THE STAGES OF ECONOMIC GROWTH
A NON-COMMUNIST MANIFESTO
THIRD EDITION
W. W. ROSTOW

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Preface to the First Edition

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I am in the debt of others as well, in Cambridge and beyond, who commented on this set of ideas. I should wish to thank, in particular, Lawrence Barss, Kenneth Berrill, Denis Brogan, Richard Goodwin, Richard Hofstadter, Richard Kahn, Albert Kervyn, W. J. Macpherson, Gunnar Myrdal, M. M. Postan, E. A. Radice, C. Raphael, Sir Dennis Robertson, Joan Robinson, George Rosen, P. N. Rosenstein-Rodan, Arthur Schlesinger Sr, Charles Wilson, and the staff of The Economist for observations which, whether wholly accepted or not, proved extremely helpful.

I owe a quite specific and substantial debt to my wife, Elspeth Davies Rostow. While I was working in the summer of 1957 on a study of recent American military and foreign policy, she insisted that it was necessary to bring to bear the insights that economic history might afford. It was directly from that injunction, and from the protracted dialogue that followed, that the full sequence of stages-of-growth first fell into place, as well as certain of the contemporary applications here developed in chapters 7–9.

A longer-term and more diffuse debt is owed to my colleagues at M.I.T., who generously commented on various segments of this argument as they were formulated and, notably, to the students in my graduate seminar in economic history since 1930, who actively shared in the creation of this structure of thought.

The preparation of this book was rendered both pleasant and easy by the facilities made available to me by the Faculty of Economics and Politics at Cambridge and those who run the Marshall Library. Their willingness to assist a transient teacher, in the midst of their urgent responsibilities, was memorable.

The charts in chapter 6, illustrating the diffusion of the private automobile, and the supporting data presented in the Appendix, are the work of John Longden, who most generously turned from his own work to help dramatize that portion of the argument.

Finally, I would wish to thank those at M.I.T. who granted me a sabbatical year, and the Carnegie Corporation, which offered the freedom and resources of a Reflective Year Grant. It is not easy, in contemporary academic life, to find a setting where one can concentrate one's attention wholly on the elaboration of a single line of thought.

W. W. ROYSTOW

CHAPTER I

INTRODUCTION

This book presents an economic historian's way of generalizing the sweep of modern history. The form of this generalization is a set of stages-of-growth.

I have gradually come to the view that it is possible and, for certain limited purposes, it is useful to break down the story of each national economy—and sometimes the story of regions—according to this set of stages. They constitute, in the end, both a theory about economic growth and a more general, if still highly partial, theory about modern history as a whole.

But any way of looking at things that pretends to bring within its orbit, let us say, significant aspects of late eighteenth-century Britain and Khrushchev's Russia; Meiji Japan and Canada of the pre-1914 railway boom; Alexander Hamilton's United States and Mao's China; Bismarck's Germany and Nasser's Egypt—any such scheme is bound, to put it mildly, to have certain limitations.

I cannot emphasize too strongly at the outset, that the stages-of-growth are an arbitrary and limited way of looking at the sequence of modern history: and they are, in no absolute sense, a correct way. They are designed, in fact, to dramatize not merely the uniformities in the sequence of modernization but also—and equally—the uniqueness of each nation's experience.

As Croce said in discussing the limits of historical materialism: '... whilst it is possible to reduce to general concepts the particular factors of reality which appear in history... it is not possible to work up into general concepts the single complex whole formed by these factors'.* We shall be concerned here, then, with certain 'particular factors of reality' which appear to run through the story of the modern world since about 1700.

Having accepted and emphasized the limited nature of the enterprise, it should be noted that the stages-of-growth are designed

* B. Croce, Historical Materialism and the Economics of Karl Marx, tr. C. M. Meredith (London), pp. 3–4.
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to grapple with a quite substantial range of issues. Under what impulses did traditional, agricultural societies begin the process of their modernization? When and how did regular growth come to be a built-in feature of each society? What forces drove the process of sustained growth along and determined its contours? What common social and political features of the growth process may be discerned at each stage? And in which directions did the uniqueness of each society express itself at each stage? What forces have determined the relations between the more developed and less developed areas; and what relation, if any, did the relative sequence of growth bear to the outbreak of war? And, finally, where is compound interest* taking us? Is it taking us to Communism; or to the affluent suburbs, nicely rounded out with social overhead capital; to destruction; to the moon; or where?

The stages-of-growth are designed to get at these matters; and, since they constitute an alternative to Karl Marx’s theory of modern history, I have given over the final chapter to a comparison between his way of looking at things and mine.

But this should be clear: although the stages-of-growth are an economic way of looking at whole societies, they in no sense imply that the worlds of politics, social organization, and of culture are a mere superstructure built upon and derived uniquely from the economy. On the contrary, we accept from the beginning the perception on which Marx, in the end, turned his back and which Engels was only willing to acknowledge whole-heartedly as a very old man; namely, that societies are interacting organisms. While it is true that economic change has political and social consequence, economic change is, itself, viewed here as the consequence of political and social as well as narrowly economic forces. And in terms of human motivation, many of the most profound economic changes are viewed as the consequence of non-economic human motives and aspirations. The student of economic growth concerned with its foundation in human motivation should never forget Keynes’s dictum: ‘If human nature felt no temptation to take a chance no satisfaction (profit apart) in constructing a factory, a rail-

* This phrase is used as a shorthand way of suggesting that growth normally proceeds by geometric progression, much as a savings account if interest is left to compound with principal.

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way, a mine or a farm, there might not be much investment merely as a result of cold calculation.*

The exposition begins with an impressionistic definition of the five major stages-of-growth and a brief statement of the dynamic theory of production which is their bone-structure. The four chapters that follow consider more analytically, and illustrate from history and from contemporary experience, the stages beyond the traditional society: the preconditions period, the take-off, maturity, and the period of diffusion on a mass basis of durable consumers’ goods and services.

Chapter 7 examines the comparative patterns of growth of Russia and the United States over the past century, a matter of both historical and contemporary interest.

Chapter 8 applies the stages-of-growth to the question of aggression and war, down to the early 1950’s, the question conventionally raised under the rubric of imperialism.

Chapter 9 carries forward this analysis of the relation between growth and war into the future, considering the nature of the problem of peace, when examined from the perspective of the stages-of-growth.

And, finally, in chapter 10 we examine explicitly the relationship between the stages-of-growth and the Marxist system.

Now, then, what are these stages-of-growth?

* General Theory, p. 150.
CHAPTER 2

THE FIVE STAGES-OF-GROWTH—
A SUMMARY

It is possible to identify all societies, in their economic dimensions, as lying within one of five categories: the traditional society, the preconditions for take-off, the take-off, the drive to maturity, and the age of high mass-consumption.

THE TRADITIONAL SOCIETY

First, the traditional society. A traditional society is one whose structure is developed within limited production functions, based on pre-Newtonian science and technology, and on pre-Newtonian attitudes towards the physical world. Newton is here used as a symbol for that watershed in history when men came widely to believe that the external world was subject to a few knowable laws, and was systematically capable of productive manipulation.

The conception of the traditional society is, however, in no sense static; and it would not exclude increases in output. Acreage could be expanded; some ad hoc technical innovations, often highly productive innovations, could be introduced in trade, industry and agriculture; productivity could rise with, for example, the improvement of irrigation works or the discovery and diffusion of a new crop. But the central fact about the traditional society was that a ceiling existed on the level of attainable output per head. This ceiling resulted from the fact that the potentials which flow from modern science and technology were either not available or not regularly and systematically applied.

Both in the longer past and in recent times the story of traditional societies was thus a story of endless change. The area and volume of trade within them and between them fluctuated, for example, with the degree of political and social turbulence, the efficiency of central rule, the upkeep of the roads. Population—and, within limits, the level of life—rose and fell not only with the sequence of the harvests, but with the incidence of war and of plague. Varying degrees of manufacture developed; but, as in agriculture, the level of productivity was limited by the inaccessibility of modern science, its applications, and its frame of mind.

Generally speaking, these societies, because of the limitation on productivity, had to devote a very high proportion of their resources to agriculture; and flowing from the agricultural system there was an hierarchical social structure, with relatively narrow scope—but some scope—for vertical mobility. Family and clan connections played a large role in social organization. The value system of these societies was generally geared to what might be called a long-run fatalism; that is, the assumption that the range of possibilities open to one’s grandchildren would be just about what it had been for one’s grandparents. But this long-run fatalism by no means excluded the short-run option that, within a considerable range, it was possible and legitimate for the individual to strive to improve his lot, within his lifetime. In Chinese villages, for example, there was an endless struggle to acquire or to avoid losing land, yielding a situation where land rarely remained within the same family for a century.

Although central political rule—in one form or another—often existed in traditional societies, transcending the relatively self-sufficient regions, the centre of gravity of political power generally lay in the regions, in the hands of those who owned or controlled the land. The landowner maintained fluctuating but usually profound influence over such central political power as existed, backed by its entourage of civil servants and soldiers, imbued with attitudes and controlled by interests transcending the regions.

In terms of history then, with the phrase ‘traditional society’ we are grouping the whole pre-Newtonian world: the dynasties in China; the civilization of the Middle East and the Mediterranean; the world of medieval Europe. And to them we add the post-Newtonian societies which, for a time, remained untouched or unmoved by man’s new capability for regularly manipulating his environment to his economic advantage.

