

ROBERT OWEN, PETER DRINKWATER AND THE EARLY FACTORY SYSTEM IN MANCHESTER, 1788-1800

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ROBERT OWEN (1771-1858), cotton-mill owner, philanthropist and the "father of British Socialism", came to Manchester about 1788 and left it soon after his marriage in September 1799, when he entered upon the government of his "kingdom" at New Lanark in Scotland. The twelve years or so which he spent in Manchester were among the most formative of his life. He came to Manchester as a rather shy youth who was apt to blush and stammer in conversation, especially when talking to the opposite sex. He left it as a successful and self-assured cotton-mill manager, with a turn for public speaking, and as a man who had recently married the daughter of one of Britain's foremost cotton magnates, David Dale. His intellectual pursuits during his years in Manchester have already been dealt with by Miss E. M. Fraser, with particular reference to his membership of the Manchester Literary and Philosophical Society,¹ and it is proposed in the following pages to throw some new light on the economic side of his activities in the Manchester of the 1790s.²

Up to the present the chief source for Owen's economic activities in Manchester has been the first volume of *The Life*

¹ *Memoirs . . . of the Manchester Literary and Philosophical Society*, vol. lxxxii (1937-8), pp. 29-41.

² Such portions of Mr. Peter Gorb's "Robert Owen as a Businessman" (*Bulletin of the Business Historical Society*, vol. xxv (Sept. 1951), no. 3, pp. 127-48) as deal with his Manchester activities depend almost entirely on *The Life of Robert Owen written by himself*, vol. i. Neither does R. H. Harvey in his recent biography of Owen (*Robert Owen, Social Idealist*, University of California Publications in History, vol. xxxviii, 1949) attempt to check Owen's statements. See, however, Margaret I. Cole, *Robert Owen of New Lanark* (1953), pp. 19-34.

of *Robert Owen, written by himself*.¹ This was published in 1857, the year before his death, and was probably written down for the most part while its author was over 70 years of age. Statements of fact contained in it therefore require careful checking before acceptance, particularly in the account of his early life.

Owen came to Manchester from London, probably about 1788. He would, therefore, be about 17 years of age. He had already served his apprenticeship as a draper under James McGuffog, draper, of Stamford in Lincolnshire. Owen was a good judge of fine muslin (McGuffog had been an enthusiastic customer of Samuel Oldknow of Stockport).

A friend of Owen's secured him a situation with John Satterfield, who kept a draper's shop at No. 5 St. Ann's Square.² Owen received £40 per annum, besides his board, lodging and laundry. He did not stay long with Satterfield, as in the course of business in the shop he met a manufacturer of wire frames for ladies' bonnets, "a mechanic with some small inventive powers and a very active mind".³ This man, a Mr. Jones, was almost certainly the John Jones who appears in the Manchester section of John Scholes's *Manchester and Salford Directory* in 1794 as a machine maker, of 58 Water Street.⁴ Jones told Owen of

great and extraordinary discoveries that were beginning to be introduced into Manchester for spinning cotton by new and curious machinery. He said he was endeavouring to see and to get a knowledge of them, and that if he could succeed he could make a very good business of it.⁵

At last he succeeded in getting a sight of these machines and was convinced that he could make them himself. He persuaded Owen to write to his brother, William Owen, and borrow £100; the new partnership of Owen and Jones commenced business

¹ Pages 21-56 of the edition of 1857, referred to henceforth as *Life*.

² P. Barfoot and John Wilkes, *Universal British Directory*, vol. iii (1790 ff.), p. 840. In 1791 Satterfield, after waiting on George III, Queen Charlotte and the five princesses with specimens of Manchester manufactures, was appointed Royal linen draper for the town of Manchester (*Manchester Mercury*, 12 April 1791, p. 4, col. 4).

³ *Life*, p. 22.

⁴ See John Scholes, *Directory of Manchester* (1794), p. 75. Professor G. D. H. Cole in his *Robert Owen* calls him Ernest Jones, but does not cite any authority (edition of 1925, p. 48).

⁵ *Life*, p. 22.

with this capital late in 1790 or early in 1791. It will be remembered that in 1779 Samuel Crompton had perfected his "muslin wheel", or hand mule for spinning fine, strong cotton yarn capable of being woven into such superior fabrics as cambric and muslin. It was this machine or an improved version which was to form the main output of the new firm. The following advertisement appeared in the issues of the *Manchester Mercury* for 18 and 25 January 1791 :

JONES and OWEN

Respectfully inform the Public, that they have opened a Warehouse near the New Bridge, Dolefield, for making WATER PREPARATION and MULE MACHINES, and flatter themselves from their strict Attention to Business, and the experienced Hands they employ, that they shall be able to finish work in such a manner as will merit the future Favours of those that employ them.

The above Machines are made upon the most approved Plans, and all orders punctually executed to the Time engaged for.

This "large machine workshop" in what is now Bridge Street, was, according to Owen's account, specially built for the partners by a local builder, and also included some rooms for cotton spinners.¹ In a short time Owen and Jones had about forty men at work. Wood, iron and brass were purchased for their use on credit. Owen soon discovered that Jones lacked business ability, and took over the bookkeeping, all other financial matters and the superintendence and payment of the men. The firm also began to produce rovings (prepared cotton-wool in the stage immediately before it is spun into yarn) for sale to mule spinners and to buy their yarn back from them. It would seem, therefore, that the "water preparation machines" were roving frames. The *Manchester Mercury* of 8 February 1791 contains the following advertisement :

TO MULE SPINNERS

GOOD MULE SPINNERS may be supplied with Roving Weekly, and the Twist bought in Return, by applying to Jones and Owen, Machine Makers, near the New Bridge, Dole Field, Manchester.²

¹ *Life*, p. 23.

² ". . . the principle on which the rovings were prepared had little chance of being known, being confined to the principal mill-owners [who were licensees] of Mr. Arkwright's patent process of spinning &c. But the demand for these

Owen was only too glad to sever his connection with Jones after a few months, when a third party with capital came along and took Owen's place in the business. Owen was promised as compensation for his share in the partnership

six mule machines such as we were making for sale, a reel, and a making up machine, with which to pack the yarn when finished in skeins into bundles for sale.¹

In actual fact he only received three out of the six mules, but, nothing daunted, he rented from a builder and land surveyor named Christopher Woodrooffe² of Ancoats Lane

a large newly erected building, or factory, as such places were then beginning to be called. It was situated in Ancoats Lane.³

Here he started on his own "in a small part of one of the large rooms in this large building".⁴ The separation of Owen from Jones cannot be dated with exactitude. There does not appear to be any announcement of the dissolution of the partnership in the *Manchester Mercury*, and Owen merely says that machines after the decision of the Court of King's Bench . . . [in 1785] . . . soon found makers, and the perseverance of the mule spinner soon acquired the art. . . . The roving-making then became a distinct business, and in this state the cotton was sold to the little spinners. This was common till power was applied to the turning of the mule. Mills were then built of a suitable width, and in the course of a few years the hand-mule was entirely superseded" (John Kennedy, *A brief memoir of Samuel Crompton* . . . (1830), p. 21 and note, reprinted from the *Memoirs and Proceedings* of the Literary and Philosophical Society of Manchester).

