

# The Ladders of Development

study time

30 minutes

- Excerpt from the 1999 preface to Daniel Bell's book "The Coming of the Post-Industrial Society: A Venture in Social Forecasting." New York: Basic Books (1973).

## THE LADDERS OF DEVELOPMENT

The sociological transformation of modern society has come with the rise of the middle class. From 1950 to 1970 (according to estimates by Nathan Keyfitz) the middle class in the United States and Western Europe expanded from 200 million to 500 million persons. By middle class, roughly, I mean those with a standard of living that reduces the old backbreaking drudgeries and begins to emphasize domestic conveniences-washing machines, refrigerators, telephone, radio and television, even an automobile. These are the goods of a mass-production society and the foundation of an economy of consumption that transformed the post-war societies of those countries.

In the period beginning with 1990, we began to see the transformation of Asian societies-East Asia and Southeast Asia-into middle class societies. Even in India, where the middle class is a small minority, it is 15 percent of the population, or 150 million persons-one and one half times the population of Japan. The major question of the next decade, obviously, is whether the financial debacle in a number of these countries-Indonesia, South Korea, Thailand-will precipitate social and political disruption or whether growth will resume, though no longer at such a rapid pace as before.

In the period since the end of World War II, economic development has meant the passage of societies from agrarian to industrial and to postindustrial phases. If one defines a postindustrial society as one where there has been a shift from manufacturing to services, then Great Britain, almost all of Western Europe, the United States, and Japan have entered a post industrial age. But it **if** one defines the information society as one with a science-based capacity and the ability to transform knowledge from that capacity into products-what is called "high tech"-then only the United States and Japan can be said to have entered the information age.

How many other countries will do so? There is, roughly speaking, a "technological ladder" by which one can chart the shifts or changes in the concentrations of the economy for any society. The "technological ladder" can be charted as follows:

1. Resource base: agrarian and extractive industries
2. Light manufacturing: e.g., textiles, shoes, etc.
3. Heavy industry: e.g., steel, shipbuilding, automobile, engineering
4. High-tech: e.g., instruments, optics, micro-electronics, computers, telecommunications
5. Future: science-based biotechnology, materials science, space stations, and satellites

Ronald Dore pointed out many years ago that Japan and most of Latin America came into the expanding world economy at about the same time, more than a hundred and thirty years ago. But Japan progressed and Latin America did not, principally because the elites in those countries, the large landowning classes and the military, resisted modernization.

Japan is a perfect example of the progression up the technological ladder in the past fifty years. This progression began after World War II, primarily in light manufacturing. As other countries began to take over that field because of cheaper wages, Japan moved into steel and shipbuilding, replacing Great Britain in both areas. But these were energy-intensive industries, and after the oil shock, particularly after 1973, Japan moved into instruments and optics, microelectronics, and, with new production techniques (aided by computers), into automobiles.

In principle, there are three capacities that enable nations to move up the technological ladder; a period of domestic peace and stability, so that investors have an expectation of reward; a large entrepreneurial, engineering, technical, and skilled worker class to create and manufacture products; and a quality educational system to train individuals in literacy and numeracy, which are essential for the understanding of the new technologies.

Just as there is a technological ladder, one can also identify a "consumer ladder" in developing societies. We can, schematically, identify these steps as follows:

1. Subsistence
2. Needs
3. Wants
4. Discretionary income
5. Luxuries

Societies at subsistence levels (e.g., Bangladesh) are those where the largest proportion of income goes for basic food—rice, pasta, bread—often as much as half the daily income. Engel's law (named for Ernst Engel, a nineteenth-century German statistician who established the variable ratio between household income and expenditures) charted the way purchases shifted from subsistence along the rising slope of income.

Needs are biologically rooted, common to all people—food, clothing, shelter—often at the rudest level. As societal incomes rise, needs give way to wants. Wants are psychological and vary with individuals as they begin to develop different tastes. Many tastes are based on identification with images from fiction, as in the nineteenth century, or today from movies and television and from advertising. To be "smart" becomes a desire, especially among adolescents, and the focus is on imitation of these models.

