

Shelley and His Circle— VI

Yoshico Cato

(1) Sir Joseph Banks (1743–1820)

Sir Joseph Banks was born in London on Feb. 13, 1743, then son of William Banks, gentleman, of Revesby Abbey, Lincolnshire. Joseph was educated at Harrow School (1752–6) and Eton College (1756–60). At Eton, he was interested in botany, possibly because his mother, Arabella, possessed a copy of Gerard's *Herbal*.

He entered Christ Church, Oxford, but as Dr. Sibthorp, the Prof. of botany, was a boring lecturer, he employed a Cambridge botanist called Israel Lyons at his own expense to give him a set of lectures at Oxford in 1764. So, at Oxford, he studied natural history, mainly botany and geology. Even after the death of his father, he was able to continue his college life, and he lived either in Oxford or at his mother's house in London. The latter was near the Chelsea Physic Garden of the Society of Apothecaries. He graduated from Oxford, like most gentlemen, without taking a degree, and became a member of the Society for the Encouragement of Arts, Manufactures, and Commerce in 1761, a fellow of the Royal Society, and a fellow of the Society of Antiquaries in 1766. While he was studying in the British Museum, he met a librarian called Daniel Solander who had trained under the great Linnaeus in Sweden. Banks became a disciple of Linnaeus, and he exchanged letters with him. Later (1768–71) Banks and Solander were to join the first expedition of Captain James Cook on the *Endeavour*.

Banks served as a Linnaean naturalist on three expeditions. First, in 1766, he served Constantine Phipps on the expedition to Labrador and Newfoundland, where he collected specimens, which Solander helped him to put in order (now in the Natural History Museum). Next, from 1768 to 1771, he served Lord Sandwich, his close friend, in the great *Endeavour* voyage of Captain Cook. Its chief purpose was to observe the transit of Venus in Tahiti. They anchored on 13 April, 1769, and remained there for three months. He was interested in Tahitian customs, as well as its nature. They further explored New Zealand and New Holland, and Cook named the area near Sydney Botany Bay, after the works of Banks. Since the *Endeavour* hit the Great Barrier Reef in June, 1770, they had to go to Batavia for repairs. Banks was interested in the Australian Aborigines, but they had not enough time to make contact with them. During their stay in Batavia for three months from 9 October 1770, they lost thirty men to Java fever. They returned to Deal, England, on 12 June 1771.

Banks was introduced to King George III, and he became his close friend and advisor. Cook tried to mount another expedition, which Banks wanted to join, but as Lord Sandwich became jealous and hostile to him, he had to give it up. Instead, Banks tried to survey the geology and nature of the Hebrides and Iceland in 1772. Banks explained the reason why he had to choose to survey Iceland in his letter to John Montagu F.R.S., 4th Earl of Sandwich, and 1st Lord of the Admiralty, dated 30 May 1772 (Banks, pp.25-29).

The Letters of Sir Joseph Banks A Selection 1768-1820, edited by Neil Chambers, enables us to track the *Sir Lawrence* around the Hebrides 31 July-18 August 1772 (p.351). Banks selected the day of disembarkment on the same day when the second expedition of Captain Cook started. They left Gravesend, London, on 12 July 1772, and their route is described in

Bank's letter to Thomas Falconer dated 2 April 1773 (Letter 8). They visited or passed by the isle of Islay (Illa), Jura, Oronsay, Scarba, Luing Islands, Oban, Mull, Movern, Iona, Staffa, Muck Oronsay, Eigg, Rum, Canna, South Uist, Skye, Shiant Isles, Minch, Lewis, and arrived at the Butt of Lewis on 18 August 1772. He seems to have been impressed with Fingal's Cave on the Island of Staffa, like the Giants Causeway in Ireland, which they visited on 13 August, 1772. In this expedition, Banks took Dr. James Lind, together with his close friend Daniel Solander and most of the members he had taken on the first expedition of Captain Cook. Lind joined them as a scientific companion and observer. During this expedition, Lind made a correct map of Islay Island in the Hebrides.

When they arrived at the Butt of Lewis, they chose to go to Iceland as they then had a south-west wind to carry them (Banks, Letter 11). They arrived at Besested [Bessastadir] at the south west of Iceland on 29 August. Letter 11 is very important because in it Banks refers to Sir William Hamilton. They arrived at Hecla and found there 'lava' and 'Tuffa' 'which is Call [e]d by Sir William Hamilton' (Banks, p.46). Mt. Hecla is a volcano, 5,110 feet high, in south west Iceland. They stayed here 18-28 August 1772 and found hot baths elsewhere. Banks reports that Dr. Lind measured the height of the eruption of Geysir (Banks, p.47). Letter 11 of Banks to Thomas Falconer is very important in showing that Banks knew the volcanologist Sir William Hamilton and that he took Dr. Lind in his expedition of the Hebrides and Iceland in 1772. It is no wonder, therefore, that Shelley knew and read the papers of Sir William Hamilton and Linnean botanists like Sir Joseph Banks and E. Darwin thanks to Dr. Lind.

