The British Cotton Industry as Representing Industrial Capital

Up until the middle of the eighteenth century, the British cotton industry was not yet firmly established. Domestically, it remained a minor one relative to the wool industry; internationally, its products could not hope to compete with the fine cotton manufactures of East India. British products were confined to such coarser articles as fustians, velvets and the like, and it was widely believed that the imitation of such delicately hand-woven fine cotton cloths as India could supply remained well beyond British competence. However, it was the mechanisation of cotton spinning in the latter half of the eighteenth century that changed this whole perspective.

1 Mechanisation of Cotton Manufacturing

It is generally believed that the mechanisation of the spinning process responded to an increased demand for yarn, which was apparent already in the first half of the eighteenth century. It was about that time that the weaving operation was made more efficient, with the application of the fly-shuttle invented by John Kay. However, the subsequent inventions of the water-frame by R. Arkwright and of the ‘spinning Jenny’ by J. Hargreaves appear to have given a more decisive impetus towards the mechanisation of spinning. Water-frames mechanised all of the spinning operations that follow ‘roving’ with the application of the roller technology. This technology had been perfected through various experiments, before it reached a new level of excellence in 1775. It was called ‘water-frame’ since the plants, in which it was used, were powered by waterwheels. This invention enabled the substitution of cotton for linen, in the production of resilient warp at a sufficiently low cost. The spinning Jenny was a machine capable of turning many spindles simultaneously. This invention, too, was a synthesis of various earlier devices which had been tried over many years. At first, it could turn only eight spindles at once. Subsequently, however, the number of spindles increased to twenty, and eventually to one hundred and twenty. It then quickly displaced spinning wheels which had to be hand-driven. Unlike the water-frame, the Jenny did not require a large plant to operate in, so that it was already widely used by the time Hargreaves patented
his invention in 1770. It produced threads that were finer and lighter than that which the water-frame could produce. They were, however, not strong enough to be used for warp but only for weft.

It was the ‘mule’, a spinning machine invented by S. Crompton, that combined these two earlier methods, and succeeded in twisting thin and strong threads, usable not only for weft but also for warp. As these were fit for muslin, British cotton products could at last compete with those of India, and thus rose to an international prominence that had previously been enjoyed only by woollen and linen products. The mule, unlike the water-frame, required sophisticated operations on the part of the workers; thus, the ones who supervised the operation of the machine exercised authority over other workers. The extended use of the mule consequently generated a group of working people, who were not so docile and obedient to capital. Confronted, thus, with repeated labour disputes, capital craved for an improved machine, which would circumvent the recalcitrance of the workers. The problem was solved, finally, by the self-acting mule, which R. Roberts completed in 1825, and by the throstle, which was but an improved version of the water-frame, even though these inventions did not spread immediately. Nor did the self-acting mule completely eliminate the need for skilled labour. Nevertheless, it is fair to say that the coming into being of these methods ensured the supremacy of capital over labour in the manufacturing of cotton.

By the late 1780s, the use of steam power was added to the above-mentioned mechanisation of the spinning process, so that productive capacity in spinning greatly exceeded the requirement by the weaving industry, which was yet to be mechanised. By this time the shortage of weavers became a serious problem, reversing the situation from that which prevailed earlier when the fly-shuttle was invented. High wages in weaving attracted all kind of workers to that occupation, so much so that the years between 1788 and 1803 were called the golden age of weavers. This state of affairs was short-lived, however. Already, towards the end of the eighteenth century, the weavers’ wages began to fall because of the increased inflow of labour from other textile trades as well as agriculture. Due both to the fact that weaving techniques could often be relatively easily learned, and also to circumstances peculiar to contemporary English society, this section of the cotton industry was to depend on cheap labour for some time thereafter. That was one of the causes which delayed mechanisation in weaving, and which led to the extreme devastation of the handloom operators, when power-loomers were finally introduced in the 1830s.*

*On this matter Marx writes as follows: ‘History discloses no tragedy more horrible than the gradual extinction of the English hand-loom weavers, an extinction that was spread