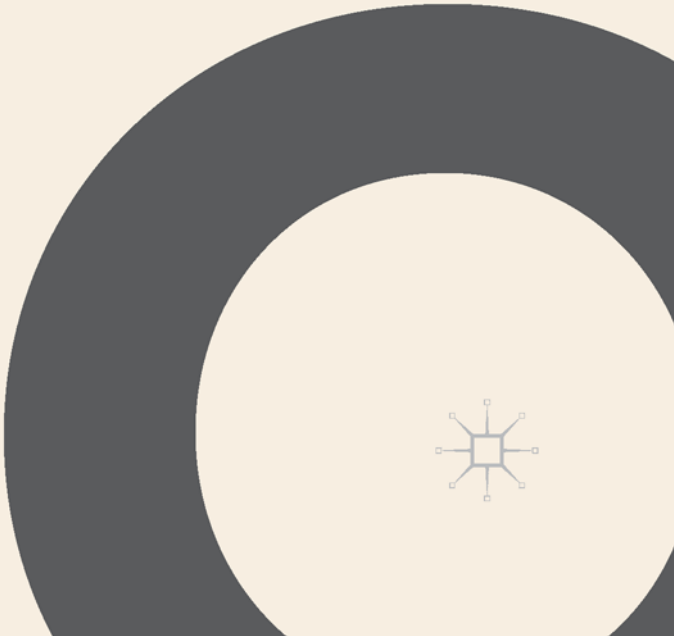
# SOCIALIST OPTIMISM

*An Alternative Political Economy for the Twenty-First Century*

PAUL AUERBACH



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## An Alternative Political Economy for the Twenty-First Century

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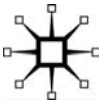



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*To Caroline, for everything*

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# Contents

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# Introduction

We live in dispiriting, pessimistic, cynical times. Present-day capitalism has generated a level of instability and dysfunction not seen since the interwar period of the twentieth century, with growing inequality of income and wealth, persistent high levels of unemployment and ever-diminishing prospects for young people. Political activity is widely perceived to be a game performed by an elite for its own benefit.

A major reinforcement for the existing way of doing things that, in spite of capitalism's manifest inadequacies, no alternative is on the table. In the absence of a positive vision of how society and the economy might develop in the future, it is unlikely that the present trajectory of capitalism will be derailed, no matter how acute the critique of contemporary developments. This book sets out a vision of an alternative political economy.

For much of the twentieth century, socialism in the form of central planning and state ownership of the means of production posed as the antipode to capitalism. When its real-life exemplifications in the Soviet Union and elsewhere collapsed, capitalism was seen to be without rival. Centrally planned socialism had failed as a practical concept and as an ideal, unable to replicate the dynamism and innovative energy of capitalism and identified with egregious violations of human and political rights.

The revised socialist agenda presented here will focus upon the upbringing and education of young people in the context of social equality. The creation of opportunities for the full development of human capacity across the population will form the basis for human liberation and democratic control of public affairs and working life. This approach to socialism differs markedly from typical dictionary definitions that are directed at state ownership of the means of production and central planning. It also distances itself from much of the tradition of social democracy. The latter has great accomplishments attached to its name, but has largely functioned as an attempt to alleviate capitalism's worst excesses: social democracy never posed an alternative trajectory of development or vision of the future to challenge that of capitalism.

The distinction between alleviationist and developmental approaches to social change is an important one, though any social movement is likely to be an amalgam of both. The epitome of the alleviationist approach in European socialism was the British Labour Party. Through much of its history, Labour Party rhetoric had been characterised by an emphasis on fairness and equality, but it addressed the realities of class power in Britain, from the school system to the House of Lords, only in the most feeble way. In the postwar period, its commitment to nationalisation was less a matter of pursuing a diluted version of the ideology of central planning than a pragmatic attempt to maintain high levels of employment. A general view emerged that the monies directed at the nationalised industries were a drain on the Treasury, carried out merely as concessions to a subgroup of workers tied to the Labour Party through the trade unions: the words on everybody's lips were about British decline. It was the perception, or delusion, of a path to development – of 'going somewhere' – that was Margaret Thatcher's greatest strength. There was a modicum of truth in her assertion that there was no alternative on offer at the time, either from other political parties or in the broader political and economic discourse, that was to the slightest degree convincing.

In the US, an extreme form of this alleviationist approach emerged, largely, though not exclusively, in the context of the Democratic Party, an organisation that did not even rhetorically challenge the presuppositions of capitalism. Alleviationism had its greatest success from the postwar years until the early 1970s in the form of a Keynesianism that extended beyond macroeconomic regulation of the economy to a range of social welfare measures. This period was characterised by rapid growth and relatively full employment across Western Europe and North America, accompanied by compression and then stability in the distribution of income: Keynesian regulation of the economy was credited with the success of capitalism during this golden age. When capitalism stumbled in the 1970s, alleviationist approaches failed as well. Since then, we have observed a renewal of capitalist ideology in an intensified form, partly because there has been no alternative on offer. No rival path to development has been forthcoming to challenge capitalism and the rich ideology used to support it.

Is there a socialist alternative? The socialism to be explored here, though having links to its long and, in many cases, distinguished tradition, is not to be identified with its historical association with state ownership and central planning. The optimism in the title of this book is in no way intended to imply any certainty about what will happen in the future. It does, however, signal a rejection of the 'no alternative' view and point to a socialist path to development.

The focus in this book on education and equality can easily be misunderstood. The expansion and transformation of education are key elements of the developmental form of socialism that will unfold here. But educational

reform is viewed with suspicion in some progressive circles: it often functions in public policy initiatives as a substitute for dealing with economic and social inequality. Mainstream educational policy is commonly linked to attempts to blame much of the population for its inadequate intellectual preparation for participating in an economic race, if not with technology, then against other nations, in which 'we' are all supposedly involved. By implication, the on-going rise in inequality can be laid at the door of the losers in this race.

Education remains, however, the most powerful single public policy intervention for progressive reform and for the transformation of personal capacities. In recent years, progress in research and practice surrounding the psychological and cognitive development of young children is dispelling the fatalism associated with the ideology of IQ and the notion that the distribution of skills and attainments in society is simply a reflection of biological capacity. Public policy intervention in education can play a role in the release of the inherent potential of all individuals. It is a uniquely potent force for social transformation and the overcoming of class background.

Progressive formal education policy can thus be a vehicle for the promotion of equality, but it is not a palliative or a substitute for a focus on equality itself. With capitalism manifesting dramatic rises in inequality, it is common to see comments on this problem from prominent individuals that 'feel your pain' but warn against doing anything about it:

> If income could be redistributed without damping economic growth, there would be a compelling case for reducing incomes at the top and transferring the proceeds to those in the middle area and at the bottom. Unfortunately this is not the case. It is easy to think of policies that would have reduced the earning power of Bill Gates or Mark Zuckerberg by making it more difficult to start and profit from a business. But it is much harder to see how such policies would raise the incomes of the rest of the population. Such policies surely hurt them as consumers by depriving them of the fruits of technological progress.[1]

Alleviation of inequality, some experts assure us, can only take place at the cost of economic progress.

Such a view finds little confirmation in the historical record. Economic development is a social process involving the skills and initiatives of a broad base of the population rather than a gift bestowed by an entrepreneurial elite. Equality, far from being an obstacle to progress, is a creative force. It fosters a context in which formal education can flourish, and it offers opportunities to learn at work and in the broader world. Full employment and security permit both the adults and children in a household to plan and cultivate their capabilities. There is no dilemma posed by some presumptive trade-off between equality and economic progress.

We must resist the temptation, however, to simply accept the goals prominently displayed before us, such as economic growth, and claim that socialism is a way of 'doing it better'. Socialism here is perceived in terms of its ends and aspirations. At the level of individual well-being, it takes literally the commonly voiced notion that all children should have an opportunity to develop fully their range of human capacities, a demand usually tendered in a manner sufficiently vapid that no one could mistake such declarations for genuine statements of intent. The fulfilment of this goal implies an access to upbringing and education from the earliest stages of life that is not contingent upon, and, indeed, compensates for, limitations in household circumstances.

Socialism as presented here is thus truly radical, more so than conceptions associated with central planning. The transformational possibilities of socialism emerge from the notion that, in all societies, the mentality, repertoire of skills, knowledge and social attitudes of members of society are conditioned and contingent on social and economic institutions: they are not hard-wired biologically at or before birth. A central task for socialism is to engender in the population a facility for exercising democratic control over daily life and public affairs. The key public policy mechanism available for securing a social transformation of this kind is a programme, most especially from the preschool level to early adolescence, involving a substantial increase in the quantity and quality of resources devoted to formal education. Such a programme is not a fanciful or speculative one, as evidenced by the example of the elite's expenditure in this direction on their own children.

By itself, however, an aggressive public education programme is far from sufficient to permit the full development of a child's capacities: the household is the predominant and, at younger ages, the overwhelming influence on an individual's psychological and cognitive formation. The resources and the personal 'tutoring' that can be offered to children in households at the upper reaches of society will be difficult to replicate or compensate for in any programme of preschool and formal education, and most especially in societies evidencing high levels of social and economic inequality. Ambitious programmes of formal education must, therefore, be supported by a mitigation of household deprivation and insecurity if they are to have any chance of succeeding. Once we begin to view human beings not merely as commodities, but as individuals who plan and cultivate their own futures, deprivation and insecurity can be seen as factors that derange the ability of households to act as platforms in which formal education can take place in a fruitful manner.

The household and the general living environment are places of learning in themselves. An important part of a programme of equal opportunity involves efforts to extend generally the access to amenities, opportunities and stimulation accorded to the children of the well-off. The fact that

children grow up in households and live in the world gives the lie to the notion that one can pursue a social strategy of equality of opportunity in, for instance, formal education, but care relatively little about equality of outcomes. Societies that generate highly unequal outcomes for households in the present will also be creating a disparate range of opportunities for the children in these households. The claim that one can offer equal opportunity to all but preserve highly unequal outcomes is simplistic, and most probably false.

A socialist focus on individual development also gives substantial weight to full employment. It is, first, a component of the secure environment necessary for the household to pursue long-term plans for the cultivation of the human assets of its members, including formal education. Second, work that makes full use of personal capacities is an essential aspect of human development: the workplace is an invaluable venue for skill enhancement and the cultivation of social citizenship. All employment should be associated with opportunities for the development of skills as a structural, and not incidental, aspect of the work environment.

In addition to personal development, however, the socialist perspective recognises the inherently social nature of human existence. Socialism is, therefore, intimately linked to the presence of a second aspect: democracy. In contemporary usage, the latter term has often been used merely to indicate the absence of overt terror from the state, rather than in its original meaning of 'rule by the people'. It is impossible to reconcile notions of democracy with the authoritarian structures and practices that individuals presently experience in their daily life at work. The restructuring of the work environment to give workers real decision-making power in the enterprise, and the engendering, or re-engendering, of collective organisation through labour unions, are necessary aspects of democratic practice.

Democracy must, therefore, embody substantial levels of participation in decision making in the working and living environment on a regular, even daily, basis. This notion of social citizenship should pervade the schoolroom from the earliest years and do battle against powerful contemporary pressures to focus education exclusively on vocational goals (especially for those from less privileged backgrounds). The school should be a mechanism for the cultivation of democracy, not only in the substance of what the child learns, but in the way the school conducts itself: a key goal should be a resolution of issues surrounding discipline by early adolescence. The educational process should be one that elides naturally into democratic decision making in the workplace, in daily life and in the broader political sphere.

The ability to exercise democratic control in the broader society embodies the need for a genuine voice for the mass of the population in the conduct of politics, traditional freedoms of speech and conscience, and transparency in the operation of political and economic affairs. The inequalities in income and wealth that pervade capitalist society have always manifested

themselves in elite control over political processes and the flow of information and opinion through the media. But in an even more direct manner, capitalism impedes the development of a democratic polity. In the twenty-first century, the activities of multinational businesses and financial enterprises have profound effects on our daily lives through the worldwide restructuring of the economy and destabilisation of the financial and natural environment; enormous hidden transfers of wealth to tax havens take place, abetted by respectable institutions, that affect the destiny of nations, especially poor ones. The socialist asks: are these activities merely private affairs, and will they ever be made amenable to democratic scrutiny and control in the absence of a willingness to challenge the capitalist principle of the inviolability of private property?

A last, essential, but elusive aspect of socialism involves an undercurrent of solidarity stretching across humankind. Even in the midst of conflicts and problems within our own locality and nation, a socialist sensibility compels an awareness of the implications of acts of public policy for human beings worldwide and for those yet unborn. Thus, while the focus here is on socialist policies in the richest countries, the implications of these policies for the world's poorest will remain a central consideration in the background. These policies are also important in the context of a range of ecological issues, most especially those concerned with climate change.

The perspective above will inform our view of past efforts that have carried the label of socialism and permit us to judge when reform programmes can be viewed as truly radical. Part I, *Socialism and Central Planning*, reconsiders the dominant path taken to socialist reform in the past – state ownership of the means of production and central planning.

In Chapter 1, we see the genesis of the concept of planning in Enlightenment thinking as co-extensive with rationality: it involved a reconsideration *de novo* of all notions concerned with the functioning of the natural world and of society, and a programme of reconstruction of ideas and institutions on a rational basis. Planning as a dominant mode of regulation in society was subsequently contested by notions of spontaneous order, as hinted at by Adam Smith and then elaborated upon in modern times by, most especially, Friedrich Hayek. Hayek contended that society was capable of organising itself with an absence of central and conscious direction, and that inhibitions to this process of self-organisation of society were undesirable. The notion of spontaneous order in Hayek's conception – that much of what we value in our culture is the result of interactions between individuals at ground level, without planning from above – is unexceptionable. But his stronger notion that it is a virtue for society to have no sense of direction is absurd and disingenuous. His preferred form of spontaneous order – market capitalism – has always evolved, and continues to do so, in the context of conscious coordination and planning (and often coercion) from the state and other centralised agencies.

The continuing influence of the planning paradigm was, however, due not to its success in abstract debates but, as we shall see in Chapter 2, to the great transformation of economic and social life that took place in rich countries in the late nineteenth and early twentieth centuries. At the heart of this transformation was the emergence of giant firms that possessed characteristics departing significantly from their First Industrial Revolution progenitors. The new firms were seen to be the quintessence of modernity, dealing with an unprecedented range and complexity of tasks and creating organisational structures to cope with these tasks. Capitalism in its most modern manifestation was thus seen by many observers to be dominated not by the invisible hand of the marketplace, but by entities – giant firms – that planned and directed their own futures. What was often missed in the analysis of these developments was the extent to which giant firm planning was still embedded in a capitalist world of competition and finance.

For a broad range of observers, and especially socialists, as we will see in Chapter 3, Henry Ford's assembly line and state intervention during the Great War functioned as concrete exemplifications of how a whole economy might be planned, a perspective that developed into what will be called here the technocratic planning paradigm. The future socialist society could then be seen as 'one big factory', with the path already laid out by capitalism (albeit, for Marxists, with contradictions) in its most advanced aspects. While, for the mainstream of Anglo-Saxon free-market liberalism, capitalism was still to be characterised by markets and competition, in alternative perspectives, with both socialist and non-socialist variants, a new world had emerged: small firms and competition were atavistic remnants, with finance and marketing functioning purely as wasteful activities. An economy based on scientific and engineering principles was to be created, modelled on the planning and organisation taking place within the giant firm, but without the latter's gratuitous, wasteful elements. Adherence to this planning orthodoxy came to be the defining test of radicalism in socialist ideology: those having reservations about the submission of whole economies to the Plan were evincing a form of deviationism. Socialism became married to the planning paradigm, with social democratic reforms in education and social policy, even when highly successful, bereft of a unifying conception that linked them to a developmental strategy for society.

The Soviet attempt at planning and then the debate on socialist calculation are reviewed in Chapter 4. The failure of the Soviet economic experiment was not due to historical accident or contingent events, but resulted from weaknesses inherent in the concept of central planning as it emerged from the technocratic planning paradigm. In the debate on socialist calculation, a solution to the problems of centrally planned socialism was put forth: an alternative form of socialism was created that simulated the economic behaviour of a well-functioning capitalist free market. The ultimate demise of both these attempts at socialist construction – the Soviet

centrally planned alternative to capitalism and the market socialist solution of economic theory – is to be located in their inadequate conceptualisation of capitalist economic development. They both foundered on their failure to understand the roles played by competition and finance in the fostering of dynamism, economic growth and development in capitalism.

Chapter 5 traces the collapse of the planning paradigm. It notes the widespread perception in the post-Second World War period of a growing corporatism and monopoly, a notion derived from the earlier technocratic planning paradigm of Chapter 3. This perception suggested to Western socialists and social democrats that a transition from the capitalism of the day to an economy subject to rational control and planning was feasible and a natural extension of contemporary developments. But this strategy fell into disarray because the growth of sophisticated planning and coordination within individual enterprises did not make for a world of controlled, monopoly capitalism but, on the contrary, engendered an increasingly competitive atmosphere in which national strategies for a centrally directed national economy were not viable: the collapse of the Alternative Economic Strategy of the Labour Party in Britain in the 1980s is an egregious example. The demise of socialist alternatives to capitalism in rich countries can be traced to the failure of these planning strategies in their various manifestations and the absence of an alternative radical vision of the future.

A key reason for the failure of the socialist project in all its variants in the twentieth century is thus seen in Part I to be rooted in its incorrect analysis of capitalist development. But the underlying principle remains a sound one: a socialist strategy, if it is not to be utopian (in the worst sense of the word), should emerge wherever possible from the possibilities and trajectories offered up by present-day society. Part II, *Human and Economic Development*, serves as a bridge to the revised socialist strategy of Part III. It argues that education and equality are not gratuitous luxuries that societies can indulge in when they are rich enough. On the contrary, and especially in the modern world, both these factors have played a central role in human and economic progress, and their cultivation for socialist purposes is congruent with a rational strategy for economic development.

A central issue in contemporary economic and social discourse concerns the links between levels of formal education and a nation's economic growth; it has spawned a vast statistical literature, as will be seen in Chapter 6. This literature contains a range of questionable presumptions buried within the empirical procedures typically used. One problematic element is the treatment of technological change as a discontinuous event, imparting to it a magical quality that can cure a range of economic ills, as if it were an elixir. Technological change, in both its genesis and its diffusion, is, in fact, a social process: the boundary between innovation and improvement is less clear than suggested by contemporary orthodoxy and

the writings of Joseph Schumpeter. The review of the statistical literature is supplemented by a historical narrative that captures a range of considerations otherwise lost in discussions of this topic, including the manner in which education interacts with equality to promote economic, including technological, development. One fundamental disagreement here with the education–growth discussions typically found in both the public and academic spheres is their tendency to treat education as having value solely because of its efficacy in producing economic growth, even in the richest countries. For socialists and others wishing to show themselves to be practical and relevant in the current intellectual climate, the temptation to go along with this abnegation of the principles of human civilisation is to be resisted.

A broader vision of the role of education in society begins to be developed here and in subsequent chapters. Education is embedded in society. Mainstream considerations, however, are dominated, as will be seen in Chapter 7, by the theoretical perspective of the human capital literature. This individualistic approach is of limited use in understanding the complementary role that social context (including class) plays in formal education, with household wealth, fellow students and neighbourhood impinging on the educational process. In addition, individualistic approaches to the accretion of knowledge impede attempts to trace the societal impact of educational advance: the presence of external effects on learning will mean that the unfolding of the effects of enhanced education is likely to be manifest in society only with a substantial lag. By contrast, left-wing critiques have been equally inadequate, lurching from views in which education is seen to be a tool of capitalism to a range of utopian notions.

Missing from most discussions is the sense in which formal education in the modern world interacts with a broad range of other aspects of social functioning, as will be seen in Chapter 8. Classroom education is only one aspect of how individuals develop: many of the most important aspects of learning take place at work and in the process of living in society. Traditionally, individuals working and living in rich countries have been able to gain *in situ* advantages over others simply on this basis; there are good reasons for thinking that these advantages are dissipating more rapidly than heretofore. Public discussions concerned with learning in the workplace – training of various kinds – underline the class divides in society: for those headed for, or at, university, the discourse will often contain at least a perfunctory consideration of the role of this education in citizenship and of the need to acquire a broad-based range of skills for a lifetime of work. For the others – the majority of the population who do not pursue university education – education for citizenship is commonly not even broached as an issue, as if such individuals did not have the voting franchise. Acquisition of skills for this group, furthermore, is frequently discussed in terms of what suits the needs of employers, an approach which can, from the point of view

both of the individual worker and of society, result in the cultivation of a skill base that is dangerously narrow from the perspective of a lifetime of work. Once we view the household as the fulcrum in which individuals can formulate their plans for both formal and *in situ* learning, an atmosphere of security and stability in which to pursue these 'investments' is conducive to the promotion of economic development. By contrast, a regime of Schumpeterian creative destruction can do long-term damage to the human aspect of this development by obviating the possibility of long-term household planning.

Many of the issues discussed above concerning public education, technological change and the role of the state can be exemplified in a US context. Chapter 9 contrasts the commonly held image (and self-image) of the US as a bastion of free enterprise with the key roles that were played by the state in the twentieth century in public education, technological advance and industrial enterprise. The mystique surrounding technological advance is contrasted with the substantive social context in which innovation has taken place in the US, with the development of the electronics industry used as an exemplification. The continuing and pervasive role that the US plays at both the academic and the popular level as the purveyor of doctrines of free enterprise worldwide often seems to have more to do with perpetuating this self-image than reflecting the historical realities that resulted in US economic ascendency in the twentieth century.

The long-term role of the US as a model of a successful economy is closely linked to its high levels of per capita income. The approach taken in Chapter 10 to national income and its growth is to disentangle its diverse aspects. First, as a measure of aggregate demand, it is used as a tool for economic stabilisation. In this role, the regulation of national income and its growth is a pressing consideration for dealing with unemployment and inflation. Second, national income in per capita form often serves as an index of social welfare. Its single-minded use for this purpose has long been criticised in the literature concerned with the economic development of poorer countries and, more recently, in the context of the dramatic increases in inequality that have taken place in many parts of the world. The primary focus here, however, is upon a third use of national income: it functions as an indication of a society's overall economic capacity to make social choices, with economic growth as a mechanism for expanding these choices. A misplaced emphasis on the conventional growth measure can lead to inappropriate, myopic social decisions, since some of the most potent ways of accelerating economic development in the long term, such as educational improvement, will yield their most significant benefits only with substantial lags. Typical approaches to economic growth also frequently pose a false choice between economic growth and equality, or see growing economic inequality as unfortunate merely from a welfare perspective. The

alternative view offered here emphasises the role that inequality plays in limiting the ability of a society to make social choices: long-term growth in society's human capacity is thwarted when substantial sections of the population are subject to social and economic exclusion, while growing insecurity makes rational planning at the level of the household an impossibility. From a more positive perspective, economic equality and household security complement formal education programmes in the promotion of human and economic development.

In Part III, *Socialism and Human Possibilities*, a socialist agenda is presented focusing on human development, equality and democratic control, the latter functioning both in a traditional political context and at ground level, including the workplace. Strategies to fulfil this agenda emerge from the realities of present-day society and use, wherever possible, existing social and political mechanisms to facilitate reform.

Formal education is seen in Chapter 11 to be central both to human liberation and to the functioning of a democratic polity. The parameters of a socialist education programme for engendering an environment of genuine equal opportunity do not have to be plucked out of the air: they can be approximated from the resources that elite families devote to their children from birth, both in the household itself and in the context of the formal educational opportunities offered to these children. Such an approach is contrasted with the fatalism of the IQ literature, much of which posits a resigned acceptance to existing social and economic hierarchies based on pre-natal inheritance. In the fifth century, this fatalism and resignation had been linked by St Augustine to original sin; in the modern world, it is biology that predetermines one's fate. Both these approaches evince a distrust in the ability of social and political action to remake the world for the better, and thus stand in sharp contrast to the fundamental presumptions of socialist ideology and to a substantial scientific and empirical literature that finds no place for such fatalism.

Chapter 12 links the formal educational strategy of Chapter 11 with one that supports learning in the broader world and at work through the promotion of equality, household security and full employment. The pursuit of these economic goals complements strategies for the extension of democratic control in the broader society and at work. In all these contexts, difficult issues need to be resolved. What kind of measures can be taken in the domain of governmental activity and taxation to reverse the egregious levels of income and wealth inequality that have emerged in many countries? And how can full employment be secured in an economy that retains a substantial amount of decentralised economic activity and an active financial sector? How much worker control over enterprise decision making can take place without impinging on the fulfilment of goals for the economy and society as a whole? These and other issues will be confronted here, even if not fully resolved: the anchor and unifying aspect of all queries, however,

is the focus on socialism as human development, equality and democratic control.

* * *

These central aspects of a socialist perspective – human development and education, equality and economic security, and democracy – coalesce when an important contemporary issue of public policy is considered: climate change. In discussions of this question, the public is often viewed as a recalcitrant, wild beast that must be manipulated in the right direction for its own good. Why, however, do I have every certainty that the overwhelming majority of readers of this book will support, and freely submit to, public policy measures that will be costly and inconvenient in the present in order to avoid a catastrophe in the future?

The facile and partly correct answer is that well-educated individuals will have an enhanced ability to follow the abstract arguments concerning the relationship between human activity, the changing climate and its likely effects on human functioning in the future. But to argue solely from the role of education in the engendering of rational approaches to public policy is to flatter the reader unduly. A component of at least equal weight is that most readers here (and certainly the author, despite his claims to origins as a working-class hero) are situated above the median level of income and are, in general, in a situation of relative economic security: whatever the disappointments or inconveniences brought about by the restrictions in consumption necessary to keep at bay, or at least slow down, climate change, I and most of my readers are in a position to make a rational calculation that such restrictions are preferable to the derailment of our lives and those of future generations that could be incumbent upon a large-scale change in the climate.

For much of contemporary society, and especially for many younger readers, policies to combat climate change might have highly unwelcome aspects: the restrictions and constraints on current consumption, and the insecurities generated by threats to current employment in activities linked to pollution, could be seen to threaten disruption of current modes of living not in the future, but in the present. Notions from well-heeled experts and politicians that 'we are all in it together' sit poorly when the likely sacrifices necessary for dealing with climate change will be distributed in a gravely uneven manner. The prerequisites for a rational, democratic public response to this impending, or even unfolding, crisis in the natural world are, therefore, not only a substantial rise in the knowledge base of the general population, but also the engendering of a sense of economic security and a presumption that the necessary sacrifices will be shared equally. A socialism concerned with human development and education, equality and economic security thus converges with the requisites of democracy and, perhaps, human survival.

The Conclusion responds to the question – 'why call it socialism'? It also discusses the reasons for the focus here on the socialist destiny of rich countries, despite the ultimate centrality for the future of humankind of the trajectory of development of 'the rest' – the poor nations of the world. It advances upon the proposition of Albert Einstein that 'the real purpose of socialism is precisely to overcome and advance beyond the predatory phase of human development'.[2]

# Part I
# Socialism and Central Planning

## Introduction

Why did all attempts to build a socialist alternative to capitalism in the twentieth century fail? An extensive answer to this question will embrace a large number of considerations, but a blunt summary in a British context would be as follows: 'Much of the Left's energy has been dissipated by industrial experiments in planning … it seems indisputable now that had the 1945 Labour government concentrated on rewriting the 1944 Education Act and reconstructing the university system, a genuine and lasting transformation of the society may well have been possible'.[1]

Perhaps the reader will find these words naïve: do they not merely substitute 'education' for 'planning' as a *deus ex machina* that will solve or obviate the complex problems of social transformation? The point, as we shall see, is well taken. In rich societies, a successful educational programme is the most powerful single public policy intervention for the promotion of equality and democracy. But the societal context in which formal education takes place is crucial, with high levels of social and economic equality helping to engender a flourishing environment for learning. In addition, learning, broadly conceived, will be seen in Parts II and III to encompass a range of experiences from birth, many of which take place outside the domain of formal education. These experiences emerge from living and interacting in the world, within the family and at work. An environment offering broad-based opportunities for learning in these contexts can be important in itself and complement the provision of formal education. A good system of formal education is, therefore, no replacement for the promotion of equality and opportunity in the living and work environment.

The quotation above was not presented to initiate a debate on the efficacy of any specific act of nationalisation, but as a vehicle for questioning why educational reform and human development played such a peripheral role in schemes for socialist transformation over the twentieth and twenty-first centuries. A significant part of the explanation can be found in socialist

ideologies in their dominant manifestations, Marxist and otherwise: education and human development were seen as merely part of the superstructure of a society, an aspect of social welfare provision and a secondary issue, one to be delegated to women. The primary concerns and defining questions for socialists focused on the substructure of the society: who owns the means of production, and how are societal resources allocated and distributed – by a market mechanism or by a central plan? The embrace of planning by socialist organisations worldwide was not an accidental or even a contingent event: the role of planning as an ideology and as a solution to society's ills was pervasive, not only for socialists but across the spectrum of political views from left to right, for much of the twentieth century.

It is socialism, however, that has maintained the strongest, almost tautological identification with planning in its various manifestations, but most especially with central planning. Socialism has suffered from a collapse of faith because it finds itself associated with this decrepit ideology. The high tide of free-market liberalism may have receded in recent years, but liberalism (often disguising a social Darwinist agenda) continues to present a coherent vision of the future that is unmatched by any existing socialist alternative.

# 1
# Planning and Spontaneous Order

Two grand conceptions have emerged in Europe on how to organise society on a secular basis. In the early modern period, a conscious moulding of society and its institutions was seen as a logical extrapolation from the way rational human beings ordered their lives. In a later view, society was seen to behave as a natural system capable of self-regulation. In this chapter, these approaches – planning and its antipode, spontaneous order – will first be introduced. The remaining sections and much of the discussion in Part I will address the false presumption that these two notions are not only competing, but mutually incompatible.

## Planning as an aspect of rationality

For Karl Marx, the ability of the human being to envision, organise and plan activities is a characteristic and distinctive property of the species to which it belongs:

> We presuppose labour in a form in which it is an exclusively human characteristic. A spider conducts operations which resemble those of the weaver, and the bee would put many a human architect to shame by the construction of its honeycomb cells. But what distinguishes the worst architect from the best of bees is that the architect builds the cell in his mind before he constructs it in wax. At the end of every labour process, a result emerges which had already been conceived by the worker at the beginning, hence already existing ideally. Man not only effects a change of form in the materials of nature; he also realizes his own purpose in those materials. And this is a purpose he is conscious of.[1]

This link between human rationality and planning had, however, already been formulated at the dawn of the Enlightenment in the seventeenth century. René Descartes' reflections in the *Discourse on Method* (1637) on how to reconstruct philosophy on a secure, rational basis were supported

by analogy with the purposeful activity of the architect and the town planner:

> buildings undertaken and completed by a single architect are commonly more beautiful and better ordered than those that several architects have tried to patch up, using old walls that had been built for other purposes ... ancient cities ... are commonly quite poorly laid out compared to well-ordered towns that an engineer lays out on a vacant plain as it suits his fancy ... [While] one does not see people pulling down all the houses in a city simply to rebuild them some other way ... one does see that several people do tear down their own houses in order to rebuild them ... Taking this example to heart ... I could not do better than to try once and for all to get all the beliefs I had accepted from birth out of my mind, so that once I have reconciled them with reason I might again set up either other, better ones or even the same ones.[2]

The correct approach for Descartes, one that accords with reason, is congruent with planned, purposeful behaviour. It may well involve reconstruction *de novo*, as if 'on a vacant plain'.

The link in Western intellectual development between rational thought and the need for reconstruction *de novo* had been present at least as early as the late Renaissance, most prominently in a polemical context by Francis Bacon in his *Novum Organum* (*New Method*) of 1620. The stupendous and substantive achievements in natural philosophy (what we would now call the sciences) of the Enlightenment that followed were invariably characterised by a willingness to begin again, exemplified by the rejection of Aristotle's physics and Ptolemy's astronomy by Galileo. Cartesian philosophy emerged in the context of these scientific accomplishments (including those of Descartes himself); Descartes' implied dismissal of tradition in favour of reason accounts for his perpetual difficulties with political, and especially church, authorities, despite his protestations of adherence to the Catholic faith. In the eighteenth century, Enlightenment rejection of the edifying role of tradition in politics – of traditional institutions, modes of thought and practice – reached a consummation in the English-speaking world with Thomas Paine's *Rights of Man* (1791), written as a riposte to Edmund Burke's *Reflections on the Revolution in France* (1790). Britain emerges in this period, with David Hume and others, as the most articulate opponent of radical critiques of the established order and defender of existing political and legal institutions and social practices.[3]

Descartes' formulation of the link between rational thought, on the one hand, and the need for reconsideration and reconstruction of the foundations of all aspects of intellectual and practical activity, on the other, is the culmination and most articulate expression of the convulsion in Western thought that took place in the early modern period. Subsequently, in the

wake of the French Revolution, applications of this Cartesian programme in the context of practical affairs represent early instances of a notion of *planification*: we see efforts to reform – to place in a proper, rational order and impose uniformity upon a range of social mechanisms that had emerged historically – weights and measures, the calendar and the law. These alterations to traditional practices imposed by the French Revolution played important roles in the promotion of capitalist development and were highly contested.[4] As in other cases to be discussed below, these changes, which permitted the expansion and deepening of markets, often took place in the wake of conscious administrative reform rather than as emanations of a spontaneous order. While the charming reforms to the calendar (with a month beginning in the latter part of April named *Floréal*) proved to be short-lived, juridical reforms imposed by the Revolution, such as the imposition of the civil legal code and the abolition of the remnants of feudalism, stimulated nineteenth-century continental economic development.[5]

Conceptions of planning – redesigning *de novo* in the social sphere and intervention in the traditional order of society, especially by the state – entered a new phase in the nineteenth century. Their most prominent advocates were not to be found in the early working-class movements, such as the Chartists in England, or among radicals on the European continent, such as Pierre-Joseph Proudhon or even Karl Marx and Friedrich Engels at the time of the Communist Manifesto (1847–8). Rather, it was Henri de Saint-Simon (1760–1825) and his disciples who, imbued with the successes of the pure and applied sciences of their day, were eager to partake in a social engineering of society with the intention of increasing society's productivity. In the France of the 1820s and 1830s, the role of Saint-Simonian ideology among engineers was a pervasive one.[6]

The Saint-Simonians came to be seen in retrospect as the chief progenitors of schemes for a planned economy. But, despite the fanciful aspects and the inflated language accompanying their ideas, Saint-Simonian notions of planning barely hint at the designs for controlling the economy that we will see materialise in the twentieth century in the form of technocratic central planning. Their concept of planning was firmly rooted in the nineteenth century, with a focus on an elite, meritocratic direction of society by the intellectual and productive classes, including industrialists and bankers. As in the case of the political economy of David Ricardo in England in the early nineteenth century, their enmity was directed at those idle groups, largely the landed classes, who stood in the path of the emerging industrial economy. Even when it developed a redistributionist tendency in the form of the advocacy of the abolition of inheritance, the Saint-Simonian movement was motivated more by a desire to promote the productive use of society's resources than by a reformation of the class structure and property relations in society: '[We] Saint-Simonians are opposed to the institution of

private property simply because it inculcates habits of idleness and fosters a practice of living upon the labour of others.'[7]

From our current perspective, it would seem inappropriate to label Saint-Simonian ideas for intervention in the economy as either utopian or revolutionary. Stripped of rhetorical flourishes, the central notion involved banking sector coordination between (and within) industrial groupings, with the intention of providing inexpensive finance to firms. These ideas were to be reflected in the development of industrial banking in France in the form of the *Crédit Mobilier* and, even more importantly, in the industrial banks of nineteenth-century Germany.[8] Subsequently, these banks would play an important role in late-developing countries wishing to promote economic development.[9]

Saint-Simonian proposals for a rationalisation of industry deviated from the developmental nature of the overall strategy. Their purpose was to avoid the excesses that can emerge from the market economy – an anti-social depression of wages or the generation of industrial crises from overcapacity. But these policies, far from being an augury of socialist notions, were a manifestation of a defensive or even reactionary response to capitalism and its apparent destabilisation of traditional ways of life rather than a visionary, state-directed programme of economic change. The Saint-Simonians emerge less as the progenitors of twentieth-century technocracy, central planning and socialism than as an ideological antipode to British liberal ideology in the nineteenth century.[10] Saint-Simonian projects in France, often sponsored by the state for expansion and modernisation of roads, industrial and agricultural infrastructure, and, most especially, railways, were imitated throughout late-nineteenth-century Europe. Such a conscious, planned, but limited strategy of economic development would have been thought exceptional only in Britain at the apogee of liberalism.

The Saint-Simonian movement in France had no more direct access to political power in the nineteenth century than did the early socialists, but its influence was widespread in France's industrial revolution in the period up to the end of the Second Empire.[11] A striking example of *planification* in this period took place under that 'Saint-Simonian on horseback'[12] Napoleon III and his prefect Georges-Eugène Haussmann, who renovated Paris and made it over 'from a stinking and decrepitating rat-maze of slums into the epitome of everything we value about city life'.[13] Slums were demolished, boulevards and an integrated network of roads were created; at the height of Haussmanian activity, one in five Parisian workers was employed in construction. As we shall see, many of these reforms had contentious aspects, but those related to public health were the most indisputably beneficial: by 1869, Haussmann, beginning a process that was to continue for several decades, had constructed over 300 miles of new sewers in Paris, thereby reducing the incidence of the cholera that had literally plagued the city.[14]

At least one [British] authority downgrades the significance of these Parisian health reforms as 'much talk but little action'[15] in comparison with public action taken in Britain. But it was in Britain that ideological opposition to any form of state-directed intervention in the economy took its most articulate form, with two arguments that would resonate in the future. The first was concerned with a defence of liberty: the Medical Officer to the Privy Council, John Simon, reported on hostility to state intervention, with opponents claiming that it had 'interfered between parent and child [a reference to vaccination] between employer and employed [over sanitary measures in factories] and between vendor and purchaser [referring to legislation governing the quality of water and the adulteration of food]'.[16] For Herbert Spencer, a thinker admired by Hayek, 'The doctrine that it is the duty of the state to protect the public health ... rests upon the assumption, that men are not fit to take care of themselves.'[17]

The second argument against intervention was that it interfered with nature, or with natural mechanisms for resolving problems: *The Times* reminded us in 1848 that 'the Cholera is the best of all sanitary reformers', and in 1852, at a meeting of the Institution of Civil Engineers, one advocate informed his audience that the role assigned to sewers 'should be left to nature'.[18] For Spencer, society itself was a natural phenomenon: 'Society, a living, growing organism, placed within the apparatuses of dead, rigid, mechanical formulas, cannot fail to be hampered and pinched.' Through the natural evolution of this living organism, 'existing social needs will be spontaneously met, though we cannot say how they will be met'; interference by the state would result in unintended consequences: '[Boards of Health] have, in sundry cases, exacerbated the evils to be removed; as, for instance, at Croydon, where, according to the official report, the measures of the sanitary authorities produced an epidemic, which attacked 1,600 people and killed 70 ... [W]hen ... remedies applied by statesmen do not exacerbate the evils they were meant to cure, they constantly induce collateral evils; and these often graver than the original ones.'[19]

But such contentions – that the regulation of public health was a violation of natural liberty and that epidemics were natural remedies – progressively ceased to have an audience. In 1892, the last great cholera epidemic in the cities of Western Europe took place in Hamburg and killed 10,000 people: it was linked in the public's mind to that city's distinctively 'English', liberal tradition.[20] Public health measures, usually state-sanctioned and often in the context of urban planning, led to a decisive improvement in the health and longevity of the populations of rich countries from the mid-nineteenth century onwards. It was not until the availability of antibiotics in the mid-twentieth century that medical breakthroughs played any commensurate role in extending life span. Social and environmental planning of this kind eventually received broad-based support even in Britain. The opposition of figures such as Herbert Spencer was clearly of a rearguard nature.

Planning, broadly defined, has thus been defended as a manifestation of human rationality, a progressive development intrinsic to the Enlightenment project: structures emerging historically in a helter-skelter manner were to be reconstituted on a rational, logical basis. In the context of abstract systems, successes for the Cartesian programme of reconstruction *de novo* are evident in the emergence of sciences such as biology and physics in their modern form; practical applications of planning procedures in the Cartesian mould, such as urban planning and public health, have often extended human life and improved living conditions.

Given the extreme, and politicised, form in which the dichotomy between the market and planning is often posed, it is ironical that the implementation of explicit planning in the urban environment and in public health played a decisive role in supporting the claim that nineteenth-century capitalism was eventually successful in improving the lives of ordinary people. Alongside the rises in real wages for the working class that emerged in this period are statistics on the health and bio-physiological state of this group that show much more ambiguous, and even contradictory, tendencies. It would appear that it was only as a result of substantial public investment in the latter part of the nineteenth century that the material well-being of working people achieved an unambiguously upward trajectory.[21]

Planning is, thus, an aspect of Enlightenment rationality and can claim indubitable achievements in the realms of science and public policy. The most grandiose expression of planning in the public realm is the utopian vision. As Zygmunt Bauman has suggested, even in this form, planning has a substantive, practical role:

> [Utopias] portray the future as a set of competing projects, and thereby reveal the role of human volition and the concerted effort in shaping and bringing it about ... It is ... the boldness of the utopian insight into the unexplored future, its ability to cut loose and be impractical, which sets the stage for a genuinely realistic politics, one which takes stock of all opportunities contained in the present.[22]

## Hayek and the constructivist fallacy

We have seen that the arguments against planning enunciated in the nineteenth century are, first, a defence of liberty – an opposition to planning as an arbitrary use of state power – and, second, an assertion that planning can interfere with nature, or (in a more subtle form) that planning prevents or interferes with natural or spontaneous mechanisms for resolving problems or restoring order. Friedrich Hayek's career, spanning the greater part of the twentieth century, was devoted to an articulation and development of these two propositions. Hayek's discussion of these issues from a broad

philosophical perspective will be dealt with in this chapter, with his critique of central planning to be addressed in Chapter 4.

Hayek's critique of planning, combined with a defence and conceptualisation of the market economy, is uniquely comprehensive; he was content to view his socialist colleagues as merely deluded, and dedicated his most famous book, *The Road to Serfdom*, to 'The socialists of all parties'.[23] His defence of capitalism shows the mutual interaction between the economic and legal systems of the market economy and offers an unambiguously favourable view of market societal organisation – a grand conceptualisation of capitalism as a form of spontaneously generated order. Far beyond the typical laissez-faire admonition to avoid governmental interference in the economy, Hayek's assertion of the presence of a spontaneous order in capitalism is accompanied by a celebration of its directionless character, of the inherent virtues of a society and economy without plans or goals.

Hayek's social thought centres upon a rejection of all aspects of the Cartesian programme of reconstruction *de novo*. He suggests that progress in the development of the principles of the law (or any kind of intellectual activity) takes place not by way of a reconsideration and reconstruction of foundations, but 'by our moving within an existing system of thought and endeavouring by a process of piecemeal tinkering, or "immanent criticism", to make the whole more consistent both internally as well as with the facts to which the rules are applied'.[24] Hayek here suggests a strategy of intellectual advance centred upon 'moving within an existing system of thought'; when dealing with practical issues he states that 'since we owe the order of our society to a tradition of rules which we only imperfectly understand, all progress must be based on tradition. We must build on tradition and can only tinker with its products.'[25]

These two statements together might lead one to the notion of Hayek as a conservative. In fact, the position he holds 'differs as much from true conservatism as from socialism'. As a liberal, he 'is not averse to evolution and change; and where spontaneous change has been smothered by government control, [I want] a great deal of change of policy'.[26] His vision of the good society is thus far bolder, and perhaps more peculiar, than a mere reaffirmation of the role of tradition. Rather, it consists of an assertion that the particular form of spontaneous order which has evolved in the West, most especially in Britain, is uniquely worthwhile: 'The possibility of men living together in peace and to their mutual advantage without having to agree on common concrete aims, and bound only by abstract rules of conduct, was perhaps the greatest discovery mankind ever made.'[27]

For Hayek, the source of society's most beneficial institutions, such as law and the market economy, is the interplay of social forces. The efficacy of a social order that emerges spontaneously and collectively over one imposed by one individual, or group of individuals, is due to the inherent limitations in the knowledge available to any one party: 'the concrete knowledge which

guides the action of any group of people never exists as a consistent and coherent body. It only exists in the dispersed, incomplete, and inconsistent form in which it appears in many individual minds.'[28] Despite the fact that the knowledge accruing to any one individual is 'dispersed, incomplete, and inconsistent', and exists only in a specific, localised context, it is the relevant basis for the formation of rules governing a complex social order:

> appropriate rules of conduct are not derived from explicit knowledge of the concrete events we will encounter; rather, they are an adaptation to our environment, an adaptation which consists of rules we have developed and for the observance of which we will usually not be able to give adequate reasons ... we can never rationally reconstruct ... the whole system of rules, because we lack the knowledge of all the experiences that entered into its formation.[29]

In Hayek's view, the rules and conduct emerging from the partial and often non-explicit (tacit) and contextual knowledge of individuals operating through the spontaneous interplay of social forces will sometimes give adequate solutions to problems no individual mind could consciously solve, and 'thereby create an ordered structure which increases the power of individuals without having been designed by any one of them'.[30] The guiding force of a planner cannot serve as a substitute for this spontaneous solution because 'the knowledge which any individual mind consciously manipulates is only a small part of the knowledge which at any time contributes to the success of his action. When we reflect how much knowledge possessed by other people is an essential condition for the successful pursuit of our individual aims, the magnitude of our ignorance of the circumstances on which the results of our action depend appears simply staggering.'[31]

Thus, Hayek offers a defence for forms of governance and societal organisation linked to historically emerging traditions and traditional rules, as opposed to a constructivist approach in which rules of societal governance are consciously based on reason. The latter approach is impossible, because in the context of the inevitably limited knowledge of individuals, the kinds of traditions emerging from the spontaneous order are as good as we can do: 'The whole system of rules can therefore never be reduced to a purposive construction for known purposes, but must remain to us the inherited system of values guiding that society.'[32]

It appears, however, that it is the laws and traditions emerging from one particular society that have succeeded in forming the basis of Hayek's spontaneous order:

> The only country that succeeded in preserving the tradition of the Middle Ages and built on the medieval 'liberties' the modern conception of liberty under the law was England ... The freedom of the British

> which in the eighteenth century the rest of Europe came so much to admire ... [was] a result of the fact that the law ... was determined by courts independent of the power which organized and directed government.[33]

According to Hayek, we have emerging in England, perhaps uniquely, a system of judge and court-based case law, 'an adaptation which consists of rules we have developed and for the observance of which we will usually not be able to give adequate reasons'. But forms of law and governance from spontaneous, contextual decisions have emerged in a wide variety of cultures all over the world throughout human history. The reason for Hayek's privileging of its English manifestation appears to be its genesis in a particular set of economic formations: 'It is in the *ius gentium*, the law merchant, and the practices of the ports and fairs that we must chiefly seek the steps in the evolution of law which ultimately made an open society possible.'[34] We thus have a complete mutually reinforcing system made up of the interactive practices of free exchange, on the one hand, and context-based rules and juridical procedures, on the other, all combining to generate the liberal order of nineteenth-century Britain.

Hayek's fundamental principle is that individuals have, and invariably will have, only limited, partial knowledge and understanding of the social context and processes in which they are functioning. What emerges from this premise is Hayek's famous notion of unintended consequences, which has a dual aspect – a positive perspective, which suggests that, even in the context of such limited knowledge, a spontaneous social order might well emerge, without any design or intention of generating this order on the part of an individual or group of individuals; a negative aspect emphasises the inevitable failure of conscious, constructivist (planned) activity – broad-based social planning – due precisely to this lack of knowledge of the consequences of actions undertaken by individuals or groups desirous of acting as potential planners. Hayek's notion of limited knowledge acts as scissors to cut through the concept of social planning – one blade functions as an alternative perspective on how society can be organised in the presence of limited knowledge through a self-generating mechanism, and the other is a critique in general terms of the infeasibility of planning due to the planner's inevitably limited knowledge.

A consequence of the presence of limited knowledge on the part of any one individual or group of individuals is that, for society as a whole, an absence of goals, ends or direction is a virtue: 'it is thus due to the freedom of choosing the ends of one's activities that the utilization of the knowledge dispersed through society is achieved ... The idea that the government can determine the opportunities for all, and especially that it can ensure that they are the same for all, is therefore in conflict with the whole rationale of a free society.' Indeed, 'the organization of society for a common purpose,

which is fundamental to all socialist systems, is incompatible with individual freedom'.[35]

Hayek saw the battle for the legitimation of the spontaneously generated order as a conflict between philosophical approaches: 'scientistic philosophy ... has done more to create the present trend toward socialism than all the conflicts between economic interests'.[36] The philosophical origins of his 'evolutionary approach' (Hayek's words) were in the eighteenth-century school of Scottish moral philosophers, including Adam Smith, who perceived the possibility of 'the formation of regular patterns in human relations that were not the conscious aim of human actions'.[37] By contrast, it was Descartes' successor Spinoza who most clearly articulated a rejection of the rules of morals and law grounded in tradition in so far as they could not be rationally justified.[38] Overall, however, it is Descartes and his constructivist fallacy that remain the central opponent:

> Since for Descartes reason was defined as logical deduction from explicit premises, rational action also came to mean only such action as was determined entirely by known and demonstrable truth ... Institutions and practices which have not been designed in this manner can be beneficial only by accident. Such became the characteristic attitude of Cartesian constructivism with its contempt for tradition, custom and history in general ... Yet the basic assumption underlying the belief that man has achieved mastery of his surroundings mainly through his capacity for logical deduction from explicit premises is factually false ... Many of the institutions of society which are indispensable conditions for the successful pursuit of our conscious aims are in fact the result of customs, habits or practices which have been neither invented nor are observed with any such purpose in view. We live in a society in which we can successfully orientate ourselves, and in which our actions have a good chance of achieving their aims, not only because our fellows are governed by known aims or known connections between means and ends, but because they are also confined by rules whose purpose or origin we often do not know and of whose very existence we are often not aware.[39]

Hayek's discussion of later writers adds little to his general critique of planning centred around the Cartesian constructivist fallacy. According to him, the philosophers Georg Wilhelm Friedrich Hegel and Auguste Comte, with their focus on the movement of Reason, failed to achieve an understanding of 'the process through which the interaction of individuals produced structures of relationships which performed actions no individual reason could fully comprehend',[40] while the concept of central economic planning, which Hayek associated with Saint-Simon and his disciples, along with Comte, was 'based on the assumption that ... a complete concentration of all relevant knowledge [in one place] is possible',[41] a critique we have met above. In the

latter quotation, we see a rare reference by Hayek to Marx in a footnote, associating him with these Saint-Simonian doctrines.

Hayek thus offers a comprehensive critique of planning linked to the inherent limitations on the knowledge available to any one individual. In Hayek's critique of Cartesian constructivism, accretions to human knowledge come about not from a reconsideration *de novo* of foundational principles – intellectual revolutions – but by additions to the stock of existing explicit and implicit knowledge. This knowledge is widely dispersed throughout the community and is inaccessible to any one individual who might wish to pose as a societal planner. Advances, both intellectual and practical, inevitably take place in an incremental manner; a rational plan is impossible due to inherent limitations of knowledge available to the planner.

Of equal or greater significance, Hayek develops an alternative vision of societal organisation based on a spontaneously generated order not only of the economic system, but of its juridical foundations as well. Hayek's writings deal in great detail with the economic aspects of this spontaneous order, including the considerations surrounding the nature of competition, the theory of capital, the financial system and macroeconomic regulation. In his later years, his desire to round off his notion of an economy based on spontaneous order led him to advocate what were, in the context of twentieth-century institutions, radical changes, such as the introduction of a currency system based on private issuance.[42]

The juridical aspect of the spontaneous order is an important complement to Hayek's economic analysis. In the economic orthodoxy emerging after the Second World War, the outcomes emerging from a rigorous mathematical representation of a competitive market economy were seen to be optimally efficient, in the sense that no deviations from this competitive equilibrium were possible that would not be to the detriment of at least some individuals (this notion is known to economists as Pareto optimality). But this formal result is, in an important way, indeterminate, since the initial distribution of resources (including property) between individuals is taken as given: it will have to be determined exogenously – by some process outside of the economic system itself.[43] The distribution of resources and its associated legal apparatus were thus seen in this context as an outside, even arbitrary appendage to the economic system: there was nothing internal to the analysis (and by implication nothing inherent in capitalist society) to give legitimacy to the existent distribution of resources in society.

It has been common in the mainstream of economics to suggest that this element – the distribution of resources – could be separately determined by a (presumptively democratic) decision process in, perhaps, an egalitarian direction, while retaining the efficiency aspects of a market economy. Though problems arose even at a purely analytical level concerning whether these democratic decisions could be generated in a consistent way,[44] the issue of the 'initial' distribution of resources was on the table in mainstream

economics: it could be subject to a social, that is to say, a political decision-making process without interfering with the efficiency characteristics associated with a market economy.

Hayek had a more principled view of these issues. He saw the legal system as an aspect of the spontaneous order that proceeds co-extensively (perhaps, one might say, dialectically) with a market economy – its structure of legal precedents emerges in a context of market exchange, and market exchange itself is encouraged by this form of legal environment. Thus, Hayek viewed the sphere of economic relations in capitalism and its legal system as inextricable, rather than separable, aspects of capitalism: they evolve together as part of a spontaneous process. His conceptualisation did not give an explicit justification for the existing distribution of resources, but, by implication, this distribution was legitimate because of the organic, necessary and interactive relationship between the juridical and economic aspects of the evolution of the market economy. The unification of these economic and juridical aspects in Hayek's social philosophy is supremely ambitious. Both these components interactively emerge as necessary aspects of an unplanned and natural historical process, one that makes efficacious, even optimal, use of human activity in a social setting, all the while taking into consideration the inherent cognitive limitations of *Homo sapiens*.

Hayek thus offers a defence of capitalism as comprehensive as Marx's critique of this mode of production. His seemingly rarefied discussion of the spontaneous order, making a virtue of aimlessness and lack of direction, has often had the effect of obliging progressive and social democratic approaches to public policy to be pursued in a defensive manner, under the guise of pragmatism and practicality. The only exception to this rule – the only class of goal-directed, consistent measures that, in the contemporary world, invariably escape the critique of being part of Hayek's 'fatal conceit' of attempting to plan – are free-market measures by right-wing governments designed, supposedly, to reinforce a pre-existing spontaneous order.[45] In the contemporary world, this form of state action has migrated in liberal ideology from an exceptional event to a norm of behaviour under the guise of neoliberalism, as we shall see in Chapter 3.

## Social outcomes without planning?

The range of the issues surrounding Hayek's spontaneous order and the concept of planning can be sampled by returning to Descartes' substantive example – the organisation of a city. As we have seen, the city is an instance where planning has scored indubitable successes, but it is also where failure abounds.

Critics of city planning often view it as an aspect of state control and coercion: 'many state activities aim at transforming the population, space, and nature under their jurisdiction into the closed systems that offer no surprises

and that can best be observed and controlled'. Haussmann's transformation of Paris, it has been argued, was primarily concerned with facilitating the repression of insurrections and 'could have been accomplished only by a single executive authority not directly accountable to the electorate'.[46] In this case (as in the renovations carried out by the city planner Robert Moses in New York City a century later), those displaced by the demolitions (invariably poor people) were not rehoused, and the delineation of the city into regions denoting class and levels of sanitation was exacerbated.[47]

In general, the legibility and uniformity emerging from the plan create the possibility that destructive forms of social engineering can take place, often with ruinous consequences to the natural environment.[48] When plans are executed by an authoritarian state and in the context of an incapacitated civil society, we can observe urban catastrophes such as the communist dictator Nicolae Ceauşescu's demolition and reconstruction of the centre of Bucharest in the 1980s.[49]

Even in instances less extreme than that of Ceauşescu's Romania, planning and the opportunity to reconstruct a city *de novo* can give an outlet to whimsical schemes and a warped imagination. For James Kunstler, the architect Le Corbusier was 'the Franco-Swiss avant-garde guru-fraud from the 1920s', whose *Plan Voisin* was a proposal 'to demolish a big hunk of Paris and replace it with *Towers in a Park* connected by freeways…. The [*Plan Voisin*] was the most conspicuous failure of all branches of modernism, be it in the arts, the practical professions, or social science.'[50] In Le Corbusier's plans for Paris and other cities, 'No compromise is made with the pre-existing city; the new cityscape completely supplants its predecessor… None of the plans makes any reference to the urban history, traditions, or aesthetic tastes of the place in which it is to be located. The cities depicted, however striking, betray no context; in their neutrality, they could be anywhere at all.'[51]

Le Corbusier is now, quite rightly, the *bête noire* of opponents of *planification* in the urban sphere, the most articulate of whom was Jane Jacobs, most notably in her book of 1961, *The Death and Life of Great American Cities*. A substantive focal point was her battle in New York City with Le Corbusier's brutal acolyte Robert Moses over the construction of a Lower Manhattan Expressway, which would have disembowelled several vibrant urban neighbourhoods. In contrast to the Le Corbusier dictum – 'The Plan: Dictator' – she put forth a naturalistic view of the city as a social organism: 'most city diversity is the creation of incredible numbers of different people and different private organizations, with vastly different ideas and purposes, planning and contriving outside the formal framework of public action… Cities have the capability of providing something for everybody, only because and only when, they are created for everybody.'[52] Although Jacobs herself was opposed to planning philosophies she regarded as anti-urban, she advocated state action and planning restrictions to promote the mixed uses of

neighbourhoods that engendered vitality, and to deter the self-destruction of neighbourhoods that success and specialisation could naturally engender.[53] Nevertheless, Jacobs' vision of something resembling a spontaneous social order in an urban context has made her a favourite of the followers of Hayek; she was even cited by him late in his career.[54]

But class and power relations are central to the evolution of cities, and will colour our evaluation of both state planning and market activity in this context. The failures of state action in the sphere of urban planning observed by Jacobs in the 1960s were in part due to the internalisation by planners of the absurd notions of Le Corbusier, but were also a reflection of the class and racial tensions present in society, so that 'private enterprise – acting through the well-heeled builder and realtor lobby in Washington – [was] responsible for some of the more obnoxious features of the urban-renewal laws and for hamstringing public housing'.[55] State planning of the urban environment was involved in the dispossession and destruction of viable neighbourhoods and the construction of public housing monstrosities (I grew up in one of the more creditable examples in the borough of Queens in New York City). Much of this public housing was such a failure not because 'planning' interfered with some natural evolution emanating from a spontaneous order, and not wholly because of the intrinsic and inevitable failures of state action in this sphere, but, to a large extent, because the state was responding compliantly to the class pressures to which it was subject.

Hayek's approach to the urban question contained an unsurprising opposition to rent controls, but otherwise refrained from treating urban affairs solely in the context of his notion of spontaneous order. For Hayek, 'Civilization as we know it is inseparable from urban life.' It is an environment in which the 'close contiguity of life' and the resultant neighbourhood effects invalidate the assumptions underlying any simple division of property rights.[56] The price mechanism, therefore, 'reflects only imperfectly the benefit or harm to others that a property owner may cause by his actions ... The value of any piece of property will be affected by the manner in which the neighbours use theirs and even more by the services provided and the regulations enforced by the authorities.'[57] Hayek appears to accept a Pigovian (after the early-twentieth-century economist Arthur Cecil Pigou) approach to the urban environment, in which the presence of external (or neighbourhood) effects is commonly used as a justification for state intervention.

Others have attempted to be more Hayekian than Hayek himself – to suggest that, even with the inevitable presence of these external effects in the context of the urban environment, a viable free-market resolution will emerge without the need for intervention by the state (except, of course, to guarantee and enforce rights to private property). A key resource in this regard has been an article by Ronald Coase in 1960:[58] apart from situations in which the presence of transactions costs plays a significant role

in limiting negotiations between contesting groups (for instance, between a polluting factory and a widely dispersed public), there is no need for government intervention to guarantee an efficient economic outcome, even when external effects are present. Thus, in his famous example, a conflict between a rancher whose wandering cattle are damaging a contiguous grain-producing farm will resolve itself in an economically efficient manner: either the cattle rancher will pay damages to the farmer or, contrarily, the farmer will be obliged to bribe the rancher *not* to damage the farm.

This result was declared 'astonishing' by the free-market economist George Stigler, and has been used by others (often citing Jane Jacobs in the process) to declare that zoning and town planning in their various manifestations are undesirable:[59] a marketplace, unplanned solution emerges even in the presence of external effects. Pursuing the Coasian parable in the urban context, let us postulate a situation in which the affluent have developed a fashion for locations in the heart of the city, but that expansion beyond the present choice sites (for instance, in central Manhattan) and into contiguous areas has been inhibited by the presence (in the eyes of the rich) of negative external effects associated with existing poor tenants housed in these inner-city areas. Haussmann or Robert Moses-like expulsions by the state of these inner-city tenants to alleviate this situation may not take place for political reasons. A comparable result without any state intervention, however, emerges in the form of gentrification, whereby the landlords of existing poor tenants are 'bribed' to alleviate the negative external effects: the landlords' properties are purchased and their tenants expelled.

We thus have a Pareto-efficient solution in which slum landlords are made better off, because their properties are purchased at a premium, and affluent residents are no worse off, since the premium they pay for purchasing the slum dwellings is less than the increase in the value of their property. The market thus yields a solution to the issue of urban living and its associated external effects without state planning or intervention – the poor depart from the choicest inner-city areas. But, like all market solutions, it is one mediated by the income and wealth possessed by individuals. It is questionable whether such an outcome can be interpreted as a neutral, natural one emerging from a process of voluntary exchange, but for free-market advocates, the logical possibility of such a result is important, because it suggests that even in the urban context, where external effects are present, the marketplace yields an autonomous outcome, to the benefit of all decision makers (that is, property owners) without the encumbrance of planning.

Or does it?

The evocation of notions of spontaneous social order in the urban context suggests that decisions concerning the planning of a city can be avoided in favour of a decentralised popular mandate emerging from a spontaneous, market-like mechanism. But this is a myth. Fundamental to the urban designs of Le Corbusier and Robert Moses was the accommodation of the

urban setting to the free flow of private cars, inevitably a low-density, Los Angeles vision of the city. Such a vision is ultimately incompatible with an environment in which the population has pedestrian and public transport access on a daily basis to shopping and service activities, and the rich level of social interaction envisioned by Jacobs. Her vision of forms of decentralised 'planning and contriving outside the formal framework of public action'[60] is a compelling one, but is no substitute for winning the battle of The Plan – what are the fundamental premises upon which the city is to be organised? The widening of streets and the lowering of population densities required by the vision of a city responsive to the needs of the car dictate that the resulting urban environment will treat the requirements of pedestrians and users of public transport as peripheral; by contrast, an environment of narrow streets and high-density living will be inconvenient and even dysfunctional for the car user. Choices – social decisions – will have to be made between alternative visions of the city, and these different visions are likely to be irreconcilable. These decisions cannot be avoided by evoking the presence of either a Hayekian spontaneous social order or a Coasian transactions-based equilibrium that will obviate the need to make these choices.

## Spontaneity and planning

The notion that human society can function and evolve most fruitfully in the context of an unplanned environment that manages to coordinate and order itself in a spontaneous fashion – in the manner of a natural system – is a powerful one. It has even more force when this spontaneous order is identified with a real historical development – the array of economic and juridical institutions emerging in Britain from the Middle Ages.

This view of capitalism and capitalist history has been sharply contested. The list of reservations is well known: the evolution of the market and juridical environment has been mediated through class and power relations, manifested not merely through voluntary exchange, but through coercion and civil conflict. In England, the confiscation of the monasteries, the Enclosure Acts and the Civil War are often taken as emblematic examples of the importance of state power in the securing of the well-defined property rights so central to the emergence of a market economy. The growth of institutions supporting these property rights and the relative power of the merchant class in state decision making were substantially reinforced by the expansion of the Atlantic trade, a process deeply embedded with colonialism and slavery and thus not easily identified with Hayek's picture of trade as spontaneous and voluntary association.[61]

Hayek is correct to identify judge-based, common-law legal systems as particularly favourable to entrepreneurial and commercial interests.[62] But, as the perspicacious social theorist Karl Polanyi has pointed out, this is not invariably the case, so that different aspects of the spontaneous order may

not be convergent: the judge-based law so prized by Hayek was used, on occasion, to support the victims of the emergent market economy,[63] so that, at times, a conflict may emerge between Hayek's support of the common law on a procedural basis and the failure of its judge-based actions to yield what he would consider the appropriate outcomes in terms of capitalist evolution.