In 1773 the King appointed Banks virtual director of the Royal Botanic Gardens at Kew, London, and he joined the council of the Royal Society in 1774. He was elected President of the Royal Society in 1778. Next year

he married Dorothy Hugessen, parting from his mistresses, Harriet Blosset and Sarah Wells, though giving them some financial aid. The King gave him a baronetcy in 1781, and after expelling such enemies as Bishop Samuel Horsley, he controlled the Royal Society as President until his death.

With the support of the King, Banks was able to exercise political influence upon the Royal Observatory, the Board of Longitude, the Board of Agriculture, and the Privy Council Committee on Trade. With the help of his close friend, Charles Jenkinson, Lord Hawkesbury and later the first Earl of Liverpool, he was elected a Privy Councillor in 1797. His influence spread to the Board of Control for India, the Home Office, and the Admiralty. Later he organized the *Bounty* expedition of 1787-89, the *Investigator* expedition of 1801-03 to Australia, and the *Providence* expedition of 1793, for the imperial prosperity based on scientific investigation. The last of these succeeded in transferring 'breadfruit' from Tahiti to the slaves in the British West Indies. He also promoted the expedition to Africa, and he became one of the founders of the African Society.

During these years, the French Revolution erupted, and Britain was fighting the French navy all over the world. Since Banks was a fundamental conservative, and had a strict hierarchical view of society, he opposed the Wood Bill of 1788, and defended the Corn Laws. He opposed the French Revolution, contrary to the members of the Lunar Society and the Romantic Poets such as Wordsworth and Shelley. And he does not seem to have been so pious a Christian.

As King George III became insane, and his friend, the Earl of Liverpool, retired in 1802, Banks gradually lost his hold on power, though he was made a knight in the Order of the Bath in 1795.

His letter to Robert Saunders Dundas F.R.S., 2nd Viscount Melville, 1st Lord of the Admiralty dated 20 November, 1817, shows that he never gave

up his ambition to explore the North Pole and to seek for 'a passage from the Atlantic to the Pacific coast along the northern coast of North America' (Banks, p.335).

He suffered from severe gout, and died on Monday, June 18, 1820. He was buried at the parish church of Heston near his Middlesex country house, Spring Grove, in the village of Spring Grove. George Cuvier, a French naturalist, acknowledged him as 'a statesman of science' before the French Academie des Sciences (Cuvier, 3, 49).

(2) Sir William Herschel (1738–1822)

In his poem 'The Loves of the Plants', Erasmus Darwin commemorated his friend Sir William Herschel's discovery of a star called 'Uranus' as follows:

So shines with silver guards *the Georgian star*,
And drives on Night's blue arch his glittering car;
Hangs o'er the billowy clouds his lucid form,
Wades through the mist, and dances in the storm.

[Italics mine.](C.I, ll. 217-220.)

Herschel always called 'Uranus' 'the Georgian Planet' in honour of King George III.

We know that Shelley knew of Herschel, because we have a record that he ordered his book, in vain. This is a letter from A. & W. Galignani to Shelley, dated 25 April 1822.

A. & W. Galigniani to Shelley

Librairie Française et Etrangere
De A. & W. GALIGNIANI
Rue Vivieune, N° 8
Paris, 25th april 1822

Sir

We have the honor to acknowledge the receipt of your letter 2d inst. and to inform you of our having forwarded on the 17th inst. the work of 'Laplace essai sur les probabilités', of 'Cuvier' the only two volumes as yet published, and 'Daubuisson's Geognosie' which is considered the best work of its kind. We inclosed in the parcel Lord Byron's 'Cain' [which] you ordered previously, and the work of Mirbel which was also ordered by M. Horace Smith some time ago, & which we were waiting for an opportunity to forward.

Herschel's Work notwithstanding all the enquiries we made could not be procured.

(Jones, p.458.)

Shelley ordered Herschel's book, but the bookshop could not find it, so he could not buy or read it, yet it is probable that Shelley was mistaken. It was not a book but an article in the *Philosophical Transactions* that he remembered and tried to read. It is probable that he had already read it in Britain, at Eton College, before he started the grand tour in Italy, and that he had wanted to read it again in Italy; and it is also probable that it was Dr. Lind who at Eton introduced Herschel's work to Shelley.

And this letter shows, Shelley also tried to read Cuvier. Since Baron Georges Léopold Chrétien Frédéric Dagobert Cuvier (1769-1832) was a French naturalist, this letter indicates that Shelley was interested in natural history even after he went to Italy, or even just before his death in the Gulf of Spezzia, Italy, in this same year, 1822.

Herschel may not be the only astronomer to influence Shelley, but he is very important in that he was a close friend of Dr. Lind and that Shelley liked to use astronomical imagery in his major poetry, such as *Prometheus Unbound*, which we would like to discuss later.

