Walt Whitman Rostow

W. W. Rostow was born in 1916 in New York City. At the age of fifteen he won a scholarship to Yale University, then received his B.A. from Yale in 1936, his Ph.D. from Yale in 1939, and an M.A. from Oxford, where he was a Rhodes Scholar, in 1938.

His teaching career in economics and history began in 1940 at Columbia University. He returned to Oxford as the Harmsworth Professor of American History, 1946–47. In 1949 he was the Pitt Professor of American History at Cambridge University. From 1950 to 1961 he was Professor of Economic History at the Massachusetts Institute of Technology, and from 1951 to 1961 he was also a staff member of the Center for International Studies at MIT.

In 1958 he spent another year at Cambridge University, where he lectured and wrote about a subject that Keynes and his followers had neglected—that of economic development. His lectures on the "process of industrialization" led to his noted book, *The Stages of Economic Growth* (1960). In 1969 he became Professor of Economics and History at the University of Texas at Austin, where he is currently the Rex G. Baker Jr. Professor of Political Economy.

He was Assistant to the Executive Secretary of the Economic Community for Europe, 1947–49. Between 1961 and 1969 he held a succession of government posts: Deputy Special Assistant to the President for National Security Affairs, Counsellor and Chairman of the Policy Planning Council at the Department of State, U.S. Member of the Inter-American Committee on the Alliance for Progress, and Special Assistant to the President for National Security Affairs in the White House.

Rostow received the Order of the British Empire (1945), the Legion of Merit (1945), and the Presidential Medal of Freedom (1969).

His books include: *Essays on the British Economy of the Nineteenth Century* (Oxford: Clarendon Press, 1948); *The Process of Economic Growth* (New York: Norton, 1952; Oxford: Clarendon Press, 1953; 2d ed., 1960); with Richard W. Hatch, *An American Policy in Asia* (New York: Technology Press, MIT, and John Wiley, 1955); with Max F. Millikan, *A Proposal: Key to an Effective Foreign Policy* (New York: Harper, 1957); *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge, Eng.: Cambridge University Press, 1960; 2d ed., 1971); as editor, *The Economics of Take-off into Sustained Growth* (London: Macmillan; New York: St. Martin's Press, 1963); *Politics and the Stages of Growth* (Cambridge, Eng.: Cambridge University Press, 1971); *How It All Began: Origins of the Modern Economy* (New York: McGraw-Hill, 1975); *The World Economy: History and Prospect* (Austin: University of Texas Press; London: Macmillan, 1978); and *Why the Poor Get Richer and the Rich Slow Down: Essays in the Marshallian Long Period* (Austin: University of Texas Press; London: Macmillan, 1980).

A few of his articles are "Investment and the Great Depression," *Economic History Review*, vol. 8 (May 1938); "The Terms of Trade in Theory and Practice," *Economic History Review*, vol. 3 (1950); "The Historical Analysis of the Terms of Trade," *Economic History Review*, vol. 4 (1951); "Trends in the Allocation of Resources in Secular Growth," in *Economic Progress*, L. H. Dupriez, ed. (London: Macmillan, 1955);"The Take-off into Self-Sustained Growth," *Economic Journal*, vol. 66 (March 1956); "The Stages of Economic Growth," *Economic History Review*, vol. 11 (1959); and "The Developing World in the Fifth Kondratieff Upswing," *Annals of the American Academy of Political and Social Science*, vol. 420 (1975).

His principal contributions have related to a dynamic, disaggregated theory of production and prices in which changes in population, technology, and relative prices of basic commodities are rendered endogenous, applied to both economic development via stages of economic growth and the history of the world economy.

Development: The Political Economy of the Marshallian Long Period

WORK ON DEVELOPMENT THEORY AND POLICY in the 1950s forced me to mobilize and bring together all I had learned in responding to the two large questions I posed in 1933–34 to frame my professional agenda: the application of economic theory to economic history, and the interplay of economic forces with the other components of the life of whole societies.

The story begins in my first two years as an undergraduate at Yale. I decided to major in history and wrote lengthy papers on facets of the English Revolution of the seventeenth century and the French Revolution which imparted some sense of the complexities of history and the inadequacy of any simple theory of causation, including economic causation.

In the autumn of my sophomore year (1933), this heady introduction to the dynamics of societies in revolutionary turmoil was crosscut by an informal weekly seminar in then modern economic theory. The teacher was Richard M. Bissell, just back from a graduate year at the London School of Economics. Bissell commanded (and commands) extraordinary powers of lucid exposition. There were four students, one of whom was Max Millikan who promptly defected from physics to economics. Bissell's impact on me was equally powerful. I did not defect from history but decided sometime in 1933–34 that I would devote my professional life to responding, as best I could, to two questions: How could economic theory be used to illuminate economic history? How did economic forces interact with social, political, and cultural forces? I had, as I noted, already set aside the notion that a simple line of causation ran from the economy to a society's other dimensions.

By the spring of 1934 I had conducted my first experiment as an economist-historian: a paper of ninety-seven pages on the British inflation during the French Revolution and the Napoleonic Wars, the subsequent deflation, and the return to the gold standard. I began believing that the theoretical structures incorporated in D. H. Robertson's *Money* (1928) and Keynes's *Treatise on Money* (1930), among other works, would

I wish to thank my colleagues Ted Carpenter, William Glade, Tomasson Jannuzi, and David Kendrick for reading and commenting helpfully on this paper in draft.

provide sufficient framework to explain what happened to prices. The beginning of my education as an independent economic theorist was the discovery that conventional monetary theory was incomplete and, on occasion, significantly misleading as a tool for explaining why prices moved as they did from 1793 to 1821. In the course of the exercise I came to understand the shrewdness of Wicksell's description of quantity theorists: "They usually make the mistake of postulating their assumptions instead of clearly proving them"[1]—a phenomenon that persists but surprises me less than it did almost a half century ago when I first encountered it.

I proceeded in my efforts to link theory and history in a doctoral thesis;[2] a substantial contribution to the Gayer study;[3] and, after a wartime interruption, my *British Economy of the Nineteenth Century*,[4] which contains essays on the pattern of business cycles and longer trend periods (Kondratieff cycles), as well as two essays on the interplay among economic, social, and political forces. By that time I had concluded that "the optimum unit for the study of economic history is not the nation, but the whole interrelated trading area; certainly that is the frame within which many of the most important national, regional, or even industrial problems [of individual countries] must be placed, if they are fully to be understood."[5] I also decided that I would have to make my own theoretical map as a matrix for teaching such a grand subject. Evidently, conventional macroeconomics, in either its monetary or Keynesian variants, would not suffice. They were incapable of dealing with the dynamics of invention and innovation, fluctuations in the supply of basic commodities, or demography. And so I began to plan the book which became *The Process of Economic Growth*.[6]

In the spring of 1950 D. H. Robertson contributed an insight which is reflected in the title of this chapter. At tea one afternoon, I told him I planned to write a book on the process of economic growth. I welcomed his advice because I had profited from his youthful work, *A Study of Industrial Fluctuations* (1915), with its rare sensitivity to the interweaving of cycles with technological and other structural changes. Robertson encouraged me to go forward with the project but said the theoretical

1. Knut Wicksell, *Lectures on Political Economy*, vol. 2, *Money*, E. Classen, trans.; Lionel Robbins, ed. (New York: Macmillan, 1934), pp. 159–60.

2. *British Trade Fluctuations, 1868–1896* (New York: Arno Press, 1981); the thesis is dated 1940.

3. A. D. Gayer, W. W. Rostow, and Anna J. Schwartz, *The Growth and Fluctuation of the British Economy, 1790–1850* (Oxford: Clarendon Press, 1953; 2d ed., Hassocks, W. Sussex: Harvester Press, 1975). This study was, in fact, completed in 1941 but not published until after the war.

4. Oxford: Clarendon Press, 1948.

5. *British Economy of the Nineteenth Century*, pp. 12–13.

6. New York: Norton, 1952; Oxford: Clarendon Press, 1953; 2d ed., 1960.

problems of growth were formidable. In particular, a theory of growth required dealing systematically with the Marshallian long period. He warned me of the pitfalls and urged me to read carefully appendix J in *Money, Credit, and Commerce* where Alfred Marshall despairs of formalizing the case of increasing returns. I read Marshall afresh and emerged with an abiding sense of how evasive, if convenient, is the convention of framing the major propositions in economic theory within the Marshallian short period. And I came to appreciate Marshall's wisdom in asserting that if one pushed beyond the propositions of static short-period equilibrium, one must deal with "real life," "the high theme of economic progress," and "society as an organism."[7]

In any case, I had for long been sure that, for a serious economic historian, there was no way to escape the challenges of dealing with economic progress and society as an organism; for in real life technologies changed unceasingly as did the conditions of supply for foodstuffs and raw materials, and the size, structure, and quality of the working force. The short period was, as Marshall said, "only an introduction to economic studies,"[8] but an economic historian or student of economic development had to face up to the more complex world beyond.

The 1950s: Development Theory

Against this somewhat eccentric background, my views on development theory and policy emerged in the 1950s from the contrapuntal interaction of three quite different activities conducted simultaneously: the crystallization of a dynamic, disaggregated theory of growth out of my study and graduate teaching of the history of the world economy; the formulation of views on the dynamics of the communist world and appropriate U.S. policies toward both the U.S.S.R. and China;[9] and the generation, with my colleagues at the Massachusetts Institute of Technology, of a collective view of the modernization process in the developing regions and of an appropriate U.S. policy toward them.

The latter two enterprises required that I come to conclusions about the nature of the U.S. interest on the world scene—a matter on which I had to form views in 1945–46 in a minor post at the State Department, as well as

7. Alfred Marshall, *Principles of Economics* (8th ed., London: Macmillan, 1930), p. 461.

8. Idem.

9. This part of my work was incorporated mainly in *The Dynamics of Soviet Society*, with Alfred Levin and others (New York: Norton, 1952, 2d ed., 1967); *The Prospects for Communist China*, with Richard W. Hatch, Frank A. Kierman, and Alexander Eckstein (Cambridge, Mass.: The Technology Press, MIT, and John Wiley, 1954); and *An American Policy in Asia*, with Richard W. Hatch (Cambridge, Mass.: The Technology Press, MIT, and John Wiley, 1955).

a teacher of American history in England in 1946–47 and 1949–50. My understanding was, however, enriched by my work at MIT, including a study of the interaction of American domestic life and foreign policy conducted in 1955–58.[10]

Although an author is not an authoritative judge of such matters, I would guess that there were three distinctive characteristics of my views on development theory as incorporated in *The Process of Economic Growth*. First, and most fundamental, I placed the process of economic growth explicitly in the setting of the evolution of whole societies. Economic growth was viewed as simply one manifestation of a society's total performance. In writing the book I linked the key economic variables to the noneconomic dimensions of the society through an array of propensities and insisted that, for advanced industrial as well as developing societies, the propensities mattered and had to be taken explicitly into account. As I wrote in the preface to the second edition of *The Process of Economic Growth* (p. vii):

> The propensities do not represent, then, some kind of discovery, which can be assessed one way or another. The proposition here is that no statement about the course of population or about the level of productivity or about the scale and composition of capital formation can be made, in a world of changing production functions, unless it contains implicit or explicit assumptions about the strength and the position of the propensities. The purpose of the propensities is to make those assumptions explicit and render it possible for them to be realistic; for in a world of change the state of the arts is not fixed, and profit maximization in no way covers what is involved in borrowers' or lenders' risk. Capital formation is not merely a matter of profit maximization: it is a matter of a society's effective attitude towards and response to basic science, applied science, and the risk-taking of innovation and innovational lending.[11]

Second, in *The Stages of Economic Growth*, I formulated, within this general matrix, a quite particular proposition about the crucial role of politics in the early phases of modernization:[12]

10. This study resulted in, among other publications, *The United States in the World Arena* (New York: Harper and Row, 1960; 2d ed., 1969).

11. Economists, Keynesian and others, appear systematically to ignore Keynes's wise *bon mot*: "If human nature felt no temptation to take a chance, no satisfaction (profit apart) in constructing a factory, a railway, a mine or a farm, there might not be much investment merely as a result of cold calculation" (*General Theory*, p. 150).