Discretionary income is that income remaining after basic needs and wants have been satisfied. At this stage, money can be used for various purposes—for travel, for jewelry and display, for hobbies, for entertainment.

Luxuries are sociological. They are the creation of a lifestyle that is a distinctive mark for others to observe. They set standards for comparison with others, and they command recognition. Luxuries can be high-end automobiles, elaborate houses, expensive paintings and prints, and the like.

None of these definitions is fixed, for societies constantly re-define the different levels. What were once simply wants are now often considered necessities. The mark of the middle-class, in fact, is the re-definition of a standard of living into a life-style. And marketing arises with the growth of the middle class as consumers.

Mass consumption, the level of needs and wants remains the primary base of any society. But as incomes rise, those at the levels of lifestyles become concerned with status, and more and more demand arises for status goods. (The oldest example is clothing and the rise of the high-fashion industry, which emphasizes individual signatures and custom design rather than mass-produced items, though the makers of mass-produced clothing quickly begin to copy the high fashion.)

In sociological terms, changes in lifestyle are associated with a move from class to status. A class-based society is one in which the central concerns of individuals are economic, e.g. getting a job, having enough to eat, finding a home, etc. The status society is one where the social approval of others, or the adoption of different styles of dress or costume, become the signature of a declared individualism (even if that individualism is a copy of other individualisms). Class is associated with a mass-production, mass-consumption society in which the effort is to lift the standard of living from needs and wants to the levels of discretionary income. Status is concerned with the differentiation of products (as in fashion) and the desire to display one's taste or gain approval of the social arbiters of the different circles to which individuals may belong. A subtle indicator of status is gift giving, for gift giving is a form of social exchange.<sup>(42)</sup> Japan, for example, is a society highly preoccupied with gift giving, for this behavior is a set of cues as to the rankings between individuals. Thus gift giving becomes a ritual, at different times of the year, in which superiors and subordinates give gifts to one another and the degree of reciprocity and recognition is established.

The change from class to status, as I have tried to define it, is a characteristic of social mobility, and this has been a repeated feature of human societies. It has been the theme of the great novels of manners and morals such as Stendhal's *The Red and the Black*, where Julien Sorel, "the young man from the provinces" seeks to make his way into Parisian society, or the novels of Balzac, such as *Pere Goriot*, in which Eugene de Rastignac learns about how the world "works, by observing the upper classes.

But in the late twentieth century, as against the nineteenth, the social aristocracy has been dissolved, and even the idea of "Society" with a fixed upper social class, becomes a set of shadows. Celebrity and social prestige now become established by the media. But what is also evident is the enormous expansion in the numbers of people who move up the consumer ladder, and lacking experience wonder where they stand in the social ladder. For many, consumerism becomes a way of life and the multiplying number of chic and gourmet and leisure and travel magazines become the arbiters of taste for those seeking to live a lifestyle in accordance with their new statuses.<sup>(43)</sup>

As we enter the information age, to the extent that economic growth especially in Asia and Europe can be sustained, these instances of status dilemmas will multiply. For what we can anticipate is the widening of the arena geographically and socially (i.e., the increase in the number of persons rising up the consumer ladder), the multiplication of interactions between individuals through the creation of affinity groups along the Internet and the like, the increased mingling of cultures, and the resistance to these new onslaughts of change by the older and traditional elites. What has already begun to happen is a *kulturkampf*, a set of "cultural wars" between generations and the efforts of many countries to resist "Americanization," which, especially with so-called American-made movies

and television programs, is seen as the source of these onslaughts.<sup>(44)</sup>

## THE END OF SCARCITY?

More than thirty years ago, prophets of "the cybernation revolution" -- the combination of the computer and the automated self-regulating machine-predicted "a system of almost unlimited productive capacity" that would allow us to sever the link between work and income (see the coda, section four). This prediction was based on a mistaken anticipation regarding the promised rise in productivity, and prophets did not foresee the expansion of services.

