Postscript to "Industrialism and Industrial Man"

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THE DECADE that has passed since our *Industrialism and industrial man* was first published [2] has been marked both by the further rapid development of industrialisation around the world and by continuing commentaries upon it by many observers. Our views of this transformation of world society have undergone some modifications as we have seen the developments of the past decade and studied the views of other contemporary observers and the reactions of reviewers to our book. We have also had further oral discussions and seminars on our ideas in the United States and other countries. This postscript will be primarily concerned with the changes in emphasis we would now make in our earlier views and additional comments we would now add.

I. Major themes reaffirmed

Basically, however, we reaffirm the central points of our earlier analysis:

(1) That industrialisation is a central dynamic force at work around the world. It is, of course, only a part of the modernisation process, which includes political and cultural developments as well. A degree of modernisation can, and sometimes does, occur without industrialisation,

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[2] *Industrialism and industrial man : the problems of labor and management in economic growth* (Cambridge (Massachusetts), Harvard University Press, 1960; British edition, London and Edinburgh, Heinemann Educational Books, 1962; revised edition, New York, Oxford University Press, 1964). Page references in the present article are to the revised edition. Translations have appeared in Arabic, Dutch, German, Italian, Japanese, Persian, Portuguese and Spanish. The authors first set forth the basic ideas in " The labour problem in economic development: a framework for a reappraisal ", in *International Labour Review*, Vol. LXXI, No. 3, Mar. 1955. They elaborated these ideas and announced the publication of the book in " Industrialism and industrial man ", ibid., Vol. LXXXII, No. 3, Sep. 1960.

but industrialisation is usually a basic aspect of modernisation. By " industrialisation " we have meant the totality of relations involving workers, employers and society as they develop to make use of the new machines, processes and services that modern technology has made possible.[1] These relations are quite distinct from those in a commercial and handicraft, or an agricultural, or a hunting and fishing, society. Industrialisation embodies the new modes of conduct affecting men in the productive process as they shift from the windmill to the steam-mill—to borrow a phrase from Marx—and as they move towards a society characterised by a wide range of products and services.

(2) That there is a central logic to industrialisation that can be seen in every society using the new technology, regardless of its historical background or current political orientation. This is the common denominator of new and more diverse skills, larger-scale productive endeavours, more large cities and much else. Industrial societies, despite all their differences, are more like each other than they are like pre-industrial societies.

(3) That different societies have taken and still take separate paths on the way to industrialisation. To the central logic that unites all industrialising societies is added the diversity of arrangements that men fashion around this logic, the variations that men devise on the basic theme. These variations relate primarily to the approaches of the élites who organise the industrialisation process—the middle class, the dynastic leaders, the revolutionary intellectuals, the colonial administrators and the nationalist leaders. We would now give greater emphasis to the mixtures of approaches within systems and would rename one of the élites given in 1960, as will be noted below. But these remain, in our view, the five major variations on the theme of industrialisation.

(4) That, in addition to what is uniform to all and what is related by major approach, there are specific aspects of industrialisation in each country, and even parts of each country, which are quite distinctive. However, the forces of industrialisation have appeared in many countries to be stronger, and cultural factors somewhat less of a force, than we thought in 1960.

(5) That management moves from a paternal or political orientation to a professional one. As we emphasised, professionals are fast becoming more highly trained technically; and the " techno-structure ", as Galbraith has termed it, takes over more of the managerial function.

(6) That the central problem of industrial relations around the world is not capital versus labour, but rather the structuring of the labour force

[1] The advanced industrial society is particularly characterised by a vast expansion of service industries of all kinds, so that white-collar employment often exceeds blue-collar employment.

—how it gets recruited, developed and maintained. This is the daily business of industrial relations everywhere. Here again, the similarities of actions belie the ideological conflicts.

(7) That workers adapt themselves to and accept industrialisation much more readily than was once thought possible, even avidly at times. We would now add that they tend to become more moderate than we once envisaged, some indeed becoming conservative members of the body politic.

(8) That systems of industrial relations, almost universally tripartite, develop with a substantial degree of compatibility among the component parts. These systems originate and administer the " web of rules " that comes to govern daily operations within the system. The organisations of the workers become more a part of the system than an opponent. The system is subject more to evolutionary change than to revolutionary revision.

(9) That industrial societies that start out with an atomistic approach (middle class élites) or a monolithic approach (revolutionary intellectuals) tend to move towards pluralistic arrangements lying between full dependence on either the individual or the State; that the individual, the State and the middle-level organisation all have prominent roles to play. This convergence will never be total and may take longer than we once thought, as we note below, but it remains a major tendency of industrialisation. Also, we now give a greater emphasis to what we called, in 1960, the " new Bohemianism," somewhat redefined. But it still seems to us that the future of man's productive effort lies within the broad band of arrangements which we called " pluralistic industrialism ".

As we review our work ten years later we should like to emphasise, once again, that we are engaged in analysis and not in prescription; that we are describing what we see and not what we consider to be a more nearly perfect solution. Industrialisation places many burdens on man besides bringing him greater benefits. We do believe that there are ways in which the burdens could be lightened and the benefits increased. Our analysis, however, is not concerned with our several versions of Utopia, but rather with the nature of the new society that is shaping the present and the future for so much of mankind.

II. A re-examination of critical problems in early stages of development

For the developing countries, particularly in their earlier stages of development, the path towards industrialisation is more like an obstacle-race than a paved highway. As we stressed (pp. 78-81), it may be obstructed by conflicts of cultural patterns or retarded by organisational and economic constraints. In *Industrialism and industrial man* we identified

most of these obstacles, but some appear to have been overcome without great difficulty while others have turned out in the past decade to be much more formidable than we had anticipated.