12. Cambridge, Eng.: Cambridge University Press, 1960; 2d ed., 1971, pp. 26–30. I later developed more systematically the concept of politics as a process of balancing certain abiding imperatives of government in *Politics and the Stage of Growth* (Cambridge, Eng.: Cambridge University Press, 1971).

> As a matter of historical fact a reactive nationalism—reacting against intrusion from more advanced nations—has been a most important and powerful motive force in the transition from traditional to modern societies, at least as important as the profit motive. Men holding effective authority or influence have been willing to uproot traditional societies not, primarily, to make more money but because the traditional society failed—or threatened to fail—to protect them from humiliation by foreigners. . . .
>
> . . . without the affront to human and national dignity caused by the intrusion of more advanced powers, the rate of modernization of traditional societies over the past century-and-a-half would have been much slower than, in fact, it has been. Out of mixed interests and motives, coalitions were formed in these traditional or early transitional societies which aimed to make a strong modern national government and which were prepared to deal with the enemies of this objective: that is, they were prepared to struggle against the political and social groups rooted in regionally based agriculture, joined in some cases by the colonial or quasicolonial power. . . .
>
> Now we come to the crux of the matter. Nationalism can be turned in any one of several directions. It can be turned outward to right real or believed past humiliations suffered on the world scene or to exploit real or believed opportunities for national aggrandizement which appear for the first time as realistic possibilities, once the new modern state is established and the economy develops some momentum; nationalism can be held inward and focused on the political consolidation of the victory won by the national over the regionally based power; or nationalism can be turned to the tasks of economic, social, and political modernization which have been obstructed by the old regionally based, usually aristocratic societal structure, by the former colonial power, or by both in coalition.
>
> Once modern nationhood is established, different elements in the coalition press to mobilize the newly triumphant nationalist political sentiment in different directions: the soldiers, say, abroad; the professional politicians, to drive home the triumph of the centre over the region; the merchants, to economic development; the intellectuals, to social, political and legal reform.
>
> The cast of policy at home and abroad of newly created or newly modernized states hinges greatly, then, on the balance of power within the coalition which emerges and the balance in which the various alternative objectives of nationalism are pursued.

A third distinctive aspect of my formulation was more narrowly economic. It flowed from the judgment that economic growth since the late eighteenth century was distinguished from all periods of economic expansion in the longer past by the fact that, through the oblique as well as direct impact of the Scientific Revolution, invention and innovation had become a more or less regular flow.[13]

The acceptance of this proposition had two major consequences.

First, the analysis of a modern or modernizing economy could not be usefully conducted in aggregate terms: the sectors absorbing new technologies had to be examined, and the inherently decelerating path of such dynamic sectors traced out. When viewed in this fashion, the relatively stable aggregate growth rates observed in history came alive: sustained growth became a race to bring in new technologically vital sectors as the old leading sectors decelerated. This sectoral bias was strengthened by the perception that the maintenance of high and steady aggregate growth rates required adequate flows of investment to the supporting sectors such as agriculture, raw materials, infrastructure, education. The result was a particular view of what a growth theory required:

> The central theoretical effort here is to provide a systematic way of breaking through the aggregates, which we have inherited from Keynesian income analysis, in order to grip dynamic forces at work in the particular sectors on which the growth depends. The judgment is that consumption and saving, consumer goods and capital goods, are insufficient categories for the analysis of growth, cycles, or trends; and that the static cast of traditional production theory must be broken. . . . Income analysis and all its refined tools are not rejected in this way of looking at things. On the contrary. But the intellectual problem of making a theoretical framework for growth analysis is taken to be the problem of orderly disaggregation, within a dynamic model which links the broad income aggregates to the concept of sectoral equilibrium.[14]

The stages of economic growth flowed directly from this linking of the sectors to the familiar aggregates of Keynesian income analysis. The stages unfold from the interplay of sectors of increasing technological sophistication and the rise of real income per capita.[15]

A good deal of the controversy over the stages of economic growth might have been avoided—or rendered more germane—if I had driven this point home more successfully.[16] For example, the rise in the aggregate

13. This proposition, stated in *The Process of Economic Growth* and *The Stages of Economic Growth*, is elaborated at length in *How It All Began* (New York: McGraw-Hill, 1975).

14. *The Process of Economic Growth*, p. vi. As I have noted on other occasions, Simon Kuznets's *Secular Movements in Production and Prices* (Boston: Houghton Mifflin, 1930), with its focus on the dynamic paths of sectors, influenced me in this direction, as did the concurrent work of Walther Hoffmann and Arthur F. Burns.

15. The concept of stages of growth was first outlined in *The Process of Economic Growth* (see especially pp. 17, 71, 103–08).

16. *The Stages of Economic Growth*, pp. 12–16. For the playback effects of sectoral growth on the conventional Keynesian aggregates, see especially pp. 46–58. Here, for

investment rate during take-off, the rise in real income per capita, and (usually), the rise in consumption per capita were in good part caused by rapid expansion, with all its spreading effects, in the leading sectors where new technologies were being diffused; in turn, the expansion in the aggregates played back on the rate of growth in the sectors (for example, via the income elasticity of demand). I certainly tried to make this process of interaction clear, notably in a passage early in *The Stages* (p. 58), which deals with the matter head-on, entitled "A Dynamic Theory of Production." But, still, colleagues as sophisticated as Albert Fishlow could conclude that there were two theories of take-off: one sectoral, the other aggregative.[17] If I had it to do over again, I would state emphatically, right at the beginning, what I wrote in the "Introduction and Epilogue" to the volume summarizing the debate on take-off organized at Konstanz in 1960 by the International Economic Association: "the emergence of a rate of net investment sufficient to outstrip the rate of increase of population and to yield a positive net rate of growth is at least as much the result of prior [sectoral] growth as a cause of growth."[18]

In a larger sense, however, I suspect the controversy was inevitable for three reasons. First, in the Harrod-Domar world of the 1950s, it was easy and natural for economists to seize on the course of the investment rate during take-off and treat it not as a product of a complex interaction (including the role of the state in social overhead outlays) but as they were accustomed to treat it; that is, as an essentially independent variable. To this day, conventional macroeconomists have great difficulty dealing with the relation between what happens in the sectors and the behavior of the aggregates, for example, the multiple relations between the energy sector

---

example, toward the close of the exposition of take-off is one effort to make the linkage between the sectors and the aggregates (p. 58):

> What this argument does assert is that the rapid growth of one or more new manufacturing sectors is a powerful and essential engine of economic transformation. Its power derives from the multiplicity of its forms of impact, when a society is prepared to respond positively to this impact. Growth in such sectors, with new production functions of high productivity, in itself tends to raise output per head; it places incomes in the hands of men who will not merely save a high proportion of an expanding income but who will plough it into highly productive investment; it sets up a chain of effective demand for other manufactured products; it sets up a requirement for enlarged urban areas, whose capital costs may be high, but whose population and market organization help to make industrialization an on-going process; and, finally, it opens up a range of external economy effects which, in the end, help to produce new leading sectors when the initial impulse of the take-off's leading sectors begins to wane.

17. Albert Fishlow, "Empty Economic Stages," *Economic Journal*, vol. 75, no. 297 (March 1965).

18. W. W. Rostow, ed., *The Economics of Take-off into Sustained Growth* (New York: St. Martin's Press, 1963), p. 16.

and the aggregate performance of the economy. Second, the irreducible degree of sectoral disaggregation required (in my view) to deal seriously with growth—embracing infrastructure, education, agriculture, raw materials, and the major leading sector complexes—made life difficult for conventional theorists. Robert Solow's response at Konstanz was to throw the problem back on the economic historian: "if economic historians wanted help from multisector models they would have to produce much more in the way of estimates not of observable qualities but of parameters."[19] But economic growth was—and remains—too important a subject to be cut down to the size convenient for manipulation by the tools we taught our graduate students in the third quarter of the twentieth century. No great work in economics, from *The Wealth of Nations* to the *General Theory*, would have been written if the Solow criterion had been applied by the author.

Finally, and most important of all, is the inescapable role of noneconomic factors in the process of economic growth. Here Solow's observation at Konstanz and my later response are illuminating.[20] Solow properly demanded that I clarify "the rules of behavior, parameters, and initial conditions" for take-off. The heart of my response lay in these two passages:

> In one sense, the problem may not be soluble. Economic growth is the result of an interacting process involving the economic, social, and political sectors of a society, including the emergence of a corps of entrepreneurs who are psychologically motivated and technically prepared regularly to lead the way in introducing new production functions into the economy.
>
> . . . [But] one can say to Professor Solow that take-off requires by way of initial conditions the prior build-up at a certain minimum quantum of social overhead capital, to provide the technical conditions for the requisite spreading effects; and it requires a change in rules of behaviour such that new production functions available are actually brought to bear in the capital stock, within the initial leading sectors and those linked backward and laterally to them.
>
> The resulting path of change in output per head will be determined by the parameters, as well as by the scale and efficiency of the entrepreneurial corps, in the public and private sectors—efficiency being measured by the rate at which they close the gap between existing relevant technology and pre-take-off technology in the economy.

Put another way, Solow's "residual" (what is left after inputs of capital and labor are accounted for) is not the product of some antiseptic economic process transcending the physical inputs of labor and capital. It is

19. *The Economics of Take-off*, p. 472.
20. *The Economics of Take-off*, pp. 468–579 (Solow) and xxiv–xxvi (Rostow).

the result of complex societal changes which yield private and public entrepreneurs, and an educated working force, capable of and motivated to generate and/or absorb efficiently the flow or backlog of relevant technology.

Conventional theorists can, perhaps, be content with the calculation of highly aggregated residuals without peering inside the black box and can thus avoid the inelegance of a full social science analysis. An economic historian or development economist must, as I noted earlier, accept Marshall's challenge of viewing "society as an organism."

But, still, rereading the debate, I find it a bit odd; for no one can immerse himself in the living process of economic planning, whether in an advanced industrial country or in a developing nation, without transcending the Keynesian aggregates, accepting the need for a considerable degree of disaggregation, developing at least some empirical sense of the likely interplay between the sectors and the aggregates, and confronting such questions as the appropriate role of the state and education policy. I suspect that the widespread and continuing interest in *The Stages* among economists in the developing world stems from the fact that its structure can be recognizably linked to the phenomena they see about them and the problems they must try to solve from day to day in their societies. The neoclassical growth models which absorbed so much high-grade theoretical talent in the 1960s ran into the sand precisely because their method ruled out changes in most of the variables relevant to the process of economic growth.

Be that as it may, my general view of the economy—which yielded, among other things, the concept of the stages of growth—consisted in the notion of a kind of dynamic, moving Walrasian equilibrium. This system embraces as endogenous the changes in population and the working force, in technology, and in the supply of basic commodities: population and the size of the working force were determined by the dynamics of the demographic transition; major technological change was induced by economic needs; the supply of basic commodities was also induced by the dynamics of the marketplace. From this system flowed optimum sectoral levels of capacity as well as an optimum aggregate growth rate and, therefore, an optimum distribution of investment which would keep all sectors on their equilibrium paths. But the investment process was seen, in fact, as something less than omniscient. It was, in fact, subject to systematic error. Investors made their decisions in terms of current indicators of profitability without taking adequately into account the total volume of investment being induced by their common response to these indicators. This technical distortion was often accentuated by irrational waves of optimism and pessimism that swept the capital markets with respect to investment in particular sectors. The process was, of course, made possible by the lags built into the investment process, which permitted exaggerated levels of investment to proceed for some time until reality in the form of a falling rate of return over costs, induced by the boom, forced a downward reevaluation of profit expectations. Putting aside wars and other exogenous traumatic events, growth assumed, therefore, the form of cycles of varying lengths depending, notably, on the period of gestation of the type of investment undertaken and the length of its working life. And so economies made their way through history, overshooting and undershooting their optimum sectoral paths, like a drunk going home from the local pub on Saturday night.

A narrower consequence of the difference between my view and the neoclassical view was the judgment that the degree of modernization of an economy should not be measured in terms of real income per capita but in terms of the extent to which an economy had more or less efficiently absorbed the then existing pool of relevant technologies. Real GNP per capita is a convenient measuring device, and I rather doubt that I should try to persuade my respected colleagues in the World Bank to abandon it. But I believe they might agree that putting, say, low-income India and China, each with industries of very considerable sophistication, in the same cateogry, as, say, Mali and Haiti, leaves something to be desired, as does equating, say, Libya and France.