In a similar euphoria today, proponents of the idea of a "new economy" posit that information overcomes (at least one problem of) scarcity because information, once published or disclosed, is available to all and, if put in storage, is easily retrieved. Thus, unlike goods, information is not "used up."

The difficulty with that argument is that it ignores the transaction costs involved in finding relevant information and, more important, ignores the essential determinant of the validity and use of information, namely judgment- and judgment cannot be measured.

There is a more important problem. In economic and social terms, there is a crucial distinction regarding the nature of scarcity-the distinction between distributional goods and positional goods. Distributional goods, be they automobiles or computers or electrical appliances, can be multiplied at relatively decreasing costs, making them more and more available to people. But positional goods are inherently scarce. A positional good may be the house on top of the mountain or vacation homes along a shore, the position as the head of a company or university department, place in a queue to use recreational facilities at Yosemite or some other national trust. Only a limited number of people can enjoy the positional good. Thus, only a limited number of persons can live on an island such as Martha's Vineyard without choking the island or sinking it into the sea.

As I pointed out in these pages (see the coda, section four), the end of scarcity was, for philosophers from Hobbes on, the necessary condition for the end of conflict and competition in society, and this was the condition for social peace, and even utopia. Yet while living standards may rise and distributional goods may multiply, the competition for status and positional goods-and their scarcity-increasingly become sources of competition and conflict in a postindustrial society, especially in the areas of work.

## THE MANAGEMENT OF TIME

In the goods-producing or industrial society, the key problem for a business is the management of inventory. If one has too much inventory on hand, one has to pay for the "up front" costs of production and for storage of the over-produced goods on hand-and also absorb losses when stored goods reach the end of their "shelf-life." If one has too little inventory on hand when there is demand, one loses the sale to a competitor who has the rival goods at hand. Management of inventory is the fulcrum of profit. (In a creative innovation, Frederick Smith, who founded Federal Express, showed companies that his airlines and services constituted a "flying inventory" between orders and scheduled deliveries and thus reduced the need of large stock.)

In the information society, the major problem is the management of time. Human beings live by a circadian rhythm, and there are only twenty-four hours in a day. Across the globe are time zones that are divided according to the movement of the sun. Most of life, traditionally, was organized around the rhythm of agrarian life; individuals rose with the sun and went to sleep at sunset. The creation of artificial lighting changed our patterns of night and day. Yet information and activities around the globe take place in "real time"-a strange term, as if previously time was unreal. The term simply means that information is transmitted almost instantaneously: When a person in Tokyo speaks on the telephone to a person in Boston, the words are heard at the same time they are spoken. And now we also have "virtual reality," which means that we eliminate the boundaries of space and can by "simulation devices" feel that we are in another three-dimensional space. We can move about as if we were in the skies or in a cave, as if we were there.

The break-up of space and time, the coordinates we have used to organize reality, is one of the major steps forward into the information society. This step translates into practical problems and products. Twenty or so years ago, if one wanted to see a television program, one had to be there "on time" or miss the program, just as one would miss a plane or train by not arriving on schedule. But with the invention of the VCR one can tape the program and play it on one's "own" time, just as one can take a music recording and play it when one wants to. Previously, if one wanted to listen to a music recording, one had to put the record or the disk in a large box with speakers and listen at the place of the box. With the invention of the Walkman, due to miniaturization, one can play the music anywhere. Many years ago, if one wanted to withdraw money from a bank one had to go to the bank at the times when the bank was open. With ATM machines, one can withdraw money from an account anywhere a machine is placed and thousands of miles from home, since the relevant information is stored in a central place and the transaction takes place electronically. The newest development in communication between persons is e-mail (electronic mail). The postal system, old and clumsy, involves human labor to collect, transmit, and deliver mail. Fax speeds the process of communication but involves the step of taking the letter and sending it through the fax machine. E-mail through the computer is simple and direct. Thus time and space have been reorganized for the purposes of control by the individual.

