

Radical economic and social changes during the 20th century include the disappearance of traditional farmers and servants and the rise and fall of the blue collar worker. The latest trend is the emergence of the knowledge society in which knowledge is the most important resource.

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No century in recorded history has experienced so many social transformations and such radical ones as the twentieth century. They, I submit, may turn out to be the most significant events of this, our century, and its lasting legacy. In the developed free-market countries--which contain less than a fifth of the earth's population but are a model for the rest--work and work force, society and polity, are all, in the last decade of this century, qualitatively and quantitatively different not only from what they were in the first years of this century but also from what has existed at any other time in history: in their configurations, in their processes, in their problems, and in their structures.

Far smaller and far slower social changes in earlier periods triggered civil wars, rebellions, and violent intellectual and spiritual crises. The extreme social transformations of this century have caused hardly any stir. They have proceeded with a minimum of friction, with a minimum of upheavals, and, indeed, with a minimum of attention from scholars, politicians, the press, and the public. To be sure, this century of ours may well have been the cruelest and most violent in history, with its world and civil wars, its mass tortures, ethnic cleansings, genocides, and holocausts. But all these killings, all these horrors inflicted on the human race by this century's murderous "charismatics," hindsight clearly shows, were just that: senseless killings, senseless horrors, "sound and fury, signifying nothing." Hitler, Stalin, and Mao, the three evil geniuses of this century, destroyed. They created nothing.

Indeed, if this century proves one thing, it is the futility of politics. Even the most dogmatic believer in historical determinism would have a hard time explaining the social transformations of this century as caused by the headline-making political events, or the headline-making political events as caused by the social transformations. But it is the social transformations, like ocean currents deep below the hurricane-tormented surface of the sea,

that have had the lasting, indeed the permanent, effect. They, rather than all the violence of the political surface, have transformed not only the society but also the economy, the community, and the polity we live in. The age of social transformation will not come to an end with the year 2000--it will not even have peaked by then.

## THE SOCIAL STRUCTURE TRANSFORMED

Before the First World War, farmers composed the largest single group in every country. They no longer made up the population everywhere, as they had from the dawn of history to the end of the Napoleonic Wars, a hundred years earlier. But farmers still made up a near-majority in every developed country except England and Belgium--in Germany, France, Japan, the United States--and, of course, in all underdeveloped countries, too. On the eve of the First World War it was considered a self-evident axiom that developed countries--the United States and Canada being the only exceptions--would increasingly have to rely on food imports from nonindustrial, nondeveloped areas.

Today only Japan among major developed free-market countries is a heavy importer of food. (It is one unnecessarily, for its weakness as a food producer is largely the result of an obsolete rice-subsidy policy that prevents the country from developing a modern, productive agriculture.) And in all developed free-market countries, including Japan, farmers today are at most five percent of the population and work force--that is, one tenth of the proportion of eighty years ago. Actually, productive farmers make up less than half of the total farm population, or no more than two percent of the work force. And these agricultural producers are not "farmers" in most senses of the word; they are "agribusiness," which is arguably the most capital-intensive, most technology-intensive, and most information-intensive industry around. Traditional farmers are close to extinction even in Japan. And those that remain have become a protected species kept alive only by enormous subsidies.

The second-largest group in the population and work force of every developed country around 1900 was composed of live-in servants. They were considered as much a law of nature as farmers were. Census categories of the time defined a "lower middle class"

household as one that employed fewer than three servants, and as a percentage of the work force domestics grew steadily up to the First World War. Eighty years later live-in domestic servants scarcely exist in developed countries. Few people born since the Second World War--that is, few people under fifty--have even seen any except on the stage or in old movies.

In the developed society of 2000 farmers are little but objects of nostalgia, and domestic servants are not even that.

Yet these enormous transformations in all developed free-market countries were accomplished without civil war and, in fact, in almost total silence. Only now that their farm population has shrunk to near zero do the totally urban French loudly assert that theirs should be a "rural country" with a "rural civilization."

#### THE RISE AND FALL OF THE BLUE-COLLAR WORKER

One reason why the transformations caused so little stir (indeed, the main reason) was that by 1900 a new class, the blue-collar worker in manufacturing industry--Marx's "proletarian"--had become socially dominant. Farmers were loudly adjured to "raise less corn and more hell," but they paid little attention. Domestic servants were clearly the most exploited class around. But when people before the First World War talked or wrote about the "social question," they meant blue-collar industrial workers. Blue-collar industrial workers were still a fairly small minority of the population and work force--right up to 1914 they made up an eighth or a sixth of the total at most--and were still vastly outnumbered by the traditional lower classes of farmers and domestic servants. But early-twentieth-century society was obsessed with blue-collar workers, fixated on them, bewitched by them.

Farmers and domestic servants were everywhere. But as classes, they were invisible. Domestic servants lived and worked inside individual homes or on individual farms in small and isolated groups of two or three. Farmers, too, were dispersed. More important, these traditional lower classes were not organized. Indeed, they could not be organized. Slaves employed in mining or in producing goods had revolted frequently in the ancient world--though always unsuccessfully. But there is no mention in any book I ever read of a single demonstration or a single protest march by

domestic servants in any place, at any time. There have been peasant revolts galore. But except for two Chinese revolts in the nineteenth century--the Taiping Rebellion, in midcentury, and the Boxer Rebellion, at the century's end, both of which lasted for years and came close to overturning the regime--all peasant rebellions in history have fizzled out after a few bloody weeks. Peasants, history shows, are very hard to organize and do not stay organized--which is why they earned Marx's contempt.

The new class, industrial workers, was extremely visible. This is what made these workers a "class." They lived in dense population clusters and in cities--in St. Denis, outside Paris; in Berlin's Wedding and Vienna's Ottakring; in the textile towns of Lancashire; in the steel towns of America's Monongahela Valley; and in Japan's Kobe. And they soon proved eminently organizable, with the first strikes occurring almost as soon as there were factory workers. Charles Dickens's harrowing tale of murderous labor conflict, *Hard Times*, was published in 1854, only six years after Marx and Engels wrote *The Communist Manifesto*.

By 1900 it had become quite clear that industrial workers would not become the majority, as Marx had predicted only a few decades earlier. They therefore would not overwhelm the capitalists by their sheer numbers. Yet the most influential radical writer of the period before the First World War, the French ex-Marxist and revolutionary syndicalist Georges Sorel, found widespread acceptance for his 1906 thesis that the proletarians would overturn the existing order and take power by their organization and in and through the violence of the general strike. It was not only Lenin who made Sorel's thesis the foundation of his revision of Marxism and built around it his strategy in 1917 and 1918. Both Mussolini and Hitler--and Mao, ten years later--built their strategies on Sorel's thesis. Mao's "power grows out of the barrel of a gun" is almost a direct quote from Sorel. The industrial worker became the "social question" of 1900 because he was the first lower class in history that could be organized and could stay organized.