¹ *Life*, p. 23.

² For Woodrooffe's activities, see Woodrooffe Street and Factory Street, off Ancoats Lane, on William Green's *Plan of Manchester* . . . completed in 1794. Owen's establishment presumably stood on Factory Street. Owen called him "Woodruff" (*Life*, p. 24).

³ *Life*, p. 24. See *Manchester Directory* (1788), p. 94; (1794), p. 151.

⁴ *Life*, p. 25. He bought rovings from the firm of Sandfords, McConnel and Kennedy and engaged three men to work his mules, i.e. to spin cotton yarn or thread upon them from the rovings. "When the yarn was spun, it was in the cop form, from which it was to be made upon the reel into hanks, each one (*sic* eight) hundred and forty yards in length. This operation I performed, and then made these hanks into bundles of five pounds weight each, and . . . sold them to a Mr. Mitchell, an agent from some mercantile manufacturing houses in Glasgow, who sold the yarn to muslin weavers, or manufactured it themselves." For the firm of Sandfords, McConnel and Kennedy (1791-5), machine makers and mule spinners, see J. Kennedy, *Miscellaneous Papers* (1849), pp. 17-18 of "Brief notice of my early recollections".

he did not stay with Jones for many months. Later, in April 1792, Owen was to tell Peter Drinkwater that he was making £300 per annum by his business as yarn manufacturer and dealer,¹ which suggests that he had at any rate between three and six months' experience of working on his own. This would fit in with a severance of his connection with Jones sometime during the latter half of 1791.²

Now the curious thing is that Owen states categorically that he became Drinkwater's manager early in 1791, a few months before his twentieth birthday (his birthday was on 14 May). It is possible to prove that Owen's account is a whole year out on this point.

We now come to Owen's connection with Peter Drinkwater. Drinkwater was almost certainly born in 1742.³ When Mrs. Elizabeth Raffald brought out the third edition of her *Manchester Directory* in 1781, she noted Peter Drinkwater as a fustian manufacturer living in Spring Garden.⁴ Seven years later, in Edmond Holme's *Directory* of 1788, there were two Peter Drinkwaters, presumably father and son, the elder still a fustian

¹ *Life*, p. 27.

² The firm was advertising under the style of "Jones and Co." as early as September 1791 (*Manchester Mercury*, 27 Sept. 1791, p. 4, col. 2). Jones and his new partner appear to have carried on quite successfully without Owen, at least for a time. Owen wrote: "I believe they ultimately stopped payment, and that Jones returned to his wire bonnet-frame making" (*Life*, p. 26). However, the following advertisement appeared in the *Manchester Mercury* as late as 21 February 1792:

" TO MULE SPINNERS &c.
FOR SALE

EAST INDIA ROVINGS suitable to spin from 110 to 150 Hanks in the Pound. Likewise a sort of a better Quality, at Jones & Co.'s, Machine Makers, in Water Street, Dolefield, Manchester. Spinners of the above Articles may be supplied Weekly and the yarn taken in Return, if agreeable, at market price.

Wanted: a good JOINER or two, accustomed to fit up Mules and Water Machinery.

Wanted, a good Turner, Iron Filer, and a Smith.

N.B. Mules and Water Machines made on the most approved Plan."

And, as noted above, Jones was still working as a machine maker in 1794.

³ Cowdroy's *Manchester Gazette*, Saturday, 21 November 1801. ⁴ P. 21.

manufacturer, of Spring Garden, while Peter Drinkwater, jun.,¹ also a fustian manufacturer, had an establishment in King Street.²

Peter Drinkwater the elder subscribed 40 guineas in 1784-6 to the funds of the Committee of the Fustian Trade set up in Manchester to agitate for a repeal of Pitt's "impolitic, odious and oppressive tax upon the cotton manufacture, and for preventing the ruin attendant upon passing the Irish Propositions [of 1785] into a law". Drinkwater's importance in the cotton trade of the day may be judged by comparing the amount of his subscription with that of the great Sir Richard Arkwright, which was also 40 guineas, and that of Samuel Oldknow of Stockport, which was 5 guineas. No single individual or firm subscribed more to the fund than Drinkwater and Arkwright. It is not therefore surprising to find Drinkwater acting in November 1785 as chairman of a meeting held at the Exchange Coffee House "to consider the best means of giving a proper and effectual support to that useful and highly necessary institution, the General Chamber of Manufacturers of Great Britain", and he became one of the earliest members of the Manchester "Commercial Society of Merchants trading on the Continent of Europe" on its formation in 1794.³

Later he seems to have been a supporter of Pitt's Government at a time when there was considerable criticism of that Minister's foreign policy. For example, he was one of the signatories of a request to the boroughreeve and constables of Manchester to call a public meeting on 19 April 1791 to discuss the parlous state of Anglo-Russian relations. Several resolutions were passed at this meeting, and the chairman was instructed to pass

¹ P. 35. Peter Drinkwater, jun., was presumably the son of the elder Drinkwater. He went bankrupt in 1788 (*Manchester Mercury*, 8 July 1788, p. 4, col. 1). See also *Manchester Mercury*, 11 September 1787, p. 4.

² This was also the address of the elder Drinkwater's warehouse.