For both Polanyi and Marx, the system of capitalism is inherently revolutionary and, for better or worse, a destroyer of tradition, so that neither Polanyi nor Marx ever referred to enemies on the right as conservative. Polanyi gives a picture of capitalism as a radical regime that has to be imposed by state action under the guise of laissez-faire, while much state action is seen by him to be a conservative, protective and spontaneous response attempting to regulate these developments:

> Administrators had to be constantly on the watch to ensure the free working of the system. Thus even those who wished most ardently to free the state from all unnecessary duties, and whose whole philosophy demanded the restriction of state activities, could but entrust the self-same state with the new powers, organs, and instruments required for the establishment of laissez-faire. This paradox was topped by another. While laissez-faire economy was the product of deliberate state action, subsequent restrictions on laissez-faire started in a spontaneous way. Laissez-faire was planned; planning was not.[64]

While many supporters of free-market policies have long admitted the need for active intervention on the part of the state to make such markets viable,[65] a focus on this fact can vitiate the polemical power behind the notion of markets as natural, spontaneous processes. In reality, market outcomes are dictated not just by individual preferences but by income, and what appear juridically as voluntary acts taking place in the context of market exchange (such as the departure from a residence by a poor person in the process of gentrification) may, in substance, be the equivalent of a state-induced expulsion. In the famous words of Anatole France, the law, in its majestic equality, forbids the rich as well as the poor to sleep under bridges, to beg in the streets and to steal bread.

And buried within the abstract prose and the grand vision of Hayek's spontaneous order is a set of concrete, and highly contentious, empirical propositions about capitalism and its history – that economic growth in capitalism has proceeded by yielding something approximating Pareto improvements in the population as a whole (and thus with minimal victimisation of any segment of the population), and that attempts through collective action to promote economic equality have invariably engendered stagnation.[66] By contrast, the Enlightenment principle of planning as an inherent aspect of human rationality has often been verified historically. In the nineteenth

century, planned and coordinated interventions by the state in market economies can claim substantive accomplishments in areas such as public health. The claims by critics such as Herbert Spencer of the invariant failure of government intervention have not materialised.

Particularly threatening to the notion of the universal efficacy, or even existence, of a spontaneous order in the context of capitalist society is the important role that conscious planning and coordination has played, and inevitably plays, in the creation of markets themselves. Thus, the market for grain centred on Chicago, the quintessence of the economist's perfectly competitive market, came about when railroads interacted with the newly invented steam-driven grain elevators to generate substantial economies in the handling of grain. But these economies could be realised only when bushels of wheat ceased to be identified with individual farmers and were merged with those of others to become the economics textbook homogeneous product – wheat of a given quality grade. The grading, measurement and inspection necessary to make these developments work efficaciously only came about with the passage of a law in Illinois in 1859 giving the Chicago Board of Trade the legal capacity to administer and adjudicate these matters: the spontaneous factors effecting an expansion of the market for grain only fully emerged when they interacted with administered, conscious coordination underwritten by the state.[67]

Similar actions promoting the creation and expansion of markets have been undertaken by the state in substantively all capitalist economies, not necessarily because of any attachment to a constructivist ideology, but because, in late-developing societies most especially, there is often no other agency to do so. If, as we shall see in subsequent chapters, agency, conscious planning and the state have played central roles in the emergence and development of capitalism, Hayek's spontaneous order may appear to be more a utopian construction than a generalised description of historical reality.

And it is essential for Hayek that capitalism can be viewed as a system operating without agency if the constructivist fallacy of social justice is to be swept away: 'Since only situations which have been created by human will can be called just or unjust, the particulars of a spontaneous order cannot be just or unjust if it is not the intended or foreseen result of somebody's action ... what is called "social" or "distributive" justice is indeed meaningless'. Furthermore, attempts at compromise are doomed to failure: 'The current endeavour to rely on a spontaneous order corrected according to principles of justice amounts to an attempt to have the best of two worlds which are mutually incompatible.' This approach to social justice is coupled with the rejection (cited above) by Hayek of any 'organization of society for a common purpose':[68] the lack of direction of the spontaneous order is a virtue.

* * *

The Enlightenment project of planning proposed to construct a future on the basis of reason, thus linking progress and human rationality. The successes of this project in the sciences are there for all to see. In the domain of public policy, planning is sometimes contrasted with its supposed opposite, the market, as a mode for channelling the allocation of resources. But the market/plan dichotomy lacks coherence: rich markets often need careful planning if they are to emerge, while from the opposite direction, as will be seen, successful planning is not a purely abstract, a priori procedure, but is invariably the product of social interaction, often in the context of competition and market relations.

In contrast to Hayek's view of the possibility of a society in which events unfold in a natural, spontaneous way without agency, contemporary social existence is replete with situations in which explicit decisions have to be made. In the context of the role of the car in an urban environment, for instance, the possibility of a resolution by way of a laissez-faire, spontaneous result emerging from the decisions of individuals is negligible. In other cases, such as that of the raising and educating of children, a purely individualistic, household-based organisation of this activity for society is logically conceivable, but few would consider it satisfactory as a general solution in the modern world. But how to resolve the question of the role of the broader society in child rearing and education – where to settle on the spectrum of possibilities, from pure household responsibility to Spartan collectivism – and what should be the form and content of this child rearing and education? No decisions are more fundamental to the cultural and economic trajectory of society, and yet a natural, autonomous mechanism or decision rule for resolving these questions is unavailable. Explicit social choices and the setting of goals are unavoidable, and take place most desirably in the context of publicly conducted and democratically reached decisions for these fundamental aspects of societal existence. Avoidance of making these choices and the setting of goals may simply mean a continuation of an established way of doing things, which is, in fact, a form of decision.

Hayek was correct, as we shall see, about the impossibility of operating a whole economy from a central plan. He would surely agree with Jane Jacobs that 'The main responsibility of [city] planning ... should be to develop ... [the city's] great range of unofficial plans, ideas and opportunities':[69] planning is an inherent aspect of rational behaviour by individuals, and successful public policy involves creating a social context for rational action to unfold successfully.[70] For Hayek, this social context contains almost a complete absence of collective or public action; for others, this latter component is of greater significance. But all shades of opinion are in agreement, at the beginning of the twenty-first century, that a key task of social policy is the channelling and coordination of the efforts, plans and initiatives of individuals and groups from below.

And yet we find that, at some point in the nineteenth century and carrying on well into the twentieth, much economic thinking, and socialist approaches overwhelmingly so, became dominated by the preposterous notion that an economy could be totally planned and directed from above. In the process, socialism has become aligned with other constructivist creations, such as Esperanto and 12-tone musical composition, and consigned to the realm of failed experiments. Earlier, it has been suggested that Hayek's tracing of the notion of central planning to Descartes' constructivism by way of Saint-Simon is at best a one-sided explanation. What, then, elevated the extraordinary conception of a central plan for a whole economy to be the focus of socialist thought about the future of society?

# 2
# The Giant Firm and the Plan

State intervention in a range of public policy measures was well established by the late nineteenth and early twentieth centuries. The transmutation of this practice into the idea that it would be possible to direct whole economies by way of a central plan emerged from the concrete experience of modernity in a host of spheres. The driving force of this modernity and the major factor compelling attention and explanation in this period was the emergence of giant capitalist firms, because they changed the way people lived.

The Plan was made Flesh in the form of Henry Ford.

## The Great Transformation

A transformation took place in the material existence of people living in Western Europe and North America in the half century before the outbreak of the First World War. Part of this development was due to the cumulative effects of the new ways of doing things emerging in the previous two centuries. From the seventeenth century, we see an 'industrious revolution'[1] that habituated a bourgeois class to an intensified pace of work to pay for the increasing range of material possessions on offer, including the products of imperialism and slavery, such as sugar, tea and coffee. The emergence of this class to a position of political power, or at least significant influence, generated changes in the juridical status of the majority populations in both rural and urban areas, abetting the creation of a pool of free labour across these societies.

In the early and mid-nineteenth century, a dispersion across continental Europe and North America of the British Industrial Revolution of the eighteenth century accustomed individuals of all classes to purchasing commodities such as cotton garments from the marketplace. An inexorable process of urbanisation began. The great majority of newcomers to this environment were entering into a context in which their own material survival was linked not to traditional institutions for the employment of

labour, such as guilds and apprenticeship schemes, but to market exchange of their own labour with private employers, the remuneration from which was then used to purchase the necessities of life. In rural contexts, a money-based exchange economy for consumer and capital goods gradually became predominant. But it was not until the beginning of the twentieth century that rural areas of even advanced economies such as France and Germany were fully embedded in capitalist economic relations.

Even in the first stage of the Industrial Revolution, the slow accumulation of the changes of previous centuries resulted in much that was new and unprecedented. The new conditions are partially encapsulated in the rise in measured per capita income, first beginning in Britain in the 1820s but not clearly detectable to contemporaneous observers, with these developments delayed in continental Europe by about a generation. Whether these early increases in income are to be thought of as a genuine elevation in living standards is a contentious issue,[2] but the indubitable significance of these first-stage rises in money income is that the great majority of the population were drawn into the marketplace and the money economy, for both their remuneration and their purchase of the means of survival. By mid-century in Britain and a few decades later in continental Europe, the cumulative effects of rises in money income were sufficiently unambiguous to disconcert Marx and Engels. These improvements in material conditions were to shape the strategy and character of working-class movements across Western Europe in the latter part of the century, just when, as the *Communist Manifesto* of 1848 had predicted, the development of industry was leading to the creation of a proletariat which 'increases in number and becomes concentrated in greater masses'.

In the Great Transformation of the latter half of the nineteenth century, we see emerging in North America and Western Europe new standards of consumption, education, work and health. A part of this transformation was consequent on the continuation of long-term tendencies, such as a continuing rise in agricultural productivity even before the introduction to the farm of the internal combustion engine. Some of the rise in material standards was seen to be a result of the expansion of the liberal economy internationally, resulting in a decline in prices of raw materials and food. Even here the role of modernity in this process was evident, in the replacement of the sailing ship by motorised vessels and the transport of frozen meat to Europe from the Americas and the Antipodes. There were other dramatic changes in this period – the health interventions discussed in Chapter 1, resulting in a long-term decline in death rates, including infant mortality, state-sponsored education and the associated dissemination of mass circulation newspapers and other forms of printed culture – that generated significant alterations to daily life.

It is, however, the Second Industrial Revolution, linked to the emergence of giant firms within the Great Transformation, that was the

most conspicuous element in altering material life and in ratifying and increasing the gap in military, economic and political power between the industrial powers and the rest of the world. An early example of the Second Industrial Revolution had been the emergence of the railway (or railroad, in American parlance), with its ability to alter the lives of individuals directly through its unprecedented capacity for land-based travel, and indirectly through its role in lowering the cost of distribution of commodities. Further innovations changing the world, such as the mass production of steel, electrical equipment and chemicals and the mass marketing of consumer products were identified with a modernity emanating from the giant firm, a process culminating in the consumer good most emblematic of the new era, the car.

The transformation in material conditions generated by the market economy – the outpouring of the 'immense accumulation of commodities' (in the words of the opening line of *Capital*) generated by capitalism – profoundly affected the consciousness of ruling groups and ordinary people. The emergence of giant firms and the Second Industrial Revolution permanently changed life in rich countries and became emblematic of modernity.

## Modernity and the giant firm

The giant company erupted in the context of a confluence of events linking the opportunities emerging for the exploitation of mass markets with new technologies of mass production. Market domains expanded partially for political reasons – the unification of Germany in 1871 and the victory of the Union in the US Civil War in 1865, the maintenance of broad-based international economic stability under the *Pax Britannica* until 1914, and the conscious acts of market creation described in Chapter 1 by both state and business groups in many countries. Markets were enlarged as well by the revolutions taking place in sea and land transportation, and by transatlantic communication at the speed of light. Urbanisation, rising per capita income and (most especially in the US) a rapidly growing population in this period were all factors reinforcing the process of market expansion.

There also emerged a range of technologies lending themselves to the exploitation of these mass markets. But, as has been argued most explicitly by the business historian Alfred DuPont Chandler, this fit between market expansion and the new technologies of mass production did not emerge in an automatic or effortless manner. The organisational changes surrounding the creation of the successful giant firm were as innovative as any of their technological developments.[3] At one level, the issue was simply one of maintaining a sufficient scale of output in these capital-intensive industries. But the maintenance of scale often involved the conscious refinement of organisational mechanisms to deal with unprecedented challenges of

coordination and calculation – the imposition of a visible hand of management through vertical integration in capital-intensive industries to coordinate flows of inputs from suppliers and outputs to final users.[4] In many cases, the use of this do-it-yourself strategy for the sourcing of inputs by these pioneering firms was the only viable one, because alternative market sources were simply non-existent.

Furthermore, a demand for the novel creations of these firms could not be presumed, so that the marketing and advertising of these products was not only an aspect of the firm's desire to make full use of its productive capacity, but an intrinsic aspect of the innovative process. The link between marketing and innovation in this period was put to one side, as we shall see, by technocrats and socialists, who treated marketing and advertising as wasteful activities, and by economic orthodoxy, with its emerging notion of an ideal of perfect competition, in which no such activities would take place.[5] Technocrats and socialists could be highly critical of these emergent giants, but they were confident that the activities of big firms embodied and exemplified the emergent path of the society and economy, and that the future was a planned one.

The new entities were viewed as exemplifications of modernity and the source of dynamism in capitalism for the half century prior to 1914: this attitude persisted for much of the twentieth century. The US was seen by the world, not in its own image of individualism and free-wheeling free enterprise, but as 'A nation of ... system builders ... imbued with a drive for order, system, and control.'[6] The giant firm represented modernity in the sense that its bureaucratic procedures and operation, including production, were up-to-date and identified with formal techniques such as accounting and applied science, techniques that were executed by specialists, often with professional qualifications: the most highly qualified and ambitious candidates for a career in business sought work in these elite enterprises.

Emblematic of this new world was the emergence of an unprecedented standardisation of the production processes and parts used within the giant firm, with momentum in the direction of imposing such protocols within whole industries. Even more characteristic of modernity, as far as the general public was concerned, was the uniformity of the giant firm's final output, most famously associated with Ford and the Model T and embodied in the standardised packaging of goods. This notion of uniformity of characteristics became linked to an expectation on the part of the public of quality control of products they purchased, including health regulation, such as the pasteurisation of milk: in the US, Progressive Era legislation at the beginning of the twentieth century was an aspect of this general supposition that the living environment could be made subject to rational control.[7]

The most important way in which the giant firm became coincident in the public's mind with modernity was its identification with novelty: it was the initiator of a range of notable innovations in the processes of production,

distribution and managerial organisation resulting in dramatic reductions in the costs of ordinary products. Many of these new business techniques were invisible to a general public, such as the development of the Gantt chart for the scheduling of projects within the firm, though some new techniques impinged upon daily life, such as the introduction of mass retailing or the mail order catalogue. Other innovations, in the form of new consumer products – processed foods, bicycles and aspirin – affected daily existence, as did the transformation of the urban environment through the electrification of cities and the substitution of trams and other motor-powered vehicles for the horse. At first, the public perception was that these discontinuities in the conduct of ordinary existence were down to the activities of the lone, heroic inventor. In the longer term, however, both reality and public perception converged: these substantive manifestations of modernity were seen to be products of the great corporate entities. The role of advanced-level technology and high science in the dramatic changes taking place in daily life only reinforced the public perception of a link between the giant firm and the dawning of a new age.

There was ambivalence about these giants: they were accused of monopolistic exploitation of consumers, ruthless practices against competitors and workers, and corrupt interactions with political forces. A ritualised nostalgia about the disappearance of small producers and retailers was pervasive alongside a conventional wisdom, perhaps linked to a popular dissemination of Darwinism, that small economic entities were atavisms to be swept away by history. To this day, the supposedly laggard behaviour of France and the UK in this period is often discussed in terms of the failure of these nations, in comparison with Imperial Germany and the US, to be at the centre of the changes incumbent upon the Second Industrial Revolution. Indeed, the annual growth rates of gross domestic product (GDP) from 1870 to 1913 of 2.83 and 3.94 per cent for Germany and the US substantially surpassed those of France and the UK over the same period (1.63 and 1.90, respectively), events with profound military and political implications. In per capita terms, however, the difference in growth rates over this period remains important but not quite so dramatic (1.63 and 1.82 for Germany and the US, respectively, versus 1.45 for France and 1.01 for the UK), so that by 1913 (using the US as a base of 100), we have levels of per capita income of 69 for Germany, 66 for France and 93 for the UK.[8]

It is possible, therefore, to exaggerate the economic success of Germany compared with France in terms of its effects on ordinary people's lives; even the achievements of the US in this period appear somewhat less stupendous in per capita terms. If, as was certainly the case, the giant firms of the US were the prime agents of modernity in this period, and were so perceived by social thinkers and the general public, the ability of other participants such as France or Japan[9] to adapt to that modernity and to refashion it to their own devices is an issue of major significance. A last, crucial element

commonly neglected in the Second Industrial Revolution narrative, to be expanded upon in later chapters, is the role played by the development and expansion of state-funded education in all countries participating in the modernisation process.

## The giant firm: size and complexity

The complexity of the issues confronting giant firms was of a new order of magnitude in comparison with enterprises from the First Industrial Revolution: they were not simply those of small enterprises writ large. Those controlling the destinies of these new giants had to create new administrative structures to manage the tasks facing them. They also had to develop new modes of operation to permit these giant vessels to change course when external events made this necessary, and, more dramatically, to create mechanisms that institutionalised the development of novelty, much of which would be imposed upon, and transform, the external environment. The new economic landscape, with a conspicuous and even dominant role for giant firms, brought forth a widespread reconsideration of the nature of economic and social life under capitalism, and not just among socialist theorists, as we shall see in the next chapter.

The emergent giants found themselves faced by a series of obstacles to their ability to function efficaciously. Indicative of the discontinuity generated by the emergence of the giant firm was the introduction in the US, Britain and other countries in the mid- and late nineteenth century of laws facilitating limited liability or corporate status, a disreputable practice associated in Britain with the South Sea Bubble of 1720. The size of the new firms made them conspicuously public as never before, and in literal terms they became, in the British sense, public companies, as their very magnitude increasingly necessitated the raising of equity finance from outsiders. Thus began a long-term process of separation of ownership and control among the great companies, by which the direction of enterprises moved from an owner-manager, the entrepreneur – a term tenaciously preserved even in the economic discourse of our day – to the complex web of family and institutional interests, financial influence and professional management characteristic of contemporary large firms. Both the size and the complexity of the new entities necessitated the creation of new forms of management. These firms were confronted with a broad range of new problems to be solved, so that hierarchal structures of control had to be arranged in which decisions, and the responsibility for them, could be allocated to individuals in a coherent manner. The tasks themselves were often of a sufficiently specialised nature that professional qualifications would be demanded of much of the managerial hierarchy.

The US railroads were singled out by Chandler as a key source for much subsequent managerial innovation.[10] By the very nature of the scale,

complexity and technical sophistication of the railroads, the leading engineers of the day were attracted to this sector, and the problems they were confronted with, both managerial and technical, were unprecedented, involving a range of considerations that go beyond the mere fact of the size of these new entities. In the management of the railroad, as for other Second Industrial Revolution firms, a significant discontinuity with the textile mill of the First Industrial Revolution emerged: the new enterprises were not merely larger than their predecessors, but were also characterised by a radically different cost structure. For the textile mill, costs of production were dominated by variable costs (materials and labour used in the process of production). By contrast, for railroads and other highly capitalised Second Industrial Revolution enterprises, a central role was played by fixed capital – mostly track, rolling stock and their maintenance in the case of the railroads – which altered the long-term strategies of firms, because the presence of these high fixed costs meant that average total costs would rise to unacceptable levels at low levels of capacity utilisation.

Thus, while the First Industrial Revolution had already been characterised by an unprecedented strategic focus by the new firms on a high volume of production compared with their pre-capitalist predecessors in the textile sector, this focus on volume – on using the fixed plant to capacity – was magnified and became a central consideration for railroads and other Second Industrial Revolution enterprises. When coupled with the economies of production at large scale inherent in the industries characteristic of the Second Industrial Revolution, these volume effects substantially reinforced the tendency, already present from the First Industrial Revolution, for firms to pursue production and marketing strategies focusing on the mass market and on high levels of sales, even at the expense of profit margin.

The novel nature of the managerial tasks confronting these Second Industrial Revolution firms necessitated other changes in their internal mode of operation. The presence of high levels of fixed capital greatly complicated, even at a conceptual level, the calculation of the costs of a firm. For a First Industrial Revolution textile mill, with the bulk of its costs being variable costs, a calculation of costs could be readily made, since they were reflected in the outflow of cash on a short-term basis (measured in weeks): standard bookkeeping procedures were sufficient to keep track of the firm's progress. For the railroad, by contrast, the presence of high fixed costs meant that the rational calculation of costs becomes a far more abstract consideration – what proportion of fixed costs, including not only centralised expenditure on track building and maintenance and on rolling stock, but also on research and development (including monitoring new developments taking place outside the firm), marketing and general administration, are to be allocated to a rail journey between New York and Philadelphia, as compared with one between New York and Chicago? How are these costs to be allocated between passenger and commercial traffic, and to what extent

does a contract with an oil company that guarantees high capacity utilisation over the next year justify, in a profit-maximising context, the offering of lower freight charges to such customers?

Furthermore, the long-lived capital goods being used by these new sectors had a value to the firm that was linked to a stream of cash flows stretching long into an uncertain future, so that intertemporal calculations (or conjectures) had to be made concerning, among other things, demand in the future for rail capacity, with an estimate of the costs of over- or underestimating this future demand. The complexities of making investment decisions on long-lived capital equipment were further exacerbated by the problems of technical change, which introduced questions concerning when an existing piece of equipment is deemed to be obsolescent and worth replacing – an economic, managerial issue and not a purely technical one.

All of these unprecedented managerial issues induced the highly skilled technicians of the US railroads to develop new methods for measuring the progress and status of the firm in the form of cost accounting. These new procedures were administered by specialists devoted to this field and replaced the straightforward bookkeeping practices characteristic of the First Industrial Revolution. These techniques for dealing with a railroad's fixed costs were not merely an extension of the practical bookkeeping that had been in place since late medieval Italy: they were novel conceptions for dealing with the costs of an activity at an abstract and conjectural level and then for finding a financial metric that permits rational, value-maximising decisions.

In addition to this array of managerial issues, the day-by-day technical difficulties of running a railroad in comparison with a cotton mill were unprecedented. The links between railway timetabling and the introduction of uniformity in time keeping[11] exemplify the demands for precision of Second Industrial Revolution entities, with the necessity for the synchronisation of rolling stock from different locations and its arrival at a common point, the maintenance and renewal of track, the repair of rolling stock and supplying it with fuel; there were issues concerning passenger amenities and the demands for high levels of safety and comfort for passenger travel. This need for synchronisation could be seen, as well, in other Second Industrial Revolution industries, most especially those using continuous process production techniques. The geographically dispersed workforce of the railroad had to be managed, remunerated, motivated and disciplined – a workforce far more heterogeneous in terms of the level and diversity of skills required than that of the textile mill.

These demands of a supposedly mundane, day-by-day kind posed challenges of coordination, and each demanded specialised attention. The marketing to, and bargaining with, the broad range of customers, from passenger traffic to a range of business customers, most especially the great oil producers, presented opportunities for high returns, but also problems of

unprecedented complexity: on the demand side, what resources should be allocated to marketing and attracting new business from the range of potential customers, and how should one vary the price-cost margins charged to different groups: what kind of strategy of price discrimination should be pursued to maximise returns?

The challenges emerging in other Second Industrial Revolution enterprises were, if anything, greater than for the railroads, and necessitated further developments in the sophistication and complexity of their associated management procedures. The railroads faced obstacles in the achievement of efficiency because of the inherently abstract and conjectural aspects of having to deal with their substantial fixed costs, but other Second Industrial Revolution firms also faced this problem as well as a vast expansion in the heterogeneity of their activities that threatened to plunge the giant firm into a gaggle of confusion. But the large scale engendered by this range of activities also raised the possibility of gains in engineering efficiency. When tools and equipment and their specifications could be made common to the machine-building and body plant activities of a giant car company, a potentiality for cost saving was present, either from in-house production scale economies or in the purchasing of these items; improvement in coordination between these activities is likely to be forthcoming as well.[12] As we shall see, the movement for standardisation, both within and between firms, played a key role in the positing of 'the plan' as a rival to markets and competition as a vehicle for the achievement of efficiency and modernity.

Another aspect of this heterogeneity proved more troublesome to the giant firm: as it took on an increasingly diverse range of activities, it became more difficult to calculate their relative efficiency. To this day, the ideal form of evaluation of efficiency is that used by the First Industrial Revolution textile mill owner: 'management by walking around' permits a judgement to be made, in a hands-on fashion, of efficiency in the enterprise. In a giant car firm, however, how does one judge the relative efficiency of machine-building and body plant activities, much less compare their performance with the marketing and sales divisions?

There emerged two complementary approaches to a solution. The first of these was the continued development of the cost-accounting procedures described above to permit an evaluation in purely financial terms of the performance of physically incommensurate activities within the firm, such as those taking place in the machine-building and marketing divisions: the failure to pay adequate attention to this question, it has been suggested, was a leading cause for the difficulties of Ford in the 1920s.[13] At the beginning of the twentieth century, a second mechanism for dealing with the problem of efficiency within the giant firm was the development of scientific management. This doctrine, to be explored below, played various roles within the firm, but among its purposes was the creation of a standard for how workers

*should* perform in the context of the firm's diverse activities, so that efficiency in different subdivisions could be compared.

Second Industrial Revolution enterprises, even for seemingly straightforward production goods industries such as steel, were faced with a range of interlinked production and marketing decisions of greater complexity than those faced by the textile mill or even the railroad. Thus, the innovation of new ranges of steel from different alloy mixtures, and the offering of new products, such as barbed wire and girders, suitable for the new skyscrapers of the great cities, had to be linked to a set of strategies for securing markets for these innovations once, or even before, they were created. For the consumer goods industries, the centrality of marketing as a managerial concern was even greater. A breakfast food manufacturer had to test demand – to discern, guess or estimate what would be acceptable to consumers, to design these novel creations in order to change what in many cases were millennial habits in favour of these products, and to maintain the loyalty of consumers in the face of new competition.

For most Second Industrial Revolution enterprises, the labour question also became a central issue: with great masses herded together in limited space, there was an immense potential for the coordinated use of this concentration by management, as well as a threat from labour's increased ability to generate disruption. The growing heterogeneity of the labour force in terms of its skills generated new challenges: the direction, coordination and remuneration of such a mixed group and issues surrounding in-house training were questions both for management and for the workforce and its organising elements, such as unions. These developments were taking place in a political and juridical context of extensions to the adult male franchise and of labour rights to organise and act collectively in the advanced sectors of the world economy. Theorists of planning (including socialists), modelling themselves on the procedures of the managers of giant capitalist firms, followed the latter in treating the activities of labour as something to be controlled and directed, rather than as creative forces in their own right.

In many sectors, the most striking element of discontinuity with the past was the decisive role of pure science in the development of technology. Recent discussions have tended to elevate the implicit role of science even in the development of the First Industrial Revolution, a period superficially dominated by empirical approaches to innovation.[14] In the Second Industrial Revolution, the situation was gradually transformed. Key US industries (non-electrical machinery, steel and vehicles) had been distinguished 'by an aversion to organized science-based research',[15] but in, for instance, chemical and electrical equipment manufacture, the role of science became unequivocal and lay at the heart of German, and eventually US, industrial dominance. The result was, for the first time, a popular identification of the scientific revolution of the seventeenth century with a transformation of daily life. As late as the early nineteenth century, as the cliché has it,

the great mathematician Carl Friedrich Gauss would sit writing at a table with implements and illumination familiar centuries earlier: within a few decades, all this would change.

By the latter part of the nineteenth century, science would impinge upon the ordinary lives of individuals, with giant firms hiring a new range of personnel to direct, monitor and coordinate relatively abstract scientific research projects that were to be realised in a commercial context. In addition, there were considerations surrounding the marketing of new products and the legal complications surrounding the securing of property rights on them, implying the need for specialised professionals to deal with these issues. Legal protection becomes more critical as the ratio of science to craft rises in new invention, since new developments are no longer connected to the know-how embodied in individuals associated with the enterprise, but are contained, by definition, in objectively replicable procedures that can only be protected by law or secrecy. The emergence of science over craft did not take place on a once-and-for-all basis but, as we shall see, continues to unfold to the present day and plays an important role in the evolution of the competitive environment.[16]

The management of enterprises also grew increasingly complex in a Second Industrial Revolution context because of the transformation of financial affairs. The large size of the new entities, as we have seen, resulted in a qualitative rise in the amount of finance that had to be raised and the necessity to appeal to outside sources for these funds The textile mill of the first-stage Industrial Revolution had been, by contrast, a largely self-financed enterprise, with outside financing limited to short-term, self-liquidating loans from local banks to service inventories and liquidity needs. For the newly emerging giant firms, the range of sources of outside finance, in terms of both necessity and opportunity, was immensely greater. In addition to dealing with banks for short-term working capital, the giant firm, with its large fixed capital requirements, would issue shares and debt of various term lengths to the public, necessitating, in principle, a higher level of public disclosure, detail and accuracy in the firm's accounts than heretofore if these public offerings were to be marketable. In the US, it was common for the state to play a role in the financing of the railroads, almost invariably accompanied by claims of corruption and misallocation of resources, including unnecessary extension of lines. The cajoling and bribing of governmental bureaucrats and politicians, at both national and local levels, for subsidies and rights of way quickly took the railroads into a range of managerial decisions and interactions more complex than ever encountered by the textile mill.

The financing of the railroads and other large firms characteristic of the Second Industrial Revolution thus necessitated a transformation in the modes of firm finance, not only because of the absolute size of these entities, but also because of the increasing role of fixed capital. For giant firms, this

need for long-term finance generated a range of strategies in different countries, with Britain and the US becoming associated with an equity-based stock market system of finance, while German firms characteristically had interlocking relationships with the banks to secure their needs for long-term lending facilities. These differing financial arrangements resulted in alternative forms of governance at the highest levels in these stock market and bank-oriented firms, arrangements that may well have affected their trajectory of development in the long term.

For practically all schools of thought analysing the emergence of the giant firm, however, the preferred solution has been to put questions concerned with finance to one side: economic orthodoxy claims to see through the mere veil of finance to the real factors allocating goods on the basis of consumer preferences and costs of production; technocrats and socialists dismissed activity emanating from the financial sphere as wasteful and dysfunctional. We shall see subsequently that the financial sphere has played a critical role in the resolution of both the theoretical and real-life battles between capitalism and central planning, and in the continuing trajectory of capitalist development to this day.

## The giant firm: the creation of management

In order to deal with the array of difficulties, complexities and opportunities before them, the giant firms created a whole new set of administrative structures to respond to incipient managerial diseconomies of scale that threatened to swamp these large enterprises with inefficiency. Rather than accept the diktat of the long-run average cost curve (seen in the micro-economics textbooks given to students to this day), with its exogenously imposed regions of economies and then diseconomies of scale, this curve was reshaped by the pioneers of modern business. The ambiguities and tensions emerging from the allocation of prerogatives reserved for the centre and the levels of autonomy retained by the subdivisions persist to this day in great capitalist firms and were, as we shall see, reproduced in centrally planned economies.

The method developed by the US railroads to deal with both the top-level managerial challenges and the complex array of daily concerns in this sector was the introduction of new formal structures for directing the railroads and the development of specialised personnel to cope with the new array of tasks coming on stream. Top-level managerial tasks were in the hands of staff directly responsible to a board of directors and, in principle, the shareholders; line management was responsible for dealing with the day-by-day operations of the organisation, including, most crucially, daily interactions with the workforce. This formalisation of administrative responsibilities was a continuation and refinement of processes going on for several centuries in governmental, military and even ecclesiastical organisations. But the

development of bureaucratic structures in large firms in the late nineteenth century took place with exceptional rapidity and played a central role in their substantive development: in the absence of these innovations, the productive forces of these new giants would have been stifled by diseconomies of scale resulting from the unprecedented managerial challenges of running these firms.

What characteristically emerged was a delineation of staff responsibilities into general management, marketing, finance, purchasing, research and development, a legal division, personnel – dealing with the labour force – and other tasks. The organisation chart of the giant firm was born. Employment within these subdivisions increasingly consisted of individuals with narrow specialisations within these areas and, most especially in the US, with newly emerging professional qualifications, as often as not linked to university study – the MBA, marketing, accounting and finance qualifications, and others of a similar nature from the late nineteenth century. These qualifications also facilitated the maintenance of a class separation between the staff and others in the company, both line and workers.[17]

For the giant firm, this coherent separation and delineation of tasks within the staff on the basis of real or imagined higher skills, most especially when combined with central direction by hired managers, promoted a perception of objectivity and scientific direction in the firm, the epitome of the modernism enunciated in the writings of the sociologist Max Weber. This perception of modernity was reinforced by the adaptation of recent developments in pure science into substantive innovations: in the public's mind, the repairing of clothes by a local seamstress was part of the traditional world of craft (even if executed by an electrified sewing machine), but electric lighting and toothpaste were linked to giant firms, science and modernity.

The dictum from Chandler is that a firm's internal structure will follow from the strategy it chooses to pursue. The innovations in railroad management discussed above were a far-reaching attempt to release the constraints dictated by managerial diseconomies of scale. The aim was to create an efficient form of governance for the giant firm in the context of a strategy that almost invariably involved confrontation with, exploitation of, and often creation of a mass market. In this new form of governance, as we have seen in the case of the railroads, staff and line functions were separated, with staff functions then delineated and allocated in a coherent way. In the case of many other Second Industrial Revolution enterprises, a more decentralised, multidivisional version of this management structure was developed. It served the purpose of accommodating firm strategies that involved products differentiated into market segments, either because of their inherent heterogeneity or because of the geographical dispersion of the markets in which they were sold. Thus, after the First World War, the centralised management structure of Ford reflected its strategy of focus on the production of the

Model T; for General Motors (GM), its multidivisional structure, in which its centralised staff functions were replicated in subdivisions such as Buick, Oldsmobile and Cadillac, was a reflection of its strategy to offer consumers a diversity of output.

These sophisticated management formations were made possible by two developments taking place simultaneously in the US. The first of these was the emergence of an advanced specialisation in cost accounting that attempted to evaluate the profitability not only of the company as a whole, but also of its disparate subdivisions, thus permitting semi-autonomous operation of these subdivisions. Several obstacles impinged upon the ability of the central staff of GM to use these new techniques to evaluate and rank the performance of the management of its various subdivisions, such as Buick and Oldsmobile, simply by treating them as profit centres. One obstacle to a profit-based measure of the performance of subdivisions was the presence of resources, such as the Fisher body plant and research and development that were common to all subdivisions. These centralised assets were key aspects of GM's overall competitive advantage through the exploitation of economies of scale across the whole firm. But in order to measure the profitability of each subdivision, the apportioning of the use of these common resources (for instance, research and development) to each subdivision had to take place; the accounting conventions for making these calculations were inevitably imprecise and possessed arbitrary characteristics. Even if, however, this obstacle could be overcome, the success of the Cadillac subdivision in a particular period might be a fortuitous and temporary reflection of economic prosperity rather than the skill of its management (rent rather than efficiency, in economists' terms).

A further obstacle to treating subdivisions as autonomous entities is that the subdivisions' management will invariably develop their own vested interests, in conflict with the goals of the centre: the centre may view a modicum of competition between Buick and Oldsmobile as desirable, but such rivalry could easily become too much of a good thing, as far as the centre is concerned. In more general terms, the creation of subdivided sources of control in the giant firm creates myriad ways in which organised groups within the company are motivated to depart from the centre's goals and give a distorted report on their own performance. Even with these limitations, however, the new management structures, which reached their most sophisticated form in the US, were successful in directing the trajectory of the giant firms that were transforming the economic landscape.

A second development that facilitated the emergence of sophisticated management formations, most distinctly in the US, was of personnel adequately trained to execute these managerial tasks. For the economic historian Alexander Gerschenkron, a characteristic of late-developing economies is that their deficit of skilled personnel impelled them to pursue a strategy of industrial development that involved centralised coordination

within enterprises, and commonly with links to central government.[18] Like the proverbial education minister in nineteenth-century France, it was thought best to dictate from Paris what was to be taught at 3:00 P.M. in a distant schoolroom in France rather than rely upon an improvised lesson from a barely tutored peasant.[19] The great US firms, by contrast, had the option, when their business strategy deemed it appropriate, to construct a business architecture that attempted to combine the virtues of centralised control with decentralised flexibility and spontaneity. GM could give substantial leeway to the managers of the Buick and Oldsmobile subdivisions in their marketing and production strategies because giant firms in the US, in contrast to Gerschenkron's late-developing economies, were able to staff these subdivisions with personnel possessing explicit professional training for these tasks. The advantages accruing to the US in this sphere were due, at least in part, to the fact that it was emerging as a world leader in educational development, most especially in business and professional training.

The transformational aspects of the management of the giant firm took place not only in the fulfilment of its higher, staff-level tasks, but at the level of line management in dealing with day-by-day operations, including interactions with the workforce. The changes resulting on the shop floor were widely perceived, even by socialists, to be aspects of modernity, a continuation and qualitative development from the First Industrial Revolution, with the procedures and output of the giant firm associated with efficiency, uniformity and unprecedented quality control. These developments, as embodied in the term 'Taylorism', were accompanied by battles of a highly contentious nature concerning the work process. But for the purveyors of the new system, this battle with the obduracy of the labour force was of a piece with rational organisation and standardisation of processes and output in the firm.[20]

The 'American system of manufactures' of the mid-nineteenth century already embodied in incipient form an emphasis on high levels of uniform output produced using special-purpose machine tools and interchangeable parts;[21] mechanical engineers in the US played a pioneering role in the latter part of the nineteenth century in the setting of sector-wide standards for precision and compatibility. But the development of precision in industry was also advanced by the demands of science for accuracy. Here, Germany, because of the standardising services offered by its National Physical Laboratory, was seen to possess advantages over the US not only in pure scientific research, but also in the emerging chemical and electrical industries;[22] in the latter sectors especially, the battles over compatibility were particularly intense.[23] Thus, precise measurement and the standardisation of parts and processes were both an inherent characteristic of scientific rationality and a key aspect of competitive advantage: for C. A. Adams of the US Bureau of Standards in 1919, 'the degree of standardization in

any nation is a measure of its civilization, certainly in the material sense of the word',[24] but for others it was also 'a fundamental characteristic of our modern economic system ... [the] rapid industrial growth of the last two decades, particularly in the United States, may be said to be based largely upon the partly unconscious, partly deliberate, extension and refinement of industrial standardization'.[25]

The exigencies of both scientific rationality and economic efficiency were thus seen to converge in the need for standardisation, symbolised in the US by the creation of the Bureau of Standards in 1902. Herbert Hoover, as US secretary of commerce in the 1920s, used his experience controlling waste and duplication in the First World War to promote, through the Bureau of Standards, the use of simplified practices in industry and a reduction in product variety. For Hoover, this was all part of a broader programme of 'associational reform' that involved efforts to reduce industrial waste through standardisation conferences and cooperative efforts in industry and the professions, with light-touch guidance and coordination from the state.[26] We thus see here two themes that will arise again in the next chapter: the impetus that the First World War gave to notions of the efficacy of central direction of economic activity, and the idea – an alien one to the economic orthodoxy of the twenty-first century – that the invisible hand of competition can result in inefficient, wasteful duplication that even the Republican Herbert Hoover would consider ripe for governmental correction.

Standardisation reached its apogee of public visibility with Ford and the Model T when, after introducing it in 1908, he announced in 1909 that this was to be Ford's sole model. But, while efficiencies to be gained from economies obtained through uniformity of output remained a focus of attention for socialists, Henry Ford's obsession with the Model T was eventually an aspect of his undoing at the hand of GM in the 1920s. Of lasting significance for all economies, both capitalist and socialist, was Ford's advance upon and exploitation of earlier developments in standardisation of tools, parts and equipment within the US automobile industry to create the moving assembly line at Highland Park in 1913 and 1914.[27] The flow-through production of the assembly line, inspired perhaps by the procedures of Chicago meat packers or by Ford's earlier employment in an electric power station, resulted in a dramatic lowering of the costs of production and of the selling price of the vehicle: 'The Ford men became known for designing the best special-purpose machines in the world, laying them out along with their materials-handling network for a smooth flow of parts through the plant ... A newsman describing the new Ford plant at Highland Park ... identified its salient feature as "System, system, system".'[28] And it is by way of these managerial developments that the US industry asserted its dominance over the world car industry in this period, rather than through any distinctive technological innovation (the exception being the design of the first practical electric starter).[29]

Henry Ford always denied being influenced by Fredrick Winslow Taylor, and others have suggested that the latter's direct impact on business practice has been exaggerated. But the publication in 1911 of Taylor's *Principles of Scientific Management* was a seminal event: the most general and elaborated exposition of this new version of the American System emerging in the early twentieth century.[30] As far as Taylor was concerned, the most contentious aspects of his programme – the notorious time and motion studies governing worker performance and the displacement of foreman autonomy with managerial, hierarchical structures – were only aspects of a broader set of reforms to the workplace. These reforms, including the installation of appropriate tools and their proper disposition on the shop floor, were to facilitate a smooth flow of production and the elimination of bottlenecks and the downtime of workers and machines.

These procedures, with developments in the standardisation and simplification of parts and procedures, all converged as part of an overall movement for rational control of the firm's activities through the use of cost-accounting procedures and the coordinated flow of this information to the management centre. The emergence of the techniques of cost accounting played a key role in the creation of the giant, vertically integrated firm that could function in a viable manner. But these developments can barely be separated from the *normative* approach to costs characteristic of Taylor's notions of the scientific management of the giant firm,[31] an issue that is deeply problematic for both Marxian economics[32] and economic orthodoxy. In the latter case, as every first-year economics student learns, the cost curves used to determine prices in the marketplace are presumed to represent, at each level of output, the minimal value consistent with the inputs used: inside of the firm there is no technical, or even managerial, problem to be solved – technical efficiency is axiomatically assumed. But this was precisely the problem confronted by the giant, vertically integrated firm, attempting to monitor its costs: in the act of pursuing a broad range of heterogeneous activities, many of them unprecedented in their form and scale, there was no possibility of 'using the market' as an alternative source or as a measure of the efficiency with which these activities were being pursued inside the enterprise.

The new techniques of cost accounting were necessary if giant firms were to make commensurate calculation of costs across a range of heterogeneous activities and be freed from being engulfed by managerial diseconomies of scale. Note that, in principle, it is not sufficient to have a set of accounting techniques that merely reflects the *relative* costs of pursuing activities within the firm, since such techniques could be consistent with a generalised inefficiency: what was needed was an absolute standard of the efficiency of an activity, and this is what the techniques of Taylor and others claimed to offer – the 'one best way' of pursuing an activity.

What came to be known as 'Taylorism' included a range of objective considerations for minimising effort for a given activity, such as the optimal

placement of machinery on the shop floor. It is these techniques, whether evolved from a collective lore of best industrial practice or pretending to be the product of deep science and mathematical optimisation, which are the least controversial aspects of the Taylorist heritage. Especially in science-based sectors such as the chemical industry, production protocols for a wide variety of tasks were introduced, with strictly laid-out procedures and little room in principle for improvisation on the part of the workforce. This tendency was reinforced by the progressive substitution of science-based standards for experience and instinct in manufacturing – scientifically calculated and calibrated levels of impurities, and at a later date, the introduction of statistical procedures for judging quality control in factories. Notions of scientific rationality thus converged with strict control of workforce activity and rational calculation of the firm's costs, even if these objective improvements in efficiency are not clearly separable from the more sinister aspects of Taylorism – those time and motion studies designed to eliminate shirking and extract the maximum amount of effort from labour on a sustainable basis. Rational calculation of a firm's costs facilitated the installation of Taylorist systems of piecework associated with work intensification.

In the broad range of manufacturing activity, this notion of strict protocols replacing improvisation on the factory floor (and control of work processes by, especially, skilled workers) often remained more of an aspiration on the part of management than a reality, but this very ambition has remained central to management ideology. Modernity came to be identified, in both a positive and a negative sense, with regularity of production protocols and, to some extent, with the presumption that mass production, low cost and quality control could be secured with uniformity of output of the final product, from the Model T Ford to, at a later date, the McDonald's hamburger. The imposition of these uniformities was instrumental in the assertion of *control* over the firm's activities, including, most desirably, over a malleable, passively compliant workforce, with the unifying factor in all of these modernist tendencies the perception of the giant firm as a vast planning agency.

## Planning and the giant firm

The notion of the enterprise as the fulcrum of plans and decisions has become a commonplace of managerial ideology. To plan is to attempt to foresee future constraints and opportunities, to put a measurement or at least a ranking upon them, and then to act in such a way as to bypass or minimise these constraints and to realise these opportunities in a manner consistent with the overall goals of the enterprise. Such an approach is in sharp contrast with the conception of the firm emerging from orthodox economics, in which, in the extreme form of the model of perfect competition, the firm's response to a set of both exogenously given cost constraints

and demand opportunities is passive. As we shall see, this passivity has remained a dominant aspect of orthodox theory even when it has attempted to cope with the challenges of explaining the eruption of giant Second Industrial Revolution firms: in contrast to the managerial conception, orthodoxy excludes the notion of the firm as a mechanism to facilitate planning – to control and even *create* the environment in which the firm functions.

The formation of the new structures of management to deal with both top-level managerial tasks and the day-by-day operations of the organisation is an important concomitant of planning in the conduct of the affairs of large firms. But these alterations in the structure of management were, following Chandler's dictum, a reflection of changes in strategy. The giant firms' forms of capital structure, governance and personnel, as we have seen, were qualitatively different from those of small enterprises because the range and scale of tasks undertaken by the new giants were unprecedented. This expansion in ambition – in the range and scope of what could be accomplished in an administered, planned way – was what most fired the imaginations of contemporaries. The giant firms spread their domain of competence across an unprecedented variety of activities, many of which were not pre-existing but the creations of either the research and development or the marketing division of the firm. But it was the increase in levels of vertical integration – the share of tasks that are done in-house – that emerged as the greatest challenge to the market-based view of the capitalist economy: the old-fashioned invisible hand of the marketplace had been replaced by the visible hand of administrative coordination. This description of the situation in the US at the beginning of the twentieth century dates from 1977,[33] but also captures why many contemporaneous observers had considered these developments to be so revolutionary.

The importance of the rise of large, vertically integrated firms was that these entities were epicentres of planning and an alternative to the market as a device for the production and allocation of resources in the economy. In the next chapter, these ideas will be seen to function as core beliefs for socialist planning until the latter's demise. Economic orthodoxy, by contrast, remained almost completely unmoved by these events. The dominant economic thinking, even today, tends to dismiss this planning perspective on the rise of these vertically integrated giants in favour of one in which this development is simply an extension of static exchange and contractual relations. Thus, in an article of 1937, 'The Nature of the Firm', Ronald Coase answers the question 'Why do firms exist?' by suggesting that

> The operation of a market costs something and by forming an organisation and allowing some authority (an 'entrepreneur') to direct the resources, certain marketing costs are saved. The entrepreneur has to carry out his function at less cost, taking into account the fact that he

> may get factors of production at a lower price than the market transactions which he superseded, because, it is always possible to revert to the open market if he fails to do this.[34]

Firms internalise tasks when the cost of pursuing market exchange, for instance, the purchase of inputs, is higher than the cost of doing these tasks themselves. In the 1970s, the economist Oliver Williamson clarified the nature of these costs: in marketised, arm's-length relations between parties, the costs of writing a watertight contract may be prohibitive, and it may be preferable to indulge in a hierarchal, vertically integrated solution instead: 'product markets are subject to failure in various respects and ... internal organization may be substituted against the market in these circumstances ... The advantages of integration thus are not that technological (flow process) economies are unavailable to non-integrated firms, but that integration harmonizes interests (or reconciles differences, often by fiat) and permits an efficient adaptive, sequential decision process to be utilized.'[35] Such an approach elucidates why, for instance, a hospital may choose to have in-house cleaners who can be hierarchically directed to deal with a range of emergencies and contingent circumstances; the alternative would be to employ outside cleaners on a contract in which all these contingent circumstances must be explicitly written down. Note, however, that the imposition of a hierarchal form of governance does not yield a simple resolution to conflicts between the periphery and the centre. Whether in the context of the giant firm or of the Soviet economy, bureaucratic infighting merely replaces arm's-length disputes between firms over contractual arrangements.

The economics literature thus uses the prism of the conflict over the writing of contracts to perceive vertical integration and its historical development.[36] Yet this static approach does little to capture the revolutionary and tumultuous nature of the changes emanating from this period of economic history. Problems over transactions costs played a role in giant firm decisions in the direction of integration, but, overwhelmingly, the markets that Coase and Williamson posited as alternatives often simply did not exist:

> the initial move forward into distribution and marketing by entrepreneurs in the new industries of the Second Industrial Revolution was that often suppliers and distributors had neither sufficient knowledge of the novel and complex products nor the facilities required to handle them efficiently ... In the most technologically complex of the new industries – particularly chemicals, electrical equipment and nonelectrical heavy machinery – industrial customers had little or no knowledge of how to install, maintain, and repair or even use the new machines or materials. Here the new companies relied on direct sales.[37]

Overall, the act of integration by Chandler's giant firms was less a defensive one in response to market failure than a positive re-creation of the industrial landscape: 'In the years following World War I, growth was driven much less by the desire to reduce transactions, agency and information costs and much more by a wish to utilize the competitive advantages created by the coordinated learned routines in production, distribution, marketing, and improving existing products and processes'.[38] In the robust terms of the economist William Lazonick, 'what mainstream economists view as "market failures" I view as "organizational successes" '.[39]

The enhanced version of orthodoxy based on the presence of transactions costs does not successfully capture Chandler's historical narrative. This narrative, and the events of the late nineteenth and early twentieth centuries it encapsulates, are better conceived by viewing the firm as an entity pursing a series of 'learned routines' that are inherent in the processes of standardisation and mass production discussed above: 'For the history of industrial enterprise, learned routines are those involved in functional activities – those of production, distribution and marketing, obtaining supplies, improving existing products and processes, and the developing of new ones.'[40] Even more important are those routines that permit the enterprise to enhance its capabilities and to transform the environment in which it functions: 'The modern industrial enterprise, therefore, has not been simply scale intensive, capital-using, and natural-resource-consuming. It has also been knowledge-augmenting and learning-enhancing. By committing to the extensive long-term investment in human and organizational resources as well as physical assets, these large enterprises could exploit the complementarity between the large-scale investment in physical capital and the sustained capital formation in such intangible assets as human resources and technological knowledge.'[41]

Note here the continuity and the complementarity between the broad range of planned, long-term investment activities undertaken and internalised as routines by the firm and the one particular aspect of these activities – technological innovation – singled out for special attention by present-day economists: 'Although product pricing remained a significant competitive weapon, these firms competed even more forcefully through functional and strategic efficiency: that is, by carrying out processes of production and distribution more capably; by improving both product and process through systematic research and development; by locating more suitable sources of supply; by providing more effective marketing services; by product differentiation (in branded packaged products primarily through advertising); and by moving more quickly into expanding markets and out of declining ones'.[42]

This picture from the end of the twentieth century of the giant firm as a vehicle for planning – for organising and transforming its internal activities and the external environment – corresponds to the views of many observers

at the beginning of the century. These commentators, including socialists, typically dealt in a positive manner with certain aspects of these processes, such as the rational organisation of the workplace, standardisation of inputs and production processes, and mass production, while often dismissing other activities of the giant firms, such as their financial and marketing activities, as peripheral and wasteful. The desirable aspects of planning could, it was postulated, be extricated from capitalist competitive relations. For Chandler, by contrast, the array of activities undertaken by these new firms has to be seen as part of an indivisible whole in the context of a capitalist pursuit of profit in rivalry with, in many cases, other giant firms.

A second, curious aspect of the attitudes of these early observers is that they, no less than the orthodox, market-oriented economists of the time, gave no special attention to what now appears to be the most revolutionary aspect of the planning activities of these giant firms, namely, their capacity for fundamental innovation of new technologies, products and processes. An exception here would seem to be the economist Joseph Schumpeter, famously touted as the 'prophet of innovation', who, as early as 1911, spoke about development as a 'spontaneous and continuous change ... which forever alters and replaces the equilibrium state previously existing'.[43] But in this early writing he gave no indication that the period from the late nineteenth to the early twentieth century was anything but a continuity with the development of entrepreneurial capitalism from earlier times: he nowhere suggests that a revolutionary transformation was taking place, both in the structure of capitalism with the emergence of giant firms and in the outpouring of new technologies and innovations of all kinds. More significantly, Schumpeter, in these earlier writings, never indicates, as Chandler and others from a later period would do, that these two dramatic discontinuities from the past – the emergence of giant enterprises and the outburst of innovations – were connected, so that innovation and control of the environment are embodied in the management structure and goals of large firms in the context of rivalrous capitalist activity.[44] In 1928, the provenance of innovation is seen by Schumpeter either in competitive capitalism and the foundation of new firms or in a 'trustified capitalism', about which he is dubious, precisely because progress becomes 'automatized' and in the hands of bureaucratic managers rather than entrepreneurs.[45]

Schumpeter's famous later pronouncements focus on the role of monopolies in innovation, with relatively little emphasis on the continuing context of capitalist rivalry in this process, as in Chandler (or Hayek).[46] Furthermore, for Schumpeter, it is these discontinuous innovative thunderbolts from the monopolies that matter, almost exclusively, with only marginal consideration given to the important processes of diffusion and of incremental improvement of innovations, many of which emerge from competitive rivalry between firms and sometimes between nations:[47] as we shall see in Chapter 5, the writings of his acolyte John Kenneth Galbraith

served to confirm opinion in the Soviet Union that their planned path, with its absence of overt competitive rivalry, was an appropriate one.

Lastly, Schumpeter's continuing focus in his later period on the role of the entrepreneur led him to suggest that the growing separation of ownership and control would sap capitalism of its dynamism, all this at the dawn of the golden age of capitalism: in 1947, the quintessence of a Schumpeterian thunderbolt – the invention of the transistor – came forth from AT&T, a managerially directed corporation (see Chapter 9). Thus, Schumpeter proved to be neither a prophet nor a particularly acute observer of contemporaneous events. But failure of economic orthodoxy, even in the immediate postwar period, to have broached the question of innovation, much less integrated it into its repertoire, meant that Schumpeter's Delphic pronouncements on this question were given prophetic status. As we shall see in Chapter 6, orthodoxy was soon to reverse this obliviousness with a vengeance and attribute almost all material progress to technological change.

Thus, it is difficult to find observers at the beginning of the twentieth century who had coherently developed the notion that the new planned structures of capitalism had institutionalised change, most strikingly in the context of new technologies. Marxist analysts (and Schumpeter, who credited Marx) were partial exceptions, but for Marxists, creative destruction was mostly to be seen in the negative context of the destabilisation of capitalism, as new technologies, with their labour-replacing characteristics, generated a long-term decline in the economy's rate of profit. In the more positive context of planning and rational organisation in a new socialist society, it was, rather, standardisation and mass production – the Fordist system – that were taken to be worthy of emulation. This failure by socialist theorists to focus in a serious way on the need to institutionalise processes of innovation was to prove a key weakness in the functioning of the centrally planned economy when Marxists were in control.

From the vantage point of the present, it is the great innovations of the late nineteenth and early twentieth centuries, especially those in the technological realm, that are the apogee of successful planning in this period. All these efforts, however, were ultimately at the service of the capitalist pursuit of profit. For those directing the affairs of the giant firms, innovations of a technical nature were no different from its marketing and advertising activities – they were merely aspects of a more general effort to exercise control over the economic environment to fulfil this goal. Thus, marketing and advertising were part of an attempt to relax constraints emanating from the existing market demand for its products, and were intended to complement the development of new products and their mass production. The Kellogg's company undertook in 1906 not only the task of the mass production and distribution of breakfast foods, but the transformation of the daily habits of a subcontinent in favour of their manufactured creations, novelties so remarkable that the words to describe them entered the language only in a

tentative manner (my mother persisted in calling these products *dry* cereal, as opposed to a traditional *kasha* [porridge]). This gigantic undertaking could take place only in the context of a coordinated strategy of marketing and advertising, to inform, assure and cajole a mass public into changing the rhythm of their ordinary existence.

In a similar way, the technological changes largely brought about by the great firms in this period were also at the service of the firm's pursuit of profit. While the rich world outside the US was slow to assimilate the new breakfast foods, the innovations in chemical and electrical equipment manufacture from giant enterprises in Germany and the US attracted universal admiration. For the giant firms themselves, these innovations were all developed as part of planning strategy to lift the constraints of demand through the creation of new consumers' and producers' goods, and by innovations lowering the costs of production of existing products.

The need for a coherent, planned approach to innovation in the new era was reinforced by the growing predominance of pure science in the development of many commercial technologies. As a result, there was an inherent lengthening of the gap from relatively abstract scientifically based conceptualisations to the realisation of commercial benefits from these ideas. Furthermore, the heterogeneity of personnel and equipment that had to be coordinated within the firm greatly increased, including the need for legal personnel to protect scientifically based innovations from being appropriated by rivals. Lastly, with abstract knowledge emerging as a key resource for a firm's competitive advantage, giant firms organised themselves as monitoring stations for scientific and technological innovation.

And it was this *planned* development inside of the great firms that permitted not only an explosion of commercially viable new technologies, but their exploitation, development and improvement at a speed that was unprecedented.[48] In the US, the independent inventor was gradually displaced by the German example of the industrial research laboratory, in which, as Carl Duisberg, the director of Bayer, suggested, one would find 'not a trace of a flash of genius', but which had produced 2,000 different dyestuffs for Bayer on the eve of the First World War.[49] A major impetus for this in-house approach was a conservative one: the need to solve problems associated with existing technologies to which the companies were already committed.[50] The rise of the role of scientific, theoretical considerations in invention meant that suitably trained individuals (often with PhD qualifications in the appropriate discipline) would find themselves pursuing applied work in an industrial laboratory that had progressively less distance from the theoretical work undertaken in universities.

The incipient tension between the relatively short-term, profit-oriented time horizons of even the largest firms and the longer-term nature of fundamental scientific research was sufficiently contained in the first decades of the twentieth century: these firms emerged as the key sources

of technological innovation. As we shall see in Chapter 9, a new and more complex arrangement came into place after the Second World War in the US, though the popular view of the matter never progressed beyond the image of the independent inventor embodied in Thomas Edison.

Yet even Edison found himself becoming immersed in systems building and the exigencies of pure science as the complexities of bringing the light bulb to fruition unfolded:

> Did Edison invent the incandescent electric lamp? He undoubtedly learned something from others, but he stood alone in his appreciation of the essential requirements, set his goals accordingly, overcame many obstacles that stalled his rivals, and developed not only a practical lamp but the associated components, such as improved generators and other hardware, that made a large-scale lighting system possible. And then he built the system.[51]

Edison's success in the construction of a complete system for the delivery of the light bulb did not result from having possessed at the outset a complete, integrated vision of the problems involved. It was, rather, the product of his initial accomplishment (a successful lamp), and then the tenacity and financial resources to sustain him and his fellow researchers through myriad complications as they emerged, including the need to design in-house the dynamo that would be used in the first lighting systems.[52] The long-term risky investments he undertook and the integration of complex components, including those that had to be developed in-house, made the Edison venture the standard in its day for not only technological progress, but also planning. Emil Rathenau, one of the creators of Germany's electric industry, recalled his impressions after seeing Edison's display at the Paris Electrical Exhibition of 1881:

> The Edison system of lighting was as beautifully conceived down to the very details, and as thoroughly worked out as if it had been tested for decades in various towns. Neither sockets, switches, fuses, lamp-holders, nor any of the other accessories necessary to complete the installation were wanting; and the generating of the current, the regulation, the wiring with distribution boxes, house connections, meters, etc., all showed signs of astonishing skill and incomparable genius.[53]

And Rathenau's son Walter was to become a key organiser of the centrally directed German economy during the First World War that, as we shall see in the next chapter, became the object of so much admiration on the part of the Bolsheviks. Lenin's obsession with electrification as a symbol of modernity was thus linked not only to its technological novelty, but to its acting as an illustration of the efficacy of the planning process. What was

absent from Lenin's enthusiastic response was any notion of electrification as an exemplification of the innovative process itself – what lessons can be drawn on how to generate these new technologies? For Edison, the pursuit of electrification remained a capitalist venture. He undertook serious efforts to calculate the costs of the new technology vis-à-vis gas lighting,[54] and at early stages felt competitive pressure from other electrical manufacturers.[55] The security of his financial backing was linked to his past successes at making his ventures profitable;[56] Schumpeter's emphasis on the key role of finance in the innovative process receives an important confirmation in this history. The key role of finance in the process of innovation will prove, as we shall see in Chapter 4, a crucial aspect of capitalism's success in its battle with central planning, as well as its Achilles' heel.

Edison's electrification venture thus serves as an example of the confluence of the enhanced role of abstract science in innovation with the need for planning and coordination. Edison's practical understanding of electricity and other relevant matters proved sufficient in the initial development of the light bulb. But the integration of the device as part of a broader system – the generation of electricity from the new dynamos and the controversy he was involved in over the use of either direct or alternating current in long-distance transmission of electricity – brought the great artisan Edison closer to having to deal with notions as abstract as the partial differential equations of James Clerk Maxwell than he ever would have believed, or felt comfortable with. The production of light bulbs, the generation of electricity, including the production and procurement of the relevant equipment, the integration and production of power lines, and the political and legal complications of procuring rights of way and eminent domain were tasks of integration, planning and coordinated effort that had little precedent in earlier times. The very innovative nature of the product and its associated technology dictated, almost by definition, that many of the projects necessary for its consummation had to be carried out in-house. In only a few of these cases were the personnel, infrastructure or technology available outside of these firms that would have enabled a reversion to the open market as an alternative to the creation of the necessary technologies and their managerial structures.

In other giant firms, the key interventions were largely of a managerial and organisational nature. There were few strictly technological innovations in the development of Ford's assembly line, with the key intervention being the aggressive exploitation of the production of interchangeable parts, a practice over a century old. What was distinctive was Ford's careful coordination of all parts of the production process and its integration with a marketing strategy of very high volume of a uniform, well-made but inexpensive product – the Model T. This exploitation of the technology of parts standardisation must be seen in the broader context of Ford's desire for the imposition of standardisation, not only in inputs and production processes,

but in product uniformity as well – all mechanisms for the maintenance of control in the context of mass production.

These developments were intimately connected, as we have seen, with notions of scientific management of the labour force. Scientific management was seen as a vital component in putting production on a rational basis: without a normative standard of how much a worker ought to produce in various contexts, the new cost-accounting techniques developed to aid the large firm in judging the relative efficiency of its disparate activities would be of limited use. Thus, the much-applauded aspects of this new world – the tight quality control of products, as well as the rationality, coherence and efficiency associated with the monitoring of costs in the giant firm – were, in the eyes of its creators, inseparable from the Taylorist regime of precise measurement and control of an often monotonous and authoritarian work process.

By contrast, the failure to achieve standardisation in parts, processes and products in contemporaneous British industries, and their maintenance of what appear to be low levels of market concentration in comparison, for instance, with their US counterparts, is not, as might be suggested by economic orthodoxy, a salutary preservation of competition in the British economy, but a retention of old-fashioned ways of doing things.[57] In the machine tool and electrical goods industries, the failure of any great firm, combination of firms or governmental agency to impose standardised specifications led to fragmented industries whose seemingly low concentration prevented firms, each with its idiosyncratic specifications and submarkets, from competing against each other in a meaningful way. As we have seen earlier in the context of the market for grain, an administered solution imposing uniformity of measurement, standards and quality often acts as a prerequisite for the creation of a market in its literal sense.

Even in situations in which technological innovation was not prominent, the desire to control and direct the trajectory of events was an important aspect of the emergence of these giants. For John D. Rockefeller, securing deals with the railroads at the expense of competitors was merely an aspect of bringing an order and predictability to the oil market that would be of general social benefit by permitting a general expansion of the sector. It was common for the great industrialists to defend their pursuit of greater market control by citing the wasteful aspects of competitive processes, remarks echoed by socialist thinkers. Implicit in such a notion is the ubiquitous presence of economies of scale in many sectors, so that any losses to the public due to monopoly control were to be more than compensated for by the potential for lower costs associated with the higher volumes of output within a single organisation. The exercise of control by a giant enterprise extended to using its influence in the political domain to create barriers to new competition, for the receipt of government contracts, and to prevent labour organisations from creating 'obstacles in restraint of trade'.