No class in history has ever risen faster than the blue-collar worker. And no class in history has ever fallen faster.

In 1883, the year of Marx's death, "proletarians" were still a minority not just of the population but also of industrial workers. The

majority in industry were then skilled workers employed in small craft shops, each containing twenty or thirty workers at most. Of the anti-heroes of the nineteenth century's best "proletarian" novel, *The Princess Casamassima*, by Henry James--published in 1886 (and surely only Henry James could have given such a title to a story of working-class terrorists!)--one is a highly skilled bookbinder, the other an equally skilled pharmacist. By 1900 "industrial worker" had become synonymous with "machine operator" and implied employment in a factory along with hundreds if not thousands of people. These factory workers were indeed Marx's proletarians--without social position, without political power, without economic or purchasing power.

The workers of 1900--and even of 1913--received no pensions, no paid vacation, no overtime pay, no extra pay for Sunday or night work, no health or old-age insurance (except in Germany), no unemployment compensation (except, after 1911, in Britain); they had no job security whatever. Fifty years later, in the 1950s, industrial workers had become the largest single group in every developed country, and unionized industrial workers in mass-production industry (which was then dominant everywhere) had attained upper-middle-class income levels. They had extensive job security, pensions, long paid vacations, and comprehensive unemployment insurance or "lifetime employment." Above all, they had achieved political power. In Britain the labor unions were considered to be the "real government," with greater power than the Prime Minister and Parliament, and much the same was true elsewhere. In the United States, too--as in Germany, France, and Italy--the labor unions had emerged as the country's most powerful and best organized political force. And in Japan they had come close, in the Toyota and Nissan strikes of the late forties and early fifties, to overturning the system and taking power themselves.

Thirty-five years later, in 1990, industrial workers and their unions were in retreat. They had become marginal in numbers. Whereas industrial workers who make or move things had accounted for two fifths of the American work force in the 1950s, they accounted for less than one fifth in the early 1990s--that is, for no more than they had accounted for in 1900, when their meteoric rise began. In the other developed free-market countries the decline was slower at first, but after 1980 it began to accelerate everywhere. By the year 2000 or 2010, in every developed free-market country,

industrial workers will account for no more than an eighth of the work force. Union power has been declining just as fast.

Unlike domestic servants, industrial workers will not disappear--any more than agricultural producers have disappeared or will disappear. But just as the traditional small farmer has become a recipient of subsidies rather than a producer, so will the traditional industrial worker become an auxiliary employee. His place is already being taken by the "technologist"--someone who works both with hands and with theoretical knowledge. (Examples are computer technicians, x-ray technicians, physical therapists, medical-lab technicians, pulmonary technicians, and so on, who together have made up the fastest-growing group in the U.S. labor force since 1980.) And instead of a class--a coherent, recognizable, defined, and self-conscious group--industrial workers may soon be just another "pressure group."

Chroniclers of the rise of the industrial worker tend to highlight the violent episodes--especially the clashes between strikers and the police, as in America's Pullman strike. The reason is probably that the theoreticians and propagandists of socialism, anarchism, and communism--beginning with Marx and continuing to Herbert Marcuse in the 1960s--incessantly wrote and talked of "revolution" and "violence." Actually, the rise of the industrial worker was remarkably nonviolent. The enormous violence of this century--the world wars, ethnic cleansings, and so on--was all violence from above rather than violence from below; and it was unconnected with the transformations of society, whether the dwindling of farmers, the disappearance of domestic servants, or the rise of the industrial worker. In fact, no one even tries anymore to explain these great convulsions as part of "the crisis of capitalism," as was standard Marxist rhetoric only thirty years ago.

Contrary to Marxist and syndicalist predictions, the rise of the industrial worker did not destabilize society. Instead it has emerged as the century's most stabilizing social development. It explains why the disappearance of the farmer and the domestic servant produced no social crises. Both the flight from the land and the flight from domestic service were voluntary. Farmers and maids were not "pushed off" or "displaced." They went into industrial employment as fast as they could. Industrial jobs required no skills they did not already possess, and no additional knowledge. In fact,

farmers on the whole had a good deal more skill than was required to be a machine operator in a mass-production plant--and so did many domestic servants. To be sure, industrial work paid poorly until the First World War. But it paid better than farming or household work. Industrial workers in the United States until 1913--and in some countries, including Japan, until the Second World War--worked long hours. But they worked shorter hours than farmers and domestic servants. What's more, they worked specified hours: the rest of the day was their own, which was true neither of work on the farm nor of domestic work.

The history books record the squalor of early industry, the poverty of the industrial workers, and their exploitation. Workers did indeed live in squalor and poverty, and they were exploited. But they lived better than those on a farm or in a household, and were generally treated better.

Proof of this is that infant mortality dropped immediately when farmers and domestic servants moved into industrial work. Historically, cities had never reproduced themselves. They had depended for their perpetuation on constant new recruits from the countryside. This was still true in the mid-nineteenth century. But with the spread of factory employment the city became the center of population growth. In part this was a result of new public-health measures: purification of water, collection and treatment of wastes, quarantine against epidemics, inoculation against disease. These measures--and they were effective mostly in the city--counteracted, or at least contained, the hazards of crowding that had made the traditional city a breeding ground for pestilence. But the largest single factor in the exponential drop in infant mortality as industrialization spread was surely the improvement in living conditions brought about by the factory. Housing and nutrition became better, and hard work and accidents came to take less of a toll. The drop in infant mortality--and with it the explosive growth in population--correlates with only one development: industrialization. The early factory was indeed the "Satanic Mill" of William Blake's great poem. But the countryside was not "England's green and pleasant Land" of which Blake sang; it was a picturesque but even more satanic slum.

For farmers and domestic servants, industrial work was an opportunity. It was, in fact, the first opportunity that social history

had given them to better themselves substantially without having to emigrate. In the developed free-market countries over the past 100 or 150 years every generation has been able to expect to do substantially better than the generation preceding it. The main reason has been that farmers and domestic servants could and did become industrial workers.

Because industrial workers are concentrated in groups, systematic work on their productivity was possible. Beginning in 1881, two years before Marx's death, the systematic study of work, tasks, and tools raised the productivity of manual work in making and moving things by three to four percent compound on average per year--for a fiftyfold increase in output per worker over 110 years. On this rest all the economic and social gains of the past century. And contrary to what "everybody knew" in the nineteenth century--not only Marx but all the conservatives as well, such as J. P. Morgan, Bismarck, and Disraeli--practically all these gains have accrued to the industrial worker, half of them in the form of sharply reduced working hours (with the cuts ranging from 40 percent in Japan to 50 percent in Germany), and half of them in the form of a twenty-five-fold increase in the real wages of industrial workers who make or move things.