Evidently, a theoretical and historical outlook of this kind had certain implications for my approach to contemporary development problems and policy. For example:

• The brute scale of the process was dramatized in my mind by the concept of stages of growth. Historically, nations had moved into take-off in a rather stately, well-spaced-out sequence. First, Britain had graduated into take-off on its own in the 1780s; then in the second quarter of the nineteenth century, a second class graduated: the United States, Belgium, France, and Germany; in the fourth quarter, Sweden, Japan, Russia, Italy, and portions of the Austro-Hungarian Empire. In the twentieth century, Canada and Australia joined the club in the first decade and some of the Latin American countries and Turkey in the 1930s. But as the post-1945 years unfolded, virtually the whole of Asia, the Middle East, Africa, and Latin America turned with passion (if not always with success) to the goal of modernization: to get themselves into take-off or to move to the stage beyond. We have lived with the phenomenon for so long in this generation that we take it for granted as part of the international scene. But, in historical perspective, it is perhaps the most remarkable event since the coming of the first Industrial Revolution to Great Britain in the 1780s. It has altered irreversibly the balance and texture of international political, as well as economic, life.

• The transition to modernization in the developing regions was seen as inherently painful and volatile; but disruptive instability could be damped, to a degree, should the developing nations concentrate their reactive nationalist impulses on the task of modernization itself as opposed to other possible expressions of nationalist sentiment. Moreover, the dignity on the world scene which they sought was most likely to be achieved, at the earliest possible time, by demonstrating a capacity for sustained and tolerably well-balanced modernization in harmony with their respective cultures.[21] The large political objective of foreign aid was, thus, to encourage that concentration of scarce talents, resources, and political energies as well as to provide supplementary external resources.

- What we call developing nations (or, in the 1950s, underdeveloped nations) represent a very wide spectrum of societies, each in a significant sense unique and at quite different stages in their degree of absorption of the pool of modern technologies and in their current capacity to absorb them efficiently. Useful development (and foreign aid) policies thus had to be designed in the light of where each country stood along this spectrum, its absorptive capacity, its particular resource endowments, and other unique features.
- The concept of optimum sectoral levels of capacity underlined the critical need for adequate levels of investment in agriculture, infrastructure, education, and in other supporting sectors as well as in industry.
- The concept of take-off suggested the possibility that developing nations would eventually move to self-sustained growth when soft loans would no longer be required.
- Successful movement into reasonably well-balanced self-sustained growth, rooted in national aspirations, was judged to represent a way of minimizing the likelihood of successful external intrusion, communist or otherwise. In the case of China, it was judged that the relative success or failure of economic and social progress in non-communist Asia would have significant playback effects on China's domestic and foreign policy.[22]

Thus, the analysis of economic growth, as I envisaged it, became an exercise in the dynamic analysis of whole societies. In general, the integration of the social sciences—long accepted in our profession as a goal—is not likely to be achieved by an integration of the various social science disciplines themselves. It is best approximated by focusing on a problem and bringing to bear around that problem all that the various social

21. One of the most heartening manifestations of nationalism in rapidly modernizing societies is the systematic effort to reach back to and dramatize the historical roots of their cultures, an effort reflected in new museums, archeological finds, and monuments throughout the developing world.

22. Here, for example, is a passage from the 1955 *An American Policy in Asia* (pp. 36–37): "if Free Asia succeeds in meeting successfully the challenge of that region's aspirations, we shall see a new phase in the Chinese revolution. As a matter of Asian history, the Sino-Soviet alliance in its present form is the wrong way to meet China's authentic desire for independence and dignity on the world scene; the Chinese Communist New General Line is the wrong way to meet China's authentic desire to modernize and to develop its economy. A strong and creative Free Asia can both frustrate Peking and demonstrate to the Chinese that a more attractive alternative exists. At some future time the profoundly pragmatic Chinese people will choose their own version of that alternative."

science disciplines can provide by way of illumination. That, for example, was the method of Gunnar Myrdal in his remarkable study of race relations in the United States, *An American Dilemma.* For me and many others, the problem of development served that integrating purpose in the 1950s.

As individuals, most of us felt, I suspect, some kind of moral or religious impulse to help those striving to come forward through development. In that sense we were in the line that reached back a century and more to the missionaries from Western societies who went out to distant and often obscure places, not merely to promulgate the faith but also to teach and to heal. But we were reticent about these impulses and properly so. A missionary approach was no longer appropriate to proud, aspiring, highly nationalistic developing nations. Equally important, the aid policies of the advanced industrial countries, while strengthened by such abiding moral and religious impulses among their citizens, could not be sustained for the long pull unless they were underpinned by more conventional concepts of national interest.

CENIS and Foreign Aid

Although my research in the 1950s led to particular views about an appropriate U.S. policy toward development, and I spoke and wrote a good deal on this matter as an individual, my most useful contribution to policy was, no doubt, as part of the collective effort mobilized in the 1950s at the Center for International Studies (CENIS) at MIT.

CENIS was set up in 1951 under the leadership of Max Millikan, with my active support and participation. The Korean War convinced some of us that the struggle to deter and contain the thrust for expanded communist power would be long and that new concepts would be required to underpin U.S. foreign policy in the generation ahead, quite aside from the task of dealing directly with the communist world. We believed that a portion of academic talent should be devoted to generating these concepts, and, as individuals, we were prepared to make that allocation. We hoped that we could do more by remaining in academic life than by returning to Washington as public servants, as I was asked to do and seriously considered doing. We also believed that, if high standards of academic professionalism and integrity were sustained, work on contemporary and foreseeable problems of the active world could add to the body of scientific knowledge. We were conscious that most of the great works in economics—from Adam Smith's *The Wealth of Nations* to Keynes's *General Theory*—were also, to a degree, tracts for their times. This view was supported by the senior administrators of the university, notably the provost, Julius Stratton. In a discussion with Millikan and me, he noted that many advances in the physical sciences—including advances in theory—had derived from the effort to solve practical problems. He said we could go forward with our enterprise on the understanding that we would maintain rigorous intellectual standards and, of course, complete intellectual independence of the government. He also noted that we would have to raise our own funds.

We decided to concentrate our initial efforts in two areas: the study of communist societies and the study of problems of development—economic, social, and political. The former work came to be financed by the federal government;[23] the latter was wholly financed by private funds, notably from the Ford and Rockefeller Foundations.

CENIS's work on development began formally in 1952 and included intensive studies of India, Indonesia, and Italy. Aside from Millikan and me, the members of the senior staff engaged in economic development problems were Everett Hagen, Benjamin Higgins, Wilfred Malenbaum, and P. N. Rosenstein-Rodan. Rodan had, of course, been at work on development problems longer than any of us—since his research on Eastern Europe in London during the Second World War. We were also closely in touch with our colleague Charles Kindleberger, whose wide portfolio of interests included the field of economic growth in both a historical and a contemporary context. James E. Cross, Dan Lerner, Ithiel Pool, and Lucian Pye contributed insights from political science and sociology. Younger economists, including George Baldwin, Francis Bator, Richard Eckaus, and George Rosen, also got into the act, as did a then junior political scientist, Donald Blackmer, and a remarkable former schoolmaster and novelist, Richard Hatch, who served as critic, editor, and conscience of CENIS.

The senior scholars working on development problems at CENIS came at them from quite different perspectives. We were a strong-minded as well as variegated lot held together by a common commitment to the problems of development, by ties of mutual respect and affection that often grow out of such common commitments to large purposes, and, above all, by the graceful and sensitive leadership of Max Millikan.

The most complete synthesis of our argument was incorporated in a short book entitled *A Proposal: Key to an Effective Foreign Policy*, completed in August 1956.[24] It represented the fruition of a draft written by Millikan and me in the wake of a meeting at Princeton in May 1954. The draft passed through a series of stages over the subsequent two years,

23. The Central Intelligence Agency (CIA), in its function as agent for the National Security Council, financed the studies of communist societies. If Congress had not been so penurious (and suspicious) they would have been more naturally financed by the Department of State. However, the CIA at no time tried to influence our analysis or conclusions, which were published in the normal manner of scholarly works. It did not even blink when our study suggested that communist China might well be admitted to the United Nations—a rather contentious issue in the mid-1950s.

24. New York: Harper, 1957.

responding to specific occasions when the issue was debated in the Executive Branch and the Congress. Its collective character is suggested by the fact that fourteen names are explicitly noted as contributing.

I cannot recount here the full range of our crusading. Aside from publishing our views in various forms, we worked closely with sympathetic members of the Congress in both parties and with like-minded officials in the Executive Branch. We maintained ties to officials in Western Europe, the developing regions, and international organizations, notably the World Bank. Above all, we were stubborn and patient, weathering a sequence of frustrations and setbacks, arguing the case for enlarged development aid year after year from 1953 until President Kennedy's wholehearted adoption of it in 1961.

We were, of course, by no means alone. For example, among the academic groups at work on development, Edward Mason organized and led a first-rate team at Harvard that worked closely with the government of Pakistan. A good many of the land grant colleges established, through Point Four, fruitful lines of collaboration with developing countries in agriculture. The major foundations helped generously as development moved close to the top of their agenda. As the 1950s wore on, the stage became increasingly crowded with development crusaders of considerable distinction. Among them were Chester Bowles and Adlai Stevenson, Nelson Rockefeller and Milton Eisenhower, C. D. Jackson, five doughty Senators—John Sherman Cooper, William Fulbright, Hubert Humphrey, John Kennedy, and Mike Monroney—and, highly effective in quite different domains, Barbara Ward and Eugene Black. In the foreign offices and even the treasuries of the Atlantic world there were a good many anonymous, but equally committed, public servants arguing the case and trying to move things forward from day to day, often against determined bureaucratic opposition. What CENIS supplied was a coherent program based on insights generated from a wide spectrum of approaches to the process of modernization, including the professional work conducted by CENIS in developing countries, plus a rationale for the U.S., Western European, and Japanese interest in development, thought through and articulated with considerable care. It is for others to judge, but I would guess *A Proposal* in all its versions was a quite influential piece of work, which in no way guaranteed its validity.

With some oversimplification of a reasonably sophisticated exposition, the argument of *A Proposal* can be paraphrased as follows:

The bulk of the world's population, for the first time in history, is caught up in a revolutionary transition which is

> rapidly exposing previously apathetic peoples to the possibility of change. . . . The danger is that increasing numbers of people will become convinced that their new aspirations can be realized only through violent change and the renunciation of democratic institutions . . . the dangers of instability inherent in the awakening of formerly static

> peoples would be present even in the absence of the Communist apparatus. . . . But the danger is, of course, greatly intensified by the focus which both Communist thought and Communist organization give.

U.S. assistance should not aim "to insure friendship and gratitude," or "to enable the recipient countries to carry a much larger burden of military buildup against Communist armed forces," or "to stop Communism by eliminating hunger." U.S. assistance should contribute to "the evolution of societies that are stable in the sense that they are capable of rapid change without violence."

This judgment flows directly from a definition of the U.S. national interest which is taken to be "to preserve a world environment within which our form of democratic society can persist and develop." Two priority tasks follow from that definition:

> The first of these is to meet effectively the threat to our security posed by the danger of overt military aggression. . . .
>
> The second . . . is to promote the evolution of a world in which threats to our security and, more broadly, to our way of life are less likely to arise. Success in this task would mean the freeing of a large volume of resources from military to more constructive uses. More important, it would mean protecting our society from the pressures inevitably associated with a garrison state, pressures which threaten our most cherished values. It is this task with which this book is mainly concerned.

External economic assistance can be effective only if it is meshed with and designed in ways which contribute to the society's own efforts to move toward "political maturity." This implies that six conditions be met in the process of economic and social modernization.

