

Report for the April 2015 meeting of the Malvern Civic Society

On Friday 10 April Dr Chris Upton of Newman University, Birmingham gave us one of the best presentations we have had. Informative, humorous and clearly illustrated, the talk was about the Lunar Society. This was an informal learned society of prominent industrialists, philosophers and intellectuals who met in various buildings around Birmingham between 1765 and 1813. As their name suggests, they would meet during a full moon, when extra light made the journey home easier and safer in the days when no street lighting existed.

The group met to discuss science and learning before it was formalised and stove-piped into separate disciplines as it is now. There was thus a real cross-fertilisation of ideas possible. This group took life a little less seriously but could be hardnosed when it came to patents and money. It found England a rural society with an agricultural economy and left it urban and industrial. Britain did change from being a rural society from the mid-nineteenth century onwards and these practical intellectuals had a big hand in it. They wanted to engage with the world and change it. There was a core membership, including people like Matthew Boulton, Erasmus Darwin (grandfather of Charles Darwin), Joseph Priestley, Josiah Wedgwood and James Watt, and then a group of "friends" who may have been asked to attend some meetings, such as Sir Richard Arkwright, Benjamin Franklin, Thomas Jefferson and Anna Seward. Anna Seward was a poet who did not like what the industrial revolution was doing to the world but could not help admiring it.

What bound the group together was that they had interests in common which included new forms of transportation (getting goods across the country via canals), measurement (of temperature, for example, in a world without good measuring equipment), gases, mining (new materials like copper or coal to power the steam engine), medicine (how science can improve health), natural sciences (astronomy, botany, geology), power (how to get steam engines to work efficiently) and the application of science to industry (how industry and pure science can work together and how to make money out of pure research). The group also shared beliefs such as anti-slavery; the belief in reason; scepticism over religious orthodoxy. It was politically radical and internationalist, sharing and discussing ideas with French scientists, American politicians and German philosophers.

Central to the members' methods when working on their ideas was experiment. Assumptions and theories had to be tested and repeated in a laboratory. It was only that way that a guess and a calculation could be turned into a scientific fact and discovery. As they were already very busy men, they met irregularly in places such as Boulton's house in Handsworth and Darwin's in Lichfield. The great achiever of the group was Matthew Boulton (1728 – 1809), an industrialist. James Watt (1736 – 1819) and Matthew Boulton formed the great partnership of the industrial revolution. The steam engine had already been invented by Captain Savery and Mr Newcomen in 1712 but Watt wanted a more efficient engine and his notable invention, patented in 1769, was to reduce heat loss: his extra condenser saved fuel usage, diminishing the amount of coal needed. Apart from more innovations by Watt, we heard about others. William Murdoch (1754 – 1839) discovered gas lighting (if you heat coal you can produce gas) and the physician William Withering (1741 - 1799) used the foxglove for strengthening the heart. Joseph Priestley (1733 – 1804) discovered oxygen and invented fizzy water whilst Josiah Wedgwood (1730 -1795) measured clay temperatures and was interested in making beautiful pottery. Erasmus Darwin (1731 – 1802) came up with some good ideas that started Darwinism. The most extraordinary "experiment" was that of Thomas Day (1748 – 1789) when he conducted a human experiment in his desire for a wife. He took an orphan to mould her to train and marry her as the ideal wife and then took a second one just to be sure to succeed, but ended up having to give them away.