There were thus very good reasons why the rise of the industrial worker was peaceful rather than violent, let alone revolutionary. But what explains the fact that the fall of the industrial worker has been equally peaceful and almost entirely free of social protest, of upheaval, of serious dislocation, at least in the United States?

## THE RISE OF THE KNOWLEDGE WORKER

The rise of the class succeeding industrial workers is not an opportunity for industrial workers. It is a challenge. The newly emerging dominant group is "knowledge workers." The very term was unknown forty years ago. (I coined it in a 1959 book, *Landmarks of Tomorrow*.) By the end of this century knowledge workers will make up a third or more of the work force in the United States--as large a proportion as manufacturing workers ever made up, except in wartime. The majority of them will be paid at least as well as, or better than, manufacturing workers ever were. And the new jobs offer much greater opportunities.

But--and this is a big but--the great majority of the new jobs require qualifications the industrial worker does not possess and is poorly equipped to acquire. They require a good deal of formal education and the ability to acquire and to apply theoretical and analytical knowledge. They require a different approach to work and a different mind-set. Above all, they require a habit of continuous learning. Displaced industrial workers thus cannot simply move into knowledge work or services the way displaced farmers and domestic workers moved into industrial work. At the very least they have to change their basic attitudes, values, and beliefs.

In the closing decades of this century the industrial work force has shrunk faster and further in the United States than in any other developed country--while industrial production has grown faster than in any other developed country except Japan.

The shift has aggravated America's oldest and least tractable problem: the position of blacks. In the fifty years since the Second World War the economic position of African-Americans in America has improved faster than that of any other group in American social history--or in the social history of any country. Three fifths of America's blacks rose into middle-class incomes; before the Second World War the figure was one twentieth. But half that group rose into middle-class incomes and not into middle-class jobs. Since the Second World War more and more blacks have moved into blue-collar unionized mass-production industry--that is, into jobs paying middle-class and upper-middle-class wages while requiring neither education nor skill. These are precisely the jobs, however, that are disappearing the fastest. What is amazing is not that so many blacks did not acquire an education but that so many did. The economically rational thing for a young black in postwar America was not to stay in school and learn; it was to leave school as early as possible and get one of the plentiful mass-production jobs. As a result, the fall of the industrial worker has hit America's blacks disproportionately hard--quantitatively, but qualitatively even more. It has blunted what was the most potent role model in the black community in America: the well-paid industrial worker with job security, health insurance, and a guaranteed retirement pension--yet possessing neither skill nor much education.

But, of course, blacks are a minority of the population and work force in the United States. For the overwhelming majority--whites,

but also Latinos and Asians--the fall of the industrial worker has caused amazingly little disruption and nothing that could be called an upheaval. Even in communities that were once totally dependent on mass-production plants that have gone out of business or have drastically slashed employment (steel cities in western Pennsylvania and eastern Ohio, for instance, or automobile cities like Detroit and Flint, Michigan), unemployment rates for nonblack adults fell within a few short years to levels barely higher than the U.S. average--and that means to levels barely higher than the U.S. "full-employment" rate. Even in these communities there has been no radicalization of America's blue-collar workers.

The only explanation is that for the nonblack blue-collar community the development came as no surprise, however unwelcome, painful, and threatening it may have been to individual workers and their families. Psychologically--but in terms of values, perhaps, rather than in terms of emotions--America's industrial workers must have been prepared to accept as right and proper the shift to jobs that require formal education and that pay for knowledge rather than for manual work, whether skilled or unskilled.

In the United States the shift had by 1990 or so largely been accomplished. But so far it has occurred only in the United States. In the other developed free-market countries, in western and northern Europe and in Japan, it is just beginning in the 1990s. It is, however, certain to proceed rapidly in these countries from now on, perhaps faster than it originally did in the United States. The fall of the industrial worker in the developed free-market countries will also have a major impact outside the developed world. Developing countries can no longer expect to base their development on their comparative labor advantage--that is, on cheap industrial labor.

It is widely believed, especially by labor-union officials, that the fall of the blue-collar industrial worker in the developed countries was largely, if not entirely, caused by moving production "offshore" to countries with abundant supplies of unskilled labor and low wage rates. But this is not true.

There was something to the belief thirty years ago. Japan, Taiwan, and, later, South Korea did indeed (as explained in some detail in my 1993 book *Post-Capitalist Society*) gain their initial advantage in

the world market by combining, almost overnight, America's invention of training for full productivity with wage costs that were still those of a pre-industrial country. But this technique has not worked at all since 1970 or 1975.

In the 1990s only an insignificant percentage of manufactured goods imported into the United States are produced abroad because of low labor costs. While total imports in 1990 accounted for about 12 percent of the U.S. gross personal income, imports from countries with significantly lower wage costs accounted for less than three percent--and only half of those were imports of manufactured products. Practically none of the decline in American manufacturing employment from some 30 or 35 percent of the work force to 15 or 18 percent can therefore be attributed to moving work to low-wage countries. The main competition for American manufacturing industry--for instance, in automobiles, in steel, and in machine tools--has come from countries such as Japan and Germany, where wage costs have long been equal to, if not higher than, those in the United States. The comparative advantage that now counts is in the application of knowledge--for example, in Japan's total quality management, lean manufacturing processes, just-in-time delivery, and price-based costing, or in the customer service offered by medium-sized German or Swiss engineering companies. This means, however, that developing countries can no longer expect to base their development on low wages. They, too, must learn to base it on applying knowledge--just at the time when most of them (China, India, and much of Latin America, let alone black Africa) will have to find jobs for millions of uneducated and unskilled young people who are qualified for little except yesterday's blue-collar industrial jobs.

But for the developed countries, too, the shift to knowledge-based work poses enormous social challenges. Despite the factory, industrial society was still essentially a traditional society in its basic social relationships of production. But the emerging society, the one based on knowledge and knowledge workers, is not. It is the first society in which ordinary people--and that means most people--do not earn their daily bread by the sweat of their brow. It is the first society in which "honest work" does not mean a callused hand. It is also the first society in which not everybody does the same work, as was the case when the huge majority were farmers

or, as seemed likely only forty or thirty years ago, were going to be machine operators.

This is far more than a social change. It is a change in the human condition. What it means--what are the values, the commitments, the problems, of the new society--we do not know. But we do know that much will be different.

## THE EMERGING KNOWLEDGE SOCIETY

Knowledge workers will not be the majority in the knowledge society, but in many if not most developed societies they will be the largest single population and work-force group. And even where outnumbered by other groups, knowledge workers will give the emerging knowledge society its character, its leadership, its social profile. They may not be the ruling class of the knowledge society, but they are already its leading class. And in their characteristics, social position, values, and expectations, they differ fundamentally from any group in history that has ever occupied the leading position.