³ A. Redford, *Manchester Merchants and Foreign Trade, 1794-1858*, pp. 10, 20; *Report of the Receipts and Disbursements of the Committee of the Fustian Trade, 1786* (Assay Office, Birmingham). Drinkwater was a member of the small deputation appointed by the Manchester manufacturers in July 1784 to wait on the Lords of the Treasury with the object of preventing a rumoured plan to substitute a tax on raw cotton for the tax on printed goods (*Book of the Fustian Committee*, July 1784).

them on to the two M.P.s for the county with a request that they should vote in accordance with the principles expressed in them. They were evidently of a pacifist tendency, for Peter Drinkwater was later one of several hundred persons who publicly protested against the proceedings of this meeting, in the following words: "For although we feel . . . the evils attendant upon a war, we think an interference of this nature highly improper, on a subject which the Constitution hath wisely lodged in the hands of the executive power."¹

In 1792 Drinkwater senior was appointed a J.P.² for the county of Lancaster (Salford Hundred) and from the list of J.P.s for 1794 it appears that he had a country residence, Irwell House, near Agecroft Bridge, where he lived in the summer, coming up to town on two or three days a week. In the 1790s he had a town house at 42 Fountain Street, Manchester, where he spent the winter season.³ The *Gentleman's Magazine* for 1789 contains the obituary notice of his wife, Margaret, who died on 7 March of that year, and was described as "sister to the late Mr. Serjeant Bolton".⁴

In June 1785 this same Serjeant Bolton, Drinkwater's brother-in-law, had examined Thomas Highs as counsel for the Crown in the famous case of *Rex v. Arkwright* in the Court of King's Bench, when the Lancashire cotton-spinners successfully impugned, by writ of *scire facias*, the validity of Arkwright's second patent of 1775 for carding, drawing and roving machines.⁵ Highs (1719-1803) claimed that Arkwright filched both the idea of spinning by rollers and the device of cylinders in the roving frames from him. It is significant that Highs, according to Baines, "was supported in his old age by the liberality of Peter

¹ See *Manchester Mercury*, 19, 26 April, 3 May 1791.

² He took his sacrament certificate on 1 July 1792, his oath of office on 19 July 1792, and made his first appearance at a Quarter Session on the same day. (Information kindly supplied by R. Sharpe France, Esq., of the County Record Office, Preston, Lancs.)

³ *Life*, p. 29; John Scholes, *Manchester Directory* (1794), p. xiii; Gerard Banks, *Manchester and Salford Directory* (1800), p. 51.

⁴ *Gentleman's Magazine*, 1789, part i, p. 279; C. H. Drinkwater and W. G. D. Fletcher, *The family of Drinkwater* (1920), pp. 84-5.

⁵ A. Ure, *The Cotton Manufacture of Great Britain*. vol i, (1836), pp. 221-2.

Drinkwater, Esq., of Manchester, and others".¹ Owen refers to Drinkwater as "a good fustian manufacturer and a first-rate foreign merchant", who was able on account of his great wealth to survive the commercial crisis of 1792-3 without very much loss.²

It is interesting to note that in Scholes's *Manchester and Salford Directory* of 1794, Drinkwater is no longer described as a fustian manufacturer, but as "merchant and cotton manufacturer", of 29 York Street.³ It appears that 29 York Street was his counting house, or business office. His town house, 42 Fountain Street, was, of course, just round the corner. For example, when the creditors of John Stopford, cotton manufacturer, of Oldham Street, who went bankrupt in 1790, desired to hold a meeting on 20 March 1792, it was "at the Counting House of Peter Drinkwater in York Street" that they foregathered.⁴

It seems clear that in the course of the 1780s Drinkwater had begun to transmute some of the capital he had accumulated as a textile middleman and exporter into industrial capital. Wishing to cheapen the cost of his raw material by taking advantage of the improved methods of spinning which were spreading in the 1780s, he had purchased or set up a water-driven cotton factory at Northwich in Cheshire (the exact date of this event is unknown, but the evidence shows that it was probably before 1789). The Northwich mill "was employed in what was technically called water-spinning,—or warp-spinning on machinery similar to Arkwright's at Cromford, Manchester, and elsewhere". In 1792 it was under the management of an elderly man, who had been in charge of it for some years; its yarn was much coarser than that to be produced by Drinkwater's second mill.⁵

¹ E. Baines, *History of the Cotton Manufacture* (1835), p. 156 n.

² *Life*, pp. 26-7, 38-9. In 1794 he was in a strong enough financial position to buy the manor of Prestwich and Pendlebury, Lancs., from Thomas William Coke (Drinkwater and Fletcher, op. cit. pp. 84-5).

³ P. 40.

⁴ *Manchester Mercury*, 13 March 1792.

⁵ *Life*, p. 39. For some further details about Drinkwater and the Northwich mill in 1797-8, see T. S. Willan, *The Navigation of the River Weaver in the eighteenth century* (Chetham Society, 1951), pp. 126-7.

Early in 1789 Peter Drinkwater began to erect his second factory, a four-storied structure, popularly known as Bank Top Mill, and to those concerned in it as the Piccadilly Factory. It lay just off London Road, between Auburn Street and Upton Street.¹ Dr. Alexander Ure states that this Piccadilly factory was the first cotton mill in Manchester to be powered by a rotary steam engine.² According to Owen's account, Drinkwater had built the mill "for finer spinning, and was beginning to fill it with machinery under the superintendance (*sic*) of a Mr. George [Augustus] Lee",³ when Lee rather shabbily decided to leave him in order to go into partnership with a rival Mr. (afterwards Sir) George Philips in a large cotton mill in Salford. In 1789, however, Drinkwater told Boulton and Watt that a gentleman named Richard Slack would have "a very considerable interest" in the Piccadilly factory and the "sole conducting of it".⁴ Lee had apparently been promoted from being a clerk in the Northwich mill to the management of the Piccadilly factory on the death of Slack early in 1791.⁵ Accord-

¹ "Mr. Drinkwater's Cotton Works" are prominently identified on William Green's map of 1794. No visible trace of the factory remains. It lay across what is now Aytoun Street.

² *Op. cit.* vol. i, p. 274.

³ *Life*, p. 26; *Dictionary of National Biography*, vol. xxxii, p. 360.

⁴ 18 April 1789 (Boulton and Watt Collection). According to James Butterworth (*The Antiquities of the Town, and the complete history of the Trade, of Manchester* (1822), pp. 94-5) Slack was the "overlooker of the spinning part only", while the superintendence of the engine and machinery devolved on Mr. I. Wakefield, who made "great improvements in the machinery of the mule during his stay in that concern".

⁵ For the death of Slack, "certainly one of the first practical spinners of that day" (Butterworth), see *Manchester Mercury*, 22 March 1791, p. 4, col. 2, where the furniture in his house "adjoining to the large New Cotton Factory, near Piccadilly, Manchester" was offered for sale. For George Augustus Lee (1761-1826), see also John Kennedy, *A brief memoir of Samuel Crompton*, pp. 6-7. In 1816 Lee was examined by a Parliamentary Committee (17 June), Sir Robert Peel being in the chair: "Were you not a manager at Mr. Drinkwater's factory? [A.] I was, about six-and-twenty years ago [i.e. c. 1790]. What were the regular hours of work when you had the direction of that mill? [A.] from six [a.m.] to seven [p.m.], the same as Mr. Arkwright's; and another set of hands all night. I was a clerk there. The mill was in Northwich, in Cheshire. There was a mill in Manchester for mule-spinning, I think, where the hours were from six [a.m.] to eight [p.m.].

