Dr Christopher Merrett – A 17th Century Man of Science

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A scientist, physician, naturalist and metallurgist, he was educated at Gloucester Hall, Oxford, and later at Oriel College, he took his BA degree in 1635 and MD in 1643. After settling in London, he became a Fellow of the Royal College of Physicians in 1651 and Goulstonian lecturer in 1654. One of the first members of the Royal Society, through the influence of his friend Dr William Harvey, he was appointed the first Harveian Librarian and Keeper of the College. Following the relocation to Amen Corner, gifted by Dr Baldwin Hamey (1600-1676) to better house the growing collection, Merrett’s custodianship was formalised. He was given, in addition to free lodging, a remittance in taxes and a salary. His tenure was ‘part catastrophic and part heroic’. He proved a successful librarian – in addition to him greatly increasing the size of the collection, many gifts and generous donations were made to the College. Merrett also built up a strong physician’s practice at Amen Corner. During the Great Plague in 1665, while many of the other physicians had deserted the Faculty, Dr Merrett remained behind, only leaving London when he and his family were forced to flee to the countryside for their own safety. Before leaving, Merrett collected some of the College treasures and together with one thousand pounds in cash, secured them in an iron treasure chest. Shortly after his departure, thieves broke into the College, forced the lock of the chest and stole the contents. Once the risk to their health passed, the Merrett household returned to London only to be forced to leave their home once more by the Great Fire of London.

Fire broke out on 2 September 1666, spreading quickly through the timber buildings across the City. Lasting for five days, it raged across 273 acres, 400 streets, 13,200 private houses, 88 churches and St Paul’s Cathedral. On the fourth day, the fire had spread in the area of Amen Corner. Merrett barely escaped with his life, having picked out the most important books, approximately 148 altogether, and removed them to safety. The majority of the College artefacts, together with Merrett’s living quarters and his own substantial collection of books, were destroyed.

Recently, in the picturesque Cotswolds, an English Heritage Blue Plaque was unveiled in the town of Winchcombe, marking the birthplace of one of its sons – Christopher Merrett (1614-1695). I was alerted to the endeavours of Dr Merrett by Winchcombe resident and historian, Jean Bray. It was Jean who headed the blue plaque campaign, which was unveiled in May, 2017.

With the collection gone, the Royal College of Physicians gave up the site at Amen Corner and, as it had no further need for a Librarian, Merrett lost his home and his job. He protested about his removal, claiming that he was entitled to his office for life. He launched a long and bitter lawsuit against the College in the King’s Bench.

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1 London’s famous blue plaques link the people of the past with the buildings of the present. Now run by English Heritage, the London blue plaques scheme was started in 1866 and is thought to be the oldest of its kind in the world.

2 A learned society for science, the Royal Society for Improving Natural Knowledge was founded in 1660, receiving a royal charter from King Charles II in 1662. There remains debate around the earlier history of the society in the way it came into being and the effect other groups had on its beginnings (for a detailed history see, Lyons, Henry., The Royal Society 1660-1940, A History of its Administration under its Charters [Cambridge University Press, 1944]).

3 [Accessed 29.06.2017: www.rcplondon.ac.uk], webpages of the Royal College of Physicians.


6 ‘Section of the History of Medicine’, Vol.47, 1053. In some British universities a bedel is an official with largely ceremonial duties.

7 The National Archives, PROB 11/429/195, ‘Will of Dr Christopher Merrett, Doctor in Physic, Doctor of Medicine of Saint Andrew Holborn’ (16 Sep 1695).
During the course of the action, his son gave a detailed account of the terrible night when the College caught fire. He said: “The College was burnt down between 3 and 4 o’clock on Tuesday 4th”, and that the day before, his father had sorted out the books and put the best ones in the College yard in readiness to remove them. The son reported that “his father had been the last person in the college” and he gave a dramatic picture of his father walking down Warwick Lane, which was on fire on both sides, with arms full of books followed by the bedel.6 Merrett’s claim failed. In 1681, he was expelled from his Fellowship and also expelled from the Royal Society, nominally for non-attendance but more likely as a consequence of the action. Subsequently, he resided in his house in Hatton Garden, where he died on the 19 August 1695, and was buried “14 feet deep in the church of St Andrew’s, Holborn”.7

Besides his best-known work produced in 1665, Pinax Rerum Naturalium Britannicarum in which he attempted over its 233 pages to make a list of the vegetables, animals and minerals of Great Britain, Merrett wrote numerous other works on a variety of interests, which he presented at meetings of the Royal Society. In 1662, he produced an account of wine-making. At this time, vineyards were present in Holborn. He was the first to document the process of secondary fermentation. He wrote: “Our wine cooperers of recent times use vast quantities of sugar and molasses to add to various wines to make them drink brisk and sparkling and to give them spirit.”8 This practice of putting bored bubbles into wine came 30 years before the more famous champagne discovery of Dom Perignon! In addition, Merrett wrote on the ‘Art of glass production’, provided ‘An account of tin mines in Cornwall’, gave his ‘Observations of Lincolnshire life’, to name but a few! In 1664, Merrett was appointed chairman of a committee for collecting histories of trade, creating a catalogue.9

