

The Papermakers of Taverham Mill

200 years of success and failure
making paper at one of the largest
paper-mills in the country

By
Joseph Mason



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FOREWORD

by Dr Mary Fewster

It is often suggested that the industrial revolution passed Norfolk by. Joseph Mason's book shows this is wrong. His meticulous research into both the businesses and the personal lives of those involved with Taverham Mills has brought to life the story of this remarkable site and industrial enterprise, and placed them firmly in the context of industrial history and of the city and county.

The complex interrelationship of the landowners and entrepreneurs who created and developed this major industrial enterprise sheds light on the circumstances which could lead to industrial development. This is a reminder of the scale and variety of Norfolk industry; this was not a lone venture, as Mason's research makes clear. He draws attention to the other papermills, some connected to the Taverham firm, which were among the many water-powered industrial sites throughout the county.

As elsewhere in Britain, Norfolk used water-power extensively, and we see how a country watermill was converted to papermaking, making good use of what might seem a rural setting, but easy access to Norwich, England's second largest city, with its important textile industries, and the fact that Norfolk was a heavily populated county for the time, ensured the provision of the rags which were the essential raw materials. The water-driven tilt hammers pounded the rags into a pulp. Development is traced through the owners and backers and through the move from un-mechanised hand processing to the introduction of innovative machinery

in the early 19th century. Its prominence even drew the attention of the Swing Rioters in 1830, who aimed to destroy machines that replaced men's labour, and Mason takes the opportunity to consider the lives and fates of some of the employees of the firm.

Expansion of the works continued in the 19th century as steam power took over, and the coming of the railways improved connection to London. Taverham Mills reached its peak when it became a major newsprint supplier to *The Times*, and this gave a period of financial security, as throughout its two-hundred-year history the paper mill had seen business success and failure. Only at the end of the 19th century, though, when wood-pulp was replacing esparto grass and rag as the raw material in the paper-making industry, and transport costs, including that of coal, proved problematic, did Taverham Mills' inland site and ageing machinery make the business unprofitable.

Joseph Mason's book is a useful addition not only to local history, but also gives a wider understanding of how a business was managed and expanded in the Industrial Revolution.

Dr Mary Fewster



Taverham mill by Alfred Priest.

new inventions, rather than a desire to make money at all costs. Orphaned at an early age, Simon Wilkin had been brought up by the Reverend J. Kinghorn, a Baptist minister in Norwich. Wilkin was not the ideal partner for Richard Mackenzie Bacon; quite the opposite, in fact. Although he later became successful at his chosen trade of printing, he had at this time no business experience and apparently no wish to acquire any. His wealth was produced by an inherited milling business at Costessey, and farms there and in the adjoining village of Drayton; he himself was neither a farmer nor a miller.

In 1811, at the age of 21, Wilkin had been elected a Fellow of the Linnaean Society of London, on the strength of the work he had undertaken (with some paid assistance) on the classification of insects. In this he was encouraged by Sir James Edward Smith, the native of Norwich who had helped found the Linnaean Society in 1788. All the time that Wilkin spent on such pursuits, he was necessarily neglecting his businesses, the profits of which made such activities possible. His projects were entirely worthy ones; but in the end he found out he did not have sufficient wealth to support the level of expenditure that his numerous interests required.⁵⁵

In May 1813 Wilkin was on a prolonged visit to London, whither he had gone in search of a wife (as he informed his former guardian Joseph Kinghorn in a

letter). Between his introductions to young ladies, and a night at the opera, he found time to call at Donkin's workshop in Bermondsey to see how Bacon's printing machine was coming on. He also inspected the lathe that he had commissioned from Donkin when they had met in Taverham.⁵⁶ Just why Wilkin, whose wealth had been founded on corn milling, farming and a grocery business, wanted a lathe is unknown, but it was probably as a toy and not for any serious business reasons.⁵⁷ Anyway, both Bacon's press and his own machine met with his approval.

By now the press was almost ready to roll. A patent had been obtained, and by the end of the year 1813 Bacon had a machine set up in his Norwich printing office. Samples were pulled off by Bryan Donkin on the machine set up in the Bermondsey works. These proofs Donkin took with him as he travelled the country, visiting customers for the Fourdrinier papermaking machine. In January 1814 he was in Liverpool, where he showed these specimens to a printer named Harris, who was so impressed that he said he wished to have a machine, as Donkin recorded in his diary. It is not known if this order ever materialised.

In 1811 Simon Wilkin had been a founder member of the Norwich branch of the British and Foreign Bible Society. This new, evangelical organisation was having a profound effect on the various trades surrounding book selling, that is papermaking, printing and bookbinding.

⁵⁵ Most of the details of Wilkin are taken from C. B. Jewson "Simon Wilkin of Norwich", Norwich 1979.

⁵⁶ What became of Simon's lathe? Metal-working machine tools were extremely scarce in the early nineteenth century, and this was particularly true of rural Norfolk. The lathe of blacksmith Johnson Jex of Letheringsett and used for his experimental machinery was acquired, around 1817, when Simon Wilkin's lathe was sold. It must be same lathe.