In expanding their modern-sector enclaves, for example, the developing countries have generally had less difficulty in overcoming cultural barriers than we thought likely. Constraints such as the family structure, class and race, or religious and ethical values have seldom impeded rapid development in the modern sectors. Nearly all of the less developed countries have modern office buildings, hotels, factories, airports and highways in the urban areas. Coca Cola, Bata shoes, Hilton hotels, TV and grocery supermarkets are almost as ubiquitous in Abidjan, Lagos, Addis Ababa or Bogotá as they are in Copenhagen, Berlin or Tokyo. The new culture of the cities acts like a magnet drawing ever larger numbers of migrants from the rural areas, who quickly conform to a new culture of urban life.

The commitment of a labour force to employment in modern factories has been less difficult than expected. By paying relatively high wages and providing appropriate on-the-job training, employers have been able to minimise the problems of turnover and absenteeism and to build up productive labour forces. The newcomers to modern industrial employment are quick to make a permanent attachment to it, and, with rapidly expanding education in urban areas, the supply of trainable workers has been constantly expanding.

Even the selection, development and training of supervisors and managerial personnel, although not an easy task, appear to offer no insurmountable obstacles. In most countries, the replacement of expatriates by local nationals, particularly in the public service, has proceeded much more rapidly than expected, although government bureaucracies are still not very efficient. Staff training programmes in both the public and the private sectors have proved to be more effective than anticipated for upgrading managerial personnel, and the time required to build experience on the job has in most cases been shorter than most colonial administrators would have predicted. Where local talent is not available, the developing countries can " rent " it from abroad. On the whole, the experience of the last decade indicates clearly that the developing countries can muster, train or rent the managerial, technical and skilled personnel to operate modern industrial complexes. Indeed, it is probable that the staffing of a steel mill is for them an easier task than the organisation and training of cadres for the promotion of rural development.

Finally, formal education, particularly at the secondary and higher levels, has expanded much more quickly than even the most optimistic planners ever expected. In the modern sectors of most developing countries, quantitative targets for educational expansion have been achieved if not overfulfilled during the past decade. The average annual percentage increase per head in expenditures on public education in many developing

countries has exceeded by three or four times the average increase per head in GNP. For some representative countries this is shown in the following table.

AVERAGE ANNUAL PERCENTAGE CHANGES, 1950-65

	Gross national product per head	Public recurrent expenditure per head on education
Kenya	1.2	41.4
Mexico	3.3	35.0
Nigeria	2.8	31.1
Venezuela	3.5	29.6
Burma	4.0	28.7
Tanzania	1.4	28.7
Malaya	4.6	27.8
Thailand	5.4	21.8
Sudan	3.1	20.9
Pakistan	1.2	17.2
India	1.4	13.3
China (Taiwan)	6.4	11.3
Guatemala	1.2	10.0
Turkey	3.8	9.2
Tunisia	1.8	8.9
Brazil	2.6	4.5

Source: Adapted from information in Appendix VII of Frederick H. Harbison, Joan Maruhnic and Jane R. Resnick: *Quantitative analyses of modernization and development* (Princeton (New Jersey), Industrial Relations Section, Princeton University, 1970), calculated from data in UNESCO's *Statistical Yearbooks*.

In other significant respects, however, some problems connected with industrialisation have loomed larger than we expected. Of these the most serious are: (1) rural stagnation, (2) the mushrooming growth of the urban underclass, (3) education poorly geared to development needs, (4) organisational "power failures" in government bureaucracies, and (5) excessively high rates of growth of the population and the labour force. Each will be reviewed briefly.

(1) A rural transformation is ordinarily an indispensable requirement for continuing industrial development in the absence of substantial exportable natural resources. Rapid development in the isolated modern-sector enclaves provides no easy short cut. An increase in the quantity and particularly the quality of agricultural and livestock production is the core of any rural transformation, but along with this there must be expansion of small industries, improved education and health facilities, better housing, water supplies, sanitation, roads and other public services. Rural transformation calls for the progressive modernisation of traditional rural life, and this in turn requires the investment of resources, brainpower and human effort in programmes for raising the levels of living of rural people. During the past decade, rural development has often been neglected in favour of rapid industrialisation in the urban areas.

Industrialisation, of course, will provide much of the impetus for rural development. For example, modern science and technology are responsible for the improved seeds, fertilisers, pesticides and techniques that are the basis of possible " green revolutions " in many countries. A sizeable part of the necessary resources may be generated in the rural areas themselves, for experience has shown that rural residents are willing to devote both labour and tax moneys to projects from which they can clearly derive tangible benefits. But some of the profits generated in the modern sectors must also be siphoned off to help finance rural development. Yet, unfortunately, the problems of creating the organisations and developing the appropriate skills for the rural transformation are still largely unsolved. Here perhaps is the most underdeveloped area in the whole field of knowledge on modernisation.

(2) Unemployment and the widespread underemployment of human resources in sprawling urban areas now perhaps constitute the central and most baffling problem facing the developing countries.[1] At best, employment in the modern sectors increases by 3 to 5 per cent a year, but characteristically urban labour forces are growing over twice as fast. Furthermore, an increasing proportion of job seekers are persons with considerable formal education whose expectations far exceed their chances of gaining access to work in government agencies or modern industrial and commercial enterprises. And behind those openly unemployed are growing armies of stall-holders, shoe-shiners, pedlars, beggars, casual labourers and petty thieves who constitute a poverty-stricken, restless and disillusioned urban underclass. In the advanced countries this underclass is usually a small minority consisting of the undereducated, discriminated-against minority groups, ghetto dwellers, migrant farm workers and others rejected by the institutions of industrialism. But in the urban areas of the less developed countries, this underclass is in the majority even in cases where industrial growth has been most impressive.

The causes of urban unemployment in the industrialising countries are easy to identify: high wages and salaries compared with rural area earnings, which attract droves of hopeful job seekers to the cities; the rise of aspirations fuelled by education oriented to the modern sector; the increase in population growth; and the use of labour-saving technology in modern enterprises. In many respects, therefore, industrialisation concentrates the unemployed in urban areas, even as it creates new employment. The remedies, however, are difficult to implement, for they include wage restraint in the modern sector, greater investment in rural development, more emphasis on labour-intensive industries and population control.