> A. There must be posed for the leadership and the people of each country challenging and constructive internal tasks which will look to the future of their societies. . . .
>
> B. [These tasks] must relate to the emerging aspirations of all classes and regions in the society. . . .
>
> C. The new countries must find ways of developing young and vigorous leadership. . . .
>
> D. Related to the recruitment of new leadership is the need for greatly increased social, economic, and political opportunity. . . .
>
> E. Related to this fact is the requirement . . . of finding ways to bridge the existing gulf between the urban classes, often Western educated, and the countryside. . . .
>
> F. Perhaps the most critical requirement for the growth of political maturity is that the people of the new nations develop confidence, both as a nation and as individuals in small communities, so that they can make progress with their problems through their own efforts.

Technically, aid programs must be geared to the particular circumstances of each developing country. In general, developing countries were viewed as constituting a wide spectrum at different stages of economic growth. Where they stood in the spectrum determined the amount of capital and technical assistance they could efficiently absorb.[25] Broadly speaking, three stages were distinguished: the preconditions for take-off, take-off, and self-sustained growth,

> the long period of regular if fluctuating progress . . . [when] the structure of the economy changes continuously—sometimes painfully—as technique improves. The character as well as the scale of appropriate external assistance will vary with these stages, rising and becoming more diversified in take-off, falling gradually away with the attainment of self-sustained growth when, in time, developing countries could come to rely on normal commercial sources of international finance.[26]

Against this background the proposal consisted of an international plan to generate sufficient resources to meet all requirements for external assistance which could be justified by absorptive capacity, plus enlarged technical assistance to accelerate the increase in absorptive capacity. The

25. Four reasonably objective criteria were defined in *A Proposal* to test whether the overriding standards of absorptive capacity and creditworthiness were being met.

> A. It must be within the technical and administrative capabilities of the receiving country to carry out its proposed project with reasonable efficiency, over the time period of the loan or grant.
>
> B. Steps must have been taken to insure that the rest of the economy of the receiving country is being developed sufficiently to make the proposed project fully productive in the time period envisaged by the loan.
>
> C. The receiving country must have an over-all national development program designed to make the most effective possible use of its resources; this should include not only a series of interrelated capital projects but also necessary educational and training programs.
>
> D. The receiving country's national development program must be consistent with the requirements of expanding world commerce and the international division of labor.

26. The introduction of the concept of stages of growth into the argument had two substantial political and psychological consequences. In the developing regions it provided an operational focus for efforts to accelerate economic growth that was manageable, as it were, within the lifetime of a human being. If one stared in the 1950s at the gap between a real income per capita of, say, $100 and $3,000, one could conclude the task of modernization was hopeless or irrelevant to one generation's efforts. If the task was defined as achieving self-sustained growth, rather than the U.S. level of real income per capita, it was easier to roll up one's sleeves and go to work.

Within hard-pressed parliamentary bodies, commitment to sustained development assistance was easier to achieve if it was believed such aid would level off and ultimately decline as take-offs occurred in one country after another and the bulk of the developing world made its way to the stages beyond, relying increasingly on conventional sources of capital.

price tag was estimated at an additional $2.5 billion to $3.5 billion a year (about $7.5 billion to $10.5 billion in 1981 U.S. dollars), of which about two-thirds was judged to be then an equitable U.S. share.

Administratively it was proposed that the program be conducted mainly by existing institutions, but that the World Bank create a special instrument "to co-ordinate information, set the ground rules, and secure acceptance of the criteria for the investment program."

As for the linkage between economic development and the emergence of stable political democracies, we may, in retrospect, have been a bit too hopeful; but we were by no means naive. One CENIS publication of the 1950s posed and answered bluntly the question of linkage: "Is there any guarantee that the free Asian nations will emerge from rapid economic growth politically democratic? No such guarantee can be made. The relation between economic growth and political democracy is not simple and automatic."[27] We were, however, firmly convinced that a concentration of scarce resources, talents, and political energies on the task of development, undertaken with reasonable balance, was likely to maximize the chance that societies would move through the modernization process with minimum violence and human cost and yield governments whose policies roughly approximated the will of the governed.

Alternative Views of Development Policy in the 1950s

The struggle for enlarged development aid in the 1950s took place in the United States, at least, as an argument against the adequacy of existing aid policy and against certain alternative conceptual formulations. With regard to policy, the Korean War led to large programs of military aid and military support for countries around the periphery of the U.S.S.R. and China. The programs were designed to build and sustain sufficient military and economic strength to deter another such direct military adventure. They left most other developing nations beyond the scope of U.S. aid policy.

In addition, we had to contend with quite particular alternative views of the appropriate relation between advanced industrial countries and developing countries. One such formulation was, in its own way, positive. It suffused, for example, the 1954 Randall Commission Report on foreign economic policy. It took the view that the task of U.S. policy was to lead the world economy, as rapidly as possible, back to an approximation of the world before 1914: liberal if not free trade, unrestricted movement of private long-term capital, and convertible currencies. The pre-1914 world

27. *An American Policy in Asia*, p. 50. The palpable lack of automatic linkage between real income per capita and the capacity to sustain democracy was one factor which led me to write *Politics and the Stages of Growth* (1971).

economy did not, in fact, operate in such an engagingly uninhibited way, but the somewhat romanticized memory of that era exercised a powerful hold over many minds. And the influence of that memory had some positive consequences; for example, it encouraged those who accepted the concept to struggle against protectionist impulses in the United States and helped set in motion the succession of global negotiations to reduce trade barriers. But, implicitly at least, this vision of the task did not recognize that distinctive and difficult problems existed in the developing regions for which free trade, free private capital flows, and convertible currencies were not sufficient answers. By and large, holders of this view, while opposing development aid, were willing to support technical assistance, narrowly defined.

Among those who recognized the distinctive problems of the developing regions, P. T. Bauer was, without doubt, the most sophisticated intellectual analyst who took a reserved stance toward development aid and set explicit, highly restrictive economic and political criteria for expanding such aid. Since Lord Bauer speaks for himself in this book, I will simply summarize my perception of the difference between his views and those of CENIS.

Bauer believed the objective of foreign aid should be to promote democracy by promoting private enterprise; CENIS held that the objective of foreign aid was to encourage the development of societies capable of undergoing rapid change with minimum violence, and that such societies were most likely to evolve in democratic directions, although the early achievement of Western-style democracy was not guaranteed.

Bauer believed foreign aid should be used as a lever actively to promote development programs which maximized promptly the role of the private sector and the market mechanism; whereas CENIS believed that this was a second-order criterion, that its strict application would be politically counterproductive, and that the ultimate role of the private sector would be determined by the dynamic evolution of the economy and its political system as a whole.

With respect to the important case of India, Bauer and CENIS agreed that a high-productivity agriculture was essential for sound development and that the Indian second five-year plan was somewhat out of balance. CENIS, however, held that the vitality of the Indian private sector (and its consequently increasing foreign exchange requirements) was one of the causes of the strain on India's foreign exchange resources and that enlarged foreign aid would permit the private sector to go forward with increased élan.

Bauer and CENIS shared, of course, a human, intellectual, and policy concern with the fate of the developing regions in general, which was by no means universal. The differing views summarized here were part of an insiders' debate among those who felt that the destiny of the developing world mattered to the West. A great many political figures (and, indeed, economists), implicitly or explicitly, simply ignored the issues involved; but when politicians of negative bent were forced by events to take a position, they often reached out for the kind of rationale Bauer formulated.

Things Learned since the 1950s—Some Painful

Looking back over the quarter century since the debate about development policy was at its height, I find that some of CENIS's views (and my own) were fairly well vindicated.

• Supported by external aid, the aggregate average performance of the developing regions in the 1960s and 1970s approximated or exceeded our earlier hopes, falling in the range of 4.5 to 5.5 percent a year, yielding an average increase in GNP per capita of 1.6 percent for low-income countries and 3.8 percent for those in the World Bank's middle-income range (generally, my drive to technological maturity). The former figure approximated the nineteenth-century performance of the presently advanced industrial countries during take-off (1.7 percent); the latter substantially exceeded the earlier performance during the drive to technological maturity (2.1 percent).[28] These aggregate growth rates were strongly reflected in such basic social indicators as length of life and level of education: by World Bank calculations life expectancy increased from 42 to 57 in low-income countries between 1960 and 1979, from 53 to 61 in middle-income countries; population per physician more than halved in both categories; adult literacy rose from 27 to 43 percent in low-income countries between 1960 and 1976, from 53 to 72 percent in middle-income countries; and the numbers enrolled in secondary schools and higher education about doubled in both categories. As we all know, there is a long way to go; but sustained economic growth in the third quarter of the twentieth century was not a statistical artifact nor a process insulated from the life of the average citizen.

• The four major differences between the development process in the historical past and that of the contemporary world identified in *The Stages of Economic Growth* (pp. 140–42), both positive and negative in their implications, were correctly identified and have left their mark: a larger backlog of unapplied technologies, the availability of foreign aid, higher rates of population increase, and a corrosive setting of Cold War. The effort to move forward in modernization in the context of population growth rates two to three times higher than those of the nineteenth century has been, in many ways, the most distinctive of those differences, with widely ranging pathological consequences.

28. *Why the Poor Get Richer and the Rich Slow Down: Essays in the Marshallian Long Period* (Austin: University of Texas Press, 1980), pp. 266–67.

• The strong emphasis in *The Stages* (pp. 21–24) on the multiple roles of a dynamic agriculture in permitting successful industrialization has been validated, as has the stabilizing political and social consequences of a successful modernization of rural life.

• Vital private sectors have, in a good many countries, proved compatible with a framework of national economic planning and some government ownership and operation of industry.

• Nations which concentrated their political energies on reasonably well-balanced economic and social modernization have, by and large, reconciled political stability with rapid change better than those which looked primarily abroad for a gratification of their nationalist ardors or indulged in passionate ideological domestic political struggles.

• Our hopes for the emergence of a pragmatic China, more open to the world, influenced by the economic and social success of non-communist Asia, has been, for the time, realized.

• The contours of what I have defined as the stages of take-off and the drive to technological maturity can, in an unforced way, be clearly perceived among the developing countries which have moved beyond the preconditions for take-off. It would be inappropriate to use this occasion to argue afresh and in detail the concept of stages of economic growth. I responded to the lively debate of the 1960s in appendix B of the 1971 edition of *The Stages*. My further review and use of the concept in *The World Economy: History and Prospect*[29] strengthened my confidence in its validity. But a few retrospective observations on the debate may be helpful.

Take, for example, a much argued question of the 1960s: Do net investment rates rise markedly during take-off? The key problem was empirical: reasonably reliable pre-take-off and take-off investment rates were available for few countries. Subsequent research and the unfolding of growth in the developing regions over the past generation has greatly improved our knowledge of this matter.[30] Of the twenty countries ana-

29. Austin: University of Texas Press, 1978.

30. The most intensively argued case was that of Great Britain. In difficult, pioneering estimates, Phyllis Deane and W. A. Cole (*British Economic Growth, 1688–1959* [Cambridge, Eng.: Cambridge University Press, 1969], p. 263) calculated that the rise of the investment rate during the period I define as take-off (1783–1802) was unlikely to have amounted to more than an additional 1.5 percent. Later calculations suggest strongly that the rise in the British investment rate was more substantial. See, notably, François Crouzet, ed., *Capital Formation in the Industrial Revolution* (London: Methuen, 1972), especially the editor's introduction and chaps. 3–6; and Charles Feinstein, "Capital Formation in Great Britain," in Peter Mathias and M. M. Postan, eds., *The Cambridge Economic History* (Cambridge, Eng.: Cambridge University Press, 1978), vol. 7, pt. 1, pp. 28–96, with key estimates on p. 91. In general, the evidence now available on the British economy in the late eighteenth and early nineteenth centuries has led to a fairly solid consensus on the acceleration of growth in the period 1783–1802, which leaves the matter a question of choice among alternative vocabularies for describing the acceleration.

lyzed in part five of *The World Economy: History and Prospect* (containing, as of 1976, about two-thirds of the world's population and 80 percent of global real product) investment rates for the relevant period are available for all but five (Japan, U.S.S.R., Turkey, Brazil, and Iran). In the fifteen other cases, a substantial surge in investment rates can be observed during take-off; although it is, as one would expect from the analysis of this point in *The Stages*, by no means uniform.

