

THE STARRY SIDE

Fall lineup

BY GREELEY WELLS

This will be a simple yet spectacular fall season. The crowning glory is Jupiter, the only planet left standing. From October till December it fills the southern sky, by far the brightest star or planet you'll find. Jupiter rises in the east in the early evening during October; by December it sets early in the evening in the west. Daylight renders all the other planets invisible except for brief shows with Venus. (Over the summer, Venus was the evening star hugging the horizon at dusk; now it disappears, to become the morning star after working its way slowly up out of the dawn's light.) Meanwhile the great square of Pegasus is overhead: slightly to the east in October, directly overhead in November, and slightly to the west in December. Pegasus is the key to finding the other constellations in the fall sky.

But first...to appreciate the constellations you will see this fall, it might be helpful to recall the classic Greek story of Perseus and Andromeda. We don't talk much of Greek Gods any more, but human follies are timeless and just as true today as they were a millennium ago. The consequences of desires and decisions have huge ramifications in our lives too, especially when powerful politicians act like Gods. So here is a quick version of a classic Greek story (myth or Greek teaching tool) about the heroic Perseus and beautiful Andromeda.

Perseus was a prince with a most terrible grandfather who set him adrift in the sea with his mother, Danae, to die. They were saved by an old fisherman, who took them to his island. The king of that island wanted to marry Danae and get rid of Perseus, so he challenged Perseus to kill the Gorgon Medusa. Perseus accepted. Medusa was a beautiful but boastful woman who had been punished for her vanity by making her hideous, with snakes in place of hair. You've probably seen the image; legend has it that anyone who saw her in person was immediately turned to stone. But Perseus was clever: by looking only at her reflection on the inside of his shiny shield, Perseus was able to cut off her head without being turned to stone himself.

Now here's an important part, if you're looking at the night sky this fall: the blood dripping from Medusa's head turned into a wonderful winged horse—Pegasus! Perseus bagged Medusa's head for safety, and headed home on his new steed Pegasus.

Meanwhile, nearby King Cepheus and Queen Cassiopeia were being harassed by a sea monster (the whale Cetus). They believed their only hope was to sacrifice

their beautiful daughter, Andromeda, to the monster. She was chained to the coast to await her fate. As Perseus passed the coast of Palestine [some versions say Ethiopia] he saw the princess chained to the coastal cliff threatened by the sea monster. He showed Medusa's head to the monster, who immediately turned into a huge headland of stone. Perseus then saved Andromeda, and the happy couple went home to become king and queen of his homeland.

We can see almost all of these actors in the sky as constellations. Go outside, and look just a little south of the zenith (straight up). If you squint slightly, the four stars of Pegasus will separate out from the din of stars all around. If you hold out an arm at full length and make a fist, that fist distance will fit between each of the four sides of the square. This is Pegasus, the key to finding all the other constellations by using the sides of the square to lead you to them.

When you've found the square of Pegasus, face north, (your sunrise place is to the right and your sunset place is to the left). To find Andromeda, find the northeast (or close right) corner of Pegasus. Both constellations traditionally share the same star. From that corner you'll notice two lines of stars getting wider and wider as they go north away from Pegasus. This is Andromeda, a curved V shape. The brighter line of stars points directly to Perseus, who himself is like two widening rows of stars pointed at Cassiopeia, the queen.

If you've been reading my column, by now you are probably familiar with the "W" of Cassiopeia. She's NNE of Pegasus. In October she is on her side, like neither a "W" or "M" but more like a blunt bolt of lightning. In November and December she will swing overhead to form an "M" and be at her highest in the sky over Polaris, the North Star.

To find King Cepheus, take the easterly or right side line of the Pegasus square and go north: you will again find Cassiopeia. Before that line gets to the North Star it goes right by the point of the triangle of King Cepheus. He is shaped like a square house with a triangular roof, but the house is upside-down. His stars are quite dim but parallel with Cassiopeia. (He's about the same size as Cassiopeia.)