[1] For a detailed description of the programme launched by the International Labour Organisation in 1969 to make productive employment for large numbers of people a major goal of national and international policies for development, see ILO: *The World Employment Programme*, Report of the Director-General (Part 1) to the International Labour Conference, 53rd Session (Geneva, 1969).

(3) The remarkable expansion of education in the developing countries has drawbacks as well as advantages. For the most part, the underlying purpose of education is more education. In other words, the principal goal of primary schools is to prepare students for entry into secondary schools, and the purpose of secondary schools is to prepare the most promising students for the university and other establishments of higher education. This " single-axis " orientation of the educational systems of many industrialising countries overemphasises preparation for entry into the modern-sector enclaves. It tends to produce intellectuals who are often unemployable, and it creates expectations which are inconsistent with realistic opportunities provided by developing economies. The experience of the last decade has emphasised what we stressed earlier, namely that irrelevant education can waste human and financial resources which otherwise might be channelled into more productive activities (pp. 18-20 and 99-100).[1] Now the overinvestment in the wrong kinds of formal education compared with non-formal means of acquiring skills and knowledge is becoming more generally recognised, and the importance of employing organisations in providing on-the-job training and work experience is more widely understood.

(4) Government ministries and bureaux, though relatively easy to man in numbers, are slower in developing efficiency. In many countries, the capacity of governments to plan, organise, manage and implement development programmes suffers from chronic " organisational power failure ". Even the simplest tasks are poorly performed; the most urgent policy decisions remain unimplemented; rivalries and in-fighting between ministries forestall logical decision-making; and corruption and laziness sap the resources allocated to development programmes. All countries are subject to the danger of becoming mired in their bureaucracies, and many of the developing nations appear to be particularly susceptible to this disease. In particular, the achievement of independence has not enabled the new nationalist leaders to streamline government machinery and cleanse it of corruptive influences to the extent that we might have hoped.

(5) Today nations are more aware of the population menace. Most of the developing countries now have rates of population increase in excess of 2.5 per cent a year (and these rates are still increasing) in contrast with less than half such rates in the industrialised countries. The consequent high proportion of persons in the non-working age groups places almost intolerable burdens on public services, schools, health, and other programmes for improving the lot of the people. Rapidly increasing population lies at the root of mounting unemployment and underemployment. It forestalls the rapid rise of income per head. It retards the rate of

[1] See also Frederick Harbison and Charles A. Myers: *Education, manpower and economic growth. Strategies of human resource development* (New York, London, McGraw-Hill, 1964).

savings. In short, rapidly rising population growth may halt the march towards industrialisation in many countries during the next decades.

In general, it is clear that the developing countries can build industrialised enclaves more quickly than they can develop their rural sectors. For this they have access to modern technology, high-level manpower and even external financial resources. But such industrial systems produce goods and services largely for the minority of the population who are fortunate enough to be attached to the modern-sector enclaves. The result is often dual economies in which the disparities between the rich and the poor are widened. And the notion that growth in the modern-sector enclaves will in itself lead to the transformation of entire traditional societies is now open to question. Internal markets for the outputs of modern-sector enterprise are very thin, and external markets are difficult to penetrate because of ever-increasing international competition. Unless there are rising incomes for the masses in rural areas, therefore, the industrialisation process can slow down once the import-substitution industries have satisfied the economic demands of the fortunate few in the modern enclaves.

In brief, industrialisation in many countries has proceeded more rapidly than we anticipated. In particular, cultural restraints have been less confining, management has been more available, workers have adapted themselves more readily and the educational system has expanded more quickly than we expected ten years ago. However, rural sectors have remained more stagnant, urban unemployment has increased more rapidly, educational expansion has created more unrealistic expectations, government bureaucracies have remained more lethargic or corrupt and population increases have accelerated faster than we once anticipated, and these have proved to be great obstacles in many countries. In many African and Latin American countries industrialisation has increased the disparities between the rich and the poor and between urban and rural areas. It has meant a new and challenging life for a small minority but it has largely bypassed the rural masses. Particularly where there are high rates of population increase and mounting unemployment, industrialisation, by itself, without appropriate measures to reduce the degree of inequality in incomes, offers no ready solution for the problem of poverty in many less developed countries.

III. Industrialising élites reconsidered

We used the term " élites " to convey the leadership role that characterises certain groups and individuals in any society. To some readers, this " élitist " view has value overtones which suggest a rigid class structure, but the usage here is value-free: élites may come from all classes in contending for positions of leadership. They include political leaders, industrial managers, labour union officials, religious leaders, military officers and others making critical decisions about the direction of

society. They are assisted by civil servants and subordinate officials of all types. To those who had difficulty with our use of the term " élites," we would say that we might just as well have used the term " leaders ".

In distinguishing five " generalised types of élites who may take the leadership of the industrialisation process ", we stressed that " these ideal types ignore much important detail in individual cases. Most actual cases are mixtures, and several societies have changed and will continue to change their essential type over time " (p. 33). [1] We stress this again, because the five ideal types have sometimes been criticised as unrealistic. They are necessarily abstractions from reality, " but by reducing complexity they can also illuminate reality " (p. 33).

With this *caveat* in mind, we have none the less suggested that certain countries may be characterised as having predominantly one type of élite rather than another at a particular time. In re-examining what we said about each of the five generalised or ideal types, we would now propose to clarify those coming under the two headings: " The revolutionary intellectuals and the centralised State ", and " The nationalist leader and the guidance of the State ". Some students and readers have confused the two, believing that any nationalist leader in a newly independent nation is also likely to be a " revolutionary intellectual " in the sense that he is seeking to change a pre-existing society by radical reforms, sometimes proceeding by revolutionary military means.