More generally, the believed conflict between Kuznets's concept of "entrance into modern growth" and the take-off turned out to be empirically trivial or nonexistent. As I point out in a lengthy note in *The World Economy* (pp. 778–79), our criteria differ, to a degree, but our dating of the critical transition for the eight important countries examined by Kuznets is similar—indeed, in seven cases almost identical.

As for the stages beyond take-off, the sectoral data now available permit quite firm dating for the movement to more sophisticated and diversified industries, which defines the drive to technological maturity, and for the (usually) subsequent movement to the automobile and durable consumers goods, which characterizes high mass consumption.

In general, then, I would hold that the views we developed in the 1950s hold up reasonably well in retrospect. But a good many realities have been forced on us by events that we did not fully anticipate in the 1950s, of which I shall cite only five.

First, defense support—economic aid to compensate for abnormal domestic military outlays—proved an effective instrument of development assistance in a number of cases, such as the Republic of Korea, Taiwan, and Turkey. It was rooted in direct U.S. national security interests of a fairly stable kind and bought time for these and a few other economies to weather some difficult days, find their feet, and move into self-sustained growth. In retrospect, it deserves higher marks than it was granted by development purists like myself in the 1950s. The other side of that coin, however, is that the development crusaders of the 1950s were less successful than we would have liked in persuading Western governments that steady, large-scale support for the development process was in their interests, quite apart from the occasions when the communist threat was palpable.

Second, disruptive external expressions of nationalism proved harder to avoid than we would have hoped, notably in South Asia and Africa. (There was not much basis for hope in the Middle East even in the 1950s.) The failure of India and Pakistan to find the terms in the 1960s on which they could live peacefully together and cooperate economically was notably costly to all parties in the region and to the cause of foreign aid itself. And so was the failure of the Organization for African Unity in the 1970s to fulfill its earlier vision of excluding external powers from African affairs and settling regional conflicts on an intra-African basis.

Third, despite the relatively satisfactory average aggregate performance of the developing regions and a number of quite remarkable success stories, we confront some hard and recalcitrant cases for which there are no easy answers. Why, for example, set on the same island, should Haiti have one-fourth the real income per capita of the Dominican Republic and one-eleventh of its growth rate over the past two decades? Is there any satisfactory solution for some of the smaller African countries south of the Sahara short of becoming part of larger subregional economic groupings?

Fourth, the normal tendency for income distribution to become more skew in the early stages of growth was exacerbated in a good many countries by excessive rates of population increase, inadequate priority for the modernization of rural life, and relatively poor performance in tax collection, which reduced the resources available for social services, notably in rural areas. Where these conditions were substantially mitigated (as in Taiwan, Korea, and Sri Lanka), patterns of income distribution were achieved approximating those in advanced industrial societies and indexes of social well-being were substantially higher than the averages for developing countries.

Fifth, while Bauer's fear of a large government role in development proved, I believe, excessive and did not set many developing countries on the road to serfdom, government bureaucracies in a good many countries proved relatively inefficient and self-perpetuating beyond the time when they may have been needed to do jobs the private sector could not do. A powerful "state bourgeoisie" has been created in some developing countries whose interests may not converge with those of the nation as a whole.[31] Put another way, the balance between the public and private sectors deserves reexamination in developing countries as the capacities of the private sector have increased and government bureaucracies have conformed to the dynamics of Parkinson's Law.

Yet another major issue which some have viewed as a special problem of development in the period since, say, 1950 is the question of "dependencia." For example, Paul Streeten, in summarizing criticisms of the stages of growth, wrote:

> Logically, it should have been clear that the coexistence of more- and less-advanced countries is bound to make a difference (for better or worse) to the development efforts and prospects of the less advanced, compared with a situation where no other country was ahead or the distance was not very large. The larger the gap and the more interdependent the components of the international system, the less relevant are the lessons to be learned from the early starters.[32]

31. For a perceptive discussion of this phenomenon in Latin America, see William P. Glade, "Economic Policy-Making and the Structures of Corporatism in Latin America," Offprint Series no. 208, Institute of Latin America Studies, the University of Texas at Austin, 1981. It should, perhaps, be immediately noted that advanced industrial societies have not been immune from the generation of self-interested state bourgeoisie.

32. Paul Streeten, "Development Ideas in Historical Perspective," in *Toward a New Strategy for Development* (New York: Pergamon Press, 1979), pp. 26–27.

In fact, I discussed explicitly in *The Stages* (pp. 139–44) the question of similarities and differences among early comers and latecomers in a passage subtitled "Take-offs, Past and Present." But the vogue of dependencia justifies a few further observations.

I once presented a paper wholly devoted to the theme.[33] It begins by evoking the British sense of its neocolonial relation to the Dutch Republic in the seventeenth century. The French felt the same way, helping goad Colbert into his modernization policies. Alexander Hamilton in 1791 urged a policy of industrialization on the United States in the face of the nation's continued heavy dependence on British manufactured imports, in terms which, like the theme of a symphony, run through the literature of the latecomer down to the present day: "Not only the wealth but the independence and security of a country appear to be materially connected with the prosperity of manufactures."[34] As for gaps in real income per capita, as nearly as we can calculate, Japan in the mid-1880s, as take-off began, stood at $158 (U.S. 1967 dollars), Great Britain, at $750; Italy in the mid-1890s, at $300, Great Britain, at $842.[35] The Russian gap at its time of take-off in the 1890s was almost certainly greater.

In short, the problem embraced in the notion of dependencia is at least three centuries old; it persisted throughout the nineteenth century; it did not prevent the nineteenth-century latecomers from mounting higher average per capita rates of growth than the early comers and substantially catching up with them; and the process of narrowing the gap has continued through the twentieth century for many latecomers which have managed to move into self-sustained growth.[36] The normally S-shaped long-term path of growth is a healing force in the human community.

Nevertheless, even though the problems of dependencia are historically familiar and palpably surmountable, they are, to a degree, real. For example, just as Latin America is achieving reasonable virtuosity in the last round of new technologies (for automobiles, durable consumers goods, and chemicals), the industrial North is generating a new round of technologies (in industries based on genetics, minicomputers, lasers) on which Latin America will once again have to draw. There are difficulties with patents and other problems the developing nations wish to mitigate or remove in effecting the transfer of technology. Related to them, but going beyond, are problems as well as opportunities posed by the existence

33. "From Dependence to Interdependence: An Historian's Perspective," Conference on Economic Relations between Mexico and the United States, Institute of Latin American Studies, University of Texas at Austin, April 1973.

34. Alexander Hamilton, "Report on Manufactures, December 5, 1971," in Samuel McKee, Jr., ed., *Papers on Public Credit, Commerce and Finance* (New York: Columbia University Press, 1934), p. 227.

35. For data and discussion, see my *Why the Poor Get Richer and the Rich Slow Down*, chap. 6.

36. See *Why the Poor Get Richer*, especially pp. 259–69, for statistical evidence on this point.

of multinationals. This is a large, much canvassed subject, and I shall therefore confine myself to a few conclusions.

A good deal has been done within the international community to mitigate the problems arising from large differences in stage of growth and technical virtuosity; for example, trade preferences for developing countries and codes of behavior for multinationals. The latter problem is not as acute, in fact or in international debate, as it was even a decade ago.

The intensity of the problem relates, in part, to the size of the country and its domestic market. In take-off, for example, the larger domestic markets of, say, Mexico and India provided a more spacious framework for the expansion of import-substitution consumer goods industries than, say, those of Peru, Uruguay, or the nations of Central America. In the drive to technological maturity, Brazil finds it easier to develop efficient steel, metalworking, and chemical plants than Chile or even Argentina. Canada, despite its full attainment of high mass consumption and its rich natural resource base, still struggles, as it has for more than a century, to keep its dependence on the United States—which is ten times larger—within politically and psychologically (as well as economically) manageable bounds.

But we should exercise some care in evoking the question of size. First, the size of a population does not necessarily represent the size of its effective market: a substantial part of Latin America, let alone India, has only a tenuous link to the market system. The effective market is much smaller than the population, and income per capita can vary greatly, even at similar stages of growth, depending on the ratio of population to arable land, natural resource endowments, and so on. Second, a purposeful, energetic people, with a good educational base, a framework of political stability, and an ample supply of innovating entrepreneurs and public administrators, can build a highly sophisticated industrial society on a small population base by exploiting with vigor the possibilities for exports. This is what Sweden and the other Scandinavian nations have done. In Asia, it has happened in Korea and Taiwan and, even more remarkably, in Hong Kong and Singapore.

These cases are worth underlining because the felt costs of dependence are clearly an inverse function of the vigor with which economic development and export markets are pursued as well as of relative stages of growth and size.

In the end, I am inclined to believe that the costs of dependencia are outweighed by the advantage for developing countries of a large backlog of unapplied technologies, and that the burden of dependence, notably technological dependence, is partly psychological. In urging an expanded hemispheric effort to increase Latin American scientific and technological capacity, the Herrera report responded to this sentiment.[37] I suspect that

37. Organization of American States (OAS), "Hemispheric Cooperation and Integral Development," OEA/Ser. T/II, OTC 15-80 (Washington, D.C., August 6, 1980).

this component of the problem will be eased only when the developing regions begin substantially to contribute to, as well as draw upon, the global pool of technology. In time, this will surely happen. But there are real problems as well with technical dependence, notably the fact that international research and development (R&D) may not focus sharply enough on the particular problems of a developing country or region. Indeed, this is a problem not only for developing countries but also, as suggested earlier, for Canada and even for certain American states and regions. For example, the special energy, water, and transport problems of Texas helped increase the sense of urgency for a radical expansion of R&D within the state in the report of the Texas 2000 Commission.[38]

The list of both anticipated and unanticipated facets of experience over the past quarter century could, of course, be extended. But the greatest challenge the editors of this volume laid before us was in their final questions: How do you view development economics today? How could it be improved?

Development Economics in the Fifth Kondratieff Upswing

My view of contemporary development economics and policy is, to put it simply, the product of a linkage of growth analysis to the concept of trend periods (or Kondratieff cycles) as I have interpreted them. In my concept of a dynamic general model of the economy, the stages of growth emerge from the efficient absorption in particular sectors of a sequence of progressively more sophisticated technologies generated currently in the world economy or available to a latecomer as a backlog. My view of trend periods (or Kondratieff cycles) also flows from the interplay of sectors and aggregates: the severely lagged process of adjusting supplies of foodstuffs and raw materials (including energy) to the requirements set up by the growth of the world economy.

In mid-1972 I turned to writing a long-planned history of the world economy over the past two centuries.[39] At the close of 1972 the world economy experienced a convulsive rise in the relative price of grain, followed shortly by a convulsive rise in the price of energy. Set against the background of what had been happening to international grain and oil markets in the 1960s, these events, and their repercussions, suggested, as I worked away on my history, that the world economy had entered a protracted period of relatively high basic commodity prices for the fifth

38. *Texas 2000 Commission Report and Recommendations* (Austin: Office of the Governor, March 1982), especially pp. 6, 9, and 29–31.

39. This effort is incorporated in the following books: *How It All Began* (New York: McGraw-Hill, 1975); *The World Economy: History and Prospect*; *Getting from Here to There* (New York: McGraw-Hill, 1978); and *Why the Poor Get Richer and the Rich Slow Down*.

time since 1790. The succession of irregular, but clearly marked, phases of relatively expensive and relatively cheap basic commodity prices had interested me from my earliest work as an economic historian.[40] I concluded that this was the phenomenon at the core of the long cycles Kondratieff had identified (but never explained) and which Joseph Schumpeter had, in my view, incorrectly associated with the rhythm of major technological innovations.

Historically, the upswings were generally periods of inflationary tendency, with high interest rates, pressure on urban real wages, and a shift of income in favor of producers of basic commodities. Capital and migrants flowed to the countries and regions producing such commodities; and, in time, the expansion of output in the basic commodity sectors overshot equilibrium levels to yield a protracted reversal of trends in the international economy. From this perspective, the great boom period 1951–72 was the fourth Kondratieff downswing, and we have spent the past, uncomfortable decade in the fifth Kondratieff upswing.