In the first place, knowledge workers gain access to jobs and social position through formal education. A great deal of knowledge work requires highly developed manual skill and involves substantial work with one's hands. An extreme example is neurosurgery. The neurosurgeon's performance capacity rests on formal education and theoretical knowledge. An absence of manual skill disqualifies one for work as a neurosurgeon. But manual skill alone, no matter how advanced, will never enable anyone to be a neurosurgeon. The education that is required for neurosurgery and other kinds of knowledge work can be acquired only through formal schooling. It cannot be acquired through apprenticeship.

Knowledge work varies tremendously in the amount and kind of formal knowledge required. Some jobs have fairly low requirements, and others require the kind of knowledge the neurosurgeon possesses. But even if the knowledge itself is quite primitive, only formal education can provide it.

Education will become the center of the knowledge society, and the school its key institution. What knowledge must everybody have? What is "quality" in learning and teaching? These will of necessity

become central concerns of the knowledge society, and central political issues. In fact, the acquisition and distribution of formal knowledge may come to occupy the place in the politics of the knowledge society which the acquisition and distribution of property and income have occupied in our politics over the two or three centuries that we have come to call the Age of Capitalism.

In the knowledge society, clearly, more and more knowledge, and especially advanced knowledge, will be acquired well past the age of formal schooling and increasingly, perhaps, through educational processes that do not center on the traditional school. But at the same time, the performance of the schools and the basic values of the schools will be of increasing concern to society as a whole, rather than being considered professional matters that can safely be left to "educators."

We can also predict with confidence that we will redefine what it means to be an educated person. Traditionally, and especially during the past 300 years (perhaps since 1700 or so, at least in the West, and since about that time in Japan as well), an educated person was somebody who had a prescribed stock of formal knowledge. The Germans called this knowledge *allgemeine Bildung*, and the English (and, following them, the nineteenth-century Americans) called it the liberal arts. Increasingly, an educated person will be somebody who has learned how to learn, and who continues learning, especially by formal education, throughout his or her lifetime.

There are obvious dangers to this. For instance, society could easily degenerate into emphasizing formal degrees rather than performance capacity. It could fall prey to sterile Confucian mandarins--a danger to which the American university is singularly susceptible. On the other hand, it could overvalue immediately usable, "practical" knowledge and underrate the importance of fundamentals, and of wisdom altogether.

A society in which knowledge workers dominate is under threat from a new class conflict: between the large minority of knowledge workers and the majority of people, who will make their living traditionally, either by manual work, whether skilled or unskilled, or by work in services, whether skilled or unskilled. The productivity of knowledge work--still abysmally low--will become the economic

challenge of the knowledge society. On it will depend the competitive position of every single country, every single industry, every single institution within society. The productivity of the nonknowledge, services worker will become the social challenge of the knowledge society. On it will depend the ability of the knowledge society to give decent incomes, and with them dignity and status, to non-knowledge workers.

No society in history has faced these challenges. But equally new are the opportunities of the knowledge society. In the knowledge society, for the first time in history, the possibility of leadership will be open to all. Also, the possibility of acquiring knowledge will no longer depend on obtaining a prescribed education at a given age. Learning will become the tool of the individual--available to him or her at any age--if only because so much skill and knowledge can be acquired by means of the new learning technologies.

Another implication is that how well an individual, an organization, an industry, a country, does in acquiring and applying knowledge will become the key competitive factor. The knowledge society will inevitably become far more competitive than any society we have yet known--for the simple reason that with knowledge being universally accessible, there will be no excuses for nonperformance. There will be no "poor" countries. There will only be ignorant countries. And the same will be true for companies, industries, and organizations of all kinds. It will be true for individuals, too. In fact, developed societies have already become infinitely more competitive for individuals than were the societies of the beginning of this century, let alone earlier ones.

I have been speaking of knowledge. But a more accurate term is "knowledges," because the knowledge of the knowledge society will be fundamentally different from what was considered knowledge in earlier societies--and, in fact, from what is still widely considered knowledge. The knowledge of the German *allgemeine Bildung* or of the Anglo-American liberal arts had little to do with one's life's work. It focused on the person and the person's development, rather than on any application--if, indeed, it did not, like the nineteenth-century liberal arts, pride itself on having no utility whatever. In the knowledge society knowledge for the most part exists only in application. Nothing the x-ray technician needs to know can be applied to market research, for instance, or to

teaching medieval history. The central work force in the knowledge society will therefore consist of highly specialized people. In fact, it is a mistake to speak of "generalists." What we will increasingly mean by that term is people who have learned how to acquire additional specialties rapidly in order to move from one kind of job to another--for example, from market research into management, or from nursing into hospital administration. But "generalists" in the sense in which we used to talk of them are coming to be seen as dilettantes rather than educated people.

This, too, is new. Historically, workers were generalists. They did whatever had to be done--on the farm, in the household, in the craftsman's shop. This was also true of industrial workers. But knowledge workers, whether their knowledge is primitive or advanced, whether there is a little of it or a great deal, will by definition be specialized. Applied knowledge is effective only when it is specialized. Indeed, the more highly specialized, the more effective it is. This goes for technicians who service computers, x-ray machines, or the engines of fighter planes. But it applies equally to work that requires the most advanced knowledge, whether research in genetics or research in astrophysics or putting on the first performance of a new opera.

Again, the shift from knowledge to knowledges offers tremendous opportunities to the individual. It makes possible a career as a knowledge worker. But it also presents a great many new problems and challenges. It demands for the first time in history that people with knowledge take responsibility for making themselves understood by people who do not have the same knowledge base.

## HOW KNOWLEDGES WORK

That knowledge in the knowledge society has to be highly specialized to be productive implies two new requirements: that knowledge workers work in teams, and that if knowledge workers are not employees, they must at least be affiliated with an organization.

There is a great deal of talk these days about "teams" and "teamwork." Most of it starts out with the wrong assumption--namely, that we have never before worked in teams. Actually people have always worked in teams; very few people ever could work

effectively by themselves. The farmer had to have a wife, and the farm wife had to have a husband. The two worked as a team. And both worked as a team with their employees, the hired hands. The craftsman also had to have a wife, with whom he worked as a team—he took care of the craft work, and she took care of the customers, the apprentices, and the business altogether. And both worked as a team with journeymen and apprentices. Much discussion today assumes that there is only one kind of team. Actually there are quite a few. But until now the emphasis has been on the individual worker and not on the team. With knowledge work growing increasingly effective as it is increasingly specialized, teams become the work unit rather than the individual himself.

The team that is being touted now—I call it the "jazz combo" team—is only one kind of team. It is actually the most difficult kind of team both to assemble and to make work effectively, and the kind that requires the longest time to gain performance capacity. We will have to learn to use different kinds of teams for different purposes. We will have to learn to understand teams—and this is something to which, so far, very little attention has been paid. The understanding of teams, the performance capacities of different kinds of teams, their strengths and limitations, and the trade-offs between various kinds of teams will thus become central concerns in the management of people.

