

## **Astronomy Talk 22<sup>nd</sup> July 2017**

### **Charles Messier: “The ferret of comets”**

Once again we welcomed back Allan Chapman from Oxford. It is the 200<sup>th</sup> anniversary of Messier’s death (1730 – 1817).

First we looked at the history of knowledge from the Greeks onwards. Tycho Brahe was the first to show comets were not atmospheric, but through parallax were much further away than the Moon. There was much discussion about whether things could combust in space, and Robert Hooke in 1664-7 showed it could be comparable to a corroding object.

Using Newton’s laws, Halley showed the comet of 1682 would return in 1758, which it did. There was much concern about the effect of Earth passing through a comet’s tail, and indeed how significant a collision with Earth would be.

Messier’s interest was piqued by the comet of 1745, and while working for the French navy as a hydrographer spent his spare time searching for comets with his 4” telescope. Pierre Méchain, 14 years his junior, also worked as a hydrographer, and they worked together on comets. Many of the so-called “Messier objects” were discovered by Méchain. Through Méchain, Messier became known to Louis XIV.

Together they worked on the Venus transit of 1761 to try to assess the exact scale of the solar system. They also worked on many expeditions to work out the shape of the Earth, using very precise pendulums, which run slower the further they are from the Earth’s centre. On one of these to Spain Méchain died in 1804.

Despite the wars and the French revolution, communication between individuals of different nationalities was not a problem, and Messier was elected fellow of the Royal Society and of the Swedish Academy of Sciences, as well as of the French Academy.

The list of Messier objects is a list of fuzzy objects, galaxies and nebulae that are hence not comets, and so should be ignored by comet hunters. The first 40 were published in 1775, 80 in 1780 and 102 in 1781. The final list is 110 objects. His work stimulated Sir William Herschel to look with his much more powerful telescopes, and Herschel found over 2,000 similar objects.

Messier survived the revolution, and was well respected by Bonaparte. He died at the great age (in those days) of 87.