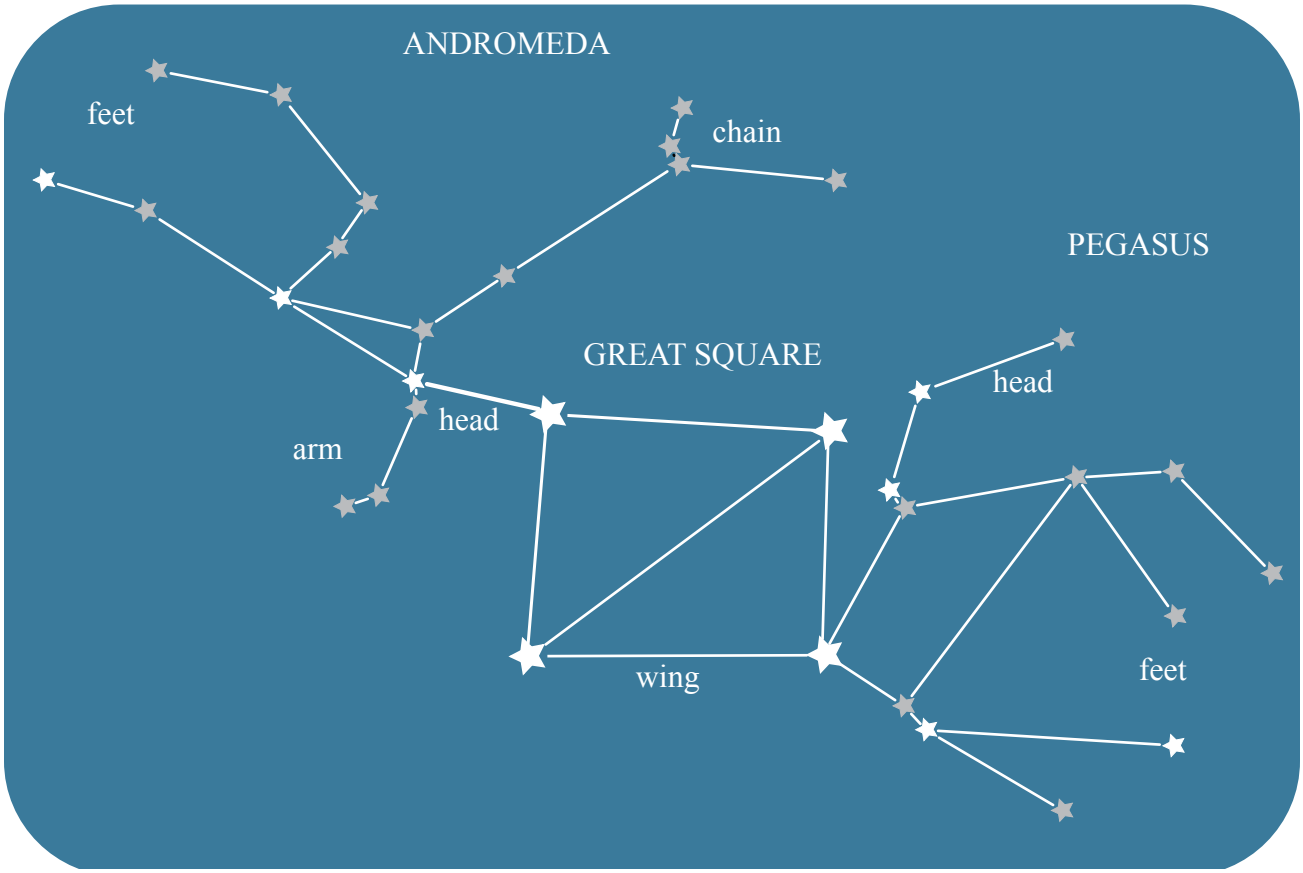
Herdsman





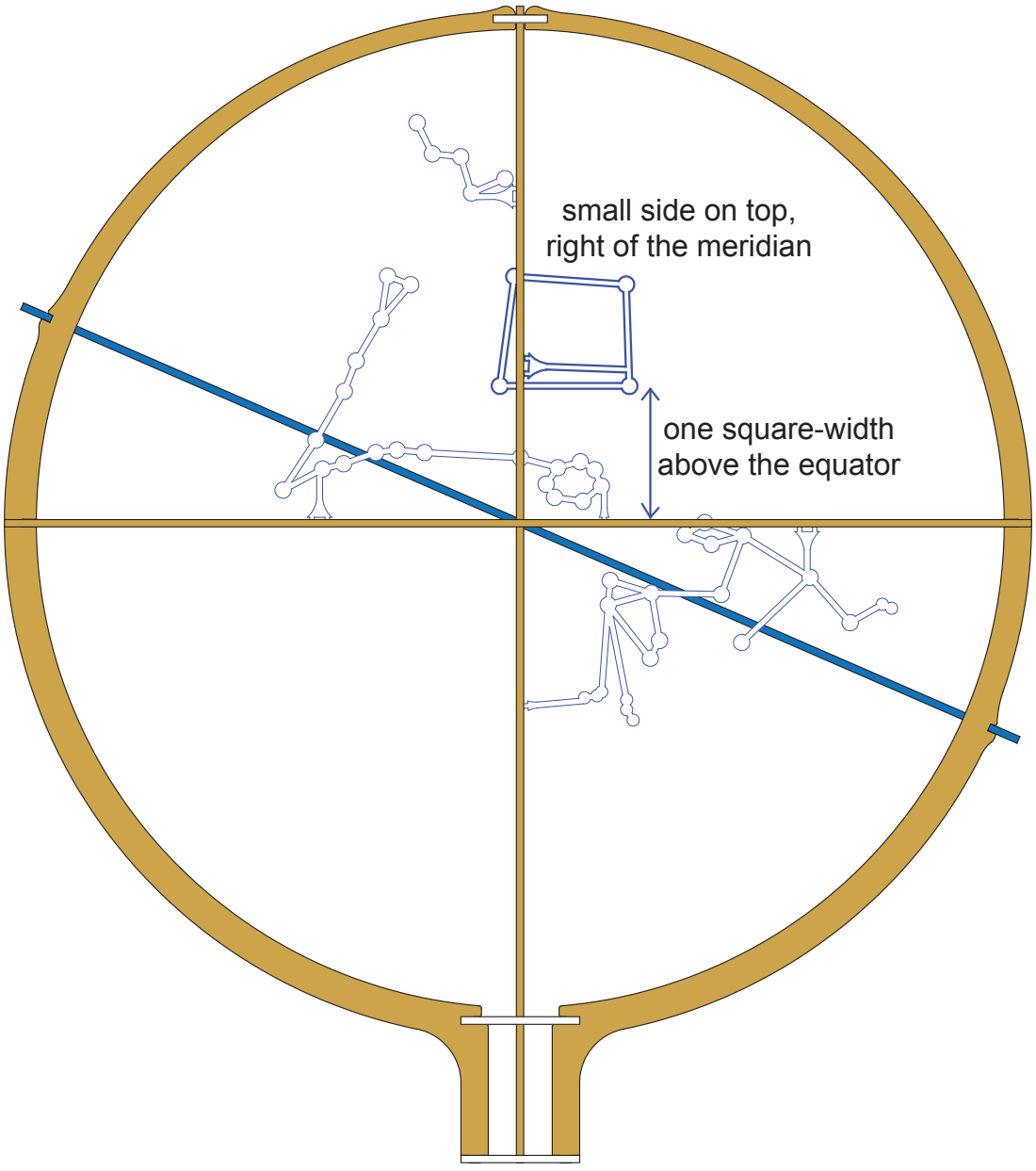
The Great Square fills out the sky near Cassiopeia. The Square is formed by Pegasus and Andromeda.

Place the square ahead of the meridian below Cassiopeia. The small side of the Square points North.