Yet all of these innovations take a toll. As I pointed out twenty-five years ago (see the coda, section four), in calculating the relative costs and gains from different "savings of time" these choices reintroduce utility analysis by the back door. Man, in his calculations of leisure, becomes homo economicus.

For the knowledge class, particularly managers, the decisions one encounters involve greater complexity of tasks and, often, the need to be available at all times. As Stephen Roach has put it, "One is never offline' as one moves from office to airport lounge to hotel or to home, hooked up by pagers or by cellular phones."<sup>45</sup> With "the death of distance" and information persistently crossing all borders twenty-four hours a day, managers and financial traders are always "on call" and have to make rapid calculations in response to political events, exchange rates, stock and bond prices, as well as deal with the multifarious problems that arise from the complexity of the decisions they encounter. This situation becomes, as Alfred North Whitehead once said, an instant of time without duration. Or, as Staffan Burenstam Linder is quoted in these pages, "time may become the scarcest commodity of all."

## THE DILEMMA OF SCALE

The problem is how new social structures will be created in response to the different values of societies, to the new technological instruments of a postindustrial world. There is one crucial variable that must be taken into account—the change in scale.

It is a cliché of the time that ours is an era of acceleration in the pace of change. I confess that I do not understand what this means. If we seek to use this concept analytically, we find a lack of boundary and meaning. If one speaks of a pace, or of acceleration in pace, the words imply a metric—a unit of measurement. But what of change, what is being measured? To speak of "change" in itself is meaningless, for the question remains: Change of what? To say that "everything" changes is hardly illuminating.

However, one can gain a better perspective by thinking of the concept of scale. A change in scale is a change of form. Metaphorically, this proposition goes back to Galileo's square-cube law: If you double the size of an object, you triple its volume. If you double the numbers in a social institution, you change it in qualitative ways. A university with fifty thousand students may still have the same name it had thirty years before with five thousand students, but the increase in numbers necessitates a change in the institutional structure.

The revolutions in communication are changing the scale of human activities. Given the nature of "real time" communication, we are for the first time forging an interdependent global economy with more and more characteristics of an unstable system in which changes in the magnitudes of some variables, or shocks and disturbances in some of the units, have immediate repercussions in all the others.

The management of scale has been one of the oldest problems in social institutions, whether the church, the army, or economic enterprise, let alone the political order. Societies have tended to function reasonably well when there is a congruence of scale among economic activities, social organization, and political and administrative control units. But increasingly what is happening is a mismatch of scale. As I stated in an essay many years ago, the national state has become too small for the big problems of life, and too big for the small problems.<sup>46</sup> The national state, with its political policies, is increasingly ineffective in dealing with the tidal waves of the international economy (coordination through economic summity is only a charade) and too big, when political decisions are concentrated in a bureaucratic center, for the diversity and initiative of the varied local and regional units under its control. To that extent, if there is a single overriding sociological problem in the postindustrial society—particularly in the management of transition—it is the management of scale.

## A Conclusion

Throughout this foreword, as in this book, I write about postindustrial society. Yet the term is a misnomer if one thinks of a society in terms of the total social structure. One is caught by the adjective form, as in capitalist society, or industrial society, or modern society, which seem to imply that we can characterize a society by a single ramrod that holds together all sectors in the way that a Marxian notion of the mode of production or Pitirim Sorokin's ideas of sensate and ideational cultures imply a unified entity. To enlarge on what I said earlier, I think of society as comprising three different realms that hang together over time in different ways and that move in different historical rhythms. These realms are the techno-economic system, the political order, and the cultural sphere.

The techno-economic realm is, more or less, a system because its component variables are so interconnected and interrelated (in production and consumption and investment) that changes in the nature and magnitude of any of these variables have a determinate effect on the other related variables. In an economy, there is a clear principle of linear change, that of substitution: If some other method of production is better and more efficient, then, subject to cost, it replaces the previous one. The key terms are "maximization" and "optimization," the allocation of scarce resources among competing ends in the quest for greater productivity.

