Notes on the post-industrial society (II)

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These "notes" are guiding a work in progress entitled The Post-Industrial Society. They appear as "notes" to emphasize the tentative nature of the formulations. The "post-industrial" society, as it was outlined in the first part of this essay, was defined as one in which the economy had moved from being predominantly engaged in the production of goods to being pre-occupied with services, research, education and amenities; in which the professional-technical class had become the major occupational group; and—most importantly—in which innovation in the society, as reflected in the changing relationship of science to technology, and economics to the polity, was increasingly dependent on advances in theoretical knowledge. For this reason, the intellectual institutions of the society, because they are concerned with the codification of theoretical knowledge, will increasingly, in the last third of the century, become the primary institutions of the society. The post-industrial society, it was argued, presupposes the rise of a new class who, on the political level, serve as advisors, experts or technocrats. The relation between the technocrat and the politician, serving as the broker for various interest groups, will become one of the problematic issues of the post-industrial society.

There are many other features of the post-industrial society as well. It will become, increasingly, a "communal society" in which, as the needs of the public sector and of public services become more
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severe, government decisions, both on the Federal and local level, will replace the market as the arbiter of various social and economic choices. And, as a communal and future-oriented society, it will inevitably have to engage in more planning. The consequences of these changes is the subject of the “notes” that follow.

- **Social choices and individual values**

  The irony is that the more planning there is in a society, the more there are open group conflicts. Planning sets up a specific locus of decision, which becomes a visible point at which pressures can be applied. Communal coordination — the effort to create a social choice out of a discordance of individual personal preferences — necessarily sharpens value conflicts.

  Where a single policy (such as defense) constitutes, in the language of economic theory, a “single-peaked preference curve” — one on whose importance and priority the society, by and large, is agreed — there may be little conflict. But what about situations, such as social or welfare policy, where there may be less agreement: how then does one decide? Do we want compensatory education for Negroes at the expense, say, of places for other students when the number of positions is limited? Do we want to keep a redwood forest or provide a going industry to a local community? Will we accept the increased noise of jets in communities near the airports, or force the reduction of weight and payloads — with a consequent increased cost to the industry and the traveler? Should a new highway go through old pleasant sections of a community, or do we route them around such sections with a higher cost to all? These, and thousands more, are issues which cannot be settled on the basis of technical criteria; inevitably they involve value and political choices.

  In the “Great Society” more and more goods necessarily have to be purchased communally. The planning of cities and the rationalization of transit, the maintenance of open spaces and the extension of recreational areas, the elimination of air pollution and the cleaning up of the rivers, the underwriting of education and the organization of adequate medical care, all these are now necessarily the concern of “public institutions.” Individuals have their own scale of values, which allow them to assess relative satisfactions against costs, and to make their purchases accordingly. But public life lacks such ready measures. We cannot ask for and individually buy in the market place our share of unpolluted air. Regulating the availability of higher education by the market alone would deny many families the possibility of such learning, and also deny the society some of the social benefits which a more educated, and therefore more productive, citizenry might create. But we have no effective social calculus which gives us a true sense of the entire costs and benefits of our public initiatives.
Moreover, we are never likely to get any such perfected calculus. For in recent years, while economists and mathematicians have been able to supply a "rational proof" of the individual utility preference model, they have become skeptical of the possibility of constructing a group welfare function model. When one turns from individual decision making to that of groups, when one considers the problem of how best to amalgamate the discordant preference patterns of the members of a society so as to arrive at a compromise preference pattern for society as a whole, we seem to be at a theoretical impasse. In the first major effort to formulate the problem, Kenneth Arrow demonstrated, in his *Social Choice and Individual Values*, written in 1951, that the five requirements of "fairness" for social-welfare functions are inconsistent (i.e., no welfare function exists which satisfies all of them). Even the principle of majority rule which satisfies three, and possibly four, of the conditions is subject to the logical contradiction, first formulated by Condorcet, of the paradox of the cyclical majority.

The proof can be demonstrated simply. Suppose there are three voters, A, B, and C, whose preferences on issues x, y, and z are ordered in the following pattern:

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Clearly, x is preferred to y by a majority (voters A and B); y is preferred to z by a majority (voters A and C); from the principle of transitivity (i.e., if an individual prefers x to y, and y to z, we assume he would also prefer x to z) we should predict that x is also preferred to z, and that x, therefore, is the choice of the majority of the voters; but in fact, z is preferred to x by voters B and C, so that no simple majority preference can be formulated on these three issues.*

There have been numerous attempts both to modify the original conditions which Arrow put forth as necessary to organize a group welfare-function and to resolve the voting paradox. But so far, at

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least to the extent that I can follow the technical literature, no satisfactory "solutions" have been forthcoming.*

This problem — of seeking to produce a single social ordering of alternative social choices which would correspond to individual orderings — is academic, in the best sense of the word. In the "real" world, the problem of social priorities, of what social utilities are to be maximized, of what communal enterprises are to be furthered, will be settled in the political arena by "political criteria"—i.e. the relative weights and pressures of different interest groups, balanced against some vague sense of the national need and the public interest. But it is precisely at this point that the problem becomes most irksome. For increasingly, one of the "issues" of a Great Society — which can be defined as a society that seeks to become conscious of its goals — is this relationship between "rationality" and "politics." The Great Society aims to rise above "mere" politics toward some kind of rational political behavior — but rigorous theoretical analysis leads us back to "mere" politics!