Did the children work all night there? [A.] No.

ing to Owen, Drinkwater was "totally ignorant of everything connected with cotton spinning".¹ Indeed, Owen's picture of Drinkwater can scarcely be called a favourable one.

Fortunately there are other documents available which throw a great deal of light on Drinkwater's character and business concerns. In 1789 he became deeply involved in the installation of a Boulton and Watt steam engine in this "rather expensive" new factory in Piccadilly and a small bundle of his letters, bearing various dates between 3 April and 13 December 1789, written to the famous Soho firm of engineers is preserved in the Boulton and Watt collection in Birmingham Public Library. The impression gained from reading these letters is of a good-hearted, if somewhat pompous and prolix gentleman.²

The first letter shows him meeting local opposition to the erection of the new steam engine :

I should have wrote you on this subject much sooner had I not been in-commoded on all sides by threats of a prosecution for erecting a nuisance and indeed, the prejudice is not yet much, if at all, abated. The fact is that we have already a great number of the common old smoaking engines in and about the town,³ which I confess are far from being agreeable and the public yet are not all inclined to believe otherwise than that a steam engine of any sort must be highly offensive.⁴

The contract with Boulton and Watt for the erection of the engine, ante-dated to 1 April 1789, shows that it was of the

What mill was that? [A.] It was a mill in Piccadilly; I was there but a short time after it was erected.

The only instance of working there more than Arkwright's hours was confined to a mill in Piccadilly? [A.] No; I believe other mills in the town all worked from six to eight. I beg leave to observe that they worked by hand at that time in Manchester, not by a steam-engine.

The mule-spinning was by hand? [A.] Yes."

(*Report of the Minutes of Evidence taken before the Select Committee on the State of the Children employed in the Manufactories of the United Kingdom*, 25 April-18 June 1816, pp. 355-6.) ¹ *Life*, p. 26.

² See James Lawson, Manchester (one of Boulton and Watt's engine erectors) to J. Watt, jun., Soho, 29 March 1796: "I lost most of the morning by P. Drinkwater who wants a larger engine but determines nothing by his long harangue of nonsense. I have promised to dine with him on my return."

³ These were pumping engines on Newcomen's pattern.

⁴ P. D. to B. and W., 3 April 1789. See also James Watt to William Thomson, Glasgow, 5 August 1791: "Mr. Drinkwater at Manchester was threatened per advance with a prosecution if he made any smoke; he has, however, taken care not to do so, and has escaped hitherto."

rotary type, with a 16-inch cylinder, had a piston with a 4-foot stroke, and was of the power of 8 horses. Drinkwater was to pay Boulton and Watt an annual premium of £40 and the engine was to be used for "preparing and carding cotton and for such other purposes as may be required".

In fact, Drinkwater mentioned in his letter of 3 April 1789 that he did not intend to use it for spinning cotton. In the same letter he frankly admitted that he was ignorant of the nature of steam engines of any kind, and asked Boulton and Watt to send him

as soon as possible a sketch for my regulation in digging over the foundations of the walls of the whole building, for which purpose I have now a considerable number of hands in waiting.

By following the correspondence we can watch the building rising and see the difficulties which beset the investor of capital even in the days of *laissez faire*. We can also note Drinkwater's eye for detail. By June 1789 he was reporting that no adequate foundations could be found until the labourers had dug down to a depth of over 9 feet, and accordingly cellars had to be added to the building. The thickness of the outer walls had also to be increased by half a brick to 23 inches. By June the bricklayers and well-sinkers had "gone to the first floor nearly with one end of the factory".¹

Yet the engine was still not installed by the end of 1789 and Drinkwater wrote in November that he was "much hindered in proceeding with my job by the uncommon wetness of the seasons, and now added to this I have had great difficulty indeed in sinking the well for the cold water pump by a quicksand which has caused several weeks' more delay".²

He was insistent that the new factory should be as light and airy as possible. In his preliminary instructions to Boulton and Watt concerning the building of the engine-house he wrote :

¹ P. D. to B. and W., 3 June 1789; and James Watt to P. D., 6 June 1789. The nature of the subsoil in the township of Manchester noted here may account to some extent for the prevalence of those cellar dwellings which were to become notorious in the 1830s and 1840s.

² P. D. to B. and W., 21 November 1789.

I wish you to block up no more of my intended windows than you can help by either the width or the height of your brickwork or roof, for to give the building (I mean the factory part) its greatest possible convenience, it should have a continued series of windows—one and a pier introduced in the distance of every 8 or 9 foot or thereabout.¹

Later, he complained that Boulton and Watt's plans would "not only block me up 3 windows in the first factory floor, but also a good share of 3 in the 2nd floor".²

Drinkwater's views on the sanitation and the lavatory accommodation in the new building were quite advanced, if not quite as modern as those of Boulton and Watt. The correspondence shows that he bestowed considerable thought on the whole question. In the preliminary instructions of April 1789, he wrote :

I would likewise wish you to introduce room for 4 small single necessaries—one for each room, to be placed nearly one over another, and so, if possible, to be so managed as neither to be offensive or endanger the health of the people at work. To which purpose I shall be thankful for your advice, whether it will be proper to pass a current of water thro' them to a common sewer by help of the engine pump at nights and mornings before the works are set a-going, or whether to make air pipes or vents in the brickwork from the excrement in the bottom to the top of the roof will not answer the same end.³

A fortnight later he was seriously perturbed by the Soho firm's architectural suggestions :

Could not the necessaries be conveniently introduced in the angle [of the wall], not on the outside as you propose, for in that case it would block up 4 windows more, i.e. one on every story of the factory ?

Boulton and Watt wished him to instal a flushing device consisting of watercocks to be operated from each lavatory, but he still thought that his original idea of 4 brickwork pipes about 14 inches square running right down the building to communicate with a common sewer "would answer full as well and be less expensive than water closets". He wanted to have the proposed piping flushed out once or twice a day.

Modern sanitary appliances are now taken so much for granted that we generally fail to realise when studying conditions during the Industrial Revolution that at one time the mass of the

¹ P. D. to B. and W., 3 April 1789.

² P. D. to B. and W., 18 April 1789.

³ P. D. to B. and W., 3 April 1789.

population did not know how to use them.¹ Drinkwater went on :

. . . the pipes of . . . [water closets] . . . I know from experience, would be apt to burst in frosty weather. Nor could, I fear, the poor ignorant workpeople and children be taught to turn and manage the cocks etc. without the closets running into a state of disorder and nastiness, a situation in which I have sometimes seen them, but in all these things your experience and better judgement will set me right.²

A further letter on 3 June 1789 shows that he had not only adopted Boulton and Watt's advanced sanitary arrangements, but had also fitted a stench trap and intended to flush the lavatories occasionally with "a strong stream of water let out from the great wooden cistern of the engine . . . when the rain collected from the roof into and through a leaden pipe does not do the business sufficiently". And he added, very creditably :

. . . the object of keeping the factory sweet and wholesome at this point is a matter which I cannot help considering of the utmost importance, whether as regards decency, convenience or humanity.