The characteristic aspect of the giant firm was, thus, the attempt to exercise control – over the range of links in the chain of production, distribution and innovation; over competitors, actual and potential; over consumers, with marketing and advertising; and over the labour force, with a refashioning of the work process. For the small groups of individuals directing the great enterprises, the very size of these firms meant that new solutions to the question of financing had to be introduced that did not simply cede sovereignty of the firm to a distant, dispersed and transitory share-owning public. It was not, however, merely the vast size of these enterprises and the longevity of the capital being used by these firms that necessitated the development of a whole new class of strategies for the financing of the firm: of equal significance is the fact that the planning horizon of these new entities, with their self-conscious attempts to control the future, was significantly longer than that of First Industrial Revolution firms. The political context of these giant firms posed both dangers and opportunities. Their large size made their efforts to control their environment conspicuous, and they sometimes achieved notoriety in the eyes of the public. On the other hand, the substantial resources available to them permitted them to develop methods for influencing or accommodating themselves to the power of the state, and for integrating the workforce into their desired regime of control and planning.

By the early twentieth century, the material lives of the populations of North America and Western Europe had been transformed, along with the emergence of an enhanced capacity of the nations in these areas to wreak destruction upon each other. The most conspicuous vehicle for this transformation was the giant firm, which was mass-producing products in unprecedented quantities and inventing utterly new ones. The key problems that these enormous entities had to solve were concerned with the planning and control of their activities: there were technical questions concerned with the standardisation of processes and products, managerial problems linked to coordination and control of the enterprise in the context of innovation (including problems of marketing, finance and dealing with competitors), and the integration of the labour force as a malleable input into the production process.

These giant firms, the fulcrum of modernity, had planning, coordination and control as the focus of their activities, and therefore posed a major challenge to an economic orthodoxy centred round competitive markets. This orthodoxy was, in essence, unaffected by the Second Industrial Revolution. Alongside this orthodoxy, there emerged a set of doctrines suggesting that a qualitative discontinuity with the past had taken place. The capitalism that was changing the world was perceived to be a planned capitalism functioning through the visible hand of administrative control, one that was relegating Adam Smith's world of invisible-hand competitive capitalism to the historic past. The simultaneous truth and fallaciousness of this new

planning doctrine was to reveal itself throughout the twentieth century, as analysts of various kinds failed in their attempt to extract the rational planning element of big-firm capitalism from its embedded links to finance, marketing and competition. But the doctrine itself, whether true or not, was to be a major force guiding the trajectory of real-world events through its influence on socialist ideology.

# 3
# Technocratic Planning and the Emergence of a Socialist Orthodoxy

The world of the late nineteenth century was one of continuous innovation and novelty that impinged, for better or ill, on the life of every inhabitant of the rich nations, and on a large part of those living in colonies or subject to the political and economic hegemony of the great powers. Novelties from the commercial sector transformed consumption, work and travel patterns, while weaponry emerging from the new technologies would bring misery and death to millions from August 1914, as it had already for many in colonial nations and subject areas. The ideology of liberalism, emanating most powerfully from the British Empire, saw the world through an unchanged vision of entrepreneurs, competition and free trade.

For people across the political spectrum who were convinced that a new world was emerging, it was a commonly held presumption that control and planning within the giant firm were inseparable from innovation and modernity. Aspects of this unfolding technocratic planning paradigm could be found politically on the right from social Darwinists – including the Robber Barons themselves and later from fascist writers – who viewed the emergence of dominant firms as a natural unfolding of capitalist competition, and from technocratic perspectives representing a range of political views. In a key development, notions of planning were fused with a bureaucratic perspective, most especially in the context of the state as a vehicle for economic development. This state planning view of modernity eventually absorbed the socialist tradition to the point of threatening to extinguish the latter's independent identity.

## Liberalism and the Great Transformation

Liberal economic thought, dominant in the British Empire and having important representation in the US and on the Continent, presented to the world a unified and coherent set of propositions: capitalism, free trade and the laissez-faire state, all in the context of a gold standard guided from Britain, were the keys to general prosperity. In the bastions of liberal

ideology, the US and Britain, there were contrasting political responses in the new era. In the US, Progressive era reformers in the early years of the century, while accepting the reality or even the inevitability of the new form of capitalism in its big business manifestation, were often willing to use an anti-big business rhetoric that in Europe would be identified with socialist politics. One aspect of the US progressive movement, identified with Theodore Roosevelt, advocated regulation of the great trusts. A more distinctly American approach to big business had been initiated with the passage of antitrust legislation: great enterprises such as American Tobacco and Rockefeller's Standard Oil were dismembered early in the century.

There emerged a widespread concern, most robustly in the US and persisting for much of the twentieth century, that capitalism was coming under the domination of monopolies. Monopoly was seen as the source of predatory policies of various kinds, including monopolistic or cartel price gouging in sectors of market dominance, bullying and intimidation of competitors, and vertical integration leading to the spectre of the control of raw materials by (foreign) cartels. The latter possibility had economic implications, in posing a threat to competitive entry, and political-security implications, in the context of nations preparing for the next war. An important contradiction to the US image (and self-image) as a focal point of support for liberalism and free markets is the fact that from 1875 (and probably from 1861) until the end of the Second World War, the US had the highest average tariff rates on manufactured products in the world.[1]

In Britain, by contrast, even when the free trade consensus was questioned politically after 1903 by Joseph Chamberlain, this withdrawal from liberal orthodoxy was more a defensive response to the deleterious effects on manufacturing in Britain of its high levels of capital export and of other nations' unfair tariff levels, rather than a questioning of the premises of that consensus.[2] Not until 1919 do we see some alarm expressed in Britain about the growing power of monopolies and trade associations.[3] The British government refused, at the beginning of the century and subsequently, to pursue anti-monopolies policies: there was even tepid governmental promotion of industry rationalisation (amalgamation) in the interwar period. These policies may be a reflection of the weaker presence of giant firms in the UK compared with the US, or they may indicate the view that competition (except in the form of free trade) was an imperfect, approximate form of regulation whose loss was of minimum consequence. The possibility exists, however, that in Europe in general, even in Britain, there was an awestruck admiration for the great behemoths emerging, most especially, in the US. Perhaps Britain was reflecting in its passive political behaviour a perception of the link between planning, large scale and modernity, even at the expense of competition, which in continental Europe frequently resulted in active support for cartels and rationalisation.

What is most striking, however, are not the ambivalent responses in the political world to these great changes in the functioning of capitalism, but the position taken by the great liberal economists of the age, who, when faced with the presence of giant firms, defended their traditional worldview by ignoring these entities. Alfred Marshall, the most influential economist in the English-speaking world, was well regarded for his practical approach to, most especially, industrial affairs. Not only do economics textbooks to this day reflect a stylised version of his formulations, but up to the end of the twentieth century prominent economists such as Milton Friedman and George Stigler were proud to be followers of Marshall. Yet in both his theoretical and more descriptive work, from the late nineteenth century to the 1920s, Marshall betrays little hint of the great eruption that had taken place in the business world, most prominently in the US and Imperial Germany, and of Britain's laggard development relative to these countries.[4] Marshall's perspective suggested a loosely competitive context,[5] with the size of the firm presumed to stay within bounds that permit competitive conditions to exist. While his analytical constructions could, in principle, have admitted the possibility of the emergence of giant firms dominating an industry, Marshall's 'representative firm', even after the First World War, continued to be a stylised representation of the British textile mill.

Marshall and other liberal economists were also unresponsive to the dramatic changes taking place in the internal direction and structure of the emergent great firms. The firm remained a black box, a vehicle for trading in a market economy, ruled by an entrepreneur and 'his' family, and going through a life cycle of expansion and decline, going from 'shirtsleeves to shirtsleeves in three generations'.[6] There is very little indication from Marshall or other liberal economists that, in the most dynamic sectors of the world capitalist economy, firm governance in giant enterprises was being transformed by innovations in management so dramatic as to create a discontinuity with the forms prevalent in the First Industrial Revolution.

For Marshall, the distinctive success of corporate business management in the US, impossible to ignore by 1920, is mystifyingly accounted for by 'a powerful process of natural selection [that] has thus called out the leaders of American industry ... who entered on life with the resolve that they would prove themselves to be abler and greater than their fellows by becoming rich'.[7] The unprecedented scale and diversity of activities that needed to be coordinated by the giant firm and developments in its internal workings and procedures (including standardisation) are considered. But we are admonished, in a section entitled 'Temptations of joint stock companies to excessive enlargement of scope', that there is a 'tendency of some joint stock companies and municipalities to make things, which it would perhaps have been better for themselves and for others that they should have bought ... a true balance of its advantages and disadvantages is perhaps never made out'.[8] Ironically, in the 1970s this counsel could have proved

useful for firms in the midst of conglomerate *hubris*, but in 1920, this balancing of opposing forces – 'in almost every trade there is a constant rise and fall of large businesses, at anyone moment some firms being in the ascending phase and others in the descending'[9] – comes across as not so much a commonsensical weighing of countervailing tendencies as an obtuseness about how the leading exemplars of the industrial economy, especially in the US, had transformed the environment in the previous decades.

Most significantly, firms in the Marshallian context were seen to be passive respondents to the constraints of cost and demand rather than agents of change that might transform these constraints by managerial or technological innovation, often in the context of new products for which marketing and advertising had to be provided. When, in the interwar period, the new world of giant firms was obliquely recognised in the Marshallian tradition with the creation of imperfectly and monopolistically competitive market structures, the results were unsatisfactory.[10] These new versions failed to capture what had been most important about the events of the Great Transformation at the beginning of the century – that the emerging giant firm often functioned as a fulcrum of coordination and planning. Its central activities involved on-going endeavours to reshape the very parameters of cost and demand that continued to be taken as given, even in these updated versions of the Marshallian model. The attempts by the giant firm to exercise control over the environment in which it functioned would lead some epigones of planning to see this new entity and its activities as the basis upon which a whole economy could be organised; Marshall and mainstream liberalism never offered a coherent riposte to this view. The unimaginative response of the dominant economic ideology to the dramatic changes in the functioning of business affairs inaugurated in the late nineteenth century continued for much of the next hundred years, with even a reassertion of a strict competitive orthodoxy after the Second World War.

Why did orthodox responses to the Great Transformation prove to be so inadequate? One reason is the analytical intractability of the events themselves, whose key aspects were first well encapsulated not by a theorist but by a business historian, Alfred Chandler, as we have seen in Chapter 2, and then only in the period after the Second World War. The subsequent attempts to reformulate his conception within traditional orthodox categories of markets and transactions in the Coase–Williamson literature succeeded in capturing little of the revolutionary nature of the giant firm emerging at the beginning of the twentieth century. In the British case, perhaps this failure of economic analysis from Marshall and his successors was also a reflection of the dominance in British polity through much of the twentieth century of a financially oriented 'gentlemanly capitalism'[11] that responded in such a laggard fashion to the conditions permitting a Second Industrial Revolution in, especially, Germany and the US. The possibility exists, however, that

this intellectual failure was itself a contributing factor to Britain's sluggish response to the Second Industrial Revolution.

Though the discussion in subsequent chapters postulates that the eventual demise of socialism in the twentieth century was linked to its inadequate conceptualisation of trends in capitalism, there is an element of mitigation to be found. Unlike liberal economics, the planning ideology with which socialism became identified represents an attempt to engage with and understand the dramatic events surrounding the Great Transformation; even when the analysis was faulty, important insights into the workings of the new economy emerged. By contrast, orthodox economics has continued to emphasise the efficacy of market relationships, an adherence that, like a stopped clock, has yielded correct, if deceptive, results upon occasion and functions as orthodoxy, or even common sense, in many parts of the world in the twenty-first century. It has led to a range of public policies in which financial returns are taken to be the unquestioned guide to, and measure of, economic development and progress; the economy as a whole is often seen to be a self-equilibrating spontaneous order, in which direction and regulation is necessary only to facilitate this natural state. These presumptions will be contested here and in subsequent chapters, but from a perspective that has only limited points of contact with the critique of this orthodoxy presented below.

## The ideology of technocratic planning

Intellectual opposition to liberal economic thought was widespread in the Western world (as well as among subject peoples and in colonies), but was often accompanied by a rejection of modernity, whether from William Morris or the Catholic Church. However, from a disparate collection of individuals and movements there emerged as well an opposition to liberal ideology that embraced contemporary developments. With only limited deformation of the historical record, it is possible to isolate a range of positions associated with these non-liberal thinkers. This alternative to liberal thought is dubbed here the 'technocratic planning paradigm', embodied in four principles:

1. The liberal vision of competition between enterprises as a mode of regulation for the economy was seen to be obsolescent. This first principle emerged from an empirical generalisation: there had been an inexorable growth in the efficient scale of enterprises and of units of production in modern capitalism.
2. Planning was taken to be the relevant mode of regulation for the economy as a whole, and was to be modelled on the internal workings of the giant firm.

3. There was an embrace of an engineering perspective that viewed activities such as administration, marketing and, especially, finance as peripheral: all were waste, to be eliminated in a rational approach to the organisation of economic activity.
4. The above principles became associated with the notion of the developmental state – the state as a key actor in the process of economic development.

The long-term significance of the technocratic planning paradigm as a unified dogma is its manifestation in the theory and practice of centrally planned socialism. The emphasis in this section, however, is upon the non-socialist variants of the technocratic planning paradigm emerging contemporaneously with socialist views. The planning paradigm thus had a broad base of support across the political and ideological spectrum: its final flourish as a non-socialist doctrine, as we shall see in Chapter 5, took place with the publication in the 1960s of John Kenneth Galbraith's *New Industrial State*.

In the first principle of the technocratic planning discourse, we have a conflation of large-scale enterprise with notions of modernity and efficiency, and often with monopoly: industry, especially the leading sectors of the economy, was seen to be falling inevitably into the hands of a small number of dominant firms – monopolies – with competition identified with anarchy and redundant capacity, and small enterprises with old-fashioned and inefficient ways of doing business. The emergence and inevitable predominance of large firms in the leading sectors of the economy were seen through a Darwinian prism: the fittest had survived due to their inherent superiority and the intrinsic, especially technological, advantages of large scale. Thus, the steel magnate Andrew Carnegie became a disciple of Herbert Spencer, and in a Sunday school address, John D. Rockefeller declared:

> The growth of a large business is merely a survival of the fittest ... The American Beauty rose can be produced in the splendor and fragrance which bring cheer to its beholder only by sacrificing the early buds which grow up around it. This is not an evil tendency in business. It is merely the working-out of a law of nature and a law of God.[12]

It was not just American captains of industry who voiced these views. In the US, the famous German-born American engineer and scientist Charles P. Steinmetz, a self-proclaimed socialist, acted as an apologist for his employer General Electric and similar giants. He explained that the new technologies, with their high levels of fixed costs, inevitably result in 'ruinous competition', with amalgamation and 'co-operation' the inevitable, and desirable, consequence; attempts to thwart these developments through antitrust activity are to 'act against the laws of nature'. His favourable view of Imperial

Germany's industrial development, if not its politics, was consistent with this perspective.[13]

Even tenacious critics of big business in this and later periods were likely to ruefully concede the validity of the empirical premises of the technocratic planning paradigm: 'under a system once broadly competitive, methods of producing many commodities have changed in favor of the large firm; the very competition that induces the most economical utilization of the means of production has induced the survival of firms so large and so few that perfect competition itself no longer survives in a number of industries'.[14] An acceptance of the empirical validity of this first principle was thus widespread, and not only from the spokespeople and apologists for big firms: monopoly power was sometimes defended as mitigating the wastefulness of a traditional, competitive capitalism that perpetuated the existence of redundant capacity in the form of firms too small to be efficient. Capitalism, it was often argued, blindly, imperfectly and slowly eliminates this redundant capacity in an unplanned way, but only at a high cost to human beings and to the overall efficiency of the economy. Thus, the first principle of the technocratic planning perspective was that there had been an inexorable growth in the efficient scale of enterprises and units of production, a tendency that was dictating a decline in the role of competition between enterprises as a mode of regulation for the economy. This view underlined for many the inevitability of the rise of the 'big monopolies' and engendered an ambivalent response to this development.

The first principle of technocratic planning rejected as irrelevant the liberal conception of a competitive economy. By contrast, the second principle used the change in the economic landscape to offer a positive alternative to the liberal vision of capitalism: the world to come was to be dominated not by the invisible hand of competition but by a visible hand of planning and conscious coordination. Some of the impetus for an organised capitalism through amalgamations and cartel arrangements in nineteenth-century Germany, and later in other countries, was in response to economic backwardness: an attempt to generate scale efficiencies and to conserve, through centralisation, the scarce human and institutional resources available for enterprise management (see Chapter 2). However, for a broad swathe of opinion, the most significant motivation for an acceptance of consolidation and organisation was that the planned, ordered economy offered a possibility of relief from the gyrations in prices, production and employment that seemed to be endemic to capitalism. In Germany, the major stimulus for consolidation took place in the wake of the depressed conditions after 1873, and this motive emerged as a common one in capitalism: *The Menace of Overproduction*, written by a wide range of representatives of US business, was published after the stock market crash of October 1929.[15] And in 1931, we read the following favourable interpretation of German procedures:

> The aim of rationalisation is to eliminate that competition which results from faulty judgment of individual producers, from their miscalculation of the market, and to coordinate the efforts, first, of individual enterprisers within an industry; second, of the different industries within a country; and third, of the competing industries in two or more countries ... Rationalisation, in its broadest sense, aims to eliminate errors of judgment due to faulty knowledge of market conditions by vesting the power to regulate production, fix prices and allocate territories in a central authority. Rationalisation represents the idea of enlightened leadership embracing an entire industry in its relation to other industries and to the national economy.[16]

In this pre-Keynesian period, there was little that was being offered by economic orthodoxy in terms of public policy to alleviate that most egregious of capitalist failures – outbreaks of mass unemployment. Here we see the notion that centralised coordination in capitalism might eliminate perturbations resulting from 'competition which results from faulty judgment of individual producers': scientific management was to be used in the mitigation of economic fluctuations;[17] in 1899, similar sentiments had been expressed by the revisionist Marxist theorist Eduard Bernstein. Less ambitiously, macroeconomic fluctuations, including the great downturn of the 1930s, were frequently viewed through the prism of an inevitable elimination of jobs and redundant capacity due to increases in efficiency. For technocratic planners, this process of rising productivity, manifesting itself in capitalism in such a wasteful manner, could be achieved more rationally through a planned, coordinated rationalisation.

In a more positive direction, rationalisation was linked to the development of scientific management and the dispersal of best-practice scientific and managerial technique, giving us a glimpse of a new economic order.[18] In Europe, the cult of technocratic expertise and efficiency – 'Americanism' – in the form of scientific management and corporate organisation reached its apogee in the period after the First World War, and technocrats in the US reciprocated this admiration by noting the active role of the German state in this process. At various times, interest groups along the whole political spectrum were represented in the rationalisation movement, including radical groupings on the left and right, as well as those who wished to use the cult of technical expertise as a device for mitigating social conflict.[19] Whereas, in the US, rationalisation took place within the corporate structure or, at most, industry groupings, in Germany it was present in coordinated activity at the national level. These developments unfolded most dramatically, and with significant influence on the Bolsheviks, as we shall see below, with Walter Rathenau's organisation of Germany's economy in the First World War.

In a document from a semi-official source in the US from 1929, we see how widespread envy of Germany's postwar movement in the direction of rationalisation had become,[20] and how this rationalisation process was identified with engineering efficiency in the form of standardisation:[21]

> Rationalization ... is standardization [and] scientific management ... carried out on a broad national, and in some cases, international basis ... Standardization as a conscious deliberate policy involves the rationalizing process, and to a certain extent all standardization is a manifestation and a part of rationalization. But the popular use of the term 'rationalization' is much broader:
>
> > In its broad German conception, rationalization includes standardization and simplification, reduction of waste and scientific management, labor-saving equipment, reduction of overhead cost, economy in selling, and finally, and highly important from our point of view, the consolidation of corporations with all allocation of production and the closing of uneconomic industrial units. There is a national committee that encourages standardization in all its ramifications throughout industry. (US Dept. of Commerce, Division of Simplified Practice, *Monthly News Bulletin*, 15 September 1927.)

Second, we see a welcoming to cartels and other anti-competitive activities as aspects of this rationalisation – this emerging from a country that had pioneered antitrust legislation:

> The revival of cartels, industrial mergers and combinations, pooling agreements, etc., are important features of the rationalization movement. So important a feature has this part of the movement become that it has come to occupy the center of the stage in many discussions of the program to eliminate waste on a national scale. An American Standards Association bulletin refers to it as:
>
> > the concentration of a country's economic resources in the hands of those industrial combinations most competent to use them, and the modernization of industrial plants and processes. Such rationalization postulates every form of cooperative activity from the formation of selling combinations to the actual amalgamation of business, to the end of eliminating all wastes arising through uneconomic types of competition. (*Sustaining Members Bulletin*, 14 February 1928.)

Third, we see positive remarks about the 'Russian Gosplan' at a time when the US did not have diplomatic relations with the Soviet Union:

> A similar conception [to that of Germany] of the marshalling of industrial resources, skill and energy underlies the Russian Gosplan. The recent

> report of the British Liberal Party, 'Britain's Industrial Future,' lays down the tentative outlines for some such national coordination and unification of the nation's industries. There are, of course, considerable differences between these latter proposals and the rationalization movement as it is developing in Germany ... [b]ut in their technological features, all three are proceeding along similar lines.

Though these notions of national planning remained a minority view in the US, they emerged in the first decades of the twentieth century across a broad political spectrum that is only sampled here, extending far beyond radical socialism. The idea, as above, of 'eliminating all wastes arising through uneconomic types of competition' is a particularly startling one to twenty-first century readers, who live in an era in which the efficacy of competition is an unquestioned and universal proposition.[22]

The vision of a wholly planned economy had early roots in Saint-Simonian and Marxian notions, but there is little doubt that the striking example of the innovative activities of the giant enterprises in the US and in Germany was the key to the plausibility of the emergent vision of a planned economy. The construction of the administrative apparatus and procedures necessary to make these giants viable was seen to rival in ingenuity the substantive technological achievements within giant enterprises. These developments, along with the enhanced capacity of governmental bureaucracies, were at the heart of technocratic planning.

The practice of giant firms and state bureaucracies was to become the basis of the new ideology for a broad spectrum of non-liberal thinkers, both socialist and others. The notions of economic planning for a whole society, in both their technocratic and socialist versions, embodied many of the limitations to be found in the business literature. Most specifically, since the conceptualisation of firm-level planning in this era gave no explicit attention to decision making under uncertainty, central planning theorists largely ignored this issue as well, reinforced by the complacent notion that much or all of the uncertainty to which an individual capitalist firm is subject will disappear if the whole economy is subject to a plan. And socialists, using the great firms as a model, did not disentangle the 'capitalist' from the 'planning' elements in 'capitalist planning' – they did not successfully clarify those elements of the capitalist environment that were necessary and inextricable aspects of the ability of great firms to plan successfully. This proved to be, as we shall see in Chapter 4, a major failure for socialist theorists and for practitioners of planning, as well as for orthodox defenders of capitalism.

The third principle of the technocratic planning paradigm involved the embrace of an engineering perspective emerging from mid-nineteenth-century France and Britain. Engineers confronted practical problems of resource allocation for which, in their view, the contemporaneous political

economy did not offer adequate solutions. Perhaps strongest in France, the tradition of engineering economics yielded energy-based distinctions between useful work and waste, and a quantitative expression of efficiency: 'Engineers do economics while others talk about it.'[23]

Engineering planning had a visionary aspect – the new economy is to be innovative and to be *engineered* in a planned, rational way, down to the finest details of its operation. A growing uniformity in the quality and specifications of output is, in general, a fundamental aspect of capitalist development and is co-extensive with the evolution of markets; standardisation of parts in production had been a developing trend since the eighteenth century. The convergence and the consummation of these two tendencies were seen in the Ford assembly line: its output was uniform, both in the sense of evidencing high levels of quality control and in the notorious limitation on the range of variants from the standard Model T (in terms of colour and availability of 'gizmos'): the latter constraint on product diversity was justified in terms of maximising the possibilities for scale economies through the elimination of gratuitous variations in peripheral aspects of the product.

The drive for standardisation of specifications for inputs used in production – in machine tool parts, electrical equipment and so on – became a rallying cry for the technocracy movement. The dogma of maintaining a uniformity of output (in the sense of limiting product differentiation) gradually disappeared from general discussions concerned with reforming capitalism: one reason might be the success that GM had over Ford in the 1920s in maintaining scale efficiencies in the presence of a broad range of car models. Uniformity of output continued to be upheld, however, in the Soviet planning context and in socialist critiques of capitalism.

The engineering perspective reached its fullest development as a purely economic doctrine in the technocratic movement in the US. In Germany, by contrast, the lessons to be learned from the emergence of giant enterprises were filtered through notions of national economic development using protectionism from the nineteenth-century economist Friedrich List, and in radical socialist Marxian currents. In the US, the host of the most prominent exemplars of the new capitalism, substantial antagonism to the rise of these giant firms emerged. For those willing to take a more favourable, or at least a more accommodating, view of these developments from a planning perspective, there was limited scope for doing so, given the strong association in US political discourse between planning and radical socialist ideas. The doctrine of technocracy, coalescing around the ambiguous figure of Thorstein Veblen, took a position in support of planning and opposed to market liberalism that was not perceived as politically radical or threatening by mainstream opinion.

Veblen's early work, *The Theory of the Leisure Class*, with its famous discussion of 'conspicuous consumption' by the well-to-do, was centrally concerned with the deleterious aspects of this expenditure. It was natural for his followers to focus, in this context, on firms' advertising and marketing activity as wasteful: it was unnecessary and gave impetus to profligate consumption.[24] Veblen viewed the activities of the business class so unfavourably that industrial consolidations were perceived to have, if nothing else, the virtue of reducing the volume of these activities: 'perhaps the greatest opportunity for saving by consolidation ... is in doing away with unnecessary business transactions and industrially futile manoeuvring on the part of independent firms that the promoter of combinations finds his most telling opportunity ... there is a saving of work and an avoidance of that systematic mutual hindrance that characterizes the competitive management of industry'.[25]

But for Veblen, the greater part of business activity is worse than parasitic. For him, material progress emerges from improvements in the arts of manufacture – the work of engineers and technicians, in spite of the 'sabotage' coming from the business community:

> The material welfare of the community is unreservedly bound up with the due working of this industrial system, and therefore with its unreserved control by the engineers, who alone are competent to manage it. To do their work as it should be done these men of the industrial general staff must have a free hand, unhampered by commercial considerations and reservations ... Yet the absentee owners, now represented, in effect, by the syndicated investment bankers, continue to control the industrial experts and limit their discretion, arbitrarily, for their own commercial gain, regardless of the needs of the community.[26]

Veblen was not a follower of Marx, and he has little to say about the working class. He presents a utopia that responds to the logic of technology. His writings are important because they represent a significant stream of opinion, one distanced from Marxist orthodoxy, which believed that the material progress generated by the Second Industrial Revolution could be detached from the business institutions that had been responsible for generating this progress. In a manner resembling that described by Marx, these institutions were acting as a fetter on the full use of the nation's productive capacity:

> a free run of production, such as the technicians would be ready to set afoot if they were given a free hand, would mean a full employment of the available forces of industry, regardless of what the traffic would bear in point of net profit from sales ... [but it] ... has not been had nor aimed at; nor is it at all expedient, as a business proposition, that anything of the kind should be allowed.[27]

*The Engineers and the Price System* ends with a chapter entitled 'A Soviet of Technicians', a designation that later took on a bitterly ironical twist with the trials and conviction of engineers for acts of sabotage in the Soviet Union of 1930 on charges that now are considered to have been without foundation. Veblen's quixotic proposals for an engineer-led utopia went nowhere. They ran up against the sociological reality in the US that discontent on the part of engineers themselves was not directed towards creating an independent power centre, a Soviet of technicians, that would oppose the reigning business culture. On the contrary, the engineers were embedded in that business culture, and any discontent on their part was focused on raising their status within it.[28]

A second issue concerning Veblen's new society is a strictly economic one: would the calculation of efficiency solely according to an engineering logic ever be possible, and are all aspects of business culture, including its financial institutions and mechanisms, mere impediments to the realisation of efficiency? This third principle of technocratic planning resulted in a rejection not only of a functional role for the financial sector, but also of other activities seemingly peripheral to the firm's production activities.

And here we see a further ambivalence on the part of much non-liberal opinion concerning the rise of the giant firm: its emergence was seen to be inevitable largely for technological reasons, but the technocratic planning aspect of non-liberal opinion, with its focus on engineering rationality, was temperamentally at odds with the Weberian identification of modernity with bureaucracy, to be discussed below. The administrative apparatus that invariably accompanied the vast expansion in the size and complexity of the activities of the giant firms (and of the state) compared with anything to be seen previously were an anathema to the technocratic view: bureaucracy, administration, not to mention marketing and finance, were *waste*. Somewhat contradictorily, payments to middlemen were also thought of as waste, obviating the possibility of considering using the market to alleviate bureaucratic stress inside an enterprise. The unresolved question of the efficacy of these peripheral economic activities persisted in the conduct of real existing socialism and played a part in the demise of the dream of an economy based solely on engineering considerations, one without the wasteful frills associated with commercial activity.

The fourth aspect of the technocratic planning approach emerged when the principles enunciated above were linked to the notion of the state as a key actor in economic development, an integration that was to become a central aspect of the ideology of the new Soviet state. By contrast, liberal opinion and its associated economic doctrines in the late nineteenth century had little to say explicitly about economic growth and development, and had no role for the state in any such process. The liberal notion that free trade and its incumbent specialisation of activities led to a generalised prosperity would, if anything, promote a withdrawal of state activity.

The late emergence of this fourth technocratic planning principle – the developmental state – is somewhat curious, since the pervasiveness and depth of bureaucracy had been evolving in a European context for half a millennium. The expansion of the scope and domain of governmental activity in modern Europe long precedes the emergence, in the latter part of the nineteenth century, of the giant enterprises that became the epitome of the new world of administration because of the unprecedented scale and diversity of private sector activities they needed to coordinate. Even well along the path of expansion of state activity, the court of Louis XIV of France in the seventeenth century, so centralising in its aspirations, was constrained by the physical infrastructure of roads and even the language diversity within the kingdom. By the late nineteenth century, the railway and telegraph, and then the telephone, had given the most liberal of Third Republic governments a direct access to, and power over, the people of France that the ministers of the Sun King could only have dreamed of. The introduction of the typewriter and office equipment and the continued development of the mechanics of data collection were complemented by the emergence of institutions for the training of a professionalised bureaucracy. These changes in the administrative capacity of the state were taking place in authoritarian St Petersburg as well as in liberal London, with little regard to the putative ideology governing state activity.

The extended capabilities of the bureaucracy were matched by developments in civil society that facilitated an expanded role for the state: urbanisation, a growing literacy in a uniform national language (Parisian French), the use of money in rural areas, and the substitution of the state for the church in the provisioning of activities such as schooling, the marriage registry and, in Britain, the Poor Laws and their successors. All of these factors made the administration and local execution of a new range of state activities, regulations and forms of taxation possible. The augmentation of state activity also created dependency and vested interests, as in the provisioning and the setting of standards for state education and of poor relief. The activities of the state and bureaucracy in London and Paris thus became tied to intimate aspects of civil life to an unprecedented degree.

A definitive perspective on the emergence of bureaucracy is most commonly linked to the work of Max Weber, with the publication posthumously in 1922 of *Economy and Society*. For Weber, the administrative mechanism was an aspect of the cultivation of rational decision making in both the public and commercial spheres. Professionally trained state personnel do not only receive instruction in the formal aspects of the tasks that they administer, but are inculcated with the spirit of a public mission to be fulfilled – they are the embodiment of the disinterested needs of the state, pursuing tasks for the advancement or, at very least, the balancing of the needs of society. The bureaucracy follows rules, protocols and routinised procedures that, in any given instance, can seem arbitrary or unfair in application, but generate

the possibility of a society run rationally. In the absence of such rules and protocols, we return to a medieval context in which the concepts of corruption and favouritism cannot even be defined:

> The decisive reason for the advance of bureaucratic organization has always been its purely *technical* superiority over any other form of organization. The fully developed bureaucratic apparatus compares with other organizations exactly as does the machine with the non-mechanical modes of production. Precision [and] speed ... are raised to the optimum point in the strictly bureaucratic administration ... 'Equality before the law' and the demand for legal guarantees against arbitrariness demand a formal and rational 'objectivity' of administration ... If, however, an 'ethos' – not to speak of other impulses – takes hold of the masses on some individual question, its postulates of *substantive* justice, oriented toward some concrete instance and person, will unavoidably collide with the formalism and the rule-bound and cool 'matter-of-factness' of bureaucratic administration ... Bureaucracy is *the* means of transforming social action into rationally organized action. Therefore, as an instrument of rationally organizing authority relations, bureaucracy was and is a power instrument of the first order for one who controls the bureaucratic apparatus.[29]

These consciously constructed rules and procedures constraining the activities of the state and its bureaucracy play the same role in society as do the spontaneously generated, judge-based precedents emerging from the tradition supported by Hayek. In both cases, decision making is removed from democratic processes – from impulses that might take hold of the masses.

It is precisely under capitalism that bureaucracy has reached new heights, in part because improvements in transport and communications have facilitated this development. But bureaucracy and administrative procedures have also expanded their scope under capitalism because of the functional role they play in its operation. In contrast with the relatively autarchic economic relations of pre-capitalist society, market-centred economies make demands upon government for the maintenance of physical infrastructure such as roads, a legal framework for enforcement of contracts, and a role in the money and credit system that, at the very least, is not disruptive. Furthermore, imposition by the state of uniformity in measurement and quality standards has been instrumental in the making of markets, and the rising agglomeration of the population in cities highlighted the need for urban planning and the institution of professionalised policing to maintain 'order'.

As a result, any apparent conflict between the Hayekian and Weberian perception of these rules disappears in the contemporary world. As we

have seen in Chapter 1, traditional liberalism sanctions active intervention on the part of the state to make markets viable. In recent times, we have seen a more ambitious tendency surface in the form of a neoliberalism that 'enjoins everyone to live in a world of generalized competition ... [and creates] a world in its own image through its power to integrate *all* dimensions of human existence'.[30] In a form particularly manifest in Germany, there has emerged an activist role for the state in a liberal context, an ordoliberalism that involves 'institutionalizing the market economy in the form of an "economic constitution" ... in such a way as to develop the fullest, most coherent form of market'.[31] Weberian bureaucratic rules, as in the ordinances governing the European Union, are thus validated and legitimated by the notion that they are merely providing support for an underlying Hayekian spontaneous order. In the wake of this marriage between Weberian and Hayekian principles, we can currently observe ever more ambitious forms of bureaucratic activism, such as a range of international agreements – the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership – which will override individual governments' procedures with regard to intellectual property rights and labour relations. Interventions of this kind have their legitimacy greatly enhanced when the new Weberian protocols that will emerge from these treaties are seen to be merely the ratification of a Hayekian spontaneous order of free trade and investment.

The role of the state in its military dimension has played an important role in the history of capitalism.[32] This fact often lacks a proper representation in the Anglo-Saxon world, perhaps because standing armies, with their enormous expense, have not played a central role in the emergence and maintenance of power in Britain and the US (the British building an empire using mostly naval power and the US by defeating its weak southern neighbour Mexico and otherwise subduing aboriginals).[33] For other nations in Europe, the emergence of a professionalised military and the delineation of clear hierarchical structures distinguishing the tasks of commissioned and non-commissioned officers was a school for the development of modern bureaucracy, and paralleled or even preceded such developments in the commercial sector. The increasingly mechanised nature of modern warfare led to growing links with big business – a military-industrial complex – in which the cultivation of modern hierarchical structures was mutually re-enforced. These developments reached their consummation with the concept of total war after August 1914. In all countries, the scale and the economic commitment were unprecedented, but it was in Germany that the economic mobilisation for the war made the most notable impression on social observers of all political persuasions both during and after the war.

Liberal theorising about the state in the late nineteenth century was largely concerned with constraining the scope of its activities, rather than analysing its functional role and its internal structure. In practical terms, however, great changes were taking place, with the institution of civil

service examinations in Britain for administration both at home and across the empire, giving Britain, like other European countries, an administrative structure that was substantively autonomous from the nominal government of the day. Some contrast emerged between the British approach, which professionalised its civil service to the highest levels, and that in the US, where upper-level administrative posts were more commonly the subject of political appointment (ambassadorships) or direct election (the local dog catcher, or much of the judiciary). But these developments in the US progressively appeared as populist and politicised interventions into the normal operation of bureaucratic functions and professionalised activities.

The introduction of a professionalised civil service, a significant change in the practicalities of state administration, was not complemented with any serious reconsideration in liberal thought of the role of the state administration in public affairs: the purpose of the latter remained the facilitation of commerce and the minimisation of its own wasteful use of resources. As we have seen earlier, it is only with the writings of the British economist Pigou in the early twentieth century that a systematic rationale emerged in liberal opinion for the role of the state in the regulation of external effects, both positive and negative (such as pollution); this literature had no significant influence on public policy until after the Second World War. Only with the coming of the depression of the 1930s did the liberal John Maynard Keynes find a theoretical justification for an active role for the state in stabilising the overall level of economic activity in an inherently erratic capitalist system.

Both the Weberian conception of a society governed by a disinterested rule-following bureaucracy and the liberal notions of an individualistic market-based civil society served as alternatives to the growing threat posed by a legitimacy based on democracy – explicit social decisions emanating from universal male suffrage – which might well have moved in an egalitarian, socialist direction. But even in late-nineteenth-century Germany, this largest of socialist movements was unsuccessful at forming alliances outside of the urban working class to divert the path to destruction being taken by Junker militarism. Whatever the reasons for this failure, including successful state repression, these difficulties were exacerbated by an official Marxist ideology that, quite properly, emphasised international solidarity over nationalism, but also alienated small landholders and capitalists with its call for the abolition of private property and frightened a liberal constituency with its rhetoric of revolution and dictatorship of the proletariat. In the longer term, socialism as a democratic movement was greatly compromised when it became identified with, at best, a Weberian bureaucracy and at worst (in the Stalinist case) a homicidal one; by contrast, notions of democracy were tied to a resurgent and only slightly modified market liberalism.

Socialism became inextricably identified with bureaucracy when it became linked to the ideology of technocratic planning in the Soviet Union, beginning in the 1920s, where the state was seen to play a central role in economic

development. The concept of the developmental state was a continuation of early modern mercantilist notions of the state's role in national strategies for economic security, which was then integrated with a new element – the state as a vehicle for late-developing economies. Friedrich List (1789–1846) promoted a national economic strategy for Germany in the nineteenth century that was a self-conscious attempt to create an antipode to the liberal ideology emerging from the British Empire. He viewed Britain's advocacy of universal free trade as self-serving – advocating for other countries a policy which it had not itself pursued in its developing phase, and which would leave developing countries unable to compete with Britain:

> The island kingdom borrowed from every country of the Continent its skill in special branches of industry, and planted them on English soil, under the protection of her customs system ... Once possessed of any one branch of industry, England bestowed upon it sedulous care and attention, for centuries treating it as a young tree which requires support and care ... in any nation already advanced in agriculture and civilisation, by means of moderate protection, its infant manufactures, however defective and dear their productions at first may be, can by practice, experience, and internal competition readily attain ability to equal in every respect the older productions of their foreign competitors ... England has attained to wealth and power not by means of, but in spite of, her commercial policy. As well might they argue that trees have grown to vigour and fruitfulness, not by means of, but *in spite of,* the props and fences with which they had been supported when they were first planted.[34]

List's notions of state intervention were substantively limited to tariff policy, and there was an absence of economic justification in theoretical terms that could compete with the formidable apparatus of liberal economics from David Ricardo supporting free trade. But Listian notions of state control, when combined with the Saint-Simonian forms of state investment policy typically found in various countries in continental Europe, acted as practical alternatives to the free trade and laissez-faire ideology that was emerging out of the British Empire. Marx, however, with his anti-state and internationalist perspective, remained a fierce opponent of List:

> The nationality of the worker is neither French, nor English, nor German, it is *labour, free slavery, self-huckstering*. His government is neither French, nor English, nor German, it is capital. His native air is neither French, nor German, nor English, it is factory air. The land belonging to him is neither French, nor English, nor German, it lies a few feet *below the ground*. Within the country, money is the fatherland of the industrialist. Thus, the German philistine wants the laws of competition, of exchange

> value, of huckstering, to lose their power at the frontier barriers of his country![35]

Germany emerged in the late nineteenth century as the antipode to British liberalism. This was only in part because of the state's substantive intervention in industrial development at the national and regional level or its tariff policies. More important was the fact that this most successful of large European economies appeared to be mounting an ideological challenge to, and even rejection of, British liberalism as a mode of economic regulation: the operation of cartels and restraints on effective competition in Germany were integrated into public policy.[36]

Technocratic planning emerged in response to the Great Transformation of the late nineteenth century, with some aspects of the technocratic programme becoming part of general political discourse in Europe only after the Great War; in Britain and the US it remained a fringe development, both politically and intellectually. The most important political response on the right to emerge out of technocratic planning was fascism. To the extent that we can attribute a common basis and coherent economic doctrine to Italian and German fascism, it can be characterised by a subordination of economics to political, especially military-expansionist, goals. In the Italian case, it took a particularly incoherent form: expansionary politics and irregular attempts to control aspects of the economy were combined with an adherence to liberal economic principles. Italy's decision to remain on the gold standard in the 1930s, when most of its economic and potentially military rivals had departed from it, limited the ability of the fascist regime to pursue an armaments policy that would correspond to its international ambitions.[37] In Germany, by contrast, the fascist regime imposed, from the time of its accession to power, a series of controls on business unprecedented in peacetime, with direct oversight over large firms and cartels and the financial sector; fascism inherited a technocratic distaste for finance and peripheral sectors (reinforced in the German case by the identification of these activities with Jews). Economic planning was an aspect of national security, including state-directed securing of sources of raw materials. These policies, combined with tight control on competing imports, were highly profitable for business and fulfilled the central goal of arming and militarising the economy.[38] In wartime, however, as we shall see in the next chapter, the regime's social Darwinist belief in the efficacy of rivalry between firms proved less successful than the planned approach of both the Soviet Union and the US. For fascist states in the 1930s, and for the Soviet Union as well, the positive reception these regimes often received abroad was commonly linked to a perception of their strong resolve to deal with the crisis of mass unemployment.[39] This contrast was particularly strong when the comparison was with the passivity, fatalism and dithering to be found in a Great Britain still in the grip of liberal economic ideology.

In the Soviet Union, as we shall see, the developmental state became the basis for a socialist strategy, most especially when combined with the technocratic presuppositions about the centrality of planning and coordination in modern capitalism. The technocratic planning vision and the coextensive socialist notions were thus addressing the vast changes that had taken place in the economic landscape since the late nineteenth century, the threats to the social order posed by economic instability, and the challenges faced by late-developing economies. If in many ways the solutions offered by the technocratic planning perspective were inadequate, its engagement with these issues, even in its failures, advanced the discourse more than the unimaginative response of liberalism.

## Socialism and technocratic planning

The disparate socialist movement emerging in the early nineteenth century, with a range of political and social demands, converged on a small number of economic principles by the end of that century. Socialism in the late nineteenth century in the UK and the rest of Europe was often displacing a radical liberalism on a range of traditional positions, such as the extension of the voting franchise (liberals often supporting the maintenance of restrictions on voting), expansion of public education, anti-clerical and secular attitudes, feminism, support for ethnic rights (such as the Jewish Socialist Bund in Russia) and national independence movements (Polish socialist movements in Tsarist Russia). In other ways, socialism became identified with views discontinuous from the liberal tradition – a radical pacifism, internationalism and anti-colonialism increasingly at odds with dominant opinion in the period before the Great War. Even more striking was the creation, as in the German Social Democratic Party (SPD) in prewar Germany, of a 'society within a society' of worker organisations dedicated to mutual assistance, education and social interaction, an alternative source of legitimacy to the imperial state for a large section of the population.

Gradually, the range of socialist approaches – utopian schemes, and the ideas of Saint-Simon, Proudhon and the syndicalists – gave way to the socialist ideology that had emerged in what was taken to be the leading capitalist state in continental Europe: Germany. Socialist ideology moved away from conceptions linked to the varied experience of supposedly less developed capitalist nations: French socialism before the First World War never developed as a serious rival to that in Germany, in either organisational or ideological terms.[40] No substantive rivals to technocratic planning emerged – there were syndicalists, anarchists and groups emphasising schemes for worker-based control of enterprises, producer cooperatives and small independent producers.[41] But the identification of these doctrines with smaller enterprises evoked forms of production typical in the less advanced parts of the capitalist world, and they were politically tainted

by Marxists with the claim of being linked to petty capitalist enterprise. The main analytical weakness these alternatives suffered, furthermore, was that no convincing mechanism of coordination between these enterprises, groupings or cooperatives was ever specified. Vague evocations of cooperation in place of capitalist competition and the marketplace only engendered in Marxists the suspicion that the latter mechanism – marketplace competition – was being let in through the back door.

The binding force radicalising the pre-First World War socialist movement was the presence in Marxism of 'the best available theory of exploitation and the best available theory of history',[42] an important consideration in an era in which radical intellectuals were committed to scientific explanations for the analysis of society. Marxism offered an advanced intellectual framework claiming that the existing economic system – capitalism – was based on worker exploitation, so that the needs of workers and capitalists were ultimately irreconcilable. In an exposition by Otto Bauer in 1908 of the fundamental principles of the SPD, we can see a fusion of the SPD's popular, or 'vulgar', Marxism with the principles of the technocratic planning paradigm:

> The mode of production of material life determines the social, political and cultural process of life.
>
> The history of all hitherto existing society is a history of class struggles.
>
> The value of a commodity is determined by the labor socially necessary for its production.
>
> The wealth of the propertied classes derives from the surplus value produced by the workers.
>
> Capitalist society tends to increase more and more the misery of the workers.
>
> Small business will be destroyed; the control over the means of production falls into the hands of a continuously decreasing number of big capitalists.
>
> Monopoly capitalism has become a fetter on the mode of production which arose under it and with it. The centralization of the means of production and the socialization of labor will reach a point where they will be incompatible with the external capitalist form. The final hour of capitalist private property is approaching. The expropriators will be expropriated.[43]

Socialism in a technocratic form overtook its potential rivals within the working-class movement at the end of the nineteenth century because of its suitability to the needs of a working class functioning in the emerging large enterprises and their respective labour union organisations. It is especially in the last two points of the platform above that the convergence between the first principle of the technocratic planning paradigm and the character

of economic development in, especially, Germany can be seen. The gravitational movement of socialism in the direction of Germany contributed to the bringing of Marxism to centre stage in socialist ideological discourse. The powerful vision of economic progress presented by Marx – 'The country that is more developed [industrially] only shows, to the less developed, the image of its own future' – promoted the focus in socialist thought on Germany, and even on events in the US. With Marxism, socialist ideology was seen to be firmly linked to modernity.

The socialist ideology that emerged in Germany went under the rubric of Marxism. In a formal sense, this ideology preserved the anti-state and internationalist rhetoric associated with Marx, but gradually the SPD found itself linked politically to the German state, with its ultimate 'betrayal' (Lenin's word) being its support for the German war effort in 1914. Ideologically as well, the fabrication of a form of Marxism that synthesised it with bureaucratic-administrative forms resulted in an infidelity to its anti-state origins. When this synthesis was linked in the Soviet Union with the concept of the state as a vehicle for economic development, socialism was represented to the world in a form that had surrendered its internationalist origins and became identified with an all-pervasive national state.

The support for war credits in 1914 by the SPD was, without doubt, a betrayal of the internationalist principles of Marxism. But the movement away from Marx's anti-state orientation by the SPD (which had been advancing in a statist direction since the tenure of Ferdinand Lassalle, who died in 1864) and later by the Bolsheviks was the only way to bring coherence to their shared vision of a form of socialism that was linked to central planning. Marx's own vision was notoriously incomplete, with a Hegelian inhibition against utopian constructivism: the new society would emerge 'out of the womb' of the old one – the tendencies in the already existent capitalist society. In the present day, the opinion that central planning has proved to be a failure is so ubiquitous that pejorative opinions of Marx's economics invariably focus on identifying his views of post-capitalist society with central planning, with defenders distancing Marx from this approach. Less important here than an exegesis of Marx's views is the historical fact that socialism, and especially Marxism, the most fully developed form of socialist critique of capitalism in the early twentieth century, became wholly identified with a centrally planned alternative based on the principles of the technocratic planning paradigm.

The first principle suggesting an inexorable growth in the efficient scale of enterprises and of units of production in modern capitalism had been first postulated by Marx himself as early as the 1860s: his critique of the economics of his own day emphasised its failure to capture the dynamic, evolving character of capitalism. There are several statements in Marx concerning an inexorable concentration of capital in a few hands, and even suggestions of the emergence of a separation of ownership and control in

the management of great enterprises. Unlike his followers from the middle of the twentieth century onwards, whom we will meet in Chapter 5, there is little in Marx's writings to suggest that this growing predominance of large firms implies a decline or collapse of the competitive mechanism as a regulatory device in capitalism. This is just as well for the coherence of Marx's analysis of capitalism, since economic analysis using the labour theory of value (even without its associated problems of transforming labour values into market prices) would be inoperative if monopolies were ubiquitously present.

But one important aspect of the first principle of technocratic planning that is legitimately linked to Marx's ideas is the notion that the petty producer is an atavistic remnant, to be destroyed by capitalist evolution, a principle maintained in the catechism of vulgar Marxism above. Politically, such a notion proved to be an obstacle to the forming of alliances between workers and these small producers, with its implication that socialists might wish to expedite small capitalists on their path to oblivion: in a leading element of dissent from SPD orthodoxy, the revisionist Eduard Bernstein points to the persistence of small and medium-size enterprises in the midst of the emergence of giant entities in the leading capitalist economies.[44]

The second principle of technocratic planning was an explicit adoption of planning as a mode of regulation for the economy. Was Marx a central planner? In one sense, he and his followers clearly were not. Marxists deviated from technocratic planning as a broad intellectual movement in their rejection of the notion that meaningful planning could take place under capitalism: the Marxian heritage reinforced the notion that capitalism possessed inherent contradictions that could not be rectified without the whole system being replaced. A Marxian account of the perturbations in employment and business activity in capitalism was in terms of class conflict, in which crises played a necessary and efficacious role for capitalists in the restoration of profitability and accumulation by reducing the bargaining power of labour through the creation of an industrial reserve army – unemployment.

Capitalism thus inherently generated fluctuations in economic activity and employment, as well as possessing long-term tendencies in the direction of stagnation or collapse. Marxist political economy was then able to account for the widespread growth of militarist and imperialist sentiment in the great capitalist powers in terms of the imperatives of capitalist expansion (for Lenin, imperialism was capitalism at its 'highest stage'), and the need for ruling groups to distract the working classes from the blatantly dysfunctional and exploitative nature of capitalism. Bernstein's hints of incipient economy-wide planning in the midst of late capitalism were rejected as heresy by orthodox Marxists.

A clear and continuing aspect of Marx's thought was his distaste for the market exchange, most especially the exchange of labour power, as a means

of regulation and allocation for an economy. There are statements about the anarchy of production under capitalism and of the conscious coordination of production in the post-revolutionary era, but these notions are not elaborated upon. The usual explanation is that Marx was following Hegelian practice in not being overly speculative about the future, and that prominent exemplifications of capitalist planning were only beginning to emerge in his lifetime (Marx died in 1883, but his substantive work ended in the 1870s). Marx, on occasion, hints that the conscious coordination of the factory serves as an exemplification of the future post-capitalist society, but these are passing references. Statements in this regard are clearer in the writings of Friedrich Engels:

> The contradiction between socialised production and capitalistic appropriation now presents itself as an antagonism between the organisation of production in the individual workshop, and the anarchy of production in society generally ... the production of society at large was ruled by absence of plan, by accident, by anarchy; and this anarchy grew to greater and greater height ... the social anarchy of production gives place to a social regulation of production upon a definite plan, according to the needs of the community and of each individual. Then the capitalist mode of appropriation ... is replaced by the mode of appropriation of the products that is based upon the nature of the modern means of production. With the seizing of the means of production by society production of commodities is done away with, and, simultaneously, the mastery of the product over the producer. Anarchy in social production is replaced by systematic, definite organisation.[45]

Even more starkly, Lenin makes it clear in 1917 that the regulation and coordination of the post-capitalist economy is not a problematic issue:

> The whole of society will have become a single office and a single factory, with equality of labour and equality of pay ... it is quite possible, after the overthrow of the capitalists and the bureaucrats, to proceed immediately, overnight, to supersede them in the control of production and distribution, in the work of keeping account of labour and products by the armed workers, by the whole of the armed population.[46]

If for Marx, and even Engels, the concepts of a general plan were still vague, for Lenin, all these difficulties had been swept away by the example of Henry Ford: operating like 'a single factory' will permit the new system to function autonomously, without any central direction. In Lenin's enthusiasm for Taylor's notions of scientific management, concepts of plan rationality and efficiency converged with strict control of workforce activity: with the embrace of the Plan, socialism in its Soviet manifestation found little room for workers' control.

The third principle viewed peripheral activities such as administration, marketing and, especially, finance as waste, all to be eliminated in a rational approach to the organisation of economic activity. The economics of Marx suggests a denigration of activities taken to be peripheral, based on the distinction between productive and unproductive labour. The latter category would clearly include middlemen in the inter-industry sector – scrap iron merchants and wholesalers – as well as those engaged in marketing, advertising and related activities for the firm. Whether the productive–unproductive distinction in Marx was meant to be applied in so literal a manner is unlikely, since workers in the arts and culture, individuals whose work Marx greatly valued, would, for Marx, fall into the unproductive category. While this exegetical issue is out of bounds here, the impact of the productive–unproductive distinction on both left-wing critiques of capitalism and the practice of socialist economies is undeniable: both Marxism and technocracy emerged as opponents of the Weberian notion that the burgeoning state and capitalist bureaucracies were aspects of an emergent rationality in the regulation of social and economic affairs. The most deleterious aspect of the Marxian productive–unproductive distinction (one inherited from classical economists Smith and Ricardo) was that it created obstacles for progressive and working-class groupings accepting the Marxian framework to conceptualise and formulate a coherent critique of modern 'industrial' economies emerging after the Second World War, since four-fifths of the working population they claimed to represent were employed 'unproductively' outside of the manufacturing sector.

In technocratic approaches, as epitomised by Veblen, bureaucracy is viewed as wasteful, gratuitous and dysfunctional; Marx's critique of the proto-Weberian sentiments in Hegel's *Philosophy of Right* led to a Marxist perception of bureaucracy as having a functional role only in the sense of being the agent and executor of the interests of the dominant class in society. In addition, because of the Marxian distinction between productive and unproductive labour (a distinction absent in the orthodox economics of the early twentieth century), the engineering prejudice against peripheral activities was reinforced. We thus see in Lenin the notion that the execution of bureaucratic functions is a trivial matter, and that they could be performed by any literate citizen: 'Accounting and control – that is the main thing required for "arranging" the smooth working, the correct functioning of the first phase of communist society ... The accounting and control necessary for this have been simplified by capitalism to the extreme and reduced to the extraordinarily simple operations – which any literate person can perform – of supervising and recording, knowledge of the four rules of arithmetic, and issuing appropriate receipts.'[47] As a curious by-product of these tendencies, which were then reinforced by a prejudice in favour of 'Red' over 'expert' decision making (the latter taking a particularly manic form in

the Stalin era), and contrary to broad perception, Soviet ideology was always very anti-bureaucratic.[48]

More ambiguous is the Marxian approach to finance. Marx's most fully developed formal model of a capitalist economy is embodied in the schema for production and growth in Volume 2 of *Capital* (published posthumously in an edition by Engels) in which finance plays no role; otherwise, in his extensive written observations on finance, there are hints of its role in the process of investment and innovation. Whatever Marx's true views, the heritage of orthodox Marxism is one in which fiduciary money in capitalism is linked in a fairly orthodox manner to its exchange value in a commodity money such as gold, and finance facilitates a realisation of the value of physical output in monetary terms, thereby permitting interactions between different sectors of the economy. This functional role for money only comes about accompanied by speculation, financial crises and business fluctuations.

Marx is more explicit about his rejection of a role for finance in post-capitalist society in his *Critique of the Gotha Programme* of 1875, in which the introduction of labour credits in the lower stage of communism (what was later to be called socialism) was clearly a mechanism to incorporate the mundane transactional roles of money without its playing a significant role in investment decisions or in intra-firm relations. Thus, the heritage from Marx, whether or not representative of his true views, is of finance playing a gratuitous and even destructive role in capitalism, a perspective developed in Rudolf Hilferding's *Finance Capital* of 1910. This book generalised from the close bank–industry relations typical in Germany during this period to suggest a new development in capitalism, in which finance played a key role as a control device, coordinating the great monopolies. The latter notion became a major theme in radical and Marxist writings throughout the twentieth century, and will be discussed in the next chapter.

It was the fourth principle of the technocratic planning paradigm that proved to be most problematic in a Marxist context: for all Marxists, including Lenin, the role of the state was the most troublesome aspect of the planning process. It was the repressive, class nature of the capitalist state and the inherent contradictions of capitalism that were used by Marxists Karl Kautsky and Rosa Luxemburg to contest the arguments of Eduard Bernstein in prewar debates. While Bernstein could not deny the overtly repressive nature of the state in Imperial Germany, he distanced himself from the orthodox Marxist notion of the continuing immiseration of the working class by pointing to a long-term rise in the income of German workers. His position resembled that of the English Fabian socialists, albeit embellished with the use of Marxist categories in his socialist rhetoric. But to orthodox Marxists, Bernstein's doctrine was without even a hint of coherence: he had surrendered the Marxist critique of capitalism based on its inherent contradictions. Most significant, however, was Bernstein's position suggesting a

rejection of Marxist internationalism in favour of a socialism emerging in the context of a national state.

As we have seen above, Marx had been hostile to Friedrich List and his notions about using the state as a fulcrum of economic development, because of both the 'national' and the 'state' components in Listian rhetoric. There is thus a major difficulty with the view that the logic of Marx's thinking led ineluctably in the direction of central planning. The capitalist state was viewed by Marx (and Engels) as an agent, or the embodiment of the dominant classes in society, an analysis that did not change with the spread of the franchise in the latter part of the nineteenth century to encompass adult male suffrage, and did not, apparently, differ between the liberal French Third Republic and authoritarian Imperial Germany.

Marx's post-capitalist society was self-administered – there was no place for the state either as the coordinator of an economic plan or as an entity to delineate national boundaries – a view impossible for us to reconcile with the substantive history of central planning in the twentieth century or, in truth, even to make sense of. But this appears to be Marx's position. For Engels, 'State interference in social relations becomes, in one domain after another, superfluous, and then dies out of itself; the government of persons is replaced by the administration of things, and by the conduct of processes of production. The state is not "abolished". *It dies out.*'[49] And Lenin's pamphlet, *The State and Revolution*, is laced with anti-state quotations from Marx and Engels.

Evidence for the centrality of an anti-state position in Marx can be seen in his taking an 'un-Marxist' position on the transition to communism by late-developing economies. The orthodox Marxist position, put forth by the Russian Marxist Georgi Plekhanov, was that since Marx conceived of communism as a society emerging first in the most developed capitalist societies, those less developed had to pass through the appropriate stages to reach a level appropriate to transition. But Marx's anti-state predilections were so powerful that, in the 1880s, instead of following what would become the orthodox Marxist line of Plekhanov, he indicated the possibility of leaping over stages. The Russian commune, the *mir*, he speculated, might form the basis of a direct move to a communist society, without the intermediate stages of market capitalism and its associated state apparatus.[50] It would appear that any socialist adaptation of the technocratic planning vision of the state as an agent of development would have been an anathema to Marx.

By the beginning of the twentieth century, socialism was identified with the first three principles of the technocratic planning vision; with the emergence of Soviet planning, it became linked to the principle of the developmental state. The First World War played the important role of placing the state alongside the giant firm as an exemplar of planning, as can be seen in the glowing account of the German war economy from Yuri Larin (who

was to be the father-in-law of the Bolshevik Nikolai Bukharin) in articles written during the war, but reprinted in the Soviet Union in 1928 as an official publication.[51] The perspective here, one that became an integral part of Bolshevik orthodoxy, unites the technocratic planning principles of the inexorable growth of concentration and planning and their links to rational coordination of the economy, even in capitalism, with the role of the state as the central coordination mechanism:

> The centre's activity has consisted in uniting in one branch the outstanding enterprises of an industry ... We see that this central regulation of the procurement of materials is supplemented by the central distribution of orders for the industry in question ... with, furthermore, planned regulation of sales ... Thousands of mutually hostile small and medium-sized competing enterprises were united in an a single network. (pp. 19–20)
>
> Clearly the economic reorganization we are observing today is by no mean a 'socialism of the state' ... On the contrary, it is only the highest stage, the most developed form of the organization of private appropriation – a 'capitalist collectivism' ... *Industrial cartels, trade syndicates, trusts in all industries, bank consortia – all of these engender and proclaim the new direction, ever more rapidly growing in magnitude and significance.* (pp. 29–30)
>
> Capitalism ... has already outgrown the fetters of private competition while still remaining capitalism – but on an 'intensive' path of internal reorganization. The special interest of the observations being made here is that Germany is a prototype of the path destined for all. Insofar as the war especially accelerates the new phase in the development of capitalism, the cessation of the war will perhaps waken these changes. But further developments, so long as capitalism continues to exist, must move it along in this direction. (p. 32)

In the Bolshevik interpretation, Imperial Germany, with the most feeble of allies, found itself at war with a group of nations that, even before the entry of the US into the conflict, greatly outmatched it in terms of ownership and access to economic resources, including raw materials, of all kinds. Germany's economic deficiencies vis-à-vis its enemies became a critical issue when it was evident that this was to be a war of extended duration. The economy that emerged was unmatched as a model for central planning, with the setting of priorities for the economy as a whole. There was conscious coordination of relations between individual sectors and the breaking of bottlenecks, including the securing of raw materials and/or the finding and innovation of substitutes. Large units proceeded with rationalisation and coordination of their sectors to eliminate inefficiency and redundant capacity. There were active programmes to promote the conservation

and efficient use of economic resources, including raw materials and labour. The latter was a particularly scarce commodity in the war context, one that had to be efficiently allocated and directed.

Many of these notions were flights of fantasy.[52] The Raw Materials Section created by Germany during the war saved it from disaster, with the other great success of state planning being the building of nitrate plants needed for munitions and agricultural production. But state control could not avert continuing crises in resource management: the major reason for the shutting down and consolidation of industries during the last two years of the war was not a visionary view of rationalisation and planning, but the need to conserve resources devoted to transport and coal. It is sometimes claimed that Britain was, in fact, more successful than Germany in channelling industrial and labour resources to the war effort.[53]

And here we have to disentangle the bewildering series of political events that unfolded along with the war. In 1914, the SPD, including the orthodox Kautsky and the wayward Bernstein, both deviated from Marxist internationalism by supporting war credits; Kautsky's 'renegade' behaviour was denounced by his disillusioned former acolyte Lenin. After the First World War, the SPD re-created itself as a nationally oriented party in favour of an evolutionary move to socialism in the Bernstein mould, accompanied by Kautsky and the majority of the prewar party. By contrast, in 1917, the Bolsheviks made a revolution in the name of Marxist internationalism and an orthodox adherence to the technocratic planning perspective. What then emerges, even more definitively than in the prewar era, is that *an adherence to economic planning orthodoxy came to be identified with political and social radicalism, with any deviation from this orthodoxy a sign of betrayal*. These tendencies were exacerbated when traditional Marxist anti-state principles were dismissed by the Bolsheviks soon after their seizure of power. With the emergence of the doctrine of socialism in one country in the mid-1920s, Marxism for the first time was explicitly linked to the fourth principle of technocratic planning, the developmental state, so that the state's role in socialism was heightened even further: internationalism became merely a regime-serving slogan. In the Soviet Union and for those abroad under its influence, internationalism and antagonism to the existence of the national state were no longer seen as principles of Marxist legitimacy. It was, rather, adherence to technocratic planning orthodoxy that emerged as the standard and test of true socialism, with everything else being a deviation.