To place these infinitely various, changing societies in a single category, on the ground that they all shared a ceiling on the productivity of their economic techniques, is to say very little indeed. But
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we are, after all, merely clearing the way in order to get at the subject of this book; that is, the post-traditional societies, in which each of the major characteristics of the traditional society was altered in such ways as to permit regular growth: its politics, social structure, and (to a degree) its values, as well as its economy.

THE PRECONDITIONS FOR TAKE-OFF

The second stage of growth embraces societies in the process of transition; that is, the period when the preconditions for take-off are developed; for it takes time to transform a traditional society in the ways necessary for it to exploit the fruits of modern science, to fend off diminishing returns, and thus to enjoy the blessings and choices opened up by the march of compound interest.

The preconditions for take-off were initially developed, in a clearly marked way, in Western Europe of the late seventeenth and early eighteenth centuries as the insights of modern science began to be translated into new production functions in both agriculture and industry, in a setting given dynamism by the lateral expansion of world markets and the international competition for them. But all that lies behind the break-up of the Middle Ages is relevant to the creation of the preconditions for take-off in Western Europe. Among the Western European states, Britain, favoured by geography, natural resources, trading possibilities, social and political structure, was the first to develop fully the preconditions for take-off.

The more general case in modern history, however, saw the stage of preconditions arise not endogenously but from some external intrusion by more advanced societies. These invasions—literal or figurative—shocked the traditional society and began or hastened its undoing; but they also set in motion ideas and sentiments which initiated the process by which a modern alternative to the traditional society was constructed out of the old culture.

The idea spreads not merely that economic progress is possible, but that economic progress is a necessary condition for some other purpose, judged to be good: be it national dignity, private profit, the general welfare, or a better life for the children. Education, for some at least, broadens and changes to suit the needs of modern economic activity. New types of enterprising men come forward—

The preconditions for take-off

in the private economy, in government, or both—willing to mobilize savings and to take risks in pursuit of profit or modernization. Banks and other institutions for mobilizing capital appear. Investment increases, notably in transport, communications, and in raw materials in which other nations may have an economic interest. The scope of commerce, internal and external, widens. And, here and there, modern manufacturing enterprise appears, using the new methods. But all this activity proceeds at a limited pace within an economy and a society still mainly characterized by traditional low-productivity methods, by the old social structure and values, and by the regionally based political institutions that developed in conjunction with them.

In many recent cases, for example, the traditional society persisted side by side with modern economic activities, conducted for limited economic purposes by a colonial or quasi-colonial power.

Although the period of transition—between the traditional society and the take-off—saw major changes in both the economy itself and in the balance of social values, a decisive feature was often political. Politically, the building of an effective centralized national state—on the basis of coalitions touched with a new nationalism, in opposition to the traditional landed regional interests, the colonial power, or both, was a decisive aspect of the preconditions period; and it was, almost universally, a necessary condition for take-off.

There is a great deal more that needs to be said about the preconditions period, but we shall leave it for chapter 3, where the anatomy of the transition from a traditional to a modern society is examined.

THE TAKE-OFF

We come now to the great watershed in the life of modern societies: the third stage in this sequence, the take-off. The take-off is the interval when the old blocks and resistances to steady growth are finally overcome. The forces making for economic progress, which yielded limited bursts and enclaves of modern activity, expand and come to dominate the society. Growth becomes its normal condition. Compound interest becomes built, as it were, into its habits and institutional structure.
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In Britain and the well-endowed parts of the world populated substantially from Britain (the United States, Canada etc.) the proximate stimulus for take-off was mainly (but not wholly) technological. In the more general case, the take-off awaited not only the build-up of social overhead capital and a surge of technological development in industry and agriculture, but also the emergence to political power of a group prepared to regard the modernization of the economy as serious, high-order political business.

During the take-off, the rate of effective investment and savings may rise from, say, 5% of the national income to 10% or more; although where heavy social overhead capital investment was required to create the technical preconditions for take-off the investment rate in the preconditions period could be higher than 5%, as, for example, in Canada before the 1890's and Argentina before 1914. In such cases capital imports usually formed a high proportion of total investment in the preconditions period and sometimes even during the take-off itself, as in Russia and Canada during their pre-1914 railway booms.

During the take-off new industries expand rapidly, yielding profits a large proportion of which are reinvested in new plant; and these new industries, in turn, stimulate, through their rapidly expanding requirement for factory workers, the services to support them, and for other manufactured goods, a further expansion in urban areas and in other modern industrial plants. The whole process of expansion in the modern sector yields an increase of income in the hands of those who not only save at high rates but place their savings at the disposal of those engaged in modern sector activities. The new class of entrepreneurs expands; and it directs the enlarging flows of investment in the private sector. The economy exploits hitherto unused natural resources and methods of production.

New techniques spread in agriculture as well as industry, as agriculture is commercialized, and increasing numbers of farmers are prepared to accept the new methods and the deep changes they bring to ways of life. The revolutionary changes in agricultural productivity are an essential condition for successful take-off; for modernization of a society increases radically its bill for agricultural products. In a decade or two both the basic structure of the economy and the social and political structure of the society are transformed in such a way that a steady rate of growth can be, thereafter, regularly sustained.

As indicated in chapter 4, one can approximately allocate the take-off of Britain to the two decades after 1783; France and the United States to the several decades preceding 1860; Germany, the third quarter of the nineteenth century; Japan, the fourth quarter of the nineteenth century; Russia and Canada the quarter-century or so preceding 1914; while during the 1950's India and China have, in quite different ways, launched their respective take-offs.

The take-off

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THE DRIVE TO MATURITY

After take-off there follows a long interval of sustained if fluctuating progress, as the now regularly growing economy drives to extend modern technology over the whole front of its economic activity. Some 10–20% of the national income is steadily invested, permitting output regularly to outstrip the increase in population. The make-up of the economy changes unceasingly as technique improves, new industries accelerate, older industries level off. The economy finds its place in the international economy: goods formerly imported are produced at home; new import requirements develop, and new export commodities to match them. The society makes such terms as it will with the requirements of modern efficient production, balancing off the new against the older values and institutions, or revising the latter in such ways as to support rather than to retard the growth process.

Some sixty years after take-off begins (say, forty years after the end of take-off) what may be called maturity is generally attained. The economy, focused during the take-off around a relatively narrow complex of industry and technology, has extended its range into more refined and technologically often more complex processes; for example, there may be a shift in focus from the coal, iron, and heavy engineering industries of the railway phase to machine-tools, chemicals, and electrical equipment. This, for example, was the transition through which Germany, Britain, France, and the United States had passed by the end of the nineteenth century or shortly thereafter. But there are other sectoral patterns which have been followed in the sequence from take-off to maturity, which are considered in chapter 5.
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Formally, we can define maturity as the stage in which an economy demonstrates the capacity to move beyond the original industries which powered its take-off and to absorb and to apply efficiently over a very wide range of its resources—if not the whole range—the most advanced fruits of (then) modern technology. This is the stage in which an economy demonstrates that it has the technological and entrepreneurial skills to produce not everything, but anything that it chooses to produce. It may lack (like contemporary Sweden and Switzerland, for example) the raw materials or other supply conditions required to produce a given type of output economically; but its dependence is a matter of economic choice or political priority rather than a technological or institutional necessity.

Historically, it would appear that something like sixty years was required to move a society from the beginning of take-off to maturity. Analytically the explanation for some such interval may lie in the powerful arithmetic of compound interest applied to the capital stock, combined with the broader consequences for a society's ability to absorb modern technology of three successive generations living under a regime where growth is the normal condition. But, clearly, no dogmatism is justified about the exact length of the interval from take-off to maturity.

The age of high mass-consumption

We come now to the age of high mass-consumption, where, in time, the leading sectors shift towards durable consumers' goods and services: a phase from which Americans are beginning to emerge; whose not unequivocal joys Western Europe and Japan are beginning energetically to probe; and with which Soviet society is engaged in an uneasy flirtation.

As societies achieved maturity in the twentieth century two things happened: real income per head rose to a point where a large number of persons gained a command over consumption which transcended basic food, shelter, and clothing; and the structure of the working force changed in ways which increased not only the proportion of urban to total population, but also the proportion of the population working in offices or in skilled factory jobs—aware of and anxious to acquire the consumption fruits of a mature economy.

Beyond consumption

Beyond, it is impossible to predict, except perhaps to observe that Americans, at least, have behaved in the past decade as if diminishing relative marginal utility sets in, after a point, for durable consumers' goods; and they have chosen, at the margin, larger families—behaviour in the pattern of Buddenbrooks dynamics.* Americans have behaved as if, having been born into a system that provided economic security and high mass-consumption, they placed a lower

* In Thomas Mann's novel of three generations, the first sought money; the second, born to money, sought social and civic position; the third, born to comfort and family prestige, looked to the life of music. The phrase is designed to suggest, then, the changing aspirations of generations, as they place a low value on what they take for granted and seek new forms of satisfaction.
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valuation on acquiring additional increments of real income in the conventional form as opposed to the advantages and values of an enlarged family. But even in this adventure in generalization it is a shade too soon to create—on the basis of one case—a new stage-of-growth, based on babies, in succession to the age of consumers' durables: as economists might say, the income-elasticity of demand for babies may well vary from society to society. But it is true that the implications of the baby boom along with the not wholly unrelated deficit in social overhead capital are likely to dominate the American economy over the next decade rather than the further diffusion of consumers' durables.

