

try was not injured by the new commercial policy of the Second Empire; in fact there are many grounds for saying that the reforms so bitterly opposed in 1860 were of great and lasting benefit to the manufacturers of the upper Marne."⁴⁷

The adaptation of the rest of the French iron industry was even more spectacular. Producers made use of British scientific discoveries, and improved their methods of production. Soon they were able to export large quantities of iron goods to countries other than Britain—especially locomotives and other machinery. Most impressive was the fact that the British were not able to increase their exports of iron goods to France, despite the large reductions in duties. The reason was that the adoption of efficient techniques brought French costs way down. Costs fell farther than tariffs, and so the new duties remained prohibitive.

The lower price of iron stimulated all firms which used that commodity. This involved almost every sector of the economy. Most important was the effect on transportation. According to Dunham, the great development of French railroads in the later years of the Second Empire was, to a very considerable degree, the result of English competition, which brought down the price of French iron, and both increased the supply and improved the quality by compelling the small ironmasters to abandon their inaccessible forges in the mountains and establish themselves in favorable situations where they could smelt with coal. The use of wood for smelting was declining before 1860, but the change to the burning of coal was completed with rapidity after the conclusion of the Commercial Treaty.⁴⁸

The development of the railroads in turn affected the coal and iron industries. Apart from their direct demand for coal and iron products, the railroads reduced the cost of coal at the point of consumption enormously, making the rewards for conversion from wood smelting even greater. This served to reinforce the already increased demand for coal and improve the efficiency of the iron industry. No wonder iron and steel production spurted to over one million tons per year in the 1860's.

Cheap iron also enabled the textiles industry to undergo its adaptation to free trade more painlessly. I have already shown that spinning and especially weaving were slow to adopt machinery, and that when they did, such machinery was old and inefficient. The new Treaty forced both branches to catch up. In cotton spinning, for instance, "we have abundant evidence that British competition caused the introduction of large numbers of self-actings."⁴⁹ In weaving, it is interesting to compare the reactions of Elbeuf, a town which encountered little British competition against its fancy clothes, with Lisieux, a town which encountered stiff competition against its ready-made clothing.

Less than half of Elbeuf's fancy cloths, which represented three-fourths of her production, were woven on power looms, the machines being used chiefly for the plain cloths of a single color. At Lisieux, on the other hand, where the principal industry of ready-made clothing was feeling keenly British competition, there were four hundred power looms in 1870, all of them introduced after the signature of the treaty with England, but the number of hand-looms had decreased from 2500 to 1200 and the industry showed a strong tendency to concentrate in the town.⁵⁰

Similar evidence could be adduced in cotton and linen.⁵¹

In textiles, too, then, French industry was able to equip itself with efficient processes and then to compete effectively with the British, at least in the domestic market. Textile prices, like iron prices, fell so far that *ad rem* duties became prohibitive. The manufacturers of Dundee ascribed this to greater French efficiency; they felt "that the French duties which were moderate in 1860 had since become prohibitive because of the great progress made by the French linen industry."⁵² Once again, the Cobden-Chevalier Treaty forced businessmen to adopt efficient techniques and to lower their prices, permitting the whole economy to move forward.

More important than the introduction of any particular piece of machinery was the appearance of a new entrepreneurial mentality. In Part II, I showed how the spirit of economic malthusianism was an important retardative factor in the French industrial process. At the beginning of this section, I suggested that this spirit would have evaporated in a stridently competitive environment. This seems to have been the case. It is worth quoting at length from the life of M. Baril, a velvet manufacturer from Amiens. His reaction to the Treaty was to apply for an Imperial loan under the law of August 1, 1860.⁵³ Writing later of this difficult period, he said:

I was sure their fears were exaggerated. I was well informed regarding the English market, and certain that Amiens could compete. I therefore asked