There are our players except for Cetus the whale, who is very dim and off to the east along the horizon in October. Medusa is there too; her head is a star in Perseus' hand, but I haven't figured out which star that is yet. Can you? Danae, Perseus' mother, did not play a large

enough role, I guess, to get into the sky. Hope you enjoy the play.

THE PLANETS

Jupiter is the king of the sky now, rising in the southeast earlier each night for three months. In October it is up already at sunset and at its highest by midnight. By December it sets just past sunset. It is by far the brightest object in the sky. As a matter of fact, it's at a really impressive 12-year brightness. October 20 you'll find the moon on one side of Jupiter and on October 21 you'll find it on the other side as it passes above. This is an opportunity to calculate the movement the moon makes in a 24-hour period. I use my outstretched fist as a guide; see if it works for you. Come November Jupiter is high up in the east as night falls, a good telescope object. In December Jupiter sets in the west around 11p.m; it's at its highest right at sunset—spectacular!

Saturn is slowly sliding into the dawn. Come November 14-16 it is higher in the dawn above Spica and Venus. December finds Saturn high above Spica, Venus and a sliver moon on December 1 and lower on December 2 and 3, all in the southeast. Notice that Spica, being a star and far away, sparkles while Venus and Saturn are noticeably steady. In December Saturn is rising past midnight.

Mars is in the same dawn light and hard to see. But look twenty minutes after the sunset of October 9, and you'll see Mars above a tiny crescent moon with bright—but really low—Venus below. That's the bright Antares in Scorpio off to the left, often called the rival of Mars because of its reddish color. This is a good opportunity to compare them. On October 10 and 11 that crescent moon straddles Antares, on the right and rising from below on the 10 and higher on October 11. These both make nice evening shows.

Mercury drops from the dawn into the sun and is faint and low; good luck finding him! He flips back to the sunset in December near the much-fainter Mars.

Venus is very bright but very low in early October, but soon gets lost in the sunset and then completely disappears as it follows the sun into dawn. Then all November Venus get higher and more impressive in the dawn; in December the "Morning Star" Venus will be quite amazing.

OF SPECIAL NOTE

Our galaxy, the Milky Way, is worth watching during these three months if your site is dark enough to see it. In early fall, our galaxy stretches across the sky approximately from north to south. It



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will then slide around a full quarter turn approximately east to west, dragging the Northern Cross to an upright position on the western horizon. In doing this, it carries all the constellations with it and spins them in a most interesting way. For instance, Cassiopeia begins on its side east of Polaris, the North Star, and will rotate into a "W" below Polaris.

The bright star Deneb is at the zenith (straight up) during October, along with the whole summer triangle.

October 31 is Halloween, the eve of All Saints Day, November 1. All Souls' Day is November 2.

On Sunday November 7 "fall back" your clocks by losing an hour in order to stay in time with the rest of us! November 17-18 brings the Leonid meteors, which are favorable this year close to dawn as there is no moon; give 'em a try.

December finds the summer triangle setting in the west-northwest and most notably the northern cross is standing upright on the horizon line. This means that Cygnus the Swan, the same constellation, is diving into the sun, wings outstretched. Opposite in the east Orion is rising in all his winter glory. In the north Cassiopeia moves above Polaris, the North Star, and has become an "M" almost directly overhead.

December 13-14 has its Geminid Meteor Shower in the pre-dawn hours and the moon will have set by then so it will be plenty dark for good viewing.

Winter solstice is December 21 along with the full moon.

And, of course, there's Christmas day Saturday, December 25.

Full moon in October is Friday the 22 and called the Harvest Moon, which will interfere with the Orionid Meteor Showers. The moon will also pass by the Pleiades, which look like a little dipper but are really the seven sisters of Greek mythology. With binoculars hundreds of beautiful stars are revealed right next to the moon on October 25. Check it out. On the 26 the moon has moved away and up. Now measure the distance from the moon to the Pleiades to get an exact nightly motion of the moon. Bet it's a fist at arm's length or close to it! November's full moon is on the 21, Sunday, and is called the Hunter's Moon, Frosty Moon or Beaver Moon. And December's falls on Monday the 20, as the Moon Before Yule or the Long Night Moon.

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