Equally important is the second implication of the fact that knowledge workers are of necessity specialists: the need for them to work as members of an organization. Only the organization can provide the basic continuity that knowledge workers need in order to be effective. Only the organization can convert the specialized knowledge of the knowledge worker into performance.

By itself, specialized knowledge does not yield performance. The surgeon is not effective unless there is a diagnosis—which, by and large, is not the surgeon's task and not even within the surgeon's competence. As a loner in his or her research and writing, the historian can be very effective. But to educate students, a great many other specialists have to contribute—people whose specialty may be literature, or mathematics, or other areas of history. And this requires that the specialist have access to an organization.

This access may be as a consultant, or it may be as a provider of specialized services. But for the majority of knowledge workers it will be as employees, full-time or part-time, of an organization, such as a government agency, a hospital, a university, a business, or a labor union. In the knowledge society it is not the individual who performs. The individual is a cost center rather than a performance center. It is the organization that performs.

## WHAT IS AN EMPLOYEE?

Most knowledge workers will spend most if not all of their working lives as "employees." But the meaning of the term will be different from what it has been traditionally--and not only in English but in German, Spanish, and Japanese as well.

Individually, knowledge workers are dependent on the job. They receive a wage or salary. They have been hired and can be fired. Legally each is an employee. But collectively they are the capitalists; increasingly, through their pension funds and other savings, the employees own the means of production. In traditional economics--and by no means only in Marxist economics--there is a sharp distinction between the "wage fund," all of which goes into consumption, and the "capital fund," or that part of the total income stream that is available for investment. And most social theory of industrial society is based, one way or another, on the relationship between the two, whether in conflict or in necessary and beneficial cooperation and balance. In the knowledge society the two merge. The pension fund is "deferred wages," and as such is a wage fund. But it is also increasingly the main source of capital for the knowledge society.

Perhaps more important, in the knowledge society the employees--that is, knowledge workers--own the tools of production. Marx's great insight was that the factory worker does not and cannot own the tools of production, and therefore is "alienated." There was no way, Marx pointed out, for the worker to own the steam engine and to be able to take it with him when moving from one job to another. The capitalist had to own the steam engine and to control it. Increasingly, the true investment in the knowledge society is not in machines and tools but in the knowledge of the knowledge worker. Without that knowledge the machines, no matter how advanced and sophisticated, are unproductive.

The market researcher needs a computer. But increasingly this is the researcher's own personal computer, and it goes along wherever he or she goes. The true "capital equipment" of market research is the knowledge of markets, of statistics, and of the application of market research to business strategy, which is lodged between the researcher's ears and is his or her exclusive and inalienable property. The surgeon needs the operating room of the hospital and all its expensive capital equipment. But the surgeon's true capital investment is twelve or fifteen years of training and the resulting knowledge, which the surgeon takes from one hospital to the next. Without that knowledge the hospital's expensive operating rooms are so much waste and scrap.

This is true whether the knowledge worker commands advanced knowledge, like a surgeon, or simple and fairly elementary knowledge, like a junior accountant. In either case it is the knowledge investment that determines whether the employee is productive or not, more than the tools, machines, and capital furnished by an organization. The industrial worker needed the capitalist infinitely more than the capitalist needed the industrial worker--the basis for Marx's assertion that there would always be a surplus of industrial workers, an "industrial reserve army," that would make sure that wages could not possibly rise above the subsistence level (probably Marx's most egregious error). In the knowledge society the most probable assumption for organizations--and certainly the assumption on which they have to conduct their affairs--is that they need knowledge workers far more than knowledge workers need them.

There was endless debate in the Middle Ages about the hierarchy of knowledges, with philosophy claiming to be the "queen." We long ago gave up that fruitless argument. There is no higher or lower knowledge. When the patient's complaint is an ingrown toenail, the podiatrist's knowledge, not that of the brain surgeon, controls--even though the brain surgeon has received many more years of training and commands a much larger fee. And if an executive is posted to a foreign country, the knowledge he or she needs, and in a hurry, is fluency in a foreign language--something every native of that country has mastered by age three, without any great investment. The knowledge of the knowledge society, precisely because it is knowledge only when applied in action, derives its

rank and standing from the situation. In other words, what is knowledge in one situation, such as fluency in Korean for the American executive posted to Seoul, is only information, and not very relevant information at that, when the same executive a few years later has to think through his company's market strategy for Korea. This, too, is new. Knowledges were always seen as fixed stars, so to speak, each occupying its own position in the universe of knowledge. In the knowledge society knowledges are tools, and as such are dependent for their importance and position on the task to be performed.

## MANAGEMENT IN THE KNOWLEDGE SOCIETY

One additional conclusion: Because the knowledge society performance has to be a society of organizations, its central and distinctive organ is management.

When our society began to talk of management, the term meant "business management"--because large-scale business was the first of the new organizations to become visible. But we have learned in this past half century that management is the distinctive organ of all organizations. All of them require management, whether they use the term or not. All managers do the same things, whatever the purpose of their organization. All of them have to bring people--each possessing different knowledge--together for joint performance. All of them have to make human strengths productive in performance and human weaknesses irrelevant. All of them have to think through what results are wanted in the organization--and have then to define objectives. All of them are responsible for thinking through what I call the theory of the business--that is, the assumptions on which the organization bases its performance and actions, and the assumptions that the organization has made in deciding what not to do. All of them must think through strategies--that is, the means through which the goals of the organization become performance. All of them have to define the values of the organization, its system of rewards and punishments, its spirit and its culture. In all organizations managers need both the knowledge of management as work and discipline and the knowledge and understanding of the organization itself--its purposes, its values, its environment and markets, its core competencies.

Management as a practice is very old. The most successful executive in all history was surely that Egyptian who, 4,500 years or more ago, first conceived the pyramid, without any precedent, designed it, and built it, and did so in an astonishingly short time. That first pyramid still stands. But as a discipline management is barely fifty years old. It was first dimly perceived around the time of the First World War. It did not emerge until the Second World War, and then did so primarily in the United States. Since then it has been the fastest-growing new function, and the study of it the fastest-growing new discipline. No function in history has emerged as quickly as has management in the past fifty or sixty years, and surely none has had such worldwide sweep in such a short period.

Management is still taught in most business schools as a bundle of techniques, such as budgeting and personnel relations. To be sure, management, like any other work, has its own tools and its own techniques. But just as the essence of medicine is not urinalysis (important though that is), the essence of management is not techniques and procedures. The essence of management is to make knowledges productive. Management, in other words, is a social function. And in its practice management is truly a liberal art.

## THE SOCIAL SECTOR

The old communities--family, village, parish, and so on--have all but disappeared in the knowledge society. Their place has largely been taken by the new unit of social integration, the organization. Where community was fate, organization is voluntary membership. Where community claimed the entire person, organization is a means to a person's ends, a tool. For 200 years a hot debate has been raging, especially in the West: are communities "organic" or are they simply extensions of the people of which they are made? Nobody would claim that the new organization is "organic." It is clearly an artifact, a creation of man, a social technology.

