

## **John Aiken on Industrialization in and around Manchester, 1795**

(John Aiken, *A Description of the Country from thirty to forty miles round Manchester* (1795), pp. 167-184; in J. F. C. Harrison, ed., *Society and Politics in England, 1780-1960*, New York: Harper & Row, 1965, pp. 62-66. Aikin was a physician and his book is a classic description of Manchester and its surroundings during the period of industrialization.)

...no exertions of the masters or workmen could have answered the demands of trade without the introduction of spinning machines.

These were first used by the country people on a confined scale, twelve spindles being thought a great matter; while the awkward Posture required to spin on them was discouraging to grown up people, who saw with surprise children from nine to twelve years of age manage them with dexterity, whereby plenty was brought into families formerly overburthened with children, and the poor weavers were delivered from the bondage in which they had lain from the insolence of spinners. . . .

The plenty of weft produced by this means gave uneasiness to the country people, and the weavers were afraid lest the manufacturers should demand finer weft woven at the former prices, which occasioned some risings, and the demolition of jennies in some places by the uninformed populace. At length Dorning Rasbotharn, Esq. a worthy magistrate near Bolton, wrote and printed a sensible address to the weavers, in order to convince them of their own interest in encouraging these engines, which happily produced a general acquiescence in their use to a certain number of spindles. These were soon multiplied to three or four times the number; nor did the invention of mechanics rest here, for the demand for twist for warps was greater as weft grew more plentiful, whence engines were soon constructed for this purpose.

The improvements kept increasing, till the capital engines for twist were perfected, by which thousands of spindles are put in motion by a water wheel, and managed mostly by children, without confusion and with less waste of cotton than by the former methods. But the carding and stubbing preparatory to twisting required a greater range of invention. The first attempts were in carding engines, which are very curious, and 'now brought to a great degree of perfection; and an engine has been contrived for converting the carded wool to stubbing, by drawing it to about the thickness of candlewick preparatory to throwing it into twist. . . .

These machines exhibit in their construction an aggregate of clock-maker's work and machinery most wonderful to behold. The cotton to be spun is introduced through three sets of rollers, so governed by the clock-work, that the set which first receives the cotton makes so many more revolutions than the next in order, and these more than the last which feed the spindles, that it is drawn out considerably in passing through the rollers; being lastly received by spindles, which have everyone on the bobbin a fly like that of a flax wheel; . . .

Upon these machines twist is made of any fineness proper for warps; but as it is drawn length way of the staple, it was not so proper for weft; wherefore on the introduction of fine Calicoes and muslins, mules were invented, having a name expressive of their species, being a mixed

machinery between jennies and the machines for twisting, and adapted to spin weft as fine as could be desired, by adding to the jennies such rollers, governed by clock-maker's work, as were described above, only with this difference, that when the threads are drawn out, the motion of the rollers is suspended by an ingenious contrivance, till the weft is hardened and wound up; in which operation the spindles are alternately drawn from and returned to the feeding rollers, being fixed on a moveable frame like those of the billies to make cardings into what are called rovings for the common jennies.

These mules carry often to a hundred and fifty spindles, and can be set to draw weft to an exact fineness up to 150 hanks in the pound, of which muslin has been made, which for a while had a prompt sale; but the flimsiness of its fabric has brought the finer sorts -into discredit, and a stagnation of trade damped the sale of the rest. . . .

The prodigious extension of the several branches of the Manchester manufactures has likewise greatly increased the business of several trades and manufactures connected with or dependent upon them. The making of paper at mills in the vicinity has been brought to great perfection, and now includes all kinds, from- the strongest parcelling paper to the finest writing sorts, and that on which banker's bills are printed. To the ironmongers shops, which are greatly in-creased of late, are generally annexed smithies, where many articles are made, even to nails. A considerable iron foundry is established in Salford, in which are cast most of the articles wanted in Manchester and its neighbourhood, consisting chiefly of large cast wheels for the cotton machines; cylinders, boilers, and pipes for steam engines; cast ovens, and grates of all sizes. This work belongs to Batemen and Sharrard, gentlemen every way qualified for so great an undertaking. Mr. Sharrard is a very ingenious and able engineer, who has improved upon and brought the steam engine to great perfection. Most of those that are used and set up in and about Manchester are of their make and fitting up. They are in general of a small size, very compact, stand in a small space, work smooth and easy, and are scarcely heard in the building where erected. They are now used in cotton mills, and for every purpose of the water wheel, where a stream is not to be got, and for winding up coals from a great depth in the coal pits, which is performed with a quickness and ease not to be conceived.