What we meant by " revolutionary intellectuals " was clearly that group holding a communist (sometimes called " socialist ") ideology whose members have " full power to control society in a centralised fashion ". Once the new élite is in control, the original revolutionary intellectuals " give way increasingly to high-level political administrators and bureaucrats as the leaders of the system " (p. 43). " The society, of necessity, is monolithic—there can be no real separation of economic, political and religious institutions. Rule-making, generally, and in industrial relations, specifically, is inherently in the hands of . . . the managers of this historical process " (p. 44). This is surely a *generalised* description of the communist societies as we know them. Thus a more accurate heading for this type of industrialising élite would have been " The communist leaders and the centralised State ".

Having said this, we add that polycentrism in communist societies, which we noted in 1960, has become even more marked. The earlier emergence of Yugoslav communism with its decentralisation of some managerial responsibility to the enterprise level and worker self-management has been followed by other less dramatic experiments in economic and even political decentralisation in other Eastern European countries; although some developments there indicate the political obstacles in the way of economic liberalisation.

[1] Some change gradually; others by revolutionary means.

Despite this increase in polycentrism, however, which could of course be matched with specific examples in the other generalised élites, we believe that most communist societies *are* different, especially in their impact on labour-management relations, from most of the societies which tend to be characterised by the middle-class or dynastic élites.

The nationalist leader is often charismatic, and may espouse a kind of ideology illustrated by Nehru's " socialist pattern of society ", or Nyerere's type of " African socialism ". But we reiterate that in our judgment nationalism with its chiliastic approach " is more an opening of the gate toward industrial development than a specifically demarcated road toward industrialisation " (p. 46). " The 'nationalist society' is particularly a plaything of history. Its recent past is of especial significance. . . . The need for clear direction is great. Yet this . . . is particularly difficult to attain. . . . And there is no single ready-made ideology for the nationalist conduct of an economy. Consequently, the nationalist approach tends to be a wavering one following an unsteady course " (pp. 48-49).

As we reflect on the nature of societies with state guidance under nationalist leaders during the past decade, we believe these characterisations remain valid. Many of the newer African countries, as well as those in South and East Asia, are still on this unsteady course. Some at times were moving in the direction of the communist élites. Other countries are characterised by a growing middle-class private industrial sector or by elements of the dynastic élite. Some are coalitions of élites with a growing middle class and a military government. In most, labour-management relations are subordinated to the broader objectives of continued modernisation and economic development under state control.

Though we intended no evaluation of the different industrialising élites in terms of their performance, it would be instructive to consider the record of productivity increases, as measured, for example, by relative increases in real GNP per head. We have not attempted to do this here but data are available for various recent periods [1], and an analysis of selected countries typified by each of the five generalised élites would be helpful.

IV. The impact of technology on industrialisation

A major persistent problem in all analysis of modern society concerns the role of technology. What features of the economy and the larger society does technology fully control, what features are merely influenced, and what features are relatively independent of technology? In Japan we have found a particularly insistent concern with these issues, as many Japanese are interested in the benefits of modern technology but are concerned over its impact on the institutions of their traditional society.

[1] See, for example, Harbison, Maruhnic and Resnick, op. cit., and Everett E. Hagen and Oli Hawrylyshyn: " Analysis of world income and growth, 1955-1965 ", in *Economic Development and Cultural Change* (Chicago), Oct. 1969.

For Marx, technology or the mode of production constituted the *unterbau* which narrowly prescribed the whole superstructure of society, including class relationships. For a wide range of social theorists and critics, including Veblen, Schumpeter and Durkheim, change in technology constituted a critical factor producing tensions among groups and classes and providing the engine for economic and social change.

In *Industrialism and industrial man*, with our focus indicated by the subtitle *The problems of labor and management in economic growth*, we sought to be more specific as to the role of technology and technological change. To say merely that technology and technological change are important factors shaping workers and managers and the organisation of the larger society is trite. The intellectual challenge is to outline the mechanisms through which technology shapes the workplace and larger societal institutions, and to specify as well the limits of that influence.

Chapter 1, " The logic of industrialisation ", summarised our views on these issues. The impact of technology and technological change is likely to be most direct in the production process itself, that is in shaping the production function, to use the language of economists. The potential job activities are specified for workers, supervisors and managers, and the possible combinations of labour with capital equipment are noted at various scales of operations. The limited production possibilities—among which choices are made by managers depending on the relative prices of the productive factors—narrowly specify job classifications and the occupational structure at the workplace. Changes in occupational structure in turn are narrowly related at the workplace to technological changes. The occupational structure in turn narrowly dictates the necessities for job training, and more generally, influences the requirements for technical and scientific education. It is for these reasons of direct determination that the workplaces of textile plants, oil refineries, steel mills, or airplane cockpits so resemble each other in different countries with different political and social arrangements, and the job structure and occupations of such workplaces, and even the relative occupational ordering of wage rates, are so similar. In these facets of an industrialising society the influence of technology is dominant; leaving relatively little room for other influences.

This view does not mean that other influences are entirely absent from the workplace. Thus, a weaver's job may be characteristically a woman's job in many societies while it may be a man's job in most Moslem countries. Or a strong ideology may dictate for a period that piece rates be used for a job classification instead of leaving the choice of methods of wage payment to more practical considerations of efficiency and the influence of supervision. The relations between training in a formal school system and on the job at the workplace may vary in some respects among countries. But the larger truth is that the iron hand of technology tends to create relative uniformity in job structure, compensation differ-

entials and technical training. The tendency towards uniformity is reinforced by migration and the international flow of capital equipment and specialists.