But who, then, does the community tasks? Two hundred years ago whatever social tasks were being done were done in all societies by a local community. Very few if any of these tasks are being done by the old communities anymore. Nor would they be capable of doing them, considering that they no longer have control of their members or even a firm hold over them. People no longer stay where they were born, either in terms of geography or in terms of

social position and status. By definition, a knowledge society is a society of mobility. And all the social functions of the old communities, whether performed well or poorly (and most were performed very poorly indeed), presupposed that the individual and the family would stay put. But the essence of a knowledge society is mobility in terms of where one lives, mobility in terms of what one does, mobility in terms of one's affiliations. People no longer have roots. People no longer have a neighborhood that controls what their home is like, what they do, and, indeed, what their problems are allowed to be. The knowledge society is a society in which many more people than ever before can be successful. But it is therefore, by definition, also a society in which many more people than ever before can fail, or at least come in second. And if only because the application of knowledge to work has made developed societies so much richer than any earlier society could even dream of becoming, the failures, whether poor people or alcoholics, battered women or juvenile delinquents, are seen as failures of society.

Who, then, takes care of the social tasks in the knowledge society? We cannot ignore them. But the traditional community is incapable of tackling them.

Two answers have emerged in the past century or so--a majority answer and a dissenting opinion. Both have proved to be wrong.

The majority answer goes back more than a hundred years, to the 1880s, when Bismarck's Germany took the first faltering steps toward the welfare state. The answer: the problems of the social sector can, should, and must be solved by government. This is still probably the answer that most people accept, especially in the developed countries of the West--even though most people probably no longer fully believe it. But it has been totally disproved. Modern government, especially since the Second World War, has everywhere become a huge welfare bureaucracy. And the bulk of the budget in every developed country today is devoted to "entitlements"--to payments for all kinds of social services. Yet in every developed country society is becoming sicker rather than healthier, and social problems are multiplying. Government has a big role to play in social tasks--the role of policymaker, of standard setter, and, to a substantial extent, of paymaster. But as the agency to run social services, it has proved almost totally incompetent.

In my *The Future of Industrial Man* (1942), I formulated a dissenting opinion. I argued then that the new organization--and fifty years ago that meant the large business enterprise--would have to be the community in which the individual would find status and function, with the workplace community becoming the one in and through which social tasks would be organized. In Japan (though quite independently and without any debt to me) the large employer--government agency or business--has indeed increasingly attempted to serve as a community for its employees. Lifetime employment is only one affirmation of this. Company housing, company health plans, company vacations, and so on all emphasize for the Japanese employee that the employer, and especially the big corporation, is the community and the successor to yesterday's village--even to yesterday's family. This, however, has not worked either.

There is need, especially in the West, to bring the employee increasingly into the government of the workplace community. What is now called empowerment is very similar to the things I talked about fifty years ago. But it does not create a community. Nor does it create the structure through which the social tasks of the knowledge society can be tackled. In fact, practically all these tasks--whether education or health care; the anomies and diseases of a developed and, especially, a rich society, such as alcohol and drug abuse; or the problems of incompetence and irresponsibility such as those of the underclass in the American city--lie outside the employing institution.

The right answer to the question Who takes care of the social challenges of the knowledge society? is neither the government nor the employing organization. The answer is a separate and new social sector.

It is less than fifty years, I believe, since we first talked in the United States of the two sectors of a modern society--the "public sector" (government) and the "private sector" (business). In the past twenty years the United States has begun to talk of a third sector, the "nonprofit sector"--those organizations that increasingly take care of the social challenges of a modern society.

In the United States, with its tradition of independent and competitive churches, such a sector has always existed. Even now

churches are the largest single part of the social sector in the United States, receiving almost half the money given to charitable institutions, and about a third of the time volunteered by individuals. But the nonchurch part of the social sector has been the growth sector in the United States. In the early 1990s about a million organizations were registered in the United States as nonprofit or charitable organizations doing social-sector work. The overwhelming majority of these, some 70 percent, have come into existence in the past thirty years. And most are community services concerned with life on this earth rather than with the Kingdom of Heaven. Quite a few of the new organizations are, of course, religious in their orientation, but for the most part these are not churches. They are "parachurches" engaged in a specific social task, such as the rehabilitation of alcohol and drug addicts, the rehabilitation of criminals, or elementary school education. Even within the church segment of the social sector the organizations that have shown the capacity to grow are radically new. They are the "pastoral" churches, which focus on the spiritual needs of individuals, especially educated knowledge workers, and then put the spiritual energies of their members to work on the social challenges and social problems of the community--especially, of course, the urban community.

We still talk of these organizations as "nonprofits." But this is a legal term. It means nothing except that under American law these organizations do not pay taxes. Whether they are organized as nonprofit or not is actually irrelevant to their function and behavior. Many American hospitals since 1960 or 1970 have become "for-profits" and are organized in what legally are business corporations. They function in exactly the same way as traditional "nonprofit" hospitals. What matters is not the legal basis but that the social-sector institutions have a particular kind of purpose. Government demands compliance; it makes rules and enforces them. Business expects to be paid; it supplies. Social-sector institutions aim at changing the human being. The "product" of a school is the student who has learned something. The "product" of a hospital is a cured patient. The "product" of a church is a churchgoer whose life is being changed. The task of social-sector organizations is to create human health and well-being.

Increasingly these organizations of the social sector serve a second and equally important purpose. They create citizenship. Modern

society and modern polity have become so big and complex that citizenship--that is, responsible participation--is no longer possible. All we can do as citizens is to vote once every few years and to pay taxes all the time.

As a volunteer in a social-sector institution, the individual can again make a difference. In the United States, where there is a long volunteer tradition because of the old independence of the churches, almost every other adult in the 1990s is working at least three--and often five--hours a week as a volunteer in a social-sector organization. Britain is the only other country with something like this tradition, although it exists there to a much lesser extent (in part because the British welfare state is far more embracing, but in much larger part because it has an established church--paid for by the state and run as a civil service). Outside the English-speaking countries there is not much of a volunteer tradition. In fact, the modern state in Europe and Japan has been openly hostile to anything that smacks of volunteerism--most so in France and Japan. It is ancien regime and suspected of being fundamentally subversive.

But even in these countries things are changing, because the knowledge society needs the social sector, and the social sector needs the volunteer. But knowledge workers also need a sphere in which they can act as citizens and create a community. The workplace does not give it to them. Nothing has been disproved faster than the concept of the "organization man," which was widely accepted forty years ago. In fact, the more satisfying one's knowledge work is, the more one needs a separate sphere of community activity.