Sir William Herschel was born in Hanover, Germany, the child of an oboist, a musician in the Hanoverian foot guards, on 15 November, 1738. He was talented, from his childhood, in music, like his father and brothers. He came to England in the band of the guards and stayed in London and learned English for a while. He had to go home, but he returned to London with his brother Jacob in 1762.

He started his London career at a music shop, but then moved to Durham, Halifax, and Bath, where he invited his brothers and sister from Hanover. He learned French in Hanover, then English, Italian, Latin, and Greek. He even studied not only the mathematical theory of harmony but also the mathematics of Robert Smith, lately professor of astronomy, Cambridge. He also studied how to make a telescope. His book *Optics* reveals that Herschel was interested in the 'Observation of Venus' and the 'Eclipse of the moon', as he left comments in his notes in 1766. These themes are to be found in the poetry of Shelley later.

Just as he bought Locke's *Essay on Human Understanding* during the first stay in London, he bought on his return James Ferguson's *Astronomy*, and started to make his own telescope, grinding and polishing the mirrors himself. Nevil Maskelyne, the Astronomer Royal, and Thomas Hornby,

Professor of Astronomy, Oxford, visited him, but they did not understand him. In 1779, Dr. William Watson, Fellow of the Royal Society, appointed Herschel the first president of the Bath Literary and Philosophical Society. They became close friends, and thanks to Watson, he was able to publish four papers in the *Philosophical Transactions*. He continued observing the Orion nebula, and discovered Uranus in the constellation of Gemini; he thus discovered a planet in the solar system for the first time in history.

He was an amateur astronomer, but in 1781 he was presented with the Copley medal of the Royal Society, and was elected a Fellow. In 1769, the king established an observatory at Kew, London, and he ordered Herschel to build his telescope in the Royal Observatory at Greenwich. He was asked to show his telescope to the king and the royal family at Windsor, and for this service he was given a pension. Herschel always called Uranus the Georgian Planet, in honour of the king.

His study lasted throughout his life, with the help of his sister Caroline and his wife Mary. He became the first president of the Astronomical Society, and, in 1787, he discovered two satellites of Uranus. He observed Saturn and discovered the satellites Mimas and Enceladus in 1789, and he discovered the planets Ceres and Pallas, and named them 'asteroids'. He received a doctor's degree from the university of Edinburgh in 1786 and from Glasgow in 1792. He was appointed as a knight of the Royal Guelphic Order in 1816.

Herschel died at Observatory House in Slough on 25 August, 1822, and was buried in St Lawrence's, Upton, near Slough.

(3) Tiberius Cavallo (1749–1809)

Cavallo was born the son of a physician in Naples, Italy, on 30 March

1749. In 1762, he went to London, and studied experimental electricity. He published several books on electricity; *A Complete Treatise on Electricity in Theory and Practice with Original Experiments* (1777), *An Essay on the Theory and Practice of Medical Electricity* (1780), *A Treatise on the Nature and Properties of Air and other Permanently Elastic Fluids* (1781), *History of Aerostation* (1784), *A Treatise on Magnetism in Theory and Practice* (1800), and *Elements of Natural and Experimental Philosophy* (1804).

His first book gave him a high reputation and he was elected a Fellow of the Royal Society in 1779. He proposed his idea about the value of electricity as a medical therapy to Dr. Lind, who had been physician to King George III (*ODNB*, p.591). Cavallo and Lind were friends and Fellows of the Royal Society. No wonder that Shelley was excited by experimental electricity in his youth, for Dr. Lind could have taught him about Cavallo's theory of the importance of experiments for the advancement of natural knowledge. It is also important to note that Cavallo was, like his friend Dr. Lind, at first a supporter of the French Revolution. Later he was, like Wordsworth, disappointed by the Terror Politics. Nevertheless, Cavallo might, like Dr. Lind, also have influenced Shelley's radicalism.

In 1781 Cavallo became a member of the Chapter Coffee House Society in London, and Bakerian lecturer at the Royal Society in 1782. His lectures covered a wide range of knowledge from electricity to astronomy: natural and artificial electricity, magnetism, experiments on 'inflamable airs', and instruments such as the air-pump, blowpipe, pyrometer, telescope, and microscope.

In 1782, he met an Italian physician Alessandro Volta in London, and he contributed to the publication of Volta's memoirs on Galvani's experiments on Muscular motion in the *Philosophical Transactions* of the Royal Society in 1792.

King George III gave him a royal licence to live in the Kingdom for ever in 1804. He loved music and he was a good musician. In 1809 he accepted the hospitality of his close friend, Thomas Rackett, an antiquarian, and lived in his house in Dorset for a few months. But after he returned to London, he suffered from respiratory problems, and died of asthma on 22 December, 1809. He was buried as a Catholic in St. Pancras Old Church, London, next to Paoli's tomb.

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