The falling or relatively low basic commodity prices of the 1950s and 1960s yielded an approximately 25 percent favorable shift in the terms of trade for the advanced industrial countries, cut foreign exchange earnings of traditional export products from the developing regions, and helped generate, notably in Latin America, a new development doctrine and strategy centered on the believed long-term trend in the terms of trade. The price trends of the 1950s also—though it is rarely noted—provided cheap energy and food to those developing countries which were rapidly industrializing and urbanizing. The advanced industrial countries and a good many of the World Bank's middle-income countries were thus assisted by the contours of the fourth Kondratieff downswing, the former, of course, more than the latter.

As we all know, things have been quite different since the close of 1972. The forces which have come to rest on the developing nations in the past decade include:

- The deceleration of growth rates in the advanced industrial countries, as they failed to face the imperatives and exploit the possibilities of the fifth Kondratieff upswing, and the consequent weakening of markets of exports from the developing countries
- A radical shift in the terms of trade and income distribution in favor of energy-exporting countries and regions and against oil importers
- Balance of payments pressures on the oil-importing, developing nations including, in some cases, a precarious expansion of high-interest loans contracted to maintain even reduced economic and social momentum

40. My undergraduate studies, aside from the initial examination of the period 1793–1821, were, in effect, of the second Kondratieff downswing (1873–1896), which was also the subject of my doctoral thesis, and the third Kondratieff upswing (1896–1914).

- A progressively increased reliance of the developing nations, taken as a whole, on imported food
- Underinvestment in raw materials, in part because of nationalist inhibitions on private foreign investment
- Gross environmental deterioration in a number of regions because of deforestation and the loss of arable acreage.

My perception of where the world economy has stood since the close of 1972, in the long erratic rhythm of trend periods (or Kondratieff cycles), led to a particular judgment about the appropriate agenda for North-South economic cooperation. The central common task is to work in partnership to assure that the sectors supporting the continuity of industrial civilization are expanded and sustained: energy, agriculture, raw materials, water, and other environmental sectors. The task of this generation is to do consciously what its predecessors did, mainly (but not wholly) in response to market incentives—for example, in opening up the American West in the second Kondratieff upswing; Canada, Australia, Argentina, and the Ukraine in the third; Middle East oil in the fourth. The task in the last quarter of the twentieth century embraces a wider range of sectors than it did previously.

In the 1950s, when basic commodity prices were declining, we could focus on the need for enlarged lending on easy terms for general development purposes, with each country designing a plan responsive to its unique circumstances and its stage of growth, including its absorptive capacity. That need has not disappeared from the agenda nor has the endless struggle to contain protectionist pressures in the industrial North. But I, at least, have no doubt that the heart of North-South economic cooperation in the 1980s—as it should have been in the 1970s—lies in the kind of sectoral functional cooperation I have outlined here.[41]

I believe, therefore, that the ideological framework and agenda of the New International Economic Order that emerged in 1974, in the wake of the quadrupling of the international oil price, however psychologically explicable, was basically misconceived and anachronistic.

Although my judgment about the appropriate North-South agenda arose from a quite special idiosyncratic intellectual setting, others, out of their own experiences and frames of thought, have come quite independently to similar conclusions. In this matter I was heartened by the consensus that emerged among seven of us on the Herrera Committee;[42] the increasingly sharp focus of the World Bank on key resource sectors; the passages in the Brandt Commission report on resources, notably

41. For an elaboration of this argument, see *The World Economy: History and Prospect*, pt. 6; *Getting from Here to There*, chaps. 4, 5, 6, and 13; *Why the Poor Get Richer and the Rich Slow Down*, chap. 7; "Latin America Beyond Take-off," *Americas*, vol. 31, no. 2 (February 19, 1979); and "Working Agenda for a Disheveled World Economy," *Challenge* (March/April 1981).

42. OAS, "Hemispheric Cooperation and Integral Development."

chapters 5, 6, and 10.[43] The Cancún meeting of October 1981 also spent considerable time on agriculture and energy, but the efficacy of the action taken in its wake is still to be assessed.[44] In that regard I have argued for some time that much of the work on this functional agenda should be conducted regionally, centered on the regional development banks and their related political institutions (such as the Organization of American States and the Organization of African Unity), with an active role in all the regions for the World Bank, the Food and Agriculture Organization, and other relevant global agencies.

If a sense of communal interest and communal purpose can be reestablished by enterprises in these critical sectors, I am confident that progress can be made in the other areas of mutual North-South interest. Perhaps, above all, the participants and negotiators should be officials who bear direct responsibility for policy toward these sectors in their national governments rather than foreign office officials, expert in the rhetoric (and counterrhetoric) of the New International Economic Order and the rather sterile resolutions a decade of negotiations has yielded.

A Few Reflections

The first question to ask in a reflective exercise of this kind is, of course: Has development lending been a good thing? Are the lives of men, women, and children in the developing regions better than they would have been if, say, the doctrine of the Randall Commission had prevailed and the advanced industrial countries had confined themselves to technical assistance or no aid whatsoever in their relations with the developing regions?

No such counterfactual question in history can be firmly answered. One simply cannot trace out all the substantial consequences of removing one significant variable from the equation. Any attempt to answer the question is, therefore, inherently arbitrary, impressionistic, and personal.

It is possible to argue that development is, in the end, primarily a matter of self-help, and aid, while not trivial, clearly not decisive. Overall total investment in the developing regions has been generated overwhelmingly from domestic resources—say, 90 percent; and net official development

43. *North-South: A Program for Survival*, Report of the Independent Commission on International Development Issues, Willy Brandt, chairman (Cambridge, Mass.: MIT Press, 1980).

44. President Reagan offered, in this respect, an opening which has not thus far been picked up and exploited by any of the leaders in the developing countries. Among the five principles he set out for "a positive program of action for development" was: "Guiding our assistance towards the development of self-sustaining productive activities, particularly in food and energy." *Public Papers of the Presidents of the United States: Ronald Reagan, 1981* (Washington, D.C.: U.S. Government Printing Office, 1982), p. 982.

assistance may now account for only about 6 percent of total gross investment. But in certain cases the availability of development aid clearly bought time for nations to find their feet and go forward on their own; and the flows of development assistance from abroad encouraged private investment and stimulated domestic investment, public and private, in certain important sectors. In other cases, however, it may have postponed, at some cost, confrontation with reality. I am inclined to think, for example, that at least some of the PL 480 loans and grants in the 1950s and 1960s were counterproductive. They carried with them the illusion that U.S. grain surpluses, beyond the capacity of commercial markets to absorb, were a permanent feature of the world economy. They may well have slowed the adoption of effective agricultural policies in certain developing countries.[45] And any knowledgeable observer of the scene can cite both individual loans and country loan programs that yielded, to put it mildly, disappointing results. Like the private sector, the world of official development assistance has had its Edsels.

It has also been argued that without development aid, with its encouragement of planning, the economies of the developing countries would have been less centralized and more reliant on the price system and the bracing winds of competitive private enterprise. This I disbelieve. The odds are that the strains of their balance of payments would have pushed developing countries toward more authoritarian solutions, and they would now be more dominated than they are by compulsive central planning mechanisms and less open to the disciplines of domestic and international price competition.

But I am skeptical that any kind of satisfactory approximation of an answer can be established by argument, one way or another, in these more or less economic terms. I would judge the decisive considerations to be three:

First, the existence of institutionalized development aid elevated the stature of the men and women in the governments of developing countries who were seriously committed to economic and social development and capable of formulating the case for assistance in terms of internationally recognized standards. After all, external resources are, in the short run,

45. I would not attribute to the existence of food imports under PL 480 the primary reason for the systematic neglect of agricultural and rural life which was—and remains—one of the most troubling features of policy in developing countries. That neglect flowed mainly from a convergence of political realities and understandable, but misguided, intellectual biases within developing countries. In the short run, the cities were more volatile and, in a sense, politically dangerous. There was a powerful temptation, therefore, to provide the cities cheap food even at the cost of wise, longer-run agricultural policies. PL 480 loans were evidently attractive to many political leaders in developing countries, and to their finance ministers as well, because they provided a prompt increase in current governmental revenues. Meanwhile, intellectuals argued that agriculture was a quasi-colonial activity, value added was higher in industry than in agriculture, industry was needed urgently to underpin military strength, and so on.

extremely important to hard-pressed governments in developing regions; and those capable of negotiating successfully for such resources become important national assets. From close observation of many developing countries, I have no doubt that the domestic priority of development was thus heightened.[46]

Second, in an inherently divisive world, with ample capacity to generate international violence, institutionalized development aid has been perhaps the strongest tempering force, quietly at work, giving some operational meaning to the notion of a human community with serious elements of common interest.

Third, as noted earlier, the existence of institutionalized development aid helped damp, to a significant degree, the domestic conflicts inherent in the modernization process in those countries which pursued reasonably balanced, purposeful, and sustained development programs. This reduction of conflict, rather than the prompt adoption of the institutions of Western democracy, was a critical part of the case for foreign aid.

Be that as it may, at least one development crusader of the 1950s has no regrets for his enlistment in a cause he has supported for more than three decades. But looking back at the intellectual struggle for development aid of the 1950s and at the political figures who joined early in the campaign, I would underline a chastening fact. The path-breaking victories won in the form of the International Development Association, the Inter-American Bank, the India and Pakistan consortia, the Alliance for Progress, and the Decade of Development did not come about because, at last, we persuaded the opposition that we were right. They came about because a series of crises in the developing regions forced on responsible politicians an acute awareness of the political and strategic danger of not assisting the process of development in Latin America, Africa, the Middle East, and Asia. It was Vice President Nixon's difficulties in Lima and Caracas in May 1958 (promptly and skillfully exploited by President Kubitschek) that shifted the balance of power within the Eisenhower administration toward support for the Inter-American Bank and other positive responses to Latin America's development needs, long urged upon it. Castro's emergence in 1959 as a working ally of Moscow was not irrelevant to easy congressional acceptance of the Alliance for Progress. Similarly, the somewhat romantic image of economic and social progress in China, during Mao's Great Leap Forward, assisted John F. Kennedy, John Sherman Cooper, and Eugene R. Black, via the Banker's Mission to India and Pakistan of

46. The historians of the World Bank, Edward S. Mason and Robert E. Asher, share my view of the importance of this point, but more wistfully: "The Bank can ally itself with the development-minded elements in the country and reinforce their efforts. But the Bank's biggest handicap is its inability to guarantee that development-minded officials will come into power or remain in power" (*The World Bank since Bretton Woods* [Washington, D.C.: Brookings Institution, 1973], p. 648). My point is, of course, that many more development-minded officials rose to power and stayed in power than would have been the case if development aid had not been institutionalized.

early 1960, in setting in motion the World Bank consortia for those countries. Again, the Lebanon-Jordan crisis of August 1958 led President Eisenhower to propose a generous plan for regional development in the Middle East which, unfortunately, was not taken up. In fact, the whole critical period when the long-run foundations for development assistance were laid was framed by the protracted anxieties, in the United States and elsewhere, that followed the Soviet launching of the first satellite in October 1957. The story of the transition to large-scale sustained development aid, is, in fact, a vivid illustration of Jean Monnet's dictum: "people only accept change when they are faced with necessity, and only recognize necessity when a crisis is upon them."[47]

Nevertheless, the work of the development crusaders was not irrelevant. When governments in the advanced industrial world were forced by events to turn to the tasks of development, there existed a body of thought and doctrine, based on research, debate, and some practical experience, which permitted sensible courses of action to be fashioned quickly. Perhaps most important of all, development thought and doctrine had been thrashed out between economists of the North and South. This lively process proceeded not only in universities, but also on the occasion of research and aid missions to developing countries and within the secretariats of the World Bank, the United Nations, and the regional economic commissions. It was, clearly, a two-way process of mutual education. The existence of this common frame of reference, often underpinned by close human ties, rendered North-South collaboration much easier than it would otherwise have been when the institutional framework for development assistance was built and put to work in the late 1950s and early 1960s. One of our major current tasks is to build, in the quite different environment of the 1980s, a new North-South intellectual consensus to underpin a sustained partnership effort. The concepts underlying the New International Economic Order did not fulfill that function and the exceedingly serious and well-meant effort of the Brandt Commission to do the job did not quite succeed.

