

An American Visitor to Textile Mills at New Lanark, 1815

(The new factories were of great interest to travelers, both foreign and domestic. Louis Simond (1767-1831), a French-born American, visited the textile mills at New Lanark. [Louis Simond]. *Journal of a Tour and Residence in Great Britain, during the years 1810 and 1811, by a French Traveller: with Remarks on The Country, Its Arts, Literature, and Politics, and on the Manners and Customs of its Inhabitants, 1*, Edinburgh, 1815, pp. 278-9, 283-6; in J. T. Ward, ed., *The Factory System, Vol. II, Birth and Growth* (New York: Barnes & Noble, 1970), pp. 57-59.)

Returning to Lanark, we stopped a moment at a cotton manufactory. It was the first established in Scotland, and the most considerable. It is certainly a prodigious establishment. We saw four stone buildings, 150 feet front each, four stories high of twenty windows, and several other buildings, less considerable; -2500 workmen, mostly children, who work from six o'clock in the morning till seven o'clock in the evening, having in that interval an hour and a quarter allowed for their meals; at night, from eight to ten for school. These children are taken into employment at eight years old, receiving five shillings a-week; when older, they get as much as half-a-guinea. Part of them inhabit houses close to the manufactory, others at Lanark, one mile distance; and we were assured the latter are distinguished from the others by healthier looks, due to the exercise this distance obliges them to take, -four miles a-day. Eleven hours of confinement and labour, with the schooling, thirteen hours, is undoubtedly too much for children. I think the laws should interfere between avarice and nature. I must acknowledge, at the same time, that the little creatures we saw did not look ill.

The prodigious increase of manufactories in England, and the application of the force of water to their machinery, threatened equally the purity of mountain-streams and of morals; but farther improvements in mechanics have led to another mode of applying the force of water, and, instead of its weight, its expansion is now made subservient to the arts. The steam-engine is an agent so convenient, so powerful, and so economical, in a country abounding with fossil coal, that falls of water have been abandoned; but the great manufactory of Lanark had been established before this great discovery. The cost of tile steam engine and fuel is more than compensated by the advantage of saving the transportation of both the rough materials and the manufactured articles; of being on the spot of consumption and exportation, and where great population furnishes workmen, rather than among deserts and mountains. I understand that there are now even grist-mills worked by the steam-engine ...

On our arrival at Glasgow this morning [24 August, 1810] Professor M., Mr. G. and Mr. H. . . . undertook to carry us immediately to the principal manufactories. We have seen carding and spinning-mills, weaving-mills, mills for everything. The human hand and human intelligence are not separated; and mere physical force is drawn from air and water alone, by means of the steam-engine. * Manufactories, thus associated with science, seem to produce with the facility and fecundity of nature. It is impossible to see without astonishment these endless flakes of cotton, as light as snow, and as white, ever pouring from the carding-machine, then seized by tile teeth of innumerable wheels and cylinders, and stretched into threads, flowing like a rapid stream, and lost in the *tourbillon* of spindles. The eye of a child or of a woman, watches over the blind mechanism, directing the motions of her whirling battalion, rallying disordered and broken threads, and repairing unforeseen accidents. The shuttle likewise, untouched, shoots to and fro by an invisible force; and the weaver, no longer cramped upon his uneasy seat, but

merely overlooking his selfmoving looms, produces forty eight yards of cloth in a day, instead of four or five yards.

Passing rapidly from one thing to another, you have only time to wonder, without understanding enough to explain satisfactorily what you have seen, or scarcely to retain any connected remembrance of it. One thing, however, made an impression, from its ingenious futility, the tambouring or embroidering mill. Multitudes of needles ' self-moving, execute, as by enchantment, a regular pattern of sprigs or flowers. This machine has the appearance of the stocking-loom. I do not know whether there is not a dying mill; the force of water is used at least in tile process, to press the yarn after it has been dipped, and to squeeze out the dye ...

Many of these manufactories requiring an even temperature of about 70°, which exceeds that of the external air, the windows are kept constantly shut; indeed they are often constructed so as not to open at all, or at most only one pane in a window, and the atmosphere is, as may be supposed, not very pure. Some of the processes require even 90° or 100°, obtained by means of large fires in stoves, winter and summer. We just looked in, and the heat appeared quite insupportable to us, although we have often experienced it for days together in America. The men did not seem to suffer from it; the external air was today 55° to 60°.

* A steam-engine, of the power of forty horses, consumes about five chaldrons, or 11,000lbs. weight of coals in twenty-four hours; and notwithstanding the great cheapness of coals, the keeping of 120 horses (three sets of 40, to relieve each other), would not cost more than double the price of the fuel; therefore, in a country where fuel costs more than double the price here, the steam-engine could not be used to advantage. This great consumption of fuel, by confining the steam-engine to a coal country, secures, in a great degree, to England, to the exclusive privilege of a prodigious power, alone sufficient to give her a decided superiority in the practice of most of the useful arts. It is more than a century since the principles of the steam-engine were discovered, and applied to mechanical uses, but it is not more than twenty-five or thirty years since this machine, I might almost say this living body, was brought to its present state of perfection, by the celebrated Mr. Watt.