The ever-closer identification of Marxism, and even socialism in general, with the principles of technocratic planning from the beginning of the twentieth century served greatly to facilitate the notion that history was pointing the way to the future. Marxism itself had secured the notion that capitalism had inherent contradictions, while the technocratic planning perspective indicated the ease of transition to socialism: the socialist future is prefigured in present-day capitalist development. The first principle of

technocratic planning indicated that capitalism was already consolidating and in the process of introducing planning within enterprises, albeit in an unsystematic manner. The fulfilment of this process would take place under socialism, where capitalist achievements in accounting and scientific management would be brought to consummation through the treatment of the economy as one big enterprise (a notion that, in its literal form, as we shall see in the next chapter, was soon abandoned by the Bolsheviks).

The admiration of the Bolsheviks for Taylor's techniques for the control of labour indicates a view of workers in the labour process that, in a socialist context, is passive and prefigures the advocacy (and de facto practice) in the Soviet context of the use of coercion in the form of labour armies.[54] The second and third principles lent themselves to the creation of a planned economy based on a purely technocratic approach, with little worth preserving in the old system – finance and marketing were treated as purely gratuitous elements. The principle of the state as the key actor in the process of economic development had already been present in Russia before the Revolution. When, however, in an agricultural context, murderous coercion was combined with the notion of an inexorable growth in the efficient scale of enterprises, de facto state ownership and a belief in the inherent efficacy of top-down planning, it had disastrous consequences.

In the late 1920s, the Soviet Union introduced an economic system that was a radical departure from anything functioning in the modern world. In part, this new system reflected an adherence by the leadership to Marx's rejection of both private property and market mechanisms.[55] But this attitude and its maintenance for over 60 years were powerfully reinforced by views held from the beginning of the twentieth century on the nature and trajectory of real existing capitalism in the form of the principles of technocratic planning, views that also continued to be held through most of the twentieth century even by non-Stalinist Marxists, non-Marxist socialists, and non-socialist critics of economic orthodoxy.

* * *

To this day, democratic socialists have found it difficult to extricate themselves from an identification with notions of centralised state control of the economy embodied in the technocratic planning paradigm. In reaction, many professed progressives have absorbed neoliberal views of economic regulation and the role of the state in the absence of a viable socialist alternative. A partial list of the deleterious aspects for socialism of its long identification with the technocratic planning paradigm and central planning is as follows:

1. The association of this perspective with the murderous totalitarianism of the Soviet and associated regimes and their failure as economic systems.

2. The inadequacy of this paradigm both in its role as an analysis of capitalist development and as a prototype (in the Soviet and similar contexts) of how a socialist economy might operate. The by-products of these failures have been that progressive theorists and practitioners have been diverted into misguided and irrelevant critiques of contemporary capitalism, or have retreated into pragmatic tinkering with the existing structures of the capitalist economy. The latter directionless approach to public policy implicitly concedes the argument to Hayek that societal evolution is inevitably dominated by the exigencies of a spontaneous capitalist order, one not subject to rational, democratic control by the members of that society.
3. The focus on top-down planning of the productive forces in the economy tends to relegate to a secondary consideration the role of *human* development and agency in economic progress. In an associated political aspect, the planning paradigm leaves little room for the traditional socialist notion of workers' control.

The next chapter will be largely concerned with the first of these deleterious effects of the planning paradigm, and Chapter 5 with the second. The rest of the book, Parts II and III, engages with the third element of the critique of central planning and offers a socialist alternative centred on human development and democratic control of society.

# 4
# Socialist Theory and Practice

Decades of debate and discussion on the nature of socialism reach a moment of truth in the period after 1917. The Bolshevik Revolution took place in what was, in terms of both area and population, decisively the largest nation in Europe. But it was a distant land for the bulk of West Europeans, and was too poor and backward to be an appropriate venue for a Marxian transition to communism. Nevertheless, the existence of this gigantic 'workers' state', in the context of the troubled postwar economic and political situation, profoundly affected the political and intellectual atmosphere in the West: a socialist transformation of the society and economy was no longer an abstract consideration.

The argument made in Chapter 3 was that socialists' perception of the trajectory of capitalism informed their view of the nature of the new society. This chapter begins by examining how, in fact, the socialist analysis of modern capitalism influenced the construction and direction of the Soviet economy. What follows is an exposition of the debate on the nature of socialist calculation that took place in Western capitalist countries: strangely, the debate proceeded almost as if the Revolution had never taken place. All sides in the discussion attempted to override or evade a whole set of troublesome issues affecting both capitalism and socialism, including the relationship between the centre and the base and, most especially, the role of intertemporal decision making in economic outcomes. Serious engagement with these issues would, of necessity, involve consideration of the role of finance in economic allocation, a question barely touched on by these groups and one that eludes simple solutions to this day.

## Central planning and real existing socialism

Central planning was a system of economic management that presided over a large part of the world for much of the twentieth century. Arguments persist over its success or failure as an economic system. An attempt will be made here to wade through the extraordinary history emerging in the wake

of the Bolshevik Revolution, separate the contingent from the systemic aspects of these events, and extract any useful conclusions for dealing with the issues surrounding the general efficacy of planning. An encapsulated version of Soviet economic history is presented below, followed by more general considerations.

The pre-revolutionary Russian empire was undergoing a steady, but not spectacular, level of economic and social development, with an emergent but still relatively small industrial sector that in some areas was approaching world-class standards. Culturally, and despite mass illiteracy, Russia was already a world centre, having produced many of the great writers, musicians and mathematicians of the age. The political regime of the Romanovs was primitive and its bureaucracy backward, but was not, until its intervention in the events leading to the First World War, wholly dysfunctional, and had not acted as a complete brake on Russian economic and cultural development.

Radical Marxists such as Rosa Luxemburg, Vladimir Lenin and Leon Trotsky wrote perspicaciously about militarism, imperialism, international tension and war. But in the period surrounding the Bolshevik Revolution, much of the intellectual focus of the Bolshevik Party was, from a twenty-first-century perspective, simply odd – a continuation of an esoteric prewar dispute over whether Russia, in a post-revolutionary situation, would have an interim capitalist phase or pass directly to socialism; Lenin's exegetical discussion, on the eve of the October Revolution, of the correct Marxist view of the nature and even the existence of the state in post-revolutionary society in *State and Revolution*; the utopian musings of 1920 in the *ABC of Communism*, at the height of the carnage, famine and chaos of the Russian Civil War, by Nikolai Bukharin and Evgenii Preobrazhensky, who would emerge as leading theoretical protagonists (on opposing sides) in the new state.

In fact, the new regime was confronted almost immediately after the October Revolution with profound threats to its own survival in the form of civil conflict and foreign intervention. The Bolsheviks were ultimately victorious in the civil war, but the policies of this first period of Soviet power, dubbed in retrospect 'war communism', are generally conceded to have been a disaster, extending the duration of the civil war and exacerbating the suffering of the population. The Marxian inhibition on the fleshing out of details of the post-revolutionary situation manifested itself as improvisation: the Bolshevik state, far from disappearing, fought the civil war through grain confiscation, seizure and direction of industrial property, and terror against civilians perceived to be hostile to the new regime. But strikingly, the Bolshevik state, so bloated in a security context, did not succeed in constructing a state apparatus for the allocation of economic resources.

Much of this failure may be excused by the conditions of civil war, but the lack of any kind of intellectual preparation for this task seems linked to the Leninist notion that the post-revolutionary economic transition would be a trivial matter. Relatively late in this period, the concept of *khozrachët* – an obscure term indicating the need for the maintenance of the integrity of the accounts of individual enterprises – had to be introduced. The absence of such a concept in the economics of war communism can be explained in two ways. It might be an indication that little thought had been given earlier to notions of economic organisation. Alternatively, it may be seen as a demonstration of how dogmatic, in this early phase of Soviet rule, had been adherence to an extreme version of the engineering perspective of the technocratic planning paradigm: individual enterprises were to be mere cogs in the centralised, direct, natural (tonnes of coal) allocation of resources. No need had been anticipated for the maintenance of financial coherence in the operation of individual enterprises through a concept such as *khozrachët*.[1]

This abjuring of any coherent financial planning mechanism was made worse by the inevitably high inflation accompanying a civil war of this magnitude and the state's attempt to use this inflation to confiscate resources to fight the war. But the transition to hyperinflation may well have been exacerbated by the new regime's conscious attempts to eliminate the use of money.[2] In addition, a central doctrine of the new regime was the millennial proposition that the events in Russia were only a prelude to a worldwide revolution that would somehow obviate or even eliminate all of these problems.

Adventurism is the mother and father of the *Thermidor*. The key economic policies ending war communism were a reversal of the government's anti-money policy in the most orthodox of ways, with the introduction of the gold-backed *chervonets* currency and by a de facto recognition of a private market in agriculture and the replacement of grain requisitions with a tax in kind. The New Economic Policy (NEP) was successful in reviving the economy, but was persistently thought of as a retreat. Such an attitude is an indication of how powerfully the technocratic planning paradigm had taken hold as a model of true socialism, despite the catastrophic results of experimenting in this direction during the war communism period.

With the technologies surrounding the mechanisation of agriculture existent by the 1920s, even in the absence of the as yet unexploited development of mass production of chemical fertiliser, the agricultural problem was on the verge of being solved in the developed nations of the world for the remainder of the twentieth century. Agricultural output was also increasing in this period in the USSR, but, in the eyes of the government, not quickly enough: at one point, the claim was made that

shortfalls in grain deliveries to the market were caused by a collective strike by peasants refusing to deliver grain at prices they considered to be too low. In fact, more rapid increases in production were inhibited by interference in the agricultural sector, including attempts to hold down state purchase prices for grain below market levels.[3]

A growing movement developed within the Party for 'something' to be done. The motives for a change in direction emerged from a combination of impatience (linked to what were perceived to be imminent military threats from the capitalist world, most especially the British Empire, but not Germany, with whom there was clandestine military cooperation); a general disdain for the peasantry, especially of the more prosperous kind (the so-called *kulaks*); and an ideological distaste for the use of material incentives to peasants to increase agricultural production. A prime example was the proposal by Trotsky's associate Preobrazhensky for the extraction of 'tribute' from the agricultural sector by way of taxes to finance industrialisation. Opposition to aggressive policies towards the peasantry gradually grew weaker, perhaps because supporters of the NEP were seen to be defending a retreat from true socialism by citing the efficacy of market incentives – 'enrichissez-vous', said Bukharin to the peasantry. Preobrazhensky's notion of agricultural extraction as a vehicle for financing industrialisation (most especially in the form of the purchase abroad of capital goods) was taken over by Stalin and combined with his ingrained faith in the inherent potential for efficiency gains from large units of production[4] and a willingness to go to war with the *kulaks*. We see the initiation of a new civil war by the Communist Party against a large percentage of the population, as well as the almost simultaneous initiation of the first five year plan: the beginnings of the Soviet centrally planned economy.

The Stalinist economic system, in the form of collectivisation and the first five year plan, thus erupted in 1928 and 1929. It departed from the NEP and returned to the true path of socialism as dictated by the technocratic planning perspective and its fourth principle, the developmental state. This economic strategy was fused with a politics embodying Stalin's nationalistic slogan of 'socialism in one country' and his notion that the coming of socialism would bring about an intensification of the class struggle in society. The system had aspects of irrationality that verged on the suicidal: the new civil war of choice with the peasantry by the Party was undertaken under the presumption that the shelling of Ukrainian villages with artillery would be an efficacious procedure for increasing the amount of grain extracted from peasants; a dismemberment of the Red Army officer corps was conducted on the verge of a world war, with the elimination (for no good reason) of thousands of officers. These and other bizarre events were without parallel in the even more sinister National Socialist Germany.

> The peculiar aspects of Stalinism should not distract us from analysing and evaluating policies that are explicable as part of an extended intellectual tradition: they were not simply an improvisation by a group of revolutionaries. The overall economic strategy of the Stalinist state was based on intellectual foundations that had been built up over decades, and these policies, emerging from the application of the principles of the technocratic planning paradigm, were broadly replicated in the post-Stalinist Soviet Union and other communist states after the Second World War.

As noted in Chapter 3, the Stalinist economic system often received a favourable reception in much of the Western world in the 1930s (as did German fascism) due to its apparent capacity, in contrast to capitalism in parliamentary democracies, to avoid mass unemployment and generate impressive rises in a range of economic indices. Information on the mass starvation from collectivisation and the enormous numbers in labour camps could not be completely repressed, but, for various reasons, was often wilfully ignored. When the war came, the predominant role that the Soviet Union played in the defeat of National Socialist Germany proved to be its greatest achievement, not only politically but also economically. It managed to evacuate over 1500 factories to the east at the height of the invasion, perhaps the quintessential example of the efficacy of centralised control; its success in mobilising resources exceeded that of any major participant, out-producing Germany in armaments in a period in which it had lost half of its industrial capacity to occupation and with the Germans having access to the resources of most of Europe.[5] The quality of Soviet weaponry was, overall, very good.

The success of the Soviet war economy led to an overestimation (by all parties) of its capacity and achievements over the long term. Questions, for instance, of rational incentives for enterprise managers and others were obviated in the context of a war against extermination and enslavement; the ability to focus on the mass production of a small variety of models (the classic example being the T-34 tank) for the achievement of a finite and well-defined goal – victory – ideally suited the centrally planned economy. By contrast, Hitler's determination to let spontaneous forces and rivalry continue to function during the war helps to account for the failure of National Socialist Germany's war economy.[6]

The Soviet Union's most unambiguously positive achievements as a civilian economy took place in the 1950s and 1960s. Starting from low levels, both consumption and overall economic output grew at rates (whether using official Soviet or CIA calculations) that exceeded those in, especially, the slower-growing parts of the capitalist West, such as the US and the UK: in the 1960s, Paul Samuelson's famous economics textbook had a graph showing the Soviet Union surpassing the US as an economic power by the end of the

twentieth century if contemporaneous trends continued.[7] Even for many who disapproved of its politics and social system, the Soviet Union was seen by many to be setting the pattern for future development, an opinion reinforced by the launching of Sputnik in 1957.

It now seems curious to note that by the 1970s, the Soviet Union had largely fulfilled the long-term goals it had set in the first five year plans, emerging as a world leader in the production of steel, cement and energy products. All this took place at a time when capitalism, with the collapse of the Bretton Woods international currency system in 1971 and the oil price shock of the mid-1970s, was facing a permanent slowdown from the postwar golden age of capitalist growth. Yet in this period it became clear to observers, both Soviet and foreign, that the Soviet economy was entering a period of stagnation, masked temporarily by the rise in international oil prices. It was in this period of crisis and slowdown for capitalism that the latter's superiority over central planning in terms of innovation and flexibility became clear. In the early 1980s, Mikhail Gorbachëv had witnessed a shocking gap between the living standards in Canada and those in the Soviet Union, one that, if anything, seemed to be widening. This continuing contrast with the rich West was reinforced by the success of, first, Japan, and then South Korea and other capitalist economies, in doing what the Soviets had promised for decades – transforming poor nations swiftly into modernity. These economic realities were central aspects of the downfall of the Soviet system.

**The Soviet economy as the embodiment of centrally planned socialism**

1. *The Soviet economic system never evolved into an alternative system to capitalism for developed countries*, either in the Soviet Union itself or in its most economically advanced offshoots, the German Democratic Republic and Czechoslovakia. The strongest case for suggesting that the system implemented in the Soviet Union was an economic success has been made in the book *Farm to Factory* by Robert C. Allen, which views the overall record of economic growth of the Soviet Union between 1928 and its demise, and especially until 1970, in a favourable manner. The striking comparison in Allen's book, however, is not with advanced capitalism, but with developing countries: 'in the absence of the communist revolution and the Five-Year Plans – Russia's fate would have been somewhere between India's and Argentina's'.[8] This argument has particular force in the context of the depressed world conditions after 1928, a period in which the export-led strategies that Japan and the Asian tigers had pursued in the postwar world were not an option. The key aspect of Soviet planning success, according to Allen, was the use of output as opposed to profit indicators (linked to so-called soft budget constraints) in the context of the notorious problem of idle or excess labour in the countryside, typical

> of developing countries: 'Output [was] expanded by breaking the link that capitalism imposes between the wage and the marginal product of labor. Giving firms high output targets and a soft budget constraint broke that link and was a source of growth in the Soviet Union in the 1930s.'[9] Allen suggests that this industrial strategy would have resulted in exceptional growth even without the additional investment resources generated by forced collectivisation.[10]

Even if we accept Allen's conclusions concerning Soviet success in the context of viewing it as a developing country facing the worldwide stagnation of the 1930s, it tells us little about central planning as a general economic system, one that would be relevant to economic regulation in countries at all levels of economic development. The failures of the Soviet economy after 1970 cannot simply be accounted for, as Allen suggests, by proximate and contingent events – an incorrect decision to invest in the reclamation of existing facilities rather than in the construction of greenfield sites in industries such as steel and the diversion of resources for new technology from civilian to military use.[11] The latter conclusions are implausible. The centrally planned system never appeared to be on the verge of a breakthrough to advanced capitalist standards, one that was merely thwarted by a series of managerial errors and the pressures of the Cold War. By the 1970s and 1980s, Japan and, later, other Asian countries were challenging established capitalist economies with the inherent quality, and the quality control, of their products in areas of advanced manufacture, such as cars and electronics goods, while a visitor to Moscow would find little besides the metro that was modern (and Soviet) and was worthy of approbation. Visiting Vladivostok in 1989, away from the dazzling relics of the Tsarist regime in the capital, I found the universal shoddiness of material life – and not merely its backwardness in a technological sense – to be breathtaking. By the time the Soviet system collapsed two years later, there had emerged, unlike in Japan, very few products or other aspects of material existence that were thought worthy of emulation in the rich capitalist West.

From one perspective, Soviet failure can be seen as an inability of the economic system to generate technological innovations, despite the fact that, through to the 1980s, mathematicians and theoretical physicists in the West were still learning to read Russian to keep up with developments in specialities in which the Soviet Union excelled. In broader terms, however, it was not simply a question of a failure in technological innovation, but a generalised inability to produce goods (and services) of decent quality. These deep inadequacies were present in a society not bereft of a capacity for excellence, as evidenced by the eminence of its best scientific and mathematical work and its capacity for cultural achievement, which is palpable in the world's concert halls to this day. The Soviet bloc was producing very few finished goods outside of the military sector that would have been envied

(or purchased) for their quality or distinctive aspects by Western consumers or industrial buyers. The failure in 'the attainment ... of the material requisites of wellbeing' (to use Alfred Marshall's phrase) was not an aspect of a universal societal dysfunction, but one specific to the economic system as narrowly conceived.

The nature of this stagnation was not only a slowdown in the growth of existing products but, more significantly, an inability to respond to the dramatic changes taking place in Western economies. The initial postwar years – the Golden Age of Capitalism from about 1947 to 1971 – took place in the context of technologies that had all been up and running in the interwar period. During this capitalist golden age, Soviet growth rates in established industries, such as energy products, the production of raw steel and the generation of electricity, were at high levels. But even in this apparently successful period of growth, the centrally planned system lacked the capacity for the kinds of continuous improvement characteristic of capitalism in established areas such as consumer electronics (radio and television receivers) or efficiency in the use of energy and materials.[12] It was, however, in the post-1971 period – a period of slowdown in the growth rate of capitalist economies – that Western capitalism demonstrated its superiority vis-à-vis the centrally planned alternative as a vehicle for technological progress, most strikingly in the context of the electronics revolution. A further, seemingly paradoxical aspect of these triumphs of Western capitalism was that they took place accompanied by substantial intervention by the state, whether in the form of expenditure and direction by the US Department of Defense (see Chapter 9) or the state-directed industrial policies of Japan and other nations.

It would be inappropriate to have expected the economically retrograde Soviet bloc to replicate the technological achievements of the whole capitalist world; the alternative strategy of borrowing and imitating the technologies of more advanced countries has taken place throughout the history of capitalism. For societies such as those in the Soviet bloc, with their high levels of general and technical education and therefore presumed capacity for understanding and adapting these new procedures, such borrowing and imitation should, in principle, have yielded the kind of success that this policy yielded for Japan and the Asian tigers. And yet it did not. The usual range of proximate excuses contains elements of truth: the Cold War undoubtedly played a role in inhibiting trade expansion with the West and the importation of new technology through legal means (most strikingly in contrast to Japan).[13] But even within the Soviet bloc, trade was of a limited, bilateral variety due to the lack of acceptance of the rouble as a common currency and the autarchic orientation of the constituent centrally planned national economies.[14]

Furthermore, the suggestion by Allen, mentioned above, that the drain on resources from military expenditure diverted resources from civilian

development is undoubtedly correct. But in the capitalist West, the very electronics revolution that produced such an insuperable chasm with the socialist bloc encompassed spillovers to the civilian sector from innovations that, in their crucial phases, had emerged from military programmes in the US. Perhaps the real question is why there was so little spillover from the military sphere, not only of advanced technology, but of quality and quality control, in the civilian industries of the USSR. Where were the civilian equivalents of the AK-47 rifle in the form of washing machines or vacuum cleaners?

As we shall see below, much of the answer to these questions is embedded in Hayekian notions of competition as a process of continuous struggle and the market as a purveyor of information. Soviet approaches to technological change in the civilian sector seemed to embody a presumption that discontinuous leaps would permit them to forge their way to equality with their Western rivals, often verging on a Mr Micawber-like presumption that 'something will turn up'. On occasion, such a path is possible: today we see many developing economies that have never had viable land-line telephone networks simply bypassing this technology with cell phone infrastructure. But such instances, though striking, tell us little about the typical process of development in economic systems. The South Koreans from the 1960s onwards, with their highly cartelised domestic economy, faced markets at home in key sectors almost as monopolistically captive as those in Soviet-type economies, but their export-led strategy meant that they continually had to match or surpass the technological, quality and efficiency standards of their international rivals, and could have no illusions about their own inadequacies. (In my experience, Soviet producers and consumers, lacking substantive ground for comparison, often sincerely believed in the world-class standard of specific procedures and products that to foreigners came across as quite ordinary.) If the Soviet military sector was, for an extended period, immune to these problems, it was due not only to the resources devoted to this sector overall, but specifically to the monitoring of military developments abroad in a highly rivalrous context, so that the delusionary propensities of an insular society were largely mitigated.

2. *The Soviet Union was an administered rather than a planned economy* (in the words of a famous article),[15] so that the notion that it was offering an alternative to capitalism of an economy rationally organised by an overarching plan is a dubious proposition. Centralised targets emerged from a bargaining process with individual enterprises based on an extrapolation from existing levels and trends, rather than being part of an integrated overall plan. Planning of all sectors of the economy in material terms was rejected as a serious proposition by many eminent Soviet economists, who proposed instead the integrated, planned development of a few key sectors, in a manner not very different from that found in a

range of capitalist economies. In fact, true planning in physical terms was never really a serious proposition, since as late as 1951, the five year plan consisted of only 127 products, with rouble investment expenditure remaining the dominant control mechanism over these highly aggregative plans.[16] It has been suggested that a continued adherence to administrative control of all sectors of the economy was more a reflection of an ideological distaste, coming from Marx, for market mechanisms than any serious notion that all aspects of a modern economy could be 'planned'.[17]

Soviet success in the Second World War with planning is the exception that proves the rule, because of the unique situation of a small number of prioritised tasks that had to be fulfilled for a limited period of time. Even here, it can be argued that it was, rather, 'the informal system of high-level improvisation and individual initiative, coupled with mobilisation from below, which carried the Soviet Union through its greatest emergency'.[18] The perpetual presence of taut, unrealistic goals in the first five year plans was the school in which the art of improvisation was mastered by planners and enterprise managers, and permitted them to survive in the chaos of the 1941 invasion. As we shall see below, these impossible planning targets had been used as a substitute for the kinds of Hayekian competition that propel capitalist economies.

3. *Very few authorities on the Soviet economy have ever argued that it failed because it was too egalitarian.*[19] Soviet incomes were low enough at all levels for rouble-based and other material incentives to generate changes in behaviour. Critics of the system suggest, rather, that the incentives were perverse, either in the positive sense of encouraging anti-social or rent-seeking behaviour (such as the hoarding of resources by enterprises), or in the negative sense of discouraging innovation and enterprise: the prime incentives remained focused on the fulfilment of output targets. Furthermore, the ability of Soviet-type economies to generate sufficient saving for high levels of economic growth, even in the absence of a capitalist class, was never in question.

The notion, however, has been advanced on occasion that the lack of fear of unemployment in Soviet-type economies reduced the level of work intensity and resulted in excessive turnover among workers.[20] But this supposed lack of worker efficiency due to some want of insecurity in employment is hard to separate from the peculiar rhythm of the worker's life in this perpetual shortage-ridden, war-type economy. Very much like the proverbial soldier, the Soviet worker's existence was, in the famous phrase, 'an existence defined by long periods of boredom interspersed with occasional moments of terror': annual plans were furiously fulfilled in storming activities at the

end of the year, and discontinuous commands came down from the centre in the form of campaigns, reallocating resources to priority sectors and to shock workers with little regard to the costs of these changes: a perpetual war economy.[21] And yet, a potential advantage of job security for the national economy – a lack of concern on the part of the workforce about displacement by new technology – was relatively unexploited, because installation of new equipment often interfered with the planners' single-minded obsession with output targets and, therefore, workers' bonuses.

4. *The Soviet conceptualisation of socialism had no place for workers' control*. The tensions between a workers' control and a technocratic planning conception of socialism can be found in the anti-syndicalist writings of Kautsky and Lenin, and in the latter's actions in the earliest days of the Bolshevik Revolution: they are not the product of Stalinist 'deformation'.[22] Lenin's notion of workers' control, from the very inception of Bolshevik power, 'meant a sort of political supervision of the activity of managerial staff, rather than workers' management'.[23] Such an approach is congruent with a technocratic planning view of socialism as a coordinated activity integrated through centralised direction; workers' control would, as well, impede Lenin's desire to implement the management principles of F. W. Taylor and Henry Ford in Soviet industry.[24]

The general pattern of subordination of labour in subsequent Soviet history is well known. But an important phenomenon of the Stalin era, the development of the Stakhanovite movement, illustrates issues that would be present in any economy dominated by a central plan. In August 1935, in a carefully prepared demonstration and with help from his fellow workers, the miner Aleksei Stakhanov hewed 102 tons of coal on his shift, or 14 times his quota.[25] The distortions of priorities and resources brought about by the subsequent cult of the exemplary Stakhanovite worker were soon evident to Soviet planners and others, but the movement persisted until Stalin's death.

The Stalinist regime went down the potentially perilous path of acceding to the semi-spontaneous emergence of Stakhanovite enthusiasm because it was in a bind. A central problem for both capitalist and socialist managers is how to make their enterprises, including the workforce, function efficiently. Lenin had claimed that his interest in Taylorist scientific management was in its objective aspects, such as the rational distribution of machines and tools in the workplace. But, as Lenin and every Marxist was aware, Taylorism as a programme of scientific management was notorious not so much for its contributions to firm efficiency, but for its association with methods for the intensification and increased control of the work process – a reduction in shirking by ordinary workers and the overriding of the autonomy of skilled workers in their planning and pace of work. Soviet leaders were

defensive about identifying too closely with such managerialist approaches, not merely for the obvious reason that they were supposedly in control of a workers' state, but because of the Stalinist prejudice in favour of 'Red' over 'expert' decision making, noted in Chapter 3, and the dangers to the planning conception of giving too much initiative to directors at the enterprise level.[26]

Soviet leaders were also as wary of skilled worker (often old craft) autonomy as the Taylorists. Stakhanovism represented an attempt to generate enthusiasm and higher productivity from below without relinquishing control over the overall planning process or over the direction of individual enterprises.[27] In the broader context of the planning regime, neither worker nor enterprise initiatives were welcome as mechanisms for generating efficiency: 'Stakhanovism represented a way of intensifying production but without succumbing to the managerialist or autonomist implications of this emphasis. In the absence of any automatically operating means of compelling management to lower costs or otherwise "sell" products at competitive prices, Stakhanovism provided such compulsion.'[28] This desperate attempt at controlled voluntarism illustrates the unresolved tensions between a conception of socialism centred on planning and one linked to workers' control and initiative. It probably only functioned in an efficacious manner in the war for survival between 1941 and 1945.

5. *The greatest and most lasting economic successes of the socialist countries were in the context of human development indicators – health (including medical provision, sanitation and egalitarian nutritional sufficiency) and, especially, education*. All of these accomplishments have to be seen in the historical context of the imposition of famine and mass murder, most especially during the Stalinist period, during which, by one calculation, between gulags and restrictions on peasants, four out of five of the working population of the Soviet Union at the apogee of repression lived in the dismal and highly inefficient conditions of forced, or unfree, labour.[29] But the failures of socialism extended long after Stalin's death, and the relationship of this system to education, human and economic development will continue to raise important issues in the following chapters about the use and misuse of human assets. Education in the social sciences and the arts was despoiled by censorship and repression; biology was subject to the perversions of Lysenkoism through the Khrushchëv era; most other pure sciences were left untouched, though applied sciences suffered greatly from limited access to journals and world-class equipment.

The genuine accomplishments in human development of the Soviet-type systems were never ranked by them as major achievements in an *economic* context, because these regimes had for so long put an emphasis on physical output indicators and had made such poor use of their human assets. When

the system collapsed, its world-class assets were embodied almost solely in human beings, rather than in its largely obsolescent capital stock.

The collapse of Soviet power in 1991 was coincident with the substantive abandonment of radical socialist movements and intellectual discourse in the rich countries of the Western world. In one sense, this is a curious development, since much of the space taken up by radicalism was occupied by followers of Leon Trotsky who, subjectively at least, were as anti-communist (or, as they would say, anti-Stalinist) as any committed right-winger (or, in the case of Henry Kissinger and Edward Heath, much more so). Trotskyism was a radical current of thought that continued to have a significant voice in the capitalist world in discussions about the Soviet Union throughout the latter's history. For followers of Leon Trotsky (and the British Conservative historian Edward Hallett Carr in an 'objective', less politically committed way), the Soviet Union was on the correct path, but had taken a wrong turning.

Trotskyists and almost all other left-wing groups (including even many reformist communists and social democrats) were in essence adherents to a version of the technocratic planning perspective, believing that the Soviet Union was a progressive, post-capitalist development – a workers' state that became the victim of bureaucratic deformation. This deformation had been partially caused by historically contingent events, including, it was claimed, the destruction of the most progressive sections of the working class during the civil war, leading to bureaucratic (Stalinist) takeover of the reins of power and the lack of a genuine popular participation in the process of planning. Trotsky's follower Isaac Deutscher put special emphasis (as did the left-wing economist Paul Baran) on Russian backwardness. According to them, bureaucratic deformation and lack of democratic participation in and control of decision making meant that even objectively progressive measures, such as the collectivisation of Soviet agriculture (initially supported by Trotsky), would be carried out in a brutal, dysfunctional manner. This view of the Soviet Union refracted itself back in the form of debates about socialism in the capitalist world: the most significant group of radical critics of capitalism were those who, no matter how censorious they were of the Soviet Union and other representations of real existing socialism, were seeing them as perversions of a fundamentally progressive, correct path to a new society (the Russian title of Trotsky's famous critique of Stalin's Soviet Union, *The Revolution Betrayed*, is *What Is the Soviet Union and Where Is It Going*?). This process continued for much of the twentieth century, with a test in the Western capitalist world of the purity of one's radical socialist credentials being a capacity to offer a critique of real existing socialism that did as little damage as possible to the inherent logic of a centrally planned organisation of the economy.

Chapter 5 will explore further the demise of the technocratic planning tradition in its radical and more moderate guises in the West in the 1980s. But a quite different debate on the nature of socialism and its rationality

had emerged earlier in the academic community – one that was curiously tangential to the considerations so far explored, but highly revealing about the dilemmas facing all economic systems, both capitalist and socialist.

## Socialist calculation

As we have seen in Chapter 3, Lenin viewed the running of a socialist economy to be a trivial matter of administration. Perhaps as a result, the formal problems of directing a socialist economy were largely left unexplored in the pre-revolutionary writings of those who would subsequently confront these issues.[30] The key debate on the possibility of a rationally constructed socialist economy took place elsewhere, and with only peripheral consideration of the substantive development of the emerging Soviet state. It is the reaction to this debate, as much as the original debate itself, that has proved to be of continuing relevance to an understanding of the economics of both capitalism and socialism. A stylised and abbreviated summary of the original debates is as follows:[31]

> In the early twentieth century, the Austrian philosopher and economist Otto Neurath produced a vision of a socialist economy whose distinguishing characteristic was an allocation of resources using a natural – physical and engineering – perspective, a reflection and strong version of the emergent technocratic planning view described in Chapter 3. The Austrian economist Ludwig von Mises, responding to this and similar views after the First World War, focused on the issue of the efficient allocation of capital goods in an economy to substantiate his claim that the construction of a socialist economy on a rational basis was impossible. Capital goods had to be priced if firms were to make rational decisions on their use – the pursuit of efficiency could not be based on a simple engineering criterion of the best way to make something, since a range of techniques for a given production decision invariably exists. The choice of the most efficient one for society as a whole would have to incorporate a calculation of the relative scarcities of the range of capital goods, raw materials and labour associated with each of these techniques, a calculation that would have to be made in value, rather than physical or engineering terms. According to Mises, the value parameters necessary for such efficiency calculations could only emerge from the prices generated by a market for capital goods in which the enterprises participating in this market were privately owned.
>
> In the 1930s, the economist Oskar Lange took up the challenge of Mises' claim of the impossibility of constructing a socialist economy. He readily acceded to the need for efficiency calculations to be made in value terms rather than using purely natural or engineering criteria, but claimed that these values could emerge without a market for capital goods, and

without private ownership. In Lange's model, there was a free market in labour and complete consumer choice. The Central Planning Board, beginning with an array of prices (the rueful joke in socialist countries decades later was that one capitalist country would have to be preserved to obtain these prices), would instruct each enterprise to set its levels of output so that price was equal to marginal cost and to minimum average cost, conditions for efficiency familiar from a competitive free-market (capitalist) equilibrium. Any surpluses or shortages would be eliminated through iterative trial-and-error price movements: these adjustments towards market clearing equilibrium would mimic those found in Léon Walras's model of the general equilibrium of supply and demand in a market economy. In Lange's only critical reference in this article to the contemporaneous situation in the Soviet Union, the continuing presence of shortages there was an important sign of misallocation of resources.[32] Lange had thus refuted the argument that socialism was incapable of achieving static efficiency.

As Paul Craig Roberts has commented, a curious aspect of Lange's model is that it did not resemble or correspond to any substantive proposal for the operation of a socialist economy, either before or after its dissemination;[33] Lange himself rejected the market socialist solution in socialist Poland two decades later in favour of central planning using the newly emerging computer technology (the latter technology wholly the creation of the capitalist West). Lange's own claims for the efficacy of the system outlined above were modest, being limited to the assertion that its superiority over capitalism was that it could yield competitive price outcomes in sectors where scale economy considerations would dictate the need for the dominance of a monopoly producer (an echo of the technocratic planning perspective), and some muted notions of income equality, presumably linked to an uncompensated nationalisation of property formerly in private hands.

The central importance of Lange's article, however, is not as a practical model for socialism but as an existence proof – rational valuation and decision making, the Alpha and Omega of economic orthodoxy, can exist in an economy without capital markets or private property. And this was how the article was received: the mainstream of economic orthodoxy declared the socialist Lange the victor over the defender of capitalism, Mises. The advantages of this Lange-type market socialist economy are that 'it may be possible to achieve price-taking behaviour on the part of economic agents, even when the number of buyers and sellers is small ... [and] that governmental control of the distribution of resources [would] obviate the need to leave society's Pareto-efficient welfare frontier in order to reach an acceptable income distribution'.[34] Thus, according to the consensus of orthodox opinion in economics, the socialist Lange had 'won' the debate with the defender of capitalism, Mises: Lange had demonstrated that socialism as

specified by him could match the desirable efficiency properties of a free-market competitive equilibrium. Nothing in Lange's model from the 1930s, however, yielded a ready mechanism for alleviating the mass unemployment that was raging across the capitalist world at the time.

Dissent from this consensus has emerged in recent decades. From the mainstream of economics, there has been growing interest in the role of information in economic allocation, and most especially how asymmetries in the distribution of information might distort economic outcomes. Hayek is often considered the great progenitor of this idea. The notion has been attributed to him that the great failure of Lange's scheme is that the Central Planning Board could never gather all the relevant information about enterprise potential and behaviour, thus leaving substantial leeway for opportunistic and socially dysfunctional behaviour on the part of individual enterprises.[35]

In a rewriting of the history of the debate, Don Lavoie made more radical assertions.[36] Hayek and Mises were perfectly aware, according to Lavoie, that a *formal* solution to the problem of static efficiency for an economy – the existence of a rational price structure – could emerge in a socialist economy, one without markets and private property. The Austrians were suggesting, however, that this orthodox, static justification for capitalism – that it was working appropriately when prices were linked to costs in a formal competitive equilibrium – missed the true efficacy of markets, competition and capitalism: Lange's defence of socialism on the basis that it could, in a formal model, replicate the static efficiency characteristics of capitalism was beside the point.

For Lavoie and the Austrians, capitalist competition is a dynamic process, and it is only through the attempt of individual entrepreneurs to survive in this environment that more efficient solutions, technical and organisational, are discovered and emerge: through the process of competition, new information is *created*. The import of Hayek's view is not, as in its adaptation in the mainstream literature, merely that there are costs and asymmetries to the acquisition and use of information. The true position is more stark: information in the form of a freestanding set of blueprints embodying efficient solutions simply *does not exist*, and is therefore not available either to a putative socialist planning board or to individual enterprises. What is present in the real world is an envelope of potentialities, one that capitalist competition impels enterprises to reach for. Thus, real markets and real competition are needed to *generate* the information that will then permit the efficiency gains possible only under capitalism. These efficiency gains cannot be simulated by socialism merely by instituting an admonition from a Central Planning Board that socialist enterprises must follow a pricing rule.

Lavoie's argument continues: the dynamic form of competition present in capitalism is not merely concerned with finding better solutions for the production of the existing range of output. The competitive process

impels enterprises to engage in the innovation of new products and services involving risky investment in new technologies and ways of doing business. In capitalism, these risks are borne by the owners of the enterprise, either in person or by their surrogates making the decision, who must weigh the uncertain benefits against the costs of proceeding. The state-owned enterprise has no basis, *even in principle*, upon which to make rational investment decisions, since the risks involved in these decisions are taken neither by an owner-entrepreneur, nor by a share-owning public in the form of financial market evaluation of the success or failure of these decisions. Thus, the Lange pseudo-market socialist economy replicates the efficiency properties of the competitive equilibrium model of (capitalist) economic orthodoxy, but produces few of the substantive virtues of real existing capitalism with its dynamism and innovative qualities. Lavoie's intervention in the 1980s, with his emphasis on the dynamic virtues of capitalism vis-à-vis socialism, proved to be particularly apposite in the context of the decaying Soviet economy of the period.

Let us step back from the claims and counterclaims surrounding the winner of this debate and put it in historical context. Otto Neurath is, in the English-speaking world at least, a shadowy figure in the context of the economic calculation drama. His scheme for an economy based on in-kind, barter calculations first emerged in 1910[37] and was repeated in subsequent writings. It is usually treated as a foil for the Mises critique, one that emerged in the wake of Austrian defeat, dismemberment, and economic and political chaos at the end of the First World War.[38] Mises accepted with alacrity the identification of socialism with in-kind calculation, but such a position in its strong form was perhaps uniquely linked with Neurath; it was criticised by other Austrian socialists and Marxist writers using arguments not dissimilar to those used by Mises.[39]

Neurath's ideas reflect a strict adherence to the tenets of the technocratic planning paradigm – a belief in scientific management and in the ability of engineers to decide on appropriate methods of production using criteria of technical efficiency (paralleling the contemporaneous ideas of Veblen).[40] The Neurath article cited by Mises deals with the economics of a war economy and discusses, with disconcerting objectivity, the beneficent aspects of war: the full use of productive capacity attendant upon the release from the restrictions of money, credit and cartels that are present in a peacetime capitalist economy. Because of the presence of unemployed resources, the cost of war is low:

> The whole institution of the money economy is *only one of the possible ways* to bring about the circulation of goods. It might prove not to be the best way, even in times of peace ... *in our economic order a permanent advance without crises is not possible* ... [The] obstructions are caused by production and consumption, not by the political order or the distribution of income,

> but by the market economy and the credit system ... war forces a nation to pay more attention to the amount of goods which are at its disposal, less to the available amounts of money than it usually does ... Money reveals itself more clearly as only one of the many means to provide goods. The state usually fashions this tool with more energy in times of emergency than otherwise, and utilises it for its needs. If it proves useless, the state does not hesitate to make changes in the economic order. If productive capacity is intact but not money affairs, one last possibility remains – *economy in kind*.[41]

The ability of the state to manage an economy on this basis is inextricably bound up with Neurath's perception of the evolution of capitalism in an article written somewhat later: '[it is] the emergence of large organizations [that make] possible the unification and cooperation of different branches of production, as shown by the example of trusts. Within [large] economic organisations money calculation can be reduced to a minimum and the possibility cannot be excluded that here too state cartels and state trusts prepare the ground for new developments.'[42]

Despite the modern-day English-speaking focus on abstract considerations in the economic calculation debate, both these participants were deeply involved in the politics of the day. Neurath, at one point associated with revolutionary events in Bavaria, was primarily a participant in the debates within the Austrian Social Democratic Party, a non-revolutionary grouping that was notable for its pioneering achievements in municipal housing;[43] Mises would serve as economic advisor to the extreme right-wing Austrian chancellor Engelbert Dollfuss. The Mises critique of Otto Neurath's engineering solution to economic allocation in postwar Austria was taking place in the context of a nation that had been laggard economically in its prewar incarnation as an empire and which now, in its dismembered form, was experiencing significant macroeconomic and financial instability, including very high and then hyperinflation.[44] A generous reading of Neurath's schemes for in-kind calculation and, by implication, central planning is that they are attempts at dealing with macroeconomic instability and mass unemployment in a period before a Keynesian alternative existed. By contrast, the Lange model, with the relatively limited role suggested for the Central Planning Board, cannot claim to be able to enforce full employment and has, as we have seen, only marginal advantages over a parallel capitalist system: it functions purely as a formal solution to the possibility of operating a socialist economy.

What emerged with John Maynard Keynes's recasting of economic thought in the 1930s[45] was a delineation between micro- and macroeconomics. In the pre-Keynesian period, critics of orthodoxy, as we have seen in Chapter 3, often traced the macroeconomic fluctuations that destabilised whole economies to the malfunctioning of individual markets at

the microeconomic level. By contrast, the dominant view emerging from orthodox theory was from the law of markets of the early-nineteenth-century economist Jean-Baptiste Say. This law suggested that fluctuations in individual markets moved in a direction that generated stability overall in the economy: to doubt the ability of individual markets to stabilise themselves was to question the possibility of overall stability in the economy, and vice versa. Keynes's intervention limited his critique of capitalism to its tendency to generate inappropriate fluctuations in prices and output in the overall economy: he did not link these broad-based fluctuations to price and output instability in individual markets, but noted the special issues surrounding the financial sector and labour markets.

The great success of Keynes as a liberal theorist in the 1930s was, thus, to offer an explanation for fluctuations in capitalism that cordoned off the problem in specific, manageable directions. In the technocratic planning approach of Neurath and others, the Gordian knot is cut by controlling output in each individual sector, thereby stabilising the economy as a whole. Keynes's approach, by contrast, incorporated the liberal, orthodox view that ordinary markets were stable and rational, and in no need of central direction. Financial markets, however, were a special case: their volatility was linked to an inherent uncertainty concerning the future, a problem not likely to be unique to capitalism. Government planning could be limited to keeping a watchful eye on financial markets and occasional interventions using fiscal policy as a corrective to oscillations in overall economic activity. In the period after the Second World War, the economic rivalry that emerged was between two world systems – a socialist one based on a technocratic planning, and a capitalist one that relied predominantly upon Keynesian regulation to contain the macroeconomic fluctuations endemic to capitalism; in some quarters, a pre-Keynesian faith in the capacity of capitalism to equilibrate itself remained undiminished.

Keynes's system preserved the efficiency virtues of the liberal capitalist economy in which microeconomic investment decisions are taken at a decentralised level by firms. At the same time, the Keynesian system promised to seize for capitalism the greatest claim to legitimacy of the centrally planned regime – the maintenance of full employment – but to do this without the need for crude sector-by-sector direction. In the 1970s, the Keynesian regulatory regime, seemingly so successful in the postwar period, began to crack at the seams: the virtues of decentralisation inherent in a capitalist economy were becoming difficult to disentangle from capitalism's capacity for becoming, or tendency to become, unstable.

## Competitive dynamics in capitalism and socialism

An understanding of the operation of real existing socialism and its failures is important, not only for an evaluation in a substantive historical context

of the efficacy of planning, a major issue in Part I, but also for the themes that will emerge in Chapter 6 and subsequently. If the socialist economies were ultimately a failure, this fact reflects poorly not only on the efficacy of central planning, but potentially upon the notion that the raising of levels of human development, including education, is highly conducive to economic development, since achievements in socialist countries in this area appear to be their one indubitable success.

Arguments attempting to excuse the failures of central planning as an economic system can claim that the egregious misuses and decimation of society's human assets in Soviet history noted above were historically contingent events linked to a lack of democratic tradition in Russia and Stalin's psychopathic personality. But the failures of centrally planned socialism extended long after Stalin's death and were replicated in other countries. The relationship of this system to education, human and economic development will continue to raise important issues in the following chapters about the use and misuse of human assets. If the Soviet system was ultimately bested by capitalism, it was a form of capitalism, as in the case of Japan and South Korea, in which state planning played a central role, and in which technological achievements emerged in various Western countries, especially the US, using various forms of non-market financing and organisation. In Part II, it will become evident that an essential aspect of these accomplishments involved commitments by the state to education and human development in these capitalist countries, vital to their economic development but largely outside the logic of the employment of labour in a capitalist context.

Hayek's emphasis (as interpreted through the exegesis of Lavoie) of the dynamic efficacy of capitalism has proved more convincing than anything emerging from economic orthodoxy as a critique of the operation of a socialist economy, whether it be of a centrally planned or a Lange market socialist variety. An unintended consequence of replacing the orthodox static efficiency defence of capitalism with Lavoie's dynamic justification, however, is to undermine the notion of the invariant superiority of capitalism as an arena for rational allocation of economic resources. Once the focus on the efficacy of capitalism turns to its dynamic characteristics, questions surrounding intertemporal decision making are brought to centre stage, including the role of the financial sector in this process. These notions may be illustrated in the context of orthodox and Austrian attempts to confront Soviet and modern capitalist history.

## Central planning and economic theory

1. *The limitations of orthodox analysis of central planning.* The most egregious economic failure of centrally planned economies was in collectivised or semi-collectivised agriculture, which seems readily traceable to the aspect of coercion in its origins and, in an orthodox textbook manner, a failure to provide adequate or appropriate material incentives. In this

area, there is unanimity: no serious defence of the Witches' Sabbath of the Soviet collectivisation of agriculture is forthcoming in the contemporary literature. But even in Eastern Europe, where the transition to state control of agriculture after the Second World War was, on the whole, less horrific than in the Soviet case, the 'gradual abolition of all the distinction between town and country', one of the demands of the *Communist Manifesto*, took place at a slower pace than in Western Europe. For other branches of the centrally planned economy as well, much of the existing literature has exploited orthodox principles of microeconomic static efficiency, with journalists focusing on queues and the hideous sight of empty shelves for common household items and basic foodstuffs.

While this system of allocation through queuing was a major source of discomfort and inefficiency in the lives of consumers, the filling of these empty shelves with the demise of socialism had the immediate effect of rationing these goods by income instead of by queue: the deeper problem had been the inherent poverty of these economies. In this context, the weaknesses of the centrally planned system are better understood by focusing, as did Mises, on the less visible reality of prices in the inter-industry sector. In the centrally planned system, these prices functioned as accounting points, but had no obvious links to any microeconomic rationality criteria: they were 'a consequence of historical development and ... influenced by ad hoc social and economic considerations'.[46] The piecemeal Soviet reforms of the 1960s were doomed: the economist Evsei Liberman attempted to promote enterprise autonomy by interpreting the notion of *khozrachët* (by then a sanctified Leninist concept) to mean that enterprises should be profitable – the value of the enterprise's output should be greater than its inputs. But, echoing the Mises critique of the 1920s, what meaningful interpretation could be imposed upon these value calculations when the weights used to generate them were arbitrary?

It would be convenient if analysis of the operation of the actual Soviet economy could be matched up with the a priori static efficiency critiques made by economic orthodoxy and Mises. In some situations, this can be done quite easily: the Soviet successes in steel, cement and energy products correspond to products whose output could be readily communicated in natural units (weight, energy) in the statistics published in the USSR, in contrast to the meaningless rouble calculations of the 'output' of machine tools. Even here, however, difficulties abound – a steel measure in tonnes precludes considerations of different quality grades of steel, timely delivery and so on, calling into question how to compare the value of a Soviet tonne of steel with its Japanese equivalent.

But a generalised orthodox critique of a natural economy will be insufficient even for an evaluation of the static efficiency characteristics of central planning, which took a specific path in its historical development: it became

a perpetual shortage economy, a fact observed by Lange. The economist Alec Nove notes that the balance between sectors achieved in the original formulation of the first five year plan was destroyed by political intervention in 1929 and 1930 that resulted in substantial, unrealistic increases in all targets that 'were far beyond practical possibility'.[47] What emerged were institutionalised shortages, as elaborated upon by János Kornai.[48] The enterprise's perpetual deficit of the inputs necessary for production caused a hoarding of inventories and added to the inherent pressures on the enterprise to function in an autarchic manner (to make as much as possible of the necessary inputs itself rather than relying on suppliers) because of the absence of the possibility in the planned economy of purchasing necessary inputs through (legal) monetary exchange. Was this failure to produce a balanced plan a mistake, or a policy? If it was a mistake, it was one perpetuated by all centrally planned economies, at all times.

There are two reasons why central planning became identified with perpetual shortages, even in the inter-industry sector. First, running an overheated economy was a mechanism for the maintenance of full employment and the elimination of (especially rural) unemployment, one that became a key aspect of the legitimation of central planning from the 1930s on. The control of official prices resulted in a system endemically plagued with repressed inflation and shortages.

Second, the setting of unrealistic plan targets that resulted in shortages was an attempt to find substitutes for the Hayekian imperatives to efficiency that emerge from capitalist competition. For Hayek, efficacious ways of doing things for an enterprise emerge in the context of competitive processes – this knowledge cannot simply be read in a universally available blueprint of best practice, as presumed by economic orthodoxy and implicitly by the architects of the technocratic planning perspective. The latter group advocated the formulation of plans based upon the constraints of the 'law of value' – using available cost parameters to formulate realistic plans, as opposed to those emerging (as did the revision to the first five year plan) under the heroic slogan that 'there are no heights that the Bolsheviks cannot reach'. Stalin, though identified with this slogan at the time of formulation, late in life rebuked the economists who were suggesting that the law of value was not operative under socialism.[49]

Western observers, viewing this discussion through the prism of orthodox economics, have invariably sided with defenders of the 'law of value under socialism' approach, even when it emanated from Stalin: clearly, an adherence to any such principle introduces a modicum of rationality to the adventurism that characterised socialist economies, especially in the context of campaigns (for instance, the onetime Cuban target of ten million tons of sugar per year), which distort priorities throughout the economy. But if a centrally planned economy is to simulate the dynamism of capitalist enterprises, in which 'the bourgeoisie cannot exist without

constantly revolutionising the instruments of production', in the words of the *Communist Manifesto*, and not simply accede to existing cost parameters as binding constraints, a substitute for the role of capitalist competition as an impetus to this process of change had to be found: the roles played by overheated plans, campaigns and Stakhanovism were therefore systematic, and not accidental.[50] The procedures found in centrally planned economies can thus not be modelled in an orthodox manner as maximisation of output subject to objective technological constraints; they are better perceived as an attempt to simulate capitalist behaviour in its Hayekian conception as a process of constant struggle.

The Hayek–Lavoie critique of central planning in terms of its lack of an autonomous mechanism through capitalist competition for the lowering of costs in the short term is complemented by the longer-term inability of the Soviet economic system to produce a significant body of commercially useful civilian innovations, despite its substantial scientific and technical base. This failure is unsurprising, given the lack of incentive to innovate on the part of socialist enterprises, all of which had output targets to meet. But innovation, in the conceptualisation of Joseph Schumpeter, is a substantial, discontinuous event, as we shall see in later discussions. In the final flourish of the technocratic planning paradigm in Chapter 5, the provenance of technological change in capitalism is taken to be the large, monopolistic firm: there would appear to be no reason why, under socialism, such innovations could not issue from an industry-wide central planning authority. That the Soviet Union and other Soviet-type economies were so manifestly unsuccessful as innovators gives support, rather, to a Hayekian perspective on innovation,[51] making it a continuous aspect of the habits and procedures of competitive behaviour in all its activities, rather than a discontinuous, largely technological transformation, emanating from a centralised authority or a monopoly.[52] In fact, the historical record seems to suggest that the reality is more complex than is indicated by either the Hayekian or the Schumpeterian approach, so that the very military expenditure that was such a burden to the USSR probably ended up being beneficial – having essentially a negative cost – to the US economy, and most certainly to the capitalist system as a whole, in the same period.

2. *The ambiguities of ground-level decision making in the Austrian context.* Lavoie's interpretation of Hayek suggests that both orthodox neoclassical theory and Lange's socialist adaptation assume that the most efficient way to produce different levels of output for each enterprise can be based on knowledge freely available to every enterprise (and to the Central Planning Board as well, in Lange's case). Decades earlier, Hayek outlined the market dynamics through which knowledge is dispersed:

   > Assume that somewhere in the world a new opportunity for the use of some raw material say, tin has arisen ... All that the users of tin need

> to know is that some of the tin they used to consume is now more profitably employed elsewhere and that, in consequence, they must economise on tin ... The whole acts as one market, not because any of its members survey the whole field, but because their limited fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all.[53]

Hayek's powerful rhetoric, however, asserts as an analytical principle an issue that needs to be resolved empirically. Is it necessarily true, in all times and places, for all conditions of exchange, that the information received at the ground level by an individual trader in the form of prices will always be richer, and exploited more successfully, than that gathered and then distributed by a central source? Contrary evidence comes from the economic transformation of poor countries such as Japan and, later, South Korea after the Second World War, some of the most remarkable events in the history of capitalism, which were partially facilitated by state monitoring and dispersion of worldwide best-practice techniques in steel, cars and other industries: these practices fulfilled the Gerschenkron prediction cited earlier that late-developing economies will often employ centralised mechanisms, including those of the state, in order to compensate for, and make best use of, their limited resources in individuals with the skills necessary to organise and direct economic affairs.

The other notable development in this period was the veritable explosion in new technologies emanating from the US, especially in the electronics sector, substantially as a result of state finance and direction. The knowledge-rich nature of these innovations and the incumbent informational externalities attached to them suggest that the role of the state in these developments is a likely and not an accidental aspect of this history: the Market and the Plan both played important roles in these great successes of capitalism, as we shall see in subsequent chapters. Thus, Lavoie's emphasis on the dynamic aspects of Hayek's critique of central planning can paradoxically generate a focus on ways in which the processes of development and innovation might be facilitated by departures from a pure laissez-faire liberalism.

Even if it were to be conceded, as Hayek suggests, that economic decisions are best made at the ground level, we still have to face the realities registered by the technocratic planning paradigm: at the beginning of the twentieth century, the key players emerging in capitalism were no longer the individual traders and entrepreneurs that were part of the Austrian recitation, but giant entities. These great firms, far from being modern representations of ground-level traders making use of local information, had the advantage over their smaller competitors that their scale permitted them to devote specialised resources to monitor developments worldwide in technology and best-practice management. The subsequent lowering of the costs

of such monitoring over the last century has largely dissipated this source of competitive superiority accruing to large firms. The resultant evolution in the balance of advantage between large, established entities and smaller firms and new competitors has been a component in the emergence of a more competitive capitalist environment in the latter part of the twentieth century, a development obscured by the Hayekian presumption of the *invariant* superiority of ground-level knowledge.

And the technocratic planning presumption that these giant firms gained advantage from being vast islands of planning caused difficulties for both the Austrians and economic orthodoxy. For Hayek, 'the dispute about "economic planning"... is not [one over whether] planning is to be done or not [but] whether planning is to be done centrally, by one authority for the whole economic system, or is to be divided among many individuals',[54] a dichotomy that raises more questions than it answers in the period since the Great Transformation, when the 'individual' in question (or 'person', as the US Supreme Court would have it) may be the corporation Exxon. The main responses from economic orthodoxy have been either the notion from Coase, encountered in Chapter 2, that firms will increase the extent of their activities as long as the costs of using the market exceed the benefits, or the Panglossian presumption (never as popular in academic writing as the Coasian approach, but implicit in much public policy writing about firms and competition) that even giant firms can be accepted as ground-level entities emerging from a market-determined environment because their existence and survival are the result of a Darwinian process of capitalist competition. The Hayekian notion of the invariant superiority of ground-level and market-generated information is in need of refinement if it is to function as an empirical hypothesis and not degenerate into dogma or tautology.

3. *The Austrian emphasis on the dynamics of capitalist development leads to a focus on the roles of the state and of finance in this process*. The grand socio-economic paradigms under consideration here have traditionally dealt with the roles of the state in the economy as an embarrassment. Hayek's vision of capitalism as a spontaneous order as presented in Chapter 1 is an extreme example: he avoids a role for the state in the assignment and regulation of property rights, a role present even in economic orthodoxy, since for Hayek a legal system will emerge through a natural process of free exchange in a quasi-common law process. By contrast, technocratic socialists such as Lenin were, at some moments, convinced that it would be possible to abolish the state altogether, with the economy operating autonomously by way of a scientific, managerially based plan. In the case of both Lenin and Hayek, the contempt for the legitimate role of democratic decision making in economic regulation is a likely contributor to their willingness to be linked to authoritarian regimes (Lenin's

> leadership of the Soviet dictatorship and Hayek's support for the post-1973 regime in Chile). For the mainstream of economic orthodoxy, a mechanism for the overriding of democratic decision making on social issues has been the use of the imperatives of economic efficiency and growth to dictate how the state 'must' behave. The centrality of the latter approach has been apparent in recent years in economic orthodoxy's support for the wresting of a nation's monetary regulation from democratic control and handing it to unelected bankers in the name of central bank independence.

The financial sector raises the greatest difficulties for all schools of economic analysis under consideration. The Hayek–Lavoie argument makes an eloquent case for the efficacy of capitalism over socialist alternatives in terms of its superior dynamism in the context of decisions taken about change, risk taking and innovation. In capitalism, these intertemporal decisions take place in the context of interaction with the financial sector. With the coming of the Great Transformation, finance, the most universally unpopular aspect of the economic order, had new-found visibility because of the enormous need for financing of the investment projects of the great firms and public works by the state.

Economic orthodoxy, as it matured in the latter part of the nineteenth century, tended to treat finance as either an invisible aspect of capitalist relations or a nuisance. Even though the development of capitalism has always been accompanied by a concomitant evolution in the depth and sophistication of financial relations, economic thought dating from Adam Smith and David Ricardo has been designed to see through the veil of finance to the real factors working underneath. This money-as-a-veil presumption is complemented by the orthodox and market socialist focus on the pricing decisions of firms, a static approach that obviates the need to consider decision making – investment and innovation – that invariably involves the financial sector.

The financial sector is not only the facilitator of innovation and innovation in capitalism, but its Achilles' heel – the focal point and, in many interpretations, the source of the fluctuations in output and employment that, by general consent, are its most egregious aspect. The reader will not need reminding that the crisis of capitalism of recent years had its origins in the financial sectors of those very countries – the US and the UK – that are so proud of the sophistication of their financial structures and institutions.

Economic orthodoxy proved weak in its ability to defend free-market capitalism: its static formal conceptualisation of the competitive process was readily replicated by Lange in a model without private property. What emerges as significant in the socialist calculation debate is the limited relevance of orthodox conceptions of efficiency in both their capitalist and socialist (Lange) manifestations for consideration of the relative merits

of these two systems, and an irony: key aspects of capitalist dynamism – the facilitation of trade and, most especially, efficiency in investment and innovation – are tied, perhaps inextricably, to the very domain identified with, and in some narratives the source, of macroeconomic instability – the financial sector. The irony comes full circle when we remember that the mitigation or elimination of this instability was a prime motivation for the invention of schemes for technocratic planning of the whole economy by socialists and others in the first place.

For adherents to the technocratic planning paradigm, most especially in its Marxist manifestation, there is no ambivalence about the role of the financial sector – it plays a parasitic, dysfunctional role. The quintessential exposition is to be found in Rudolf Hilferding's *Finance Capital* of 1910, a work of major influence on Marxists throughout the twentieth century. For Hilferding, the first principle of the technocratic planning paradigm is axiomatic:

> Free competition promotes a constant expansion of production as a result of the introduction of improved techniques ... The ultimate outcome of this process would be the formation of a general cartel.

The role of finance is to exacerbate this process:

> The tendencies towards the establishment of a general cartel and towards the formation of a central bank are converging, and from their combination emerges the enormous concentrated power of finance capital, in which all the partial forms of capital are brought together into a totality.

Money ceases to play a role even under capitalism, and its elimination facilitates the accession to a planned economy:

> The whole of capitalist production would then be consciously regulated by a single body which would determine the volume of production in all branches of industry. Price determination would become a purely nominal matter, involving only the distribution of the total product between the cartel magnates on one side and all the other members of society on the other. Price would then cease to be the outcome of factual relationships into which people have entered, and would become a mere accounting device by which things were allocated among people. Money would have no role. In fact, it could well disappear completely, since the task to be accomplished would be the allocation of things, not the distribution of values. The illusion of the objective value of the commodity would disappear along with the anarchy of production, and money itself would cease to exist.[55]

What the orthodox defenders of capitalism have in common with socialists in the garb of the technocratic planning paradigm is their common devolution to the ideal of an economy in which money and finance play no active role: for the former group, finance emerges as merely a veil, a superficial appendage or convenience in capitalism, so that real outcomes remain unaffected by the presence of money and finance; for technocratic socialists, finance, with its dysfunctional and destabilising role in capitalism, is to be replaced by a natural economy in which, as Hilferding says, 'Money is to have no role.'

But there is one great difference between the orthodox and technocratic socialist cases. The claim by capitalism's defenders that money is merely a veil does not affect the day-to-day functioning of capitalism. Such an approach may well represent a failure of analysis, but its deleterious influence on economic policy and the real-world functioning of capitalism has largely been limited to generating two dysfunctional kinds of public policies. First, it has led to an inadequate public regulation of financial institutions and activities, thereby exacerbating any inherent instability in the financial system; second, this 'money is a veil' notion is often associated with deflationist sentiment (money is only a veil, but it should be 'sound'), such as the bullionism of the early nineteenth century, which included David Ricardo as an advocate, and the broad-based desire and intention to reintroduce the gold standard in the interwar period of the twentieth. Both of these corollaries of the doctrine of money neutrality, emanating from capitalism's defenders, contributed to policies that have threatened to destroy that very system. But capitalism has, so far, survived. By contrast, the technocratic socialists' advocacy of a natural economy was directly implemented in the form of a passive role for the financial sector in the centrally planned economy,[56] with deleterious consequences for its functioning as an efficient and innovative system on a day-to-day basis, eventually generating a stagnation that led to its ultimate demise.

Socialism's identification with the technocratic planning paradigm had catastrophic consequences. The technocratic planning paradigm, as we have seen, put forth at various times acute and perspicacious analyses of trends in capitalism. But when a serious representative of this perspective, such as Hilferding, posits a socialist path to economic development in which 'money is to have no role', it underlines how sterile and utopian such an approach can be. Over the course of the twentieth century, furthermore, the paradigm's dismissal of finance as a purely wasteful activity, even in capitalism, resulted in it making no substantive contribution to an understanding of the role of finance in capitalism comparable to that of Keynes and his followers, such as Hyman Minsky.

