

Theological Musings from Dave's Laptop

August 11, 2020

Like many of you, I am fascinated by the night sky. I loved to take long walks under the stars as a teen to talk with God.

I took astronomy in college, and I enjoy "binocular astronomy," though I'm not really a serious astronomer. There are several reasons for this failure.

For one thing, to be a serious astronomer requires some serious mathematics, which has never been my strength. For another, one often must stay up all night, since that's when it's dark (you can quote me on that one). And because the best viewing is in high altitudes and in winter, a lot of one's viewing is not only dark, but quite cold, and I really don't like being cold.

Happily, these difficulties can largely be eliminated through the use of celestial simulation software such as *Starry Night*,¹ which does the math for me and allows me to study the sky on a computer screen. Even so, I do sometimes actually go outside in the dark with my binoculars, especially when at the lake, because out on the dam it's *very* dark and the view of the sky is nearly unimpeded. If the clouds clear away, tonight will be one of those nights.



¹ <https://store.simulationcurriculum.com/products/starry-night-pro-plus-8>

CBF: transforming Oakland Mills into a community others wish to replicate.

Archived Laptops are available at http://www.dcstancil.com/daves_laptop

Why tonight? Because tonight is the peak of the Perseid Meteor Shower, the best meteor shower of the year.

You probably know that meteors, sometimes called “shooting stars,” mostly come from comets. The word “comet” comes from the Greek “coma,” which means hair. This is because the “tail” of a comet can sometimes look a little bit like hair.



Comets are icy denizens of the solar system, and when they approach the sun, the sun’s heat causes some of that ice to vaporize, creating the “tail,” which always points away from the sun due to the solar wind. As the comet melts away bit by bit in this fashion, some of the rocky parts of the comet are “washed” away and begin to also move along the comet’s orbital stream.²

When earth’s orbit intersects a comet’s orbital stream, some of those orbiting bits encounter our atmosphere at something like 132,000 miles per hour and burn up due to the ensuing friction. (That friction is why space capsules and space shuttles have to have heat shields to keep them from becoming huge meteors themselves.)

Wikipedia lists forty-one different meteor showers that are visible somewhere on planet Earth each year. The Perseid shower is one of the best, since it generally produces more meteors per hour than a typical meteor shower—75-100 per hour—and many of them produce spectacular fireballs and vapor trails. The Perseid shower is also popular because it takes place in the summer, when it’s *warm*. (It should be noted, however, that there are no mosquitos present during winter meteor showers.)

Meteor showers generally take their names from the constellations from which they appear to come, and the Perseids appear to come from the constellation *Perseus*. Cosmic material on its way to becoming a meteor actually travels in parallel, but just like railroad tracks appear to join in the distance, so meteor tracks appear to originate in a point called the “radiant,” and the Perseid radiant is in Perseus.

The Perseid meteors come from material from the comet 109P/Swift-Tuttle, discovered in 1862. Swift-Tuttle’s orbit is a tight ellipse that extends past Pluto on one end and around the sun on the other. Swift-Tuttle is a very large comet with a nucleus 16 miles across—twice as large as the comet thought to have led to the demise of the dinosaurs.

Swift-Tuttle takes 133 years to orbit the sun, and it is visible to us twice on the sunward end of its orbit. The most recent visit was in 1992, and the next will be in 2026.



² And so we might think of these tiny fleck from a comet’s “hair” as celestial “dandruff.” 😊

CBF: transforming Oakland Mills into a community others wish to replicate.

Archived Laptops are available at http://www.dcstancil.com/daves_laptop

If going outside in the middle of the night doesn't appeal to you, there are other ways to watch the Perseids. Here are two of them:

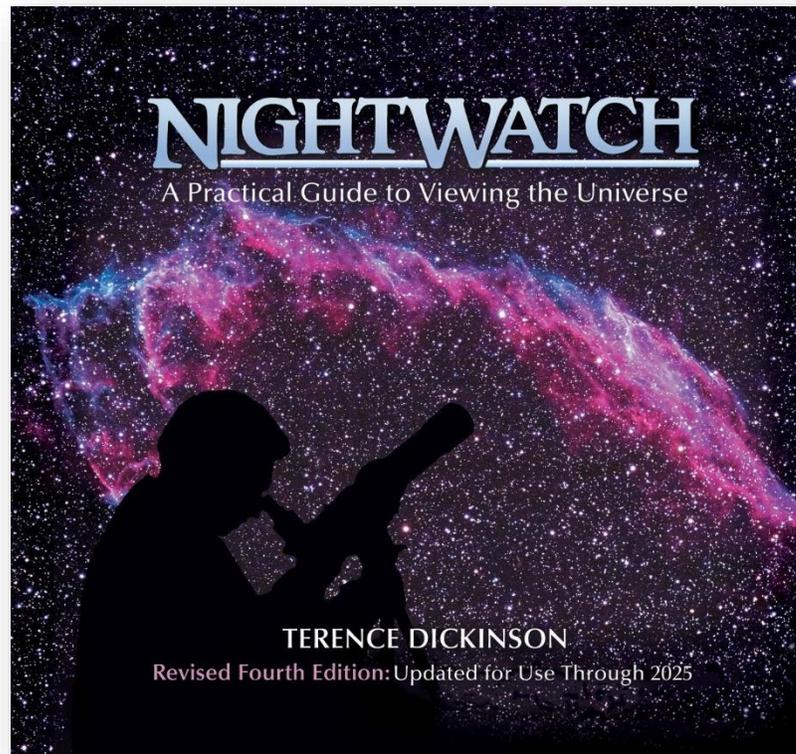
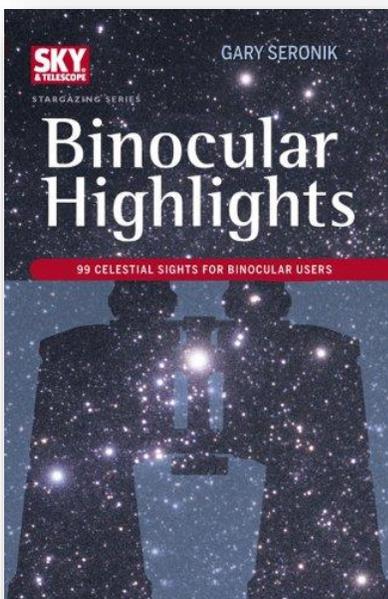
<https://www.space.com/12592-top-10-perseid-meteor-shower-facts.html>

<https://www.space.com/perseid-meteor-shower-2020-webcasts.html>

You might also want to visit:

<https://en.wikipedia.org/wiki/Perseids>

https://en.wikipedia.org/wiki/List_of_meteor_showers



CBF: transforming Oakland Mills into a community others wish to replicate.

Archived Laptops are available at http://www.dcstancil.com/daves_laptop