

MASON AND DIXON AND FRANKLIN

Thomas D. Cope
University of Pennsylvania

Benjamin Franklin was of the eighteenth century, born 1706, deceased 1790. Mason spanned from 1728 to 1786, Dixon from 1733 to 1779. All three knew the streets of London and the quarters of the Royal Society, Franklin as a Fellow and Member of Council, Mason and Dixon as scientific employees who were sent on expeditions repeatedly. All three knew Philadelphia of the 1760's, Franklin as an old resident, often absent on missions, Mason and Dixon as visiting scientists and surveyors. All three were members of the American Philosophical Society. All three were scientific men. Why should no records of contacts among them be found except a letter from Mason to Franklin written in Philadelphia during September 1786?

The mystery dissolved when President and Council of the Royal Society graciously permitted a film of all Minutes of Councils held during the second half of the eighteenth century to be deposited in the Library of the American Philosophical Society. In those Minutes Franklin meets Mason and Dixon from 1760 onward for almost fifteen years. A concise account of those meetings is attempted here. A more detailed account is in editor's hands for early publication. Franklin was awarded the Copley Medal of the Royal Society for 1753 for "Curious Experiments and Observations on Electricity." He was elected a Fellow in 1756, and a Member of Council in 1760. He took his seat as a Member of Council on Dec. 8, 1760. For six months past Council had been organizing and equip-ping parties to observe the Transit of Venus due to occur on the fifth of June 1761. Nevil Maskelyne and Robert Waddington were about to sail for St. Helena to observe the transit for the Society and Charles Mason and Jeremiah Dixon were at Portsmouth with their equipment ready to sail on *H. M. S Seahorse* for Bencoolen on Sumatra to observe the Transit there. Through 1761 Franklin as a Member of Council heard reports from these two expeditions. He was still in London when the expeditions returned during May 1762.

Franklin returned to America late in 1762 and remained here for two years. During this interval Baltimore and the Penns engaged Mason and Dixon to undertake the survey of the boundaries between Maryland and Pennsylvania and the Three Lower Counties. They arrived in Philadelphia during November 1763 to remain on this side for almost five years. During their first year here Franklin was in America but no records of a meeting have been found.

By the autumn of 1765 Council of the Royal Society had engaged Mason and Dixon to measure a degree of latitude and to make other geodetic and geophysical observations in the Middle

Colonies. Franklin, who was again in London to stay for a decade, was asked to advise Council about sending letters and equipment to Mason and Dixon. He gave the advice in a letter spread upon Minutes of Council of Nov. 14, 1765. It covered the case and includes a sentence "The Postmaster General can do no more."

On that very day, Nov. 14, 1765, Council initiated plans to observe the Transit of Venus due to occur on June 3, 1769. On Dec. 8, 1766 Franklin returned to Council as a newly elected member and immediately began to hear reports from Mason and Dixon in America and to take part in preparations to observe the approaching Transit of Venus. Mason and Dixon while still in America were on Council's list of prospective observers to be engaged if available.

Mason and Dixon returned to England from America during the autumn of 1768. On Nov. 10 Council met and received their "observations for determining the length of a degree of Latitude, made in the provinces of Maryland and Pennsylvania." On Dec. 15, 1768, Mason and Dixon attended a meeting of Council by invitation to discuss plans for observing the coming Transit of Venus. Dixon was engaged to observe at Hammerfest, Norway. Mason was soon afterwards engaged to observe the Transit in Londonderry.

Franklin was active in the work of Council during 1767 and 1768, as was the Rev. Nevil Maskelyne. After his return from St. Helena in 1762 Maskelyne had made a scientific expedition to the island of Barbados in 1763 for the Admiralty and for the Royal Society. In 1765 he was named Astronomer Royal, director of the Royal Observatory at Greenwich. As a member of Council he supervised the scientific work of Mason and Dixon in America. He and Dr. Franklin working together as Members of Council put the American Philosophical Society in a position to make its well known observations of the Transit of June 3rd, 1769 from temporary observatories on State House Square, at Lewes, Del., and on the Rittenhouse farm at Norriton.

After 1768 Franklin disappears from Minutes of Councils but returns to them in 1772 as one of a committee of five" for considering some experiments which are proposed to be made for measuring the attraction of Hills and Mountains."

Franklin and Maskelyne returned to Council as newly elected members on January 19, 1773 and from that date forward the famous problem of the deflection of a plumb-line by a mountain was pushed to a solution. Isaac Newton had proposed it in the *Principia*, members of the French Academy of Sciences had tried to solve it on the flanks of Chimborazo in the Andes during the 1730's. Now Maskelyne was pushing for a solution in the British Isles.

At a meeting of Council held on June 24, 1773 with Maskelyne and Franklin both present it was

ordered to employ Charles Mason in the Observations respecting the Attraction of Mountains in Scotland." Mason rode to Scotland during the summer and upon his recommendation Council decided to try the experiment upon Schehallien, and offered Mason the work of making the observations. He declined to accept the terms offered. Astronomer Royal Maskelyne assisted by Reuben Burrow made the observations during 1774. For his report on this work Maskelyne received the Copley Medal for 1775.

Political events sent Franklin home early in 1775, and later to France. He came home to stay in 1785. Dixon had died in 1779. In September 1786 Charles Mason with a wife, seven sons, and one daughter appeared in Philadelphia as an immigrant. He wrote to Dr. Franklin on September 27. The letter in Mason's hand is in the Library of the American Philosophical Society. Mason was ill at the time and survived only one month. Whether the two men met during the month is not known.

Mason did make contact with his old commissioner Provost the Rev. John Ewing and gave him his papers and manuscripts with an appeal to carry on Mason's work on Tables of the Moon. Records found by Mr. Robinson at Greenwich Observatory show that the Commissioners of Longitude brought Mason's widow and at least some of his manuscripts back to England. In a bundle of manuscripts in Mason's hand found by Mr. Robinson at Greenwich are tables, planned and accompanied by full directions, but never developed just such tables as Mason might have handed to Provost Ewing.

Since the last accounting of publications about Mason and Dixon was given to this Academy (Proceedings, vol. XXIII, pp 21 6-7) the following have appeared:

Mason and Dixon - English Men of Science, Delaware Note:, 22nd Series;

"A Clock Sent Thither by the Royal Society,"

Proc. Amer. Philo.: Soc., vol.94, no. 3;

Jeremiah Dixon (1733-1779) - A Biographical Note, by H. W. Robinson,

Proc. Amer. Philo. Soc., vol.94, no.3;

A Clock by John Shelton, owned by the Royal Society, by H. Alan Lloyd MBE, FBHI,

Proc. Amer. Philo.: Soc., vol.94, no.3.