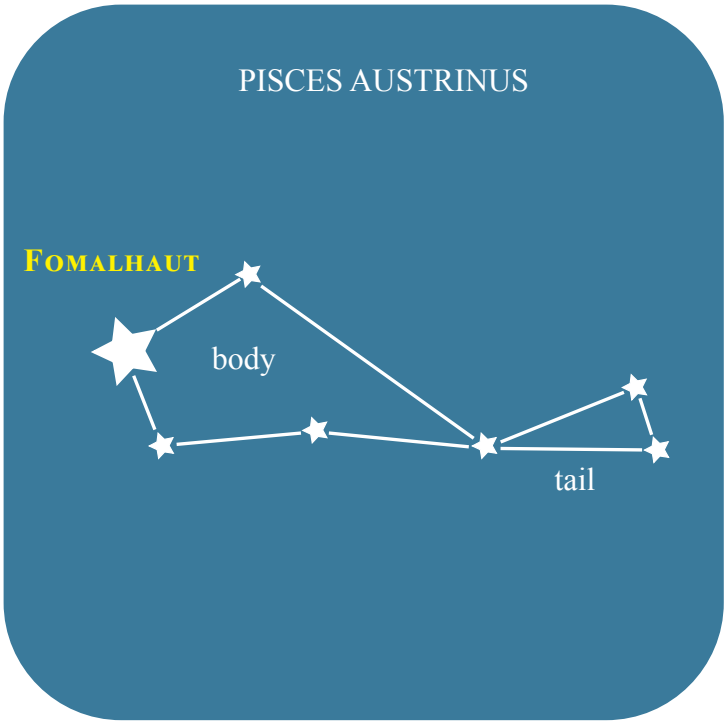
Constellations near Guidepost #4

Great Square



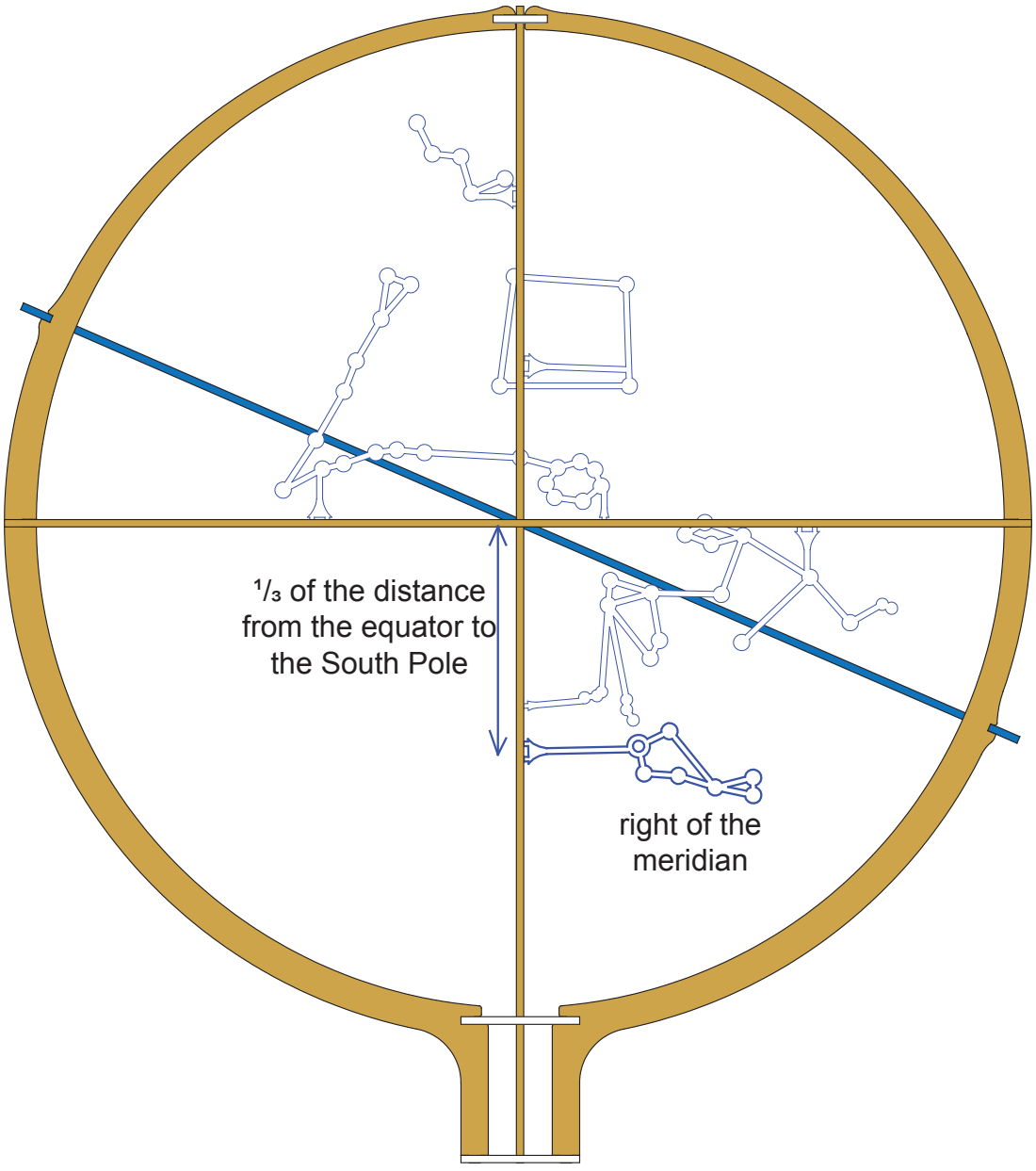
Pisces Austrinus fits below the Great Square. The fish swims backward, about ⅓ of the way from the equator to the South Pole.

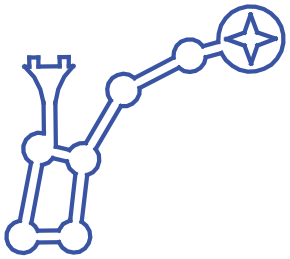
Fomalhaut is the only bright star in this quadrant of the sky, and is called the lonely star of autumn.