It would be interesting to know whether Drinkwater's sentiments and the conditions in the Piccadilly Factory influenced Owen's later experiments at New Lanark.

If we may judge by Drinkwater's experience, it was not always an easy task for the rising cotton magnates to build factories, fill them with machinery and man them with trained, efficient workers. Drinkwater was worried about the capital expenditure to which he had committed himself and about the running costs of the new factory. In June 1789 he tried to secure from Boulton and Watt some reduction of the annual premium on his steam engine, and brought forward the example of what was described in 1836 as "the oldest cotton mill in Manchester". It stood on Shudehill, and had been built in the early 1780s by Messrs. Arkwright, Simpson and Whittenbury. It was noteworthy because the spinning machinery was not driven directly by steam power, but indirectly, by means of a single-stroke atmospheric pumping engine of the Newcomen

¹ In this connection see D. M. Vaughan's remarks on "Justice to the past in the teaching of social history" in *History*, vol. xxxii (March 1947), no. 115, pp. 52-5.

² P. D. to B. and W., 18 April 1789.

type, which replenished the factory water-wheel's reservoir.¹ Drinkwater wrote :

. . . circumstanced as a cotton manufacturer is, it is *impossible to exercise its* [the engine's] *full power all at once*—the factory at Shude Hill which your Mr. Southern has seen has been more than 7 years in filling with machinery and I am doubtful whether with convenience it could have been filled much sooner. That I am now building will and must labour under the same inconvenience so far that I fear I shall not be able to use more than the power of 3 or 4 horses within the compass of two years or more after the engine is set agoing. Could you therefore be satisfied to receive a premium . . . according to the power which the purchaser could bring immediately into use and so progressively till his buildings could be filled with machinery and people? ²

Boulton and Watt remained unimpressed by this argument, which they had heard before. In the course of 1789, however, Drinkwater was favoured with a visit from the great Matthew Boulton himself, who promised, among other improvements, that the engine should be fitted with Watt's new governor, a device which would not " permit 2 strokes per minute of increase of velocity though all the work were taken away at once ". This was particularly important where machinery had to run smoothly. Drinkwater was evidently a quick learner, both with regard to steam engines and the cotton trade, for in spite of his alleged ignorance on both subjects he wrote to Soho in November 1789, after Boulton's visit, with reference to the governor :

. . . among these inventions one, I understand, is of a nature solely calculated to secure more effectually an equable motion under different degrees of heat from the fire—a property so extremely essential in preparing cotton to work into *fine* yarn that I would on no account have you deny [me] the use of this instrument.

In his reply James Watt agreed to fit the governor or regulator to Drinkwater's engine, adding a strong warning against showing it to others.³ As far as can be ascertained the engine was set to work in 1790,⁴ and its newly-invented governor may explain some of Owen's later success as a spinner of fine yarns. Remember what Owen said about Drinkwater :

¹ Ure, *op. cit.* vol. i, p. 273.

² P. D. to B. and W., 3 June 1789.

³ James Watt to P. D., 25 November 1789 in reply to P. D.'s of 21 November.

⁴ J. Watt to T. Cooper, 1 May 1790. Drinkwater installed a second Boulton and Watt engine in the Piccadilly Factory in 1799-1800. It was of 14 h.p. (Engine Book, Boulton and Watt Collection, Birmingham Public Library).

Mr. Drinkwater knew nothing about the mill. . . . He never came to the mill, but almost always desired to see me at his counting house on the days he attended there, and that I should bring specimens of the manufacture week by week.¹

For a short time before Owen entered into the picture, George Augustus Lee was the manager of the Piccadilly Factory, then employing about 500 people. Lee gave notice to leave Drinkwater's service and according to Owen's account, Drinkwater

. . . had to advertise for a manager to undertake the superintendance of this mill, now in progress; and his advertisement appeared on a Saturday in the Manchester papers, but I had not seen or heard of it until I went to my factory on the Monday morning following, when, as I entered the room where my spinning machines were, one of the spinners said—"Mr. Lee has left Mr. Drinkwater, and he has advertised for a manager."²

In Owen's well-known account of his interview with Drinkwater concerning the post, Owen alleged that he replied to Drinkwater's query "How old are you?" by saying "Twenty in May this year" which would place the affair in January-April 1791. In actual fact Drinkwater's advertisement appeared exactly a year after Owen's date. In 1792 Manchester had three weekly newspapers, the *Manchester Mercury*, each issue of which bore Tuesday's date, the *Manchester Chronicle*, published on Saturdays, and the short-lived *Manchester Herald*, which also bore Saturday's date. Drinkwater's advertisement first appeared in the *Chronicle* for 14 April 1792. The file of the *Mercury* in Chetham's Library shows that the advertisement was repeated in that newspaper on 17 April, and it also appeared in the advanced Radical *Manchester Herald* of Saturday 21 April, with certain slight alterations. This last insertion is date-lined "King-street, 19 April", which shows that the vacancy was not then filled. It is impossible to state definitely which insertion Owen saw, but it may very well have been that in the *Manchester Herald*, which would place the date of this interview with Drinkwater on Monday, 23 April 1792. Unfortunately,

¹ *Life*, pp. 28-9.

² *Ibid.* p. 27. Lee actually left the factory the day before Owen took over the management (*ibid.* p. 28).

if we take the terms of the advertisement as being correct, Drinkwater would not have been interviewing applicants for the post on a *Monday* morning, although Owen states that he had been doing so. The advertisement in the *Mercury* reads :

SUPERINTENDENCY OF A FACTORY

WANTED

A PERSON to superintend and conduct an extensive MULE FACTORY, to whom any salary will be allowed proportionate to Merit.

No one need apply, whose Character, in regard to Morals, as well as Capacity and Steadiness, is not every way respectable.

For Particulars apply to Mr. Drinkwater, at his Warehouse in Manchester, on Tuesdays, Thursdays or Saturdays from eleven to two o'clock.¹

It is not proposed to go over the familiar details of how Owen persuaded Drinkwater to appoint him manager of the Piccadilly Factory at £300 per annum, after an inspection of the books of the small spinning factory off Ancoats Lane. Owen was rather abashed when he saw hundreds of workpeople and the new machines in Drinkwater's large modern establishment, but after keeping his eyes open and his mouth shut for six weeks he felt, as usual, "ready to give directions in every department".² The previous manager had succeeded in producing yarns and thread of what was then considered an extraordinary fineness, known technically as "one hundred and twenty hanks in the pound", i.e. 120 hanks, each 840 yards in length, were required to weigh 1 lb., but it was of "very indifferent quality".³ Owen soon succeeded in improving on this, according to his own story, and produced thread of the fineness of 300 hanks to the pound and above.⁴ At the same time he reorganised the Northwich mill and kept it under regular personal supervision, riding over on horseback once a fortnight.⁵

According to Owen, Drinkwater did not even take him down to the factory on his appointment, and during the period of Owen's management he seems to have visited it only three times,

¹ 17 April 1792, p. 1, col. 3.

