

13/11/2020



Dear Club Members,

One of the features of the night sky in the northern hemisphere this summer was Comet Neowise. Sadly, in our hilly part of Wales it was too low in the sky for us to be able to see it from home, which is a great shame, out here our skies are nearly completely free of light pollution, and normally standing looking at the sky at night is one of my many little pleasures.

Now even though Comet Neowise was pretty incredible, it didn't meet the generally accepting criteria for it to be a Great Comet. It just wasn't bright enough, nor did it pass closely enough to the sun. Great Comets happen pretty regularly, though the last one for those of us in the Northern Hemisphere was Hale Bopp in 1997, those of you in the southern hemisphere have been able to see 2 Great Comets since then.

So as you might have guessed, our theme this month is comets, and the anniversary of the Goat Comet of 1680, discovered and observed in November 340 years ago. This comet was so spectacular that it was even visible during the daytime. It passed Earth at a distance of around 60,000,000 kilometres. We don't have a measure of its brightness, but it must have been an incredible sight. This comet is particularly notable because it was the first to be discovered using a telescope, by German astronomer Gottfried Kirch. It's named after him, or named after Isaac Newton, depending on which option you want to pick!

Newton gets in on the act because he uses the passage of this comet test and verify Keplers laws of planetary motion, culminating in the publication of his famous book *Principia Mathematica* laying out his laws of motion and gravitational theory in 1687.

This was a heady time to be a scientist, the Age of Enlightenment was the time when many of the religious orthodoxies were questioned and the scientific method began to shape the way in which we still describe the world around us. Scientists were constantly trying to find better ways to describe natural phenomena, and to use mathematics to create rules and laws to predict the way in which our universe behaves. Better technologies, like telescopes, became possible due to the ability to produce better glass lenses. The same technology was also being used to produce microscopes, allowing analysis of things at a cellular level.

The Comet didn't just inspire scientists, artists of the period were also inspired, and your fibre this month is inspired by a painting by Lieve Verschuier, who normally painted maritime scenes, but in 1680 he painted the comet over Rotterdam, with a crowd of awe-struck onlookers.

Happy Spinning

Katie

Further Reading-

Newtons work on the Great Comet... using data stolen from John Flamsteed-
<https://www.obscurehistories.com/flamsteed-newton-and-the-comet-of-1680>

The Great Comet of 1680 in art-
<http://www.jwwerner.com/history/Comet.html>

The Age of Enlightenment-
https://en.wikipedia.org/wiki/Age_of_Enlightenment

And explanation of Keplers Laws-
<https://solarsystem.nasa.gov/resources/310/orbits-and-keplers-laws/>

Crowdsourcing information about Comets motion-
<https://www.bbc.co.uk/news/magazine-21802843>

History of Telescopes-
https://www.youtube.com/watch?v=fmTioY_b-sY

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