Constellations near Guidepost #4

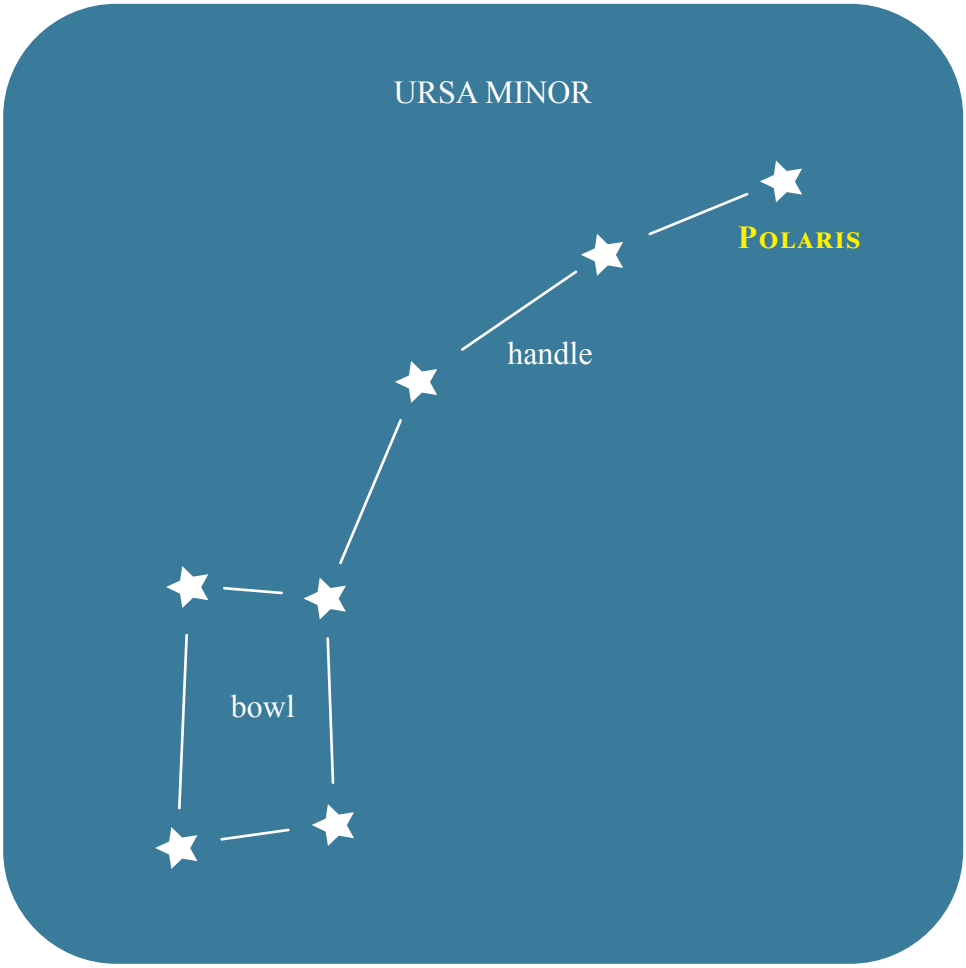
Southern Fish



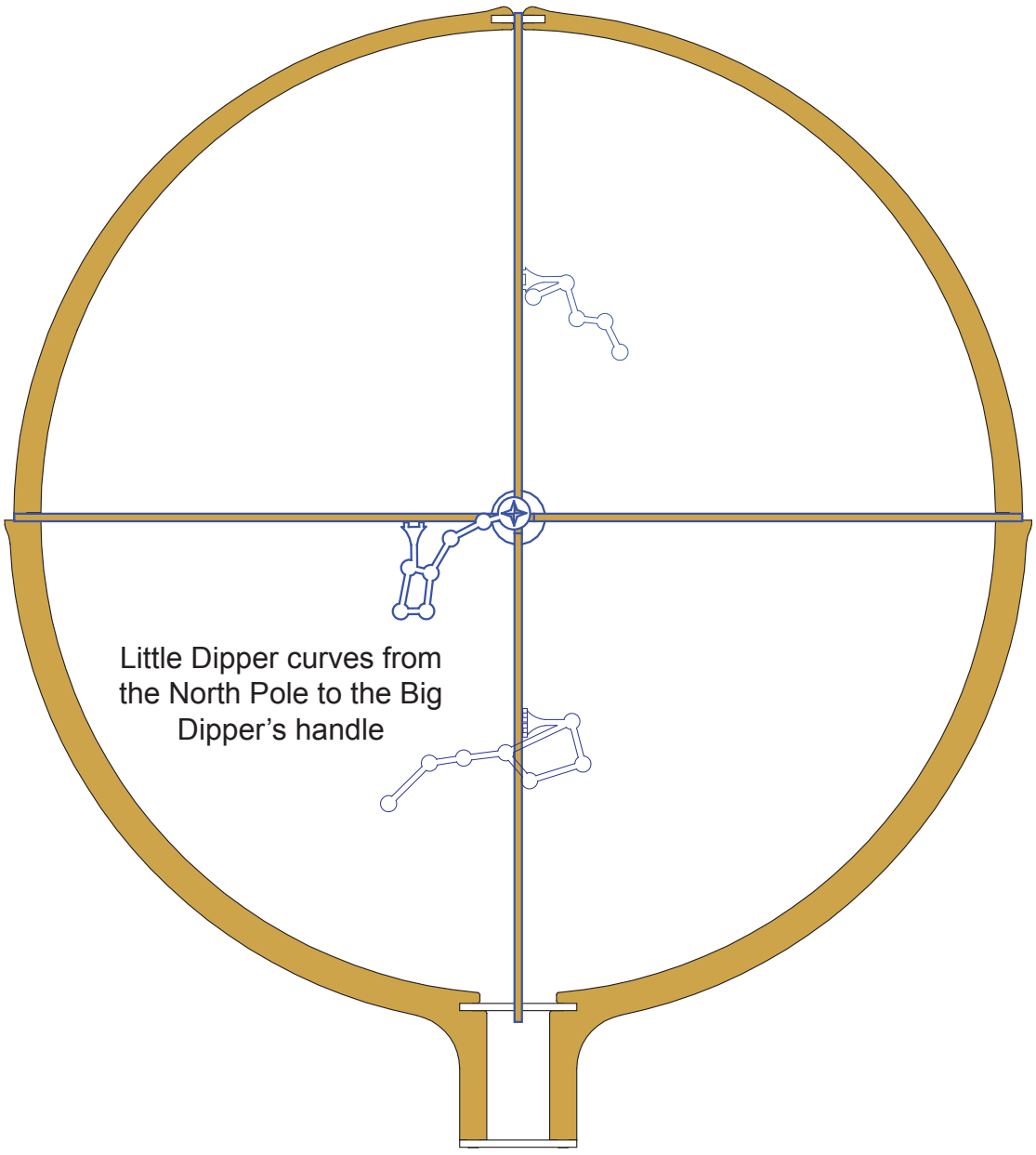


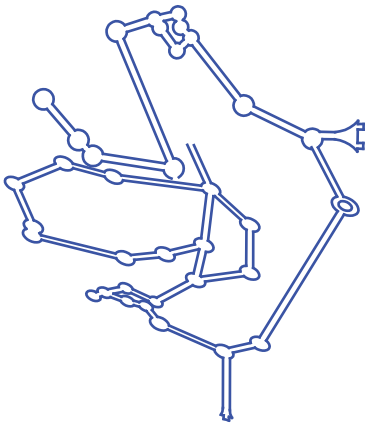
Ursa Minor's claim to fame is that it contains the pole star, Polaris.

Place Polaris on the pole, with the cup of the little dipper curving toward the handle of the Big Dipper.