The technocratic planning paradigm's focus on the obsolescence of competition and a one-sided emphasis on planning and large-scale enterprises lent itself to the generation of a centrally planned system in which all

impetus and innovation were expected to come from the top, a tendency reinforced by the paradigm's dismissal of a role for the financial sector in economic decision making. In its analysis of capitalism, the technocratic planning paradigm proved to be politically expeditious for socialists, facilitating the denunciation of 'the big monopolies' and the 'big banks' in their populist rhetoric; at the same time, the emphasis in this approach on the inevitability of bigness and planning, even in capitalism, suggested that the path to the new society would be a straightforward one. When, as we shall see in Chapter 5, the path of capitalist development turned out to be more complex, and in some ways in direct contradiction to the paradigm's notion of the extinction of competition in capitalism, socialist analysis and its identification with this paradigm were seen to be largely irrelevant to the problems emerging in the twenty-first century.

The ultimate failure of centrally planned economic systems was not simply a contingent or accidental matter. It was, rather, an inherent aspect of the weaknesses of central planning vis-à-vis capitalism in areas of dynamism and innovation. Capitalism's dynamic advantages are inseparable from decentralised decision making by firms that are mediated by the financial sector. Capitalism's defenders (both orthodox and Austrian), as well as proponents of market socialism, have tended to push the role of the financial sector to one side: it was, after all, the overriding of the financial sector and its association with general instability in the economy that was a central motivation for the construction of the technocratic school of central planning in the first place. Any programme of socialist development that is not tied to central planning must, of necessity, confront the question of the role of finance in the rational allocation of resources and develop mechanisms for mitigating its deleterious effects on, especially, economic stabilisation: these issues will be returned to in Chapter 12.

* * *

A last note on planning. It appears to be a unanimous conclusion in the twenty-first century that there is no place for central planning in the domain of rational economic allocation. But if the world continues to dither and bicker about climate change, and if the moderate-to-pessimistic forecasts prove to be accurate, might it not come to pass that a central text on economic allocation that we feel the need to consult is Nikolai Voznesensky's *The Economy of the USSR during World War II*,[57] written to reflect the experience of implementing a war economy to cope with an invasion by four million soldiers? We may yet be forced to choose between the unpleasant prospects of living in a rigidly centrally planned economy and extermination.

# 5
# Ironies of History: Markets, Planning and Competition

After the Second World War, planning – in gradations from Keynesian macroeconomic policies to Soviet central planning – emerged as a functioning alternative and rival, in both the political and the intellectual sphere, to free-market regulation. Political and economic radicalism in the Western capitalist world became identified with those who, even when they were critical of real existing socialism, did so in a manner that did as little damage as possible to the inherent logic and efficacy of a centrally planned organisation of the economy. These radical critics included communists, but also others who were actively hostile to the political regimes in countries dominated by the Communist Party, such as Trotskyists. The intellectual ballast for these critics of capitalism came first from the perceived economic achievements of the centrally planned economies; this line gradually faded, most especially in the rich world, with postwar capitalism's success in maintaining relatively full employment and growth. An indication, however, of the continuing importance of the demonstration effect of these substantive examples of central planning is the collapse of this radical critique incumbent on the events of 1989 to 1991.

A second line of reinforcement for a radical critique was derived from an updated version of the technocratic planning paradigm, the New Economy, to be discussed in detail below. Its outstanding achievement was its focus on the dynamics of capitalist development, in contrast to an economics mainstream that was centred, more than ever, on the unchanging aspects of capitalist market allocation as an emanation from axioms of rationality. The new manifestation of the technocratic paradigm observed, sometimes with alarm and sometimes with sanguinity, the continued growth in the predominance of giant firms, entities that appeared to possess an ever-increasing control over their domains. For socialists schooled in the technocratic paradigm, these developments augured the growing predominance, even under capitalism, of the plan over the market as a means for the allocation of resources. This trajectory in the evolution of capitalism signalled that following The Plan was, in historical terms, the correct path, and that

any transition to socialism would be straightforward: capitalism had already completed much of the task.

This new version of the technocratic planning paradigm failed, and took with it any remaining notion of centrally planned socialism as an intellectually respectable doctrine. In the East, communist central planning collapsed, not of its own weight, but vis-à-vis the demonstrably more dynamic and innovative capitalist system. In the capitalist West, the giant firms supposedly exercising ever greater monopoly control were seen to be functioning in a world that was becoming increasingly competitive. These great events induced a heralding of the victory of the market over the plan, with the logic of the marketplace dictating a limited role for state behaviour of any kind, much less planning. In this competitive, survival-of-the-fittest world, state action was seen to be a gratuitous luxury.

No coherent narrative based on these postwar developments could emerge from partisans on either side of the market versus plan debate, because the dichotomy never made sense in the first place. As we have seen, the firms that were the greatest exemplars of the technocratic planning paradigm at the beginning of the twentieth century existed in the context of a capitalist environment of competitors and finance: their success cannot be readily extrapolated to a situation in which these elements cease to exist – The Plan of socialist dream. Furthermore, the expanded ability on the part of individual enterprises to control, manage and monitor their internal and external environment did not, over the long term, lead to increasing control over their respective domains: rather than engendering a world of monopoly capital, this expanded facility, and its ever wider dissemination worldwide, generated an increasingly competitive environment.

This long-term trajectory in capitalism of accelerating competition in no way lent itself to an easy transformation into 'one big factory'. In the capitalist West, as we shall see here, the technocratic planning paradigm failed as a template for the economic transformation of society, just as it had proved unsuccessful as a model of development for centrally planned economies. Socialism, if solely identified with schemes for a Plan, will find itself relegated, in Trotsky's phrase, to the dustbin of history – precisely the fate of Trotsky and others who forged an identification of socialism with technocratic planning.

## Postwar debates

Where is capitalism going?

The period after the Second World War in the capitalist world was characterised by unparalleled economic growth up until the early 1970s. But even during this golden age of growth, there were widespread doubts concerning the future of capitalism derived from the history of interwar stagnation and mass unemployment. And after the inauguration of the People's Republic

of China in 1949, anti-capitalist forces had dominion over one-third of the world's population. The latter rivalry was compounded by a pervasive fearfulness linked to the presence of thermonuclear weapons.

In general, support for national planning was inversely related to satisfaction with the functioning of a capitalist economy in an autonomous manner: planning and competitive capitalism were the great rivals of the day. Liberal economists such as Mises, Hayek and Milton Friedman maintained faith in a self-regulatory capitalism, but they were a group with limited political and intellectual influence. The emergent body of economic opinion with direct access to political decision making was identified with Keynesian macroeconomic regulation, even if some of the dramatic interventions in the early postwar period, such as the West German currency reform of 1948, were inspired by traditional, pre-Keynesian free-market policies. The Keynesian consensus dominant in the Western world reflected, in the context of the emerging postwar boom, a willingness to accept, with only limited modifications, capitalist microeconomic allocation, but memories of interwar stagnation compelled explicit attention to macroeconomic regulation.

The encapsulation of the desire to put macroeconomic planning of a Keynesian kind on a rational basis can be seen in Jan Tinbergen's *On the Theory of Economic Policy* of 1952:[1] macroeconomic targets such as the levels of inflation and employment would be regulated by manipulating fiscal and monetary policy instruments. To achieve society's desired targets, the optimal levels of these instruments would emerge not, as traditionally, from subjective judgements made by monetary and fiscal authorities, but from statistical estimation of the effects of manipulating these variables in the context of the structural relations and boundary conditions of the economy. There would then be a precise, empirically based mechanism for smoothing out and controlling cyclical movements in the economy: planning at the macroeconomic level would become consistent with what would remain a capitalist, free-market economy. By the 1960s, with the diffusion of mainframe computer technology, we see the first attempts, such as those at the Brookings Institution in the US, at performing large-scale empirical simulations of economic models. Comparisons with the contemporaneous flight to the moon would not be absurd in terms of scope and ambition.

The ultimate failure of Tinbergen's grand vision was due to the emergence of a broad-based realisation that the macroeconomic system of an economy is too complex to yield easily to statistical estimation of its underlying structure; attempts at manipulation of policy variables are likely to induce an alteration in the expectations and behaviour of consumers and other economic actors, thereby causing the parameters of that very structure to change. There were thus seen to be limitations to treating the economy as a straightforward problem in control systems engineering: consumers

and others are not elements in an inanimate engineering mechanism, but a collection of living, volitional individuals who form opinions and expectations on the state of the world that will be affected by governmental action. A tax cut, far from generating a predictable, parametric response from consumers, might recast patterns of consumption altogether. Thus, macroeconomic planning, the most modest and potentially the most viable form of economic regulation of a whole economy, was seen to fail in principle by the 1970s.

This pioneering work in macroeconomic planning, having inspired a generation of development and elaboration, lost out in the 1970s to a resurgent free-market ideology. One version of this free-market critique postulated a particular pattern to, for instance, the response of consumers to a tax cut – consumers will consider the fact that they will be liable for the future interest payments on the resultant increase in the deficit, so that the presumed expansionary effects of the tax cut will never emerge. Under such conditions, the state is powerless to influence macroeconomic demand using Keynesian-style fiscal policy measures, such as a tax cut. Even for those economists who found this kind of super-rationality unlikely, the underlying message has had its impact: the response of consumers and of the economy in general to changes in governmental policy is likely to be complex and unpredictable.

While Keynesians in the US limited their notions of planning (itself a suspicious term in a Cold War context) to macroeconomic regulation, the nations of postwar Western Europe often used planning mechanisms in order to emulate the US economic model. The image that the US possessed of itself was one of free enterprise and entrepreneurial capitalism. But Europeans saw something quite different: a modernity linked to giant firms, contemporary technologies and professionalised techniques of management. It was this vision of the US that was to serve as a template. Various forms of state intervention were undertaken, such as the consolidation and reorganisation of enterprises considered to be overly small and inefficient; resources were directed towards prioritised sectors – those singled out either because of their identification with the typical activity of an industrial power, such as the car industry, or those linked to contemporary technologies, such as nuclear power or electronics. These activities in France, under the rubric of *dirigisme* and often accompanied by elaborate indicative plans, were more the fruit of a technocratic ideology than of any left-wing movement.[2] In France, as in many other European countries, emulation of US economic prowess involved conscious direction and intervention by the state to create a modern industrial society.

In the US itself, there remained a powerful resistance to the notion that its modernity, wealth and technological achievement were linked to the presence of giant firms and a professionalised managerial class. Despite the self-evident reality of this pervasive corporatism, there persisted in popular

ideology a notion of American capitalism that was identified with the entrepreneurial behaviour of, especially, small enterprises, with great innovations the product of the lone heroic inventor. The Thomas Edison of US iconography was the craggy figure depicted by Spencer Tracy in the film 'Edison the Man' of 1940, and not the industrialist-planner of genius so admired by the German industrialist Emil Rathenau. One reason for opposition to the European view that the US was the embodiment of corporatist modernity was the Cold War. It was felt necessary to resist the emerging notion, to be found in James Burnham, William Whyte,[3] the George Orwell of *1984* and Billy Wilder's 1960 film 'The Apartment', that 'we' – that is, the capitalist West – were becoming regimented, conformist societies, epitomised by the culture of the modern corporation, a view that tended to narrow the distinction between Soviet totalitarianism and the free capitalist West.

Furthermore, the largest firms were averse to an excessive focus on themselves: the US was a nation, with its supreme economic and political power, that could not claim the need for national champions. In addition, US corporate plans for a postwar world of free trade and international investment might be disrupted if a corporatist, *dirigiste* ideology were to lead to Listian state policies of tariff protection and economic nationalism in Western Europe. Academic economics, as we shall see below, remained wedded to a prospective in which Keynesian macroeconomic regulation took place alongside an orthodox microeconomics of free markets and competition for its analysis of business activity.

By the 1960s, there emerged in the US an alternative to this free enterprise orthodoxy in the form of a revised version of the technocratic paradigm of the earlier part of the century. This new paradigm, to be dubbed here the New Economy, reached its culmination with the publication of Paul Baran and Paul Sweezy's *Monopoly Capital* in 1966 and John Kenneth Galbraith's *The New Industrial State* in 1967.[4] It was arrived at by three overlapping paths: the modern corporation approach, monopoly capital theory, and analyses of the corporate economy by mainstream economics. Left-wing, radical and socialist ideologies became wedded to and identified with strong versions of the views embodied in the New Economy paradigm on the future direction of capitalism. The substantive failure of this ideology to account for the trajectory of capitalist development, along with the collapse of the centrally planned economic system, promoted the descent of the technocratic planning view of socialism into irrelevance.

The modern corporation approach has its origins in *The Modern Corporation and Private Property* of 1932 by Adolf Berle and Gardiner Means, a lawyer and an economist, respectively.[5] Written before the reforms of the New Deal, the book traced a crisis in private property relations due to the emergence of a separation of ownership and control in large firms in the US that was documented in detail in this book for the first time. In a manner largely unheralded by economists (an early exception being the always perspicacious Karl

Marx), the introduction of laws on limited liability and the sale of equity to the public in the latter part of the nineteenth century had often resulted in the passing of control of the great firms from the entrepreneur of economic mythology to professional managers. There was a clear danger, according to Berle and Means, that these managers might pursue goals that were in conflict with the desires of shareholders, and in the extreme case, walk away with the wealth of the firm.

By contrast, the academic economics profession (as opposed to a burgeoning business literature from Peter Drucker and others), even well into the postwar era, was still devoted to an analysis of firm behaviour in which its internal structure of decision making was treated as a black box. Alterations in firm behaviour were to be accounted for predominantly by a firm's passive response to changes in the external environment – changes in the factors affecting the firm's cost and demand curves. Mainstream economists eventually modified some aspects of this approach after the Second World War, but in a rather anodyne way, as we shall see below.

It was inevitable, however, that the prominence of giant firms since the beginning of the century would eventually generate attempts to alter this methodology, since these giants clearly had, and actively exploited, a capability for shaping this external environment to their needs and desires. It was to this very capacity for control on the part of the giant firm that Galbraith directed his attention in *The New Industrial State*. Galbraith suggested that he was proposing a conceptual revolution for the analysis of industry comparable with that executed by Keynes for the issues surrounding macroeconomic stabilisation. The vision of the new industrial state, most especially in its application to the great US corporations of the 1960s, was intended to replace competitive analysis based on supply and demand.[6] Yet his view of the industrial system now seems more of a generalisation of contemporaneous and transitory aspects of the US industrial system than an analysis of its operation that might indicate its future trajectory.

In Galbraith's exposition, the giant corporation, of which GM was the quintessence, was characterised by an ability to control its environment. For Galbraith, as in the traditional theory of monopoly, the large share of the US car market held by GM gave it freedom from the constraints of competition. Galbraith also acceded to the widely held view that consumers, and therefore the demand for the giant corporation's products, were subject to control through manipulation by advertising. The giant corporation was thus freed both from the constraints of competition from rival producers as well as from the whims of consumers. Furthermore, through integration of its production facilities, it could also override the market and exercise control over the conditions of supply for its inputs, while the use of internal sources of funding, such as retained earnings, permitted the giant firm to proceed with its investment plans without reference to perturbations in financial markets. The latter notion complemented the common postwar

Keynesian view that interest rate manipulation by the monetary authorities would be ineffectual in regulating spending in the economy at all times, and not only in exceptional periods of crisis, because large firms are indifferent to interest rate movements.

Galbraith's concept of the technostructure was an agglomeration of well-established elements. The widespread recognition of the separation of ownership and control was interpreted by Galbraith as meaning that a decisive change had taken place in the internal regulation of giant firms. They were no longer run by entrepreneurial buccaneers, but by professional managers, who, freed from the binding constraints of competition and financial markets, were driven by a series of long-term goals. These goals were underpinned by the central imperative to retain control over the environment in which the firm functioned and by the need to respond to the imperatives of modern technology. These imperatives dictated that those who had control and understanding of the direction of technological change possessed significant influence within the firm. Technological imperatives, however, could never completely override the traditional firm focus on profitability: we thus hear an echo of Veblen's notion of a conflict, actual or potential, between the 'logic of the machine' and the 'logic of profit' within the firm.

Galbraith's notion of the imperatives of modern technology embodied two distinct aspects that were amalgamated in exposition. First, it was asserted, modern production techniques tended invariably to generate lower unit costs at large scales of production, a static conception of economies of scale familiar from the technocratic paradigm of the earlier part of the century. Second, and more importantly, Galbraith borrowed from his former Harvard colleague Joseph Schumpeter the notion that the source of technological dynamism and innovation in business was large, monopolistic firms rather than the lone inventor or entrepreneur of legend. In Galbraith's exposition, the two aspects – the static and the dynamic technological advantages possessed by these giants – were conflated, so that the cost advantages accruing to GM due to its large volume of production were combined with the notion that new products or falling costs in the future would emerge from innovations originating from large firms. And Galbraith was happy to speak about 'large, monopolistic firms', as if the questioning of the conflation of these two distinct concepts – bigness and monopoly – were an act of academic pedantry.[7]

The key element that unified these elements of the Galbraithian system – monopoly power, the manipulation of consumers through advertising, the control of inputs and finance, the internal control of the firm by a technostructure, the economics of large-scale production and the technological dynamism of the giants – was the concept of *planning*. Because the large firm had *control*, it could *plan*. This vision of planning as the mode of regulation in modern capitalism, replacing and overriding marketplace

relations, is familiar to us from the technocratic planning paradigm: as early as the 1890s, Friedrich Engels perceived that the future socialist society could be seen in microcosm in the conscious coordination to be observed within the firm. Though Galbraith had no particular sympathy with the state socialist economies of the day, it comes as no surprise that a Soviet edition of *The New Industrial State* was forthcoming upon the book's publication in the US.[8] Once again, vindication of a socialist path to development, in this case the actual one being undertaken in the Soviet Union, was supported by showing it to be a fulfilment of trends in contemporaneous capitalist society in the direction of planning and centralisation.

In the political discourse of the day in the US, the Galbraithian system was congruent with the policies advocated by mainstream economists of the liberal Democratic persuasion, such as Paul Samuelson and Robert Solow. Even as they criticised the lack of analytical rigour in his analysis, these left-of-centre economists were admirers of Galbraith's eloquence in the *Affluent Society* of 1958,[9] with its contention that rich nations (most especially the US) were neglecting the public sector: 'private affluence and public squalor' were pervasive, the existence of poverty in this context was a disgrace, and resolute public action should be undertaken to eliminate it. They were also comfortable with the practical implications of Galbraith's presumption that the market power of the great corporations had grown, leading these figures to advocate a watchful eye by the antitrust division of the US Department of Justice.

Other versions of this moderate-left New Economy paradigm emerged in this period from David Lilienthal and Adolf Berle, centring on the inevitability of the predominance of these corporate giants and the need for the elites running these firms to behave in a socially responsible manner. This doctrine of 'corporate social responsibility' was denounced on the right by Milton Friedman.[10] He replied that in a competitive free-market economy, the 'responsibility' of those in control of enterprises is to maximise profits for shareholders: the freedom of action for a firm to act in a socially responsible manner (by, for instance, making financial contributions to charitable institutions or the arts) could only exist in those (exceptional) cases in which competitive forces are not properly constraining and disciplining the firm's activities. In such circumstances, the appropriate response would be antitrust procedures to bring about competition in that industry, rather than exhortations to the firm to do good.

The fashion for the doctrine of corporate social responsibility subsequently faded, only to resurface in various forms, most especially through the public relations departments of multinational corporations. The particularly glutinous forms taken by these doctrines of benign corporatism, with their pretension that, in a modern context, the corporate executive could play the role of the Confucian mandarin or the Roman aristocrat, leave

one almost sympathetic to the intellectual coherence of Milton Friedman's defence of the free market in this period. One last indication of the spirit of the age on the moderate left was the emergence of a literature suggesting a convergence between the capitalist West and the socialist East, with planning and managerialism becoming progressively more characteristic of capitalism, and the green shoots of political liberalism and economic reform in the East after 1956 taken as indications of a movement in a westward direction by the socialist states.[11]

There was thus a range of views among economists on the state and the direction of change of competitive forces in capitalism. In general, economists left of centre were dubious about the binding force of competition in modern industrial society, suggesting, mostly in implicit terms, that it had declined from a former age dominated by markets and competitive rivalry; the right saw the capitalist economy as one constrained by competitive forces. In this spectrum of ideas, a version of the New Economy paradigm, monopoly capital, emerged on the 'extreme' left in the interwar period. It was committed to an analysis of the economy as one dominated by monopolistic forces, a domination that then had consequences, both economic and political, for the trajectory of society. Such an approach was, however, problematic. Despite the heritage of the technocratic planning paradigm in left-wing ideology, the transition to an intellectually respectable theory of capitalism that had a notion of monopoly at its centre was a difficult one, especially for Marxists. Classical Marxian economic theory was rooted in notions of a market economy in which competitive pressure induced firms to reduce their costs through labour-saving technological innovation. This new technology, while reducing costs for every individual firm that adopts it, lowers the rate of profit for the economy as a whole, since labour is the source of the surplus value that generates profits. The demise of capitalism due to the tendency of the rate of profit to fall is thus inextricably linked to competitive processes. Traditional Marxist doctrine is thus not easily reconciled with the ubiquitous presence of monopoly.

But the forces directing left-wing thinking towards monopoly were powerful as well. First was the pervasive influence of the technocratic planning paradigm, a doctrine that retained its popularity on the left because of its reassurance that the socialist 'one big factory' notion was consistent with the movement of history. Purveyors of the monopoly capital doctrine shared with Bernstein, Hilferding and other left-wing thinkers discussed in Chapter 3 the notion that capitalist trends in the direction of centralisation were facilitating a straightforward transition to a planned economy. Second, the notion of monopoly capital was congruent with the embrace on the left since the interwar period of a Popular Front strategy in its Trotskyist, Stalinist and other forms. This political movement united all anti-fascist forces, including the previously despised petty bourgeoisie and their representatives, against the big monopolies. Third, in the most ambitious

formulations of the theory of monopoly capital, there was a desire to take advanced forms of mainstream empirical research and theory in economics and turn them on their head by demonstrating the radical implications they implicitly embody, just as Marx had done with David Ricardo: the attempt was to demonstrate that the emergence and ubiquity of monopoly in modern capitalism not only created problems for the regulatory authorities, as suggested by Galbraith and many mainstream economists, but posed a threat to the viability of the capitalist system.

The theory of monopoly capital represents the most influential development in economic theory from a radical perspective in the postwar era. Beginning with the Polish economist Michał Kalecki in the interwar period, the doctrine evinced a new rationale for a belief in the inevitable decline of capitalism. While traditional Marxist theory was, as described above, rooted in a competitive dynamics leading to a decline in the rate of profit, the new doctrine was centred on the growth of monopoly leading to an increase in the share of profits compared with wages in national income. This squeeze on workers' income generates a crisis of underconsumption in capitalism – insufficient spending by workers – and a tendency towards stagnation. The title of a book published in 1952, *Maturity and Stagnation in American Capitalism*,[12] by a leading disciple of Kalecki, Josef Steindl, encapsulates the problem faced by the theory: capitalism was not stagnating but booming in the 1950s and 1960s.

The suggestion made by Paul Baran and Paul Sweezy in their *Monopoly Capital* of 1966 was that these tendencies towards stagnation were present, but were compensated for by expenditures undertaken by the capitalist class designated collectively as the 'surplus'. This surplus consisted of a host of gratuitous outlays, most notably on the sales effort, including advertising, and that undertaken by the military. In these cases and others, the Baran and Sweezy critique was consistent with moderate-left distaste for advertising and with President Eisenhower's farewell address condemning the military-industrial complex. As in the Kalecki–Steindl analysis, monopoly is generating an underlying tendency towards stagnation in capitalism, but its manifestation was now to be seen in the attempt by capitalists to compensate for this trend – the new 'law', according to Baran and Sweezy, was the tendency for the level of surplus to rise over time. While the particular interpretation of the monopoly capital thesis put forth by Baran and Sweezy was famous in its day, it is the term itself that has continued to have traction – as a focus of anti-capitalist critique during the Soviet period, and as part of an extensive neo-Kaleckian literature offering a unified micro- and macroeconomic alternative to mainstream economics.[13] This literature was often supplemented by a re-evocation of Hilferding's *Finance Capital*, in which ever-growing monopoly control of business was complemented by webs of financial connections, which sometimes reinforced and sometimes controlled the great monopolies.

Left-wing literature had never accepted a perspective that the state was an impartial executor of democratic will; the monopoly capital thesis in its variants gave a central role to the state as an underwriter of monopoly control and a countervailing force against stagnation.[14] But such a view has an air of redundancy about it – if monopoly control of civil society by the great corporate vested interests is really so complete, why should it be necessary to bring in the state to underwrite this power? After all, an expanded state whose control has been wrested away from business interests by populist or radical forces is the greatest nightmare that monopoly capital can face, short of revolution. In the period under consideration, business interests in the US, even in this golden age of capitalism, were developing an obsessive preoccupation with the role of the state and the dangers it posed that would culminate in the election of Ronald Reagan.[15] Only occasionally in this period were radical writers, such as Gabriel Kolko, willing to remind their audiences of Marx's vision of a dynamic, Promethean capitalism that disrupted and transformed everything before it, a regime in which capitalists invoked regulation and control by the state to tame competitive forces that they were incapable of controlling on their own.[16]

The corporatist and monopoly capital approaches erred in their view of the direction of change of competitive forces in the capitalist economy. But these schools were at least sensitive to the fact that dramatic changes had taken place, both within capitalist enterprises and in the environment in which they functioned, and that such changes had profound implications for capitalism and the way we conceptualise it. By contrast, to borrow the ferocious words of the physicist Wolfgang Pauli, the mainstream of economics was 'not even wrong' – the transformation in the conduct of business since the Victorian period was barely reflected in economic analysis. Even worse, the methodological principles of mainstream economics left the discipline unprepared to consider the underlying forces that were generating these profound changes.

As we have seen in Chapter 3, by the 1930s there were some stirrings away from a Marshallian orthodoxy that analysed capitalism as consisting solely of firms in competitive markets, punctuated by the irregular presence of monopolies. The new approaches introduced a range of models to deal with markets that were less than competitive as a normal case: they were reflecting in an implicit way a widespread feeling that the emergence, and now ubiquity, of giant firms indicated the presence of a change from a world of competitive markets to one that was less competitive. Models were developed that were 'in between' those of (perfect) competition and monopoly: some embodied a traditional competitive view in which excess profits were eliminated, but introduced the possibility of advertising and product differentiation being undertaken by firms.[17] In models of oligopoly, competition 'among the few' replaced the unitary monopolist. These ingenious constructions, long considered the major achievement of the microeconomics of the

interwar period, faded in influence in the postwar era and were largely relegated to textbook chapters and research topics concerned with exceptional issues.[18]

The surprising development of a retreat from realism in favour of a resurrected version of competitive theory resulted from a desire in academic economics, as in several other disciplines in the postwar world, such as mathematics, philosophy and music theory, to recast the subject on more rigorous analytical foundations. In economics, this tendency took the form of an increased centrality of general equilibrium theory, in which the influence of supply and demand in all markets is dealt with simultaneously rather than, so to speak, on a case-by-case basis: for such models to be viable, individual markets that deviate from competition can be present, at best, in what remains a sea of competition. A second motivation for the rise of general equilibrium theory had a more political-economic dimension: when all markets are fully competitive, it is possible to demonstrate with mathematical rigour that an equilibrium derived for a whole economy was (Pareto) optimal. Under such conditions, as noted in Chapter 1, no individual's condition could improve without making someone else worse off – a legitimation of capitalism in a Cold War context that some found convincing. Overall, the mainstream of economics had little to say about trends in the competitive environment in capitalism at a conceptual level. It was happy to excoriate Galbraith for his grand generalisations and to make a virtue of treating deviations from competition as purely pragmatic issues, to be dealt with by the appropriate anti-monopolies authorities. To the extent that any trend was detected, it was among antitrust specialists, who saw in the growth of giant firms a retrograde movement away from a former age of competition.[19]

On the issue of the internal governance of the firm, the mainstream response to the changes emerging in the postwar world consisted of attempts to recast in traditional terms the issues raised by the new situation. Thus, the separation of ownership and control that had emerged in large companies, one that had signalled for Berle and Means in 1932 a crisis in property relations, was reconsidered by the mainstream in the 1960s in a much more narrowly defined manner: if those in control of the great corporations are not wholly responsible to their owners (the shareholders), will the traditional presumption still hold that the primary goal of the firm is to maximise profits? A class of alternative goals for manager-dominated firms was offered – the firm might choose to maximise sales, for instance, because executive remuneration seemed to be tied to the magnitude of the firm's overall activities, rather than its profits.[20] Such solutions hinted at some empirically relevant hypotheses, for instance, that managers might be willing to indulge in even unprofitable takeovers of other firms using cash that otherwise would have been paid out to shareholders as dividends. But, so presented, the separation of ownership and control was not a crisis in property relations – it was merely a change in the large firm's maximand.

Even this departure from orthodoxy was marginalised by a growing literature suggesting that managers would be forced to return to the straight and narrow of profit maximisation by the discipline of actual or potential stock market takeovers, which at the same time served the purpose of legitimating the superiority of Anglo-Saxon-style stock market-based financial arrangements over bank-based alternatives prominent in continental Europe, especially in West Germany. Overall, the mainstream literature on separation of ownership from control had little to conclude about the effect of this phenomenon on the overall environment of modern capitalism. It postulated merely that this separation might have resulted in a weakening of the imperative to maximise profits in favour of 'something else', be it an alternative goal or, as Schumpeter had earlier suggested, a bureaucratised sapping of entrepreneurial zeal.

A figure who addressed the issues surrounding corporate governance in more detail and with more imagination than Schumpeter, Galbraith or mainstream economists was the business historian Alfred DuPont Chandler, seen earlier in Chapter 2. His grand narrative had first appeared in the 1950s, but his major impact was made with the publication of *The Visible Hand* in 1977. The book was issued in the context of an incongruous set of public attitudes towards the economic events leading up to the First World War. On the one hand, it was a period in which the US was seen to emerge as the supreme economic and industrial power in the world and the epitome of all aspects of modernity in material life. But, oddly, historians typically pictured it as the age of the Robber Barons; the dominant economic perspective on the changes in this period was that the emergence of giant firms represented a transition from a competitive economy to one dominated by monopolies and self-serving professional managers – a wholly negative view. A broad public in the US was ripe for an account of the emergence of these giant firms that legitimated them in terms of their efficiency and modernity.

In Chandler's exposition, the firms concerned are never monopolies: they are subject to substantial competitive pressure from rivals and from financial markets to yield adequate returns. Furthermore, and in sharp contrast to Schumpeter, there was no mystification of the entrepreneur. On the contrary, the emergence of the separation of ownership from control was viewed as an aspect of the professionalisation of management – the supersession of GM over Ford in the 1920s is viewed as the victory of the professional manager Alfred Sloan over the inspired amateur Henry Ford. Professionalisation of management, the very creation of a profession called management, is a key theme for Chandler: the development of specialisms in finance and, especially, cost accounting were key factors that prevented large, multidivisional companies from collapsing under the weight of diseconomies of scale. A crucial reason why the great firms had an advantage over their smaller rivals was the very presence of these specialised divisions, populated by individuals trained in new disciplines such as marketing and

purchasing, as well as in traditional ones devoted to engineering and scientific research.

Lastly, in Chandler's exposition, the development of the firm actually benefited from the separation of ownership and control: its professional managers, who typically in this period had a long-term commitment to the company because of lifetime tenure there, fended off greedy, myopic shareholders who, if in full control, would have taken out the bulk of the company's profits in dividends. The firm, far from being faced with a static decision to maximise either profits or sales, has to choose from a range of different courses of action to deal with uncertain streams of returns in the future. Chandler documents how the managers of the great firms, in a manner analogous to those in Galbraith's technostructure, took long-term decisions to mitigate this uncertainty through the maintenance of control over production, marketing and finance.

Chandler had thus managed to generate a major redirection of thought on the events of the early twentieth century in the US. First, he had come up with an account of the emergence of giant firms in which they were the epitome of modernity and efficiency. Second, he had given historical support for the account of events that had been given contemporaneously in the technocratic planning paradigm, with the visible hand of management having demonstrated its superiority over the invisible hand of the market. But by the time of the publication of *The Visible Hand* in 1977, the public argument was shifting dramatically in the opposite direction. The centrally planned economies were visibly faltering and, more significantly, there were important aspects of world capitalism that were exhibiting a powerful dynamism and generating an acceleration of competition. These latter developments were mistakenly seen as a fulfilment of Hayek's spontaneous order rather than something even more complex – the working out of the logic of Chandler's managerial system in the direction of ever more intricate and sophisticated planning, leading to a world economic system that was more competitive than ever before.

## The acceleration of competition

Galbraith's vision was, indeed, a reflection of important aspects of the US industrial system of the 1960s, with the US maintaining overwhelming dominance in the world capitalist economy. In areas of high technology, its hegemony was as yet unchallenged, and in traditional industries such as steel and cars, giant firms in the US and in many other industrial nations were insulated from significant international competition. With large shares of the domestic market, the giants of these US industries had substantial control of their environment and had settled down into quiescent habits of behaviour, so that Galbraith's paradigmatic GM did seem to be the master of all it surveyed in the domestic economy. Even its critics did not question

its role in generating low unit costs – it was seen as the epitome of large-scale manufacture, making optimal use of contemporary technology and modern management techniques. In Western Europe, there was a fear of being overwhelmed by US industrial power and modernity, as evidenced by the publication in 1968 of Jean-Jacques Servan-Schreiber's book *The American Challenge*.[21]

And yet, these books by Galbraith and Servan-Schreiber were not signposts for the future development of capitalism, but indications of the end of an era. The hegemony of the US car industry by the Big Three (GM, Ford and Chrysler) took definitive form with the substantive demise of peripheral firms during the Great Depression and then the self-immolation of potential competitors during the Second World War; it was only in the 1960s that the first hints of competition in the US domestic market from imports could be noted. With his US-centred perspective, the rise in business concentration in the US car market over the twentieth century was taken by Galbraith as characteristic of a long-term downward trend in the intensity of competition, a position shared with almost all those expressing an opinion on this matter. By the 1980s, however, it was becoming clear that a new, more competitive world was emerging, one threatening the dominant position of New Industrial State behemoths such as GM.[22]

The unwinding of this giant-firm hegemony had been delayed by the world wars, interwar stagnation, and the consequent protection and subsidies given to giant firms by national governments worldwide. All of these factors inhibited the emergence of new domestic competition and the expansion of international trade and investment that would increase levels of competition worldwide. In the Golden Age of Capitalism after the Second World War, all of these conditions were reversed: the maintenance of high levels of macroeconomic growth permitted the emergence of new firms to challenge existing ones in the context of a general expansion of economic activity within and between nations, enhanced by reductions in tariffs and other governmental restrictions. The first challengers under the umbrella of the postwar boom were the nations of continental Europe. By the mid-1950s, West Germany had joined the US and the UK as an industrial power, and in the 1960s we see the first serious incursions into the US car market by Volkswagen.

But Germany was merely re-establishing its prewar stature as an industrial power. More significant are the emergence of first France and then Italy as major industrial players: even in the case of France, we are dealing with an economic system that contained a substantial rural and agricultural sector before the war, while Italy's transformation from a semi-developed to an advanced economy (albeit with extreme differences between regions) achieved in reality what had been claimed for the Soviet Union in its propaganda. It was not, however, the European resurgence that shook the *New Industrial State* perspective on the nature of the industrial economy. For

good or ill, the dominant perspective on the world economy comes largely from US sources, and it was not until the US economy felt the force of the industrial transformation in other countries that the picture presented of the world industrial economy began to change.

And the nation that signalled this change was Japan. The Japanese intervention into the car industry, with its just-in-time inventory monitoring and raising of standards of quality control, proceeded to dismember the national oligopolies existing in the US and other nations. These successes were, furthermore, a demonstration that challenges to the leading nations of the industrial world could take place from supposedly peripheral countries on the basis of the superiority of their management techniques. Starting in the 1970s, Japanese exports, especially to the US, became serious threats to the US domestic car, steel and electronics industries, and to the role of American companies as standards of excellence worldwide. At first, Japan's competitive advantage was attributed to cheap labour. It soon became obvious, however, that Japanese industrial success in, for instance, the car industry was to a large extent a function of superior management: the vaunted GM of *The New Industrial State*, far from being the epitome of efficiency and modernity, was holding several months' worth of inventories of many components, whereas Japanese firms succeeded in functioning with inventories measured in hours. For a substantial period, the focus of attention was on the special characteristics of Japan that permitted it to join the White Man's Club. The subsequent emergence of South Korea and other Asian tigers led to a search for Confucian characteristics, and then to a *reductio ad absurdum* of this whole attempt at cultural exegesis, most especially as new players emerged from other parts of the world.

The acceleration of competition is the product of what is, from a static perspective, a widening of the domain of markets with improvements in transport and communications coupled with an expansion in the facility and ambition of management. From a dynamic perspective, the advance of competitive pressure is linked to the increased dispersion and formalisation of managerial technique, so that the cost-accounting and inventory control methods originally associated with a select group of mostly very large firms had become widely available. This tendency is part of a typical process in capitalism by which there is an increase in the supply of a scarce, highly rewarded resource, in this case management facility, both within nations and worldwide. But there is good reason to believe that this process of dispersion will be accelerated under contemporary conditions. As we shall see in Chapter 8, an important consequence of investment by multinationals has been the accelerated dissemination worldwide of the managerial and worker knowledge embodied in these organisations.

An even more powerful force for dispersion of this knowledge, however, is its tendency to cease to be implicit – key aspects of best-practice managerial technique become routinised, mechanical and subject to study in textbooks

worldwide, as a set of Chandler-type protocols. In this sense, managerial technique is similar to other forms of knowledge: in its early manifestations, it contains procedures and implicit forms of knowledge that are difficult for outsiders to imitate, but there is an inherent desire and tendency in capitalism to reduce these procedures to the learned routines discussed in Chapter 2. Thus, the making of steel was, until the nineteenth century, an art with low yields whose secrets were embodied in a handful of individuals and organisations. The substitution of scientifically based, routinised procedures – over centuries in the case of steel, or decades in the case of semiconductors – increased the potential for imitation and replication, in the absence of legal protection for these procedures in the form of patents. As a result, battles over intellectual property rights are likely to become increasingly central to the political economy of the twenty-first century. In a similar way, the very openness and transparency of managerial innovations such as the assembly line have lent themselves to replication on a worldwide basis. Individual cultures, such as that of Japan, may then bring their own ingenuity to improving upon the technological and managerial aspects of steel production, but their first task has been to master the existing formalised procedures, an undertaking greatly facilitated, as we shall see, by their commitment to educational development.

Thus, rational, planned activities of established firms in a particular sector are often conducive not to the emergence of a *New Industrial State* regime of control in that sector, but to the acceleration of competition in that sphere. In the case of the car industry in the US, this process was long delayed. The immediate consequence of the exploitation of standardisation in parts, processes and products was the generation of economies of scale and the growth of a US industry characterised by a few large producers dominating the sector. But, in a development that unfolded over more than half a century, the standardised nature of the final product, the car, and the uniform nature of the protocols of the assembly line were readily replicable by other nations and permitted worldwide competition in the mass-produced vehicle.

The elaborate forms of product differentiation in modern capitalism, first commented upon by economic theorists in the 1930s, were, paradoxically, an attempt to assert an individuality for products that, at base, were more uniform in character than ever before, a process epitomised by the GM practice of offering up a range of different brands, all using the output of the Fisher Body plant. The promotion of uniformity in production techniques and of goods sold was linked to a desire to create volume effects in production and marketing through the creation of a mass market. This desire helps to explain the alacrity with which IBM permitted Microsoft to offer its operating system for the personal computer to IBM's rivals; for the same reason, the launch of the CD player by Philips and Sony was accompanied by the publication of a Red Book of specifications that was

available to potential competitors. In both these cases, efforts in the direction of creating a mass market through product uniformity soon resulted in the emergence of highly competitive sectors in which the initiators ceased to dominate: assiduous corporate planning created high levels of market competition.

These attempts by great firms to exercise control over their environment from the beginning of the twentieth century contributed to the unravelling of this strategy by the dawn of the new millennium. Within the organisation, aspects of this control involved the replacement, wherever possible, of craft-based techniques of production with scientific, objectively replicable protocols, and of formalised, even academically inspired, procedures for firm accounting, the structuring and training of management, and the direction of labour. Within sectors, the great firms needed standardised specifications to facilitate mass production – for electrical equipment at the beginning of the twentieth century, and for personal computers and related operating systems at a later date. And here is the irony: in processes that were long delayed over the twentieth century by war and economic depression, these attempts by the giant firms to exercise control over their own organisations and the sectors in which they functioned facilitated imitation, emulation and rivalry in nations far from the heartland of the Second Industrial Revolution. These giant firms had created the prerequisites for competition for their products and the very lack of control of their destiny that they had been attempting to avoid.

We have thus seen that economic planning in its most elaborate form – that to be found in the Soviet Union – was a failure, for reasons grounded in the economic logic of the system created. Western socialists after the First World War found themselves with the task of attempting to formulate an alternative to capitalism, but along with other adherents to the technocratic planning paradigm, their analyses were deeply flawed. In many countries, this alternative took the form of schemes for economic planning: the collapse of socialism can be substantively linked to the incoherence of such schemes, rather than to any proximate excuse. Socialism was being looked for in the wrong place.

## The demise of technocratic planning: the Alternative Economic Strategy

The deleterious effects of the technocratic planning paradigm on the development of a coherent socialist alternative in the twentieth century are exemplified by events in Britain. Left-wing political economy focused attention away from policies addressing the existing class structure, such as radical reforms to the school and university system, that might have permanently transformed society in an egalitarian direction. Changes of this kind, unlike the highly desirable but alleviationist National Health Service created after

the Second World War, would also have served as a component of a strategy of economic development for an advanced economy such as Britain.

Instead, the theory and practice in Britain of moderate socialism may be characterised as aimless, with an unfocused attachment to planning of some sort. When radical socialist tendencies were able to influence the policies of the Labour Party in Britain in the 1970s and 1980s with the Alternative Economic Strategy (AES), the focus was upon working through a thoroughgoing version of the technocratic planning paradigm. The AES remains the most radical programme to become the official policy of a major political party in a leading capitalist country in the postwar world. The irrelevance of this programme in the worldwide economic conditions emerging in this period signalled the demise of the planning paradigm and the rise to predominance in Britain and in other countries of the reconstituted liberal alternative. It is this sad history that is reviewed here.

Planning in the interwar period in Britain, for a broad spectrum of opinion, functioned as a central focus of economic debate, though it was often little more than a catchphrase expressing a generalised state of disaffection with the economy.[23] There emerged a range of anti-laissez-faire positions that paralleled those to be found in continental Europe: socialism as workers' control or in the form of centralised state management, with a particular admiration for the successes of planning in the First World War; technocratic approaches; forms of corporatism, emphasising cartels and combination in order to avoid the 'anarchy' of competition;[24] pre-Keynesian schemes for macroeconomic pump-priming of the economy; and, following on from Joseph Chamberlain in the prewar period, an emphasis on protectionism within the context of the Empire. All of these developments, with the exception of Keynesian theories of macroeconomic regulation (which were of no influence on substantive economic policies in the interwar period) and the creation, along with the US, of the national income accounts, remained weaker and less developed than their continental European equivalents, partly because of the continuing resonance of laissez-faire ideology in the land of its birth.

The history of the Labour Party passed from a commitment in 1918 to 'a systematic and comprehensive ... planned cooperation in production and distribution'[25] to a profoundly unsatisfactory interwar period in which the Labour Party emerged first as complicit with the deflationist policies on offer in the 1920s and then, through its own disunity and lack of coherence, as a counterpart to the directionless Conservative regime of Stanley Baldwin in the 1930s. The disparate range of opinions emerging from the Labour Party in the interwar period is also a reflection of the weakness of the links between socialist intellectual opinion in Britain and the working-class movement. The whimsicality of the former is indicated by the fact that before the Great War, the Fabian Society held positions indistinguishable from those of the more progressive members

of the Liberal Party, and yet later, without renouncing earlier positions, such prominent Fabians as Sidney and Beatrice Webb and George Bernard Shaw could offer uncritical support for Stalin's regime at the height of the Terror in the 1930s.

The lack of a coherent position within the Labour Party on planning and the organisation of the economy was not due primarily to this sociological division between intellectuals and workers, but emerged as a product of intellectual differences on the appropriate modes of economic regulation for an economy. Within the Labour Party, the logic of marketplace efficiency still played an important role, so that only a specific faction around the economist and prolific writer G. D. H. Cole was committed to systematic central planning. Nationalisation, as it emerged as Labour Party policy, was characterised by a technocratic tendency, identified with Herbert Morrison, that wished to see key sectors, like the Central Electricity Board and the BBC, governed by competent individuals with a disinterested, long-term perspective on the sector at hand.[26] There was no clear indication, however, that such proposals were part of an attempt to plan the economy overall or to revolutionise its mode or direction of operation. Furthermore, since all proposed nationalisations involved full compensation of the owners, nationalisation was not self-evidently part of any programme of redistribution of income or wealth, and issues of workers' control of these nationalised enterprises were never seriously broached.

The 1945 Attlee government remains at the centre of controversy to this day, despite a range of achievements that has remained unchallenged, such as the nationalisation of the Bank of England and the creation of the National Health Service. From a right-wing perspective, emerging from the last years of the Thatcher–Major era, the 1945 Labour government was said to have wasted resources on social programmes that should have been committed to industrial revival, with housing better represented in the Cabinet than industry.[27] This class of views will be contested in Part II: it implicitly dismisses the role played in economic development of improvements accruing to the stock of human assets incumbent upon social programmes. The provision of housing, most especially for those on lower incomes, is not a gratuitous luxury but a complement to other aspects (including education) of a strategy of human and economic development.

In fact, much of the new government's functioning seemed to be consumed with day-to-day survival considerations, including the need to raise the level of exports: the latter problem was exacerbated by the high level of the initial postwar value of the pound. Britain's acquiescence to pressure from the US to act as a junior partner in the Bretton Woods exchange rate system by becoming fully convertible, and its continuing focus on soft Commonwealth and Empire markets for exports, indicate a more likely source of postwar sluggishness in Britain relative to other West European nations – its desire to retain a role for itself as a great power.[28]

From another perspective, as quoted earlier in the Introduction to Part I, 'Much of the Left's energy has been dissipated by industrial experiments in planning ... it seems indisputable now that had the 1945 Labour government concentrated on rewriting the 1944 Education Act and reconstructing the university system, a genuine and lasting transformation of the society may well have been possible.' In retrospect, this judgement seems overly stark. Without doubt, the Attlee government's approach to education at all levels was inadequate even to serve the needs of economic modernisation, much less those of socialist transformation. But much of the nationalisation, such as that for gas, electricity and other utilities, now seems unexceptionable, as does the taking into public ownership of the poorly run coal industry.

Most controversial in the long run was the nationalisation of the steel industry, a sector that, along with the nationalised car industry of future Labour governments, became emblematic of Labour policy failure in economic intervention. Steel nationalisation was never part of an attempt at coherent central planning. Its rationale was muddled, since there were no redistributive effects (as the nationalisation was compensated), nor was it an attempt to control Pigovian-style negative externalities (since pollution was not a major policy consideration at the time). Nationalisation appeared to have a dual motivation: first, nationalised firms could play a role in maintaining full employment; second, there was a belief, emerging from technocratic planning concepts, that nationalisation would eliminate the uncertainty generated by competition and would thereby yield more rational long-term investment decisions for publicly owned monopolies.[29] The latter presumption – a false one – was that steel and other comparable industries would continue to operate in an international context that would leave scope for idiosyncratic direction at a national level. This failure of analysis ultimately doomed any attempts to assert the dominance of plan over market.

The lasting memory – from both the left and right – of subsequent Labour governments until the Thatcher accession of 1979 is the presence of perpetual loss making in sectors such as steel, cars and coal, alongside peripheral achievements such as the creation of the Open University and failed attempts at reform in the creation of comprehensive schools. The Labour Party's association with the trade union movement was long perceived as a political asset, not only because of the large number of voters within the latter's catchment, but because of the implicit Labour Party claim that they could exercise influence over this powerful group: the Labour Party could 'deal' with the unions, thereby limiting strike activity and excessive wage demands.[30] In the longer term, the Labour Party's trade union link was perceived by many to be a sordid association with a special interest, with the deals made being concessions to blackmail.

These Labour governments are striking examples of the role that intellectual coherence, or its absence, can play in public policy: the willingness

of so much of society to move in the direction of right-wing adventurism under Margaret Thatcher can be partially explained in these terms. By the 1970s, the failure of real existing socialism in Eastern Europe and the Soviet Union was almost universally accepted. Socialism in the form of the loss-making nationalised car and steel industries was not only unpopular but, equally importantly, lacking even a putative rationale, and this heritage of pointless nationalisation did the Labour Party enormous damage from the 1960s onward. In the early 1970s, two radical economists, Andrew Glyn and Bob Sutcliffe, suggested that Britain had emerged from the Second World War in the unique position among large nations in Europe of having a working class undecimated by the war and postwar reconstruction: their pioneering analysis of declining profitability in British industry was thus linked to the power of its working class. In the atmosphere of the time, however, the doctrine was successfully taken up by the right, rather than being, as intended, an argument for a radical rejection of a failed capitalism.[31] It was under these conditions that the free-market alternative of Mrs Thatcher was able to gain broad support.

When the Labour Party came together with its own logically coherent, if unviable, alternative, it was only through harkening back to an era in British history – a period now long past, if it had ever existed – in which Britain could perceive its leading sectors as sufficiently dominant and secure from foreign competition to permit the setting up of a centrally planned alternative to capitalism, a return to the 'real' Labour Party of the 1918 platform. The Labour Party took a dramatic turn to the left in 1973 with the adoption of its AES (the name was given in 1975), rejecting the moderate revisionist political economy epitomised by the Anthony Crosland-inspired 1957 party document *Industry and Society*. The AES was eventually put to one side by the Labour Party in 1983. The six key elements of the AES were commitments to reflation, public ownership, planning, price controls, industrial democracy and import restrictions.[32]

The first four of these aspects of the programme were meant to be part of a coordinated effort to deal with deficiencies of the economy at both a macro- and a microeconomic level. Thus, policies of reflation (increases in aggregate demand to promote investment, employment and economic growth), in the absence of changes in the microeconomy, would continue to fail: they would inevitably become part of the notorious stop–go cycles that had brought other periods of expansion to a halt. Structural changes in the microeconomy were needed so that upswings in business activity were not constrained by bottlenecks in the supply of capital goods resulting from deficient investment, and by inflation resulting from monopolies taking advantage of favourable demand conditions to raise their prices inordinately.

Firms were to be brought under public ownership ('a significant public stake in each sector of the economy'), involving at least two dozen leading companies. It was unclear, and perhaps intentionally so, whether this

nationalisation would include foreign-owned firms. Nationalised firms would set standards for the rest of the business sector. First, they would undertake high levels of investment, using funds that these firms, prior to nationalisation, might have devoted to dividend payouts and to taking over other firms. Second, they would have to show restraint in the setting of prices, most especially since the firms nationalised were likely to be near-monopolies or dominant firms in one or more sectors of the economy. Price restraint by the nationalised firms would help create a competitive atmosphere for the remaining firms in the sector. Furthermore, this restraint in the setting of prices would be coupled with the pursuit of employment policies designed to give a favourable trade-off between employment and inflation.

Planning agreements and price controls would reinforce these standards for the top 100 companies left in private ownership. Targets would be negotiated with the firms concerning employment, investment, and production over a five year period, covering pricing policy, product development, marketing, and export and import levels. Generalised price controls were not so much an inherent part of the overall economic strategy as an explicitly political gesture: they had been the centrepiece of the famous social contract by which the government would control price increases and the trade unions would, in turn, restrain wage demands.

Import restrictions were perhaps the most controversial element in the AES package. These 'temporary' measures were meant to satisfy two goals simultaneously. On the one hand, it was hoped that they would help mitigate the stop–go cycle – reflationary policies would no longer be brought to a halt by a rapid deterioration in the balance of payments due to the sucking in of imports. The other justification for import controls, however, brings into question a key premise on which the whole AES had been constructed – the growing pervasiveness of monopoly in the economy. If the monopoly power of British firms was growing in this period, why was it necessary to use import controls as part of a long-term strategy for the recovery of British industry to give it breathing space from ever more destructive international competition?

Industrial democracy, in the form of worker participation in firm decision making, was to be introduced for its own sake, but it was also hoped that democracy, by reducing worker alienation, would reinforce the other reforms designed to re-energise British industry. The introduction of elements of worker participation in the AES programme was the only aspect that could be described as intrinsically left-wing or progressive, since nationalisation was only proposed to take place in the context of full compensation to owners. (AES supporters and radical commentators were generally in favour of wealth redistribution, but not by way of nationalisation per se.) Thus, the AES, for all its left-wing rhetoric, was largely concerned with the claim that

it could improve the management of the business sector in Britain through extensive government participation and direction.

The economic context in which the AES was originally enunciated was one in which the British economy had experienced relative economic decline compared with other nations, but was not obviously in a situation of crisis. In the period following the Second World War, Britain's rate of economic growth was consistently at the bottom of league tables of major industrial nations, and by the 1970s, standards of per capita income were being equalled or exceeded in a range of countries in the Common Market.

But in this golden age of world capitalism ending in about 1971, even these apparently low rates of growth were higher for Britain than for any other comparable period in the twentieth century. In absolute terms, material standards had vastly improved. With no clear trends present in either direction in the gap between rich and poor, living standards even for the poorest sections of society were rising. Unemployment was low by international and historical standards; inflation, until the oil price rises that emerged in the wake of the Arab–Israeli war of 1973, was low enough to be considered more of an obstacle to macroeconomic expansion than a serious threat to economic stability. Crises in the balance of payments leading to devaluation, though present in other nations, most notably the US in 1971, tended to be treated in Britain as national traumas and symbols of decline.

Lastly, British industry, which in the years immediately after the Second World War had appeared to be the only significant rival in the capitalist world to the US in a range of key traditional industries and high-technology sectors such as computers, was now finding itself pushed aside by new entrants such as Japan. The 'natural' process of deindustrialisation inevitable in advanced economies as the relative shares of the economy shifted from manufacturing to the tertiary (services) sector (or, in Britain's case, partially into the primary sector, with oil being extracted from the North Sea in large amounts in the late 1970s) was taking place at an inordinate rate.[33] The feeling in Britain that it was undergoing a period of decline was pervasive.[34]

Thus, the context in which the AES emerged might have appeared propitious, since the notion that Britain was in a state of decline was widespread. Also pervasive was a national consciousness of Britain's former greatness, so that the AES's implicit assertion of the possibility of economic renewal thorough unilateral national action might well have come across as plausible, while in most other nations of Western Europe, a multilateral context and a sense of the constraints of the international economy were emerging as the norm. Furthermore, the measures proposed, with the exception of the proposal for the introduction of elements of workers' control, were not inherently left-wing.

Why, then, was the AES unable to generate broad-based political support? The failure of the Labour Party AES in political terms is partly linked to

the specific historical conditions that emerged in the mid-1970s. The rise in the price of oil had helped precipitate an inflation so severe that a key element of the AES – the need for reflation – was seen to be inoperative, and a policy of price controls as part of a social contract simply broke down. Equally inoperative was the notion that the profits of the monopolists could be directed to better ends: a general acceptance (based on the work of the two economists cited above) that there had been a long-term decline in the profitability of British industry obviated the question of the redistribution of these profits.

The AES also failed because of the public perception that nationalisation in sectors such as steel and cars had been, in a host of ways, unsuccessful. From a political perspective, Anthony Crosland and the right wing of the Labour Party demonstrated political astuteness compared with the proponents of the AES. For Crosland, Keynesian macroeconomic management was within the domain of politicians, but he generally opposed the notion that political involvement, through either nationalisation or planning agreements, could be a vehicle for the improvement of the performance of the business sector. His opponents on the Labour left suggested that his opposition to AES-style micro-management of the economy by government was due to his old-fashioned views on the nature of the contemporary British economy. There can be little doubt, however, that Crosland's primary reason for opposing such policies was that government involvement in the business sector evoked little public sympathy.

The weaknesses embodied in the AES do not undermine the fact that it represented an attempt to put forth a programme for the regeneration of the British economy that was underpinned by a coherent intellectual argument. Not until several years into the Thatcher era could it be claimed that political actors were motivated by a set of doctrines of such intellectual clarity. By contrast, the programme of the mainstream Labour right represented by Crosland's *Future of Socialism* of 1956 seemed to be little more than an eloquently worded version of *on s'engage et puis on voit*. The AES largely emerged from the tireless advocacy and theoretical work of Stuart Holland. His analysis, as set out in *The Socialist Challenge* of 1975, dwarfs in theoretical ambition and detail any comparable work in the postwar world from the Crosland revisionist group or any other assemblage within the Labour Party.[35] The theoretical skeleton may be put forth in the following propositions, some only implicit in Holland's work:

*There is a growing tendency towards monopoly in the British economy.*

*The management of privately owned large firms can be readily replaced by state ownership, or supplemented with governmental directives.*

*'Socialism in one country' is a viable proposition.*

I will address each of these propositions in turn:

> *There is a growing tendency towards monopoly in the British economy.* This notion is a central aspect of the technocratic planning paradigm that dominated the left-wing literature of the economics of the twentieth century. What is distinctive in Holland is that he focuses only briefly on the traditional critique of monopoly power – that powerful firms that dominate individual markets can exploit consumers. Rather, for him, the word 'monopoly' is used in a more metaphorical, populist sense to connote very large, most commonly multinational, firms. He measures this phenomenon by looking not at levels of concentration in individual markets, but at aggregate concentration – the share of the 100 largest firms in the British manufacturing sector, which grew substantially over the twentieth century. This process of the growing predominance of large firms is, however, as in John Kenneth Galbraith's *The New Industrial State*, viewed as inevitable and emerging from the exigencies of modern technology: survival of the fittest dictates the prevalence of these giants in the contemporary world. As in Galbraith, management and decision making in these large firms have become separated from ownership. These managers, substantially freed both from the constraints of traditional competitive forces and from the demands of shareholders, can exercise significant freedom of action in their decisions.

For Holland, there are two main reasons to be concerned with the emergence of these giant, multinational firms. First, their presence and behaviour limits national sovereignty: governments, especially socialist governments, lose control over fiscal and monetary policy, as well as foreign exchange, when large, multinational firms pursue tactics to avoid the effects of governmental direction and taxation. The second reason to be concerned with the growth of the predominance of these large firms is that their monopoly power worsens the trade-off between unemployment and inflation: governmental attempts to lower unemployment through additional expenditure will be thwarted by the ability of the monopolies to use their market power to put up prices. This first proposition contains the essence of Holland's worldview. It also embodies his critique of Crosland's notion that it is possible to limit government involvement in economic activity to the realm of macroeconomic (monetary and fiscal) policy, and let the private sector take care of business affairs: for Holland, the emergent 'mesoeconomic' economy dominated by large, multinational firms makes such an approach impracticable, if not impossible.

The very premise of the first proposition above was false. The problems being experienced by British industry were not those of growing monopoly predominance, but of increasing international competition and relative decline. In the immediate postwar world, key elements of British

industry had cultivated habits of monopolistic sluggishness because of their substantial control over domestic and Commonwealth markets and the scarcity of international rivals. Progressively, British firms had to face unprecedented competition first from continental rivals, and then from Japan, Asia and other nations. The high levels and rapid rise in aggregate concentration in the UK were largely a manifestation and reflection of its stagnation in the context of increasing international competition and a shrinking industrial base. Mergers in the UK accounted for much of the rise in concentration: managers, with poor prospects for the investment of funds in their own companies, chose to take over other firms rather than pay dividends to shareholders. For a host of national economies that grew far more rapidly than the UK, such as Italy, the small-firm sector was a key element in their rapid economic growth, giving the lie to the notion that gigantism was an inherent and inexorable part of all modern forms of capitalist development.

It is indubitably true that the emergence of giant multinational firms, and other changes in the international economic and financial arena, may impose limits on national sovereignty: governments, especially potentially socialist governments, can lose control over fiscal and monetary policy, as well as foreign exchange, when, for instance, large, multinational firms pursue tactics to avoid direction and taxation from national governments. Monopoly, however, had nothing to do with these developments. It was the growing preponderance of the international dimension in every nation's economy – the dramatic rises in the flows of direct and portfolio investment, international trade and finance – that was critical to the thwarting of national sovereignty, rather than monopoly power: very large firms in a *competitive* environment (in, for instance, an international context) would be at least as eager as any monopolist to avoid governmental controls and taxation. To the extent that the emergence of the multinational is, as we shall see below, an aspect of a more generalised internationalisation of the economic environment, it is a fact to be faced by all nations and has little to do with monopoly per se. As Holland correctly points out, the British economy has an exceptionally large component of multinational activity. Any realistic view of Britain's place in the world economy at the time would have resulted in demands for regulation at the supra-national level, such as the European Union (or the European Economic Community (EEC), as it was then known), rather than relying on the limited resources of a nation state. But the Labour left of the 1980s was adamantly opposed to the EEC.

The second reason for concern about the role of giant and multinational forms (mesoeconomic power, in Holland's terms) is that it can exacerbate the trade-off between unemployment and inflation. It is true that monopoly power can sometimes cause the price system to act perversely – in a notorious case in the US, the American Tobacco Company was able to raise cigarette prices in the context of general deflation during the Great Depression

of the 1930s. But in general, the notion does not even make logical sense: why should a monopolist's pricing policy exacerbate inflation, which is the *rate of change* of prices?

*The management of privately owned large firms can be readily replaced by state ownership, or supplemented with governmental directives.* The transition from capitalist to socialist direction is a smooth one in Holland's Galbraithian world, echoing the presumptions of the technocratic paradigm in its socialist manifestations. In such a world, where technology dictates that it is the big firms that are the harbingers of the emergent new industrial state, it is sufficient to focus on this small number of large entities rather than the sea of enterprises in the economy as a whole. Furthermore, since the managers of these large capitalist firms have substantial freedom of action due to monopoly power and their independence from shareholder demands, the redirection of the large firm's activities in a socialist direction will be a straightforward process. Company managers as specialists can be left to deal with day-to-day decisions, but now the overall directives will be set by socialist planners.

Typical of the forms of intervention in the AES would be price restraint by the nationalised firm in order to create a competitive atmosphere for the rest of the firms in the sector. This identification of pricing policy with competitive behaviour is familiar from standard economics textbooks and corresponds to the ideas of the socialist economist Oskar Lange in the 1930s, discussed in Chapter 4. As we have seen, he suggested that the question of ownership is irrelevant in determining whether or not an economy is efficient: a publicly owned, socialist economy could simulate the efficiency of a competitive capitalist economy by being instructed to set its prices in a competitive manner. Neoclassical orthodoxy had been convinced by Lange's argument and conceded that competitive prices could just as well be simulated in a socialist context.

For Hayek, by contrast, competition under capitalism was about much more than pricing policy. It involved (as in Marx) a continual renewal of the forces of production, risk taking and the introduction of new technology. Thus, while it is reasonable to think that telephone services, like those for water, can be straightforwardly provided by a single nationalised producer, the issue takes on a new light once the telephone sector is transformed into telecommunications. As a nationalised industry, we would have to answer the question: *how much* of the public's money should be invested (risked) in the new goods and services being offered by the telecommunications industry, and *in what* new sectors should it be invested? The presumption is, of course, that under capitalism, these questions are simply answered: in a privately owned firm, by virtue of holding the firm's shares, the owners have acquiesced to partaking in the risks embodied in new ventures. Investments on the part of the firm will proceed as long as they are perceived to add to the value of the firm and therefore the net worth of the shareholder.

This capitalist decision rule on investment is perfectly coherent. There is no equivalent rule in a nationalised context. Let it be conceded that when the AES speaks of the need for 'more' investment in industry, it is implicitly invoking a Keynesian criterion whereby aggregate investment must be at a sufficient level to underpin full employment. The question still remains: investment in *what*? Would massive expenditure on capacity in the 1970s and 1980s in the car and steel industries (likely key sectors for expansion under the AES) have been of long-run benefit to the British economy? The spectre of massive, Soviet-style investment in obsolescent spheres of activity must be coupled with the extraordinarily detailed planning agreements discussed above, covering all aspects of firm behaviour. Besides the obvious costs of administering any such agreements, the multiplicity of goals to be met promised to generate for the economy as a whole the kind of incoherence and lack of direction characteristic of existing nationalised industries.

Furthermore, the viability of the AES programme of planning agreements is linked to a particular view of the modern, large firm, also derived from Galbraith, in which large companies are already self-sufficient islands of planning. For the AES, then, it would be relatively unproblematic to introduce government-directed planning agreements with dozens of large firms as a replacement for existing firm-based planning procedures. But in reality, for even the largest firms, trade with other firms appears to account for about 75 per cent of sales.[36] Meaningful planning agreements would then involve not only a firm-by-firm determination, but also a morass of calculations concerning the *interactions between* firms.

