production from man to machinery. Guilds, then, opposed measures that could undermine job security and render some of their protected knowledge obsolete. Thus, when rulers wanted to adopt new technologies they often had to overcome the resistance of their local guilds.

The emergence of a protocapitalist commercial economy and the consolidation of some nations into distinct geographical and political units in parts of early modern Europe forced a reconfiguration of the boundaries between individuals and their communities. This period of continued economic expansion saw the consolidation of political power into dynastic-centered states. The ideal of a united Christendom gave way to competing dynasties unified by religious particularism (Catholic, Protestant, Anglican, etc.) and seeking to best rivals in all spheres. At the same time, Renaissance celebration of genius placed individuals at the center of the creative process and granted them ownership over the fruits of their minds. Marketplace notions associated innovations with the individuals who supposedly originated them and thus entitled them to enjoy their rewards. States increasingly adopted the practice of securing rights and royalties to authors and inventors in an effort to encourage innovation from within and attract innovators from abroad. Strategies to accomplish this goal varied. In prerevolutionary France, for example, an inventor or introducer who successfully persuaded a certain group of judges that his innovation was useful was awarded a payment in cash by the state.[1] Other states, like England, at times followed the continental practice of giving cash rewards and at other times took a less direct route of encouraging mechanization. Men in possession of useful mechanical knowledge were granted a temporary monopoly on the use or sale of the device in return for a detailed description of it. The British Empire of the eighteenth century opted for awarding patent monopolies for a specified number of years as the strategy of choice for promoting innovation and industrialization.[2]

Modern discussion of intellectual property often assumes that an invention has a something-out-of-nothing quality to it—an assumption that fades as soon as one takes a closer look at most so-called "inventions," for close scrutiny often reveals marginal originality and great dependency on previous knowledge. The gap between what is original and what is merely derivative is rather narrow. An innovation that is deemed an invention worth protecting is wholly a political and legal construct. An invention that is not followed by practical application funded by investors is of little value. James Watt's 1769 development of a separate condenser for steam engines, for example, was a technological breakthrough of the first order. Its market potential, however, was undermined by Watt's failure to perceive other possible applications besides pumping water out of mines. It took Matthew Boulton's investment of time and capital and Watt's application of "double action" of steam on both sides of the piston in 1781, thereby making rotary motion possible, to turn the engine into a source of power for mill machinery. Boulton and Watt formed a powerful partnership of ingenuity and business acumen and got along famously. They were, however, the exception, as tensions between investors and inventors over the ownership of ideas were frequently difficult to resolve. Finally, it is impossible to protect intellectual property in organizational and procedural changes that often account for leaps in production far more than improved machinery.[3]

Natural rights and utilitarian arguments combined in the seventeenth and eighteenth centuries to justify a patent monopoly system as a just reward for socially useful inventiveness. Natural rights philosophers argued that man's right to property is inalienable and that he is entitled to the wealth created by his labor. In the words of the great prophet of liberalism and individualism, John Locke: "every Man has a Property in his own *Person*. This no Body has any Right to but himself. The *Labour* of his Body, and the *Work* of his Hands, we