The political order is not a system. It is a set of laws and procedures, formalized in a constitution, written or unwritten (as in Great Britain or Israel), or, in a theocratic state, religious or ideological, by scripture or doctrine, tradition and rituals. The political order is ruled either by coercion or consent—the coercion by the military or a party, the consent by the willing compliance by the citizenry. These rules prescribe the methods for meting out

justice and maintaining security and determine the modes of access to place, privilege, and power in the society. These rules gain legitimacy to the extent to which they are in accord with the values and mores of the populace. There are no linear changes in this order, but alterations of classes or holders of power, or changes in normative ideas and ideologies as reflections of changes in values and the legitimacy of the rules.

The cultural sphere is the realm of meanings and expressive imagination-meanings as codified by religious or philosophical doctrine; expressive imagination as in the arts. There are several kinds of changes in cultural expression:

- Changes in tradition, which guards the portals of change and determines what to admit or reject where tradition is undergirded by authority.
- Changes of immanence, which is the logical unfolding of form, as in the sonata form in music or perspective and illusion in painting.
- Changes that lead to experimentation, which often arise when the older forms are exhausted, for example, serial music and twelve-tone scales, and the closing of the "shutters" of interior distance in painting leading to abstract expressionism in painting.
- Changes that lead to syncretism, which is the wide borrowing and jumbling of styles and artifacts, as in so much of popular art, or Picasso's adaptation of African forms.

But since culture is primarily the realm of meanings, one finds two modes. There is syncretism, such as the mixture of religions. (The Egyptian gods Isis and Osiris had counterparts in the Phoenician gods Ishtar and Astarte, the great sibyls appeared in various cultures of the ancient world, and both Mithraism and Manicheism were practiced in the Roman Empire.)

But of greater significance is the persistence of the great historic religions-Hinduism, Buddhism, Confucianism, Judaism, Christianity, and Islam---over millennia. Political empires have crumbled, and economic systems have disappeared; yet the great historic religions are still recognizable at their core. We still recognize the dharma of Hinduism and of Buddhism, the monotheism of Judaism, the Eucharist in Catholicism, and the Koran in Islam. There is a transcendental power to those beliefs and doctrines that is the source of their persistence.

If we see different principles operating over long periods of time in the realms of society, how can we think of history as marked off by unified periods, each one qualitatively different from another, as in the Hegelian sense of a Geist unique to its time or a Marxian scheme of different modes of production-slave, feudal, and capitalist--defining the character of social formations? (And in that respect, what meaning is there to the simplistic phrase "the end of History"?)

The postindustrial society deals with fundamental changes in the techno-economic sphere and has its greatest impact in the areas of education and work and occupations that are the centers of this sphere. And since the techno-economic changes pose "control" problems for the political order, we find that the older social structures are cracking because political scales of sovereignty and authority do not match the economic scales. In many areas we have more and more economic integration and political fragmentation.

Yet there is also the fact that as against previous technological developments, postindustrial society results from the codification of theoretical knowledge; thus science is a special feature of its character. Historically, science has been a force for freedom and openness, since its discoveries and theories of nature are rooted in verification of observations. Yet as my discussion (in the Coda, Section 2) points out, the role of science, like that of many institutions in society, is threatened by bureaucratization or subordination to political or corporate ends. This is a recurrent problem of intellectual and cultural life throughout history.

Yet over time, the force of liberty and free inquiry break through. The "subversive" influence of knowledge is illustrated most recently by the views of Fang Lizhi, the Chinese astrophysicist who was Vice-president of the Chinese University of Science and Technology and who became the spokesman for all Chinese intellectuals. Like Andrei Sakharov in the Soviet Union, Fang Lizhi raised the banner of science as the necessary condition for the future of freedom in China. Influenced to some extent by my writing (which had been published in samizdat in China), Fang argued that knowledge rather than labor or other material means of production was the foundation of future economic development and that "intellectuals who own and create information and knowledge are the most dynamic component of the productive forces."<sup>(47)</sup>

Like many advances in human history, postindustrial developments promise men and women greater control of their social destinies. But this is only possible under conditions of intellectual freedom and open political institutions, the freedom to pursue truth against those who wish to restrict it. This is the alpha and omega of the alphabet of knowledge.