However philosophical we may be about the role of Cold War–related crises as the catalyst which altered the political balance in the struggle of the 1950s for enlarged development assistance, the Cold War had its costs. The flow of aid has, to a degree, remained responsive, in both its direction and scale, to the intensity of the Cold War dimension in policy toward the developing regions. But it is also true, to a degree, that development aid was institutionalized, notably through the enterprise of the World Bank in the regimes of Eugene Black, George Woods, and Robert McNamara, and through the regional development banks. It is no small thing that, by World Bank calculations, official development assistance was $25.5 billion in 1981 from the members of the Organisation for Economic Cooperation and Development, and perhaps $7 billion from the Organiza-

47. Jean Monnet, *Memoirs* (Garden City, N.Y.: Doubleday, 1978), p. 109.

tion of Petroleum Exporting Countries.[48] Aid from communist governments to non-communist developing countries approximated $2.6 billion in 1979. There are those who believe these sums are too low, too high, and/or misdirected or misused in one manner or another. Foreign aid has never been a subject that lent itself to easy consensus or complacency. Nevertheless, it is a unique historical phenomenon that the advanced industrial countries have recognized an interest in the economic fate of the developing countries worth the regular allocation of something like 0.35 percent of GNP.[49] Still, the seriousness of the larger northern governments about development assistance has tended to fluctuate with the scale and locus of conflicts in the South. This has reduced one of the advantages we believed would flow from the kind of steady long-term approach some of us advocated in the 1950s—that is, it reduced the possibility of heading off crises that might otherwise occur. Moreover, aid granted in the midst of crisis is generally less efficient, dollar for dollar, than aid granted steadily in support of ongoing development programs.

My final reflection concerns a still larger issue: Is regular growth still a legitimate objective for the developing regions? Do global resource limitations decree that the old devil, diminishing returns, will soon generate a global crisis unless the developing regions and the advanced industrial countries level off promptly, adopt new, less materialistic criteria for the good life, and even things out within the human family by drastic redistribution of income and wealth within national societies and among nations? This was, of course, the theme of *The Limits to Growth*.[50] That study was subjected to the careful criticism its radical conclusion deserved, and the flaws revealed in the analysis diminished the inevitability of its apocalyptic judgment, as the authors came to acknowledge.

But quite aside from the potentialities for continuing to fend off diminishing returns through man's ingenuity—as we have done for two centuries—there is no evidence that *The Limits to Growth* prescription is politically, socially, and psychologically viable. On the contrary, the thrust for higher real incomes by less advantaged groups and nations is one of the most powerful forces operating on the world scene, and so is the deter-

48. World Bank, *World Development Report 1982* (New York: Oxford University Press, 1982), pp. 140–41.

49. In terms of development theory and policy as my colleagues and I conceived of it in the 1950s—and as I conceive of it now—the criterion of the proportion of GNP allocated by the advanced industrial countries to developing countries is irrelevant and misleading. Measuring official development assistance in this way implies that the objective is the transfer of resources from rich to poor. The "correct" criterion is to assure that absorptive capacity is matched by the availability of capital for development programs which are in appropriate sectoral balance. This would not, of course, exclude emergency aid, on a human welfare basis, to countries experiencing one kind or another of economic emergency.

50. Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III (New York: Universe Books, 1972).

mination of advantaged nations and social groups to sustain and even improve their material status. Thus far the tensions generated by these ambitions have been softened because the pie to be divided has been expanding. It is one thing to quarrel about fair shares when all are gaining in real income; the struggle for fair shares is a more dour matter in the face of a static or low growth rate in real income per capita.

But trees do not grow to the sky. It is wholly possible, even certain, that, with the passage of time, man's perceptions of affluence will change—or change will be forced upon him. More than two decades ago, in writing *The Stages of Economic Growth*, I raised the question of what would happen in the richer societies when "diminishing relative marginal utility sets in, on a mass basis, for real income itself" (p. 91). The problem was much discussed in the 1960s. A margin of the more affluent young went into revolt against the values of material progress and the consequences of those values as they perceived them. They sought nonmaterial objectives. And a no-growth strand exists in the politics of most advanced industrial countries. But it is not a majority view. The fact is that, among both the early comers and latecomers to industrialization, we must count on a protracted period of effort to continue to grow. Right or wrong, the odds are that the effort will be made, and serious policymaking should be based on that probability. As a black colleague of mine once said, the disadvantaged of this world are about to buy tickets for the show; they are quite unmoved by the affluent emerging from the theater and pronouncing the show bad; they are determined to find out for themselves.

That determination underlines the urgency of the kind of North-South cooperation I outlined earlier. The problems of energy, food, raw materials, and the environment that we confront in the world economy may not decree an end to industrial growth after, say, a run of 250 years from the late eighteenth century. But those problems are real and still degenerative; that is, they will worsen with the passage of time unless present national and international policies change.

In the end, those policies should reflect the universal stake, shared equally between the North and South—and, I would add, East and West—in a continuity of industrial civilization which would permit us to level off in population and, later, in real income per capita when we are so minded, not when faced by bitter Malthusian or other resource-related crises. The most primitive self-interest should, then, bring nations and peoples closer to accepting the injunction of the poet after whom I happen to be named, to which I have often returned:

> One thought ever at the fore—
> That in the Divine Ship, the World,
>   breasting Time and Space,
> All peoples of the globe together sail,
>   sail the same voyage,
> Are bound to the same destination.

Comment

Gerald Helleiner

PROFESSOR ROSTOW offers in his paper a characteristic blend of history, theory, insight, and provocation. Whatever one may think of his approaches or his conclusions, it can never be said that his work makes dull reading! When I was asked to discuss the Rostow paper—knowing the span of his interests and experience—I expressed doubt as to whether my own background was appropriate for this task; and that was *before* I had seen the paper. I am terribly conscious of the weak credentials I bring to this task and of the fact that when the MIT group set about writing their "tract for the times"—a couple of decades *after* Professor Rostow had embarked upon his earliest enquiries into economic history—I had not myself even finished secondary school. But let me turn to my task.

Professor Rostow's paper is an amalgam of two quite different kinds of stories. The first concerns his interpretation of the interrelationship between economic theory and economic history at a quite general level; in this we see Rostow the much respected scholar of long-term change and development. The second is a story of U.S. foreign policy and the evolution of U.S. attitudes toward the developing countries since the early 1950s; in this we see instead Rostow the advocate, the political participant, and servant of the U.S. public interest. The two stories are intertwined, but I should like to address them separately.

We are familiar with the Rostovian emphases on noneconomic dimensions in societal performance, "the crucial role of politics" in modernization, and the importance of science and technology in modern economic growth; and many of us were brought up on his "characterization of stages in development." In this paper, however, I have been particularly struck by a number of other propositions, especially three with which I fundamentally agree:

- "The optimum unit for the study of economic history is not the nation, but the whole interrelated trading area," a conclusion Professor Rostow had already recorded in 1948, from which he was thence-

Gerald Helleiner is Professor of Economics at the University of Toronto.

forth led, he says, to address history in terms of "the evolution of the world economy as a whole."

- "The analysis of a modern or modernizing economy could not be usefully conducted in aggregate terms."
- The post-1945 turning of "virtually the whole of Asia, the Middle East, Africa, and Latin America . . . with passion . . . to the goal of modernization . . . in historical perspective . . . is perhaps the most remarkable event since the coming of the first Industrial Revolution to Great Britain in the 1780s. It has altered irreversibly the balance and texture of international political, as well as economic, life."

The facts of national-level decisionmaking and national-level historical statistics tend to drive most of us, as they have driven Professor Rostow, back to the questions of *national* experiences, interests, and policies. But the implications of these three propositions for the future study of *world* economics and politics are profound, and two of them are worth spelling out. First, sectoral or industry-level investigations and analysis may be among the most appropriate means for approaching an understanding of global political and economic developments. (Global macroeconomics is also necessary but not yet very much in fashion.) An "orderly disaggregation" of the global economy might best proceed in terms of sectors or industries rather than nations. International trade would then be absorbed into studies of global industries, in which industrial organization and location theories might provide a more appropriate intellectual framework than conventional trade theory. Market structures at the global level, within particular sectors and industries, would then probably receive more attention than they now do, as would their effects (if any) upon global intersectoral terms of trade. If one pursues these Rostovian lines, one can—and to some extent Rostow does, at least for "protracted periods"—end up, in fact, with Raúl Prebisch and Hans Singer! Whether or not Professor Rostow enjoys this company, I am sure he would agree on the need to vastly improve our modeling and understanding of sectoral developments and interrelationships at the global level.

Second, in view of the remarkable post–Second World War events of which he writes, the admirable concern with "the aspirations of all classes and regions, greatly increased social, economic, and political opportunity," and the like,[1] *all at the national level*, should be logically and appropriately applied at the world level. So should the expressed concern regarding the appropriate balance between the public and private sectors, although the direction of suggested change might well be reversed.[2] I speak

1. Expressed in *A Proposal: Key to an Effective Foreign Policy* (New York: Harper, 1957) and in Professor Rostow's reflections on this work here.

2. See, for instance, former MIT colleague Charles Kindleberger, who notes that while "there may be too much government at the national level . . . there may also be too

of analysis and of logic, not of political rhetoric. The Rostovian propositions I have noted imply the logical need for global data and global analysis in the fields of income distribution, market imperfections, and failures, and the potential for governmental activities of the conventional kind to deal with them.

About Professor Rostow's main thesis concerning the "Marshallian long period," however, I must express some doubts. If I have understood him correctly, nations and now the world possess optimal sectoral capacities which are related to rates of growth of the labor force, technical change, and the supply of basic inputs. From this "system" flows an optimal aggregate growth rate and an optimal distribution of investment. The world lurches its way through history, overshooting and undershooting its optimal sectoral paths.

It is by no means clear how these sectoral "optima" are to be ascertained or indeed what is typically the maximand in their determination. It is therefore not clear how one is to know when one is on target and when one is not. Nor is it clear whether the engine of growth is powered best by remaining firmly upon the prescribed sectoral paths or by persistent disequilibria; Albert Hirschman would certainly say the latter.

In any case, these phenomena can be related, Rostow argues, to Kondratieff long swings, in which the prices of basic commodities figure prominently. In the early 1970s sharp increases in the relative prices of grain and energy, according to his view, ushered in "a protracted period of relatively high basic commodity prices for the fifth time since 1790." On the historical evidence following a period of inflation, high interest rates, and falling real wages, this can be expected eventually to lead to expanded output in the basic commodity sectors, which will overshoot equilibrium and thus generate a "protracted reversal of trends in the international economy."

From this analysis, Professor Rostow is led to his view that it is now most important for the world economy "to assure that the sectors supporting the continuity of industrial civilization are expanded and sustained: energy, agriculture, raw materials, water, and other environmental sectors." And, it seems, these needs cannot now be left to the "magic of the marketplace." Hence he sees functional cooperation in these critical sectors as "the heart of North-South economic cooperation in the 1980s." He also continues to argue for regional approaches to such cooperation.

When it comes to assessing the longer-run significance of current events, I have always noticed that historians are prone to greater, rather than less, caution than the average professional of my acquaintance. Professor Rostow is clearly the exception required for my rule. Can his provocative

little government internationally." Charles P. Kindleberger, *Government and International Trade*, Princeton University Essays in International Finance no. 129 (Princeton, N.J., 1978), p. 17.

proposition about the post-1972 "protracted period" of high basic commodity prices *really* be taken seriously?

Can all his "basic commodities" be so cavalierly lumped together? In what way were the events in grain and oil markets in the early 1970s logically linked, and to what degree were either of them the product of long-run influences of the sort which interested Alfred Marshall? What is the underlying explanation of this purported new trend in relative prices? And how long is a "protracted period" anyway? Most of the exporters of "basic commodities" of my acquaintance will be very surprised to hear that they are in the middle of a protracted upswing.

For the record, oil apart, there is no statistically discernible trend in the relative prices of Professor Rostow's basic commodities from the early 1970s to the early 1980s. Following the burst in 1973–74, food prices have risen at lower rates than overall wholesale price indices; they are now roughly at the same relative price level as they were in 1972. Agricultural raw material prices never did soar disproportionately in the early 1970s, and have since declined in relative terms. The experience with metals is quite variable, but the IMF metals (dollar) price index since 1975 and the prices for some, such as copper, are now much lower in real terms than in 1972. (If current relative prices are said to be "temporary," the product of global recession, I can only reply that "theories" must be capable of disproof—and suggest that an alternative testing methodology be provided.)