Beyond the workplace, technology also has a direct and immediate impact upon the household and consumer through the standardisation of many consumer goods, to which any world traveller even in backward areas would attest. The automobile, the tin can and the soft drink are ubiquitous. Forms of Western dress are widespread. In more developed areas, various consumer durables such as refrigerators and washing machines have spread widely. Technology has also had no less an impact on citizens everywhere through forms of mass transportation, the mails, radio and television. It is little wonder that leaders in different social and political systems are so concerned to try to control the consequences of these means of communication.

Technology also appears to have some influence, although it is less confining, on the general educational system. Technological developments have also contributed to changes in the extended family characteristic of traditional societies and to changes in class relationships.

But technology has less deterministic consequences on a society in other areas. Higher educational systems among countries reflect greater diversity than do steel mills, despite the levelling influence of industrialisation. Legal education shows greater diversity than the education of engineers and chemists. As we noted (pp. 21-22), industrialisation creates an urban dominance everywhere and a decline in the position of traditional agriculture. While metropolitan areas show increasing similarity around the world, they also reflect significant differences in cultural heritage and the consequences of different policies. We also noted that higher incomes under industrialisation necessarily tended to produce everywhere more intellectuals. But the roles and activities of such intellectuals vary a great deal; indeed, we referred to them as a floating force in society (pp. 62-65).

Thus, there are some features of the transformation of society through industrialisation in which the role of technology is dominant and narrowly conformist, such as the standardisation of many aspects of the workplace and some consumer goods. There are, however, other features of the march towards industrialism over which technology exercises much less constraint. These are the areas where our analysis holds the decisions of the industrialising élites to be decisive, and the impact of earlier cultural forms to be important.

V. The need for internal consistency

Our analysis held that the industrial society, like any established society, develops a distinctive consensus " ... which relates individuals and groups to each other and provides an integrated body of ideas, beliefs, and value judgments " (p. 25). We argued that in the industrial society

high values are placed on science, technical knowledge and education, as well as on goods and services; taboos against technical change are eliminated; industrialisation calls for flexibility and competition; and the workforce is dedicated to hard work, a high pace of work, and a keen sense of individual responsibility for performance of assigned norms and tasks (pp. 25-26). We stressed that " the function of making explicit a consensus and of combining discrete beliefs and convictions into a reasonably consistent body of ideas is the task of intellectuals in every society " (p. 27).

We also recognised that each individual case of industrialisation involved important internal conflicts, tensions and issues of consequence among disparate interests and groups. But there are necessarily limits to the degree of disharmony and tension. If consensus is not sufficiently preserved, the dominance of the particular élite may be jeopardised or the institutions of the society may not be able to perform their assigned functions. The economic and social progress of the society is consequently affected adversely.

A number of questions have been raised, in the shadow of developments in the late 1960s, concerning the capacity of industrialising societies to maintain the requisite consensus. It is held in some quarters that a fundamental crisis of consensus may be developing in the United States and some other countries, as evidenced by university dislocation, racial violence and other signs of class conflict, so intense as to force major alignments in the society. Some people look upon such developments with keen anticipation and others with deep fear. Irrespective of one's views, these discussions compel a review of the degree of consensus that is requisite to steer a successful course towards industrialism.

A consensus, or an ideology, in part serves as a means of control over conduct in a society. Shared ideas constitute a substitute for controls and formal organisations to direct activity and to resolve conflict. As we observed, " strict supervision imposed on a lethargic workforce will not suffice; personal responsibility for performance must be implanted within workers, front-line supervisors and top managers " (p. 26). Thus one consequence of the breakdown of a consensus is an increase in the need for formal mechanisms of control and administration. The less the consensus, in a given industrialising society, the greater the extent and penetration of bureaucratic controls. But these have limits to coerce conduct.

The consequences of a decline in consensus depend very much on the subjects upon which there is a loss in shared understanding or ideology, and on how critical these understandings are to the particular élite. The capacity of any élite to govern, to command respect, to formulate policies and to carry them out is most critical. The capacity to prevent open conflict and violence on any substantial scale is likewise pivotal. The decline of consensus on some other features, such as the work ethic, the

valuation of goods and services, or the respect for science, may require (depending on the degree of dissent) a long period to bring about any decisive consequences. But in the long run a rejection of these values may be expected to slow the march to industrialism or to change the character of the leaders.

The central role of intellectuals in the formulation of a consensus, and in " restating the major values, premises, and consensus of a society from time to time " (p. 27), may have been exaggerated to a certain degree in our earlier formulation. Intellectuals are often badly divided and consequently partially discredited. Political leaders may take on more of the assignment of formulating new propositions for acceptance. While they may no doubt use the services of some intellectuals, political and other active leaders of groups and associations may come not only to exercise the major role of compromising conflicting interests but also to formulate new acceptable compromises in the society and theories to explain and justify them.

But industrialising societies, for varying periods, may be characterised by considerable conflict, disharmony and even a temporary breakdown in consensus.

VI. Convergence of systems

We set forth in *Industrialism and industrial man* the view that industrial systems, regardless of the cultural background out of which they emerge and the path they originally follow, tend to become more alike over an extended period of time; that systems, whether under middle-class or communist or dynastic leadership, move towards " pluralistic industrialism " where the State, the enterprise or association and the individual all share a substantial degree of power and influence over productive activities. The process of convergence moves sometimes faster and sometimes slower and is, on occasion, reversed, but it is a long-run development of fundamental significance. It points the general direction of change.[1]

We noted the " diversity " of arrangements that are possible within pluralistic industrialism. This diversity lies between the alternatives of pure state socialism and pure market capitalism, both of which emphasise the role of the manager; and between the guild socialism of G. D. H. Cole and private anarcho-syndicalism, both of which emphasise the role of the working group. Each of these four possibilities constitutes a " pure " model with clear sovereignty for one group or another. Pluralistic industrialism, by contrast, emphasises mixed sovereignty and there are many possible mixtures.

[1] There has been a very considerable discussion of convergence in both Eastern and Western countries. See William A. Faunce and William H. Form (eds.): *Comparative perspectives on industrial society* (Boston, Little, Brown and Co., 1969).