In 1661/62, Merrett received a request by the Royal Society to produce a history of refining. His subsequent paper described four ways to separate all other bodies from gold and silver: by Parting, by the Test, by the Almond Furnace or the Sweep, and by Mercury. This 17th century account proves fascinating today. An extract taken from his report on the Almond Furnace or Sweep method is shown below:

“Here are separated all sorts of Metals from Cinders, parts of Melt-ing Pots, Tests, Brick and all other harder bodies; which must be first work. Those which stick but superficially to their silver, they wash off thus; they have a wooden round instrument two foot wide, somewhat hollow in the middle, with a handle on each side. On this they put the Materials, hold them in a tub of water below the surface, and so waving it to and fro, all the lighter and looser matter is separated from the Metal.

The furnace is six feet high, four feet wide, and two feet thick. Made of Brick; having a hole in the midst of the top eight inches over, growing narrower towards the bottom of it, where on the fore part, it ends in a small hole, environed with a semicircle of Iron to keep the molten Metal. About the middle of the back, there is another hole to receive the nose of a great pair of bellows requiring continually the strength of two lusty men. The night before they begin, charcoal is kindled in the Furnace to Annal it and when it is hot, they throw two or three shovels of coal, to one of the forementioned stuff and so proceed during the whole work, making stratum super stratum of one and the other. After eight or ten hours the Metal begins to run; and when the Receiver below is pretty full they lade it out with an Iron Ladle, and cast it into sows in Cavities or forms made with ashes.

They frequently stop the passage hole with Cinders to keep in the heat; and [when] they think a quantity of metal is melted, they unstop the hole to pass it off.

If the stuff be hard to flux, they throw in some slag (which is the increment of Iron) to give it fusion. Their iron melt away apace, wherewith they proak out the cinders from the hole.

A stinking blue smoke proceeds from the Furnace, and all by-standers put on the colour of dead men. The workmen must be well lined with Oyl, Sack, Strong Beer, and good victuals: for the Work continues three days and nights without intermission using no other variety, than above said.”10

It is remarkable to remember that this process took place three centuries ago just as the Civil Wars were ending and as the Restoration of the Monarchy took place in 1660! Sadly, where and how Merrett collected the necessary information for his detailed account, thus far escapes us. However, there is a direct link to the Mint through an official, Henry Slingsby (elected an original Fellow of the Royal Society in 1663, deputy Master of the Mint from 1662-1667 and sole Master from 1667-1680), who was also asked by the Royal Society to provide a discourse on metallurgy and the work of the Mint.11 At that point in time, much excitement centred on the Mint due to the internal working struggle between the traditional moneyers and the introduction of new machinery enabling mass production of coinage.12

12 Craig, John, The Mint, the London Mint 1, 287 to 1,948 (Cambridge University Press, 1953), records that “all charges for seigniorage and costs for minting coin were abolished 20.12.1666 to tempt custom to the Mint and increase the national stock of money to relieve the King of the deficits to which his generous increase of salaries had reduced the seigniorage account”, p. 168.
His subsequent paper described four ways to separate all other bodies from gold and silver: by Parting, by the Test, by the Almond Furnace or the Sweep, and by Mercury.

Slingsby appears in several entries in the diary of Samuel Pepys, of whom Merrett was also an acquaintance. Slingsby being a great friend of Pierre Blondeau, a French moneyer and engineer, whose appointment to the London Mint was as controversial as the methods he engaged, moved away from the traditional manufacturing process. Blondeau was responsible for the reintroduction of milled coinage to England and pioneered the process of stamping lettering onto the edge of coin.13 Pepys was a frequent visitor to the Tower of London, where the Mint was housed, and in February 1661, passed comment upon the poor quality of the new hammered coinage, writing in his diary:

“We met with Mr Slingsby, that was formerly a great friend of Monseiur Blondeau’s – who showed me the stamps of the King’s new coyne; which strange to see how good they are in the stamp and bad in the mony, for lack of skill to make them. But he says Blondeau will shortly come over and then we shall have it better, and the best in the world. The Controller and I to the Commissioners of Parliament, and after some talk, away again – and to drink a cup of ale.” 14

Later, he witnessed a method of making money from the beginning to the end, which he included in his diary entry on Tuesday, 19 May 1663. Describing the process as “so pretty”, he made notes on every part of the process. Afterwards, he noted that he had been made “thoroughly to understand the business of the fineness and coarseness of metals”. According to Professor Roberts-Austen, “Pepys’s account of the operations of coining, and especially of assaying gold and silver, is very interesting and singularly accurate considering that he could not have had technical knowledge of the subject.”15

Both these 17th century accounts of refining and coin production provide much detail of work at the Mint and the early methods and processes engaged in by the London Refinery. They also mark the technical changes experienced during the second half of the century as hand production gave way to mechanisation. Possibly thanks to the Royal Society and the cauldron of creativity it nurtured, Merrett became a genuine polymath at a time when it was possible to become an expert in many different areas, recording many of the important advances and progress of science in the period.