Here then, in an impressionistic rather than an analytic way, are the stages-of-growth which can be distinguished once a traditional society begins its modernization: the transitional period when the preconditions for take-off are created generally in response to the intrusion of a foreign power, converging with certain domestic forces making for modernization; the take-off itself; the sweep into maturity generally taking up the life of about two further generations; and then, finally, if the rise of income has matched the spread of technological virtuosity (which, as we shall see, it need not immediately do) the diversion of the fully mature economy to the provision of durable consumers' goods and services (as well as the welfare state) for its increasingly urban—and then suburban—population. Beyond lies the question of whether or not secular spiritual stagnation will arise, and, if it does, how man might fend it off: a matter considered in chapter 6.

In the four chapters that follow we shall take a harder, and more rigorous look at the preconditions, the take-off, the drive to maturity, and the processes which have led to the age of large mass-consumption. But even in this introductory chapter one characteristic of this system should be made clear.

A Dynamic Theory of Production

These stages are not merely descriptive. They are not merely a way of generalizing certain factual observations about the sequence of development of modern societies. They have an inner logic and continuity. They have an analytic bone-structure, rooted in a dynamic theory of production.

The classical theory of production is formulated under essentially static assumptions which freeze—or permit only once-over change—in the variables most relevant to the process of economic growth. As modern economists have sought to merge classical production theory with Keynesian income analysis they have introduced the dynamic variables: population, technology, entrepreneurship etc. But they have tended to do so in forms so rigid and general that their models cannot grip the essential phenomena of growth, as they appear to an economic historian. We require a dynamic theory of production which isolates not only the distribution of income between consumption, saving, and investment (and the balance of production between consumers and capital goods) but which focuses directly and in some detail on the composition of investment and on developments within particular sectors of the economy. The argument that follows is based on such a flexible, disaggregated theory of production.

When the conventional limits on the theory of production are widened, it is possible to define theoretical equilibrium positions not only for output, investment, and consumption as a whole, but for each sector of the economy.*

Within the framework set by forces determining the total level of output, sectoral optimum positions are determined on the side of demand, by the levels of income and of population, and by the character of tastes; on the side of supply, by the state of technology and the quality of entrepreneurship, as the latter determines the proportion of technically available and potentially profitable innovations actually incorporated in the capital stock.†

In addition, one must introduce an extremely significant empirical hypothesis: namely, that deceleration is the normal optimum path of a sector, due to a variety of factors operating on it, from the side of both supply and demand.‡

† In a closed model, a dynamic theory of production must account for changing stocks of basic and applied science, as sectoral aspects of investment, which is done in The Process of Economic Growth, especially pp. 22-5.
‡ Process of Economic Growth, pp. 96-103.
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The equilibria which emerge from the application of these criteria are a set of sectoral paths, from which flows, as first derivatives, a sequence of optimum patterns of investment.

Historical patterns of investment did not, of course, exactly follow these optimum patterns. They were distorted by imperfections in the private investment process, by the policies of governments, and by the impact of wars. Wars temporarily altered the profitable directions of investment by setting up arbitrary demands and by changing the conditions of supply; they destroyed capital; and, occasionally, they accelerated the development of new technology relevant to the peacetime economy and shifted the political and social framework in ways conducive to peacetime growth.* The historical sequence of business-cycles and trend-periods results from these deviations of actual from optimal patterns; and such fluctuations, along with the impact of wars, yield historical paths of growth which differ from those which the optima, calculated before the event, would have yielded.

Nevertheless, the economic history of growing societies takes a part of its rude shape from the effort of societies to approximate the optimum sectoral paths.

At any period of time, the rate of growth in the sectors will vary greatly; and it is possible to isolate empirically certain leading sectors, at early stages of their evolution, whose rapid rate of expansion plays an essential direct and indirect role in maintaining the overall momentum of the economy.† For some purposes it is useful to characterize an economy in terms of its leading sectors; and a part of the technical basis for the stages of growth lies in the changing sequence of leading sectors. In essence it is the fact that sectors tend to have a rapid growth-phase, early in their life, that makes it possible and useful to regard economic history as a sequence of stages rather than merely as a continuum, within which nature never makes a jump.

The stages-of-growth also require, however, that elasticities of demand be taken into account, and that this familiar concept be

† For a discussion of the leading sectors, their direct and indirect consequences, and the diverse routes of their impact, see ‘Trends in the Allocation of Resources in Secular Growth’, loc. cit.

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widened; for these rapid growth phases in the sectors derive not merely from the discontinuity of production functions but also from high price- or income-elasticities of demand. Leading sectors are determined not merely by the changing flow of technology and the changing willingness of entrepreneurs to accept available innovations: they are also partially determined by those types of demand which have exhibited high elasticity with respect to price, income, or both.

The demand for resources has resulted, however, not merely from demands set up by private taste and choice, but also from social decisions and from the policies of governments—whether democratically responsive or not. It is necessary, therefore, to look at the choices made by societies in the disposition of their resources in terms which transcend conventional market processes. It is necessary to look at their welfare functions, in the widest sense, including the non-economic processes which determined them.

The course of birth-rates, for example, represents one form of welfare choice made by societies, as income has changed; and population curves reflect (in addition to changing death-rates) how the calculus about family size was made in the various stages; from the usual (but not universal) decline in birth-rates, during or soon after the take-off, as urbanization took hold and progress became a palatable possibility, to the recent rise, as Americans (and others in societies marked by high mass-consumption) have appeared to seek in larger families values beyond those afforded by economic security and by an ample supply of durable consumers' goods and services.

And there are other decisions as well that societies have made as the choices open to them have been altered by the unfolding process of economic growth; and these broad collective decisions, determined by many factors—deep in history, culture, and the active political process—outside the market-place, have interplayed with the dynamics of market demand, risk-taking, technology and entrepreneurship, to determine the specific content of the stages of growth for each society.

How, for example, should the traditional society react to the intrusion of a more advanced power: with cohesion, promptness, and vigour, like the Japanese; by making a virtue of fecklessness,
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like the oppressed Irish of the eighteenth century; by slowly and reluctantly altering the traditional society, like the Chinese?

When independent modern nationhood is achieved, how should the national energies be disposed: in external aggression, to right old wrongs or to exploit newly created or perceived possibilities for enlarged national power; in completing and refining the political victory of the new national government over old regional interests; or in modernizing the economy?

Once growth is under way, with the take-off, to what extent should the requirements of diffusing modern technology and maximizing the rate of growth be moderated by the desire to increase consumption per capita and to increase welfare?

When technological maturity is reached, and the nation has at its command a modernized and differentiated industrial machine, to what ends should it be put, and in what proportions: to increase social security, through the welfare state; to expand mass-consumption into the range of durable consumers' goods and services; to increase the nation's stature and power on the world scene; or to increase leisure?

And then the question beyond, where history offers us only fragments: what to do when the increase in real income itself loses its charm? Babies, boredom, three-day week-ends, the moon, or the creation of new inner, human frontiers in substitution for the imperatives of scarcity?

In surveying now the broad contours of each stage-of-growth, we are examining, then, not merely the sectoral structure of economies, as they transformed themselves for growth, and grew; we are also examining a succession of strategic choices made by various societies concerning the disposition of their resources, which include but transcend the income- and price-elasticities of demand.

CHAPTER 3

THE PRECONDITIONS FOR TAKE-OFF

THE TWO CASES

We consider in this chapter the preconditions for take-off: the transitional era when a society prepares itself—or is prepared by external forces—for sustained growth.

It is necessary to begin by distinguishing two kinds of cases history has to offer.

There is first what might be called the general case. This case fits not merely the evolution of most of Europe but also the greater part of Asia, the Middle East, and Africa. In this general case the creation of the preconditions for take-off required fundamental changes in a well-established traditional society: changes which touched and substantially altered the social structure and political system as well as techniques of production.

Then there is the second case. This case covers the small group of nations that were, in a sense, 'born free': the United States, Australia, New Zealand, Canada, and, perhaps, a few others. These nations were created mainly out of a Britain already far along in the transitional process. Moreover, they were founded by social groups—usually one type of non-conformist or another—who were at the margin of the dynamic transitional process slowly going forward within Britain. Finally their physical settings—of wild but abundant land and other natural resources—discouraged the maintenance of such elements in the traditional structure as were transplanted, and they accelerated the transitional process by offering extremely attractive incentives to get on with economic growth. Thus the nations within the second case never became so deeply caught up in the structures, politics and values of the traditional society; and, therefore, the process of their transition to modern growth was mainly economic and technical. The creation of the preconditions for take-off was largely a matter of building social overhead capital—railways,

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George's reforms, the American Progressive era; and, if you like, to the concessions made to the Russian consumer, technician, and bureaucrat since 1953.

Second, the character of the leadership changes; from the buccaneering cotton-, railway-, steel- and oil-baron to the efficient professional manager of a highly bureaucratized and differentiated machine.*

Third, related to but transcending the first two changes, the society as a whole becomes a little bored with the miracle of industrialization. Just as Soviet society has protested against the imposition upon it of endless novels in which a man's love for his tractor or machine-tool is the central theme, so in many subtle ways the Western world articulated, late in the nineteenth century, its second thoughts about industrialization as a unique and overriding objective: via the Fabians and the muck-rakers, the Continental social democrats, Ibsen and Shaw and Dreiser and, indeed, via Mill and Marshall. It is here, too, as a protestant against the human costs of the drive to maturity, that Marx fits as well, as we shall see in chapter 10.

These changes in the real income, structure, ambitions, and outlook of the society, as maturity comes to be achieved, pose a searching problem of balance and choice around the question: how shall this mature industrial machine, with compound interest built into it, be used? To offer increased security, welfare and perhaps leisure for the citizens as a whole? To offer enlarged real incomes, including the manufactured gadgets of consumption, to those who can earn them? To assert the stature of the new mature society on the world scene? For, as we shall see in chapter 8, maturity is a dangerous time as well as one which offers new, promising choices.