Who really needs the Rostovian crystal ball anyway? If the message is that we should now think hard about investing more in energy, food, and certain strategic raw materials (for that seems to be what is meant by "basic" commodities), Professor Rostow has plenty of company. But few have dressed their views up as long-term development theorizing. Moreover, most of those with a Southern concern view energy and food questions from a decidedly *non*-Rostovian perspective that does not encompass "the continuity of industrial civilization." They see energy issues as primarily a matter of ensuring adequate firewood or biomass alternatives for masses of rural poor, and food issues much less in terms of production than in terms of poverty, entitlements, security, and distribution.

To see the future of North-South relations in terms of Professor Rostow's interpretation of long-run economic history is therefore, in my opinion, to see it rather murkily. This leads me to Rostow's second story, the evolution of U.S. policy toward the developing countries. This story is told from the perspective of what some of my social science colleagues would call a "participant observer." The tale is a fascinating one, if ultimately also a sad and sobering one. The sadness derives above all from the contrast between the vision, foresight, and basic wisdom of the "mutual interest" case for foreign aid presented by Millikan and Rostow in the 1950s and the blinkered and dogmatic character of current U.S. approaches. But sadness and sobriety also must accompany one's reflections upon how such visionary initiatives as the Alliance for Progress worked out in practice. Professor Rostow himself calls attention to the fact that the key decisions in the sphere of development aid were were typically made in response to crises and not because of the force of the mutual interest case. That long-run case has still not been accepted by politicians who must face electorates in the short run.

In one major respect the second Rostow tale is curiously dated—indeed, even out of touch with the North-South debates of the mid-1970s, let alone the 1980s. That is in its primary focus upon foreign aid. This is curious in view of Professor Rostow's stated respect for the "mutual education" and "sustained partnership" attainable through North-South intellectual debate. Development assistance has not been of primary importance in this debate for some time. At the same time that he himself concentrates on an older debate, he dismisses the more recent North-South agenda as "psychologically explicable . . . [but] basically misconceived and anachronistic." Each to his own taste in these matters. But it certainly cannot realistically be suggested that Professor Rostow's views of the appropriate future North-South agenda, rather than those he dismisses, have been shared by the Brandt Commissioners or the participants in the Cancún Summit.

The mutuality of Northern and Southern interests have been argued most vigorously in these and other places with respect to general international trade and monetary regimes, and not simply in sector-specific terms. With or without the South, the problems of coordinating macroeconomic management, achieving structural adjustment, and controlling a resurgent protectionism are now before the industrialized world. What happens to the North in as long a run as I am prepared to contemplate (I am not sure whether it is a Marshallian one, but it is a good deal shorter than the famous Keynesian long run) depends far more on events in these spheres than on the sector-specific issues of Professor Rostow's prime interest. The expanded role of the developing countries in Northern trade and finance should and will make them more significant actors in the resolution of these issues than previously. The principal challenge to current Northern policy is to bring the developing countries into these matters in an orderly and mutually acceptable manner.

It must also be said that in some areas Northern and Southern interests do not coincide, and it is misleading to pretend otherwise. Areas of conflict—actual or potential—are no less important for North-South consideration and for analytical attention than those of apparent mutual interest. Even in the "basic commodity" areas in which Rostow wants us to invest our time and money, he surely underestimates the degree to which Southerners will have views of their own as to the priorities and mechanisms (as I have already suggested above). In terms of the current North-South debate, Professor Rostow's perspective is, understandably, thoroughly Northern. It is not helpful to pretend, again, that this particular perspective flows from a generalized economic development theory. An orderly process of change, of which Professor Rostow seems to approve, is bound to have many dimensions. Whatever one's own global development theory—and most of us do not possess a very coherent one—the main foreign policy story is simply that the developing countries are going to have to be listened to much more than they used to be.

Comment

Azizali F. Mohammed

PROFESSOR ROSTOW has summarized three decades of his work on economic history, the development process, and the political economy of international assistance in his paper. The most fascinating part of the paper describes the evolution of Rostow's thinking. I shall leave this aside, except to remark that it is not surprising that a mind so well endowed would have found itself at the center of a professional controversy that kept historians and economists busy for a decade, if not longer.

His vision of a society proceeding through a succession of discrete and identifiable stages is arresting in itself, but of even greater interest is the world view within which it is embedded. Rostow places the 1950s and the 1960s in the downswing phase of the fourth Kondratieff cycle when energy was cheap and the terms of trade favored the industrial countries. These countries grew vigorously in a relatively inflation-free environment and were able to pull the rest of the world along, while at the same time dispensing substantial amounts of foreign aid. The world entered the upswing phase of the fifth cycle in the early 1970s. Food and energy prices rose and aid turned scarce. Industrial countries were faced with a combination of deteriorating terms of trade and domestic inflation when they tried to ignore the real income transfer that was implicit in the new structure of relative prices. The upswing brought harder times for developing countries that were not energy exporters and that went heavily into debt as interest rates first turned positive and then touched "real" levels of 5 percent and more for the first time.

Yet the Rostovian prognosis remains essentially optimistic. The upswing phase of the cycle has its compensations as rising input costs, especially of energy, trigger a new burst of resource-saving innovations. While the countries that benefit from this stimulus resume their momentum, life can be made easier for everyone, according to Rostow, if the North and the South can work harmoniously together to expand supplies of energy, food, and raw materials. What is not clear is whether the

Azizali F. Mohammed is Director of the External Relations Department at the International Monetary Fund.

developing world is necessarily rendered better-off by these developments. How would the terms of trade evolve? Would they tilt back in favor of the industrial countries? Would the losses of the energy exporters and of the suppliers of labor to them be offset by equivalent gains of the oil-importing countries? Would aid flows be maintained in real terms? If disenchantment with aid proves to be irrevocable, how would the weakest countries manage in the next phase of the cycle if they did so poorly in the last? One looks in vain for some intimations of an answer.

Moving to a lower level of abstraction, the take-off stage holds our attention. A quarter century from the time the concept was propounded, it is pertinent to inquire how it has fared in the interval. A great deal of Rostow's work has gone into the construction and refining of the mechanism that catapults an economy into take-off. The propulsion is supplied by one or more leading sectors, but all sectors remain in a state of flux as production functions change, new technologies become available, and new linkages reach out into the economy. Rostow has been careful to emphasize that the propulsive mechanism is delicate and unpredictable. Although a good part of the action is focused on the leading sectors, the energies accumulating there are derived from several sources: new inventions or the absorption of available technology; the emergence of a corps of entrepreneurs who invest in and exploit the market possibilities; and an external challenge that serves to focus national political energies. To these conditions Rostow would add a productive agriculture and a modicum of aid. But these elements must fall into precise alignment, and whether they do or not remains largely fortuitous.

In his recent work Rostow has continued his investigations into the dynamics of leading sectors. One would have hoped in this paper for a progress report. How well have the stages stood up against the facts about the newly developing countries? In viewing the development experience over the past three decades one might be forgiven for not being able to see the scaffolds of Rostow's schema. And we remain without guidance on the identification of potential leading sectors, the fostering and nurture of "growth points" through suitable incentives, the strengthening of linkages with policy measures, the revival of sectors that have begun to flag, and the criteria for determining which sectors have to be abandoned.

This leads to a more general point. Twenty years ago at the close of a conference on the stages of growth, Robert Solow wondered about the analytical quality of Rostow's system. Were economic historians simply retailing descriptions of idealized economic stages? Was stage theory simply a literary device? He went on to add that if economic historians were ever to collaborate fruitfully with the garden-variety economists, the rules of the game had to be clearer. For the stage theory to be usable, it had to be more precise about behavioral relationships, parameters, and initial conditions. Reading this paper, one is assailed with the same doubts. Economic evolution as we experience it in these difficult times is a random walk on a muddy track. Developing nations must pull themselves out of the slime and pick their way with whatever guidance economic theory and empirical experience can offer them. The good advice of international institutions can help avert the most egregious of mistakes, but governments are leery of taking outside advice unless no alternative remains. We could certainly all use a historical perspective. That is why the promise of Rostow's work has been so heartening.

We shall, however, need more guidance from him before his ideas can provide us with a handle on policies and measures that affect the process of development. For example, Rostow sees modernization partly as a process by which countries absorb existing technology. To some extent he finds the ability of latecomers to acquire already developed technologies as the key to their rapid rise up the ladder of economic development. His latest work hints at a closing of the gap between the rich and the poor countries in large part because of this process. But there is little to relate this hypothesis to the dwindling of aid flows and the evident inability of many poor countries to adequately prepare their rapidly growing populations for the technological age that has already dawned for the industrialized countries of the world. What role does he see for the aid institutions and, in the absence of official finance for disbursement by these institutions, does he foresee them turning into agencies for technical assistance in the main?

My next point goes in a somewhat different direction. Perhaps Rostow, in casting his disciplinary net so widely, cannot possibly be attentive to the analytical needs of low-brow practitioners of the dismal science and to the international civil servants who follow in their wake. From the start, he has been willing to knock on the doors of all the social sciences to find answers to the problems of development. In some respects his stage theory is as ambitious and catholic as that of Marx. But there are important differences in the choice of ingredients and in the distribution of emphasis. The tension between classes is central to Marxian thought, and a rich story is written around the energies that are released by the clash of class interests. One searches Rostow's writings in vain for a sense of the complexity of social frictions, the abrasion of one class or group interest by others, the often destructive political conflicts. All of these are surely integral to the evolution of developing societies. Rostow does refer to the emerging state bourgeoisie and the lack of convergence between its interests and those of the masses, but gives no indication of wanting to incorporate this widespread phenomenon into his theory. Perhaps it is too much to ask that his theory take account of the many sides and angles of society, identify the stresses within, or even track the complex changes in institutions, modes of thinking, and cultural practices that are taking place inside.

My last comment concerns the role of foreign aid. A good portion of the paper is devoted to the concerns underlying aid policies in the 1950s. His own views are a trifle veiled because he speaks on behalf of that elite body of scholars who populated CENIS during that decade. Nevertheless, one senses his deep humanitarian concerns and his powerful convictions on the efficacy of aid. He admits that some kinds of assistance, such as the PL 480 program, might in hindsight appear to have been counterproductive. But on balance, foreign assistance must have done more good than harm. It promoted economic welfare, assisted governments seriously committed to modernization to proceed with change with the minimum of violence, and gave scope to men of vision, enterprise, and intellect.

I have no difficulty with these claims but doubt that they give us a complete picture. Because the assistance provided by the industrialized nations in the 1950s and the 1960s was harnessed to strategic goals, it may have—even if unintentionally—bolstered regimes whose policies went against the grain of popular demands and aspirations, generating tensions that have surfaced in many parts of the world. The aggregate indicators, to which Rostow refers, undoubtedly point toward a rate of growth which by historical standards is quite impressive. But as he would be the first to recognize, such indicators can be deceptive. In many countries, economic polarization may have proceeded hand in hand with GNP growth. Some of the statistics on the spread of poverty and deprivation in developing societies have been well documented by the World Bank, but these are not cited.

Rostow believes that aid brought about a certain concentration of talents. I happen to agree that the efforts of aid-giving agencies, bilateral or multilateral, did promote better economic management in a number of countries and helped raise the caliber of policymakers in the economic ministries. I am also convinced that aid accelerated the coalescence of an entrepreneurial class in some countries. But there is a negative side to the ledger that we would do well to recognize. The economic, political, and bureaucratic milieu that was nurtured by foreign aid created its own problems. As noted earlier, Rostow himself refers to the problem of the state bourgeoisie. This is one facet of a larger problem, which is the emergence of bureaucratic and entrepreneurial elites of considerable talent, who are identified with aid-givers and, by virtue of that fact alone, disassociated from their own people and seen by them as aliens.

But enough of these quibbles. Professor Rostow has favored us with an eminently satisfying repast. No theory in the social sciences is so flawless that a diligent search will not reveal one deficiency or another. Rostow has tried to transcend the limitations of our discipline more vigorously than most. Over the years we have all benefited from his efforts. This paper shows that his vigor remains undiminished and that we can rely upon it as a continuing source of insight for many years to come.