⁵⁷ Donkin had worked, with Maudslay on his screw-cutting lathe. Wilkin's lathe is significant because it shows that he was already well acquainted with Donkin, which in turn suggests that he had been involved with the printing machine for some time, probably since he first went into partnership with Bacon.

The Society needed their bibles to be cheap while retaining acceptable quality, and to this end they were prepared to use the latest technology and the latest (some would say unduly harsh) business methods. In December 1813 the BFBS Printing Subcommittee reported that Richard Mackenzie Bacon was willing to print a French New Testament which they intended to sell to the large number of prisoners of war in Britain on his new press. We do know that the BFBS heard about the Norwich printer and his newly patented machine from Thomas Pell, a member of the Printing Subcommittee. The initiative to print the bibles on the new machine came from the BFBS and not from Bacon. He must however have been enormously encouraged by this development, coming as it were out of the blue, and so soon after the arrival of the press. Various details had to be thrashed out; of great importance to Bacon, bearing in mind his continuing problems of an oversupply of paper, was that he should use his own paper for the Testaments. With a print run of 20,000 copies, this would solve his production problems at stroke. This of course was providing the printing machine would actually work. Until the finished print was delivered to the bookbinders, no money would accrue to either his printing or his papermaking business. Bacon had originally meant to print from movable type, but the BFBS insisted on using the stereotype plates that it had already had cast for the edition. He offered to undercut the price of printing on a hand press (17 shillings per 1,000 sheets) by 30%. At a meeting with members of the Subcommittee on 20 December 1813, at which he showed then some samples of his paper, his quote was accepted and the contract was signed.⁵⁸

Another order had also been placed by an even more important customer than the BFBS - the Cambridge University Press. Bacon had good contacts at the University; several of his schoolfriends had gone there in the 1790s, and by now they were beginning to occupy influential positions within the academic establishment. Donkin, a man from a different background, felt less at ease in this environment, and the successful sales pitch must have come from Bacon. His principal contact at the University was his friend T. W. Hornbuckle, a fellow of St John's College. In his journal Donkin wrongly calls him "*a professor of mathematics*". It was an easy mistake to make, for although he was in fact a lecturer in philosophy (a position he had held since 1801) he was certainly a very good mathematician, having been placed third in the list of wranglers in 1797. Common interests in mathematics and natural philosophy made him a close colleague of the real Lucasian Professor of Mathematics, Dr Isaac Milner, who was also the dominant member of the Syndicate running the University Press. Such connections had been enough to win Bacon this prestigious order - one which, should the machine prove successful, would be an excellent advertisement and a strong selling point.

Before the machine was sent to from Bermondsey to Cambridge, Bacon and Hornbuckle travelled down to

London on 16 February 1814 to make final arrangements. The next day, a Thursday, Bacon spent closeted with Donkin, thrashing out their respective shares in the patent. It is indicative of Bacon's lack of business acumen that this had not been done earlier. Hornbuckle, who had been corresponding with Bacon on the subject of printing machines since at least 1810, might have been present as a supporting witness.

On Friday they travelled separately to Cambridge, arriving at the Sun Inn in Trinity Street in the evening. The Sun was one of the oldest inns in Cambridge, appearing in documents from before 1500. It was demolished during the 19th century. It stood opposite Trinity College, so it was not far from the University Press, which was on the south side of Silver Street. There they heard that the machine, which had arrived earlier, was already partly assembled. Bacon wrote a note to the Vice Chancellor informing him that it would not be ready before Monday. If by that he meant Monday 21 February, he was being characteristically optimistic, because it was not until the 28th, the Monday of the following week, that the first impressions were taken off the press.

Even with this delay, the job seems to have been rushed, as one of the first proofs (of the prospectus for the machine itself) shows that the stereotypes had been wrongly arranged on the printing prism, leading to a false imposition. (In other words the pamphlet, once folded, had the pages in the wrong order.) In addition, one of the stereotypes had been cast with a misprint. In spite of teething problems - only to be expected with such an experimental piece of equipment - the Syndics approved the machine and paid the inventors £125 on account.

It was a drop of credit in an ocean of debt. Back in Norfolk things were approaching crisis point. Even as Richard Mackenzie Bacon had been preparing to travel to London, he was summoned to Gurney's Bank in Norwich to discuss the partners' overdraft, which now exceeded £5,000. Simon Wilkin was (perhaps understandably) feeling unwell, and Bacon was due to travel to Bermondsey, so they were represented at the meeting by Wilkin's former guardian, the scholarly Baptist minister, the Reverend Joseph Kinghorn. He would have been able to reassure J. J. Gurney that although their debts were substantial, the prospects for the printing machine were very encouraging. There was the large order from the BFBS, and the sale of a machine to the Cambridge University Press. The banker must have been impressed, for he allowed the debt to continue, with one proviso. That concerned the nature of the debt.

Bankers being bankers, and as keen then as now to convert unsecured into secured debt, the issue was resolved (for the time being) by mortgaging Wilkin's corn mill and farms at Drayton and Costessey. This bought the partners some breathing space, but ultimately it secured no benefit for them. They were able to operate Taverham mill for two more years, during which time they incurred even greater debts. The falling price of grain, following the