⁴ *Ibid.* pp. 34-5.

² *Life*, p. 29.

⁵ *Ibid.* p. 39.

³ *Ibid.*

once in order to show it to Serjeant John Pemberton Heywood of Lincoln's Inn, his son-in-law,¹ and on another occasion, to Sir William Herschel (1738-1822), the famous astronomer.² Note that rather confusingly Owen states on three separate occasions, first, that Drinkwater "never came to the mill" (p. 29), meaning that he was not in the habit of doing so, secondly, that "he came only three times during the four years I retained the management of it" (p. 31), and lastly, "Mr. Drinkwater . . . for three years had once only been to his factory in Manchester" (p. 41).

In 1790, the year in which Drinkwater's Piccadilly Factory commenced operations, William Kelly, the manager of David Dale's cotton mills at New Lanark in Scotland,³ applied water-power to Crompton's hand-mule, and in 1793 John Kennedy of Manchester made a successful attempt to spin fine yarn, say from 100 hanks to the pound and upwards, by using an improved mule driven by steam power. In connection with this Kennedy says of Drinkwater and Owen :

Mr. Drinkwater of Manchester, was the most extensive fine spinner at the time of which I speak. He was one of the early water spinners,⁴ and in possession of the most perfect system of roving making. His large mill in Piccadilly was filled with mules of 144 spindles, each of which was worked by men's hands. Mr. Owen was then his manager and they came to see the new machine in 1793. They approved of it and thought it practical. Mr. Humphries,⁵ of Glasgow, who was a good mechanic, and succeeded Mr. Owen as manager . . . got instructions to apply this system of power to his fine work produced by the mules in Piccadilly mill; and to make its advantages available he coupled these 144 [-spindle mules] together. . . .⁶

¹ *Life*, p. 31. Heywood married Drinkwater's daughter Margaret in 1797 (Drinkwater and Fletcher, op. cit. pp. 84-5, *Manchester Mercury*, 18 April 1797, p. 4).

² *Life*, p. 31.

³ One of Owen's first acts on taking over the managing partnership of New Lanark in 1799-1800 was to get rid of Kelly and the other co-manager, James Dale, David Dale's half-brother, because they "were incompetent to comprehend my views, or assist me in my plans" (*Life*, p. 59).

⁴ An obvious reference to the Northwich mill.

⁵ His full name was Robert Humphreys (R. Humphreys to B. and W., 14 October 1797).

⁶ John Kennedy, *A brief memoir of Samuel Crompton* . . ., pp. 27-8. Owen later gave Humphreys the post of manager at New Lanark (*Life*, p. 59). See below, p. 98.

It is not generally known that a number of short letters and several invoices written by Owen in his capacity as manager of the Piccadilly Factory have survived and are the earliest known documents in his handwriting. Two of them, dated 4 and 14 March 1793, are in the Boulton and Watt Collection in Birmingham. They are addressed to Boulton and Watt and give an order for a new boiler for the factory steam engine, which was to be made at John Wilkinson's ironworks at Bersham near Wrexham. It was transported by sea from Chester to Runcorn in the Mersey estuary and then brought up the Bridgewater canal via Preston Brook to Manchester.

An invoice made out by Owen, together with a short note was once in the Oldknow MSS.¹ It is dated 3 December 1793, and shows that Samuel Oldknow, the celebrated muslin manufacturer and cotton spinner of Stockport and Mellor (1756-1828) had ordered 5 lb. of 100 mule twist, 5 lb. of 105 mule twist and 19 lb. of 105 mule twist in cops. Owen added a short note :

The yarn as above was this day sent by Jenkinson, hope you will receive it in good condition and find the quality to your satisfaction. Mr. D[rinkwater] has not positively determined upon the price ; when he does, I will send you the account,

Your obedt. servt.

Piccadilly Factory.

Robt. Owen.

The Jenkinson referred to was Aaron Jenkinson, carrier, of Meal Street, off Fountain Street, who maintained a service between Manchester and Stockport. The *Manchester Directory* of 1794 noted of Jenkinson that he "comes in and goes out every day, Sundays excepted".²

A search of the Oldknow MSS. in the John Rylands Library revealed a similar invoice, unsigned, but almost certainly in Owen's handwriting :

¹ The author is greatly indebted to Mr. A. P. Wadsworth, Editor of the *Manchester Guardian*, for supplying a copy of this document from his notes.

² John Scholes, *Manchester Directory* (1794), p. 198.

Mr. Samuel Oldknow

Manchester, 20 July 1793.

Bot. of Peter Drinkwater.

	[s][d]	
2 $\frac{5}{8}$ 5 lbs. Mule Twist No. 112	24/4	£6 1 8
2 $\frac{3}{4}$ 5 lbs. Mule Twist No. 124	28/9	7 3 9
3 $\frac{1}{4}$ 4 lbs. Mule Twist No. 150	40/2	8 0 8
3 $\frac{1}{2}$ 4 lbs. Mule Twist No. 160	45/8	9 2 8
		<hr/>
		30 8 9
Deduct for reeling		8 9
		<hr/>
		30 0 0
Box		3 0
		<hr/>
		£30 3 0

This item is interesting in that it shows Owen producing twist of the fineness of 160 a year after taking over the management.¹

The following document was also at one time in the Oldknow MSS. : ²

Manchester 30 Oct. 1793

Mr. Samuel Oldknow,

Bought of Peter Drinkwater
10 lbs Twist in Cops No. 110
10 lbs Do No. 122

D 15
465Mr. Saml. Oldknow,
Sir,

The above were intended for the exact nos. which you wanted, but upon trial found them to vary two hanks ; if they are not sufficiently near to your order, on returning them, in a few days you shall have the Nos. required,

Remaining for

Peter Drinkwater

Your humble servant

Robt. Owen

Piccadilly Factory
30 Oct. 1793

¹ Owen claimed to have been, in the early 1790s, the first British master cotton spinner to use United States Sea Island cotton (*Life*, pp. 32-4). The Oldknow MSS. also show that mule twist was not the only commodity with which Drinkwater supplied Oldknow, as the collection contains a bill, dated 9 November 1793, recording the sale to Oldknow by Drinkwater of 4 fat cows for £35 15s.