Little Dipper

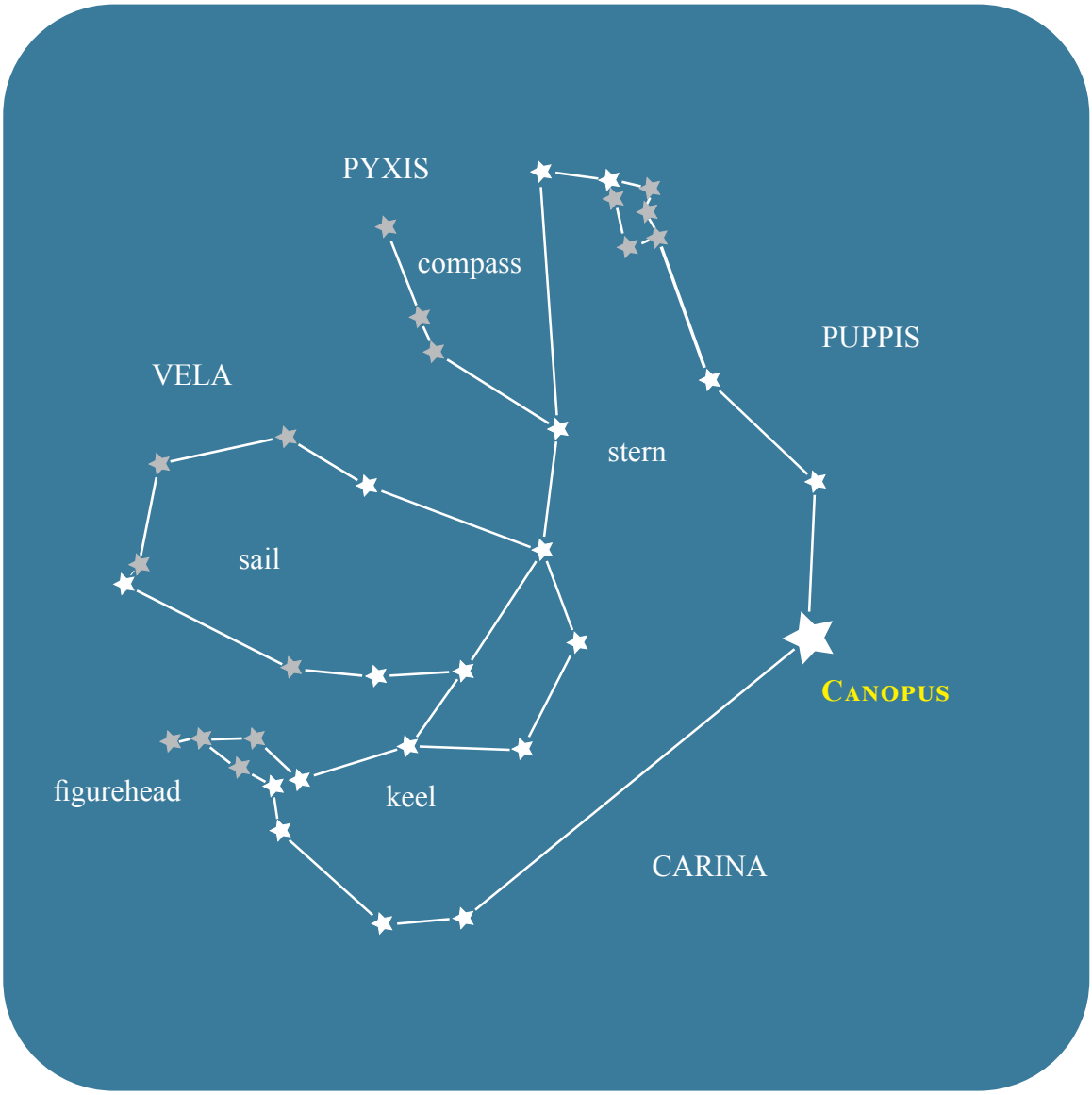


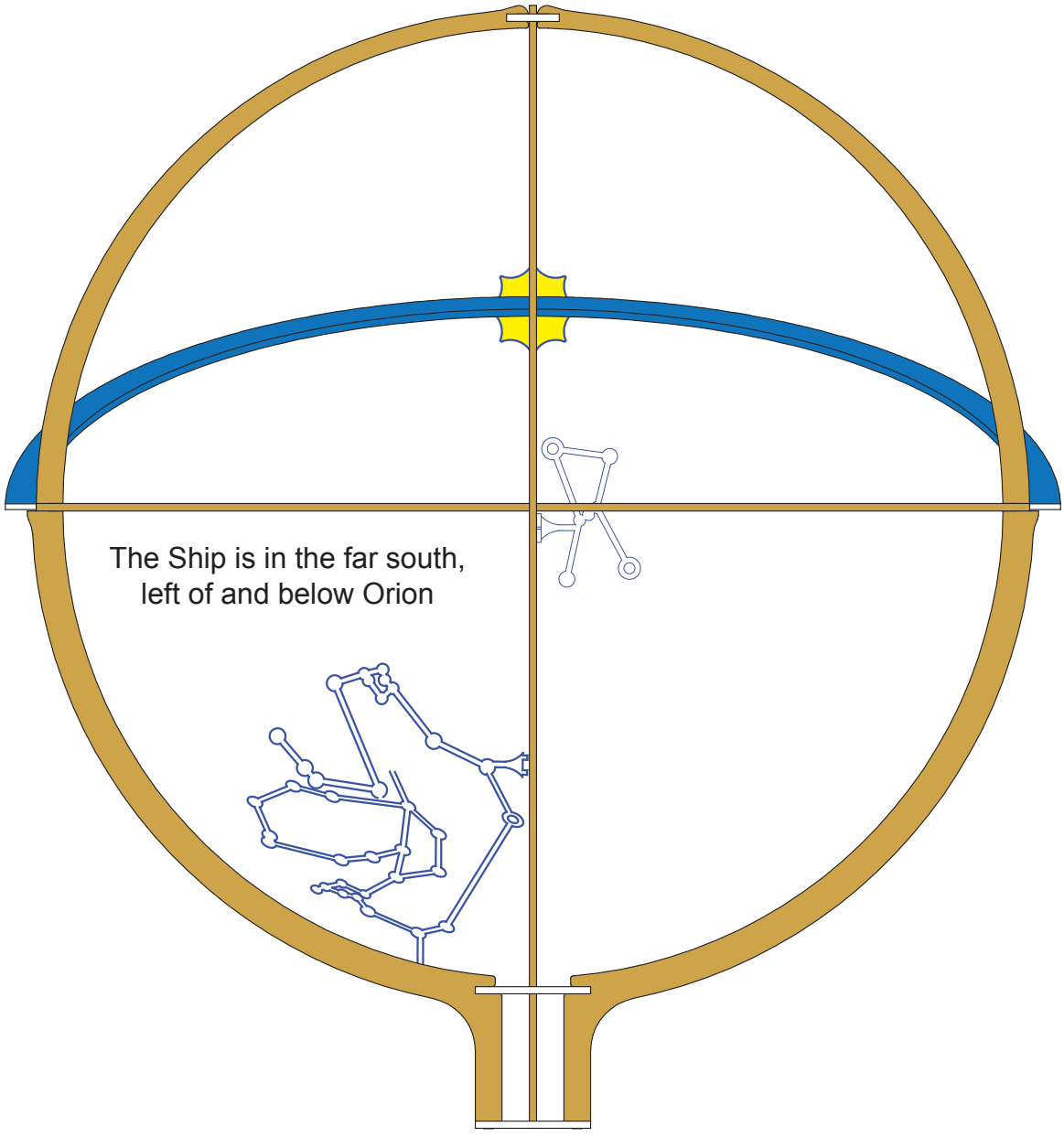


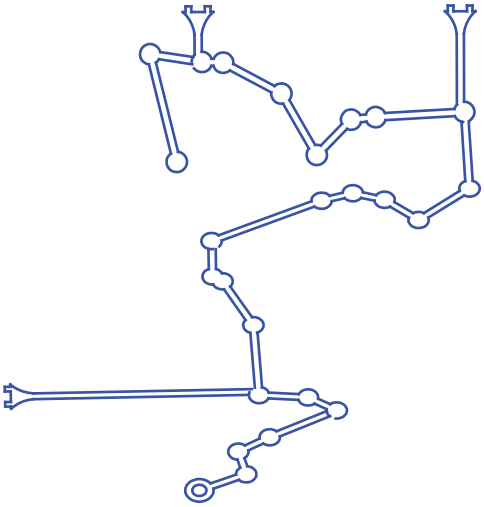
The majority of the Ship remains below the horizon for observers in mid-north latitudes. It comprises four separate constellations: Puppis the stearn, Carina the hull, Vela the sail, and Pyxis the compass.

The Ship anchors on the same meridian as Orion. Since the Ship occupies such a large area, it needs to be curved substantially to turn with the sphere without interference.

Stainless steel construction allows you to easily hand-form constellations to fit properly.