Some few are also erected in this neighbourhood by Messrs. Bolton and Watts of Birmingham, who have far excelled all others in their improvement of the steam engine, for which they have obtained a patent, that has been the source of great and deserved emolument. The boilers are generally of plate iron or copper; but some few for the smaller engines are of cast iron. . . .

The tin-plate workers have found additional employment in furnishing many articles for spinning machines; as have also the braziers in casting wheels for the motion-work of the rollers used in them; and the clock-makers in cutting them. Harness-makers have been much employed in making bands for carding engines, and large wheels for the first operation of drawing out the cardings, whereby the consumption of strong curried leather has been much increased. . . .

To this sketch of the progress of the *trade* of Manchester, it will be proper to subjoin some information respecting the condition and manners of its tradesmen, the gradual advances to

opulence and luxury, and other circumstances of the domestic history of the place, which are in reality some of the most curious and useful subjects of speculation on human life. The following facts and observations have been communicated by an accurate and well-informed inquirer.

The trade of Manchester may be divided into four periods. The first is that, when the manufacturers worked hard merely for a livelihood, without having accumulated any capital. The second is that, when they had begun to acquire little fortunes, but worked as hard, and lived in as plain a manner as before, increasing their fortunes as well by economy as by moderate gains. The third is that, when luxury began to appear, and trade was pushed by sending out riders for orders to every market town in the kingdom. The fourth is the period in which expense and luxury had made a great progress, and was supported by a trade extended by means of riders and factors through every part of Europe.

It is not easy to ascertain when the second of these periods commenced; but it is probable that few or no capitals of 3000*l.* or 4000*l.* acquired by trade, existed here before 1690. However, towards the latter end of the last century and the beginning of the present, the traders had certainly got money beforehand, and began to build modern brick houses, in place of those of wood and plaster. For the first thirty years of the present century, the old established houses confined their trade to the wholesale dealers in London, Bristol, Norwich, Newcastle, and those who frequented Chester fair. The profits were thus divided between the manufacturer, the wholesale, and the retail, dealer; and those of the manufacturer were probably (though this is contrary to the received opinion) less percent. upon the business they did, than in the present times. The improvement of their fortunes was chiefly owing to their economy in living, the expense of which was much below the interest of the capital employed. . . .

When the Manchester trade began to extend, the chapmen used to keep gangs of pack-horses, and accompany them to the principal towns with goods in packs, which they opened and sold to shop-keepers, lodging what was unsold in small stores at the inns. The pack-horses brought back sheep's wool, which was bought on the journey, and sold to the makers of worsted yarn at Manchester, or to the clothiers of Rochdale, Saddleworth, and the West-Riding of Yorkshire. On the improvement of turnpike roads waggons were set up, and the pack-horses discontinued; and the chapmen only rode out for orders, carrying with them patterns in their bags. It was during the forty years from 1730 to 1770 that trade was greatly pushed by the practice of sending these riders all over the kingdom, to those towns which before had been supplied from the wholesale dealers in the capital places before mentioned. As this was attended not only with more trouble, but with much more risk, some of the old traders withdrew from business, or confined themselves to as much as they could do on the old footing, which, by the competition of young adventurers, diminished yearly. In this period strangers flocked in from various quarters, which introduced a greater proportion of young men of some fortune into the town, with a consequent increase of luxury and gaiety. . . .

Within the last twenty or thirty years the vast increase of foreign trade has caused many of the Manchester manufacturers to travel abroad, and agents or partners to be fixed for a considerable time on the Continent, as well as foreigners to reside at Manchester. And the town

has now in every respect assumed the style and manners of one of the commercial capitals of Europe. . . .