² It is given here by the courtesy of Mr. J. R. L. Anderson of the *Manchester Guardian*, who owns a printed facsimile of it.

Samuel Oldknow's ambitious projects were responsible for Owen leaving Drinkwater's service. A match was in process of being arranged, presumably in 1794, between Miss Eliza Drinkwater¹ and Oldknow, who wished to have complete control over Peter Drinkwater's cotton-spinning interests.² Now when Owen had completed six months service as manager by the autumn of 1792, Drinkwater sent for him and promised him £400 per annum during his second year as manager, £500 during his third year, and in the autumn of 1795 Owen was to become a partner in the business with Thomas and John Drinkwater,³ the merchant's young sons. Owen and Drinkwater signed an agreement to this effect.⁴ Owen's promised partnership, however, stood in the way of what Owen called Oldknow's plans for "exclusive dealing with Mr. Drinkwater's property", for which he had "extensive views and arrangements".⁵ In the course of 1794 Owen was accordingly summoned to Drinkwater's country residence, which Owen calls in his *Life* "Newal House". This is obviously a mistake for Irwell House. Whether the error was due to Owen or the printer it is impossible to say. At Irwell House, Drinkwater explained the position to him and asked Owen to cancel the agreement signed by both the men some time during the autumn of 1792. In return Owen was to name his own salary as manager. Owen replied by throwing his copy of the agreement in the fire and announcing his intention of

¹ She eventually married, in 1809, Capt. (later Col.) George d'Aguilar, who became Deputy Adjutant-General, Dublin (*Manchester Mercury*, 19 Dec. 1809, p. 4; Drinkwater and Fletcher, op. cit. pp. 84-5).

² *Life*, pp. 39-41. Professor George Unwin was wrong in surmising that the Drinkwater-Oldknow partnership was being mooted in 1792 (*Samuel Oldknow and the Arkwrights* (1924), p. 152). The partnership into which Oldknow entered in 1792 was with Peter Ewart (1767-1842). It was dissolved in 1793 (*Memoirs and Proceedings of the Manchester Literary and Philosophical Society*, 2nd ser., vol. vii (1846)—"A biographical notice of the late Peter Ewart, Esq.", by W. C. Henry, pp. 120-5).

³ R. and W. Dean, *Directory of Manchester* (1804), p. 52; A. Redford, *Manchester Merchants and Foreign Trade, 1794-1858*, p. 64.

⁴ *Life*, pp. 31-2. Owen's unreliability is further shown by the fact that he refers to this event as taking place in 1790! (*Life*, p. 32).

⁵ *Ibid.* p. 41.

quitting Drinkwater's service. He eventually relented somewhat, but only as far as promising to stay on temporarily until he had chosen a suitable successor in the management of the Piccadilly Factory. This was Robert Humphreys of Glasgow mentioned above.¹ According to Owen it was "many months" or "nearly a year" before Humphreys became available. Owen is vague on this point: "I left Mr. Drinkwater in 1794 or 5",² but the evidence suggests that his departure took place in 1794.³ It seems likely, therefore, that Owen was in Drinkwater's service for about two and a half years, rather than the four years of his own statement. An alternative explanation is that he remained Drinkwater's manager well into 1795, but was at the same time actively engaged in the affairs of his new partnership with Scarth and Moulson.⁴

Of Drinkwater's later activities little is known. Owen states, for what it is worth, that "Mr. Drinkwater became dissatisfied with the business, sold the factory, and Mr. Humphries lost his situation". Owen implied that these events occurred about 1800-1.⁵ Drinkwater died on Sunday, 15 November 1801, either at Hayes, in Middlesex, near Uxbridge, or at St. Albans, Herts. (the newspapers differ). They are agreed, however, that he was on his way to London from Manchester at the time, and Cowdroy's *Manchester Gazette* adds: "His death was awfully sudden." Thus died Peter Drinkwater in the sixtieth year of his age.⁶

Owen found little difficulty in making a fresh start; it soon became generally known that he was leaving Drinkwater's service, and Owen writes:

¹ *Life*, pp. 41-2. According to Owen, Humphreys "could not keep up to the quality of yarns" attained by Owen (op. cit. p. 59).

² *Ibid.*, p. 42.

³ See *Life*, p. 68, where Owen refers to certain happenings towards the end of 1794 as taking place "between my leaving Mr. Drinkwater and my commencement as a partner in the Chorlton Twist Company".

⁴ Owen was definitely in close touch with Moulson by the end of 1794 (see *Life*, p. 65).

⁵ *Ibid.*, p. 59.

⁶ *Manchester Mercury*, 24 Nov. 1801; *Manchester Gazette*, 21 Nov. 1801; *Gentleman's Magazine* (1801), part ii, p. 1150. For further glimpses of Drinkwater, see *Manchester Mercury*, 4 Aug. 1795, p. 4, col. 4 and 6 Mar. 1798, p. 1, cols. 1 and 2.

Mr. Samuel Marsland, who with others had purchased the Chorlton Estate, near Manchester, with the view of building a new town upon it, applied to me and said he was going to build extensive mills upon this property, and if I would join him in partnership he would find the capital and give me one third of the profits.¹

Owen, who now had more confidence in his abilities, declined this offer, because, according to his own story, he was not offered half the profits, much to his regret later on. Possibly the real reason was the fact that he would not have had sufficient power. Instead he entered into a much more unfavourable partnership with Jonathan Scarth and Richard Percival Moulson of Manchester, "two young men, inexperienced in the business, although they had capital", as he was to write later. This partnership, which must be distinguished from the Chorlton Twist Company of 1796, was to undertake the erection of cotton mills on land purchased from Samuel Marsland and Company. Owen was to be the general manager and each partner was to have one-third of the profits. This arrangement appears to have lasted about a year.²

Again we are able to supplement Owen's account with material from the Boulton and Watt Collection. In the latter part of 1795 Owen visited Soho and agreed to purchase a Boulton and Watt rotary steam engine for £1,492, for the purpose of driving the machinery in the proposed new cotton factory in Cambridge Street, off Oxford Road. The steam-engine agreement, ante-dated to 2 October 1795 and signed by the three partners, may still be seen in Birmingham Public Library. The collection there also contains the following letter from Owen to Boulton and Watt :

¹ *Life*, p. 42.