Pluralistic industrialism, then, may take several forms and by its nature is likely to undergo constant adaptations to the demands of the several semi-sovereign elements. We see pluralistic industrialism as a range of alternatives rather than a single arrangement. A pure system is, by definition, more rigid.

We would like to suggest, as illustrations, four generalised models of pluralistic industrialism:

(1) Where the State, under a single doctrine and leadership, permits and encourages substantial independence to enterprises to determine products and to set prices and wages in response to consumer demand and labour market conditions. The State has a general capital investment plan and determines the general directions of economic growth.

(2) Where the enterprise has an elemental sovereignty based on private ownership, with the State more in the role of support of than domination over the general productive process. The State preserves law and order and protects property rights, but also takes responsibility for policies intended to stabilise the price level, provide full employment, assure growth, and provide social security.

(3) Where the workers and consumers through their own organisations and their political influence in the State are strongly protected from exploitation by the State and by the enterprise. Through legislative efforts, bargaining agreement, legal action and individual initiative, the interests of organised employees and consumers are given a high order of importance.

(4) Where productive efforts in many fields, such as agriculture, handicrafts and the services, are organised through largely self-governing groups of workers or consumers or both. The State provides central services of defence, welfare, and so forth.

In each of these illustrative forms, the State, the enterprise or the association and the individual have considerable influence; but the influence will vary. In the first, the State is more dominant; in the second, the enterprise manager (and the individual consumer); in the third, the associated workers and consumers, but as workers and consumers; and in the fourth, the workers and consumers as owners. The first is a modified market socialism or state capitalism; the second and third are modified forms of social capitalism, and the fourth is a form of state syndicalism.

There will not be one single and inevitable result; there will be no purity of theory and design; and there will be constant movement in specific arrangements. Convergence is towards a range of alternatives rather than to a single point. The pluralism of the State, the enterprise or association and the individual is matched by the industrial relations

system of the State, the manager and workers' associations which we set forth in our chapter 7. The two are counterparts of each other, responding to the same general forces.

There are " limits " and may even be " exceptions " to convergence as T. H. Marshall has noted.[1] In particular, we accept the view of Goldthorpe [2] that " political " considerations will have more impact on the " life chances " of persons in a strongly statist pluralism and that the " class situation of individuals and groups, understood in terms of their economic power and resources " will have more effect on the " life chances " of persons in a more market-oriented pluralism. But we reject Goldthorpe's interpretation that we see a " one-way total convergence " towards capitalism; rather, in the words of Dunning and Hopper, we see a " two-way partial convergence " between market capitalism and state socialism with the possible addition of some syndicalist elements.[3]

Our doctrine of convergence does imply that economic forces for relative similarity are more powerful in the long run than political forces for absolute diversity—but not totally overwhelming. And that, among various forces, the world-wide identity of the most effective technology is persuasive. There is one best technology; this affects economic relations, and economic relations affect political realities—but to a lesser extent than Marx thought were written into the inexorable laws of the universe and in different ways.

VII. Discontinuities in the later stages of industrialisation

Some critics have questioned whether the road to industrialism is as continuous as *Industrialism and industrial man* seemed to imply. While that analysis recognises that there are many obstacles and constraints confronting an industrialising élite, it is sometimes argued that major discontinuities may arise all over the world, or be created by the industrialising process itself, to alter dramatically the strategy of the élite or leadership group in all countries. Individual developments may arise in a particular country, of course, which alter discretely the prospects of industrial development, such as the discovery of oil, or the forcible seizure of power, but the question at issue concerns the possibility of major distortions in the future in the industrialisation process universally.

We recognised that " pluralistic industrialism will never reach a final equilibrium. The contest between the forces for uniformity and for diversity will give it life and movement and change " (p. 238). But the view has been strongly advanced that society is in for cataclysmic changes.

[1] T. H. Marshall: " A summing up ", in *Sociological Review Monograph No. 8. The development of industrial societies*, Oct. 1964.

[2] John H. Goldthorpe: " Social stratification in industrial society ", ibid.

[3] E. G. Dunning and E. I. Hopper: " Industrialisation and the problem of convergence: a critical note " in *Sociological Review* (Keele), July 1966.

A sense of this emphasis is seen in the following extract from Daniel Bell, writing for the American Academy's Commission on the Year 2000:

> More and more we are becoming a " communal society " in which the public sector has a greater importance and in which the goods and services of society—those affecting cities, education, medical care, and the environment—will increasingly have to be purchased jointly. Hence, the problem of social choice and individual values—the question of how to reconcile conflicting individual desires through the political mechanism rather than the market—becomes a potential source of discord. The relation of the individual to bureaucratic structures will be subject to even greater strain.... The growth of a large, educated professional and technical class, with its desire for greater autonomy in work, will force institutions to reorganise the older bureaucratic patterns of hierarchy and detailed specialisation.... The new densities and "communications overload " may increase the potentialities for irrational outbursts in our society.... Society becomes more functionally organised, geared to knowledge and the mastery of complex bodies of learning. The culture becomes more hedonistic, permissive, expressive, distrustful of authority and of the purposive, delayed gratification of a bourgeois, achievement-oriented technological world. This tension between the "technocratic" and the "apocalyptic" modes, particularly among the intellectuals, may be one of the great ruptures in moral temper, especially in universities.[1]

(1) One view is that the rate of technological change may be so rapid or that some single dramatic innovation may make such a quantum jump that the whole industrialisation process will be altered. But the evidence to date on atomic energy or the computer, for instance, suggests that these technological developments are unlikely to be so cataclysmic in their impact. (Nuclear war is a separate matter.) While the cumulative effects of technological change over a generation are very substantial, it appears that significant innovation takes a number of years to generate and to introduce, and a variety of smaller changes and adaptations seem to characterise industrialisation rather than a few major distortions. Moreover, technological change grows out of past change and the economy is studded with diffuse points of innovation. It is always possible, of course, that some unforeseen mutation may arise quickly but the evidence at hand would seem to make such a development most unlikely.