* Few exercises are likely to be more fruitful for the understanding of modern economic history than a comparison of the first three generations of leadership in growing economies; the relatively modest, creative fellows who get the growth started; the hard-handed taskmasters who, perceiving the scale of possibilities, drive the society to maturity, if necessary despite itself; and the comfortable, cautious committee-men who inherit and manage the economy as a profession while the society seeks objectives which include but transcend the application of modern technology to its resources.

CHAPTER 6

THE AGE OF HIGH MASS-CONSUMPTION

THE THREE-WAY CHOICE

Chapter 5 argues that, as technical maturity was approached, men began to take for granted what they were born to, in this case a well advanced industrial society; and their minds turned increasingly to reconsider the ends to which the mature economy might be put.

In a quite technical sense, the balance of attention of the society, as it approached and went beyond maturity, shifted from supply to demand, from problems of production to problems of consumption, and of welfare in the widest sense.

In this post-maturity stage there have been three major objectives which, to some degree, have competed for resources and political support, three directions in which welfare, in this wide sense, might be increased.

First, the national pursuit of external power and influence, that is, the allocation of increased resources to military and foreign policy. It has been a quite consistent feature of modern history for some groups to look out beyond their borders for new worlds to conquer, as their societies approached technical maturity. And in some cases, by one route or another, they gained effective political control over national policy.

A second direction for the use of the resources of a mature economy we can call the welfare state; that is, the use of the powers of the State, including the power to redistribute income through progressive taxation, to achieve human and social objectives (including increased leisure) which the free-market process, in its less adulterated form, did not achieve. During the take-off and in the drive to maturity, those objectives in what Lionel Robbins calls the individualist-utilitarian creed which did not lead to a maximization of output were, relatively, suppressed, the degree of their suppression varying from
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society to society. As maturity approached, these more humane objectives asserted themselves with increased force. Men were prepared, in a sense, to take risks with the level of output—and the incentives in the private sector—in order to cushion the hardships of the trade-cycle; in order to increase social security; in order to redistribute income; in order to shorten the working day; and, generally, to soften the harshness of a society hitherto geared primarily to maximizing industrial output and the spread of modern technology.

The third possible direction opened up by the achievement of maturity was the expansion of consumption levels beyond basic food, shelter, and clothing, not only to better food, shelter, and clothing but into the range of mass consumption of durable consumers’ goods and services, which the mature economies of the twentieth century can provide.

Each society which has created for itself the possibility and necessity of making a choice among these objectives—by attaining technological maturity—has struck a different balance, unique in degree, at least. The uniqueness of the balance was determined in each case by geography, the old culture, resources, values, and the political leadership which dominated it at various intervals beyond maturity. A good deal of American and Western European history since about 1900, Japanese history since the 1930’s, and even Russian history since Stalin’s death, can be told in terms of the problem of choice posed by the attainment of maturity and in terms of the different balances struck among these three objectives, at different times.

Since the United States was the first of the world’s societies to move sharply from maturity into the age of high mass-consumption we shall begin by tracing briefly and schematically how the balance among these alternatives was struck, in the sequence of American history over the past half-century. We shall examine this sequence in four phases: the progressive period, the 1920’s, the great depression of the 1930’s, and the post-war boom of 1946–56.

The American Case

Phase One: The Progressive Period, 1901–16

First, a few words about the progressive period; that is, the period from, roughly, the accession of Theodore Roosevelt in 1901 to the engulfment of Woodrow Wilson’s administration in the problems of the First World War.

Although McKinley had easily won the election of 1900, with a stance that looked backward to the sequence of Republican administrations which had dominated the drive to maturity after the Civil War, American life in a wider sense had been actively preparing itself for a shift in the balance of its objectives; and this was revealed by the popularity of Theodore Roosevelt’s style and rhetoric, as well as by the clear-cut bipartisan defeat of Taft, and all he then appeared to represent, in the election of 1912.

The progressive objectives had, then, fifteen years of relative dominance over domestic policy; and they left their mark. By 1916 the United States had accepted the most revolutionary of all forms of economic policy, the progressive income-tax; it had created a climate in which big business curbed itself or was, to a degree, curbed; the unions were given explicitly the right to organize, outside the Anti-Trust Act; a Federal Reserve System was created, in part to permit a degree of public control to be exercised over the trade cycle. In some of the states even more powerful measures of social control were introduced. But the progressive period was more a matter of mood and the direction of policy than of drastic reallocation of resources.

In these years Americans made another significant decision about the direction of national affairs. In the 1890’s a widespread mood was generating that the United States had, in some sense, become a mature world power, and that it was time for it to play a major role on the world scene; to move out from behind the protective barrier represented by the Monroe Doctrine and the implicit deal with the British, in which the British navy shielded the United States from the vicissitudes of the Eurasian balance-of-power game. And Theodore Roosevelt, architect of the seizure of the Philippines and hero of the Spanish-American War, pressed forward this sense of
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emergence and, to a degree, of assertion on the world scene in his two administrations.

But the so-called 'large view' symbolized by Theodore Roosevelt failed to take hold. The Philippines were kept; but Americans, having been tempted, and fallen a bit from what they conceived to be isolationist grace, in the end turned their backs on the acquisition of empire. In foreign policy they opted for a version of the British Liberal rather than the British Conservative tradition, in the progressive period—quite explicitly so in the figure of Wilson.

American resources, then, did not flow in significantly increased volume either to social services or to military outlays; although the progressive legislation, the Great White Fleet, and the increased role of government in American society were facts.

American resources did, however, flow increasingly into the third post-maturity alternative—into new dimensions of consumption: a trend damped by the rise in urban living costs down to 1920, but palpable in the next major phase, that is, in the boom of the 1920's.

Phase Two: The 1920's

The American 1920's are generally now studied as a period of tragic isolation; as the prelude to severe depression; or as a bizarre social era of bath-tub gin, jazz, mah jong, glamorous athletes, distinguished novelists, and the Charleston.

But that decade is also to be understood as the first protracted period in which a society absorbed the fruits and consequences of the age of durable consumers' goods and services.

Let us examine now a few figures which suggest the character of the change proceeding in American society, and in its economy, over this era of high mass-consumption of which the 1920's is the centre-piece.

First, there was the rise of a new middle class. Between 1900 and 1940 the number of farmers in the United States declined. Those in manufacture, construction, and transport—including skilled workers—rose about in proportion to the total rise in the working force. But semi-skilled workers increased more than twice as rapidly as the working force as a whole; professional people and office workers three times as rapidly as the working force as a whole. The era of the professional technician, and of the skilled and semi-skilled worker had come; and this trend in the structure of the working force has proved virtually universal to all post-maturity societies.

Now where did this population, oriented increasingly towards the provision and enjoyment of consumers' goods and services, live? The answer is that the population was not only increasingly urban, but increasingly suburban. In the 1920's the American population as a whole increased by 16%. Those living in the centres of cities increased by 22%. But those living in the satellite areas—the suburbs—increased by 44%.

What then happened to manufacturing output? Fabricant has arrayed the increases in physical output in the United States between 1899 and 1937 by order of increase. Automobiles lead the list with an increase of 180,100%; cigarettes, petroleum, milk, beet-sugar are all over 100%; cement, canned fruits and vegetables are only a little under 100%.*

What does all this add up to? The United States took to wheels. This was quite truly the age of the mass automobile. With the automobile the United States began a vast inner migration into newly constructed, single-family houses in the suburbs; and these new houses were filled increasingly with radios, refrigerators, and the other household gadgetry of a society whose social mobility and productivity had all but wiped out personal service. Within these houses Americans shifted their food consumption to higher-grade foods, increasingly purchased in cans—or, later, frozen.

Automobiles, single-family houses, roads, household durables, mass markets in higher-grade foods—these tell a good deal of the story of the transformation of American society in the 1920's, a transformation which supported the boom of the 1920's and which altered the whole style of a continent's life, down to its courting habits.

Phase Three: The Great Depression

Then came, of course, a decade's severe and protracted depression. We shall not consider at length here the causes of the onset of depression or the reasons for its extraordinary depth, except to

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say this much: in its onset, the depression of 1929 was a perfectly normal cyclical down-turn; the leading sectors of the boom were wearing a little thin, notably in housing, stimulated by the housing back-log built up during the First World War, but weakened by the deceleration in population growth and family formation. The depression went abnormally deep because the institutions of credit, at home and abroad, broke down, like a series of collapsing floors, grinding the cycle at each stage of collapse to a lower point, through its effects on income, confidence, and expectations.

The length of the depression in the United States—as opposed to its depth—deserves rather more comment; for it relates directly to the stage of growth, to the era of high mass-consumption, into which the United States had entered.

Although many ancillary forces undoubtedly played a part, the central reason for the intractability of the American depression, which still left 17% unemployed on the eve of the Second World War, was that the leading sectors of this phase of American growth required full employment and an atmosphere of confidence before they could become activated again.

What were those leading sectors in the American age of high consumption? They were, once again, the automobile, suburban home-building, road-building, and the progressive extension of the automobile and other durable consumers’ goods to more and more families. When, in earlier historical stages, the momentum of growth hinged on the continued extension of railroads, or on the introduction of other cost-reducing industrial processes—on the side of supply—investment could be judged profitable at relatively low levels of current consumers’ demand. But when investment comes to be centred around industries and services based on expanding consumption, full employment is needed, in a sense, to sustain full employment; for unless consumption levels press outward, capacity in consumers’ goods industries and those supplying them with inputs will be under-used, and the impulse to invest will be weak. The horizons of American industry lowered radically in the 1930’s, and appeared almost to stabilize at a low level.

