

THE TURNING POINT

TROUBLE WITH STOCKINGS

IN 1583 WILLIAM LEE returned from his studies at the University of Cambridge to become the local priest in Calverton, England. Elizabeth I (1558–1603) had recently issued a ruling that her people should always wear a knitted cap. Lee recorded that “knitters were the only means of producing such garments but it took so long to finish the article. I began to think. I watched my mother and my sisters sitting in the evening twilight plying their needles. If garments were made by two needles and one line of thread, why not several needles to take up the thread.”

This momentous thought was the beginning of the mechanization of textile production. Lee became obsessed with making a machine that would free people from endless hand-knitting. He recalled, “My duties to Church and family I began to neglect. The idea of my machine and the creating of it ate into my heart and brain.”

Finally, in 1589, his “stocking frame” knitting machine was ready. He traveled to London with excitement to seek an interview with Elizabeth I to show her how useful the machine would be and to ask her for a patent that would stop other people from copying the design. He rented a building to set the machine up and, with the help of his local member of Parliament Richard Parkyns, met Henry Carey, Lord Hunsdon, a member of the Queen’s Privy Council. Carey arranged for Queen Elizabeth to come see the machine, but her reaction was devastating. She refused to grant Lee a patent, instead observing, “Thou aimest high, Master Lee. Consider thou what the invention could do to my poor subjects. It would assuredly bring to

them ruin by depriving them of employment, thus making them beggars.” Crushed, Lee moved to France to try his luck there; when he failed there, too, he returned to England, where he asked James I (1603–1625), Elizabeth’s successor, for a patent. James I also refused, on the same grounds as Elizabeth. Both feared that the mechanization of stocking production would be politically destabilizing. It would throw people out of work, create unemployment and political instability, and threaten royal power. The stocking frame was an innovation that promised huge productivity increases, but it also promised creative destruction.

THE REACTION TO LEE’S brilliant invention illustrates a key idea of this book. The fear of creative destruction is the main reason why there was no sustained increase in living standards between the Neolithic and Industrial revolutions. Technological innovation makes human societies prosperous, but also involves the replacement of the old with the new, and the destruction of the economic privileges and political power of certain people. For sustained economic growth we need new technologies, new ways of doing things, and more often than not they will come from newcomers such as Lee. It may make society prosperous, but the process of creative destruction that it initiates threatens the livelihood of those who work with old technologies, such as the hand-knitters who would have found themselves unemployed by Lee’s technology. More important, major innovations such as Lee’s stocking frame machine also threaten to reshape political power. Ultimately it was not concern about the fate of those who might become unemployed as a result of Lee’s machine that led Elizabeth I and James I to oppose his patent; it was their fear that they would become political losers—their concern that those displaced by the invention would create political instability and threaten their own power. As we saw with the Luddites (pages 85–86), it is often possible to bypass the resistance of workers such as hand-knitters. But the elite, especially when their political power is threatened, form a more formidable barrier to innovation. The fact that they have much to lose from creative destruction means not only that they will not be the

ones introducing new innovations but also that they will often resist and try to stop such innovations. Thus society needs newcomers to introduce the most radical innovations, and these newcomers and the creative destruction they wreak must often overcome several sources of resistance, including that from powerful rulers and elites.

Prior to seventeenth-century England, extractive institutions were the norm throughout history. They have at times been able to generate economic growth, as shown in the last two chapters, especially when they've contained inclusive elements, as in Venice and Rome. But they did not permit creative destruction. The growth they generated was not sustained, and came to an end because of the absence of new innovations, because of political infighting generated by the desire to benefit from extraction, or because the nascent inclusive elements were conclusively reversed, as in Venice.

The life expectancy of a resident of the Natufian village of Abu Hureyra was probably not that much different from that of a citizen of Ancient Rome. The life expectancy of a typical Roman was fairly similar to that of an average inhabitant of England in the seventeenth century. In terms of incomes, in 301 AD the Roman emperor Diocletian issued the Edict on Maximum Prices, which set out a schedule of wages that various types of workers would be paid. We don't know exactly how well Diocletian's wages and prices were enforced, but when the economic historian Robert Allen used his edict to calculate the living standards of a typical unskilled worker, he found them to be almost exactly the same as those of an unskilled worker in seventeenth-century Italy. Farther north, in England, wages were higher and increasing, and things were changing. How this came to be is the topic of this chapter.

EVER-PRESENT POLITICAL CONFLICT

Conflict over institutions and the distribution of resources has been pervasive throughout history. We saw, for example, how political conflict shaped the evolution of Ancient Rome and Venice, where it was ultimately resolved in favor of the elites, who were able to increase their hold on power.

English history is also full of conflict between the monarchy and its subjects, between different factions fighting for power, and between elites and citizens. The outcome, though, has not always been to strengthen the power of those who held it. In 1215 the barons, the layer of the elite beneath the king, stood up to King John and made him sign the Magna Carta ("the Great Charter") at Runnymede (see Map 9, page 112). This document enacted some basic principles that were significant challenges to the authority of the king. Most important, it established that the king had to consult with the barons in order to raise taxes. The most contentious clause was number 61, which stated that "the barons shall choose any twenty-five barons of the realm they wish, who with all their might are to observe, maintain and cause to be observed the peace and liberties which we have granted and confirmed to them by this our present charter." In essence, the barons created a council to make sure that the king implemented the charter, and if he didn't, these twenty-five barons had the right to seize castles, lands, and possessions "... until, in their judgement, amends have been made." King John didn't like the Magna Carta, and as soon as the barons dispersed, he got the pope to annul it. But both the political power of the barons and the influence of the Magna Carta remained. England had taken its first hesitant step toward pluralism.

Conflict over political institutions continued, and the power of the monarchy was further constrained by the first elected Parliament in 1265. Unlike the Plebeian Assembly in Rome or the elected legislatures of today, its members had originally been feudal nobles, and subsequently were knights and the wealthiest aristocrats of the nation. Despite consisting of elites, the English Parliament developed two distinguishing characteristics. First, it represented not only elites closely allied to the king but also a broad set of interests, including minor aristocrats involved in different walks of life, such as commerce and industry, and later the "gentry," a new class of commercial and upwardly mobile farmers. Thus the Parliament empowered a quite broad section of society—especially by the standards of the time. Second, and largely as a result of the first characteristic, many members of Parliament were consistently opposed to the monarchy's attempts