It is also possible that the pace of technological change may so accelerate that society cannot readily absorb the changes or make the required adaptations. While there is some evidence that the rate of increase of productivity has quickened slightly in the post-war world, the effect thus far has not been great. But continuing responses to a continuing series of small changes may prove no less disruptive to industrialisation than a major single change.

(2) It is sometimes argued that industrialisation is creating a new class of technocrats which may come to constitute an entirely new élite directing the industrialisation process. *Industrialism and industrial man* emphasises the tendency towards professional management in all societies.

[1] Daniel Bell: " The year 2000—the trajectory of an idea ", in *Daedalus*, summer 1967.

" In professional management, technical ability, experience, education, knowledge of the organisation and ability to impress people who make decisions are more important than relationships to a family or a political régime " (p. 123). We stated that " every industrialising élite will require technicians, administrators and bureaucrats " (p. 8, footnote). Technological competence is essential to industrialisation and the leaders of each country will necessarily draw such competence into their ranks. Technocrats, whatever the term may mean, are not a separate élite but rather an element of the leadership group of each society. Generally, however, the technical improvement of leadership is necessary.

(3) The spread of higher education widely throughout a society, it is urged by certain thinkers, has created considerable pressures for the full participation of workers and citizens in the decisions affecting their economic and political lives. These developments may be so dramatic as to change the forms of organisation and the roles of workers and managements at the workplace and the forms of government in the larger community. The widespread and rapid adoption of the principle of " maximum feasible participation " in the industrial and political spheres might have dramatic consequences for the character of industrialisation.

We have shown that in the course of industrialisation, organisations of workers arise to constitute in varying degrees a form of participation in industrial and community life. We noted the various forms in which workers, managers and the State may each " share in the making of rules " (p. 193). It is, of course, possible that existing organisations at the workplace and in community life may be so rigid or so insensitive to the shifting interests of workers and citizens for greater participation that wholly new institutions may arise to fulfil their aspirations. But these interests may also be absorbed by existing organisations or by the creation of professional associations where they do not exist. Moreover, serious interest in intensive participation appears to be limited to a minority of the workforce and citizenry, albeit this proportion may show some secular rise with industrialisation. The careful studies of worker participation that have been made in both Eastern and Western countries do not suggest that any sustained interest in participation at the workplace has compelled drastic changes in workers' organisations. The impact of participation in the political community is more difficult to assess but appears no more far-reaching.

(4) Others hold that the industrialisation process may create new cultural forms and new styles of life, so dramatic and pervasive that the devotion to work is corrupted. We said of the industrial society that " the workforce is dedicated to hard work, a high pace of work and a keen sense of individual responsibility for performance of assigned norms and tasks. Industrial countries may differ with respect to the ideals and drives which underlie devotion to duty and responsibility for performance,

but industrialisation requires an ideology and an ethic which motivate individual workers " (p. 26).

It may well be that the new humanism, discussed in the next section, will corrode the inner dedication of workers and managers to performance and thereby affect, even significantly, the course of industrialisation. But the evidence to date indicates that wage earners everywhere are still so interested in increased consumption that they are not likely to be significantly affected. The national leaders seem to be able to provide strong additional incentives. It may be that some of the most highly educated employees, and even some associated white-collar workers, become so alienated from traditional values that their incentives are significantly altered. But the performance of a workforce, as we have previously argued, is substantially influenced by the quality of management, and there appears to be little evidence that disaffection has yet reached the point at which it will appreciably reduce the supply of competent managers. The new elements of the workforce present significant challenges to the new managers. But this potential discontinuity is by no means evident; the question warrants continuing scrutiny.

In each of these four areas, we see continuing adjustments rather than sudden and dramatic changes.

VIII. The new humanism versus industrialism

A decade ago we called attention to the " new Bohemianism " as one of the major factors potentially affecting the " road ahead " to pluralistic industrialism. In the intervening decade, the " cultural revolution ", with its " counter-culture ", has spread rapidly. Related to it has been an attack on the " consumptionist society " with its emphasis on material goods, and on the " one-dimensional man " ruled by technology and those who manage technology. Bohemian attitudes have spread and deepened significantly. We thought we saw Bohemianism as a largely off-the-job phenomenon. Now it seems to be penetrating some jobs in society, particularly white-collar jobs, causing a more casual attitude towards performance. Furthermore, some persons refuse employment altogether in favour of a way of life separated as far as possible from the discipline of industrialism, if not from its useful products.

The old theme of distrust of technology and of revulsion against the machine has taken on new emphasis as the new Luddites reject the industrial system the way the old Luddites rejected the individual machine.

This is a countervailing force rising in reaction to the more pervasive force of technology, and it is an objective feature of the post-modernised society. It raises questions about the constant rise of the GNP and the centrality of productivity per man-hour. Humanisation is now again the cry as it was when the passing of the " deserted village " was being

mourned; and when Marx wrote what are now known as the Manuscripts of 1844. It emphasises the individual versus the machine and versus the managerial élites who control it. It involves a move toward the syndicalism of the small participatory group as against the large corporation of the middle-class leadership, the centralised state of the communists, and the paternalistic firm of the dynastic élite. Syndicalism is now challenging other forms of society as it has not done for nearly a century. The corporation, the State, and the trade union are all combined against more open syndicalism.

Some explorations are already taking place as to how to increase participation and to provide more individual options in response. Technology itself provides new opportunities, if not for participation, certainly for options as variety in products and in arrangements for work becomes possible with more adaptive machines, including the computer.[1]

The new humanism also urges a " life-long " view which may not be entirely consonant with the necessities of industrialisation. Education might be more continuous than the pattern of compression into the early years. A lifetime pattern of earnings which took greater account of family needs would not readily fit into conventional systems of wage fixing by job content. The new humanism impels quite different and variable combinations of work and leisure throughout a lifetime.

