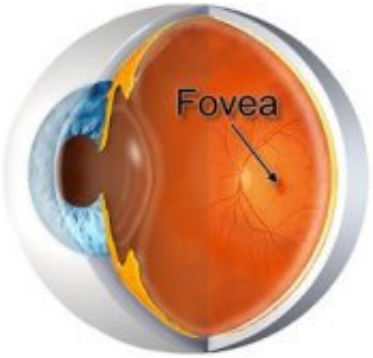
Cold and spellbinding: An alignment of planets in the sunset sky

February 20 2012, By Dr. Tony Phillips



The fovea is responsible for our central, sharpest vision.

Note to sky watchers: Put on your winter coats. What you're about to read might make you feel an uncontrollable urge to dash outside.

The brightest planets in the solar system are lining up in the evening sky, and you can see the formation—some of it at least—tonight.

Go out at sunset and look west. Venus and Jupiter pop out of the twilight even before the sky fades completely black. The two brilliant planets surrounded by evening blue is a beautiful sight.

If you go out at the same time tomorrow, the view improves, because Venus and Jupiter are converging. In mid-February they are about 20 degrees apart. By the end of the month, the angle narrows to only 10

degrees—so close that you can hide them together behind your outstretched palm. Their combined beauty grows each night as the distance between them shrinks.

A special night to look is Saturday, Feb. 25th, when the crescent Moon moves in to form a slender heavenly triangle with Venus, Jupiter and the Moon as vertices (sky map). One night later, on Sunday, Feb. 26th, it happens again (sky map). This arrangement will be visible all around the world, from city and countryside alike. The Moon, Venus and Jupiter are the brightest objects in the night sky; together they can shine through urban lights, fog, and even some clouds.

After hopping from Venus to Jupiter in late February, the Moon exits stage left, but the show is far from over.

In March, Venus and Jupiter continue their relentless convergence until, on March 12th and 13th, the duo lie only three degrees apart—a spectacular double beacon in the sunset sky (sky map). Now you'll be able to hide them together behind a pair of outstretched fingertips.

There's something mesmerizing about stars and planets bunched together in this way—and, no, you're not imagining things when it happens to you. The phenomenon is based on the anatomy of the human eye.

"Your eye is a bit like a digital camera," explains optometrist Dr. Stuart Hiroyasu of Bishop, California. "There's a lens in front to focus the light, and a photo-array behind the lens to capture the image. The photo-array in your eye is called the retina. It's made of rods and cones, the organic equivalent of electronic pixels."

There's a tiny patch of tissue near the center of the retina where cones are extra-densely packed. This is called "the fovea."

"Whatever you see with the fovea, you see in high-definition," Hiroyasu says. The fovea is critical to reading, driving, watching television. The fovea has the brain's attention.

The field of view of the fovea is only about five degrees wide. Most nights in March, Venus and Jupiter will fit within that narrow cone. And when they do—presto! It's spellbinding astronomy.

Standing outdoors, mesmerized by planets aligned in a late winter sunset, you might just forget how cold you feel. Bring a coat anyway...

Provided by Science@NASA

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