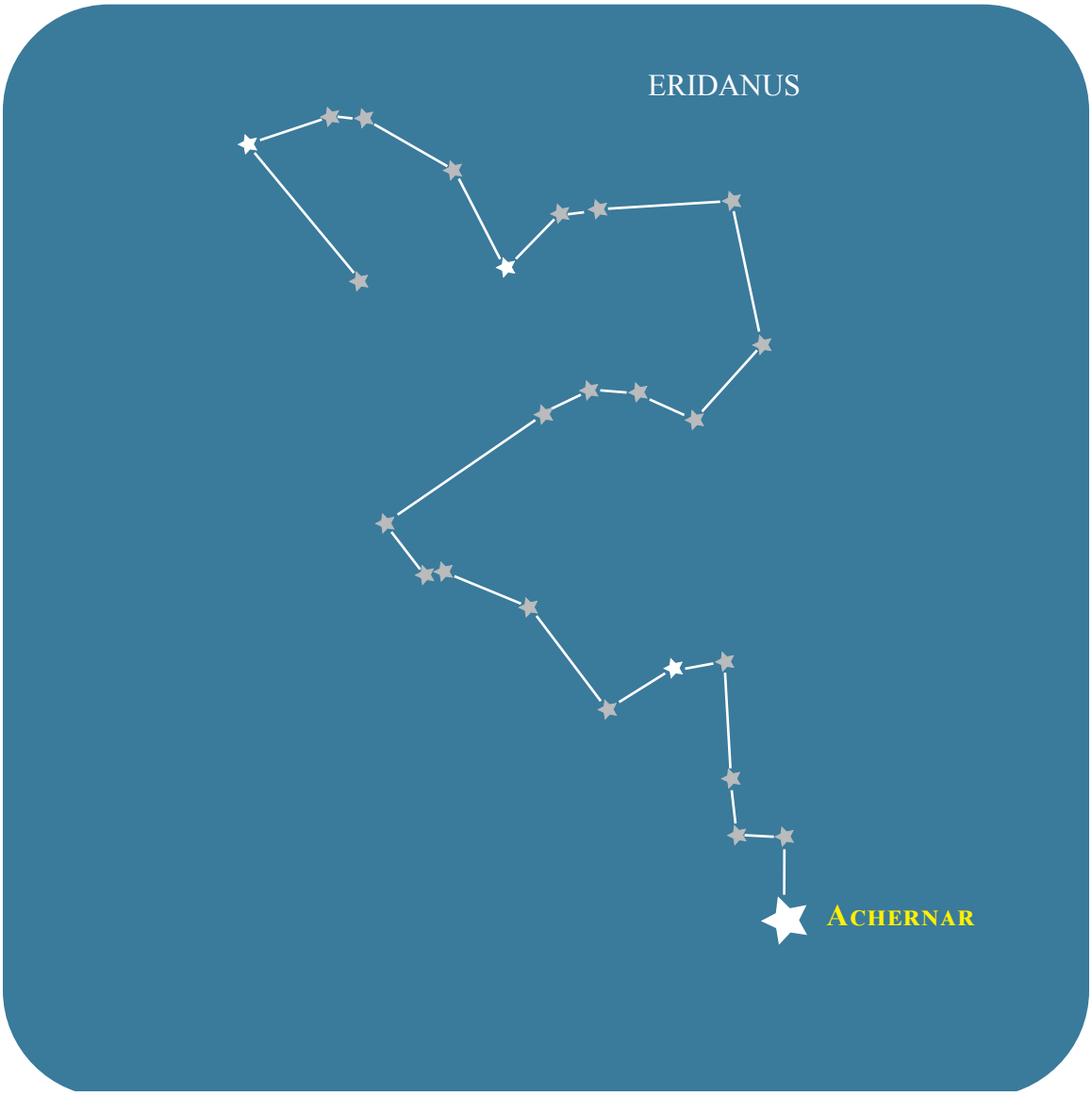


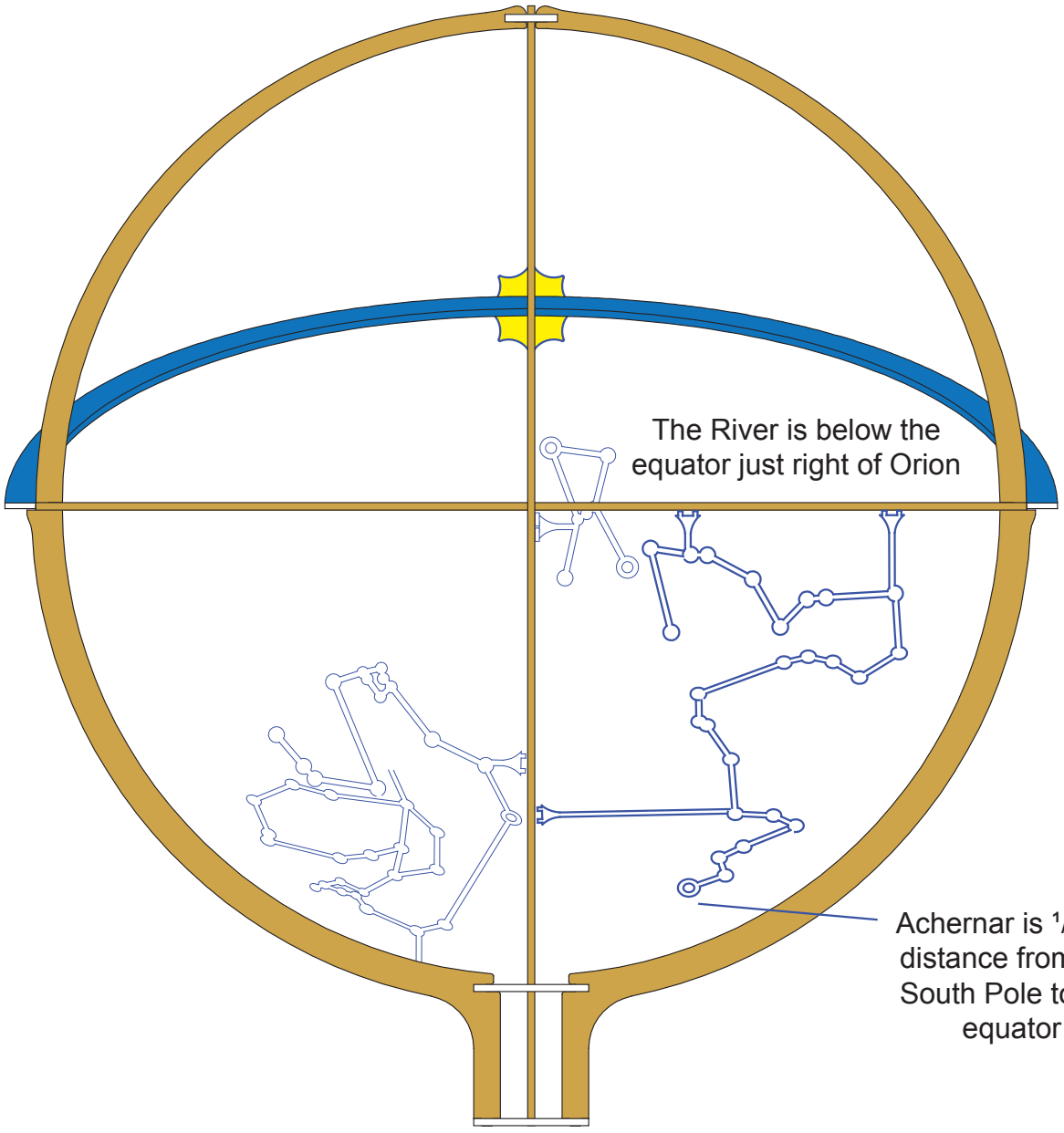

The Ship is in the far south,
left of and below Orion

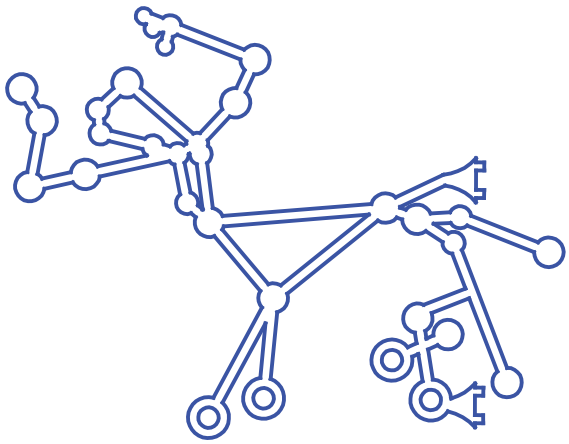


Eridanus is another large-area constellation that will need substantial hand-forming.

It fits below Orion on the leading edge of the meridian. Achernar should be about ¹/₃ of the way between the South Pole and the equator.

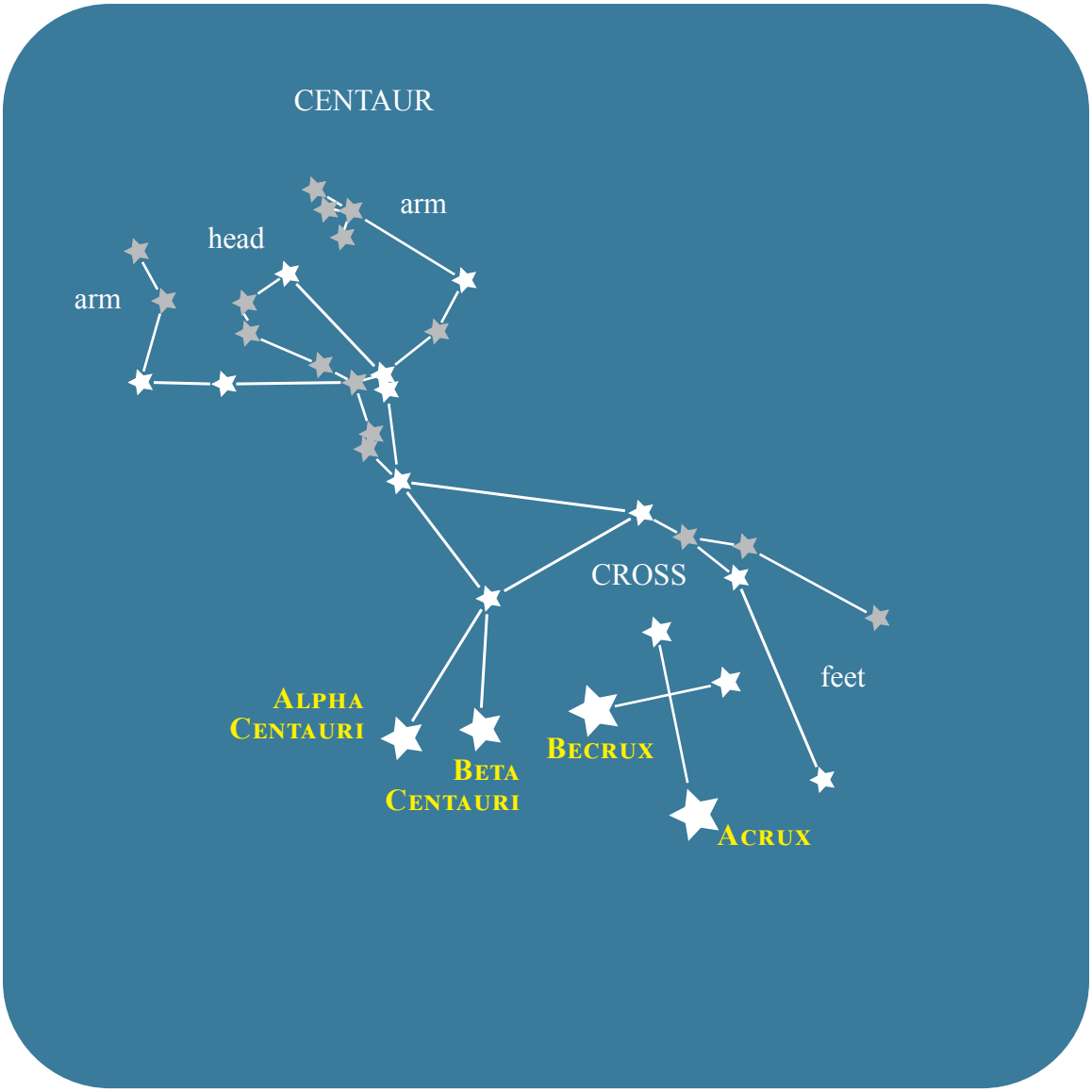



The River is below the equator just right of Orion
Achernar is ⅓ the distance from the South Pole to the equator



Centaurus and Crux are combined into one constellation piece. They anchor on the same meridian as the Big Dipper, with the Southern Cross about 1/3 of the way between the South Pole and the equator.

Viewers south of the equator would use the Cross as a guidepost rather than the Dipper.



Southern Constellations

Centaur & Southern Cross