6. The Promethean Revolution

Historians have adopted the myth of Prometheus as a useful image of modern industrialisation. According to the myth, Prometheus brought fire to earth by stealing it from the gods. He was punished for his crime by the gods, but they did not take back the gift with which Prometheus had enriched human life. By analogy, the agents of the process of industrialisation have immeasurably increased human prosperity, but a terrifying toll has been imposed as a result in the form of massive self-destruction through modern warfare. The image simplifies starkly both the achievements and the dangers of our civilisation. To see ourselves as the heirs of a ‘Promethean Revolution’ is thus an appropriate introduction to an examination of some of the complexities of modern industrialisation.¹

It is necessary to speak of ‘modern industrialisation’ because we have already observed that a measure of industrial organisation has been a distinguishing feature of every civilised society. Without some degree of specialisation of function and application of skills to industrial and commercial enterprises, there can be none of the social differentiation, urbanisation, and generation of the more sophisticated cultural activities which are the distinctive features of civilised life. Thus industry of some sort is a very ancient and important feature of organised human societies. It probably began with the working of such comparatively simple materials as flint into blades and axe-heads which could then be used as trading commodities, and developed through the crafts of metal working into the intricate skills which became the closely-guarded secrets of corporations of guildsmen in the ancient civilisations and in medieval Europe. In all these pre-modern instances of industrialisation, however, there had been a stabilisation of growth at an early stage of development, due to conditions of political insecurity, or the limitation of the market, or the discouragement of powerful monopoly interests, or a com-

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bination of all these factors. What is so distinctive about modern industrialisation, on the other hand, is its capacity for apparently unlimited growth. Once the process had started, it rapidly outgrew the corporate institutions of medieval Europe and created new and more flexible institutions which could be adapted continuously to the expectation of perpetual growth. This process was partly a response to demographic pressures, but was more the result of the intellectual revolution of the sixteenth and seventeenth centuries, and particularly the new thinking about science and technology. It had momentous consequences in the transformation of life and of society.

The Demographic Factor

There is a hen and egg quality about the argument relating modern industrialisation to the large demographic changes which have occurred simultaneously in Europe since the beginning of the eighteenth century at least. The precise nature of the causal linkages remains obscure, but sufficient is apparent to demonstrate that the relationship is significant, and whether or not an increase in population causes industrialisation or is a consequence of it, it is certainly a factor deserving examination in an attempt to account for the distinctively dynamic nature of modern industrialisation.

As a starting point, it may be observed that there was widespread agreement in eighteenth century Europe that the population was increasing notably, and even alarmingly. Mercantilist governments had grown accustomed to welcoming an increase in population as a sign of national vitality and self-reliance, but following Adam Smith's systematic analysis of the economic weaknesses of mercantilist thinking a more critical view of population pressures began to prevail. This view was stated in its classic form by the Rev. T. R. Malthus in his *Essay on the Principle of Population* of 1798. Even before exact statistical data became available with the first British national census in 1801, Malthus was able to make realistic estimates of population growth and to calculate the likely rates of increase in the future. The gloomy conclusion to this exercise was that the population of the world was increasing faster than the resources available to feed the new mouths. Malthus therefore predicted that, unless the 'natural' checks of disease and war were able to contain the