When, in the nineteenth century, steel went mainly into railways or the new steel ships, the demand for steel was a reflex of what

The American case

some economists like to call exogenous investment; in the age of high consumption, when the demand for steel is, let us say, from the automobile firms and canning industries, the demand for steel becomes a reflex of endogenous investment—of the rise of incomes, of the accelerator, one may say.

On this view the Second World War was a sort of deus ex machina which brought the United States back up to full employment; and in the context of the post-war world—its institutional arrangements drastically altered by the New Deal and such legislation as that put through for veterans’ housing—the United States went on to round out the durable consumers’ goods revolution in a decade of chronic full employment between, say, 1946 and 1956.

During the depression, American society did more, of course, than merely experience a depression. When the engine of growth based on the automobile, suburbia, and durable consumers’ goods broke down, the United States threw its weight hard towards a post-maturity alternative, that is, to increased allocations for social welfare purposes. And the contours of the welfare state were rounded out under Franklin Roosevelt to remain an accepted part of the American scene, down to the present.

Phase Four: The Post-War Boom

The fourth phase—the great post-war boom of 1946–56—can be regarded as a resumption of the boom of the 1920’s. The march to the outer suburbs continued after a marked deceleration in the 1930’s. In 1948 54% of American families owned their own cars; a decade later, 73%. In 1946, 69% of houses wired for electricity had electric refrigerators; a decade later the figure was 96%; and the figures for other electric gadgets—for example, the vacuum cleaner and electric washer—are similar. Television was installed in 86% of such homes by 1956.

And although the deep-freeze and air conditioning are just beginning to take hold in American households it is clear that American growth can no longer continue to be based so heavily on the extension to a higher and higher proportion of the community of the suburban house, the automobile, and the standard mix of electric-powered gadgets. In some items output began to fall off absolutely
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before the recent recession when the automobile industry, seized of
hybris in its recent models, over-reached itself and was suddenly
forced to learn that all sectoral growth curves are subject to long-run
deceleration.*

Phase Five: Where next?

What then does the future hold? Are Americans, having fashioned
this suburban, mobile civilization going to settle down to tidy it
up a little, and enjoy the benefits of affluence? Is it the four-day
work week and the three-day weekend which is coming soon? Some
think it is; and it is still too soon dogmatically to deny their judgment.

But it is clear that something new and important did happen in
American society as the age of durable consumers' goods moved
towards its logical conclusion; and this process again follows the
Buddenbrooks' dynamics. As the durable consumers' goods revolution
was moving to a point where the rate of diffusion had to slow
down, American society made a most extraordinary and unexpected
decision. Americans began to behave as if they preferred the extra
baby to the extra unit of consumption.

During the war years the birth-rate rose from 18 per 1000 to
about 22. This was judged at the time—and to a large degree it
certainly was—a phenomenon of resumed full employment and
early wartime marriages. In the post-war years, however, the level of
births moved up and stayed at about 25 per 1000, yielding a rise
in the population, as well as changes in the age-structure of the
population and in the rate of family formation, of major economic
significance. An official forecast of American population made in
1946 estimated that the American population would reach 165 mil-
lion in 1996; that figure was, in fact, passed within a decade. At the
moment American population is increasing at a rate of more than
1.5% per annum, and is predicted to be some 240 million by 1980.

* This transition poses, incidentally, an interesting problem for the United States;
for it occurs at just the time when Western Europe, Japan, and—some distance behind—
Russia, are entering a rapid growth stage in durable consumers' goods. Some important
part of the American export advantage in recent times has been based on its pioneering
status in these light-engineering commodities. Now they are being mass-produced effi-
ciently in many countries, where lower wage-rates prevail. Is Detroit repeating a version
of what British manufacturers of cotton goods and rail iron went through in the more
distant past?

The American case

This reimposition of Malthusianism in American society, in all
its consequences, combined with other circumstances—notably
the cumulative deficit in social overhead capital and the cost
of the arms race, if it should continue—are likely to make the
next decade in American history one of vigorous expansion of
output, touched at the level of private consumption by a degree of
austerity.

To make this notion of strain on private consumption more
concrete consider an estimate of the 'dependency ratio' recently
calculated in a study of American population by Conrad and Irene
Taeuber.* That ratio measures the relation between the working
population and those outside the working-force age limits—in the
United States those under 20 and over 65. It is calculated in the
form of the number of dependent persons 100 members of the
working force must support. Historically that ratio has been falling;
that is, each member of the working force has had to support fewer
and fewer persons outside. In 1915 it was 84; in 1935, as low as 74;
but by 1955 it had risen back to 81; and on the basis of present
population structure and birth-rates it will be of the order of 98
in 1975.

In short, by its own choice, American society as of 1959 is not
quite as affluent as it looks. It is too soon for a four-day week and
for tolerance of substantial levels of unemployment, if only the
unemployment benefits are large enough—as Professor Galbraith
has counselled. A society like the United States, structurally com-
nitted to a high-consumption way of life; committed also to main-
tain the decencies that go with adequate social overhead capital;
committed by its own interests and the interests of those dependent
upon it or allied to it to deal with a treacherous and extremely
expensive world environment; committed additionally, out of its
own internal dynamics, to a rapidly enlarging population and to a
working force which must support more old and more young... such a society must use its resources fully, productively, and wisely.
The problem of choice and allocation—the problem of scarcity—
has not yet been lifted from it.


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POST-MATURITY ELSEWHERE

The question now arises: why did not Western Europe, which had also attained maturity by the First World War, join the United States in the age of high mass-consumption in the 1920’s? Or, put another way, what has been the sequence of choices made by Western Europe in its post-maturity phase, among the post-maturity alternatives?

Pre-1914

Before 1914, as the pressures to balance out and soften the harshness of an industrial society mounted, the societies of Western Europe moved more sharply towards the welfare state than the United States. This was probably because they were less agrarian in their political balance; but there were other elements as well, notably the greater weight of Socialist doctrines and ideals within the industrial working force and among intellectual leaders. The government was called upon to provide a higher proportion of total consumption than in the United States; and as the recent comparisons between the O.E.E.C. countries and the United States, directed by Milton Gilbert, indicate, Western Europe has continued down to 1955 to look to the State for a higher proportion of consumption (excluding defence) than the United States.* The rise of urban consumption in Western Europe was also, as in the United States, under severe restraint in the pre-1914 decade, due to the rise in the cost of living.† And, to a degree, such movements as Lloyd George’s Liberal Reform are to be understood partially as a turning to politics to redress with ballots the unfair allocations of the market-place, much as the New Deal was the response of a society frustrated by severe and chronic unemployment.

The 1920’s

What can we say about the 1920’s in Western Europe?

In the immediate post-war years Western Europe faced, of course, more severe problems of reconstruction and more difficult problems of re-adjustment than the United States. Western Europe did not proceed straight away into the age of durable consumers’ goods as did the United States.

Here the story of the European national economies differs a good deal. What we can say in general is that in the 1920’s there were for most of Europe only about four years of relatively normal prosperity, 1925-9; and these only brought Western Europe back to something like—or slightly above—1913 levels of output. While American growth carried forward, lifted by the new phase of suburban housing, the automobile, and consumers’ durables, Europe relatively fell behind in the 1920’s. If the present analysis is correct, the reason was that European societies, in the widest sense, failed to move on to what is logically—in terms of the apparent income-elasticities of demand of a free economy—the normal stage-of-growth beyond maturity.

The 1930’s

The story of the 1930’s tends to confirm this hypothesis, to a degree. Leaving rearmament aside, it was housing and some acceleration in the automobile and durable consumers’ sectors that helped create a degree of Western European prosperity in the 1930’s. Or, put another way, when the policies of European governments began to create an environment of greater prosperity in the 1930’s, income-elasticities of demand expressed themselves in a disproportionate rise in demand for durable consumers’ goods and services—including housing.

Consider, for a moment, the relative production of motor vehicles, private and commercial, as they moved between 1929 and 1938 in Western Europe and the United States. Svennislon calculates that the four major European nations produced in 1929 702,000 private and commercial vehicles, whereas the United States produced 5.4 million in that year. After a decade of protracted depression in the United States and a considerably greater degree of European recovery, the figures for 1938 were quite different. For Europe 1.1 million; for the United States, 2.5 million. The gap was narrowed from a European figure 13% of the American in 1929 to a European figure 44% of the American on the eve of the Second World War.*

* Milton Gilbert et al., Comparative National Products and Price Levels (O.E.E.C., Paris, 1958), especially Table 28, p. 82.
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Diffusion of the private automobile

1900 1910 1920 1930 1940 1950 1957

Persons per car
3 U.S.A.
5 Canada
10 Great Britain
15 France
20 Germany
50 Italy
100 Japan

Ratio scales

Private automobiles per thousand population

U.S.S.R.

Figs. 1, 2 and 3 suggest over a longer period the relative diffusion of the private automobile in the post-maturity societies.