Many social-sector organizations will become partners with government--as is the case in a great many "privatizations," where, for instance, a city pays for street cleaning and an outside contractor does the work. In American education over the next twenty years there will be more and more government-paid vouchers that will enable parents to put their children into a variety of different schools, some public and tax-supported, some private and largely dependent on the income from the vouchers. These social-sector organizations, although partners with government, also clearly compete with government. The relationship between the

two has yet to be worked out--and there is practically no precedent for it.

What constitutes performance for social-sector organizations, and especially for those that, being nonprofit and charitable, do not have the discipline of a financial bottom line, has also yet to be worked out. We know that social-sector organizations need management. But what precisely management means for the social-sector organization is just beginning to be studied. With respect to the management of the nonprofit organization we are in many ways pretty much where we were fifty or sixty years ago with respect to the management of the business enterprise: the work is only beginning.

But one thing is already clear. The knowledge society has to be a society of three sectors: a public sector of government, a private sector of business, and a social sector. And I submit that it is becoming increasingly clear that through the social sector a modern developed society can again create responsible and achieving citizenship, and can again give individuals--especially knowledge workers--a sphere in which they can make a difference in society and re-create community.

#### THE SCHOOL AS SOCIETY'S CENTER

Knowledge has become the key resource, for a nation's military strength as well as for its economic strength. And this knowledge can be acquired only through schooling. It is not tied to any country. It is portable. It can be created everywhere, fast and cheaply. Finally, it is by definition changing. Knowledge as the key resource is fundamentally different from the traditional key resources of the economist--land, labor, and even capital.

That knowledge has become the key resource means that there is a world economy, and that the world economy, rather than the national economy, is in control. Every country, every industry, and every business will be in an increasingly competitive environment. Every country, every industry, and every business will, in its decisions, have to consider its competitive standing in the world economy and the competitiveness of its knowledge competencies.

Politics and policies still center on domestic issues in every country. Few if any politicians, journalists, or civil servants look beyond the boundaries of their own country when a new measure such as taxes, the regulation of business, or social spending is being discussed. Even in Germany--Europe's most export-conscious and export-dependent major country--this is true. Almost no one in the West asked in 1990 what the government's unbridled spending in the East would do to Germany's competitiveness.

This will no longer do. Every country and every industry will have to learn that the first question is not Is this measure desirable? but What will be the impact on the country's, or the industry's, competitive position in the world economy? We need to develop in politics something similar to the environmental-impact statement, which in the United States is now required for any government action affecting the quality of the environment: we need a competitive-impact statement. The impact on one's competitive position in the world economy should not necessarily be the main factor in a decision. But to make a decision without considering it has become irresponsible.

Altogether, the fact that knowledge has become the key resource means that the standing of a country in the world economy will increasingly determine its domestic prosperity. Since 1950 a country's ability to improve its position in the world economy has been the main and perhaps the sole determinant of performance in the domestic economy. Monetary and fiscal policies have been practically irrelevant, for better and, very largely, even for worse (with the single exception of governmental policies creating inflation, which very rapidly undermines both a country's competitive standing in the world economy and its domestic stability and ability to grow).

The primacy of foreign affairs is an old political precept going back in European politics to the seventeenth century. Since the Second World War it has also been accepted in American politics--though only grudgingly so, and only in emergencies. It has always meant that military security was to be given priority over domestic policies, and in all likelihood this is what it will continue to mean, Cold War or no Cold War. But the primacy of foreign affairs is now acquiring a different dimension. This is that a country's competitive position in the world economy--and also an industry's and an organization's--

has to be the first consideration in its domestic policies and strategies. This holds true for a country that is only marginally involved in the world economy (should there still be such a one), and for a business that is only marginally involved in the world economy, and for a university that sees itself as totally domestic. Knowledge knows no boundaries. There is no domestic knowledge and no international knowledge. There is only knowledge. And with knowledge becoming the key resource, there is only a world economy, even though the individual organization in its daily activities operates within a national, regional, or even local setting.

## HOW CAN GOVERNMENT FUNCTION?

Social tasks are increasingly being done by individual organizations, each created for one, and only one, social task, whether education, health care, or street cleaning. Society, therefore, is rapidly becoming pluralist. Yet our social and political theories still assume that there are no power centers except government. To destroy or at least to render impotent all other power centers was, in fact, the thrust of Western history and Western politics for 500 years, from the fourteenth century on. This drive culminated in the eighteenth and nineteenth centuries, when, except in the United States, such early institutions as still survived--for example, the universities and the churches--became organs of the state, with their functionaries becoming civil servants. But then, beginning in the mid-nineteenth century, new centers arose--the first one, the modern business enterprise, around 1870. And since then one new organization after another has come into being.

The new institutions--the labor union, the modern hospital, the mega-church, the research university--of the society of organizations have no interest in public power. They do not want to be governments. But they demand--and, indeed, need--autonomy with respect to their functions. Even at the extreme of Stalinism the managers of major industrial enterprises were largely masters within their enterprises, and the individual industry was largely autonomous. So were the university, the research lab, and the military.

In the "pluralism" of yesterday--in societies in which control was shared by various institutions, such as feudal Europe in the Middle Ages and Edo Japan in the seventeenth and eighteenth centuries--

pluralist organizations tried to be in control of whatever went on in their community. At least, they tried to prevent any other organization from having control of any community concern or community institution within their domain. But in the society of organizations each of the new institutions is concerned only with its own purpose and mission. It does not claim power over anything else. But it also does not assume responsibility for anything else. Who, then, is concerned with the common good?

This has always been a central problem of pluralism. No earlier pluralism solved it. The problem remains, but in a new guise. So far it has been seen as imposing limits on social institutions--forbidding them to do things in the pursuit of their mission, function, and interest which encroach upon the public domain or violate public policy. The laws against discrimination--by race, sex, age, educational level, health status, and so on--which have proliferated in the United States in the past forty years all forbid socially undesirable behavior. But we are increasingly raising the question of the social responsibility of social institutions: What do institutions have to do--in addition to discharging their own functions--to advance the public good? This, however, though nobody seems to realize it, is a demand to return to the old pluralism, the pluralism of feudalism. It is a demand that private hands assume public power.

This could seriously threaten the functioning of the new organizations, as the example of the schools in the United States makes abundantly clear. One of the major reasons for the steady decline in the capacity of the schools to do their job--that is, to teach children elementary knowledge skills--is surely that since the 1950s the United States has increasingly made the schools the carriers of all kinds of social policies: the elimination of racial discrimination, of discrimination against all other kinds of minorities, including the handicapped, and so on. Whether we have actually made any progress in assuaging social ills is highly debatable; so far the schools have not proved particularly effective as tools for social reform. But making the school the organ of social policies has, without any doubt, severely impaired its capacity to do its own job.

The new pluralism has a new problem: how to maintain the performance capacity of the new institutions and yet maintain the

cohesion of society. This makes doubly important the emergence of a strong and functioning social sector. It is an additional reason why the social sector will increasingly be crucial to the performance, if not to the cohesion, of the knowledge society.