² *Ibid.*, p. 42. Moulson gave his address as Dolefield in 1792, when, together with Owen, he signed the declaration published by a numerous body of "Protestant Dissenters, Inhabitants of the Towns of Manchester and Salford". The gist of the declaration ran : ". . . we are steadily and affectionately attached to the British Constitution, consisting of King, Lords, and Commons . . . fully confident that a Constitution, thus formed, will not fail to redress every real grievance, and effect every necessary improvement" (*Manchester Herald*, 29 Dec. 1792). Its purpose was to disassociate the moderate Dissenters from the extreme Radicals and the "fellow-travellers" whose sympathies lay with the French Republicans.

Messrs. Boulton and Watt.

Gentlemen,

We have concluded to have an engine of 30 horses power and with the advice of Mr. Lowe to fix it at the end of all the buildings, within side the factory ; we intend soon to send you a ground plan with the elevation of the buildings and a plan of the Chorlton Lands. We shall be much obliged by having the engine forwarded as early in the spring as you possibly can.

We are,

Respectfully yours,

Robt. Owen & Co.

Chorlton Hall,
Manchester. [27] Oct. '95.¹

Contrary to what we should expect from Owen's account, Samuel Marsland had made the first approach to Boulton and Watt respecting the installation of the engines, and in addition was financing the industrial development of his "trading estate" by finding half the cost of the engine. Indeed James Watt, jun., wrote to Marsland on 10 December 1795 asking him whether, in view of the fact that he was to guarantee half the cost of the engine, he wished his name to appear as a partner in the steam engine agreement. Marsland's connection with Messrs. Moulson, Scarth and Owen was, however, "of a private nature" and his name was not included in the agreement.²

The engine was evidently not set to work until 1796 was far advanced,³ by which time the financial crisis of the winter of 1796-7 loomed ahead. For Robert Owen and Company the trouble started with their Scots customers, who were eager buyers of the fine thread and yarn which Owen knew so well how to produce. The following letter tells its own story :

¹ This was "of a larger size than the common run of rotative engines" (James Watt, jun. to Robert Owen and Co., 18 December 1795). For Owen's residence at Chorlton Hall, see *Life*, pp. 48-9. In John Scholes, *Manchester Directory* (1797), p. 94, there is an entry: "Owen, Robert, merchant and manufacturer, factory and warehouse, Cambridge Street, [off] Oxford Street; house, 2, Cooper Street." See also *ibid.*, p. 27.

² James Watt, jun. to Robert Owen and Co., 18 December 1795. The 31-inch cylinder for the engine, cast and bored by John Wilkinson at Bersham, was "one of the most perfect that ever passed through our hands" (*ibid.*).

³ M. R. Boulton to Owen, Scarth and Co., 18 February 1796. According to Owen two or three years elapsed ". . . before the new Chorlton mill was at work" (*Life*, p. 42).

Messrs. Boulton and Watt.

Manchester, 15th Oct., 1796.

Gentlemen,

We should have answered yours of the 22nd. ult[im]o had we not been in daily expectation of Mr. Marsland paying us for his proportion of the engine which he at present does not find it convenient to do. From the great scarcity of money in Scotland we have been disappointed in getting bills discounted as usual and even prolonging the credit to six months, which lays us under the unpleasing necessity of remitting you a bill at that period drawn on W[illia]m and R[ichar]d[so]n Borradaile and Co. for £1,527. 10. 8. We, however, hope you will not find much inconvenience in paying it away.¹

We assure you that nothing but the great scarcity of money in the commercial world would have induced us to ask for a longer credit than the time first mentioned, but if you think the bill at too long a date (though we did not expect your invoice would have been dated so early) we must allow you what you may deem adequate for the time.

Your acknowledgement per return of post will oblige,

Gentlemen,
Your obdt. Servts.,
Thomas Atkinson for
The Chorlton Twist Co.

The name Thomas Atkinson brings us to the last chapter in the story of Owen's business enterprises in Manchester—the Chorlton Twist Company, fine cotton spinners (1796-1800). This seems to have been a highly successful enterprise.² In his *Life* Owen wrote :

. . . while the mills were erecting, a new arrangement was made . . . with those two rich old established houses, Messrs. Borradaile and Atkinson, of London, and Messrs. Bartons of Manchester, with whom and myself a new partnership was formed . . . the "Chorlton Twist Company", under my management, assisted by Thomas Atkinson, a brother of the one in the firm of Borradaile and Atkinson.³

¹ The bill was drawn by Borradaile and Atkinson of Salford on William and Richardson Borradaile of London (James Watt, jun. to Chorlton Twist Co., 13 October 1796). Boulton and Watt usually stipulated payment in bills at two months' date.

² Soon after Owen left Manchester for New Lanark towards the end of 1799 or early in 1800 the Chorlton Twist Company's mill was bought by Messrs. Birley and Hornby of Blackburn, former customers of the firm (*Life*, p. 64).

³ *Life*, p. 42. On 13 January 1798 Moulson withdrew from the Chorlton Twist Company, which then consisted of Owen, Atkinson and Scarth. Later in the year Matthew Chitty Marshall became a partner in the firm, but he and Scarth withdrew on 9 August 1798 leaving Owen and Atkinson as the sole remaining partners in the concern (*Manchester Mercury*, 23 Jan., 18 Sept. 1798).

Messrs. Barton were wholesale merchants and cotton manufacturers of No. 6 Phoenix Street, Manchester.¹ The Borradaile connection is rather more complicated and certainly more interesting. Messrs. Borradaile and Atkinson were hat manufacturers of Greengate, Salford, in the 1790s, but the London headquarters of the firm operated from 34 Fenchurch Street (and, later, from 14 St. Helen's Place) as William and Richardson Borradaile and John Atkinson, merchants and hat manufacturers.² This was entirely concerned with dealing in furs and exporting hats; and we know from other evidence that in 1812 Messrs. W. and R. Borradaile of London were ship-owners and managing directors of at least one East Indiaman.³ And so the wheel had come full circle. Drinkwater had entered the cotton industry with profits accumulated in foreign commerce. Later, in 1796, Owen, after trying unsuccessfully to carry on in the cotton industry with the backing of Marsland's real estate venture, was forced to fall back on the support of a firm which was securely based on the foundation of a profitable overseas trade.

¹ *Manchester Directory* (1794), p. 11; (1800), p. 13.

² Barfoot and Wilkes, *op. cit.* vol. i, p. 80; vol. iii, p. 797; W. Lowndes, *London Directory* (1791), p. 25; Critchett and Woods, *Post Office (London) Directory* (1816), p. 37; Johnston's *London Commercial Guide* (1817), cols. 186, 425.

³ C. N. Parkinson, *Trade in the Eastern Seas, 1793-1813* (1937), p. 188. According to Owen, John Barton, John Atkinson and Robert Owen agreed in the *summer of 1797* to purchase the New Lanark mills from David Dale for £60,000, payable at the rate of £3,000 *per annum* for twenty years (*Life*, pp. 52-3).