A number of technical and geographic factors bear on Europe’s relatively slower shift to the road: the vast capital needed for road-building; the monopolistic power of the railways and the governments behind them; the earlier start of the United States in the concept of the mass-produced car for a mass market; the greater

Post-maturity elsewhere

distances in the United States and the greater availability of cheap suburban land for housing development. In the end it must be added, however, that American society, with its egalitarian bias, its traditional high wages and high workers’ living standards, took

Diffusion of the private automobile

1900 1910 1920 1930 1940 1950 1957

Persons per car
3 U.S.A.
4
5 Canada
10 Great Britain
15 France
20 Germany
40 Italy

Natural scale

Private automobiles per thousand population

100

Fig. 1

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more easily to the concept of high consumption on a mass basis than did the more hierarchical societies of Europe. It has taken the European worker a little while to accept the notion that the gadgets of the machine age, travel, and the other services a mature economy can afford are really for him and his family. And this fact helps, in part, to account for the relative stagnation of the European economy during the inter-war years.

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to power which installed an American version of the welfare state. In Britain it led to a National and then to a Conservative Government that built prosperity of a sort on housing, devaluation, and Empire Preference; in France it led to a Popular Front Government. But in Germany and Japan, the break-down—economic, diplomatic, military and psychological—of the system implicit in the Versailles settlement led to regimes which opted for a quite different use of the potentialities of mature economies: military expansion. And once Hitler and the Japanese militarists were in power, the competitive arena of power imposed a quite different set of imperatives on all other societies. In the short run rearmament became a factor in the European recovery of the 1930’s, diverting resources from the expansion of mass consumption; and in the not-so-long-run there was a major war.

Post-1945.

In the post-war years, an interval of reconstruction followed. But this time Western Europe broke out into the phase of durable consumers’ goods and services. As the United States was pushing the era of high consumption to a kind of logical conclusion, and beginning to alter its contours by opting for larger families, Western Europe and Japan began to diffuse to their populations, in different degree, the kinds of goods and services which a mature-industrial system can supply. Between 1950 and 1955 the gap between American and Western European proportionate outlays in consumers’ durables began to narrow; and the Gilbert study shows that in the post-war years the differences in outlay on consumption between the United States and Western Europe, and as among the Western European countries, can be almost wholly explained in terms of relative incomes and relative prices. The area to be explained by what economists call ‘differences in taste’ becomes remarkably narrow.

All the post-war mature societies of the West and Japan are behaving in a remarkably ‘American’ manner, except the Americans, with their curious new obsession with family life, privacy, do-it-yourself, getting away on trailers and in motor boats, writing impiously about the Organization Man.
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The level of real income and consumption per head in Japan is, of course, lower than in most Western European countries. Nevertheless, the remarkable post-war rise in tertiary industry, and the evidences of a diffusion of consumers’ goods and services on a new scale, even to the peasantry, suggest that, with appropriate modifications, the Japanese are also experiencing a typical post-maturity surge of growth based in good part on expanding levels of mass consumption.* Western Europe and Japan have then—in their own ways—entered whole-heartedly into the American 1920’s: without, however, the peculiarly American aberration of Prohibition.

It is important to be clear that for Western Europe this shift of leading sectors to the areas of high mass-consumption is not a strictly post-war development. The Great West Road, the rise of Coventry, and the Morris works at Oxford are earlier phenomena; and the Volkswagen—as a conception—is a product of Hitler’s Germany, and of pressures for a kind of consumption to which the German government of the late 1930’s felt the need to respond, even if only by gesture. But it is only in the post-war years that the obstacles—technical, political, and sociological—were cleared away. There is no doubt that the momentum of the post-war economies of Western Europe is to be explained substantially by a widespread boom in consumers’ goods and services: the acceptance and absorption of the age of high mass-consumption.

THE TERMS OF TRADE AFTER TWO WARS

But there is still a problem to be explained. In considering the United States in the 1930’s you will recall the emphasis on the role of full employment as an initial force—almost a prior necessary condition—for getting the engine of diffusion under way. The dictum was, roughly, that for high consumption to serve as a leading sector, one had to attain full employment, so that pressure to expand investment in the consumption sectors would be felt.

Here one must explain how it came about that the societies of Western Europe had such difficulty attaining full employment after the First World War and why it was, relatively, so easy after the Second.

* See, notably, K. Okawa, The Growth Rate of the Japanese Economy since 1878, pp. 231–43.

The terms of trade after two wars

With all due respect to the Keynesian Revolution, the sea-change in democratic politics with respect to full employment is not a sufficient explanation; for while the politicians would have been inextricably pressed to create conditions of full employment, if unemployment had proved to be the major post-1945 problem—that was not their situation down to 1956. Their dilemma has centred on inflation and on balance-of-payments difficulties. Their central problem has been how to mobilize sufficient resources for other essential purposes—military and foreign policy, exports and investment—in the face of a powerful drive to extend the area and scale of mass consumption.

In good part the reason for the outcome lies in a radical difference between the world after 1920 and that after 1945. In 1920 the prices of food-stuffs and raw materials broke sharply with respect to industrial products, making for extremely favourable terms of trade for the urban areas of the world, but weakening the rural demand for manufactured products. Thus the export markets of Europe suffered.* In Britain, and to a lesser degree elsewhere, the advantages of favourable terms of trade were largely dissipated in the inter-war years in the form of chronic unemployment in the export sectors and in those industries dependent upon them, such as coal. For a decade after the Second World War the situation was exactly reversed. The cities—and such nations as Britain—were hard-pressed by unfavourable terms of trade; but the demand for exports was high, full employment relatively easy to obtain. And if one adds to chronic full employment such structural changes as the stimulus of the Second World War to the light-engineering industries—which could be converted efficiently to many lines of consumers’ durables and capital goods; the wartime determination of European populations to assert themselves politically and socially; the demonstration effect of American G.I.’s smoking cigars and distributing the largess of the P.X.’s to the local girls; you have the basis for the new era in Western European and Japanese economic, social, and political history, which we can now observe.

* Britain, and other large exporters to food-stuff- and raw material-producing areas, have experienced a mild version of the terms of trade dilemma in 1938–9. In the contemporary world, however, the pressures to maintain the incomes of importers of manufactured goods—via capital exports—are vastly more powerful than in the 1920’s.
Beyond high mass-consumption

Therefore, similar patterns of structural evolution in different societies as they go through the high-consumption phase.

Now, let us stand back a bit, and seek a wider perspective.

The argument of this book has been that, once man conceived of his physical environment as subject to knowable consistent laws, he began to manipulate it to his economic advantage; and once it was demonstrated that growth was possible, the consequences of growth and modernization, notably its military consequences, unhinged one traditional society after another, pushed it into the treacherous period of preconditions, from which many, but not all the world’s societies have now emerged into self-sustained growth through the take-off mechanism described in chapter 4.

This revolutionary state of affairs did not decree a single pattern of evolution to which each society has conformed; but it did, at each stage, pose a similar set of choices for each society, framed by the problems and possibilities of the growth process itself.

In successive chapters we have looked at the problems, possibilities, and choices of the preconditions period, of the take-off, of maturity, and of the era of high mass-consumption.

The era of high mass-consumption has by no means come to an end, even in the United States; and it is still gathering momentum in many parts of Western Europe and in Japan as well. We can be sure that there will be variety in the patterns of consumption that will emerge as compound interest grinds on and the income-elasticities of demand, in their widest sense, reveal themselves in different societies. For example, there is no need for other societies to invest as much as the United States in the automobile; to set up the suburbs as far away from the centres of the cities; and to impose on themselves the kinds of problems the United States now faces with the reconstruction of the old city centres, the building of new continental and metropolitan road networks, and the provision of parking space. Indeed, there are grave geographic and physical limitations on other nations repeating this pattern, except, perhaps, Russia. We can be confident, however, that to the degree that consumer sovereignty is respected and real incomes increase we will see similar—but not identical—income-elasticities of demand and,
The age of high mass-consumption

Nevertheless this is a real enough question. Salvador de Madariaga has recently posed the question thus, in writing of the Scandinavian and Anglo-Saxon democracies.*

All these countries enjoy two advantages which give them a certain prestige: the standard of living of their populations is relatively high; and their political life is undisturbed by any serious incidents. Internal peace and prosperity are such obvious benefits that other peoples contemplating them might perhaps let themselves be carried away by envy and admiration, to the extent of not observing certain counter-balancing aspects of the lives of Anglo-Saxons and Scandinavians.

The most striking of these is without doubt boredom. Well governed and well administered people are bored to death.

We are not prepared to accept this judgment wholly; but still it poses the question: are poverty and civil strife a necessary condition for a lively human existence?

We shall return to this theme in the final chapter, in comparing Marx's nirvana of Communism with our own view of the long-run implications of compound interest. But we need not brood excessively over this matter. For the moment—for this generation and probably the next—there is a quite substantial pair of lions in the path. First, the existence of modern weapons of mass destruction which, if not tamed and controlled, could solve this and all other problems of the human race, once and for all. Second, the fact that the whole southern half of the globe plus China is caught up actively in the stage of preconditions for take-off or in the take-off itself. They have a reasonably long way to go; but their foreseeable maturity raises this question: shall we see, in a little while, a new sequence of political leaders enticed to aggression by their new-found technical maturity; or shall we see a global reconciliation of the human race. Between them these two problems—of the arms race and the new aspiring nations—problems closely related in the world of contemporary diplomacy—pose, for the technically more mature northern societies, a most searching agenda to which, despite the blandishments of durable consumers' goods and services and, even, larger families, we had better turn our minds if we are to have the chance to see whether secular spiritual stagnation—or boredom—can be conquered.


CHAPTER 7

RUSSIAN AND AMERICAN GROWTH

A REMARKABLE PARALLEL

Before turning, in chapters 8 and 9, to the relevance of the stages-of-growth to issues of war and peace, it may be useful to examine briefly a matter of both historical and contemporary interest: the nature and meaning of the relative paths of growth of Russia and the United States.