The above few paragraphs could have been written by any paid-up member of Mrs Thatcher's favourite think tank, the Institute of Economic Affairs (IEA). But to observers in the early twenty-first century, the AES programme for the regeneration of British industry, involving nationalisation and dozens of detailed planning agreements with firms, evokes not so much a right-wing hostility as a form of incredulity – how could anyone have believed in such a thing?

It would be a shame if the incredulity evoked in response to the AES programme were to generate an uncritical attitude to the rationality of investment in a capitalist economy. That problems exist in a Keynesian, macroeconomic context are well known. But even in the area of microeconomic decision making, where it was suggested above that capitalist investment appraisal sets a standard for rationality, there are major difficulties to be faced: as we have seen, in the postwar US, the free-enterprise steel and car industries failed egregiously to respond to new competition, while many of the successful sectors of the supposed free-enterprise US economy were created by having government money 'thrown at them' during the Cold War. There are thus good reasons to question the unadorned efficacy of the free market as a vehicle for long-term investment and development, even in the context of that supposed bastion of capitalism, the US. But considered

criticisms of free enterprise investment lose their force when the alternative in front of the public is AES-directed nationalisation and its morass of planning agreements.

*'Socialism in one country' is a viable proposition.* It is perhaps unsurprising that nations with a great imperial history will view the growing internationalisation of the economy mainly as an imposition upon national sovereignty and a threat, rather than as an emerging, inevitable aspect of world economic evolution and a new set of opportunities for its own development. For Holland, the multinational appears out of nowhere – like the monolith in '2001 – A Space Odyssey', and serves little purpose but to thwart socialist management of the economy. In fact, the multinational is not a peculiar imposition upon the world economy but an aspect of a more general series of changes in the direction of what would now be called globalisation, involving trade, finance and international dealings of all kinds, that continue to evolve to this day. Western Europe and the EEC are treated as problems to be coped with rather than as potential allies in trying to tame international capital. This strikingly national perspective is certainly curious in the context of the non-Stalinist socialist intellectual tradition, but what is more apposite is the gross underestimation of the momentum behind this process of globalisation. Within a few years of the publication of Holland's book, attempts to control exchange rate levels and currency movements would substantially disappear within major capitalist economies.

Britain did have peculiar problems in an international context: historically, Britain's own economic development may well have been disadvantaged by the Empire-oriented emphasis on overseas investment, so that in Britain in the 1970s there was a net outflow of foreign direct investment funds. Part of the AES strategy was a set of governmental measures to control outflows, but given the likely disincentive effects of this and other aspects of the AES on potential inflows, its prospects for improving net inflow were clearly dubious. The British state was simply not powerful enough to cause international capital flows to bend to its will. Proceeding more logically, Mrs Thatcher made brilliant use of bellicose patriotic rhetoric as a cover for policies that implicitly conceded Britain's ordinary status in the world economy. At enormous cost to the domestic economy, her administration created an environment of sound money and broken trade unions that acceded to the needs of international capital and made Britain a first port of call for foreign direct investment in Europe by the late 1980s.[37]

For left-wing critics, the AES was deemed to be insufficiently radical.[38] Overall, however, the 1980s signalled not only the demise of socialism in the politics of both Eastern and Western Europe, but also a shift in intellectual focus to free-market economists and social thinkers. In the twenty-first century, socialism as an intellectual movement has become a peripheral activity, preoccupied with a range of schemata for running a hypothetical economy on a planned basis: the irrelevance of such activities to substantive

present-day realities has led socialism to be perceived as a peculiar special interest. Among progressive movements, socialism now has far less influence than the ecological movement and feminism on the politics of the contemporary world and on social and economic thinking. Socialism, having found itself identified with schemata for economic planning, has been cast into irrelevance.

In recent years, there has been a revival of critical views of the functioning of the capitalist economy, in terms of its worrisome tendency to manifest instability and generate high levels of unemployment, as well as concerns about growing inequalities of income and wealth. But these tendencies have not generated any substantial call for a revival of AES-type technocratic planning solutions to these problems. The top-down technocratic planning paradigm, now defunct, had defined what it meant to be socialist in the twentieth century. It has, as a by-product, marginalised strategies for confronting capitalism that begin from the ground up – focusing on human development, equality and democratic control. This class of approaches will be developed in what follows.

# Part II

# Human and Economic Development

## Introduction

Part II links the failed socialist strategy of central planning of Part I and an alternative path to be discussed in Part III, a socialism focused on policies to promote human development and democracy. The discussion in Part II supports the proposition that approaches of this kind are not merely speculative ventures, but are well-grounded in the historical record: a programme of human development centred on education and equality has a substantive basis in how economies have developed successfully in the past, and are likely to do so in the future.

The earlier planning approach became a central aspect of the socialist programme of transformation because it appeared to emerge as an inherent aspect of Enlightenment rationality and linked socialism to the trajectory of progressive historical developments: capitalism in its most advanced aspects was seen to be re-creating itself in a planned direction, so that the planning model was objectively the correct goal for socialists to be pursuing. Furthermore, given this trajectory, the path to socialism would be facilitated both strategically and tactically by going with the grain of history and modernity. The strategy failed universally because this perspicacious analysis of capitalist development was flawed.

Socialism emerged overwhelmingly as the dominant rival to capitalism precisely because it represented an alternative vision of modernity. Rather than rejecting the transformation of material and social existence brought about by capitalism, as did some reactionary, religious and marginal socialist groups calling for a return to a pre-capitalist golden age, the *Communist Manifesto* heralded these developments: 'The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together.' The dominant strain of the socialist movement was thereby pursing goals in harmony with the desire of the great mass of individuals in society to improve their material existence. But as capitalism persisted in the twentieth century,

socialists of the most radical stripe often became identified with strategies – labour stoppages and militant demands for wage increases even in inflationary conditions – that, at least in the short run, seemed to make life more difficult for ordinary people and harkened back to Lenin's horrific doctrine of *chem khuzhe, tem lushche* – the worse, the better. A persistent stain on socialism has been the suspicion that its purveyors have manipulated the needs and aspirations of ordinary people in order to pursue their own vision of the future.

This history is important because the methodology being pursued in Part II parallels that in Part I: the path to socialism pursued here is seen to be congruent with the trajectory of history and modernity. The current version of apologia for capitalism links it to perpetual innovation, with incentives for wealth creators and risk takers used as a justification for inequality; associated doctrines are creative destruction (the destruction of existing sectors and jobs as a concomitant of innovation) and the postulation of an inevitable trade-off between equity and efficiency. The alternative view presented here suggests that economic development, including innovation and technological progress, is not a beneficent gift of wealth creators: the boundaries between innovation, adaptation and diffusion of new methods and ideas are more fluid than is generally suggested, a fact necessitating a broad base of skills across the population. A healthy ecology of development implies that economic equality will be complementary to the cultivation of these widely dispersed skills, so that there is no trade-off between equity and efficiency. Furthermore, the focus on risk taking in capitalist ideology ignores the need for security for the planning of the enhancement of skills by household members. And creative displacement – building on existing skills and sectors – is more characteristic historically of successful innovation than is creative destruction.

A key to economic success in the modern world is the human, and especially the educational, development of the population, a social process that only reflects itself in standard measures of economic growth with substantial lags. Under capitalism, advances in human development that promote economic growth have taken place only in an imperfect, inadequate manner. There is no claim here, however, for the superiority of a programme centred on equality and broad-based education because of its role in promoting economic growth. On the contrary, the socialist motivation for pursing an intensive programme of human development is not to enhance a nation's growth rate, but to expand the possibilities for human freedom, personal flourishing and democracy. The nature and substance of a socialist educational programme will, therefore, differ significantly from one emerging from a growth-oriented political and economic discourse.

The danger can be, however, that the socialist programme is seen to be fulfilling its own ends rather than the desires of a broad-based public. Successful socialist policy will not succeed by attempting to fool a public

into accepting a half-hidden agenda. On the contrary, a programme with socialist goals must be seen as congruent with the needs and aspirations of the population if it is to succeed politically and embed itself socially. A broad public has rejected both central planning and free-market fundamentalism on the common-sense basis that these grand schemes didn't deliver the goods: the extent to which a socialist programme facilitates material improvements overall can act as a reality check on its efficacy and militate against adventurist experimentation with people's lives.

In order to be successful, educational programmes must take place in an economic and social environment that gives individuals and households an opportunity to make long-term, rational plans to fulfil their goals. Such an environment must embody high levels of household security, social mobility and equality. Education then appears not as an elixir but as a powerful facilitator of economic growth and social equality in the context of a broader set of elements that promote human development. A highly unequal society may find that even a well-conceived educational programme is of little efficacy in facilitating growth. Educational opportunity, economic security, mobility and equality emerge not as gratuitous luxuries that rich countries might choose to indulge in, but as the very sources of material development itself.

Human development is, thus, a much broader process than that encompassed by school education, and socialist policies must pursue social equality and solidarity in tandem with an educational programme. In place of a free-market vision of individuals responding to material rewards and punishments, including insecurity, a socialist vision focuses on the ability of individuals and households to plan for the future and control their own lives in a secure environment, and to exercise this control collectively in a democratic context. Such a programme is, as a by-product, likely to be at least as successful in terms of long-term material growth as one emerging from a hard-headed capitalist strategy of inequality and insecurity.

The precise nature of this material growth and how we measure it remains, however, a problematic issue: far from being an objective indicator of material improvement, the conventional economic growth calculation warps our decisions concerning economic success and failure with a host of dubious empirical presumptions and implicit value judgements. Part II thus begins with a discussion about the relationship between education and economic growth, one that inevitably leads to questions about its components – education and economic growth; along the way, key issues that emerge are exemplified in the context of the history and institutions of the US.

# 6
# Education and Economic Growth: The Statistical and Historical Record

A vast statistical literature lays claim to the notion that enhanced education can boost the incomes of individuals and of whole economies. A straightforward argument could be developed here using this received wisdom: the positive relationship between education (and not, as previously, planning and centralisation) and economic success in modern capitalist societies can be redirected for socialist purposes. But no such simple story is readily available. The lines of causation between education and economic advance at the social level are murkier and more complex than any confident reporting of significant statistical results might indicate: aggregative statistical procedures may not be an appropriate vehicle for reporting on this relationship in other than a generalised way. The reasons for these difficulties should not surprise us – education is deeply embedded in the fundamental structures of society; its nature and role raise issues of a basic kind concerning human development and even personality formation.

Even if a simple link between education and economic growth were to emerge in a decisive way statistically, it cannot be argued in a socialist context that an enhanced programme of educational development and social equality is desirable *because* it promotes economic growth. On the contrary, and most especially in the context of rich countries, socialism focuses on the enhanced ability of all individuals to function freely and to exercise democratic control in society – this is the relevant form that 'growth' takes.

It would be inconvenient and troublesome, however, if education had proved to be a gratuitous luxury, one that had actually posed an obstacle to the achievement of higher material standards for median-income earners. The evidence to be reviewed below shows that no such dilemma exists; here, and in subsequent chapters, a narrative with more intricate lines of causation will supplement, reinforce and complicate this conclusion.

## Education and growth: the statistical nexus

Economic growth, the growth rate in per capita GDP (a deceptive identification, as will be seen in Chapter 10), is the central parameter conditioning economic, social and political events of the last half millennium. It elevated the residents of Christendom from respectable participants in a world culture and polity to the Lords of Human Kind by the nineteenth century;[1] it has transformed material and social life across the planet. The growth calculation is now ubiquitous and pervasive in public discussions and academic research concerned with national economic success and failure: it is curious to note, therefore, that its emergence at the centre of economic debate is little more than a half century old. Economic growth, at least in an implicit form, had been central to the concerns of classical economists such as Adam Smith and David Ricardo or even earlier in their focus on the production, extraction and accumulation of economic surplus,[2] a tradition that led to Marx's ambitious attempt at modelling economic growth in a capitalist economy, all the while suggesting why this process embodies elements that could lead to its destruction. But this perspective gave way in the latter part of the nineteenth century to a neoclassical school whose key considerations were not growth, but the efficient allocation of given resources among alternative ends: why, for instance, nations with given endowments of land, labour and capital will find it mutually beneficial to engage in free trade. It is these issues that dominate the development of formal economic theory until the middle of the twentieth century, with the sole exception of the questions surrounding business cycles and unemployment in the wake of the Great Depression of the 1930s. The fact that two of the pioneers of growth modelling in the first half of the twentieth century, Frank Ramsey and John von Neumann, were formidable mathematicians hints at the analytical obstacles to its development.

But even as mainstream economic theory in the late nineteenth century was moving its focus away from the process of economic growth – this in a period of some of the most tumultuous changes in material existence in human history – there was a literature before 1920 from List, Weber, Schumpeter, Marxists and others who had been attempting to confront issues surrounding the growth process. The views of these figures, many of whom we have already met in the context of the technocratic planning paradigm, went beyond a strictly economistic view of growth to consider it in the context of a broader range of historical and institutional factors. Much of the formal development of the theory of economic growth in the contemporary period can be seen as a gradual (albeit grudging) concession to the need for the incorporation of a range of these non-economic considerations, including education.

After several pioneering developments, economic growth became a central concern of formal economic modelling and empirical testing in the

latter part of the 1950s. One prerequisite for the development of growth modelling was the emergence in the interwar period of a rigorous conception of national income (which in accounting terms is identical with national output), so that the complexities of economic development could be reduced down to a simple maximand, 'economic growth', or the growth rate in national income. The trend in academic economics towards a focus on economic growth in the US was inseparable from the atmosphere of the Cold War: Nikita Khrushchëv's slogan 'catch up and overtake the West', the influential, if misleading, notion of a decisive link between economic power and military capacity, and the contest over models of development for the non-aligned world. Growth models by Roy Harrod and Evsey Domar[3] had postulated a fixed relationship between the amount of capital in an economy and its level of output, so that the higher the level of investment (an increase in the stock of capital), the more rapid the rate of increase in output – economic growth. In this famous Harrod–Domar model, the path to higher economic growth was simple – increase the level of investment: high-saving economies (such as the postwar Soviet Union, and unlike the US) will, therefore, be high-growth economies.[4]

The literature on economic growth in its contemporary form emerged with the subsequent development of a neoclassical theory of economic growth, one congruent with the assumptions of standard microeconomics; it is now almost wholly identified with the work of the MIT economist Robert Solow, in part because he complemented his theoretical construction with empirical estimates for the US economy. Solow's theoretical model (published at the same time as an equivalent conception from Trevor Swan), like the Harrod–Domar, postulates the existence of an aggregate production function, a generalised relationship between the economy's output and its inputs.[5] Unlike the simple fixed relationship between output and capital (and implicitly labour) in the Harrod–Domar case, the Solow model makes the typical neoclassical assumption that additional inputs of capital can be substituted for labour (which in Solow's model is explicitly introduced) to yield greater output, but at an ever diminishing rate, and definitively postulates the presence of full employment in the economy. In such a model, there is no secret path to economic growth – high rates of investment will, in the long run, be neutralised by the effect of diminishing returns to capital. A nation's long-term growth rate (per capita) cannot be increased by its choice of a higher rate of investment; in fact, there is a tendency for the per capita incomes of different nations to converge to the same level. It is these predictions of the model – that per capita growth is (in the long run) unaffected by the rate of investment, and that there is a tendency for per capita incomes to converge – that have emerged as the distinctive and characteristic aspects of this neoclassical perspective.

The neoclassical theory of economic growth was problematic on several counts. First, many economists seemed uneasy with the neoclassical

prediction that increased investment could only increase (once and for all) the level, but not the rate, of growth of output per head. This presumption violated their intuition on the matter, and limited their opportunity to offer policy prescriptions that would promote growth. Second, technical change is accounted for, but not really embodied in, an explanatory framework in the neoclassical model: it is an exogenously determined parameter in Solow's construction because, according to him, we cannot even begin to analyse its provenance in terms of economic processes. In the adaptation of the neoclassical theory of economic growth to empirical estimation in the form of a growth accounting exercise, Solow's statistical estimates for the US economy from 1909 to 1949 yielded what seemed to be disappointing conclusions, namely, that increases in capital per labour hour could explain less than 15 per cent of the increase in output per head over this period. The subsequent headline result, that more than 85 per cent of the observed increase had been due to technical change, emerged when the statistical residual was so identified. Ensuing research into this form of growth accounting engaged in a process of 'whittling away at the residual':[6] we see emerging a range of studies suggesting that when labour is differentiated by 'quality' (commonly years of schooling), a substantial percentage of that residual can be accounted for by increased levels of education, which, in a neoclassical context, are interpreted as causing a once-and-for-all increase in income. This conclusion complemented the unprecedented intervention by the US federal government into the educational sector in the context of the Soviet launching of the Sputnik satellite and a subsequent panic in the US about its educational inadequacies – 'What Ivan Knows But Johnny Doesn't', in the words of a famous book of the day.

These postwar growth theories were thus permitting an empirical calculation of the effect of education on economic growth, but one that had a rather ad hoc quality, bolted on to theoretical structures emerging from the nineteenth century in which labour is treated merely as a commodity. It was only in the 1980s that more plausible approaches emerged in variants of 'new growth theories'. In the most popular form of new growth theory, education was directly linked to economic growth: here firms characteristically compete in markets by offering new products and improving their quality (as opposed to the neoclassical growth models, with their homogeneous products embedded in perfectly competitive markets). In this context, higher levels of investment by private firms, complemented by enhanced human capital, can generate new technology, some of which spills over to other firms: this process then causes the overall growth rate in the economy to increase.[7] The ingenious constructions of endogenous growth theory thus give an economic rationale for enhanced education that is linked to an explanation for technical change – the latter becomes an endogenous aspect of the functioning of the economic system and not merely manna from heaven, as in the neoclassical approach.

Research embodying a range of approaches to economic growth has generally, although not unanimously, found a linkage between increased education, as measured by years of schooling, and economic success.[8] The studies have had a host of obstacles to overcome, including the possibility of reverse causation – that more schooling is merely a luxury indulged in by richer societies, that schooling merely acts as a credential for individuals, gaining them higher income even in the absence of becoming more productive, and that more able individuals will seek more education. Other problems have proved even less tractable in the context of these broad-based statistical tests – the problems of differentiating between the substantive quality of a given number of years of schooling in different countries,[9] and the absence or inadequate representation of non-school forms of training such as apprenticeships in available statistics. Symptomatic of the limitations of the education–growth studies is the fact that it has proved difficult to distinguish statistically between the neoclassical and the new growth presumption – whether the influence of education is on the level or the growth rate of GDP.[10] Furthermore, while the effect of education is usually statistically significant, the strength of the education variable varies significantly among these studies. These and other limitations point to the difficulties of generating decisive conclusions from this research, which, however, generally finds a significant economic role for enhanced education.

Much of this literature has been reframed, especially with regard to richer (Organisation for Economic Co-operation and Development (OECD)) countries, in a series of studies by Eric Hanushek and Ludger Woessmann.[11] Their research uses a range of international studies testing achievement in mathematics, science and reading across countries, the most well known of which is the Programme for International Student Assessment (PISA).[12] Many, but not all, of the problematic issues mentioned above can be neutralised by replacing years of schooling as an indication of levels of education with measures of scholastic attainment emerging from these tests; as a representation of the explanatory variable 'education', these tests perform more robustly and decisively than years of schooling in demonstrating a linkage between education and economic success.

All kinds of questions can be raised about this methodology – are we concerned about the alacrity with which the full range of human capabilities is identified with results on a particular class of diagnostic tests simply because of their easy availability across nations? And do we fear that the tail can begin to wag the dog – if these test results are taken to represent school achievement in elevating cognitive capacity, is there not a danger that the school curriculum will begin to reflect the content of these tests?[13] Having raised these caveats, it must be admitted that the results emerging from these studies, with statistical verification of the notion that economic achievement among nations in the modern world is linked to cognitive

capacity, will strike most of us as intuitively plausible and can be supplemented by the historical narratives below.

A good deal is lost in the way of easy explanation, however, in the process of replacing 'years of schooling' with measures of cognitive development from test scores.[14] These scores necessarily emerge from a complex social process, so that a simple policy admonition of the kind 'in order to improve economic performance, increase the years of schooling in the population' is no longer possible. Thus, even if it were to be generally conceded that education is the key to explaining differences in economic achievement between nations, using a measure derived from these test scores means, as we shall see in the following chapters, that the task at hand has merely begun.[15]

Once test results are the measure of education used to explain economic performance, as in the studies by Hanushek and Woessmann, a veritable Pandora's Box of complications emerges as we try to link these results to the factors that might have generated them. In addition to the quantitative measures above – years of schooling, expenditure per pupil or teacher–pupil ratios – the range of other considerations that might impinge upon cognitive capacity is immense. We may wish to consider the constituents of school quality: how will the efficiency and equity of educational processes be affected by streaming by ability, and by differences in the age at which school begins, and by differences linked to traditional versus progressive approaches in the classroom? These choices are major components of present-day public policy debates, with broad implications for the economy and society. As we shall see in Chapter 7, other policy disputes are widespread surrounding efficiency in education – the question of the use of market mechanisms such as vouchers to promote consumer choice, and issues concerned with teacher evaluation and tenure.

An even more fundamental obstacle to the telling of a simple 'education–growth' story is the range of non-school factors that may affect cognitive development. Family resources and the education of parents are central considerations when tracking achievement at the level of the individual child. At the national level, the social environment, most especially the distribution of income, is likely to have a complex relationship with educational achievement, as both cause and effect. One perspective, centred on the IQ literature, largely dismisses the role of the social environment as a causal factor explaining educational achievement, suggesting, for instance, that the distribution of income emerging naturally in capitalist society – with an absence of conscious efforts to promote redistribution on the part of the state – will accurately reflect the dispersal of inherent abilities and intellectual capacities (see Chapter 11). In such a case, efforts to promote equalisation of income in society merely deprive the most able members of society of both the means and the incentive to expend their own resources on the acquisition of education. An alternative view posits that economic and social inequality inhibits the cognitive development of deprived groups

in society, and that this is not easily compensated for by even a well-designed and resourced programme of schooling for children. Central questions in this context, to be confronted in subsequent chapters, involve childhood intervention – at what age will it be necessary to intervene, and at what level of resource commitment, to compensate for deficits in the social and economic environment?

Major controversies thus surround the question of the role of social environment, most especially the distribution of income, in educational achievement. In the opposite direction, the role played by cognitive achievement in determining the distribution of income in society is an ambivalent and controversial one. The presumption that such a line of causation exists is often associated with justifications for inequality: some individuals are more highly paid because they are more able and are, as a result, more productive. Alternatively, the notion that cognitive achievement plays a causal role in determining the distribution of income in society has also been used to underline the central role of educational policy in the promotion of social equality, and will be considered in Chapter 10. Among non-school factors that are likely to advance learning are a range of child-care, vocational and firm-based activities, as well as the presence of opportunities and sources of encouragement to learn that are 'in the air', such as educational components of BBC programmes or general societal attitudes towards education. These latter factors, along with lag effects, can easily be consigned to the glutinous category of culture, but may play an important role in explaining differential societal success in cognitive achievement.

Above and beyond these questions, however, are a whole further set of considerations surrounding the nature of education and its effects upon the economic and social environment:

1. *The breadth of the education required for economic growth.* In conceptualising the impact of education on economic growth, some approaches lend themselves to the need for education diffused across the population, raising the quality of the labour input and its productivity; other theoretical approaches make a claim for widely dispersed education on the more specific grounds that the adaptation and implementation of new technology demand a widespread and increasingly literate public.[16] The alternative view is that 'we' only need a few highly educated individuals to be concerned with the innovation of new technology and its consequences,[17] a view also in conformity with notions of the economic efficacy of education through its engendering of an elite capable of producing Schumpeterian thunderbolts of new technology.

It is education widely dispersed across the population that is relevant to the exigencies of socialist democracy; it would be convenient if it were also in conformity with economic tendencies.

2. *The nature of the education required for economic growth*. Is it of a focused, vocational kind, or is it centred round broad-based academic and cultural knowledge? Narrowly based educational experience must not, however, be arbitrarily identified with vocational settings. For many individuals, cognitive skills are most readily acquired in a non-school, vocational context: the workplace as a venue for learning should be promoted as a key social goal.

Once again, it is the acquisition of broad-based knowledge that most fulfils the demands of socialist democracy, and if it also facilitated successful economic development, potential policy conflicts and dilemmas would be minimised.

3. *Education and external effects*. Do the economic returns to personal investment in education accrue substantively to the individuals acquiring that education? If, by contrast, there are significant positive external effects on society from the enhanced education of individuals, it would reinforce the strictly empirical consideration that the economic effects of an educational programme are likely to yield their economic effects with a long lag. Delays in the impact of education on economic activity will occur for many well-established reasons, including the time it takes to educate individuals and integrate them into the workforce, and intergenerational effects within a family – the impact of better-educated parents upon their children's learning. The presence of external effects in education, however, is an additional source of lags, as heightened educational levels of individuals will cascade onto others over time and only register in economic terms through an extended process of diffusion.

If the benefits to education were to accrue wholly or largely to individuals, it becomes more difficult to justify, strictly from the perspective of economic efficacy, a socialist orientation on education. The most radical educational programme that would be relevant in such a context would be some form of egalitarian meritocracy: individuals would simply be left to make market-based decisions concerning the pursuit of education, with perhaps interventions to compensate for inequalities in income and access to information about educational opportunities, and to correct possible capital market imperfections that limit the ability of individuals to borrow to pay for education. The presence of pervasive external effects, by contrast, gives economic support for a socialist approach to education that pursues a long-term, collective strategy of economic and social development, and not one that merely compensates, in an egalitarian manner, for deficits at the individual level.

In the literature considered above, the efficacy of education is judged in terms of its economic benefits as a social investment – the extent to which

enhanced performance on diagnostic tests in mathematics, science and reading produces improvements in the level or growth rate in national income. There are several objections to such a procedure:

1. Even in the context of dealing solely with the *economic* benefits of improvements in educational systems, it is peculiar and inappropriate to assign a zero value to the consumption benefits accruing to children of improved educational facilities. At the individual level, rich people (and sometimes others, such as families with a desire to segregate their children on a religious or racial basis, or to see them mix in the right circles) often pay for private tuition so that their children are provided with music lessons, sports facilities, lower levels of bullying and manifold other advantages. The school commitment of resources and the costs to parents of these benefits, profound as they are in the life of the child, cannot easily be categorised as investment activity that is likely to lead directly to higher income for the child in the future; these aspects of consumption in the educational process are considerations that rich people (and others, if they could afford it) think are worth paying for, and are as economic as any gains to children in their human capital. There are, in addition, other possible economic benefits that might accrue to society as a result of a successful educational programme, such as improved monitoring of children's mental and physical health and a reduction in crime rates.
2. This last consideration – how an improved educational system could be of economic benefit because of crime reduction – points to how desiccated a strictly economic approach to education can become, and how far it can take us away from notions of education as a vehicle for the improvement of the human condition. An improved educational system that moves a child away from a life of crime is not desirable purely because of its economic benefits – the savings to society accrued from reduced incarceration and the enhanced contribution to GDP because of greater participation in legal economic activities. On the contrary, the role of education in promoting cognitive skills has always existed alongside a parallel set of considerations surrounding character formation and the inculcation of social norms: an exclusive focus on the economic benefits of directing children away from a life of crime would have appeared bizarre to Enlightenment figures concerned with education, such as Wilhelm von Humboldt. Economic analyses that proceed to evaluate the efficacy of educational programmes, without mentioning considerations of moral formation even parenthetically, are in danger of giving these aspects an implicit weight of zero, or of making the silent value judgement that these are matters only appropriate for family or church, and not for schools.

Substantial resources have always been devoted in state educational systems to processes of socialisation, a fact that becomes incomprehensible

from the perspective of a narrowly economistic analysis of education and of Hayekian notions of societal values emerging from a spontaneous order. In approaches to these non-cognitive considerations, we frequently observe a dichotomous strategy: an emphasis on the acceptance of discipline, deference to authority, fitting in socially and resignation to one's role in life for the great majority; an inculcation of characteristics of leadership, self-confidence and class identification for the well-born.

By contrast, a socialist approach to education, following on from Enlightenment traditions, must attempt to prepare all children with not only the intellectual capacity, but also the self-confidence, to be able to participate as citizens actively and equally in democratic processes, both political and economic. Contrary to traditional approaches, this citizenship not only has a local and national component, but gives children an international perspective that permits them to make disinterested evaluations of their own nation's history, politics and place in the world.

Consideration of the role of education in society thus takes us far beyond the bounds of the education–economic growth literature; these issues will be pursued in subsequent chapters. Below, the education–growth nexus is re-engaged.

## How seriously do we take the results? I

While the conclusions of the education–economic growth literature are largely consistent with the notion postulated here that enhanced levels of education are congruent with economic success, it would be facile to cite these results as authority without noting their problematic aspects. In the process of making this critique, important aspects of the interaction between human development and economic growth are brought to the surface that remain submerged in the theoretical and statistical models reviewed above.

All of the mainstream models of economic growth and their associated empirical tests share a range of ambitious and even reckless presumptions, including the notion that increased saving is always transmuted into higher investment, and that the economy always functions at a level of full employment. This is a critical issue in the understanding and evaluation of the functioning of capitalist economies, with the presumption of full employment fundamental to disputes between mainstream economic orthodoxy and dissenters from this orthodoxy, including Keynesian economists. Here, however, central attention will be given to a further presupposition embodied in these growth models: that inputs of capital, labour and available technologies are always used to maximum effect at every level of output. This notion is an invariant one in both the theoretical and statistical versions of these growth models, and is linked to the orthodox approach of viewing the economy as being in a perfectly competitive equilibrium. It is

of particular interest here for several reasons. First, as we shall see, the presence of a fully efficient competitive equilibrium reinforces the tendency in the standard economics literature to treat technology as a Schumpeterian *deus ex machina* and to segregate it from other aspects of human intelligence and creativity. As a result, there is a propensity to understate the efficacy of broad-based enhancements of cognitive capacity and to consign the role of technical progress solely to an elite.

Hayek's dynamic approach to competition, seen in Chapter 4, can serve as a basis of a critique of approaches that presume the presence of a globally efficient competitive equilibrium. For Hayek, if we use the model of perfect competition as our standard, one in which '[producers] are assumed to know the lowest cost at which the commodity can be produced', there could be no objections to the pseudo-competition offered up by Lange's market socialism. But 'this knowledge which is assumed to be given to begin with [in the model of perfect competition] is one of the main points where it is only through the process of competition that the facts will be discovered'.[18] In real capitalist competition, according to Hayek, what we observe at any moment are firms, industries and whole economies functioning with greater or lesser success within a frontier dictated by technological possibilities. It cannot be axiomatically presumed, as in orthodoxy, that all activities are taking place on this frontier.

Confirmation of the efficacy of Hayek's approach to competition is present in some of the most dramatic instances of recent economic history: the steel industry worldwide was revolutionised in the 1960s and 1970s by Japanese producers, not through any grand Schumpeterian technical innovation, but by imaginative managerial practices and creative use of available, but widely neglected or under-exploited, technologies. In other industries, Japanese success was characterised by managerial practices that often had little to do with new technologies: a key innovation of 'the machine that changed the world' – the Japanese car factory – was the *kanban*, a simple card system for controlling inventories that was only later adopted for the emerging computerised technologies.[19] These great changes were not the result of a Schumpeterian thunderbolt of new technology from an elite, but the implementation by the management and workforce of Japan of a panoply of alterations to production and distribution systems; central to underpinning these developments had been the proceeding and on-going educational advancement of the whole population. Hayekian methodology proves useful here as a device for mounting a critique of the elite view of technical change, despite, as noted above, Hayek's own elite propensities.

What accounts for the adherence to this implausible and empirically unsustainable presumption of universal efficiency? Given that exception to this presumption of efficiency is sometimes made for the governmental sector,[20] there may exist a temptation to attribute the adoption of this methodology to ideological prejudice in favour of private enterprise. More likely,

however, it results from a bold, even desperate, attempt to extract meaningful economic results from broad swathes of economic data. In the absence of the presumption of generalised competitive efficiency, little meaning and few lessons can be gleaned from the outcomes in such an economy, since the price weights necessary for any such calculation of outcomes would no longer be a reflection of real costs and alternative uses. We might wish, for instance, to perform a statistical test that measures the inherent efficacy of different forms of expenditure, one that tells us, for instance, whether additional outlay on education will yield more economic growth than equivalent amounts spent on physical capital. We will not get far along this road if, to an uncertain degree, the resources devoted to these alternatives are dissipated because of racial or caste discrimination in the case of education, or corrupt practices in the case of physical capital: what may appear statistically to be the inherent inefficacy of education for economic growth in a given society may merely be due to the inefficient use of these resources due to discrimination. These instances of inefficient use of inputs can be dealt with on a case-by-case basis, but impose severe and perhaps irreducible limitations on the substantive meaning we can extract from the grand narratives of theoretical and statistical models of economic growth based on assumptions of universal competitive efficiency.

There is a second reason for questioning an empirical methodology that simply presumes that all inputs are being used efficiently: the education and socialisation of the workforce – activities that often yield economic benefits only with a long lag – may become invisible. An illustration of this point can be seen in the context of the debate surrounding the Asian growth miracle. In a well-known study of the spectacular successes achieved in economic growth by a set of newly industrialising countries (Hong Kong, Singapore, South Korea and Taiwan) from 1966 to 1991, Alwyn Young[21] accounts statistically for these levels of growth by increases in participation rates (most especially by women), investment-to-GDP ratios, improving levels of education, and inter-sectoral transfers of labour from agriculture to, largely, manufacturing. Once these factors are accounted for, it is claimed, there is nothing exceptional in the performance of these economies in terms of the growth rates in productivity, either in the whole economy or in manufacturing. Neoclassical growth theory, according to Young, can well explain most of the difference between the performance of these and other postwar economies.[22] And predominant opinion among economists has agreed: 'The only overwhelming lesson I see in Asian growth is that one way to get a lot of output is to use a lot of inputs',[23] a conclusion comfortably in line with Solow-type neoclassical growth theory, and excluding the necessity of presuming any Asian secret linked to a government-directed deviation from free-market incentives.

Has anything of interest really been explained here? We are told that improving educational attainment in these economies contributed 1 per

cent per annum additional growth in labour input in each of these economies, the implication being that, even in the absence of enhanced education, Asian growth, due to its high levels of investment, would have still been exceptional, but perhaps 1 per cent less. Unfortunately, however, the results emerging from Young's exercise in growth accounting are no more than just that – an ex post accounting of results, rather than an explanation of the factors affecting growth: would the vast investment programmes pursued in these countries ever have been undertaken in the first place in the absence of the social and educational prerequisites necessary to bring them to fruition? These prerequisites were crucial at all levels of human capital development. In the larger economies of Taiwan and South Korea most especially, a social transformation of the population had taken place beginning in the 1950s – from rural to urban, from agriculture to manufacturing, and from levels of educational attainment that were modest (even if already high by the standards of very poor countries) to a world-class standard.

Can we simply take for granted that the economy and society would have absorbed and reallocated this enormous movement of people successfully? Could the efficacious geographical transfer of the population from rural to urban environments, and the transition from agricultural or traditional labour activities to manufacturing work, have taken place without the major investment in human assets represented by public policies promoting income redistribution and, especially, the substantial investment in schooling? And in a world in which we cannot simply assume that nations can effortlessly assimilate best-practice technology on the outer reaches of a production function, the great achievements of these Asian societies in sophisticated forms of education proved crucial:

> An emphasis solely on investment assumes that the state of technological knowledge at any time is largely embodied in machinery and codified in blueprints and associated documents ... However, only a small portion of what one needs to know to employ a technology is codified in machine manuals, textbooks, and blueprints; much of it is tacit and learning is as much by doing and using as by reading and studying ... What makes the Asian miracle miraculous is that these countries did these things so well, while other countries were much less successful ... [T]o say that [high rates of investment] were all that was required offers too limited a perspective on the magnitude of the achievement ... Rising human capital can be viewed simply as an increase in the quality or effectiveness of labour, adding a third factor to the conventional production function. An alternative view perceives the effects of sharply rising educational attainments, in particular the creation by these countries of a growing cadre of reasonably well trained managers, engineers and applied scientists as providing a comparative advantage in identifying new opportunities and effectively learning new things.[24]

The link between industrial policy and skills enhancement is an intimate one:

> industrial policy is the parent of skills policy in East Asian economies. The remarkable transitions from underdevelopment to mass production and thence to high-value-added production systems [in] Singapore, South Korea, Taiwan and Hong Kong were fostered through an awareness of their implications for skills demand, and through substantial institutional transformations in vocational education and training to meet the growing needs. It was largely because of their success at foreseeing linkages with the demand side that these governments were able to match their economic miracles with equally radical structural transformations in their skill formation systems.[25]

The commitment to high levels of educational standards was complemented by the maintenance of distinctly low levels of inequality in these economies. Public policy acts, affecting both education and the level of inequality, permitted these economies to operate closer to the frontier of their possibilities and made viable the high rates of investment that were necessary prerequisites of the exceptional growth rates attained.[26] The theoretical and statistical presumption (implicit in Young's estimation technique) that we are always on the frontier of a production function obscures, rather than enlightens, one of the most remarkable social and economic transformations of modern times.

The Asian miracle critics are correct, however, in suggesting that there is no recipe, no easy lesson for economic development to be culled from these events. All of the nations of the Asian miracle have found their growth rates slowing down to less than miraculous levels in the years beyond those covered in Young's study, most especially in the wake of the financial crisis of 1997, a slowdown that in no way obviates the historic achievement of these nations. The group, in any case, never shared a common strategy of economic development – the successes of the administered and centralised export promotion approach found in South Korea were matched by comparable growth achievements in, at the other extreme, a relatively open, free-market city-state such as Hong Kong; the forms of political governance in these societies were equally diverse. More significantly, a range of other developing countries in the postwar world have strenuously attempted, with far more limited success, to follow the import substitution–export promotion strategies of the east Asian economies, and it beggars belief to suggest that the exceptional growth rates of the east Asians compared with these other economies were simply due to high levels of expenditure of investment capital.

What the Asian tigers succeeded in achieving was a social transformation, in a brief period, from very-low-wage to middle-income entities, with these rises in per capita income complemented by the emergence of statistical

indicators of levels of health and education that now bear comparison with the richest nations in the world. From the perspective of orthodox economics, the task confronting nations was how to deal with their given endowments of land, labour and capital in the context of mutually beneficial free trade. By contrast, a key aspect of the success of, first, Japan and then the Asian tigers in the transition from low-wage to middle-income economies has been the creation of a population capable of confronting the challenges of modernity.

A clear requisite of this development has been the explicit cultivation of a population with high levels of formal education. No less important for economic growth, as we shall see in Chapter 8, are the skills and acculturation acquired by the workforce of these nations from the very act of being involved in contemporary forms of economic activity – forms of implicit and *in situ* learning. For many of these nations, this process of 'learning by doing' on the part of the workforce only came about because of jobs created in manufacturing through the violation of the canons of free trade, specialisation and comparative advantage. In this sense, movement away from the presumption of labour as a mere commodity poses several challenges to economic orthodoxy: the state not only plays a role in the provision of formal education, but must often channel investment resources to avoid the dangers of an exclusive specialisation in the kinds of tasks, such as the harvesting of tropical fruit, that may well emerge from strict adherence to laissez-faire policies.

And just as the impetus for the search in the academic literature of the 1950s for the sources of economic growth lay in the Cold War conflict between the Soviet Union and the US, so the education–economic growth literature, including the discussion of endogenous growth, has burgeoned into a new orthodoxy, in all likelihood in response to the startling Asian example – the phrase 'education, education, education' is on the lips of the most philistine politicians. For the richest countries, it is commonly presumed, the gains from monitoring and adapting existing world best-practice technology and administration are minimal. Therefore, the nature of the improvements to be culled from education emerge either from new technologies or, more passively, from being able to win 'the race between education and technology', by equipping the labour force with the skills necessary for adapting to new technologies. In both cases, the central justification for enhanced education in a society is its link to technological development –either it is a concomitant to the production of this new technology, or it facilitates a society's adaptation and accommodation to these waves of creative destruction. Technology – the facilitator of higher levels of economic growth – is the new elixir.

## Interlude: technology as an elixir

The theory of production in mainstream economics is usually presented in the context of the availability of a wide range of alternative techniques,

each using varying amounts of factors such as labour and capital. These alternatives, as Nathan Rosenberg has suggested,

> constitute a spectrum of what Schumpeter called 'eligible choices' ... [I]n what precise sense is it likely to be the case that a wide range of technological alternatives will ever be 'known'? Since ... the production of knowledge is itself a costly activity, why should technological alternatives representing factor combinations far from those justified by present prices be known?

If we proceed in this way, suggests Rosenberg, 'we are really allowing factor substitution to swallow up much of technological change'. In fact, most technological change does not take the form of a Schumpeterian thunderbolt – the setting up of a new production function – but is a mere substitution of one factor for another.[27] The supposition of a wide range of choices of techniques that are readily available to potential users is concomitant with the orthodox presumption that the economy is operating on the frontier of the production function. These presumptions in economic theory leave exogenous technical change in the form of discontinuous, observable technological innovations as the source of efficiency gains.

This approach is reinforced by statistical methodologies commonly used in academic studies that need to find concrete measures, such as levels of R&D expenditure or numbers of patents, as statistical surrogates for innovative activity. These procedures find common ground with Schumpeter's notion of innovation as taking the form of discontinuous thunderbolts of creative destruction. The latter approach invariably generates a focus on the small group of creators, who, it seems, must be properly remunerated if they are to bestow their technological bounty upon us. Dilemmas in public policy are thereby posed between equity and technological progress, and (given the supposedly severe constraints on resources available) between broad-based science education of school children and a focus on those who are gifted.

But drawing a line between the successful modification or adaptation of an older technology and the introduction of a new one is often difficult. The present-day enthusiasm in academia for Schumpeter's seemingly radical focus on discontinuous technical change is one that preserves the standard dichotomy between an existent technology, for which a full set of blueprints is available, and an utterly new one. The awkward possibility of shades of grey – that economic outcomes are critically affected by the extent to which firms and societies successfully adapt to existent technologies – poses the possibility that the links between education and economic growth might not simply flow through the creation of new technologies (by, invariably, a small subset of the population), but are a function of the efficaciousness and creativity with which the society as a whole responds

to these changes, or even to the more mundane challenges of maintaining and supervising existing technologies, tasks which apparently consume the great majority of even academically trained engineers.[28]

At a popular level, the innovative entrepreneur – James Dyson in the UK or Steve Jobs in the US – functions symbolically as the economy's saviour, returning the nation to its former unchallenged position. This cult of techno-nationalism 'assumes that the key unit of analysis for the study of technology is the nation: nations are the units that invent, have R&D budgets, cultures of innovation, that diffuse, that use technology. The success of nations, it is believed by techno-nationalists, is dependent on how well we do this.'[29] This is an odd fixation in the age of the multinational.

Simplistic notions of technical change as the source of material progress founder on the historical reality that, at both the national and the individual level, the appropriation of these gains is a highly contingent matter. Thus, the post-Second World War electronics revolution had its provenance in the US (to a minor extent in Britain and the Soviet Union; see Chapter 9), but the successful adaptation of some aspects of these developments in Japan, and then other nations in the Far East, resulted in the virtual elimination of the production of mass consumer electronics in the US and the UK, with Asian nations cornering the bulk of world manufacture.

This example reminds us that an excessive focus on gains from new technology may distract attention from other forms of national economic advantage gained from human intelligence, such as facility in design, or complementary forms of creativity, such as the managerial successes in quality control of Japanese manufacture. These manifestations of creative intelligence, unless associated with a specific patent or copyright, are likely to be precluded from consideration when there is a presumption of universal best practice in the use of existing technologies.[30] In the 'technological change causes economic growth' story, other forms of creativity play little part: one notes, for instance, the (substantively unremunerated) musical innovations of Mississippi Delta blues players that resulted in billions of dollars of revenues, domestic and foreign, accruing to the popular music industry in the US and the UK over eight decades.

In an academic setting, but in a way that has pervaded the public consciousness, it has been suggested that, when improvements in quality are fully considered, the historical gains to new technology have been even greater than those emerging from standard national income deflator price calculations.[31] In the popular literature emanating from the US, there is no doubt that technology will solve social conundrums ranging from slow economic growth to obesity, with the technology fairy coming along just in time to sort out climate change issues.[32] For Michael Mandel, at the time editor of *Business Week*, 'our economic future is inextricably linked to our ability to come up with more technological breakthroughs that equal the internet in magnitude. Such large scale innovations drive growth, create new jobs and

industries, push up living standards for both rich and poor, and open up whole new vistas of possibilities.'[33] For others, technology policy, generating the new 'weightless economy' (an economy based on brains, and not the messy business of making things) is the key to prosperity, economic growth and US competitiveness.

The mainstream of academic economics has gone from ignoring technical change and economic growth until the mid-twentieth century to suggesting subsequently that all other social decisions were of a secondary nature. This perspective has reached beyond economics and the academy to pervade and even dominate discussions of public policy issues. In the 1960s and 1970s, some consideration was given in public discussions of alternatives to economic growth as a focus of public policy. The subsequent slowdown in growth and a sense in nations such as the US that their leading positions were fragile in an increasingly competitive world have made a search for alternatives to economic growth look like a gratuitous luxury. And the word from the academy is that the creation of new technology is the key to economic growth. Since this formal economics literature emerges largely from the US, where much of this new technology had been created, such a development is unsurprising; for the great majority of nations, however, the task at hand is, rather, the monitoring and adaptation of these new technologies.[34]

A policy of focusing on R&D and taking economic growth as the criterion of success may be misguided, even for advanced economies: R&D itself supports relatively few jobs, and innovation and production are often closely tied, so that R&D will tend to migrate abroad with production, the dominant element of value added.[35] Under these conditions, the ultimate distribution of benefits from new technologies is unclear. On a national basis, while the US was the fount of new technologies in the 1950s and 1960s that were to prove crucial to its subsequent development, perhaps the greatest beneficiaries were Japan and the nations of east Asia, with their successful adaptations of these technologies. The easy presumption that continuous innovation is the key to broad-based national economic success in leading economies in this new weightless, knowledge economy is questionable. One may take issue with the presumption in the popular and academic literature that innovation of new technology is the uniquely appropriate focus of economic and social policy.

## Education and industrial revolutions

The broad consensus in the statistical literature that education plays an important role in economic development needs to be complemented by a historical narrative if the precise nature of the education–growth linkage is to be demonstrated in a convincing manner. It is difficult, however, to ignore the sheer complexity of the historical processes being described:

there are periods of economic development – the early Industrial Revolution in Britain, among other cases – that appear to be retrograde in the cultivation of both formal education and skills; furthermore, the very fact that the stock of skills and know-how embodied in the workforce can cumulate by virtue of economic development can threaten to reverse, or at least confuse, the line of causation presumed in the education–growth linkage (see Chapter 8). Perhaps most significantly, the social returns to education, even in first approximation, are so saturated with external effects that they become hard to trace, much less measure, as they diffuse through society, and these effects are likely to register with, possibly, very long lags. An easy confidence displayed in measures of the cost–benefit of educational expenditure is thus likely to be misplaced.[36]

The processes by which mass literacy and then more advanced compulsory education became an inherent part of modernity are only beginning to be integrated into the history of capitalist development, with its traditional focus, from the First Industrial Revolution (and the juridical changes incumbent upon the French Revolution), on labour being transformed from its medieval role of serf to a commodity in the form of free labour. Britain, having entered the Industrial Revolution with levels of literacy well above the European norm, seems to have been characterised by a stagnant or even contrary movement in educational standards in this period.[37]

But it is the British experience that now appears to have been exceptional, or misunderstood: 'In England, the first phase of the industrial revolution was associated with stagnant education. In the continental countries, on the contrary, the industrial "take off" was always associated with educational progress.'[38] As we shall see in Chapter 8, the dissemination of formal education was relevant to, at most, an elite group of innovators in the British Industrial Revolution. With the British experience functioning as the template for capitalist development, the expansion of compulsory education in the Western world in the nineteenth century was long considered not as a factor generating economic growth but, rather, a luxury indulged in for other reasons by nations growing richer. Even into the twentieth century in advanced economies, industrial development continued to be linked by orthodox economic theorists to the expansion of markets, by Marxist economists to physical capital accumulation, and by theorists of management to the successful manipulation of the behaviour of an undifferentiated proletariat through Taylorist and other procedures. The educational revolution taking place at the time, a central aspect of the Great Transformation, passed unnoticed as an economic phenomenon.

By the latter part of the nineteenth century, the Second Industrial Revolution evidenced a dramatic rise in the use of high-level science in industry. For a transitional period, many of the great technological heroes in the public's mind, such as Edison, were from a craft tradition, though even he had to rely increasingly on a panoply of scientifically trained personnel.

These individuals, however, were still drawn from an elite group within society. Why, then, do we observe generally, and most especially among populations in the forefront of economic development, such as the US and Germany, such a dramatic expansion in schooling throughout the general population, culminating in the US by the early twentieth century in broad-based, localised support for state-financed high school education?[39]

The growth of white collar clerical, secretarial and other activities in the most advanced capitalist economies helps to account for much of the concomitant emergence and expansion of mass education in the leading countries of the Great Transformation. A good deal of the development of elective forms of higher (as well as professional) education is readily explained by its role in the creation of a managerial class. This is especially true in the US, where a largely vocational motivation for higher education was displayed less diffidently than in other countries with the creation of a range of academic degrees directed at business, such as the MBA. Alfred Chandler's 'visible hand' presupposes that the giant enterprises in the US at the heart of the Great Transformation were able to enjoy the virtues of scale and scope emerging from large absolute size, vertical integration and diversified breadth with a minimal loss of administrative flexibility, and even a level of decentralisation. Central to these developments was not simply the creation of a set of administrative structures that conformed to these firms' respective strategies, but a rich array of personnel to administer and carry out these tasks successfully: Chandler's 'visible hand' revolution is only comprehensible in this context. By contrast, as suggested by the Gerschenkron hypothesis described earlier, late-developing countries such as Russia had to rely upon rigid centralisation and protocols to deal with a paucity of administrative personnel.

A growing and ever more sophisticated government civil service bureaucracy played an important role in coordinating and regulating this expansion of the private sector. The philippics against the growth of bureaucracy, both within free enterprise and in government, notwithstanding, an educated white collar workforce to fulfil these manifestly necessary bureaucratic functions emerged during the Second Industrial Revolution and continued to expand throughout the twentieth century. Thus, in a fairly uncontentious way, the growing share of white collar labour needed to carry out clerical, secretarial and other activities within the largest, most modern industrial firms in advanced capitalist economies explains much of the concomitant emergence and expansion of mass education in the leading countries of the Great Transformation.[40] This change is linked to the introduction and augmentation of marketing, purchasing, research, legal and financial activities within these firms, and the multiplication of separate entities devoted to these activities, such as insurance companies.

For both Europe and the US in this period, the relative importance of formal (including vocational) education in society indubitably increased in

comparison with that in the First Industrial Revolution, though the extent of this shift is a matter of contention. For Europe, Germany's success has long been linked to a knowledge- and skill-based approach to economic and industrial development, in contrast to Britain, which had been seen as laggard in mass education, and especially vocational and industrial training. Discontent with vocational training and, especially, technical education has registered for a century as a key problem by those concerned in Britain about putative economic decline vis-à-vis Germany;[41] the issue, as we shall see, continues to emerge in different forms to this day.

There has been some dispute over the role of formal education and training in the US during the Second Industrial Revolution compared with *in situ* skill development. The emphasis in one approach is that, at least in its earlier phases, education and training played a secondary role in the accretion of knowledge: both technical and administrative facility emerged through a slow process of *in situ* learning in the context of what was, in relative terms, already an advanced economy. Technical specialists and managers developed their skills less through formal education than through practical, shop floor experience and by moving between technologically related sectors.[42] The expansion of industrial capacity in the US is seen as fuelled by a massive infusion of labour from immigrant and rural areas, which, in the former case, was barely literate in English, with a successful elimination of craft worker control of labour processes and a relative absence of skill formation on the shop floor.[43] Taylor's approach to scientific management, explored in Chapter 2, had indicated to management the desirability of reducing work to strict protocols and routines – in the manner apparently realised in the assembly line – with minimal need for autonomy and decision making from a relatively unskilled labour force.

Is, however, the historical evolution of the educational levels of the workforce simply to be explained by the unfolding needs of an autonomous and objective process of technological change? The intervention by Harry Braverman considers whether the forms of technology that become available to society are dictated solely by the limitations and imperatives of the state of technological knowledge. Do they, in Taylor's words, reflect the 'one best way' of pursuing a task?

Braverman, reflecting a Marxian tradition, postulates that the forms of technology that emerge in a capitalist society reflect not only the constraints of nature and the existing state of knowledge, but a range of factors linked to social and power relations, especially the conflicts between labour and capital inherent in that mode of production.[44] Most specifically, he claims that a process of de-skilling was pursued and substantively realised by employers in the US in the twentieth century. For Taylor, the motivation for this process of the reduction of work to protocols and routines was the promotion of efficiency, in keeping with, and analogous to, the rational organisation of space on the factory floor. Braverman and others, however,

contended that Taylorism was a political act by employers to reduce workers' autonomy and control over the nature and intensity of the work process. Traditionally, the characteristics and pace of this process emerged from a resolution of the conflict between owners (by way of their hired foreman on the shop floor) and workers, most significantly the residual guild-like groupings among skilled labour. For Braverman, the Taylorist process of de-skilling was seen as an inherent, rather than deviant, aspect of capitalist development. In the battle between owners and craft workers, Taylorism was a weapon to seize control of the work process by the capitalist class:

> the new conditions of employment that were to become characteristic of the automobile industry, and thereafter of an increasing number of industries, were established first at the Ford Motor Company. Craftsmanship gave way to a repeated detail operation, and wage rates were standardized at uniform levels ... *only as the capitalist mode of production conquers and destroys all other forms of the organization of labor, and with them, all alternatives for the working population*.[45]

Braverman's thesis has been debated in an extensive literature surrounding the 'labor process'.[46] He clearly delineated the desires and intentions of management: the question remains – did Taylorism succeed in reducing work to protocols, controls and monitored behaviour, eliminating worker autonomy and de-skilling the labourers themselves? The answer is a complex one. Throughout the nineteenth and early twentieth centuries in the US, there was an expansion of jobs occupied by white collar, non-production workers and so-called low skill labourers at the expense of artisan occupations, giving credence to Braverman's de-skilling hypothesis in the context of manufacturing work.[47] But substantial pay differentials for educated blue collar workers persisted throughout the Second Industrial Revolution period, and these workers had a disproportionate presence in the US in the new, high-technology industries of the day (the car industry being an exception), with employers showing a preference for those workers with an academic preparation in science, algebra and mechanical drawing.[48]

The expansion of public education played a central role, furthermore, in the sustained increases in agricultural productivity from the latter part of the nineteenth century in the US, with farmers there having an exceptional capacity, both in cognitive terms and in breadth of attitude, to use the latest methods being diffused by the Department of Agriculture and innovations emerging from suppliers of machinery and other inputs.[49] The vast increase in educational resources accompanying the Second Industrial Revolution, especially notable in the US, can thus be seen to have a material basis and economic justification, not only in white collar work but in both industry and agriculture, promoting economic gains to

individuals and to the economy as a whole. The expansion in resources devoted to education was a necessary accompaniment to the Second Industrial Revolution.

Even more overtly, the post-Second World War development of a rich educational infrastructure at the university level in the US was a formative influence, source and impetus to the economic and technological achievements of this period, keeping in mind that this infrastructure was filled almost exclusively by graduates of US public schools. As will be seen in Chapter 9, the links in the US between university departments and business in science and technology have been the source of much admiration worldwide, as well as generating disquiet about the potential compromises of objectivity, integrity and long-term research goals resulting from these links.

But the most striking fact about tertiary education in the US in the period after the Second World War was how much there was of it – with almost half the school-age population participating in it. This exceptionally high proportion of the population going into higher education, compared with any other country, was servicing not only the needs of the burgeoning scientific and technical industries, but administration, the arts and the educational sector itself. The historically unprecedented level of participation in higher education taking place in the US after the Second World War became a key aspect of its role as a focal point of modernity for other countries. As we move to the end of the twentieth century, we see other rich countries making strenuous efforts to emulate these rates of participation, which they have often succeeded in surpassing in the twenty-first.

As early as the 1970s, the focus of capitalist success had partially shifted away from the US and in the direction of other nations, most especially Japan. Arguments emerged, on a regular basis, that shop floor flexibility and autonomy of its workforce played a key role in that nation's revolutionary lean production manufacturing, critical components of which were high levels of worker literacy, numeracy and in-house training.[50] These issues in recent years have intensified and taken a different form with the rapid loss of so-called unskilled work in manufacturing in many rich countries and mediocre results in the US and the UK on international comparisons for school children in tests of literacy and numeracy.

In the end, the precise mechanisms behind the education–growth linkage, or measurement of the economic returns to education in a time series, have been hard to pin down: 'since increases in educational levels have been associated with increases in other investment, urbanization, and industrialization ... it is impossible to disentangle their individual effects'.[51] This range of interacting factors, as well as the complications that emerge from consideration of the external effects incumbent upon educational development, are to be considered in subsequent chapters.

## How seriously do we take the results? II

We find ourselves with a popular narrative, converging with an academic one, in which improved education is conducive to economic growth through the mechanism of technological change fostered exclusively through free enterprise. The popular role of technological change as offering something for nothing – a path to good health or a cure to environmental difficulties without the need for undue exertion or a curb on appetite – is universally tempting. In the US, the fount of much postwar innovation, this enthusiasm has been reinforced by the perceived role of new technology in the victory of free enterprise in the Cold War and the promise that high technology is central to the maintenance of US dominance as an economic power. The widespread enthusiasm for new technology as an elixir is underwritten, as we have seen, by theoretical and statistical procedures in academic work that presume that existing resources are already being used efficiently, leaving little but technological change to do the heavy lifting as a source of economic growth. If a nation's technological achievement were the product solely of a relatively small body of world-class researchers, it would be unsurprising if some concluded that expenditure on higher education beyond this elite group is wasteful.

The empirical results confirming the education–economic growth nexus appear to be robust and reinforced by the broad historical narrative: the rich nations of today are the well-educated ones of a century ago, and the anomalies of the past – of nations that were relatively well-educated but poor – are hard to find today. There are reasons, however, to question not so much the link between education and economic improvement, but the particular formulations of this relationship in the economics literature.

For the capitalist system treated as a worldwide entity, it is simply untrue that periods of rapid economic growth are readily linked to high levels of discontinuous technological change. Economic growth as a focus of economic debate surfaced during the Cold War, with education emerging as a key component. The central role of discontinuously created new technologies as the fuel for this growth gained centrality in academic economic discussions at about the time of an important alteration in the nature of technical change in the real world that only became clear in retrospect. For most of the twentieth century, through to the end of the Golden Age of Capitalism in the early 1970s, technological improvements, and the concomitant economic growth, took the form of adaptations of a range of technologies seeing the light of day in the late nineteenth and early twentieth centuries. These technologies – from their conception through to the marketing of the products consequent upon these new technologies – were financed and developed by profit-making, predominantly very large companies. Thus, postwar economic growth took place overwhelmingly in

the context of a range of technologies in the industrial and agricultural sectors – electrification and electric motors, the internal combustion engine, chemical processes (including chemical fertiliser) and even the electronics of radio and television – that were already well established in the stagnant interwar years.[52]

Events, as we have seen, then took a strange turn. In the midst of the golden age, a dominant concern in the capitalist world had been that Khrushchëv's desire to catch up with the West was going to become a reality – the Soviet steel industry may not have implemented the latest innovations in this sector (though neither had the US), but its high level of output and rate of growth were – just as earlier in the century – the standard by which a great economic power was judged.[53] Using the calculations made by the CIA, the Soviet Union's overall rates of economic growth were causing it to close the gap with the US. With the end of the golden age in the 1970s, capitalism struggled to maintain itself, with levels of unemployment unprecedented since the interwar period, high inflation and decisively slower economic growth. Yet, it was precisely in this period that the inadequacies of the Soviet economic system became evident, as, for the first time since the beginning of the century, a host of products based on qualitatively new technologies began to emanate from the capitalist world, most especially from the electronics sector: with Cold War restrictions and the systemic failures of the centrally planned system to adapt or innovate these technologies independently, an unbreachable gap opened with the capitalist West.

In light of these developments, there emerged in the 1980s a defence of capitalism and a critique of central planning based on the dynamic properties of capitalism rather than its superiority in terms of static efficiency. An important reason for this change in perspective was the granting of a key role to entrepreneurial finance for the astonishingly rapid advance of the electronics sector, one that, more in general than in explicit terms, has been used to justify financial deregulation. In academic circles, this switch in emphasis began in the 1980s, but took place slowly, with a gradual change in focus from the importance of static efficiency to the dynamic properties of capitalism as described in the models of endogenous growth. In this literature, unlike that emerging from Lavoie and the neo-Austrian acolytes, the efficacy of capitalism was linked not to a somewhat generalised conception of the risk-taking, innovative properties of capitalism, but to a well-defined process by which capitalist competition generated technological change (supposedly a concrete, measurable variable), which then raised the growth rate of the economy. These developments were accompanied by an ever-increasing lionisation of Joseph Schumpeter as the prophet of innovation, despite the failure of his technology-driven theory of business cycles and the Delphic nature of his pronouncements on the provenance of this innovation.

But while Schumpeter's approach to technological innovation may approximate events from the beginning of the twentieth century, most especially in the US, in which the source of new innovations were profit-making, often giant firms, it is far less suited to deal with the outburst of new technology and products derived from them in the post-Second World War period. Here we see a complex interaction of profit-making pursuits by individual firms, often guided, goaded, subsidised and constrained by the visible hand of the state, usually in the form of the US Department of Defense, and interacting with a range of non-profit-making institutions, including government laboratories and universities. At the time, much of the expenditure on military equipment and its associated research was seen as a drain on the civilian economy and, through the processes by which these projects were pursued and financed, wasteful in its own terms.

Thus, as we shall see in Chapter 9, the invention of the transistor by AT&T in 1947, perhaps the quintessence of Schumpeterian long-term planning by a capitalist monopoly, albeit one abetted by the largesse of the government in the form of wartime profits, was perhaps the crucial invention in the emergence of the modern electronics industry. But the subsequent development of this invention and the complementary progress in computers and other branches of electronics took place in the context of aggressive intervention by the state. Extensive fundamental research was carried out under government contracts by universities, and AT&T itself was subject to overwhelming pressure to license its invention to potential competitors – often relatively new firms that were the product of entrepreneurial finance initiatives.

What accounts for the difference between these outbursts of new technology and invention? In two interconnected ways, technological progress without state intervention appeared to function better in the earlier of our two periods. First, the level of competitive rivalry was less severe at the turn of the century: the theory and the substantive development relevant to the internal combustion engine and to electrical equipment emerged over decades – at a leisurely pace, by contemporary standards. Furthermore, the diffusion of techniques and technologies – in this world substantively without multinational enterprises – took place slowly between nations. With a very limited number of actual or potential rivals, and a slow rate of diffusion of the new technologies among them, the potential for the acquisition of monopolistic quasi-rents from these new technologies exceeded that in later periods, so that these technologies emerged almost wholly through the activities of profit-making entities.

Second, an aspect of the increasingly competitive environment in the later period is, as we have seen in Chapter 5, the more rapid diffusion of new technologies due to their progressively more abstract, scientific nature. This is a seemingly inexorable development that has continued on to the present day: the process by which craft and implicit knowledge embodied in

an individual person or group of people is transformed into explicit, replicable empirical generalities is inherent in the development of science. This process is paralleled in the logic of modern manufacturing technique, with its constant desire to reduce craft mysteries (such as the ancient art of steel manufacture, or the early techniques used in the production of semiconductors) to replicable protocols.

The process of formalisation tends to accelerate the rate of potential diffusion and potential competition: the more an innovation is linked to abstract formulae rather than to craft embodied in the innovator, and the more the manufacture and the replication of this innovation are linked to concrete, written protocols, the more potentially competitive is the environment. The nature of this competition, however, changes, as these replicators, imitators and potential competitors need to have, or have access to, individuals with formalised education and training capable of understanding the science behind the innovation and the protocols of manufacture. These developments enhance the importance of formalised training and lower the value of traditional, informal and *in situ* knowledge.