Of the new organizations under consideration here, the first to arise, 120 years ago, was the business enterprise. It was only natural, therefore, that the problem of the emerging society of organizations was first seen as the relationship of government and business. It was also natural that the new interests were first seen as economic interests.

The first attempt to come to grips with the politics of the emerging society of organizations aimed, therefore, at making economic interests serve the political process. The first to pursue this goal was an American, Mark Hanna, the restorer of the Republican Party in the 1890s and, in many ways, the founding father of twentieth-century American politics. His definition of politics as a dynamic disequilibrium between the major economic interests--farmers, business, and labor--remained the foundation of American politics until the Second World War. In fact, Franklin D. Roosevelt restored the Democratic Party by reformulating Hanna. And the basic political position of this philosophy is evident in the title of the most influential political book written during the New Deal years--*Politics: Who Gets What, When, How* (1936), by Harold D. Lasswell.

Mark Hanna in 1896 knew very well that there are plenty of concerns other than economic concerns. And yet it was obvious to him--as it was to Roosevelt forty years later--that economic interests had to be used to integrate all the others. This is still the assumption underlying most analyses of American politics--and, in fact, of politics in all developed countries. But the assumption is no longer tenable. Underlying Hanna's formula of economic interests is the view of land, labor, and capital as the existing resources. But knowledge, the new resource for economic performance, is not in itself economic.

It cannot be bought or sold. The fruits of knowledge, such as the income from a patent, can be bought or sold; the knowledge that went into the patent cannot be conveyed at any price. No matter how much a suffering person is willing to pay a neurosurgeon, the neurosurgeon cannot sell to him--and surely cannot convey to

him--the knowledge that is the foundation of the neurosurgeon's performance and income. The acquisition of knowledge has a cost, as has the acquisition of anything. But the acquisition of knowledge has no price.

Economic interests can therefore no longer integrate all other concerns and interests. As soon as knowledge became the key economic resource, the integration of interests--and with it the integration of the pluralism of a modern polity--began to be lost. Increasingly, non-economic interests are becoming the new pluralism--the special interests, the single-cause organizations, and so on. Increasingly, politics is not about "who gets what, when, how" but about values, each of them considered to be an absolute. Politics is about the right to life of the embryo in the womb as against the right of a woman to control her own body and to abort an embryo. It is about the environment. It is about gaining equality for groups alleged to be oppressed and discriminated against. None of these issues is economic. All are fundamentally moral.

Economic interests can be compromised, which is the great strength of basing politics on economic interests. "Half a loaf is still bread" is a meaningful saying. But half a baby, in the biblical story of the judgment of Solomon, is not half a child. No compromise is possible. To an environmentalist, half an endangered species is an extinct species.

This greatly aggravates the crisis of modern government. Newspapers and commentators still tend to report in economic terms what goes on in Washington, in London, in Bonn, or in Tokyo. But more and more of the lobbyists who determine governmental laws and governmental actions are no longer lobbyists for economic interests. They lobby for and against measures that they--and their paymasters--see as moral, spiritual, cultural. And each of these new moral concerns, each represented by a new organization, claims to stand for an absolute. Dividing their loaf is not compromise; it is treason.

There is thus in the society of organizations no one integrating force that pulls individual organizations in society and community into coalition. The traditional parties--perhaps the most successful political creations of the nineteenth century--can no longer integrate divergent groups and divergent points of view into a

common pursuit of power. Rather, they have become battlefields between groups, each of them fighting for absolute victory and not content with anything but total surrender of the enemy.

## THE NEED FOR SOCIAL AND POLITICAL INNOVATION

The twenty-first century will surely be one of continuing social, economic, and political turmoil and challenge, at least in its early decades. What I have called the age of social transformation is not over yet. And the challenges looming ahead may be more serious and more daunting than those posed by the social transformations that have already come about, the social transformations of the twentieth century.

Yet we will not even have a chance to resolve these new and looming problems of tomorrow unless we first address the challenges posed by the developments that are already accomplished facts, the developments reported in the earlier sections of this essay. These are the priority tasks. For only if they are tackled can we in the developed democratic free-market countries hope to have the social cohesion, the economic strength, and the governmental capacity needed to tackle the new challenges. The first order of business--for sociologists, political scientists, and economists; for educators; for business executives, politicians, and nonprofit-group leaders; for people in all walks of life, as parents, as employees, as citizens--is to work on these priority tasks, for few of which we so far have a precedent, let alone tested solutions.

\* We will have to think through education--its purpose, its values, its content. We will have to learn to define the quality of education and the productivity of education, to measure both and to manage both.

\* We need systematic work on the quality of knowledge and the productivity of knowledge--neither even defined so far. The performance capacity, if not the survival, of any organization in the knowledge society will come increasingly to depend on those two factors. But so will the performance capacity, if not the survival, of any individual in the knowledge society. And what responsibility does knowledge have? What are the responsibilities of the

knowledge worker, and especially of a person with highly specialized knowledge?

\* Increasingly, the policy of any country--and especially of any developed country--will have to give primacy to the country's competitive position in an increasingly competitive world economy. Any proposed domestic policy needs to be shaped so as to improve that position, or at least to minimize adverse impacts on it. The same holds true for the policies and strategies of any institution within a nation, whether a local government, a business, a university, or a hospital.

\* But then we also need to develop an economic theory appropriate to a world economy in which knowledge has become the key economic resource and the dominant, if not the only, source of comparative advantage.

\* We are beginning to understand the new integrating mechanism: organization. But we still have to think through how to balance two apparently contradictory requirements. Organizations must competently perform the one social function for the sake of which they exist--the school to teach, the hospital to cure the sick, and the business to produce goods, services, or the capital to provide for the risks of the future. They can do so only if they single-mindedly concentrate on their specialized mission. But there is also society's need for these organizations to take social responsibility--to work on the problems and challenges of the community. Together these organizations are the community. The emergence of a strong, independent, capable social sector--neither public sector nor private sector--is thus a central need of the society of organizations. But by itself it is not enough--the organizations of both the public and the private sector must share in the work.

\* The function of government and its functioning must be central to political thought and political action. The megastate in which this century indulged has not performed, either in its totalitarian or in its democratic version. It has not delivered on a single one of its promises. And government by countervailing lobbyists is neither particularly effective--in fact, it is paralysis--nor particularly attractive. Yet effective government has never been needed more than in this highly competitive and fast-changing world of ours, in which the dangers created by the pollution of the physical

environment are matched only by the dangers of worldwide armaments pollution. And we do not have even the beginnings of political theory or the political institutions needed for effective government in the knowledge-based society of organizations.

If the twentieth century was one of social transformations, the twenty-first century needs to be one of social and political innovations, whose nature cannot be so clear to us now as their necessity.