When we think journalistically of Russian economic development a number of images may come to mind: an image of a nation surging, under Communism, into a long-delayed status as an industrial power of the first order—symbolized by the Russian success in launching the first earth and solar satellites; an image of a pace of industrial growth unique in modern experience, held at forced draught by a system of state controls that constrains consumption, maintains unexampled rates of investment, and avoids lapses from full employment; an image of a planned economy so different in its method and institutions as to require forms of analysis different from those applicable in the West. In short, the conventional image is of a story apart.

There are, of course, profound special elements in the story of the evolution of modern Russian society and of its economy; and, before we finish, we shall try to identify the nature of its uniqueness. But the first point to grasp is that Russian economic development over the past century is remarkably similar to that of the United States, with a lag of about thirty-five years in the level of industrial output and a lag of about a half-century in per capita output in industry. Moreover, the Russian case, linking the Czarist and Communist experiences, falls, like the case of the United States, well within the broad framework of the stages-of-growth analysis.

Now, first, consider Figure 4, reproduced from the work of G. Warren Nutter, showing industrial production per head of population for Russia from 1880 to 1955 and for the United States from
Russian and American growth

1870 to 1955.* Note, particularly, that Nutter’s chart converts industrial output per head into an index, with 1913 equal to 100. It shows, therefore, comparative rates of growth in output per head, not absolute figures; and it should be read with an awareness that the median lag in 1955, for the thirty-seven industries involved, is fifty-six years of growth: in short the whole Soviet curve is set below the American by an amount that does not vary greatly, in terms of time-lag.

![Graph showing industrial production and materials for the United States and Soviet Union, with indices from 1870 to 1955.](image)

Fig. 4

What emerges is that, between the 1880’s and the First World War, Russia, relatively, came forward during its take-off; it fell behind, in the 1920’s, when the United States enjoyed a boom, and Russia reorganized slowly after war and revolution; it came forward relatively during the first Five Year Plans of the 1930’s, when the United States was gripped in a slump; and in its post-1945 phase Russia again came forward relatively, at a time when Russian output was more heavily concentrated in industry and American

*A remarkable parallel

output was shifting structurally to housing and non-manufactured services.

Now consider the Tables, based on absolute levels of output (5) and output per capita (6). Broadly speaking, the relative position, in terms of years of lag, remains in 1955 surprisingly what it was in 1913. The lags are, of course, not uniform: in output they are under twenty years in iron ore, chemical fertilizers and dyes; well over fifty years in certain consumers’ goods: soap, for example, woollens, and beer. But if one takes the growth sequence as the basis for comparison, rather than other possible criteria, Nutter is correct in his four conclusions:

Soviet industry seems still to be roughly three and a half decades behind the United States in levels of output and about five and a half decades in levels of per capita output... Second, ... the development of Soviet industry is roughly equivalent to what took place (in the United States) in the four decades bracketing the turn of the century—in per capita terms, to an even earlier period ending around the turn of the century. Third, over the Soviet era as a whole, Soviet industries have generally lost historical ground to their American counterparts—the lags have generally increased—in terms of both total and per capita output... Fourth, while Soviet industries have tended in recent years to gain ground in terms of total output, they have continued to lose ground in terms of per capita output.

All of this is, in a sense, a statistical way of stating that the Russian take-off was under way by the 1890’s, whereas the American take-off was completed by 1860. After take-off both societies suffered severe vicissitudes: the United States in the Civil War and the protracted depression of the 1930’s, Russia in two World Wars which brought devastation from which the United States was spared. But the process of industry, after take-off, was remarkably similar in the two cases, in terms of output; and in terms of productivity per man, the initial American population-resource balance advantage was, down to 1955, roughly maintained. And the similarities include the fact that the Russian take-off was also a railway take-off, bringing to life new modern coal, iron, and heavy-engineering industries; and these railway take-offs were also each followed by a stage dominated by the spread of technology to steel fabrication, chemicals and electricity.

### TABLE 5. Lag of the Soviet Union behind the United States in output, benchmark dates, 37 industries

<table>
<thead>
<tr>
<th></th>
<th>Lag (number of years)</th>
<th>Increase (+) or decrease (−) in lag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron ore</td>
<td>28</td>
<td>36</td>
</tr>
<tr>
<td>Pig-iron</td>
<td>30</td>
<td>39</td>
</tr>
<tr>
<td>Steel ingots</td>
<td>21</td>
<td>32</td>
</tr>
<tr>
<td>Rolled steel</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Primary blister copper</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>Lead</td>
<td>94</td>
<td>60</td>
</tr>
<tr>
<td>Zinc</td>
<td>40</td>
<td>43</td>
</tr>
<tr>
<td>Electric power</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Coal</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>Coke</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>Crude petroleum</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>Natural gas</td>
<td>32</td>
<td>51</td>
</tr>
<tr>
<td>Soda ash</td>
<td>22</td>
<td>31</td>
</tr>
<tr>
<td>Mineral fertilizer</td>
<td>43</td>
<td>27</td>
</tr>
<tr>
<td>Synthetic dye</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Caustic soda</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>Paper</td>
<td>44</td>
<td>46</td>
</tr>
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<td>Sawn wood</td>
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<td>Window glass</td>
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<tr>
<td>Rails</td>
<td>42</td>
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</tr>
<tr>
<td>Railroad passenger cars</td>
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<td>46</td>
</tr>
<tr>
<td>Railroad freight cars</td>
<td>33</td>
<td>51</td>
</tr>
<tr>
<td>Butter</td>
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<tr>
<td>Vegetable oils</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Sausages</td>
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<td>Fish catch</td>
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<tr>
<td>Soap</td>
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<td>52</td>
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<td>Sugar</td>
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<td>Canned food</td>
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<td>Silk and synthetic fabrics</td>
<td>23</td>
<td>44</td>
</tr>
<tr>
<td>Woolen and worsted fabrics</td>
<td>43</td>
<td>67</td>
</tr>
<tr>
<td>Median</td>
<td>28</td>
<td>36</td>
</tr>
</tbody>
</table>

Note: A Soviet lead is indicated by a negative sign in the first three columns. Where U.S. data do not go back far enough to give the full lag, the calculable lag is followed by a plus sign. Asterisk (*) indicates insufficient data. Asterisk (*) indicates Soviet output exceeds U.S. output up to present.

From: G. Warren Nutter

### TABLE 6. Lag of the Soviet Union behind the United States in per capita output, benchmark dates, 37 industries

<table>
<thead>
<tr>
<th></th>
<th>Lag (number of years)</th>
<th>Increase or decrease (−) in lag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron ore</td>
<td>53</td>
<td>52</td>
</tr>
<tr>
<td>Pig-iron</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>Steel ingots</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Rolled steel</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Primary blister copper</td>
<td>53</td>
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<td>Zinc</td>
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<td>−50</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: See Table 5.

From: G. Warren Nutter
Russian and American growth

THE MAJOR DIFFERENCES

Having established this rough but important framework of uniformity of experience now let us catalogue some of the major differences between Russia and the United States.

First, the creation of the preconditions for take-off was, in its non-economic dimensions, a quite different process in Russia. Russia was deeply enmeshed in its own version of a traditional society, with well-installed institutions of Church and State as well as intractable problems of land tenure, an illiterate serfdom, over-population on the land, the lack of a free-wheeling commercial middle class, a culture which initially placed a low premium on modern productive economic activity. The United States, again to use Hartz’ phrase, was “born free”—with vigorous, independent land-owning farmers, and an ample supply of enterprising men of commerce, as well as a social and political system that took easily to industrialization, outside the South. Thus, whereas Russia had to overcome a traditional society, the United States had only to overcome the high attractions of continuing to be a supplier of food-stuffs and raw materials—as well, if you like, as the damper of a milder colonialism.

Second, throughout this sequence, American consumption per head, at each stage of growth, was higher than in Russia. We have, as in other cases, a high degree of uniformity in the timing of the spread of technology, taking place within a considerable spread in income and consumption per capita. Basically, this is a matter of population-resource balances; but the tendency was reinforced in both Czarist and Soviet Russia by constraints imposed by the State on the level of mass consumption.

Third, the drive to maturity took place in the United States, after the Civil War, in a setting of relative political freedom—outside the South—in a society tightly linked to the international economy, at a time of peace, and, generally, with rising standards of consumption per head. In Russia it occurred in the three decades after 1928, in a virtually closed economy, against a background of war and preparations for war, which did not slow the spread of technology, but which did limit the rise of consumption; and it occurred with something over 10 million members of the working force regularly in forced labour down to very recent years.

Fourth, the Soviet drive to maturity took place not only with constraints on consumption in general but severe restraints in two major sectors of the economy, not fully represented in these industrial production indexes: agriculture and housing. In housing the Soviet Union lived substantially off the Czarist capital stock down to recent years, minimizing housing outlays, letting space per family shrink; in agriculture it invested heavily, but within a framework of collectivization that kept productivity pathologically low, once Lenin’s “New Economic Policy” was abandoned in 1929. In addition, Russia has invested very little indeed in a modern road-system, which has drawn so much American capital.