A central factor thus determining the trajectory of the future technological environment and its influence upon the economy will be not only the size and characteristics of the pool of individuals capable of innovating new technologies, but the number of those with formalised knowledge adequate for monitoring and replicating new developments. The harvesting of the fruits of technological change increasingly centres on the role of intellectual property rights (IPRs), a mechanism for entrenched entities (both nations and firms) to construct barriers to new competition. It is the balance of political and power relations, most especially in the international domain, rather than any Hayekian spontaneous order, that will dictate the evolution of laws and regulations governing IPRs, regarding which fierce conflicts have emerged both within nations and, most especially, between rich and poor countries over the role of the patent system and other intellectual property rights as, on the one hand, an incentive to new invention and, on the other, a barrier to new competition.

The interconnected evolution of competitive pressures and the role of formalised knowledge lay behind the distinctive post-Second World War patterns in technological change. A range of capitalist heroes emerge from the period, from AT&T as the paradigmatic Schumpeterian monopolistic enterprise that gave us fundamental innovation, to the Hayekian entrepreneurial firms that ferociously competed and disseminated the new technologies. The venture capital that often financed new firms in this sector became part of a narrative on the virtues of unfettered finance that led to the beginnings of the deregulation of the financial sector in the US in the 1980s. But all these developments differed fundamentally from the earlier transformation that had taken place at the beginning of the twentieth century because of the central role played by the state.

It does not appear to be fortuitous that state financing and intervention played a central role in the take-off phase of the electronics revolution of the 1950s and 1960s in the US: this key technological development of the postwar period might not have taken place, or might have been delayed for an indefinite period of time, in the absence of state involvement. In the context of the technological and economic conditions of the postwar world, unencumbered free enterprise and its associated capital markets were unlikely to be able to realise commercial gains in the context of a host of obstacles: the high level of spillovers in these science-based innovations, the long period of gestation taking place before the development of commercially successful products, and the substantial uncertainty present concerning the commercial potential of these endeavours.

These key sectors of postwar economic development were thus potentially experiencing what can be seen in retrospect as forms of product and, especially, capital market failure. The role of independent venture and start-up capital in this process thus appears to be an important, but secondary one – it facilitated the rate of development and dissemination of early-stage innovations that had been financed by the state, but these decentralised, uncoordinated private sources of capital could not, on their own, have brought about these innovations. The heuristic justification for financial deregulation and unencumbered capital markets emerging in the 1980s in the wake of the triumphs of Silicon Valley is thus somewhat diluted.

The triumph of capitalism over the centrally planned economic system was engendered by two phenomena – this new wave of technological dynamism in the West, and the rapid emergence from poverty to affluence of nations such as Japan and South Korea – in which state action played a central role in the financing and even the direction of these developments. This reporting of historical facts is not intended as a surreptitious defence of central planning, or even of state action, but it does bring into question any simplistic narratives, whether they be of a Schumpeterian, Hayekian or endogenous growth kind, by which an unencumbered free enterprise triumphed over inherently dysfunctional state direction of economic activity.

Underlying both these success stories – the American and the east Asian – is a distinctive commitment to education, one whose development, in great measure, is beyond the logic of the marketplace and, substantively, has taken place through state action, whether at school or university level. For the US in the post-Second World War era, the role of the state has been conspicuous both indirectly, through funding for the training of scientists, and directly, through procurement of, and payment for, university science and technology resources, most especially, though not exclusively, through the US Department of Defense. These substantial state commitments raise important economic and political issues concerning how this funding might have shaped the trajectory of these new scientific developments and

technologies, and how they might have developed in the absence of state involvement, assuming that they would have emerged at all. It is sobering, moreover, to note that this remarkable mobilisation and coordination of entrepreneurial and intellectual resources was largely directed to the creation and procurement of weapons for mass killing.

* * *

If we proceed from the above validation of the education–growth narrative with appropriate caveats, we are then confronted with the need to insert an additional link in the chain: in the context of the perspective offered by Hanushek and Woessmann above, education, in the form of years of formal schooling, has only an imperfect relationship to output in the form of cognitive capacity as measured by standardised tests. In the chapters to follow, the provenance of cognitive capacity is to be explored in the context of formal schooling and the use of inputs such as class size, teacher quality and school choice. A further important consideration will be the desired output – is it to be a heightened cognitive capacity that suits the needs of employers, or one more broadly based? And which of these alternatives is more conducive to the cultivation of that universally lauded result – labour flexibility?

The predominant focus in the chapters to follow upon formal education is not due to any presumption that the magnitude of its effects is invariably greater in some absolute sense than other influences on human development. It is, rather, that in the context of rich countries, where education through to late adolescence is compulsory, schooling is overwhelmingly the most readily available and powerful public policy instrument for direct intervention in the lives and consciousness of individuals and, potentially, for the effecting of fundamental social change. For this reason, schooling has always been an arena of contestation between right- and left-wing political views. Both perspectives evince ambivalence about the educational process – the right wing conscious of its potentially disruptive aspects, the left fearing its repressive characteristics and its role in the assignment and reinforcement of preordained social roles to children of different classes. But a key difference is that, ambivalent or not, right-wing analysts rarely question the key role that education plays in the assignment of children to their proper roles in society. By contrast, much energy on the left has been diverted away from a focus on education by the notion that that it is merely a secondary consideration – an aspect of society's superstructure that will invariably reflect and reinforce the norms of the existent capitalist society. Perhaps for this reason, no coherent left-wing alternative view of the educational process is available to oppose the powerful human capital conception and its concomitant policy emphasis on reforms based on market mechanisms. Without an alternative programme, opposition to these market reforms is often seen merely as support for the status quo.

The leading candidate for the social determination of cognitive achievement outside of schooling is the household. This is a favourite consideration for right-wing writers, who are eager to moralise about social breakdown and individual responsibility (that is, when they are not hinting that some groups in society suffer from a lack of economic or cognitive success because it is not 'in the blood'). It is indubitably true that households play a key role in the development of children's cognitive capacity and overall repertoire of competencies. It would also appear that public policy is less central to learning in a household context than it is in formal school learning.

But the public policy role in learning linked to the household, while indirect, is not negligible. We are regularly reminded by right-wing commentators that entrepreneurs need an atmosphere of certainty in order to plan and invest. This logic, however, applies no less to the plans and investments that a family makes in relation to the maintenance and enhancement of the human assets of its constituents, most especially those of its children: deprivation and insecurity are obstacles to the formation of coherent strategies by a family for investing in itself. For this reason, it is not only true that formal educational programmes play a role in the promotion of reduced inequality and enhanced mobility; the obverse is also true – these educational programmes will be more effective in enhancing intellectual capability if the societies in which these programmes are being pursued evince minimal levels of income and class inequality. Giving all households the capability of developing and executing such plans is a key socialist goal.

In the chapters of Part II that follow, the outline of the argument presented here concerning education and growth is filled in. In Chapter 7, the individualistic approach to education embodied in the mainstream human capital literature is contrasted with a historical perspective examining the societal genesis and impact of educational advance; Chapter 8 focuses on learning that takes place at work and in the process of living in society. Chapter 9 uses the history of the US to exemplify the key roles played by public policy in economic development in the contexts of education, technological advance and industrial enterprise: technological advance, far from being an elixir offered up by an elite, emerges as part of a complex, socially embedded process. Chapter 10 calls into question the very meaning of the phrase 'economic growth', so that the initial 'education → economic growth' argument migrates into a broader range of considerations of the 'human development → economic development' kind. The discussion is then advanced to suggest that human development is not merely a means to the achievement of economic goals, but an end in itself.

# 7
# Education as a Social Process

The individual components of the link between education and economic growth will be considered – and deconstructed – here and in the following chapters. This chapter deals with formal education, which poses difficulties for analysts of capitalism because labour has traditionally been viewed as a relatively undifferentiated (and presumably uneducated) entity whose services can be bought and sold on the marketplace. For defenders of capitalism, the ending of the supposedly mutual obligations of lord and serf of the medieval era initiated an era of freedom for labour, while for Marxists, a period of continued exploitation under a new guise emerged.

In both orthodox and Marxist economic analysis, this way of dealing with labour maintained its popularity long after any period of empirical relevance because it proved malleable for constructing models of how capitalism worked. When departure from the notion of labour services as a commodity became unavoidable, this challenge was met in economic orthodoxy through a concept – human capital – that preserved the notion of capitalism as an arena of individual decision making and free choice. This identification of the enhancement of human capital with free choice came about by directing attention to the acquisition of formal, elective education by young adults. But individuals are overwhelmingly shaped and transformed, at a much earlier stage, by systems of compulsory schooling that are the product of societal decisions: the forms this schooling should take are at present the focus of intense controversy. Any attempt to understand the educational process must reflect its socially embedded nature and long-term influence on societal and economic formation.

## Human capital theory

In his critique of the capitalist system, the most famous apologist for slavery in the *ante bellum* US, John C. Calhoun of South Carolina, focused on the relationship between capitalist and labourer: while the slave owner could realise any demonstrable improvements in the value of the labour he or she

owned by making use of the slave's elevated productivity or by selling the slave at an enhanced price in the marketplace, the capitalist, by contrast, had little material interest in improving the living conditions or the skills of the labourer.[1] Under capitalism, as Alfred Marshall noted, the very freedom of the labourer to move to a new employer made it unwise for any individual capitalist to invest unduly in either the health or the general education of his or her workers.[2] Calhoun's perception of the employment relation under capitalism lies at the centre of the doctrine later developed independently, and from a very different perspective, by Karl Marx, whose theory of exploitation flows directly from the fact that the capitalist does not purchase the labourer but merely hires his or her labour power.

The intervention of Gary Becker has been central to the emergence of a view on these questions on the part of contemporary capitalist ideology. In earlier work, the issues surrounding human capital had been developed largely from an empirical perspective.[3] But it was Becker who successfully reoriented the whole question of the augmentation of the skills of labour away from the capitalist employment relation: the latter was, as we have seen, fraught with difficulties for the defence of capitalism because of the capitalist's inherent lack of interest in investing in the improvement of the skills of potentially mobile workers. Instead, the predominant emphasis in academic and public discourse concerning the development of human skills and knowledge has followed Becker in focusing upon the economic returns to education and the calculations that would be made by isolated individuals about investing in themselves. The core of the analysis of educational enhancement in society thus shifts away from the social, political and ethical issues surrounding the generation of an educated population in a democratic society and towards one emphasising investment decisions on the part of individuals. The decision to become educated becomes merely a type of investment decision and an exercise in free choice.

The investment process, as conceived by the early-twentieth-century US economist Irving Fisher, had linked the possibility for high rates of investment in physical capital to individuals and societies (largely of white, European origin) who had saved at high levels by constraining their impatience to consume in the present.[4] The later theory of investment in human capital parallels that for physical capital: in analytically well-behaved situations, the individual must defer present consumption because of the explicit costs of education and the indirect costs of foregoing income from employment, all for the sake of higher income in the future.[5] Those individuals who successfully constrain their impatience to consume in the present will earn more in the future, as will individuals and societies with a greater taste for risk; the latter groups will also have higher variance of income. These considerations give an exegesis for Milton Friedman's notorious declaration that inequality of income in a society is 'at least in part and perhaps a major part – a reflection of deliberate choice in accordance with the tastes

and preferences of the members of the society'.[6] And for Becker, the link between the theory of investment in human capital and personal income distribution is that abler persons can expect a higher rate of return from investing in themselves, and therefore will do so to a greater extent than others: a meritocratic theory of income distribution.[7]

Human capital theory's greatest successes have been in these polemical directions – as justifications, for instance, for increased fees, and for loans rather than grants, in higher education. But as a mode of more generalised justification for the rationality of capitalist investment processes in a human context, the analogy with investment in physical capital is of limited use. One problematic aspect of the human capital literature is that it deals poorly with issues surrounding class. A concrete aspect of the class dimension in the enhancement of human capital is the complementary role played by the possession of property and financial assets acting as collateral in the financing of elective education.[8] Government loan schemes act as only a partial mitigation for less-than-affluent students facing the prospect of large debts in an uncertain world.[9] These uncertainties are all the more baffling and terrifying for those (I include myself here) with no precedent in their family and immediate surroundings of individuals who have successfully followed the trajectory of higher education and professional development. These are aspects of a more general point: 'Since skill acquisition and identity formation are so inextricably linked, precisely the most important, "formative" learning in a person's life cannot possibly be conceived or motivated in terms of rational investment in the longer-term pursuit of individual interests. The decision what kind of work skills one wants to acquire in order later to sell them in the labour market is inseparable from the decision what kind of person one wants to be.'[10] The bonds constraining young people (and their parents) because of limited perception of alternative possibilities are no less real for being subjective, and are an important element of class distinction not easily captured in income distribution statistics.[11]

Human capital theory ignores the social formation of the individual whose choices are being analysed by the theory. The absence of a social dimension also causes attention to be focused on the acquisition of skills and capabilities by individuals, distracting attention from the inherently societal aspects of the educational process itself. Below, one insufficiently considered societal aspect will be explored – the fact that educational development is invariably saturated with external effects. Intimately linked to the question of external effects is the reality that educational improvement in the modern world has not been predominantly concerned with individual choice at all, as in the case of higher and elective vocational education, but remains tied to the compulsory, largely state-financed activities that take place in schools. In our own time, when more than half the population in rich countries pursue forms of elective education beyond that which is compulsory, it is still the nature of the experience during the obligatory years of schooling that is

of overwhelming significance to individual and societal development. This latter process takes place, and is crucially conditioned by, the context of the family and social conditions under which children develop in these years. There is a link between external effects and the historical reality of compulsory school education: in areas of its greatest efflorescence from the latter part of the nineteenth and early twentieth centuries to the present, governments and communities in the most dynamic economies have been responding to the fact that the economic and social efficacy of enhanced education extends far beyond the pecuniary gains to individuals.

Nothing better delineates a right-wing from a progressive, socialist view of society than their respective attitudes to human development, including education: for the former, there is an emphasis on the quasi-biological notion of those who are intrinsically able choosing elective, including higher, education because they will benefit from it, as well as the older moralistic conception that higher education is chosen by those willing to constrain their desire to consume in the present. An alternative socialist approach views human and educational development through a critical examination of school and preschool institutions not only in their own terms, but also in the context of the range of influences impinging upon the lives of children from birth, including forms of material and psychological deprivation and lack of opportunity linked to social and economic inequality. The socialist presumption is that the great majority of individuals, even in rich societies, have been deprived from birth of the opportunity to fulfil their potential in the narrow terms of their economic productivity and, more importantly, in their role as free citizens in control of their destiny. The great bulk of the population is in little need of lectures from the well-off informing them that their status in society and that of their children is due to the fact that they are insufficiently able or overly impatient.

## Educational development and external effects

As we have seen in Chapter 6, a distinction is made in the economics literature between two approaches to education. First, microeconomic studies show substantial monetary returns to the pursuit of elective education by individuals, in which increases in educational attainment can be treated as an investment that individuals undertake. The costs are the explicit funds put forth to pay for education, and the opportunity cost of the income foregone by undergoing the educational process. The benefits for the individual may be measured by the future stream of enhanced earnings incumbent on this investment in education. Another approach in academic studies, however, has been to assign the calculation of the social returns to education to a macroeconomic literature that attempts to measure the returns to education to society as a whole. These returns embody any external or spillover effects, which are presumed to be largely of a positive kind – benefits

from educational investment that accrue to society, over and beyond those (especially enhanced income) that accrue to the individual receiving the education.

The discussion of these spillovers in the economics literature is a curious one. The prominent free-market economist George Stigler notes that the presence of such educational externalities could be an issue of major significance, but passes on to other issues.[12] In general surveys of the education–economic growth literature, the question is discussed in a brief and perfunctory manner.[13] Statistical studies have often noted the presence of external effects to educational improvement, but have usually found them to be of a small order of magnitude.[14] The human capital perspective maintains its central place – the economics of education remains a literature dominated by the individual's decision to invest in education.

The argument here, by contrast, is that externalities associated with elevated levels of education are pervasive. When they are properly considered in the context of an evaluation of the effects of educational improvement on society as a whole, they reduce significantly the centrality of the individualistic human capital perspective on education, most especially in a long-term context. A social approach to education and its effects will quite naturally focus more, for instance, on the education and training system for artists emerging in Renaissance Italy over an extended period rather than on the biographies of individual giants such as Michelangelo or Titian. It is this perspective that motivates the replacement here of the term 'human capital' with 'human assets'. Why, then, do these pervasive external effects show up in statistical tests only in a limited way? A key reason is that these tests, on the whole, implicitly posit a well-nigh instantaneous effect of enhanced education on, for instance, economic growth: if formal education, and most especially its external effects, influences economic growth only with a long lag, the growth effects of education are likely to be substantially underestimated in most statistical tests.[15]

Education is likely to make its impact with a lag that is long and variable. As we shall see in Chapter 10, the most remarkable cultural transformation of the last half millennium took place in Japan in the 50 years after the Meiji Restoration of 1868, but its world-changing economic effects only manifested themselves well into the post-Second World War period. By contrast, the growth effects of the Asian tiger strategy of integrating human development with industrial policy described in Chapter 6 emerged with a much shorter lag than in the case of Japan, both for a range of historical and externally determined economic reasons, and also because of the advantages the Asian tigers had in the precedent-setting example of Japanese development.

Is it appropriate to treat the presence of external effects to cognitive improvement as a peripheral aspect of the process of economic development? The approach taken by mainstream economists is peculiar in light of

the general focus in recent decades on language as the decisive 'invention' of human beings (probably *Homo sapiens*), an innovation whose efficacy emerges, most indubitably, at the level of social interaction. Below, however, in response to the economists' persistent, usually implicit presumption that spillover effects to cognitive development are of a marginal kind, I list a host of ways in which the economic gains to society as a whole of an individual's cognitive improvement are greater than the gains (specifically income gains) that accrue to that individual, most especially in the context of long-term societal development.[16] There are, as noted above, substantial difficulties in empirically verifying and measuring the external effects of these improvements. But some attempt to enumerate the external effects emerging from cognitive improvement is imperative to give plausibility to the notion of their pervasive presence and to highlight the reasons why, as will be outlined in Chapter 10, the effects of educational improvement are likely to be registered economically only with long lags. A narrow listing of external effects, emphasising those most likely to impinge on economic growth, is as follows:[17]

*Improvements in communication skills*. Improvements in individuals' communication skills, such as language literacy, especially when manifested outside the sphere of employment, yield unremunerated gains to society as a whole. Such gains are analogous to the positive externalities inherent in purchasing a telephone in 1930: the value of everybody else's telephone is increased. For instance, the more literate and numerate consumers are, the more articulate they will be in communicating, in verbal and written form, their wants to producers. An enhancement of communication skills thus lowers the costs of search on the part of all consumers, which promotes market efficiency. Improvements in knowledge by consumers in particular areas can enhance the monitoring of product quality.[18]

*Emulation*. Much new learning is communicated by imitating a master of an art, and these 'lessons' may take place even when they are involuntary on the part of the master.[19] Noam Chomsky points out that language acquisition on the part of children occurs even in societies in which communication with adults is discouraged or forbidden. As economies develop, the number of individuals whose skills are worthy of imitation is likely to increase, as does the number of firms and other institutions whose superior organisational capability can be observed at first hand.

*Spillover effects from accretions to knowledge which are general or which have fuzzy boundaries*. The more basic and fundamental (general) any accretions to knowledge by an individual or institution (for instance, a firm) are, the more difficult it is for that individual or institution to capture the full value of that knowledge (examples being Newton's laws or Maxwell's equations). In a more modest context, improvements to knowledge and

skill in one sector of economic activity may yield positive benefits in another when the boundaries between these activities are unclear: it proved difficult for Xerox to appropriate the full value of their innovations in software (much of which was harvested by Apple and Microsoft), perhaps because their perspective was delimited to the domain of office copiers. This phenomenon may help to account for the continued presence of industrial clusters such as Silicon Valley, in which closely related products are produced in the context of the conviviality and interpersonal relations present within a restricted region and community (see Chapter 9). Technological spillovers of this kind have been singularly emphasised in the new economic growth literature. As, over time, the ratio of science to craft-based knowledge rises and the cohort of individuals capable of monitoring these increments to knowledge increases, possible spillover effects become more likely. Appropriate levels of education in a society are thus crucial not only for the development of new ideas, but for the assimilation and appropriation of already existing knowledge on a worldwide basis, a role perhaps of especial importance for developing countries.

In addition to these educational externalities, in which societal gains exceed those to individuals, there is a further aspect to much skill acquisition: many kinds of accretion to knowledge in specific sectors, such as semiconductor manufacture, only realise their full economic value in the context of skill development in other sectors, such as ceramics. Such complementarities do not, strictly speaking, indicate the presence of external effects, but they give learning an additional societal component, and increase the likelihood of the clustering of firms in given localities.[20] As we shall see in Chapter 9, the famous Silicon Valley cluster was the result of the presence, both planned and serendipitous, of a range of complementary skills in a context that promoted the realisation of the economic value of those skills. The difficulties and the time involved in the integration of skills from diverse sectors are further reasons to expect to see lags in the beneficial effects of cognitive improvement on economic development.

*Raising society's 'productivity' as a parent.* The exceptional efforts made in Japan from the late nineteenth century to educate the whole of their population, including women, were motivated by the presumption of the spillover effects attendant on the upbringing of children by educated mothers. In the context of intergenerational transfers of knowledge, 'human capital accumulation is a *social* activity, involving *groups* of people in a way that has no counterpart in the accumulation of physical capital'.[21]

*Public good effects.* The enhanced knowledge of individuals in society may well spill over to others due to non-exclusionary aspects in the consumption of culture. For instance, the well-educated adult population

of New York City in the 1960s supported a range of commercial and listener-sponsored talk and music radio outlets.[22] The cognitive and cultural benefits of the presence of these high-quality outlets, designed to service the well-educated, also accrued to others, such as young people: the latter were free riders who were not the immediate targets of the commercial advertising and appeals for funds that sustained these stations. Publicly displayed art and architecture and other amenities can function in a similar way.

There are, in addition, a range of non-market effects that are sometimes linked to higher levels of education but remain of a somewhat speculative nature: personal characteristics with interactive attributes that may be cultivated by societal (especially educational) institutions and are not likely to be fully remunerated at the personal level.[23] Some of these effects, such as the inculcation of notions of honesty and fair dealing, may well, in the long term, promote higher levels of economic growth; other effects of this kind – the promotion of tolerance of racial, ethnic and religious differences or an appreciation of democratic procedures – may be desirable, but their relationship to economic growth is less clear.

Cognitive development, therefore, has a substantial societal component: 'the generation of skills can be and has to be conceived as the production of a collective good'.[24] It is not merely the product of individualistic Becker-type decisions to invest in oneself, but is the by-product of actions taken by others, often in earlier generations: this fact largely accounts for the predominant role of the state in education in societies oriented in the direction of economic improvement. An additional component to the educational process that distances it from Becker's model of individualistic, market-based decision making is the fact that, historically, much of what is interpreted by economists as improvement in the quality of human capital consists of 'spandrels'[25] – accidental by-products of the elevation of levels of literacy and general education that were undertaken by individuals or societies for reasons unconnected with attempts to increase either personal income or society's rate of economic development. Thus, one early-nineteenth-century European visitor to the US, expecting to be presented with a rough-hewn frontier society, was amazed (disappointed?) to be confronted with a literate culture among ordinary people, more extensive than what he had left behind in Europe: bibliolatry in the US had generated these exceptional levels of literacy.[26]

The nineteenth-century US example exemplifies the point that even if there is a long-term link between education and economic development, there have been historically diverse motivations that have engendered these literacy and educational programmes in societies; opposition, in various forms, has come from those who have feared that the poor would learn to despise their lot in life, leading to incendiary and revolutionary sentiments

on the part of the rabble.[27] The question then arises – one relevant from the perspective of both economic development and socialism – does a society's rationale for pursing educational activity make a long-term difference in the qualitative aspects of that education? For example, in the early modern period, not only were there fewer resources devoted to schooling in general in Catholic countries than in Protestant countries, but this schooling was more likely to be concerned with the inculcation of faith and discipline than with literacy or anything resembling Enlightenment or scientific approaches to knowledge;[28] a king's counsel in eighteenth-century France worried about the overproduction of priests and lawyers – unproductive labourers – in the system of education existing at the time.[29] A modern critique, to be considered below, questions whether the protocols of discipline and silence in mass schooling are merely a by-product of endeavouring to educate children, or whether the inculcation of this discipline in schools – the discipline of the factory – has historically been an end in itself, so that it is the socialisation of the masses, rather than education, that has been the prime learning outcome aimed for by school administrators.[30] Under these conditions, failures in educational achievement for the great mass of students are only to be expected.

In other cases, a strong input of non-economic motivation in educational programmes has resulted in curricula and social interactions that significantly deviate from what would have been expected if education were simply being mapped onto enhanced productivity. At the upper end of the ruling spectrum, tuition in elite institutions such as British public (that is, private, fee-paying) schools or even in leading US engineering schools has included the cultivation of a sense of class solidarity and socialisation into the ruling group.[31] In some contexts we see the reverse pattern, so that educational developments that may appear to have non-economic motives are rooted in a strategy for individual or societal economic development: in nineteenth-century Europe, middle-class children (mostly girls) were educated in 'the arts', proverbially in the service of family strategies for upward mobility; as noted above, the relatively advanced level of literacy among Japanese women at the beginning of the twentieth century was not part of a feminist policy initiative, but linked to the highly plausible notion that better-educated women were more productive in their role as mothers.

Is education that is *intended* to increase individual productivity the most successful in so doing? From business pressure groups and others concerned with practical affairs, it is a truism that education for the masses should be concerned with preparing them for employment. The question then arises of the time horizon involved – are we thinking about an education that makes an individual suitable for a first job, or for a lifetime of employment? We thus return to the fundamental contradiction of a free labour market as posed by John C. Calhoun: it will rarely be worthwhile

for individual capitalists to educate their workers in generalised skills that they can transfer to other employers.[32] A widespread consensus has therefore developed that the most important skills to be developed outside of the workplace are mastery of fundamental literacy and numeracy, with much task-specific vocational training administered in a non-workplace context a waste of time.[33] Such narrowly focused training, from the perspective both of the individual worker and of society, is likely to be less productive than a broader, seemingly less practical education that equips individuals with the literacy and numeracy that are essential for a lifetime of work in changing circumstances. But in the case of literacy especially, the notion that it involves a particular 'skill' to be mastered is wide of the mark: reading with comprehension, as we shall see below, takes place alongside the assimilation of the cultural context and the factual information relevant to the text at hand. Literacy, numeracy and broad-based knowledge therefore emerge as the underpinning of modern civilisation, culture and democracy as well as key prerequisites for economic development.

There appears to be a more or less universal aspiration to higher education, with one survey in the UK for the year 2004 showing 97 per cent of all mothers wanting their children to go to university.[34] But the limitations on knowledge of employment possibilities incumbent on being a child, exacerbated both by an inability to finance long-term study and by a lack of guidance and example available to children of working-class backgrounds, will often propel even the most diligent child from such a background into a set of decisions that may prove to be overly myopic from the misleading perspective of neoclassical economics, with its common presumption of a universal capacity across classes for rational intertemporal optimisation.[35] Practical, applied and supposedly relevant education for supposedly ordinary children merely exacerbates the aspects of irreversibility in the accretion of knowledge by individuals: young people become locked into a limited skill base and become less flexible in response to changing economic and social conditions. The acquisition of basic education is more valuable for a lifetime of work than the ability to manipulate a soon-to-be-obsolete piece of computer software demanded by an employer.

The attitude and strategy adopted by parents of children from elite backgrounds are very far from this short-term, practical approach. It may appear that the additional resources devoted to the children of the affluent are solely forms of consumption expenditure that give these young people pleasure and integrate them with like-minded members of the same social class. But this explanation is not sufficient to explain the demanding academic standards typically maintained in elite contexts. We find in these schools an emphasis on traditional disciplines – not just mathematics and the sciences, but even supposedly impractical ones such as history and philosophy. These subjects offer good mechanisms for the cultivation of the ability to pursue

independent research, the capacity for literate and articulate expression, and the logical development of ideas. This broad-based learning, reminiscent of classical education, is intended to engender the flexibility and self-confidence to pursue a lifetime of cognitive and managerial tasks. The well-off who have set out this agenda wish their own children to be endowed with a capacity for flexibility and self-confidence that comes from the mastery of a curriculum emerging over millennia.

Such an education poses the danger that at least some children subject to this environment will be endowed with a capacity for critical thinking about society, and the even greater threat exists that these habits will spill over to the masses. Is a challenge of this kind to the established order likely? A century after the decrying of business influence in academic life in Thorstein Veblen's *The Higher Learning in America*, his worst fears, it would appear, have been realised: under the pressure of rising fees, there has indeed been an expansion of business-related pursuits, including the establishment worldwide of degrees in business studies. But what is really striking is less the expansion of these activities than the presence of substantial deviations from this practical ideal, and the persistence at the university level of purely academic subjects such as philosophy, even in the US. We see the continued presence of these subjects, and even their permeation into the curricula of the most prestigious law schools and MBA programmes. For a century, business people and right-wing publicists have been grinding their teeth about an anti-business atmosphere, real or imagined, in elite institutions, most especially universities.[36] Whether this radical reputation is justified is questionable, but in broader terms the breadth and character of the activities that take place within the university clearly depart from the role of merely preparing an elite in a vocational way to fulfil its role in society.

It is perhaps fantastic to speculate that a new 'contradiction' will emerge in present-day capitalism in the form of an economic, competitive need for thoroughgoing basic education and critical thinking to become pervasive across classes. But analogous unintended consequences have emerged before in history, with a scientific revolution centred on the movement of heavenly bodies eventually leading to the questioning of the origins and legitimacy of existing political structures. More directly, the uneven, contradictory but indubitable development of democratic participation in the twentieth century took place in the context of a pervasive expansion of schooling and literacy, often alongside disquiet among conservatives that the latter development was exciting, and giving power to, the vulgar mob. If economic and educational development are concomitant, and it has proved impossible to reconfigure this education in a manner that preserves its economic efficacy but eviscerates the necessity for critical thinking, then the expansion of academic learning may yet play a role in the creation of thoroughgoing democratic participation in society.

## Education wars

Those with power in rich countries have responded to an increasingly competitive environment and economic crisis by putting pressure on their working populations, accompanied by continuing 'blame the victim' lectures suggesting that the plight of workers is their own fault – if not laziness, then their limited acquisition of appropriate skills and education. In the US and the UK, perceived deficits in the educational system, most especially in its supposed failure to produce a sufficient quantity and quality of graduates in so-called STEM subjects – Science, Technology, Engineering and Mathematics – are offered in the press as explanations for the decline in manufacturing employment, the size of the trade deficit[37] and, as we shall see in Chapter 10, the growth in income inequality.

This drama has now been playing itself out for decades.[38] Reforms designed to correct failures in the educational system have taken various forms, with the lines of dispute between left and right concerning these issues often confused: conflicts include those over progressive and traditional education, the introduction of market mechanisms and choice into school systems, the monitoring of the performance of teachers, schools and pupils on the basis of standardised tests, narrow versus broad curricula, and the importance of class size.

A way of bringing order to this mass of considerations is to focus on the continuing conflict between traditional and progressive education. In recent times, reforms have been directed against school regimes identified with progressive education: there has been a gravitation towards more traditional educational regimes with fact-based curricula and structured learning. These traditional regimes are often perceived to be more egalitarian in the transmission of knowledge and to have a greater suitability for the great mass of children than progressive educational programmes. But progressive forms of education, with their emphasis on humane, creative, critical and interactive learning focused on the individual child, are often better suited to the needs of elite children and closer to what these children are likely to receive in their own homes. They also embody an upbringing for children that would be appropriate for individual autonomy and self-realisation in all children and for the construction of a truly democratic polity. From a socialist perspective, it is the reconciliation of this potential conflict between equality and human freedom that is the central issue to be engaged in the education wars, a focus often obscured in present-day controversies.

The great education wars of the present day are to be welcomed: in the English-speaking world a least, at no time since the post-Sputnik period has education been so much at the centre of attention and debate. As we have seen in Chapter 6, however, discussions concerning the efficacy of this most vital of human activities have centred almost exclusively round

its facilitation of economic growth. Left commentary and policy has been, if anything, even more dysfunctional and inappropriate. Marxist tradition is burdened with a history of consigning education to a secondary consideration, an aspect of the superstructure of society or, more egregiously, viewing this activity, which is central to human liberation and equality, with suspicion because of its inevitable embeddedness in the existent capitalist culture. Horrifically, left approaches to education have also become identified with anti-schooling schemes and anti-intellectual ideologies that do little to serve the needs of the great majority of the population and often violate canons of Enlightenment rationality.

Many of these issues have been most thoroughly engaged in the US, which emerged as a world leader in the development of mass education in the latter part of the nineteenth century in the context of the burgeoning Second Industrial Revolution economy. The US had, further, to confront questions of assimilation and integration of a population with an exceptionally high level of cultural heterogeneity, including a large proportion of residents whose first language was other than English. To critics of twentieth-century education in the US, there had been a nineteenth-century system that remains a model of democratic pedagogy, with a curriculum embracing a common core of knowledge and skills necessary for all citizens, a 'community-centered' conceptualisation of education that played a crucial role in the 'making of Americans'.[39] By the early twentieth century, alternatives to the academic curriculum for non-college-bound students had been developed by progressive educators: 'Curricular differentiation meant an academic education for some, a non-academic education for others; this approach affected those children – mainly the poor, immigrants, and racial minorities – who were pushed into undemanding vocational, industrial, or general programs by bureaucrats and guidance counselors who thought they were incapable of learning much more.'[40] We thus have a situation in which what is labelled 'the progressive education movement' is identified by its critics with policies encouraging social and racial stratification in American schools.

The writings of the philosopher and educational theorist John Dewey (1859–1952), the intellectual fount of the progressive education movement in the US, function as focal points for these culture wars. Dewey's approach to learning is linked to his leading role in the distinctively American school of pragmatism, in which even the traditionally abstract discipline of philosophy is recast with a methodology that focuses on problem solving: the way we get to truth – child or adult – is by coping with substantive problems. From a twenty-first-century perspective, pragmatic philosophy, manifesting itself as an activity-based approach to learning, has had some notable successes in the imparting of foreign language and musical skills, such as the Suzuki method for the violin and, as will be noted below, in aspects of science learning; contrarily, it has yet to demonstrate efficacy in the passing on of

higher-level historical or mathematical knowledge. Mathematics learning was barely addressed by Dewey (at a time when the world of mathematics was exploding with abstraction), and the philosopher and mathematician Bertrand Russell reserved particular scorn for the philosophy of pragmatism in his *History of Western Philosophy*.

Dewey's ideas have been of worldwide influence, with some of his ideas paralleled by roughly contemporaneous and apparently independent developments emerging in the post-revolutionary Soviet state. This is not a coincidence: both societies – the early-twentieth-century US and the new Soviet state – were concerned with re-examining the educational process, with the aim of educating large, ethnically heterogeneous populations and inculcating a sense of nationhood linked to the respective notions of democracy in the two states.[41]

At the heart of Dewey's reforms was the institution of 'child-centered' as opposed to subject-based learning: 'the typical points of the old education [were] its passivity of attitude, its mechanical massing of children, its uniformity of curriculum and method. It may be summed up by stating that the center of gravity is outside the child. It is in the teacher, the textbook, anywhere and everywhere you please except in the immediate instincts and activities of the child himself.' His approach to learning was, he suggested, nothing less than a Copernican revolution: 'the child becomes the sun about which the appliances of education revolve; he is the centre about which they are organized'.[42]

The typical classroom 'with its rows of ugly desks placed in geometrical order ... is all made "for listening" ',[43] a passive form of learning by which the material 'is not translated into life-terms, but is directly offered as a substitute for, or an external annex to, the child's present life'. Three evils result from this mode of instruction. First, 'the lack of any organic connection with what the child has already seen and felt and loved makes the material purely formal and symbolic. The second evil of this external presentation is lack of motivation ... The third evil is that even the most scientific matter, arranged in most logical fashion, loses this quality, when presented in external, ready-made fashion'.[44] Note that in this critique of what is characterised as a passive educational process, the first and third of these evils relate to cognition, which the new activity-based learning is meant to alleviate: 'No number of object-lessons, got up *as* object-lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden acquired through actual living among them and caring for them ... Verbal memory can be trained in committing tasks, a certain discipline of the reasoning powers can be acquired through lessons in science and mathematics; but, after all, this is somewhat remote and shadowy compared with the training of attention and of judgment that is acquired having to do things with a real motive behind and a real outcome ahead.'[45]

Dewey's central focus was not ultimately upon these first and third evils linked to cognition, but the second evil of the traditional mode of instruction, which was concerned with lack of student motivation. For the child, 'There are not only no facts or truths which have been previously felt as such with which to appropriate and assimilate the new, but there is no craving, no need, no demand.' What is needed is 'an end which is the child's own' to motivate the process of learning.[46] Buried within Dewey's concern with the motivation of the child are issues surrounding class and inequality, an issue which, here and elsewhere, he is only willing to approach elliptically:

> by far the larger number of pupils leave school as soon as they have acquired the rudiments of learning, as soon as they have enough of the symbols of reading, writing, and calculating to be of practical use to them in getting a living. While our educational leaders are talking of culture, the development of personality, etc., as the end and aim of education, the great majority of those who pass under the tuition of the school regard it only as a narrowly practical tool with which to get bread and butter enough to eke out a restricted life.[47]

Dewey signals, again indirectly, that his educational methods are designed to compensate for inequalities in home background:

> If we take an example from an ideal home, where the parent is intelligent enough to recognize what is best for the child, and is able to supply what is needed, we find the child learning through the social converse and constitution of the family. There are certain points of interest and value to him in the conversation carried on: statements are made, inquiries arise, topics are discussed, and the child continually learns ... Participation in these household tasks becomes an opportunity for gaining knowledge ... if we organize and generalize all of this, we have the ideal school.[48]

Critics of progressive education counterpoise a community-centred view of education with the child-centred, progressive view emanating from Dewey's writings, and yet Dewey asserts that 'the school itself [should] be made a genuine form of active community life, instead of a place set apart in which to learn lessons'.[49] The sharing of so much in terms of the goals of education between Dewey and his critics (especially those left of centre) has not prevented intense hostility breaking out between them. Critics have claimed that Dewey's emancipatory ideas have been perverted by corporate capitalism:[50] what began as Dewey's notion that education should follow the needs and motivation of the individual child became, in the context of pressure from local business interests, a restriction of an academic curriculum to a select, college-bound stream, with vocational and 'practical' courses for others.[51]

Thus, much like the infamous system instituted in Great Britain in the wake of the 1944 Education Act, which invidiously separated out those capable of academic work at the age of 11 from 'the others', a similar separation took place in the US, but under the rubric of Dewey's admonition to fulfil the needs and desires of the individual child, and of democracy: 'Requiring all to take college preparatory studies, said the experts, was elitist; providing an "appropriate" education for every child was democratic.'[52] To critics of the progressive reform movement, its failure 'stems from the contradictory nature of the objectives of its integrative, egalitarian and developmental functions in a society whose economic life is governed by the institutions of corporate capitalism',[53] one in which Dewey's ideas were channelled through the prism of a business community's desire for a workforce suitable to its needs and an educational infrastructure anxious to appear accommodating in this context.[54] For an elite, the new education 'was child-centered, meaning that children's interests and activities were the basis of the curriculum. In big public school systems, however, the "new education" meant vocational and industrial education to train the children of the masses for work in farms, shops, factories, and homes.'[55]

Progressive education, as it emerged in the US, achieved many of its intended goals. For college-bound children in the US, elements of this child-centred elite education permeated the public school system and helped to alleviate the gratuitous burden of rote learning in education: it contributed to the creation of a well-educated, efficacious professional class appropriate to the dominant role of the US in the twentieth century. It is for the children of the masses that the new system failed. As Dewey suggested, school education was invariably regarded by them as 'a narrowly practical tool with which to get bread and butter enough to eke out a restricted life'.[56] His thoughts on education were largely directed at responding to this continuing fact of social existence – that for the great majority of school children, the standard academic curriculum does not motivate them to learn. But the reforms supposedly inspired by Dewey were, for this group, a failure. Dewey's intention to meet the needs of the vast majority of students with their 'practical impulse and disposition' was interpreted in progressive reform as a policy to stream students according to their school grades and the newly emerging IQ tests. Progressive education, its critics contended,

> turned the academic curriculum into elite knowledge for the college-bound, while excluding the large majority of students from gaining deep knowledge of scientific, social, and economic principles, from preparing for higher education or the professions, and from developing the ability to make an original contribution to the advancement of knowledge. At the very moment when science and technology were about to transform modern life, and at the very time [the late 1930s] when the world was

> entering a prolonged period of political and military crisis, expert educators were insisting that most students needed a curriculum that limited their access to knowledge and narrowed their understanding to the practical problems of daily life.[57]

The new system could thus be faulted for depriving the great majority of students – future citizens – of the opportunity to gain the knowledge to permit them to engage seriously with the great social and political issues of the day, and for its insidious use of IQ tests to label students in terms of their ability (see Chapter 11). When successful, vocational programmes can provide young people with employment-relevant skills. But, as noted above, an emphasis on practical, vocational training poses real dangers to students in terms of their future employment security: in a world of rapid economic and technological change, many practical skills learned in a vocational context will become obsolescent in the period of a student's future employment, while a more academic education, one linked to literacy, numeracy and broad-based knowledge, can often engender flexibility in a changing environment.

For critics, the Dewey-inspired education movement has been deleterious for the great majority of students in its cognitive aspect – the adaptation to the classroom environment of Dewey's notions on how children learn. For its defenders, 'This model of education supplanted an older one in which children sat still at desks all day and simply absorbed, and then regurgitated, the material that was brought their way. This idea of active learning, which usually includes a large commitment to critical thinking and argument that traces its roots back to Socrates, has helped shape American primary and to some extent secondary education, and this influence has not yet ceased, despite increasing pressures on schools to produce the sort of student who can do well on a standardized test.'[58] For the more extreme proponents of progressive education, 'the particular topics or courses do not matter so much as the ways of thinking that are taught (or not taught) in [courses of study]'.[59] To opponents, progressive education has exacerbated educational inequalities. A leading protagonist in these curriculum wars is Eric Donald Hirsch, Jr:

> The strength of the progressive movement – its lasting contribution – was its empathy with childhood. Its fatal flaw was its faith that the knowledge Americans need would naturally develop when the child became fully engaged in concrete experiences without the encumbrance of a defined academic curriculum ... It does not seem to occur to the intellectual descendants of Rousseau that the four-year old children of rich, highly educated parents might be gaining academic knowledge at home that is unfairly being withheld at school (albeit with noble intentions) from the children of the poor.[60]

Thus, according to Hirsch, reading with comprehension can only take place in the context of a substantial amount of implicit background knowledge, a cultural literacy best provided, for other than privileged children, by a school curriculum rich in content, delivered in a more or less traditional manner of lectures and review. This cultural literacy 'constitutes the only sure avenue of opportunity for disadvantaged children'.[61]

There has thus emerged a deep division concerning the substance of an educational programme to be labelled progressive, with both sides representing important and legitimate aspects of this notion. For the followers of Dewey, progressive education involves an emphasis on individual autonomy, active learning and critical thinking; educational systems cannot be expected to reverse shortfalls in levels of achievement by children from low-income or ethnic-minority families, which can only be rectified by reforms (or, as some would argue, as we shall see below, radical change) in the social and economic structure of society. Critics of the Dewey tradition claim that an educational programme focusing on the progressive goals of egalitarianism and social solidarity will need to embody a relatively strict, content-based curriculum and procedures of a traditional kind: only such an educational programme, it is argued, can narrow the achievement gap between different groups in society, a narrowing that plays a crucial role in the raising of a society's average attainment levels.[62]

Those promoting a content-based curriculum complain of the lack of an adequate knowledge base in American students' education,[63] but Hirsch concedes above that progressive education, with its focus on active learning and critical thinking, may well be suitable for 'the four-year old children of rich, highly educated parents'; Diane Ravitch, another prominent critic of progressive education, makes it clear that, in the US, elements of a flexible, progressive approach combined with rich content works well in elite contexts.[64] And those very Asian societies held up as the standard-bearers of traditional approaches regularly look to the education of the children of Western elites for what they take to be its superior flexibility and creativity.[65] If, at their best, progressive approaches have the capacity to create an environment for children that is less oppressive and unpleasant than traditional education, as well as having a greater capacity for releasing a child's creative potential, should such approaches be restricted to an society's elite? In nominally rich societies, these are not speculative questions. They are issues that fall within the practical domain of how such societies wish to allocate their scarce, but abundant, resources, and will be explored in depth in Chapter 11.

The complications of sorting through these controversies and giving them a simple left–right assignation may be seen by considering the reforms proposed in the UK by the secretary of state for education, Michael Gove, in 2013:[66] we have the unusual circumstance of a Conservative minister citing the Italian communist Antonio Gramsci as an intellectual hero.[67] Gove's

intention had been to provide a core academic curriculum – English, mathematics, science, history, geography and foreign language – for all pupils. In each of these subjects, the focus would be upon substantive over conceptual skills, with an emphasis, for instance, on chronology and narrative in the teaching of history.

The plan ran into universal disapprobation. It was criticised for having too narrow a focus by preventing 14-year-olds from pursuing vocational subjects and the creative arts.[68] A second complaint, from the historian Richard Evans, directly echoes Dewey: 'A return to narrative in the classroom – to passive consumption instead of active critical engagement – is more likely to be a recipe for boredom and disaffection' and does not engender the cultivation of critical thinking.[69] Evans was also concerned with the overly national focus embodied in the Gove curriculum: right-wing politicians often link calls for a more fact-based curriculum with demands for a patriotic approach to the teaching of history. As a result, children in the UK acquire detailed knowledge of the royal succession, while in the US, children study the teachings of the Founding Fathers (who rebelled against that succession): a national focus is perhaps not the best way to engender mutual understanding between nations. As we have seen, however, others find virtues in factual approaches, suggesting they are more egalitarian than those that focus on broad conceptual issues. They give ordinary children the raw material that elite children imbibe as a matter of course – material that is a prerequisite for more creative approaches.

By far the most widespread criticism of the Gove reforms, however, is that, whatever their intentions, they are pushing children past the age of 14 into an elite mould rather than fulfilling their need and desire to follow a vocational path:

> Of course Gove is right that there is no greater educational crime than writing off a child because of his or her class. But it is perhaps just as unforgivable to judge all children by an elite academic standard under which many will thrive, but which for others will be a millstone of educational failure that will forever hang round their necks ... It is bizarre to insist that the school system must assess children and young people in a way that bears no relation to how they will go on to be appraised in the labour market.[70]

We thus have a situation in which the presence of class division manifesting itself in the context of the school means that society is faced with a range of unacceptable alternatives, all purporting to be progressive and to promote the welfare of children. Either we follow the Gove path and offer an academic curriculum to all pupils, in which case we confront the spectre of a large percentage of 15-year-olds in school faced with demands upon them for an exegesis of *Hamlet* – a waste of time, a humiliation and a

mild form of torture for all concerned, both teachers and pupils. The alternative path is to consign a large percentage of the student population to a category – already at the age of 14 – in which their education is linked, not to their future status as citizens in a democratic polity and participants in a world culture, but to how they will be appraised in the labour market. Are these two alternatives the best that can be offered to children in the twenty-first century?

But what is even more bizarre is that the Gove initiative was taking place in the midst of his own Conservative government's focus on academies and free schools,[71] whose claim to superiority was based on their ability to function free of governmental (especially local government) interference. The overwhelming tendency in contemporary educational reform is away from uniformity of curriculum for all students and in the direction of choice and specialisation. In both the US and the UK, a whole set of initiatives have been proceeding in the direction of the marketisation or fragmentation of the publicly funded school system.[72] One example in the US is the implementation of voucher schemes designed to engender parental choice and competition between schools. While symbolically important as a free-market initiative and a major subject of controversy, these schemes have encompassed very small numbers of students, with indifferent results.[73] Of far greater significance in the US and UK has been the development of, respectively, charter schools and academies, with about 4 and 14 per cent, respectively, of total school enrolment in recent years.[74] In both cases, their independence from local government control and the superior governance provided by outsiders[75] (often from the business world) are offered as the keys to their success; this very independence can lead to situations in which children's learning can be put at risk by sponsors' idiosyncrasies, such as a desire to promote creationism in the school curriculum.[76]

Charter and academy schools, however, are responding to a genuine need, even if the driving force behind these ventures are often rich donors and business interests of various kinds. Many low-income parents are desperate to alleviate the low levels of achievement that their children experience in existing institutions: it does little good for defenders of present-day educational structures who are themselves of elite background to opine how well the local school serves *their* children.[77] Charter schools in the US, despite indifferent results overall, have shown gains for children from the poorest backgrounds;[78] in the UK, the academies promoted under the Labour government, largely in deprived areas, registered improvements in performance over the schools they had replaced.[79] It remains unclear, however, to what extent the achievements of successful charters and academies are linked to diversion of resources from mainstream state schools[80] rather than the vaunted independence of these schools.

What emerges is an educational strategy that has abandoned any concept of a community-centred view of education designed to integrate children

into a common citizenship. The development of charter schools and academies is a method for dealing with the supposed problem of finding a proper vocational role in society for children from poorer families: academies in the UK emerged from technology colleges. For *The Economist*, charter schools have been successful because of their exceptional freedom to 'shape the school to the pupils' by, for instance, changing the length of the school day. In one exemplary school, for instance, the school year is continuous, with short and relatively frequent bursts of holiday, 'because that keeps learning on track and kids out of trouble'.[81] In such a context, monitoring teachers 'by results' (almost invariably children's scores on centrally administered tests) is a natural concomitant. Thus, in the US, when Eric Hanushek points to the centrality of teacher quality, his means of effecting improvements in this outcome for the US involves the capacity for a school to fire the bottom 5 to 10 per cent of teachers each year.[82] Unsurprisingly, recommendations of this kind have been unpopular with the teaching unions in both the US and the UK.

Charter schools and academies in the US and the UK have been introduced to deal with the dire standards of academic achievement at the poorer end of society and to keep these kids 'out of trouble'. The concept of teacher quality, with its narrow focus on students' test scores, privileges a facility for administering drill and discipline in schools with low intellectual aspirations, in which the pedagogue's intellectual capacity and qualifications are of minimal consideration: the designers and executors of such schemes would find the educational experience emerging from this situation to be unacceptable for their own children. The charter school–academy path seems to be an implicit ratification in the school system of the existence, and permanent presence, of social stratification.

The contemporary debates on the nature of education are to be welcomed. But the fact that they are conducted in the twenty-first century, almost universally, in such a dreary and negative manner even in the richest countries is shocking. If the reader will forgive the semi-tautology, the future of humankind is embodied in its children, and education plays a central role in their development. But what is largely on offer are strategies for rectifying the supposed inefficacy of existing educational structures in order to facilitate higher economic growth: little effort is made in current debates on education to integrate educational reforms with a strategy for producing a more enlightened, freer society. After more than a decade of postwar growth, John Kenneth Galbraith's *Affluent Society* of 1958 was emblematic of a widespread popular discourse in the US indicating the need to look beyond bald measures of national income in considering how best to organise society. Galbraith's focus was the underprovision of resources in the public sphere, including those for poverty alleviation; for others, it became fashionable to write about an emergent crisis in the use of leisure time, under the presumption that the typical work week was set to plunge substantially below the

norm of 40 hours a week. The discourse surrounding education in this post-Sputnik era remained, as we have seen, largely concerned with its contribution to economic growth and, implicitly, military power. By the mid-1960s and 1970s, however, and in the wake of the civil rights movement in the US and the war in Vietnam, there was an intensification of critical analysis of the goals and direction of society in general, and of the substance and goals of education in particular. But from the 1980s to the present, the public discourse on education has returned, almost wholly, to its practical efficacy in an economic context.

How did such a state of affairs come to pass? Why, then, has education, this central aspect of human and societal development, returned to being an independent variable in an economic growth equation? Underlying this reversal of fortune are the events described in Chapter 5: if the rich countries, especially the US, viewed their economic status in the postwar world as unchallenged, the precariousness engendered by the more competitive environment evident by the 1980s has now consigned a humanistic perspective to education to the margins of public discourse. As a result, contemporary discussions almost exclusively focus on questions of how education can be used to promote a nation's economic growth rate or, at the extremes of socially aware debate, on the effects of education on income distribution and social mobility.

## Radical prescriptions

The emergence of a more competitive, less secure economic environment does not sufficiently explain the fact that the momentum of argument over education has in recent decades been dominated by right-wing opinion and purely economistic concerns: left-wing failures have contributed as well. As argued in Part I, the failure of socialist doctrine in the twentieth century was, to a great extent, to be laid at its own door – an incorrect analysis of the movement and direction of the capitalist economy contributed to the enunciation and implementation of an inappropriate and dysfunctional prescription for a new society.

In the context of education, something comparable, or at least analogous, took place: on the whole spectrum of the left, we see a set of developments that helped engender a reaction on the right – the predominantly pragmatic, economistic approach to education of the twenty-first century. From Marxist thinking, we see a powerful and articulate view emerging in which the arena of education is to be viewed with hostility and distance – as part of the superstructure of capitalist oppression. The most prominent radical writers of the 1970s stood apart from the education wars, having replicated the early-twentieth-century socialist view that treated school activities as part of society's superstructure, whose faults could be rectified only after a general transformation in the structure of society. This tendency was

accompanied by the activities of a cultural left whose educational experiments, conceptual and actualised, were dysfunctional and adventurist: there were tiny but very visible and vocal movements for de-schooling and free schools, as well as sectarian and advocacy-based tendencies in education that often took anti-intellectual and anti-rational stances.

What has resulted from the adventurous and whimsical policies associated with the left is something that is both horrifying and ironic – in the US especially, where anti-intellectualism and hostility to scientific thought are peculiarly pervasive in right-wing circles, the latter have been able to pose as defenders of traditional intellectual values and educational standards. The left of this period can thus take partial blame for the present dismal state of the educational debate, having reproduced both the rigid substructure–superstructure dichotomy and the adventurism characterising socialist practice and thought evidenced in Part I.

Karl Marx cannot, however, always be held accountable for the failures of Marxism. In one of his few interventions on education, he condemns those who would advocate that

> Workers should [not] desire ... as happens in the United States of America, [that] the state whose budget is swollen by what is taken from the working class should be obliged to give primary education to the workers' children; for primary education is not complete education. It is better that working men and working women should not be able to read or write or do sums than that they should receive education from a teacher in a school run by the state. It is far better that ignorance and a working day of sixteen hours should debase the working classes than that eternal principles should be violated.[83]

Marx suggests that 'if the apostles of political indifferentism were to express themselves with such clarity, the working class would make short shrift of them and would resent being insulted by these doctrinaire bourgeois and displaced gentlemen, who are so stupid or so naive as to attempt to deny to the working class any real means of struggle'.

And yet a century later, the most prominent Marxist commentary on education in the Anglophone world, from Samuel Bowles and Herbert Gintis, came close to supporting the kind of quietism on this issue that Marx is condemning: 'The politics of education are better understood in terms of the need for social control in an unequal and rapidly changing economic order.' There is 'a close correspondence between the social relationships which govern personal interaction in the work place and the social relationships of the educational system. Specifically, the relationships of authority and control between administrators and teachers, teachers and students, students and students, and students and their work replicate the hierarchical division of labor which dominates the work place.'[84]

The origins of the vast and unprecedented commitment of resources made to public education in the US in the nineteenth and twentieth centuries is thus seen not as an accession to 'the demands of common people', but as part of a process by which 'progressive elements in capitalist class were not so much giving workers what they wanted as giving what would minimize the erosion of their power and privilege the structure of production'. The historical role of educational change is perceived not as a complement to a strategy for economic reform, but as a substitute for it: 'The main impetus for educational change was not ... the occupational skills demanded by the increasingly complex and growing industrial sector ... [Rather,] schools were promoted first and foremost as agents for ... social control'.[85] It makes perfect sense that the genesis of the schooling movement in the US is not to be found in demands for a more highly schooled population, because there is little indication, according to Bowles and Gintis, that the emergent demands of the modern economy needed individuals with this extra schooling. Furthermore, the impetus for more schooling did not come from below, because, it is claimed, additional years in school for individuals are not well linked with better jobs and higher remuneration: 'the mental-skill demands of work are sufficiently limited, the skills produced by our educational system sufficiently varied, and the possibilities for acquiring additional skills on the job sufficiently great so that skill differences among individuals who are acceptable for a given job on the basis of other criteria including race, sex, personality, and credentials are of little economic import'.[86] Bowles and Gintis conclude that school reform, if it is to contribute to a better social order, 'must be part of a more general revolutionary movement – a movement which is not confined to schooling, but embraces all spheres of social life'.[87]

In more recent writings, Bowles and Gintis modify the analysis above. They take a more subdued attitude towards social transformation: 'We took it as obvious that a system of democratic, employee-owned enterprises, coordinated by both markets and governmental policies, was both politically and economically viable as an alternative to capitalism. We remain convinced of the attractiveness of such a system, but are less sanguine about its feasibility and more convinced that reforms of capitalism may be the most likely way to pursue the objectives that we embraced at the outset.' They also note that previously there had been an under-emphasis on 'the value of schooling in contributing to productive employment' and on the pressures operating on schools 'from the democratic polity'. A more important shortcoming, they suggest, is that they 'neglected to devote much attention to how economic systems other than capitalism might better facilitate the achievement of the enlightened objectives of schooling'.[88]

What has remained unchanged in the Bowles–Gintis analysis is the passivity towards the role of education in society that emerges from their methodology: if in 1976, educational transformation 'must be part of a more

general revolutionary movement', in 2002, it will emerge from speculation on how non-existent 'economic systems other than capitalism' might better facilitate the achievement of the enlightened objectives of schooling. We have seen this approach to social transformation before in Part I, as socialists veered between a 'nothing less than revolution' political approach and a quietist attitude towards social change. For the Bolsheviks, a real revolution involved a complete transformation of the capitalist base of productive relations in society in accordance with the dictates of the technocratic planning paradigm, a strategy that resulted in the revolutionary adventurism of collectivisation and the first five year plan. In Britain, on the other hand, this very base–superstructure dichotomy generated a curious passivity: focused on the base of productive relations and the issues surrounding nationalisation, only half-hearted reforms were effected in the educational and social structure by the post-1945 Labour government in Britain. For Bowles and Gintis, the most prominent socialist intellectuals in the US to have focused on education, the traditions and methodology of socialism led them to stand on the sidelines as the most ferocious of culture wars was fought out between left and right, and within the left, on the substantive nature of educational activity.

By contrast, intervention into the education wars by the cultural left produced not passivity, as in Bowles and Gintis, but adventurism. An emblematic example was the famous book *Deschooling Society* of 1971 by the radical Catholic theologian Ivan Illich. In ringing and uncompromising terms, we read that 'We cannot begin a reform of education unless we first understand that neither individual learning nor social equality can be enhanced by the ritual of schooling. We cannot go beyond the consumer society unless we first understand that obligatory public schools inevitably reproduce such a society, no matter what is taught in them.'[89] Illich suggests that the goals of schooling are conceived, at least for the children of ordinary people, as preparation for 'the world of work': 'From the beginning of [the twentieth] century, the schools have been protagonists of social control on the one hand and free cooperation on the other, both placed at the service of the "good society", conceived as a highly organized and smoothly working corporate structure. Under the impact of intense urbanization, children became a natural resource to be moulded by the schools and fed into the industrial machine. Progressive politics and the cult of efficiency converged in the growth of the US public school.'[90]

Illich's libertarian design for de-schooling society superficially appears to have affinities with Hayek's abjuration of planning: 'The contemporary ideal is a pan-hygienic world: a world in which all contacts between men, and between men and their world, are the result of foresight and manipulation. School has become the planned process which tools man for a planned world.' His solution, however, is a spontaneous coordination based, not as in Hayek, on self-interest, but upon good will, in a world 'that has lost its

humane dimension and reacquired the factual necessity and fatefulness which were characteristic of primitive times'.[91] Illich's scheme centres on the abolition of compulsion: 'To deschool means to abolish the power of one person to oblige another person to attend a meeting ... [Schools would be replaced by] educational networks, [which] would require some designers and administrators, but not in the numbers or of the type required by the administration of schools. Student discipline, public relations, hiring, supervising and firing teachers would have neither place nor counterpart in the networks I have been describing.'[92]

Illich is advocating a system in which access to classes would be free or purchased with educational vouchers. The advantage of 'a system of tuition grants such as that proposed by Milton Friedman and others' over traditional schools is that '[e]ven if they attend equal schools and begin at the same age, poor children lack most of the educational opportunities which are casually available to the middle-class child. These advantages range from conversation and books in the home to vacation travel and a different sense of oneself, and apply, for the child who enjoys them, both in and out of school. So the poorer student will generally fall behind so long as he depends on school for advancement or learning. The poor need funds to enable them to learn, not to get certified for the treatment of their alleged disproportionate deficiencies.'[93] In this new arrangement, by contrast with traditional schools, students learn what they need to know: 'Fundamentally, the freedom of a universal skill exchange must be guaranteed by laws which permit discrimination only on the basis of tested skills and not the basis of educational pedigree.'[94]

Illich's system is naïve and absurd. For adults desirous of mastering the kinds of skills mentioned by him, such as learning to become a chef, such networks already exist, and the problems of credentialism are, relatively speaking, minimal: adult students, especially if they are fee-paying, will not be satisfied with a diploma that does not endow them with the skills to prepare a restaurant meal. None of these examples, however, begins to address or rectify the issues surrounding objective standards versus decentralised, flexible learning approaches in childhood learning, nor the role of credentials in so-called higher-level disciplines, such as Illich's own PhD in history. Nothing in this voucher scheme really helps to alleviate a central issue of concern for Illich – how can we rectify the low levels of achievement that schools generate for children from poor backgrounds? Voucher systems, in the period since the publication of his book, have been sometimes supported by poor families, and by those advocating for the poor, as a mechanism for dislodging the entrenched patterns of failure in the schools frequented by poor children. Overwhelmingly, however, voucher systems have proved to be applications of a right-wing faith that the market would generate improvements in school performance without the need for additional resources, the poor locked in an unequal battle with middle-class

parents in terms of their ability to monitor and evaluate school performance and their potential flexibility and physical mobility in dealing with alternative choices.

Illich, like the contemporaneous radical libertarian philosopher Robert Nozick (to be discussed in Chapter 10), wakes up to find himself in bed with right-wing acolytes. For all of Illich's complaints about the poor pay of teachers,[95] his scheme for teachers to be paid according to the number of pupils they can attract for any full two-hour period[96] poses the possibility of returning the status of teachers to the low level of supplicant common in the Middle Ages, or in the *shtetl*. Illich's central problem is that his assertion of the need for free choice in education is not relevant to children; his prose seems to show no recognition of the fact that the needs and the capacity for free choice and rational decision making are different between children and adults. Perhaps because of his own elite background, Illich fails to understand the central role that educational and related institutions can play in the first years of life in the formation of a personality equipped with sufficient knowledge about the range of personal opportunities, and about the world in general, to make free choice meaningful.

His own work remains important, not because of his fruitless pursuit of a substitute for schooling, but because of his vision of what education should be – a process of 'engendering a life-style which will enable us to be spontaneous, independent, yet related to each other'[97] – in other words, equipping us with those very capacities for free choice and decision making that would be prerequisites of Illich's convivial society.

Also representative of the radical tendencies of the 1970s was the British free school Summerhill, a private school famous for its absence of curriculum and compulsion, and with a salacious notoriety for its laissez-faire attitude towards students' personal, including sexual, activities. The school itself, founded in 1921 and functioning up to the present day (having received a satisfactory OFSTED[98] report in 2007), serves a self-selected elite and is of no great significance. The public perception that Summerhill was a radical extrapolation from progressive, Deweyist tendencies has done the latter no favours. Attempts at radical anti-curriculum reforms among the broader population, however, with a special focus upon deprived children, have had unfortunate consequences:

> an educational philosophy of 'do your own thing' was the worst possible prescription for poor children, because it left to their own devices the very children who were most in need of purposeful instruction. Poor children in classrooms where teachers "facilitated" instead of teaching were at a terrific disadvantage as compared to privileged children who came from homes where educated parents read to them, took them to museums, surrounded them with books, and supplied whatever the school was not teaching. There were no such protections for poor kids.

