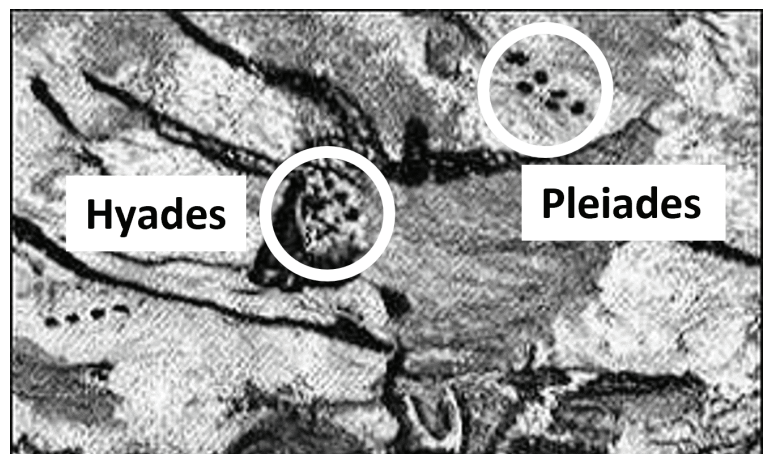
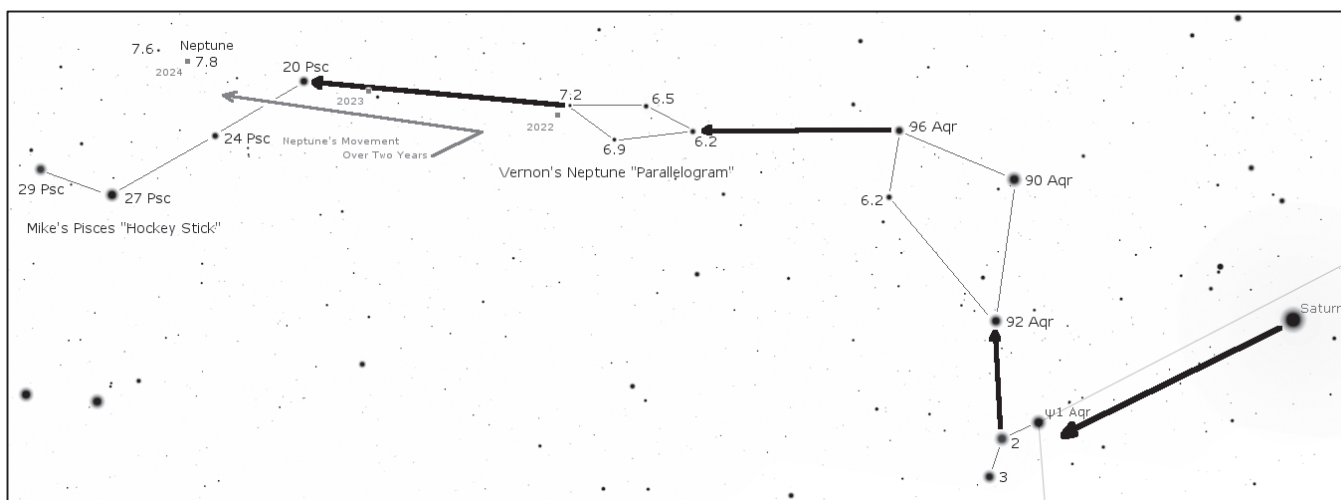


# WHAT'S UP?

Happy Autumn. Since the Summer Solstice in June, the Sun's apparent motion through our sky has been southward. On Sunday, September 22<sup>nd</sup>, the Sun's location changed from being above the *Celestial Equator* to below it. We call this moment, the *Autumnal Equinox*. The Celestial Equator is an imaginary line in the sky visualized by projecting the Earth's equator out into the sky. Next stop – the Winter Solstice on December 21<sup>st</sup>. I've been accumulating articles describing star and constellation names and depictions across various cultures. Since the star cluster we call *the Pleiades* features in the Planet Roundup, I'll share one of the items I've found. The Pleiades are featured in one of the rock paintings found in the cave of Lascaux, in France.<sup>1</sup> These paintings have been dated to have been made circa 15,300 BCE. Located on the ceiling of the cave, is a large scene depicting many animals, including a species of now-extinct cattle known as *aurochs*. Above the back of one of the aurochs is a grouping of six dots. These dots are thought to represent the Pleiades. Also, in the face of the aurochs is group of dots that would correspond to the star cluster we call the *Hyades*. There is a larger spot marking the eye that corresponds to the position of the star *Aldebaran*. In our constellation of *Taurus, the Bull*, this star and the Hyades form the bull's face. While we can't know for sure what the artist was intending to depict, the parallels can't be ignored. Star positions in our sky shift over the years depending on how close to us a star is and how fast it is moving. Projections of star positions back to the time these paintings were made show that the look and relative positions of the Pleiades, Hyades, and Aldebaran have not change very much at all. Oh – and another thing – because the Earth wobbles like a top, with the direction of its axis tracing out a circle in the sky every 25,000 years, when these paintings were made, the position of the Sun at the Autumnal Equinox was very close to the Pleiades!