Thus, the equality in historical pace between Soviet and American industrialization has been achieved by a radically higher proportion of Soviet investment in the heavy and metal-working industries than in the United States, imparting a major statistical advantage to Russia in comparison of indexes of industrial growth. And this difference in the pattern of investment was reinforced by the following two further quite real technical factors enjoyed by any late-comer: the ratio of net to gross investment during the industrialization drive was higher in Russia than in the United States; and the pool of unapplied technological possibilities was greater than in the United States.* Both of these latter advantages are, essentially, transient; that is, as Russia has come to maturity, it must allocate increased relative proportions of its resources to meet depreciation; and, as it catches up with modern technology over the full range of its resources, it can enjoy, like the United States and the other mature economies, only the annual increment to technology, as it were, rather than a large unapplied back-log.

But one apparent advantage remains to the Soviet Union in the statistics of the growth race, and this we had better examine a little further; that is, the concentration of its investment in heavy industry related to military potential, as opposed to the American diffusion of investment over heavy and light industry, consumers’ goods and

Russian and American growth

services. It is essentially this difference in the pattern of the outlays above the level of consumption which defines technically the major differences between the Soviet and American economies and which poses, in a sense, the question of whether future Soviet economic growth is a danger to the Western world.

To approach this question rationally it is necessary to separate sharply two questions: the question of military outlays; and the question of the Soviet rate and pattern of economic growth.

THE MILITARY QUESTION

First the military question. In recent years the Soviet Union has been allocating about 20% of GNP to military purposes. The most recent Soviet budget figures suggest some decline in the proportion, but not in the absolute level of allocation to military purposes. The United States has been allocating about 10% of GNP to military purposes. Correcting for relative levels of GNP and relative prices it is probably true that in real terms the total Soviet military effort is about equivalent to the American. It is, however, quite different in composition.

Russia has invested somewhat ahead in medium- and long-range ballistic missiles and is in a stage of production rather than research and development which uses up, almost certainly, a higher proportion of its budget; and Russia has maintained a large army. The United States has, on the other hand, larger naval and air-force allocations.

The nature of the Soviet military threat lies, then, not in the scale of its military outlays relative to the United States but in whether its particular military dispositions are likely to yield one of the two following situations: first, a lead in missiles sufficiently great to take out Western retaliatory power at a blow. If this result were to be achieved, it would derive not from the scale of the Soviet effort, but from a forehanded superior concentration of its best scientific talents on a new weapons system: just as the Battle of France was lost in 1940 not because of the scale of the German effort relative to that of France and Britain but because the blitzkrieg technique was built on mobile tank warfare backed by the dive-bomber. The second danger is that Russia will find a situation where it can effectively counter the American air and naval strength with its missile threat and bring to bear its superior ground forces in a successful limited war in some important area.

There is also a third danger, of a mixed military and diplomatic character; namely, that in a test of will Moscow will succeed in forcing a Western diplomatic retreat, in a specific area, due to fear that holding fast will risk major war.

It happens to be the author's view that American military efforts should be larger than they now are; but the danger lies not in the relative scale of Soviet versus American and Western military outlays; nor does it lie in some generalized Soviet superiority in growth-rate of GNP; the danger lies in the composition of the Soviet military effort relative to that of its potential opponents, and in the ways the Soviet leadership might contrive to bring it to bear.

This general point can be made more concrete by an illustration. After the first Soviet sputnik was launched there was some quite widespread soul-searching in the United States on whether that country was producing too few engineers and scientists. In some quarters the argument assumed the form of a kind of numbers racket in which charts were drawn up of the output of engineers in both countries, with the curves ominously crossing. This approach missed the point. The point is that Russia has concentrated a much higher proportion of its existing engineers and, especially, its first-class breakthrough scientists in military affairs; and it concentrated them to a much higher degree on the missiles problem. It is in allocation rather than in number that Russia has moved forward—in missiles, and in military power generally. It has created first-class military status from an economic base which, in scale and productivity, is some distance behind that of the United States, grossly behind that of the United States and Western Europe combined. In this sense, it has repeated what Germany and Japan did in the 1930's. We would not, for one moment, deprecate the meaning or the threat of this Russian performance. But this selective and purposeful performance should not be confused with the question of growth-rates and their meaning.

* This argument would not, of course, imply that the size of the total pool of scientists and engineers is irrelevant to a society's military capabilities. For example, Russia and the United States with their 'large battalions' can explore simultaneously a number of possible solutions to bottleneck problems; whereas Britain and France, for example, must gamble on a prima facie choice among possible solutions.

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The military question

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Russian and American growth

THE ECONOMIC QUESTION

That leaves us with the second question: the danger—or, better, the meaning—of the current higher rate of increase in Soviet GNP. Are we to quaver because in Russia GNP moves forward now at something just under 6%; whereas it has averaged only 3 or 4% in the post-1945 United States? Although, of course, the Western world would lose power and influence in many directions if its output should continue to stagnate, there is no cause for panic in the light of aggregative Soviet statistics. Why not? Will not the curves soon cross? Will not Russia soon achieve world economic primacy in some meaningful sense?

First, it is necessary to beware of linear projections. A variety of forces at work in Russia, already evident in her projected figures for expansion, are making for deceleration. The E.C.E. Survey of Europe in 1957 (published in 1958) presented, for example, the official projected rates of growth in key sectors of Russian industry shown in Table 7.*

<table>
<thead>
<tr>
<th>Annual average rate of increase</th>
<th>Coal</th>
<th>Oil</th>
<th>Pig-iron</th>
<th>Steel</th>
<th>Electric power</th>
<th>Cement</th>
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</thead>
<tbody>
<tr>
<td>1955-58</td>
<td>8.6</td>
<td>13.6</td>
<td>10.0</td>
<td>8.5</td>
<td>8.3</td>
<td>19.5</td>
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<tr>
<td>1957-72</td>
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<td>9.4</td>
<td>3.3</td>
<td>5.3</td>
<td>9.7</td>
<td>8.6</td>
</tr>
</tbody>
</table>

There is little doubt, for example, that the absolute figures of Soviet steel output will approach the level of those in the United States. As Nutter has said: ‘each son will ultimately catch up to his father in height, and brothers of different age will differ less and less in height as they get older’. But retardation in growth-rate is already under way in many Soviet sectors; and while the absolute figures of the two nations will get closer, and, in time, the historic productivity lags should also diminish . . . what of it? Why should Russia not have an industrial establishment equal to or even greater than the United States, if its population and population-resource balances permit?

* These longer-term figures are not markedly inconsistent with the 1965 goals presented by Khrushchev to the 21st Congress of the Soviet Communist Party in January 1959.

The economic question

Second, if the West copes with the military and foreign policy menace represented by the ambitions and dilemmas of Russia—along some such lines as are suggested in chapter 9—then the composition of Russian output is of little concern to us.

Moreover, the composition of Russian output must certainly change. The present higher Soviet rate of increase in GNP is the product substantially of a peculiar concentration of investment in certain sectors. If steel is not to be used for military purposes, what will it be used for? An enormous heavy industry, growing at high rates, is not a goal in itself; nor is it an intrinsic international advantage. This is gradually being reflected in Soviet allocations: in agriculture, for example, where the pressure to increase the supply of higher grade food is a major domestic goal; to a degree in housing; to a degree in other forms of consumers’ goods—for example, television. Slowly, ever so slowly, the creep of washing machines, refrigerators, motor-cycles, bicycles, and even automobiles has begun—and the first Russian satellite town is under construction.* As these pressures grow, and the structure of the Soviet economy moves closer to that of the high-consumption economies of the West, we can expect the growth-rates to become more alike, as well. But the fundamental point is this: we should not be taken in by the fallacy of misplaced concreteness. An economy is an instrument for a larger purpose. When that economy is turned to purposes which endanger us—as in the Soviet pattern and scale of military outlays—we must respond by making aggression steadily unattractive. Otherwise, the test of our own economies—and of the non-Communist world as a whole—lies not in the Soviet economic performance, but in our ability to fulfil the ambitions of our own peoples.

THE LOCUS OF THE CHALLENGE

Here is the rub and the challenge. Commenting on Nutter’s exposition late in 1957 Hans Heymann, Jr, said: ‘. . . the reduction in Soviet growth that is likely to have occurred would hardly appear to be a cause of jubilation on our part, particularly when viewed against the background of the trend in U.S. manufacturing output,

Russian and American growth
which has grown not at all over the last two years. If American and Western output stagnates, we shall not be able to mount adequate programmes of military defence or of assistance to underdeveloped areas; and we shall not be able to meet the pressures for increased private consumption and social overhead capital arising from our enlarging populations. It is evident, for example, that democratic societies must learn to solve the problem of inflation by means other than constraint on the level of employment and output. While the American and Western European rates of growth, in themselves, are not the key question, it is only against the background of adequate rates of increase in both output and productivity that the democratic process is likely to yield a composition of output which will both protect our societies and maintain their inner quality.

The lesson of all this is, then, that there is nothing mysterious about the evolution of modern Russia. It is a great nation, well endowed by nature and history to create a modern economy and a modern society. In the course of its take-off it was struck by a major war, in which the precarious and changing balance between traditional and democratic political elements collapsed in the face of defeat and disorder; and a particular form of modern societal organization took over control of a revolutionary situation it did not create. Its domestic imperatives and external ambitions have produced a version of the common growth experience, abnormally centred in heavy industry and military potential. Its political leadership is now trying to exploit the margins of resources opened up by arrival at maturity to seek a radical expansion of Soviet power on the world scene, by damping the rate of expansion of consumption. But neither in scale, nor in allocation, nor in momentum do Russian dispositions present a menace beyond American and Western resources to deal with; nor, peering farther ahead, are there reasons to believe the Russian experience will transcend familiar limits.

The problem posed by contemporary Russia lies not in the uniqueness of its story of modernization, but in whether the United States and the West can mobilize their ample resources to do the jobs that