



Benjamin Franklin and bi-focal spectacles

I was recently invited as a trustee of Benjamin Franklin House to the council dinner of the College of Optometrists. Their offices and archives are at 42 Craven St. But the invitation was not due simply to good neighbourliness or geographical proximity: the many books on Ben Franklin state he invented bifocal spectacles. This apparent achievement is part of Franklin lore.

In truth the facts are a little different. Here are a few highlights from a very interesting story. John and Peter d'Hollande, Huguenot immigrants, were by 1750 established lens grinders and spectacle makers at the Sign of the Golden Spectacles in the Strand. Thereafter John Dolland, as he became known, was made a Fellow of Britain's preeminent science body, the Royal Society (as was Franklin) and was appointed optician to George III. Like Franklin, Dolland was initially interested in telescopes and worked on innovative glass to provide spectacles a clearer view. His son Peter patented the method. At his father's death in 1761, Peter assiduously upheld ownership of the patent, and caused a storm of controversy when he took other opticians to court, becoming quite wealthy in the process. Leopold Mozart bought several Dolland products as did Benjamin Franklin.

We know Franklin wore glasses toward the end of his stay in London (1775) – he was then in his sixties – and he sent many pairs to his sister Jane Mecom in Boston. He seems to almost have had an obsession with spectacles. Franklin ordered ordinary glasses from Edward Nairne in large quantities. A bill from 1765 shows silver spectacle frames with 78 pairs of glasses to fit them. What did he do with all these lenses? Jane Mecom his sister received a dozen or so as did John Bartram the botanist, which probably left him with 50 sets.

Yet the first mention of bifocals in Franklin's letters is not until the 1780s when he had been in Paris for several years. On 21 August 1784 and 23 May 1785 he offered quite detailed descriptions of his double spectacles, now called the Franklin Split. Letters from London to Franklin in Paris disclose that Dolland had been making double spectacles "to order" for individual customers for some time. Amongst those who found them of use were artists, and both Benjamin West and Sir Joshua Reynolds had "divided glasses" especially made for them. Samuel Pierce, married to Peter Dolland's sister, made them for Benjamin West, and Peter crafted Reynolds'. Joshua Reynolds may have been the earlier customer – we have no record of when Benjamin West started to use split lenses – for by the 1780s his eyesight was failing,

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probably from a detached retina. Since the historical record shows Reynolds wore bifocals, possibly prior to 1785, his use may predate Franklin's.

Franklin's contribution may not be as 'inventor' of the bifocal lens, but as the wearer and marketer of a new and highly useful aid to sight in old age. Most people would not wear spectacles in public, but Franklin had no such qualms, and would enjoy a dinner party much more when he could see the length of the table and the closeness of his neighbour. He became particularly well known for wearing his 'split' glasses – hence Franklin's nomination as the inventor.

Thomas Jefferson followed Franklin as Minister of the new United States of America in Paris, and as their tenure overlapped, he learned of the convenience of double spectacles. By 1807 Jefferson too had "adopted Dr. Franklin's plan of half glasses of different focal distances with great advantage."

We may never know who made or wore the first bifocal spectacles, but there is no harm in attributing the advancement of a useful product that has been a boon to millions of modern users, to our ever-energetic friend Dr. Franklin. The College of Optometrists has a wonderful collection of books and a unique optical archive now being catalogued for public presentation.

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