Underneath this humanist reaction and these preliminary adjustments to it lies a central problem in industrialism: society requires more discipline to go along with the greater interdependence that the new technology brings, but the more highly educated labour force wants more freedom for spontaneous individual action within the work environment, as well as outside it. Thus technological society might carry the " seeds of its own destruction "—not in class versus class, but in the discipline that the technology requires versus the spontaneity of the labour force that it helps to create. Some of the requirements of the new society run into conflict with the new man it spawns.[2]

Thus we would give greater emphasis, one decade later, to the force of the new humanism and to the potentialities of intense conflict between what we called the " semi-managers " and the " semi-managed " (p. 222). The university campus is feeling the first great impact of this force and this conflict. We believe, however, that pluralistic industrialism will become adjusted to this new theme and not be destroyed by it. The leadership groups and the " semi-managers " alike will need to be more alive to humanistic, as against materialistic, factors.

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[1] See for example Derek C. Bok and John T. Dunlop: *Labor and the American community* (New York, Simon and Schuster, 1970), Ch. 12, especially pp. 351-360; and Charles A. Myers: *Computers in knowledge-based fields* (Cambridge (Massachusetts), MIT Press, 1970).

[2] John Kenneth Galbraith called attention to this same conflict at the conference organised by the International Association for Cultural Freedom at Princeton University in 1969. See François Duchêne: " The continuous millennium ", in *Survey* (London), autumn 1969, quoted pp. 8-9.

IX. The survival of industrialism

We have noted earlier that our 1960 prediction of the " road ahead " was " pluralistic industrialism ". Among other things, this meant that " the complexity of the fully developed industrial society requires, in the name of efficiency and initiative, a degree of decentralisation of control, particularly in the consumer goods and service trades industries; but it also requires a large measure of central control by the State and conduct of many operations by large-scale organisations " (p. 232).

At the time we were writing, some of the questions now raised about the survival of industrial societies did not have their present urgency. Apart from the threat of nuclear war (which would render all other considerations invalid), there are increasingly serious questions posed by the population explosion (discussed earlier); increasing pollution and waste; rapid exhaustion of the world's natural resources; and the cultural revolution of youth in advanced countries, affecting the will to work. Do these considerations make us less optimistic about the long-run future of pluralistic industrialism? The answer is a qualified " yes ", but not so pessimistic as some have suggested.

The world-wide population explosion is manageable technologically and culturally, but it will take some time to bring population increase rates down in many of the developing countries, where the average is now above 2.5 per cent a year and still rising. The responsibility of governments in these countries for mounting greater efforts toward population limitation is clear.

But an advanced industrial society has the other problems mentioned: increasing pollution of water resources and the air, increasing waste disposal problems, and the pressure to discover new supplies of natural resources as existing supplies dwindle. Strip mining in coal which desecrates the land is one example; drilling for new oil and gas offshore and the frequent pollution of sea-water form another. Furthermore, some areas and some people in an affluent industrial society seem to be blighted and left behind: the urban ghettos of large metropolitan areas in the United States or the slum areas outside cities in other countries, and the " disadvantaged ", whose deficiencies in environmental development and education often make them misfits for many of the jobs of an industrial society. All these factors, as well as others resulting from their own chosen life-styles, have led to alienation of the young, particularly students, in many industrial societies.

Rebellion, not always as " quiet " as we suggested (p. 239) but no less desperate, has already developed in these societies. Perhaps each new generation of rebellious youth will moderate with maturity and family responsibilities; but a continuing minority may permanently reject the work ethic, which is basic to the concept of continued economic growth, as we noted earlier. The prospect, however, is that a substantial

majority of the population of labour-force age will continue, through work and the income it provides, to move towards their individual goals in the society.

As for the other consequences attributed to advanced industrialism, their urgency is not moderated, although it is put in better perspective, by the historical fact that those societies now more advanced had in their earlier history (as do the less developed societies today) more poverty, more unemployment, more inhumane treatment of individuals and more polluted water, and that they had many fewer amenities than rebellious youth often takes for granted now.[1]

Advanced industrial societies will have continuing problems with the consequences of pollution, waste, and natural-resource exhaustion and with the problems of blighted cities and the disadvantaged. But only the advanced industrial society, with its innovative resources in science, technology and administration, has the capacity to deal with these problems. Political pressures will inevitably build up to force governments to take corrective action and to fund research on new solutions.

For example, René Dubos has suggested that a new technology based on the virtue of recycling resources will have to be developed, and new energy sources sought which have fewer possibilities of pollution, solar energy being the clearest example. He is, however, pessimistic about the " growth myth ". " The impact of technology has effects that are irreversible. Whether we want it or not, we can't survive unless we reform, restruct, and re-evaluate our industrial system." Quality, rather than quantity of production, should be the criterion of success, he believes.[2]

The recommendations of Dubos would involve a substantial reordering of priorities, which the pluralistic industrial State is better equipped to carry out than the less advanced society. The survival capacity of the advanced industrial society, despite its problems, is substantial, because of the technical and human resources it can mobilise to deal with these problems. All societies over the range of recorded history have had problems, including the pre-industrial ones. There never was and probably never will be a Golden Age society.

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[1] See for example Charles Booth: *Life and labour of the people in London*, 17 vols., 1903 (New York, AMS Press; London, Macmillan and Co.).

[2] *New York Times*, 18 June 1970. Dr. Dubos, Rockefeller University biologist, made these remarks at a conference on industry and the environment in New York. In a later article he observed that " human beings can almost certainly survive and multiply in the polluted cage of technological civilisation, but we may sacrifice much of our humanness in adapting to such conditions ". *Life* (New York), 24 July 1970.