## Table 1 - The Post-Industrial Society : A Comparative Scheme

	<b>Pre-Industrial</b>	<b>Industrial</b>	<b>Post-Industrial</b>		
<b>Mode of Production</b>	Extractive	Fabrication	Processing, Information Services		
	<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i>	<i>Quaternary</i>	<i>Quinary</i>
<b>Economic Sector</b>	Agriculture Mining Fishing Timber Oil and Gas	Goods Producing Manufacturing Durables Nondurables Heavy Construction	Transportation Utilities	Trade Finance Insurance Real Estate	Health, Education Research, Government Recreation, Entertainment
Transforming Resource	<i>Natural Power:</i> Wind, Water, Draft Animal, Human Muscle	<i>Created Energy:</i> Oil, Gas, Nuclear Power	<i>Information and Knowledge:</i> Programming and Algorithms, Computer and Data-Transmission		
Strategic Resource	Raw Materials	Financial Capital	Human Capital		
Technology	Craft	Machine Technology	Intellectual Technology		
Skilled Base	Artisan, Manual Worker, Farmer	Engineer, Semiskilled Worker	Scientist; Technical and Professional Occupations		
Mode of Work	Physical Labor	Division of Labor	Networking		
Methodology	Common sense, Trial and Error, Experience	Empiricism, Experimentation	Models, Simulations, Decision Theory, Systems Analysis		
Time Perspective	Orientation to the Past	Ad-hoc Adaptiveness, Experimentation	Future Orientation: Forecasting and Planning		
Design	Game Against Nature	Game Against Fabricated Nature	Game Between Persons		
Axial Principle	Traditionalism	Productivity	Codification of Theoretical Knowledge		

Notes:

42. In principle, there are three kinds of exchange: economic exchange, social exchange, and political exchange. Economic exchange is the buying and selling of goods and services and, where long-term, is regulated by contract. Political exchange is where interests and policies are shaped by vote buying, favors for constituents, patronage, etc. Social exchange is where relations (even economic and political) are shaped by status positions, old school ties, and personal bonds. In the modern world, Japan has been one of the few societies that have institutionalized social exchange, though this has been true, to some extent, in English upper class political life.

43. I have discussed this sociological changeover in greater detail in my book, *The Cultural Contradictions of Capitalism* (Basic Books, Twentieth Anniversary edition, 1996, pp. 285-295).

44. The questions of class and status, and the changing composition of occupational and social groups in the societal structure, all pose questions about the nature of postindustrial politics. These are inchoate questions whose outlines are only now emerging and the discussion of these would take me far afield. There are, one can say, two axes about which such politics would turn. One is what has been called "identity politics," that of race and gender, the efforts of minorities and women to achieve equality in the society. This is a move from politics of exclusion to a politics of inclusion; in that respect, "affirmative action" has been the wedge issue in the political arena. The second is what Ronald Inglehart has called "post-materialist" politics, issues which affect security and the quality of life. These are environmental and zoning issues, questions of abortion, and apprehension of personal security, giving rise, in many sections of the country, to "gated communities" in which new housing developments become walled off from surrounding areas.

45. See Wired, July 1998, p. 69.

46. See "The Future World Disorders" (1977), reprinted in my book *The Winding Passage*.

47. Fang Lizhi, "Intellectuals and Intellectual Ideology," interview with Dai Qing, *Beijing Review*, December 15, 1986, pp. 16-17. The fact that the interview was published in the government-run periodical indicated that Fang's views had support then among reform-minded circles in the Chinese Communist Party and the think tanks that had been close to Zhao Ziyang, the Secretary of the Party. But after the protests in Tiananmen Square in 1989, Zhao was stripped of his post and placed under house arrest, where he remains to this day. Fang Lizhi is now in exile in the United States

Bell, Daniel. (1973). *The Coming of the Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.