**Planet Roundup:** Venus can now be glimpsed just before it is fully dark, low in the west-southwest. Now moving out from behind the Sun as we view it, Venus will get higher and higher in our skies and will be with us in the evenings throughout the winter. With Saturn rising around 7:00 p.m., it is easily visible after the sky is dark. You can find it shining brightly at magnitude 0.6 about 25 degrees above the horizon in the southeast. The next planet we come to as we move east along the Ecliptic, is Neptune. Starting from Saturn, Neptune can be found about 15 degrees down and to the left, along a 45-degree slope. Another way to find it from Saturn is to use the *star-hopping technique*. To star-hop, start at an object you know and move in small hops to another easily-found star, then to another, and so on. My friend and fellow South Shore Astronomical Society member Mike McCabe, put together a diagram that works well with binoculars. As the diagram shows, we can move

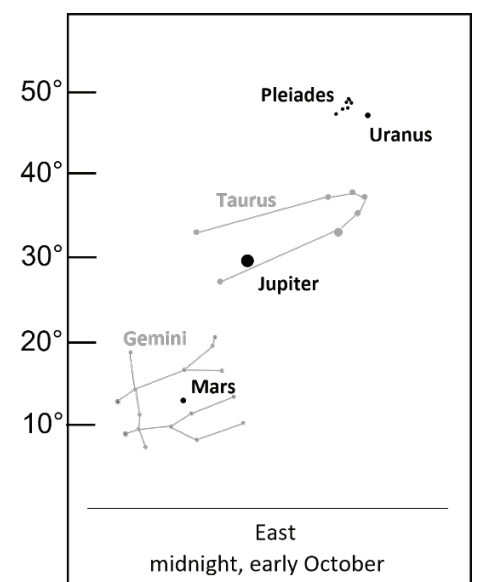


down and left from Saturn to a close grouping of three stars, then up to a bright star that marks one corner of kite shaped set of four stars, then from the top of that group, left to "Vernon's Neptune Parallelogram" (Vernon is another SSAS friend), left again to a bright star, and then continuing on to Neptune. This may seem awkward at first, but without the aid of computer-guided telescopes, this is a tried-and-true method of finding objects that can't be seen by the eye alone. Try it, it works! A shorter star-hop can be used for finding Uranus. After 10 p.m. or so, look about 25 degrees above the eastern horizon and find the Pleiades star cluster (it looks a bit like a tiny, compact Big Dipper). You'll find Uranus about 5 degrees to the right. Jupiter rises around 10 p.m. and by midnight, both Jupiter and Mars shine brightly in the east. Mercury rises pretty much right with the Sun now and is too close to the Sun for us to view. The New Moon occurs on October 2<sup>nd</sup>, the 1Q Moon is on the 10<sup>th</sup>, the Full Moon is on the 17<sup>th</sup>, and the 3Q Moon will be on the 24<sup>th</sup>.

You can email me at [astroblog@comcast.net](mailto:astroblog@comcast.net) with any questions and comments. This is

*What's Up?* installment #90. <sup>1</sup> Rappenglück, Michael. (1997). The Pleiades in the "Salle des Taureaux", grotte de Lascaux. Does a rock picture in the cave of Lascaux show the open star cluster of the Pleiades at the Magdalénien era (ca 15.300 BC?). Actas del IV de la SEAC "Astronomia en la Cultura", pp. 217-225, 1996.

As the diagram shows, we can move down and left from Saturn to a close grouping of three stars, then up to a bright star that marks one corner of kite shaped set of four stars, then from the top of that group, left to "Vernon's Neptune Parallelogram" (Vernon is another SSAS friend), left again to a bright star, and then



Barry