from acquiring their protected know-how, and by reporting to their superiors at home about upcoming efforts to lure artisans. Nearly every early modern European government labored to prevent outflow of skill and technique through a variety of measures that were sometimes even draconian. Venice, for example, settled its glass workers on the island of Murano and threatened to put to death anyone caught trying to leave the island with a view to emigrating. British sulfuric acid producers conceived of a different strategy to keep competitors in the dark. They recruited for their factories only Welsh operatives who spoke Welsh exclusively.[11]

The Industrial Revolution raised the stakes in the international battle over technology. The application of theoretical knowledge to industry and agriculture yielded successive incremental technological breakthroughs. Organizational changes in the mode of production and the cultural and legal embrace of the absolute right of property transformed the economy and society of Europe and its satellites. The structure of local economies and patterns of interregional trade underwent a dramatic change. The rise of commercial and industrial capitalism in the eighteenth century reverberated from New France to India, and affected everyone from local spinners and weavers to merchants and champions of industry. The massive irreversible application of machines to materials in the production process ushered in the modern technological-industrial system and raised Western Europe to the status of the world's dominant region. Technological development established the pattern of exchange of raw materials, exotic foodstuffs, and slaves from Asia, Africa, and America for European manufactured goods.[12]

Industrialization coincided with the emergence of Great Britain as the most powerful nation on the globe. Successive victories in a series of eighteenth-century colonial wars, climaxing in decisive triumph in the Seven Years War (known in America as the French and Indian War), left Britain in control of territories from India to North

America. The accumulation of skilled laborers who manufactured goods for export in the British Isles set the nation apart from its European competitors. To be sure, English and American manufacturing in the seventeenth and eighteenth centuries must not be confused with nineteenth-century machine-centered factories. It began as hand production at home organized in putting-out systems and gathered into centralized manufactories where, in time, machine production assumed center stage. Still, as early as the late seventeenth century, home-manufactured goods, primarily woolen textiles, dominated English exports. The trend accelerated in the eighteenth century as English manufactured leather goods, hardware, and tools reached markets all over the globe. The development of coal fuel technology allowed manufacturers to replace human and some animal energy with coal, providing a tremendous production boost. In the 1770s, with the beginning of modernization in the textile industry, the development of deep mines and large-scale metal fabrication, British engineers and artisans emerged as Europe's technological leaders not only in finished goods, but also in the crucial branch of machine making. Exports of manufactured goods accounted for 10 to 15 percent of the British gross domestic product in the eighteenth century. The wave of innovations enabled English manufacturers to meet the growing demand for English finished goods around the world and even the loss of the North American colonies in the 1770s did not affect Britain's industrial dominance.[13]

Rivals looked upon the rise of English economic might with a mixture of envy and trepidation. Mercantilist politicians of the eighteenth century who measured the power of nations by their balance of trade realized that "the plough-share is as essential as the sword to the strength of a state." They believed that the boom in English industrial exports accounted for the dramatic rise in English military and political power. Curtailing the import of foreign articles by