> If the school did not make the effort to educate them, no one else was likely to. The radical idea that poor kids should be left free to learn or not was a large gamble with their lives (the gamblers were upper-middle-class graduates of prestigious universities). This laissez-faire approach to education was an abandonment of the fundamental promise of public education to provide social equality.[99]

We thus observe a range of left responses to challenges posed by mass education in the twentieth century, many of which proved to be highly dysfunctional – either a passivity rooted in a traditional base–superstructure view of society, in which educational reform awaits changes in the fundamental power relations of society, or an adventurist approach little connected with the needs of the great mass of the population. The influence of the base–superstructure configuration pervaded socialist regimes of all kinds, most blatantly in the context of the post-Second World War Labour government of Clement Attlee, with its sidelining of educational reform. But even when socialist regimes engaged in extensive initiatives in the field of education, as in the case of the communist regimes of the Soviet Union and Eastern Europe, they were subsidiary aspects of strategies for industrial development and the inculcation of Stalinist worldviews; for a range of social democratic regimes, education was largely conceived of as an aspect of general social welfare provision, along with housing and health provision, to ameliorate deprivation.[100] In all of these cases, the combination of the necessity to alleviate the desperate material needs of the population with the presence, explicit or implicit, of a perception of society linked to a base–superstructure configuration meant that education was never a focal point of social transformation for left-wing regimes.

In the twenty-first century, this pattern may have changed. Critical, largely left-of-centre engagement in the education wars has had three components. First has been an emphasis on the role of economic and social equality as a complement and concomitant to successful educational programmes, to be discussed in Chapter 10; second has been a focus on the importance of early childhood development, to be considered in Chapter 11. Third, dissenters from the market-based consensus have been using substantive examples of successful, largely social democratic educational systems to counter the reforms that dominate present-day public policy: Finland has served as a particular focal point.

Finland has caught the world's attention due to its placement since 2000 at or near the top of the world PISA rankings (see Chapter 6); in recent years, its rankings have declined somewhat vis-à-vis a group of mostly Asian countries, though they remain well ahead of those for the US and the UK.[101] The focus on the Finnish model because of test results is tinged with irony, since it is a system that downplays the centrality of testing and ranking: for Pasi Sahlberg, a key figure in the Finnish Ministry of Education and Culture,

Finland's approach is in contrast with that of the Global Educational Reform Movement (GERM), which involves '[m]aking schools and teachers compete for students and resources and then holding them accountable for the results (student test scores)... [which has led to education becoming] a commodity where the efficiency of service delivery ultimately determines performance'.[102] The irony is more apparent than real, since most observers agree that the PISA tests serve the useful purpose of giving a rough picture of the worldwide distribution of educational standards and achievement, with similar tests playing a comparable, and necessary, role in large, heterogeneous national educational systems, such as that in the US. By contrast, Sahlberg's critique of the GERM is less against centralised testing per se than the role that testing plays in transferring models from the corporate world by making teachers redundant and closing down schools that fail to achieve prescribed targets, in simulation of a competitive market economy.[103]

Sahlberg's objections to the GERM are both on humanistic grounds ('The current culture of accountability in the public sector as it is employed in England, North America, and many other parts of the world often threatens school and community social capital; it damages trust rather than support it'),[104] and more pragmatic ones: using the counterexample of the Finnish system and its international test results, it is evident to him that GERM is not the best way to proceed with educational reform ('None of the best-performing education systems currently rely primarily on... education policies that advocate choice, competition, and privatization as the key drivers of sustained educational improvement').[105]

Finland's success has nothing to do with disproportionate inputs into education – indeed, it is below the US and UK in terms of expenditure on education per pupil and the length of the school year.[106] And despite the indubitably justified protestations made by Sahlberg that Finland makes important interventions into early childhood development, formal education there, as in much of continental Europe, does not begin until the age of seven. In Finland, the world outside the schoolroom appears not to be so lethal, even for poorer children, as to force a lengthening of the school day and year merely, as suggested above by *The Economist* in the case of academies in the UK, to 'keep kids out of trouble'. In the next chapter, forms of learning outside of the classroom – *in situ* – will be examined as they take place in the general society in which individuals from their earliest years absorb and emulate the norms, skills and habits of the general culture and, at a later stage, engage with the work process. Without deep pockets of exclusion dictated by poverty, economic equality thus helps to promote *in situ* learning through the presence in the general society of a common culture that is absorbed outside of the classroom.

Two aspects of the Finnish educational system are of especial interest. The first of these is the exceptionally high standing given to the teaching profession. In contrast to the GERM tendencies to make teacher remuneration

and employment insecure and contingent on student test results, Sahlberg suggests that 'Many Finnish teachers have told me that if they encountered similar external pressure regarding standardized testing and high-stakes accountability as do their peers in England or the United States, they would seek other jobs.'[107] He reports polls placing teachers higher in status than medical doctors, architects and lawyers. With secure tenure, teaching hours well below the OECD average and systematic classroom training, the Finnish teaching profession can choose from among the highest-quality graduates and can demand MA degrees in upper-level subject specialisms, even though salaries are ordinary by OECD standards. The popularity and prestige of the teaching profession in Finland should not be surprising: elite private schools in other countries can also attract highly qualified staff with ordinary levels of remuneration in the presence of good working conditions, as will be seen in Chapter 11. The treatment in Finland of teaching as a profession and its apparent success contrasts markedly with Taylorist tendencies that dominate market-based reforms in many countries.[108] This contrast, and the apparent success of the 'Finnish way' in these matters, is of significance both for education and for the discussion in Chapter 12 of working life in the twenty-first century.

A second notable aspect of the Finnish system is the absence of streaming ('tracking') as a key aspect of the reforms: 'The central idea ... was to merge existing grammar schools, civic schools, and primary schools into a comprehensive 9-year municipal school ... . All students, regardless of their domicile, socioeconomic background, or interests would enroll in the same 9-year basic schools governed by local education authorities.'[109] Education after this period is optional, with students choosing between academic and vocational high schools. As we shall see in Chapter 11, academic research indicates that delays in, or absence of, streaming contribute to successful educational outcomes overall, promoting equality of educational outcomes and the reduction of the role of family background in student performance; in addition, relatively late subject specialisation and breadth of initial training help to maximise the acquisition of transferable skills and contribute to individual mobility and flexibility in the workforce.[110]

Finland thus appears as a leader and successful representative of an educational strategy embodying the absence of streaming, freedom of choice, and late subject specialisation – all components of any socialist educational strategy for the cultivation of social equality, individual freedom, flexibility and security. The Finnish case is of particular interest because its present success is apparently linked to specific policies initiated since the 1970s rather than the presence of deep-seated cultural advantages. For Sahlberg, present-day Finnish eminence in the educational domain can be accounted for by the successful channelling, in the context of specific policy initiatives since the 1970s, of societal resources so that 'by the end of the 1990s, [Finland] became a world leader in reading, science, and math ... [a] shift

from an elitist and socially divided system of education onto the most equitable public education system in the world'.[111]

But, however encouraging the success of a system giving high status to the teaching profession and promoting equality in education, questions remain concerning the lessons to be learned from the Finnish experience for other nations and for a socialist approach to educational issues. A lack of streaming and differentiation may well have promoted, in the Finnish context, equality of educational outcomes, but for societies starting out with greater levels of inequality than had existed in Finland in their period of reform, such strategies may not be readily available. As we have seen above, when an attempt was made to impose a uniform academic curriculum on state schools in the UK, the programme ran into broad opposition because of its lack of suitability for many students (children from deprived backgrounds could not cope with, or were alienated from, a thoroughgoing academic curriculum) and what was perceived to be the necessity of focusing on a narrow band of subjects to make it viable. Can it be, then, that the causation from lack of streaming to greater equalisation of outcomes may, in part, have a reverse component, whereby a more equal society (such as Finland), with less variance in the life experience of children upon entering school, makes a lack of streaming a plausible and even economical strategy, while it is non-viable in the UK or the US?

And if the socialist goals of education are to be an equal opportunity for self-realisation and full development of personal capacities and not a mere equalisation of opportunities, it is impossible to ignore the reservations from the business class in Finland, and even more so from middle-class parents in the UK, about the lack of streaming in the Finnish system: how do you permit the full realisation of individual excellence in such a context, most especially in subjects such as mathematics, dance and music, where early exposure and intensive development may be critical? Will not affluent parents be tempted to find private tuition to satisfy a child's intensive focus in some such area? If the goal of a socialist educational programme is not equality of outcomes per se but the realisation of each child's potential, then Finland's educational system is likely to be only a very partial realisation of this aspiration.

Sahlberg suggests that the system emphasises individual attention and student counselling, but the resources available for such activities are clearly limited in a system that proudly boasts that its expenditure per student is below the OECD average: if 40 per cent of students in Finland opt for non-academic study when given the opportunity (after nine years of schooling), can we be certain that such decisions represent genuine free choice on their part, rather than resulting from insufficient attention being devoted to children who stumbled or found themselves alienated from their academic studies, perhaps because of the residual aspects of class background acting upon children's aspirations and achievement in the school environment?

Finland has become a focal point for the opposition to market-based reforms, its Dewey-inspired model finding support even among critics of this philosopher's influence on educational systems: 'from an American perspective, Finland is an alternative universe. It rejects all the "reforms" currently popular in the United States, such as testing, charter schools, vouchers, merit pay competition, and evaluating teachers in relation to the test scores of their students.'[112] The danger exists, however, that in the process of battling against these market-based strategies, attention is distracted from the goal, one realisable in the context of rich countries, of an educational system in which children have the opportunity to develop their personal capacities fully. The setting of Finland as a left-wing standard, with its rejection of testing as a means to judge, discipline and sift schools and teachers, may distract attention from the construction of more radical strategies for educational excellence, which go further, and also forego the use of testing to judge, discipline and sift students. Finland's path is suggestive of how to proceed, and of how social and economic equality acts as a facilitator of successful educational development. But however salutary its example, Finland is a small country buffeted by an international context generating economic instability and increasing inequality, and it would be inappropriate to impose upon this nation the burden of solving all aspects of this most fundamental question concerning the future of human civilisation.

And since attention was originally devoted to Finland because of its success on international test scores, it is upon the latter, pragmatic objection to the GERM that other critiques will dwell, to fade if Finland's international testing success should ever recede. There has recently been a focus on problems with Finland's test score results: its success in minimising between-school variation is matched by the highest within-school variation with respect to students' mathematics (PISA 2003), science (PISA 2006) and reading (PISA 2009); second, Finnish grade 8 students have performed modestly on the two TIMSS (Trends in International Mathematics and Science Study) rounds in which Finland has participated. One study suggests that Finnish performance on PISA 'is an enigma', with classroom observations 'more likely to explain Finland's modest grade 8 TIMSS performance than its well-publicised and repeated PISA successes'. Furthermore, Finland's achievements in minimising levels of between-school variation in PISA tests 'may not be a consequence of the quality of classroom interactions but a complex and partially understood interaction of curriculum and culture'.[113]

A key reason why the debates over the Finnish educational system have taken on the character of a left–right conflict is the long-term role of Nordic countries as standard-bearers for economic equality, most especially in contrast to the US and the UK. Since Finland's high average test results emerge from the low level of variance in these results across schools, regions and students, it is plausible to associate this success with its low levels of poverty, an issue to be engaged in Chapter 10.[114] But egalitarian Norway has

not registered the kind of success that Finland has had in the PISA races, and Finland's own emergence as an exceptional performer only took place in the 1990s as a result of a series of reforms instituted in the 1970s: there are no simple stories to be obtained showing a mechanical relationship between national educational success and income equality. Above-average levels of economic equality, as in the Finnish context, prove to be a facilitator, but far from a sufficient condition for the creation of a successful educational system.

## A missing element

Marx's most visionary writings emphasise that emancipation from capitalism involves movement away from labour power as a commodity to a situation in which human beings exist as ends in themselves. The concept of human capital does nothing to address Marx's concern that the overwhelming mass of human beings in capitalist society function in their working existence as objects to be used in the process of capitalist production. But even if we put such considerations to one side, concentration on individual decision making in human capital theory is a distraction from the fact that the most important forces shaping human development take place in a social context. Thus, the compulsory school environment that a child confronts is linked to a range of political and social decisions made long before the child was born, decisions whose impetus came from both economic and non-economic motivations. Furthermore, non-formal varieties of learning exist in society, including the work environment, as well as those cultural aspects that have cumulated over generations, partially through the external effects of learning. The integration of these influences, as well as the class and family background of the individual under consideration, are decisive aspects of one's educational formulation and take place in a context far removed from individual decision making and, in many cases, long before any personal decisions about elective education.

Individuals not only plan, but are shaped as individuals by an environment that is, to a substantial extent, the product of societal decisions. Households make crucial decisions about the development of human assets, and we must offer them an analogous set of considerations to those conventionally given to capitalists as planners. Thus, at the heart of mainstream analyses of the origins of capitalism is an examination of the role of property rights in capitalist development. As noted in Chapter 1, Douglass North and others, following on from a well-developed literature from Marxist historians, have emphasised the role of the presence of secure property rights and a constrained role for the state to create the kind of environment conducive to the investment and risk taking necessary for capitalist development. But if working people are to be viewed not as commodities but as planners, with a forward-looking perspective for themselves and their children, it makes

little sense, either for the individual or for society as a whole, to impose upon them a form of unlimited liability that makes household planning impossible.

And yet such demands are increasingly being made upon working people, when they are called upon, in the name of flexibility, to abandon accumulated skills and life plans in response to transitory economic conditions, or to accommodate themselves to unemployment in their sector of work in the name of creative destruction. Pressure from employers for practical, applied and 'relevant' education for the great mass of the population is likely to continue, despite the tendency of such forms of education to create a workforce that is inflexible – unable to respond to changing economic and social conditions and to plan working careers in a reasonable way because of a limited and overly focused skill base. For a broad range of free-market theorists, just as business cycle downturns are part of the process of creative destruction that can play a productive role in reallocating physical capital to its most productive use, unemployment is viewed from the perspective of labour as a commodity, with disappointed expectations merely part of the market process of incentives, rewards and creative destruction. The notion of individuals and households as planning entities leaves open the possibility that such forms of disruption to the continuity of material life may be not only inhumane, but inefficacious for long-term economic development.

Once humans are taken seriously as capital assets, albeit assets that attempt to plan their own destinies, a disinhibited approach to laying off workers in downturns can have long-term negative effects on labour productivity. These negative long-term consequences can emerge through the absence of work-based learning for young workers and the deterioration of accumulated skills for older ones,[115] with worker insecurity about employment interfering with life planning. From the perspective of human beings as capital assets, cutbacks in consumption by the poor can be very different in their developmental effects on society from a reduction in consumption by the affluent: in the former case, life planning and the household security that underpins it can be put into disarray by any such constriction.

Considerations surrounding income distribution cannot, therefore, be framed simply as a trade-off between equity and efficiency, because high levels of inequality, rather than invariably promoting efficiency through the creation of material incentives, may inhibit wealth creation by deranging attempts at household planning. Thus, a missing element to be explored in the following chapters is the interaction between the social environment and the household in its capacity as a planning entity.

# 8
# The Working and Living Environment

In Chapters 6 and 7, we found ourselves with a narrative in which formal education facilitates economic development. In Part III, it simultaneously acts as a vehicle for personal realisation, the expansion of democratic participation and control of decisions in the modern world. But a narrative based exclusively on formal education would be overly simplistic, with an implicit acceptance of a hierarchy of learning 'between the mode of transmission [of knowledge] in a technical society, with its schools, and an indigenous one, where cultural transmission is in the context of action'.[1]

The economic and social history of the Western world has continued to belie this simple dichotomy between higher forms of knowledge taught in schools and more practical forms of learning. Formal education has, indeed, grown in the prominence it occupies in both the personal and the working lives of individuals and society. In absolute terms, however, individual psychological and intellectual formation continues to be subject to predominant influence from the family, with the working environment and societal influences playing a significant role in learning. The influence of family, the working environment and the broader society is invariably conditioned by class background.

A socialist strategy for human liberation, one that is congruent with the exigencies of the functioning of a modern economy, cannot merely consist of policies entailing universal and equal access to formal education from the earliest years. Associated, concomitant and complementary aspects involve opportunities in the working and living environment for all as participant and decision maker: the socialist future of humankind involves not only formal education but equality and democratic control in society, with the work environment embodying rich opportunities for learning.

Contemporary trends, however, appear to be moving in the opposite direction. Increasing gaps in income and wealth are dictating a fragmented assimilation of the *in situ* knowledge that can be gained simply by living in an advanced economy, and learning in the workplace has been inhibited by the emergence of high levels of unemployment, especially among young

people. The growth in inequality in the present day, and the concomitant rise in household insecurity, have inhibited or even derailed long-term household planning of human assets and processes of democratic control. It is in such a context that new socialist strategies must emerge.

This chapter highlights the centrality of learning outside the context of formal education for both individual and national economic development. Most specifically, it focuses upon the role of the workplace as a context for learning and the household as a focal point for planning and skill development. These forward-looking activities are facilitated by the presence of household security rather than an environment of creative destruction.

## Learning in the working and living environment

Formal education accounts for only part of the process of the acquisition and dispersion of economically relevant knowledge and skills. The terminological distinction between unskilled and skilled labour has a strong element of social evaluation by embodying the invidious distinction between hand and brain work.[2] In reality, the productivity of even supposedly unskilled labour is contingent upon the human resources that workers bring to tasks as a result of their background, so that much factory work in the past and at present has been dependent on the strength and dexterity of former peasants. In the contemporary world, the advantages accruing to the inhabitants of rich nations extend beyond their acquisition of high levels of formal education; they also embrace a set of implicit or *in situ* advantages simply as a result of growing up, working and living in a leading economy.

In the present day, one-sided policy approaches to human development are common, most especially the doctrine 'if you educate they will come'[3] – a (formally) educated workforce is often held to be the key to attracting investment, both domestic and foreign, with educational policy playing a central role in regulating long-term economic growth and income distribution. But if the working environment itself plays a key role in the learning process, should we rely on whether 'they' (as domestic or international actors) decide it is worthwhile to invest and make jobs available to the population? In reaction, we observe from Ha-Joon Chang a 'just do it' philosophy:

> What really distinguishes the rich countries from the poorer ones is much less how well educated their individual citizens are than how well their citizens are organized into collective entities with high productivity ... Education is valuable, but its main value is not in raising productivity. It lies in its ability to help us develop our potentials and live a more fulfilling and independent life.[4]

Chang's reaction against the widespread education-as-panacea doctrine is salutary, but unreflective of the experience of his home country South

Korea, whose world-historic emergence from poverty emanated, as we have seen in Chapter 6, from a powerful fusion of formal education with industrial policy acting in a complementary manner. In the worst manifestations of an exclusive focus on the industrial aspect of such a strategy, as we shall see below, already developed countries may rely upon their possession of advanced enterprises and sectors to presume an inherent and unshakeable superiority of their 'know-how' that obviates the need for the cultivation of abstract and formalised knowledge.

Overall, however, Chang's emphasis on active engagement in underwriting employment and industrial development rather than waiting for 'them' to invest is supported in the discussions in the chapters to follow. A key (largely implicit) presumption driving Chang's approach is the importance given to the role of *in situ* learning in economic development, in this case learning that emerges from working in the context of 'entities with high productivity', as opposed to formal education. The general notion that there exist whole other domains of learning outside of formal education – here dubbed *in situ* – represents, in truth, a bigger challenge to the education–growth story than any claim dismissing the economic role of formal education in the modern world.

When *in situ* learning becomes an important part of the narrative of economic development, a whole host of important issues needs to be reconsidered. In evaluating the role of the great inventors and innovators of the Industrial Revolution in Britain, opinion among economic historians has moved on from the notion that these practitioners were mere tinkerers, the inheritors of a practical tradition of mechanical engineering from the late Middle Ages. In fact, many of the inventor heroes of the First Industrial Revolution, such as James Watt and George Stephenson, had links to the artisan tradition, but felt the need to supplement this practical knowledge with self-acquired scientific literacy.[5] A widespread recognition has emerged of the importance of these innovators' absorption and adaptation of elements of the abstract achievements of the scientific revolution beginning in the seventeenth century, in which Britain had played, and was continuing to play in the nineteenth century, a central role. Thus, even if the executors of the First Industrial Revolution were not themselves individuals with scientific training in the modern sense, it is hard to dissent from the notion that 'The mechanics, ironmongers, and chemists who are responsible for the technological advances of the age ... moved in a milieu in which the effects of the Enlightenment were pervasive ... the Enlightenment was the reason why the Industrial Revolution was the beginning of modern economic growth and not another technological flash in the pan.'[6]

The social basis of the ability of these practical innovators to absorb aspects of the new science was the fact that, as we have seen in Chapter 6, Britain emerged into the early modern period with levels of literacy and general educational achievement that were exceptionally high by European

standards, even if they appeared to stagnate during the Industrial Revolution itself. There is a convincing flavour to recent research suggesting that, in general, achievements in literacy in Britain and other Protestant countries account better for their relative success as vehicles for capitalist development than do Max Weber's claims of an exceptional work ethic among Protestants.[7]

Are, then, great industrial revolutions simply the fulfilment of a top-down strategy? In such a view, the First Industrial Revolution was engendered by the creations of an elite group of enlightened practitioners, which were complemented by an accelerated exploitation of a homogeneous, unskilled workforce, as in Marx's notion of the original accumulation of capital in Britain. More generally, this approach would suggest that industrial revolutions take place when an innovative elite imposes a regime of creative destruction that obliterates existing sectors and replaces them with new ones, in the process making workforce skills obsolescent.

The record, on the contrary, shows that these great revolutions entail a process of building on initial advantages that are broad-based in the economy and society. The economic historian Robert C. Allen concedes that the industrial enlightenment described above – intellectual developments involving a dispersion of earlier scientific achievements in Western Europe[8] – may well have been a prerequisite for the First Industrial Revolution. But this revolution's substantive provenance in Britain, as opposed to, for instance, France, was due to the fact that Britain was, in contemporaneous terms, an already highly developed economy. In the presence of a rich array of technical specialists, the exceptionally high wages (and abundant energy sources) already in place induced the innovation of the range of labour-saving (and energy-using) devices associated with that revolution. Even strong advocates of the top-down industrial enlightenment view suggest that 'Britain was ... fortunate to possess a class of able and skilled people, larger and more effective than anywhere else ... the high quality of workmanship available to support innovation, local and imported, helped to create the Industrial Revolution.'[9]

Thus, the notion that newly emerging capitalist countries were faced with the straightforward task of creating a malleable, homogeneous proletariat suitable for capitalist development has been questioned in recent years. This tendency has been reinforced by a reconsideration of the role of guilds in the maintenance and transmission of skills in early capitalism. Clearly such a review is overdue, since this stylised view of capitalist development never accorded well with what was known to economic historians, where even the vanguard industries – the cotton mills, and later the railways and shipyards – had their machines maintained and repaired and had key inputs supplied to them by groups of skilled workers organised in groups resembling, and often with residual ties to, traditional guilds: 'Given the frequent assertion that skilled craftsmen and innovators played a crucial

role in initiating the Industrial Revolution, there is surely some value in enquiring how this pool of skilled labour was created. This is all the more the case because according to one estimate, in the late sixteenth and seventeenth centuries roughly two-thirds of the English male labour force had at one time or another been apprenticed in one of the greater cities, primarily London.'[10] The tenacity with which craft unions and guild-like groups were able to maintain their influence well into the twentieth century, despite intense employer opposition, is testament in part to the importance, even in conditions of mass production, of this supposedly atavistic phenomenon. This issue has continued resonance today in discussions over vocational education.

In the nineteenth century, continental European nations, still overwhelmingly rural, that wished to match the British industrial achievement found the need to compensate for the *in situ* advantages of a British population already imbedded in the employment fluidity and money-based economy of urban life, as well as the discipline and time keeping of the factory. The great thrust to predominance of the US in the late nineteenth and early twentieth centuries was also reliant in its early phases on the skills acquired by technical specialists and managers from working in an already (relatively) developed economy; this high level of *in situ* skill development was then reinforced by the great advances in formal education that took place. In Chapter 9, we will see that even the great electronics revolution of the postwar US was less a matter of Schumpeterian destruction of existing sectors than a building on the *in situ* skills embodied in these sectors.

These *in situ* skills play a central role in economic development, a fact that can dramatically affect our conception of what it means for an economic activity to be successful or viable. Thus, in a book notable in the literature of modern economic history, Robert Fogel calculated the social rates of return on railroad construction in the nineteenth-century US and concluded that this construction had been excessive, given the range of alternatives, including canals, that were available; railroad building had been fuelled by the substantial government subsidies offered to this sector.[11]

But somewhat over a decade later, the no less prominent intervention by Alfred Chandler[12] highlighted the pioneering role that the railroads played in the Second Industrial Revolution in the US. As we have seen in Chapter 2, the railroads had to solve not only unprecedented engineering issues, but management challenges as well, in dealing, for instance, with timetabling and coordination. The US railroads responded by creating new forms of management involving a delineation between staff and line responsibilities – the fundamentals of the new management structures of the Second Industrial Revolution. The railroads also appear to be the source for modern cost accounting techniques, engendered by the complexity of the affairs being managed. These developments in the US railroad sector necessitated the cultivation of new skills for both workers and executives

that were eventually embedded *in situ* and became especially relevant to the even more sophisticated Second Industrial Revolution sectors that were emerging.

In other words, the supposedly overbuilt railroad sector proved to be the seed pool for a range of *in situ* skills and techniques that were central to the Second Industrial Revolution in the US. When we consider these accretions to human assets and to the concomitant institutional development into our calculations, is it still true, as Fogel suggested, that the US railroads were overbuilt? The more general issue here is that a focus on *in situ* learning can reinforce a Chang 'just do it' approach as a strategy for economic development. Calculating the value of such *in situ* effects is, of course, difficult, and their supposed presence could be an excuse for an undisciplined approach, in which any project can be justified by its correlative benefits to skill development: such a criticism has frequently been directed at countries pursuing strategies for growth of import substitution. The alternative, however, of presuming that these *in situ* effects have a zero value is also unviable.

Below, the implications of the presence of *in situ* learning are investigated first for real economies, past and present.[13] The nature of these *in situ* advantages encompasses the whole process of economic development, so that the examples offered here can only be suggestive. First, there are important, if elusive, advantages to 'being in the world' in an advanced economy. Thus, Britain's exceptional lead in urbanisation by the nineteenth century compared with most of its competitors gave it a population that had adjusted or was inured to factory life and other aspects of modernity. In contrast to the overwhelmingly rural populations of continental Europe, urban dwellers in Britain were accustomed to a world in which money changed hands for daily bread and a range of the necessities of life. The expectation of most workers in Britain, that they were not bound either morally or legally to a particular job or employer, meant that a labour force appropriate to the needs of early capitalist development was in place. It was thought unnecessary, therefore, to devote undue resources to formal education, as the Germans were doing, to teach British workers things that came 'naturally'.[14] In the interwar US, ordinary inhabitants had more experience than Europeans with the physical paraphernalia of modern life, such as cars – both driving and disassembling them – a fact contributing to the exceptional mobility of the US labour force over a vast expanse. In addition, there was a greater familiarity in the US with the more superstructural aspects of contemporary existence such as finance – home mortgages, buying on credit and bank accounts – all of which prepared the population for the explosion of white collar work in these areas in the postwar world. In more recent times, the entrepreneurial imagination that created eBay in the US emerged from an environment in which internet use was complemented by a culture, already in place, of the aggressive retailing of goods and of consumers accustomed to searching for bargains.

A second, more palpable element engendering *in situ* learning for the residents of an advanced economy has been the greater likelihood, compared with less developed economies, that the individual in question would be working in an up-to-date enterprise. During the Industrial Revolution, the factory played a crucial role in the creation of contemporary working life, with its reinforcement of habits and work routines in the factory – from the machine and the timepiece[15] to the inculcation of work discipline. Modern enterprises have, furthermore, offered opportunities for learning even in low-level activities, so that a receptive high-school graduate working for Wal-Mart in the US received a far better education in the functioning of highly efficacious (if ruthless) retailing and inventory control than his or her counterpart with an equivalent school background working in the traditional retail sectors still existent in many other countries. It was these managerial factors – supply procurement, inventory and cost regulation – rather than the quality of the cuisine, that so impressed Soviet observers when McDonald's opened restaurants during the Gorbachëv reform period. By contrast, workers received, by general consent, good formal education in the school systems of Eastern Europe and the Soviet Union during the central planning period. But when they went out to work in the centrally planned system they received additional 'learning' by working in notoriously inefficient enterprises using obsolescent technologies that were idle much of the time, which then stormed furiously at target points at the end of the month and year.[16] Thus, in centrally planned economies, workers' (and managers') lack of familiarity with and absorption of the habits and discipline of the modern enterprise were likely to make them less productive than their counterparts in the US, even in cases where their school qualifications demonstrated a comparable or higher level of academic achievement.

Advanced economies will also gain disproportionate advantages over their rivals by the very fact of their intimate knowledge of not only the largest, but the most sophisticated markets for consumer and inter-industry goods and services. In the contemporary world, there has remained, contrary to widespread predictions, a significant demand in rich countries for locally based writers of computer software who possess the design skill and business knowledge to service the specific needs of their clients. In addition, the goods and services offered up in rich nations will, in many cases, be harbingers of what will be demanded in lesser economies in the future. In the US in the first half of the twentieth century, 'the mass consumer as target mightily concentrated the collective entrepreneurial mind to turn out more and more inventions of a second order of ingenuity. These were the hallmarks of the United States' fabulous consumer market',[17] with the status of several leading companies such as Coca Cola, even in the twenty-first century, due to little more than the cumulative impact of image building.

Participants in established economies thus possess a range of *in situ* advantages – the learning that comes about simply from living and working in an

advanced-level economy and its associated enterprises, and the gains associated with a large internal market. Perhaps the most formidable obstacles for any potential challengers to established economies are *in situ* advantages embodied within institutions – firms, the financial infrastructure and government bureaucracy. The advantages that emerge in these contexts build on prior human asset and institutional development: the high-level functioning of these institutions further cultivates *in situ* learning for both workers and management, as we have seen above. This co-determination and development of human assets and institutions suggests that, in the present context, one can put to one side the literature posing a dichotomy and rivalry between these two factors for explaining economic development.[18]

Some of the *in situ* advantages of advanced economies will have, however, an inherent tendency to evaporate. Being close to the market in advanced economies reverses itself as less developed economies grow: the emergence of mass cinema production in India and China, for instance, symbolises the ability of emergent economies to satisfy their specific cultural and material needs. In addition, there are several new factors accelerating the deterioration of *in situ* advantages in the present period, and they are of two kinds: those related to the more rapid dissemination of knowledge, and those linked to the ubiquitous presence of the multinational enterprise.

Dissemination of knowledge improved dramatically over the twentieth century, and has eroded the tendency for modernity to be identified solely with the largest enterprises. As we have seen, at the beginning of the twentieth century, a key competitive advantage of giant firms in the US had been their ability to act as monitoring stations for new developments in science, technology and business practice throughout the world. In more recent times, this privileged ability on the part of large, established enterprises in advanced countries to monitor state-of-the-art technology and business affairs has been reduced by developments in the electronic dispersion and storage of knowledge, all factors militating in favour of an increasingly competitive environment both within economies and internationally. These difficulties for large, established firms are exacerbated by the tendency, described earlier, for the rate of diffusion of new ideas to accelerate as the ratio of science- to craft-based knowledge rises, so that it has become easier for newcomers with the appropriate formal education to overcome the obstacles to entry into even (and perhaps especially) high-technology sectors. In such an environment, the role of intellectual property rights in the protection of the wealth of advanced countries takes on an ever greater centrality, as technological advantage is ever more connected with replicable science rather than craft-based mysteries.

A further factor accelerating the deterioration of *in situ* advantages in the present period is linked to multinational activity and the increasingly international orientation of established firms. When Wal-Mart sets up abroad, foreign workers performing day-by-day tasks for their supply chains or

retailing outlets will gain the skills that had formerly accrued only to US domestic workers; the speed of locally based employees' mastery of the techniques of Wal-Mart's software programs for inventory control is likely to be more rapid now than in the days when even sophisticated inventory control in retailing was linked to a craft-based feel for the market.

The increasingly international orientation of established firms also threatens the ability of national economies to retain *in situ* advantages. In earlier periods, the marketing of new products worldwide by the great enterprises in the US was part of a life cycle: they were first offered to the home market, and only in their maturing phases were they marketed abroad.[19] But in the contemporary practice of large firms, it is much more typical, as in the case of the great software producers such as Microsoft, to make a global launch of new products, so that competitive advantages to the home country, and the incumbent *in situ* advantages of its workforce in using this software, are diminished by this process. Such tendencies are both a response to, and a cause of, an increasingly competitive environment. They are reinforced by the contemporary corporate fashion in favour of offering even proprietary items for sale on the market rather than retaining these items for exclusive use (as had been the former practice of IBM with its in-house semiconductor production), a complementary aspect of the practice of vertical dis-integration (out-sourcing). Thus, current corporate practice – the worldwide marketing of goods, including inter-sectoral products such as business software, and the increasing tendency for proprietary products to be marketed – promotes the dissemination of world-class working environments globally, the elimination of advantages linked to the possession of nationally based technologies, and the dissipation of on-the-job learning advantages to employees of advanced economies.

Historically, a common pattern of response to the erosion of *in situ* advantages, from Imperial China in the early modern period to Britain and the US more recently, has been one of denial, only at a later stage evincing alarm at decline, as evidenced in Chapter 7. In early-twentieth-century Britain, dominant groups manifested a disdain for industry as opposed to more gentlemanly pursuits.[20] In the British engineering sector, faced with a decline vis-à-vis the German industry, we find a conviction that learning which results merely from working in a British context (*in situ* learning) will be perfectly adequate, and that technical training is for foreigners: 'interest ... in gaining university technological qualifications ... remained sluggish [before the First World War] ... when the war came, it still grew painfully slowly, in the face of a scarcely diminished confidence in the value of experience'.[21] At both school and university level, Britain was correspondingly laggard in this period in matching the achievements of its chief economic rivals, Germany and the US.

The presence of *in situ* advantages may now be a consideration working in reverse for rich nations. Countries such as the US and the UK have

permitted a rapid rundown of their industrial sectors, with a concomitant loss of well-remunerated jobs that has contributed to a widening of the income distribution within these societies.[22] All this has taken place in the name of free trade and the efficacy of creative destruction; what has also been lost or dissipated is a range of *in situ* skills used in networks of complementary activities in these industrial clusters. It is highly implausible that advanced countries can successfully respond to these losses by the creation of planning zones and production networks in imitation of the export-led development strategies of a range of Asian economies; US manufacturers such as Apple no longer even pretend that domestic production is a serious consideration.[23] For nations that have lost manufacturing capacity, undoing these declines will be a long process, and is perhaps irreversible: as we have seen in Chapter 6, even a residual specialisation in the innovative aspects of manufacturing becomes difficult in the absence of a successful interaction between skills in the manufacturing sector and those linked to research and development.[24]

An implication of the discussion above is that the creative destruction strategies pursued by the Thatcher and Reagan administrations and their successors from the 1980s to the dawn of the new century were dysfunctional. In both countries, these policies were initiated with high levels of unemployment and characterised by a pronounced rise in inequality that weakened living-in-the-world *in situ* development for large sections of the population, with the decimation of whole industries writing down the value of work-based learning in these sectors; the insecurities engendered by these policies upset the ability of many households to formulate long-term plans and develop their human assets. This general perspective will be defended below and in subsequent chapters.

There is, however, an alternative view of these developments. For both the US and the UK, the period under consideration, especially the 1990s, was one of indubitable success in GDP growth,[25] with the US maintaining the elevated economic position of its multinational enterprises, most especially in areas of high technology.[26] A key role was played by financial markets in the US: their size and sophistication, and their proximity to productive and technological capacity in the US and to consumer markets, made them a magnet for capital worldwide. The financial sector was crucial 'not only in pushing so-called "inefficient" firms out of business, but also in supporting risky but innovative startups through the US's unique venture capital markets, whose disbursements grew tenfold in the 1980s alone'.[27] The package of policies embodying creative destruction, union busting and financial deregulation in both the US and the UK thus appears to have been a great success.

The question arises: a great success for whom? As we shall see in Chapter 10, the rises in inequality in both countries over this period bring into question whether the putative gains have reached more than a

small section of the population; more generally, we may question whether growth in GDP is an appropriate metric for judging economic success. For the US in particular, real hourly earnings have been stagnant for large sections of workers.[28] Furthermore, the policies of financial deregulation pursued in both the US and the UK are widely regarded as having been central to the generation of the economic crisis of 2007–8 and the subsequent stagnation in the US and worldwide. Whether the above strategy can serve as a model for other nations is contingent on the extent to which the attraction of resources from the rest of the world – financial capital from Europe to the US (at least partly because of the greater malleability of labour markets there), as well as foreign-born graduate students in science and engineering – are part of a zero sum game that not all nations can emulate simultaneously.

This economic strategy and the economic policies associated with it also generated winners – vested interests in favour of a neoliberal strategy for economic development. They are likely to use every intellectual and rhetorical weapon at hand to defend such policies. One class of such devices involves a focus on national competition for survival: it may take the form of the need for competitiveness with other nations (an issue discussed in Chapter 10), or, more primitively, it may use the device of focusing blame on other nations, as in the case of conflicts between countries over the (mal)functioning of the European single currency, which is commonly approached by attributing the difficulties experienced to the feckless Southern Europeans. Other common devices direct attention to domestic residents as the cause of all problems – the unemployed, those on public assistance and immigrants. But in the context of a rising share of top-end incomes, it is becoming more difficult for those with power to make demands for financial probity in the form of cutbacks to public services under the rubric of equal sacrifice.

The dominant neoliberal strategies have thus tended to be of benefit to, at most, a highly restricted group within society. Such strategies may, in fact, not be viable in the longer term because of the instabilities they inherently generate; they may also provoke social and political conflict both between and within nations. In the discussion below and in subsequent chapters, however, the focus will not be upon a critique of how these policies exacerbate economic instability. Rather, starting from a positive focus on broad-based human development linked to household security and equality of opportunity, neoliberal policies are, rather, seen as factors interfering with the ability of households and the individuals within them to make long-term plans for the development of their human assets. The mortgage debts linked to the economic crisis of 2007–8 are thus seen as symptomatic of this economic insecurity, with the looming crisis of student indebtedness in various countries even more directly an indication of the blockages to human development in the present-day economy.

## Employment and training

The significant rises in levels of unemployment since the economic crisis of 2007–8 have generated a renewed urgency for the pursuit of policy approaches to deal with this problem. The issue to be addressed here, however, is of a more long-term nature. In Chapter 7, a key component of economic development is seen to be the expansion of formal education. The consideration here, by contrast, concerns the role of work experience in the *in situ* learning process,[29] so that rises in unemployment, and especially youth unemployment, incumbent on the crisis of 2007–8 pose a threat not only to social stability and well-being but to the human component of long–term economic development.

In the OECD, unemployment rates have been around 7 per cent, with rates in the US and UK at about 5.5 per cent; only Japan, among large OECD countries, has maintained a rate well below 4 per cent. The European Union and the euro area generate the highest registered unemployment rates among rich countries, with rates of almost 10 and over 11 per cent, respectively; Germany is the exception among large European economies, with unemployment falling to under 5.0 per cent.[30] In most OECD countries (Germany being an exception among large countries), these trends have been accompanied by significant rises since 2007 in the share of those unemployed for 12 months or more. Long-term unemployment especially creates the risk that the skills of the unemployed population – their stock of human assets – will be run down and that employers will treat workers as damaged goods. The recognition of this possibility in the economics literature concerning the hysteresis effect is a rare instance of the treatment of labour as other than a commodity, and has profound implications for the costs of unemployment to society.[31]

Present-day labour market conditions are especially unfavourable to young and low-skilled workers, who face severe difficulties in entering employment and finding stable and decently paid jobs.[32] It is often claimed that such problems are exacerbated by established, unionised workers whose presence and interests will be dominant in collective bargaining,[33] so that 'unions may have helped to prevent increased earnings inequality, but ... largely at the cost of greater unemployment'.[34] In a related issue, it appeared to be orthodox doctrine as of a few years ago that deregulation of labour market institutions and wage flexibility were 'the keys to economic success',[35] with the latter identified with economic growth. Policies to weaken unions and introduce labour market flexibility are easy to dismiss in the context of the role they play in the exacerbation of inequality, but it is useful to pursue this question further.

It is difficult to make a straightforward comparison of relative success in mitigating unemployment in the market-driven US labour system compared with the EU, with its stronger employment protection legislation

and greater union influence. US success in unemployment vis-à-vis Europe only emerged after 1990, with the problems surrounding German unification: prior to this date, European protection of existing jobs proved to be of greater weight than any weaknesses in job creation.[36] In the last decade, the issues surrounding the European single currency and the widespread financial crisis of 2007–8 have further exacerbated the difficulties in isolating the role of labour market institutions in generating or mitigating unemployment. The relative success of some countries in the European Union with high levels of unionisation and centralised bargaining in containing unemployment, including youth unemployment, complicates the drawing of any simple empirical conclusions.

In addition to the intrinsically deleterious effects of increasing unemployment, the latter's significant rise in recent years may be exacerbating other long-term trends that have reduced the bargaining power of workers and have generated increasing inequality. Overall, the pressures mounting on the working population of the OECD, especially the young, are unprecedented since the early post-Second World War period. The US, in the period leading up to the crisis (1984–2008), evidenced a decline in long-term employment not accounted for by job loss statistics, likely due to employer-initiated terminations, with the concern that 'employers are moving toward greater reliance on temporary workers, on subcontractors, and on part-time workers'.[37] The dramatic rise in job loss in the subsequent recession period has exacerbated these tendencies.[38] In Britain and other European countries, there appeared to be no decisive tendency in workers' perception of job risk in the pre-recession period, but overall well-being at work was already declining due to work intensification and increasing perception of a lack of autonomy in job tasks,[39] developments likely to have accelerated in the subsequent period of job loss and recession.

It is in this context that rises in youth unemployment consequent on the 2007–8 crisis emerge as particularly pernicious, impinging upon *in situ* learning, long-term economic development and social participation. In the period since the crisis, the youth unemployment rate in rich countries has increased to over 18 per cent (over 20 per cent, if we include discouraged workers – those who have given up looking for work), with 16 per cent neither in employment nor in education or training. The job market for young people has been characterised by longer job search periods and lower job quality than heretofore, with more than one-third of the cohort unemployed for at least six months. There are significant variations across countries, with youth unemployment rates below 10 per cent in Switzerland, Norway, Germany, Japan, Austria and the Netherlands, with the euro area and European Union at 23 per cent, the UK at 21 per cent and the US at 16 per cent.[40] This period has evidenced, as well, substantial increases in part-time and temporary work and 'overeducation': youth with higher levels of education are increasingly taking up jobs that they are overqualified to

do, in some cases displacing young people only capable of working in the limited number of unskilled jobs available. The long-term scarring associated with high youth unemployment entails a loss of work experience and an erosion of skills already acquired. Increasing numbers of young people face a transition to working life that involves more and longer periods of unemployment and spells of temporary or suboptimal employment. It appears that the effects of this scarring upon long-term employment and wages can persist for decades.[41]

These are issues of the utmost consequence for the maintenance of societal cohesion in rich countries. Few, if any, of these longer-term problems would be alleviated by free-market solutions that downgrade remuneration, working conditions and unemployment benefits.[42] Some of the most politically effective right-wing critiques of employment protection legislation for young workers suggest that it may generate unemployment, with employers fearing that it will be difficult to dismiss workers once hired. But even if right-wing policies were successful in yielding an increase in youth employment in marginal, transitory work by removing employment protection legislation, such forms of work are likely to offer little in the way of dealing with the necessity, indeed the obligation, to give all young people an opportunity to integrate and participate fully in society. In most cases, the latter involves a path to a career that includes the acquisition of broad-based skills in the context of full-time employment. An adequate resolution of the issues surrounding full participation is a prerequisite for the generation of democracy in the workplace and society.

In general, mechanisms have emerged in the form of Active Labour Market Policies (ALMP), the most important of which are training and vocational programmes, and those intended to assist in job search by making links between employers and employees.[43] The intention of ALMP is to lower the level of unemployment for any given level of job vacancies in the economy (in formal economic terms, to move the Beveridge curve relationship inward). Critics of this skills mismatch approach to unemployment suggest that the onus of unemployment is then shifted onto workers who supposedly lack the requisite skills: 'The point of the argument is to then say: "We don't need to ramp up demand or infrastructure investment. We need to fix people" ', all reinforcing the desire of firms to shift the costs of training to the public sector.[44]

To the extent that full participation in society has a professional identity as a prerequisite, then the issue of training is critical, most especially for the majority of the population who do not complete degrees in higher education. What is the relationship between present-day trends in ALMP, most especially training, and broader democratic goals? Two broad generalisations can be made. One decisive contemporary opinion, as noted earlier, is that much task-specific vocational training administered in a non-workplace context is a waste of time: the most important skills to be developed outside

of the workplace are a mastery of fundamental literacy and numeracy. Thus, the sinister notion that the non-college-educated working class could simply be taught the practical skills needed for work, with the higher learning left to others, turns out to be an inoperative strategy: narrowly focused training outside of the workplace, from both the perspective of the individual worker and that of society, is likely to be less productive than a broader, seemingly less practical education that equips individuals with literacy and numeracy and other broadly based skills that are essential for a lifetime of work in changing circumstances.[45] In such conditions, basic academic knowledge emerges not so much as the underpinning of modern civilisation, culture and democracy but as a necessary aspect of the functioning of contemporary capitalism.

The second broadly held opinion about training in contemporary capitalist society somewhat contradicts the first; it also has more ambivalent ramifications for individual autonomy and democratic control. From an employer's perspective, the skills learned at work should be relevant – as narrow and focused as would be consistent with fulfilling the job at hand, and not necessarily those that would contribute to the worker's autonomous functioning across a range of employment in a lifetime of work. Such an approach cuts across the needs of the majority of young people, for whom participation in working life is a crucial aspect of the learning process, one that will take place under the aegis of capitalist enterprise: 'The formation of skills through work, through training, and through everyday activities ... is hard or impossible to substitute through other channels'. But 'it is not merely the amount of work experience that counts: the extent of training, its utilization, and the quality of the learning environment are crucial'.[46] It is for this reason that workplace learning and, inevitably, German approaches to these problems have received special attention among the range of ALMP, most especially its dual system integrating classroom learning with training in the form of work-based apprenticeships. The latter emerge out of consensual agreements between employers (and employer associations), labour unions and the state. This system involves a degree of voluntary commitment to training provision on the part of employers in the presence of a detailed regulatory framework; monitoring institutions for these agreements exist in Germany but are absent in Anglo-Saxon countries.[47]

Most especially in the wake of the crisis of 2007–8, the pressing need to lower levels of youth unemployment, and the apparent efficacy of the German dual system in facilitating this result, may mask the fact that in pre-crisis times, German apprentices occupied roughly the same place relative to unskilled workers and college graduates as is held by high-school graduates in the US:[48] these apprenticeships do not appear to be mechanisms for the construction, or reconstruction, of a middle class from working-class occupations and backgrounds. On the contrary, the German vocational training system has been linked to policies of early streaming

that exacerbate divergence in academic performance in school based on class background.[49]

The collective and corporatist nature of the dual system in Germany embodies a range of on-going conflicts between labour and capital. The first issue concerns who pays for the costs of these apprenticeships, which are commonly linked to 'compressed wages and limits on mobility, rather than [to] an emphasis on training for firm-specific skills'.[50] German labour unions' acceptance of wage compression for apprentices to the level of one-third that of a skilled labourer is usually contingent upon, among other factors, firms' willingness to create an adequate number of apprenticeships and the quality of training. The state plays a role, sometimes with business-friendly approaches to training regulations that lower the costs of training to firms, and at other times by posing the threat of a training levy in order to, for instance, encourage firms to create subsidised apprentice places for disabled or difficult-to-place young people.[51]

This second issue surrounding the German system exemplifies the fundamental tension over worker training described above: 'while trade unions prefer to have the broadest possible training to foster the trainee's occupational autonomy, employers advocate a narrower and directly operational training'.[52] The interests of the young worker, and of the broader society, can be identified with the labour union position on this issue. It is preferable, if for no other reason than the sacrosanct notion of labour flexibility, that young people be trained broadly and equipped with a capacity to learn a range of new skills to adapt successfully to a lifetime of work. The transfer of a version of the German worker training system to the UK or the US, with their weaker labour union presence, is in danger of taking the form of indenture of young workers to serve the immediate needs of cooperating enterprises – with a fine tuning of workers' skills to suit the demands of the employer.

A third issue underlying potential conflict between labour and capital in the arena of training is concerned with the use of associated technology. It has recently been suggested, in the spirit of Braverman and Noble (see Chapter 6), that the technologies (and concomitant skills) adopted in a particular work context are not purely dictated by the state of technological knowledge, but have an important level of mediation contingent on class and power relations: 'What are relatively low-skilled and poorly paid jobs as cleaners and nursing assistants [in hospitals] in the United States have been transformed into more-skilled, better-paid jobs, with broader tasks and in less Taylorized work organizations, in Denmark, the Netherlands, and, to a lesser extent, France' as a result of conscious public policies in the latter cases.[53] In more general terms, the characteristics of worker training and the technological conditions associated with this work are not mere technocratic questions to be sorted out by experts, but are linked to broad issues of class power and the resultant social decisions and outcomes. In the context

here of so-called low-skilled work in rich countries, it is inappropriate for the working conditions and the technologies used (in, for instance, hospitals) to be determined by levels of minimum costs that can be attained with transitory labour.

Socialist strategies must have a long-term focus on bringing about, wherever possible, a professionalisation of so-called menial tasks, with the intention of giving such jobs a personal dignity and higher remuneration than would be dictated by so-called free-market outcomes. With the increasing centrality of tasks such as care for the elderly in the economy of the twenty-first century, the political economy of socialism must redirect some of the attention traditionally given to enterprise and especially production-level work practices and concern itself with the raising of the status of the labour force involved in these services.

The forms of *in situ* learning that take place in the enterprise are thus irreplaceable, but have precarious aspects in the context of broader social needs. Most especially in periods of economic crisis, including mass unemployment, with bargaining power shifted in the direction of the employer, worker training and the work processes adopted are likely to move in a narrow, employer-focused direction that is not in the longer-term economic interests either of the young worker or of society in general. Furthermore, in such strained economic conditions, there is likely to be increasing impatience, from young workers no less than others, with attempts to include in the learning process elements of non-vocational, academic education, such as study relevant to general citizenship. The alacrity with which many young people, especially those from working-class backgrounds, pursue vocationally oriented formal education or apprenticeships and abandon academically oriented studies should not be accepted sanguinely as a fact of life.

This is in no way to denigrate non-academic education, with many of the luminaries of our civilisation, from athletics to music, notable for intense mastery of a craft and not themselves intellectuals or people of culture.[54] But given the importance of academic study of, for instance, history and civic affairs for critical thinking and democratic control of society, any tendency for it to be given a secondary role must be considered a retrograde development. In the current climate, 'the European model [of skill formation] identifies employability, not citizenship, as the central goal of education and training':[55] the education of 'the others' most especially – the majority of the population who do not complete university – is less likely than ever to equip them intellectually to assert themselves individually and collectively in the social and political environment in which they function. In the workplace, young workers especially find themselves as supplicants in depressed labour conditions, and are less likely than ever to assert control over their conditions of employment.

Present labour market conditions are thus conducive to the generation of a generalised passivity on the part of the workforce vis-à-vis its immediate

conditions of employment, with little assertion of worker demands through either substantive labour union activity or spontaneous action. Perhaps as a result, practically all discussion in the popular and academic literature has taken the form of what 'we' (the decision makers) can do for 'them' (the passive and likely insufficiently skilled working class) to make them more attractive to domestic employers, rather than emerging as a response to emphatic demands from workers for change. A further level of passivity is evidenced at the level of the nation state, where the necessity to make the economy attractive to foreign investors is often seen as a key task of national economic policy. For decision makers in contemporary society, little attention is directed at how to integrate this working-class grouping (indubitably a majority of the population) into a democratic polity in which it has significant influence over its own destiny. A complementary goal would be the transformation of the workplace into a venue that offers continuous opportunities for skill enhancement and broad-based learning to the workforce. These characteristics – democratic participation and opportunities for learning – would be central in distinguishing a capitalist from a socialist enterprise, and will be re-engaged with in Chapter 12.

## Security and household planning

Once human beings are viewed as assets and not commodities, conventional conclusions concerning the nature of rational economic policy may well be upturned. A common aspect of right-wing ideology is to suggest that policies leading to higher levels of insecurity for the general population and a redistribution of income in favour of the well-off are not only a price worth paying, but inextricable aspects of capitalist dynamism and development. In pursuit of this Brave New World, individual households are to take personal responsibility for investing in themselves, whether in the form of making decisions about retirement or education for their children. Thus, it is claimed, the reduction of state compensation for the bad decisions of individuals, such as guaranteed pensions even for the feckless, reduces moral hazard and raises societal efficiency. In his prescient book, *The Great Risk Shift*, Jacob Hacker documented for the US, well before the crisis of 2007–8, that the squeeze in the incomes and rising indebtedness of ordinary families had been complemented by a dramatic rise in economic insecurity emerging from an increase in the volatility of family incomes and an erosion of state and private benefits linked to unemployment compensation, health care and retirement.[56] And for a range of countries across the OECD in this period, 'households have now become more directly responsible for the management of financial risks than before, with fewer layers in between'.[57] This process of individualised 'optimal investment policy',[58] as we shall see in Chapter 12, is, in the eyes of the visionaries of finance, only in its initial stages.

Ironically, a concomitant aspect of the ideology generating this insecurity has been that these measures have been necessitated by the need to create an environment of stability in which businesses could invest, innovate and make plans for the future – low taxes, stable prices and a malleable workforce with minimal recourse to collective rights. This new ideal of flexibility is well suited to an elite of workers, whose ability to create individualised flexible employment by moving between firms 'makes Silicon Valley an exciting place for high-tech professionals', even if for janitors, flexibility has meant a reduction in wages and working conditions.[59] In such an environment, typical households will have a deteriorating capacity to develop strategies and plans for their own long-term development: they are impelled, with increasing insecurity and flexibility, to accommodate employers' needs, functioning more like commodities than as fulcrums for long-term planning. With the presumptive excuse of the need for the creation of an environment in which capitalist planning and innovation can flourish, countries across the OECD since 1980 have adopted policies under which employers have increased their freedom to hire and fire at will and dictate terms and conditions of work.[60] It is not at all evident that these policies have been successful in improving economic performance, even in the myopic terms in which success is cast.[61]

In the context of long-term societal and economic development, it makes little sense to treat human beings in the twenty-first century as commodities who should passively accommodate themselves flexibly to the work conditions on offer. On the contrary, people have plans and aspirations for, among other things, the development of their skills and capacities and those of their offspring: the economic success of public policies will be substantially contingent on the extent to which these policies facilitate the ability of individuals and households to execute and fulfil these plans. In societies with high levels of economic insecurity, all but the highest-income groups will suffer material and cognitive distractions from rational planning due to insecurities surrounding the threats posed by unemployment and ill health. For those (the great majority of the population) with minimal stocks of wealth, shortfalls in income pose a substantive threat to the maintenance of normal life, so that the cost of disappointed expectations is not the same for all income groups.

In societies with wide class divisions, the upper layers of society benefit from social networks and personal contacts that, when combined with the advantages linked to formalised knowledge and financial resources, yield a sense of security and control over the future that facilitates rational planning by a household or an individual. Societies that have mitigated some of the damaging effects of inequality will experience higher levels of social mobility than more unequal ones (see Chapter 10), and are likely to enjoy long-term benefits in economic development from policies in which

households have a capacity to plan their futures in a rational manner. From a slightly different perspective, it has been argued that

> the human capital of a nation is improved by a well-functioning system of social services. Such a system makes it possible for the workers to feel less insecure, and gives them a feeling of belonging to the system. Such a sense of belonging leads to stable societies with a strong sense of cohesion. In addition, a well-functioning system of social services may lead people to be willing to take more risk in starting new risky projects, knowing that failure will not condemn them to poverty. In short, a well-functioning social system creates a 'risk-taking social capital' that ultimately leads to an improvement of the productivity of a nation.[62]

Thus, many of the sacrifices demanded of the working class in recent years may well have been of minimal efficacy even if viewed from a purely economic (long-term GDP growth) perspective: if labour is viewed as a capital asset and not a commodity, improvements in 'efficiency' from higher rates of exploitation and insecurity have to be weighed against a deceleration in the growth, or even a depreciation, of the human capital stock.

The most straightforward reason to suggest that greater equality and household stability are conducive to growth is through the influence of income distribution on human capital formation – the ability of individuals to invest in education. It is still common for these issues to be considered as if questions of differential endowments of wealth and access to credit markets for children of different classes were of no significance,[63] despite the presence of such gaps even in societies thought to be relatively egalitarian.[64] As we have seen in Chapter 7, human capital theory views decisions on how much (and what kind of) education to acquire to be based on rational calculations of expected returns linked to the individual's intrinsic ability. There is also commonly an emphasis on different rates of time preference between individuals – impatient individuals will not be willing to defer consumption in the present in order to acquire more education.[65] But households have differential access to information. Under such conditions, notions of decisions made by a typical individual have to be abandoned. As we have seen, all parents may want the best education for their children, but the ability to evaluate the efficacy of different educational paths will vary significantly between households of different classes.

Even where in a formal sense the relevant information concerning schools and education is widely available, households will still vary by class in terms of their possession of the ability to interpret this information – the cognitive capacity and educational background needed to choose and monitor schools, and the ability to use a range of family and personal analogies to evaluate educational strategies (in the household in which I grew up, there were no individuals of professional capacity anywhere in the family, so that

the term 'professional' was, by default, identified with a 'doctor').[66] In societies dominated by notions of place and with limited horizons dictated by class, even egalitarian schooling may make limited headway in generating economic mobility.[67] In the absence of deficiencies in physiological capacity (not being hungry or diseased), less-than-affluent households will still suffer from insufficient financial resources to purchase high-quality child care, a lack of domestic physical resources (the space in the home to study, as well as books and computers), and from the home psychological environment needed to undertake study in a fruitful way.[68]

At the level of elective or higher education, the risks in terms of life trajectory undertaken by the great majority of young people whose families do not possess a stock of wealth may prove to be substantially higher than the highly touted entrepreneurial risk undertaken by a capitalist. The combination of fees or explicit debts to pay for higher education and the deferment of income from employment may threaten penury if the time and financial resources committed to education are not readily compensated for by employment. Unlike the well-off, most young people do not have the option of living off a stock of family wealth for an extended period if employment prospects turn out poorly.[69] The imposition of these financial risks on young people may well damage economic development. Some will choose to avoid or defer such education, while others may choose educational studies that are perceived to be lower-risk in terms of immediate employment, but will also offer lower returns to the individual and to the economy in the long term: the individual undertakes training as an electrician rather than as an electrical engineer. Even Goldin and Katz, who trace rising inequality in the US to failures in student educational achievement in the race against technology (see Chapter 10), are willing to acknowledge the possibility of reverse causation – that rising inequality has created obstacles to the completion of secondary and tertiary education.[70]

The labouring household is thus, in contrast with much capitalist activity, subject to something close to unlimited liability on its investment: even free higher education embodies profound individual risk, including lack of success on the programme undertaken, its unsuitability perceived only after extensive commitment, and the failure to find employment upon completion. The imposition, in addition, of explicit financial costs on post-high-school education creates obstacles and risks to knowledge and skill acquisition that are not symmetrical between classes and are likely to distort society's investment in human assets. These insecurities also disrupt the ability of households to act as agencies of planning for their children. Furthermore, the transitory aspects of a relationship to the workplace engendered by flexibility militate against the exercise of democratic control in the workplace at a collective or individual level.

The adoption of an outlook in which human beings are assets that plan for their own future and not mere commodities to be allocated to some

supposed optimal use has powerful implications for public policy. The conventional argument is that policies that promote household stability – subsidies and tariffs for industries at risk or employment protection for those at work – are often popular with those being protected, but at the cost of economic efficiency for the society as a whole: obsolescent technologies and whole industries impede the introduction of new developments. The maintenance of backward-looking practices not only inhibits economic growth, but is self-perpetuating through the political vested interests that support them.

These arguments are indubitably correct in their own terms. During the boom years in Japan after the Second World War, commentators were constantly noting the high costs of tariff supports to its inefficient agriculture,[71] with the burden of high food prices foisted upon the poorest elements in the society; a dramatic contrast has also been observed between the success of China's highly successful export-oriented sector and its largely state-owned and politically propped-up 'rustbelt' industries.[72]

These costs of inefficient allocation are real, and of a not insignificant order of magnitude. However, the usual presumption is that this is the end of the story – that great economic successes such as postwar Japan and China in recent decades would have done even better by, respectively, rapidly eliminating agricultural tariffs and running down the rustbelt sector. But are such acts of creative destruction necessarily efficacious, given the resultant dislocation and instability introduced into the households of those declining sectors? If we associate long-term development with the ability of individuals and households to make long-term plans about their future, policies that slow down disruption and contribute to stability and security at the level of the household may be more conducive to long-term development than those linked to creative destruction and the flexibility of the workforce. The latter heroic-sounding policies are likely to derange the capacity of households to make rational plans for the future.

The case in favour of the promotion of increased economic security for households is illustrated here by an instance commonly used to demonstrate the inefficacy of such policies – the notorious example of agricultural subsidies in the US since the Great Depression. With great unanimity, the economics textbook discussions of agricultural subsidies in the form of price supports have decried them as burdens on the general population in the form of a misallocation of resources, with unnecessarily high prices for consumers and the generation of unneeded surpluses. Even their nominal purpose, to give assistance to indigent farmers, is thwarted by the fact that richer farmers inevitably benefit disproportionately from these higher prices;[73] these acts of public policy also engender vast political lobbies for their perpetuation.

It is possible to accept all of these arguments but to note, as has the historian Sally Clarke, that these subsidies – even if irrational and wasteful – may

well have averted deep social disruption: New Deal intervention had initiated a revolution in US farm productivity (see Chapter 9), but 'What is striking about this disappearance of farmers is not only that it proceeded so quickly but that it also took place so quietly.'[74] The high rate of increase of agricultural productivity was accompanied not by a rise, but by a dramatic decline in the rate of farm foreclosures: subsidies and price supports reduced to manageable decline what might well have been a social catastrophe.

Courses of action that treat labour as if it were an undifferentiated commodity would be highly dysfunctional for the economy as a whole if they were successfully implemented. Strictly from the perspective of long-term economic growth, would not an alternative policy of laissez-faire creative destruction have been dysfunctional, with the resultant negative effects on the stock of human assets of household bankruptcies, rural unemployment and mass migration to urban areas? Public policies that slow down an 'inevitable' change in the economic landscape to manageable proportions may well facilitate not only the realisation of humanitarian goals, but economic development as well.

The residual effects of the conception in economic theory of labour as an undifferentiated commodity have remained in place in our own day. In the early twentieth century, we have seen its manifestation in Taylorist notions of labour as a passive object to be moulded to the needs of modern production in both capitalist and, through Lenin, socialist schemes for societal organisation; in recent times, the call for labour to show flexibility – to abandon accumulated skills and accept work in an unrelated field at a lower wage – is part of the rhetoric of both right-wing politics and a broad range of free-market economics. For those voices, ordinary people must be willing to abandon their life plans to accommodate even transitory changes in labour market conditions if the economy is to operate appropriately, an adaptation to short-term events that the politicians and economists advocating such policies would consider a catastrophe in their own lives.

* * *

The perspective in this chapter views human beings and their households as fulcrums of planning rather than as mere commodities to be allocated to their optimal use in the capitalist marketplace. They develop their skills *in situ* by interacting in the world and by participating in the work process, as well as through formal education. Public policies promoting equality and household security reinforce the capacity of individuals to plan the development of their skills in all of these contexts, in the process fostering economic development for the society as a whole. There may well be no dilemma forcing us to choose between policies promoting equality and security, on the one hand, and policies of economic development, on the other. Socialist policies compatible with such a perspective will be considered in

Chapters 11 and 12. As an interregnum, Chapter 9 contrasts the mythology of the US as a quintessential example of unfettered free enterprise with the historical reality of its development, along the way exemplifying many of the issues already discussed. Chapter 10 examines the substantive meaning of the term 'economic growth' and, in this context, the implications of increasing inequality.