

there were some powerlooms, it would not be far from the truth to say that all weaving was done by hand."³⁰

To trace the rate of progress in spinning and weaving, most economic historians cite statistics on the introduction of spindles and looms. I shall not follow this practice because I consider it quite deceptive. Most machinery in use was inefficient. Dunham, after describing the transition of cotton spinning from home to mill, says: "It seems clear, however, that the machinery used was of an antiquated type, and that the French spinners did not as a rule adopt improvements as they were made in England."³¹ In fact, some of this machinery was outmoded before it was even installed. Of the once strong silk tulle weavers, it is said:

Their looms were generally old and poorly constructed, having been bought from manufacturers of cotton tulle in northern France and adapted to the weaving of silk tulle at great cost. They were run by hand, but England had installed looms run by steam power and had improved her methods so that she was driving the French from the markets of the United States, Spain, Germany, and Italy.³²

Particular machines, then, as well as people can become inefficient in performance of a given process. France did not keep up with England technologically; it had the unhealthy habit of using machinery that was obsolete on installment. Thus the mere existence of machinery is no measure of progress at all.

How did the tariff relate to this retardation? By keeping the price of yarn and cloth artificially high, it permitted inefficient producers to stay in business without adopting better methods. Amé cites the case of Rouen, whose chamber of commerce declared in 1802 that her manufacturers "used the most efficient techniques known." It thought France superior to England in the production "of all common cottons and the principal woollens." In 1792, just before the proscription decrees which left us with the system of prohibitions, we already exported, under the aegis of the Treaty of 1786, more cotton yarn than we have ever exported since. In 1814, to make the prohibitions survive the war, Rouen had to admit that our industry had not matched the progress of British industry and that we were not prepared to take up her challenge.³³

Whether or not they would have been wiped out by British competition is debatable, but it is true that they had not kept up with their British rivals. The prime argument for protection had been that it would permit home industry the breathing space to undertake reform. "Under the system of prohibitive tariff duties, however, the French [plain silk tulle] manufacturers, like so many of their colleagues in other industries, made such large profits that they saw no need of improving their methods or machinery."³⁴ Among these colleagues in other industries were the woolen manufacturers. Dillard found that protective duties on woolen yarn and cloth probably retarded rather than promoted economic growth in this ancient and well-established branch of the textile industry. The transition from hand to machine weaving was delayed by the protective tariff. Protection to woolen cloth also sustained the domestic system of manufacture and impeded the transfer of manpower out of agriculture into full-time industrial employment, which was one of the primary needs for French industrial progress.³⁵

Thus, the effect of insulation was not efficiency but stagnation. The textile industry did not reform because it was not compelled to reform. As long as there was no penalty more pricking than moderate instead of exorbitant profits, it was unreasonable to expect a change in technique.

The picture in textiles was, however, less bleak than that in coal and iron. Unlike coal and iron, the textile industry did have some compartments of efficiency and strength. Principal among those was silk, which "enjoyed an absolute as well as a comparative advantage over all other countries during the nineteenth century."³⁶ Unfortunately, the protectionist policy in France provoked retaliation in other countries. As a result, the expansion of this efficient export industry was arrested.

In sum, industrial tariff policy between the Revolution and the Cobden-Chevalier Treaty fostered retardation, not modernization. While it did not create the putting out system, the overpopulated country-side, or the small family firm, it did permit each of these institutions to survive its economic utility. If prices had not been kept artificially swollen, the high cost producer could have met British competition only by adopting more efficient techniques. Lacking both the innate obsession and the external compulsion to do so, he did not. The result was retardation. As Dunham tersely put it: "the deadening in-

See footnotes at end of Appendix.