• The new prince

One other item of democratic theory would seem to be in trouble, too, empirically as well as theoretically. This is the theory of interest groups in a pluralistic society.

The theory of representative government reflected a picture of society as a "balance of forces." The legislature, in this conception, was supposed to contain representatives of the various social divisions and class interests in the country, for, as Mill noted in appealing for the right of the working-class to be represented in Parliament, "in the absence of its natural defenders, the interest of the excluded is always in danger of being overlooked." Mill, in fact, was so intent on the idea of the representation of minorities, that he gave enthusiastic endorsement to the proposal of Thomas Hare for proportional representation, "a scheme which has the almost unparalleled merit of carrying out a great principle of government in a manner approaching to ideal perfection as regards the special object in view . . . ."

This normative theory was refined by what might be called the "realist" school of political thought, from Arthur F. Bentley on. (Bentley's original formulations in 1908 were ignored for many years, but

*Arrow, in an appendix to a new edition of his book (Cowles Foundation, Yale University, 1963) has sought to counter some discoveries of errors in his proofs by reformulating the conditions to show that the inconsistencies in the conditions still remain, and that no logical foundations for a complete social-welfare-function are possible. The most recent effort to prove the possibility of "collective rationality" is that of James Coleman, "The Possibility of a Social Welfare Function" (American Economic Review, December, 1966).
were restated three decades later by V. O. Key, David Truman, and Earl Latham.) If a "group theory" was lacking in economics, it certainly made its appearance, in full flower, in American political thought in the last few decades. As V. O. Key put it most succinctly:

At bottom, group interests are the animating forces in the political process. . . . Whatever the bases of group interest may be, the study of politics must rest on an analysis of the objectives and composition of the interest groups within a society. . . . The chief vehicles for the expression of group interest are political parties and pressure groups. Through these formal mechanisms groups of people with like interests make themselves felt in the balancing of political forces.*

And, in this conception, the role of the politician was to be a broker:

The problem of the politician or the statesman in a democracy is to maintain a working balance between the demands of competing interests and values. . . . Within limits . . . special interests in a democracy are free to express their demands and their disagreements. . . . The politician in a democracy . . . must be able to hold together enough of these special interests to retain power; he must yield here, stand firm there, delay at the next point, and again act vigorously in a confusing complex of competing forces and interests. . . . The politician . . . must play the part of arbitrator and mediator, subject to the criticism of all. To avoid or mitigate conflict, he compromises.

Whatever the truth of this "model" as a description of the "nineteenth century inheritance,"** (or even as a superficial description of Lyndon Johnson), it is astonishingly out of date for an understanding of politics in the second half of the 20th century, for it fails to take into account the three most decisive characteristics, or shaping elements, of national policy today: the influence of foreign policy, the "future-orientation" of society, and the increasing role of "technical" decision-making.

1) Foreign policy is not formulated primarily in reaction to the needs and pressures of domestic pressure groups (though once decisions are taken, some modifications may be made in response to their demands, e.g., to build airplanes in the Southwest rather than in the Northwest). Foreign policy is shaped in accordance with great


**The "group theory of politics," it should be noted, has been challenged on theoretical grounds by Mancur Olson, Jr., who, applying an "economic analysis" to the nature of aggregate choice, argues that interest groups do not best represent the interests of their members. See Mancur Olson, Jr., The Logic of Collective Action: Public Goods and The Theory of Groups (Cambridge: Harvard University Press, 1965).
power and ideological interests, and as responses to perceived threats from other great powers or ideological forces. But its consequence, under conditions of a cold war, is to force a "mobilized posture" on the society as a whole, to create some sense of national unity, and to centralize decision-making and enormous resources in the hands of a national administration. (Of the $15 billion spent by the Federal government for research and development, ninety percent goes into three areas: defense, space, and atomic energy.) The social and economic map of the U.S. has been redrawn more in the past twenty years by the influence of defense and defense spending than by any other single factor.

2) The commitment to economic growth, and the new dimensions of social change — its more rapid shock effects on larger and larger sections of the society and the consequent need to anticipate social change and to a considerable extent to direct it — have brought with them a renewed emphasis on planning, on the need to become more conscious of national goals and of the "alternative futures" which a society with a steady increase in productivity (a constant 3 percent growth rate of productivity will double national output in 24 years) can provide.

3) The combination of these two elements brings into play the increasing role of technical decision-making. The shaping of conscious policy, be it in foreign policy, defense, or economics, calls to the fore the men with the skills necessary to outline the constraints ahead, to work out in detail the management and policy procedures, and to assess the consequences of choices. The revolutions in military technology (the introduction of nuclear power, the replacement of manned aircraft by missiles) were initiated by scientists. The development of systems analysis and cost-effectiveness techniques, which have revolutionized both the strategy process as well as the management structure of the Pentagon, was brought about by mathematicians and economists. The management of the national economy, with its close watch on the effects of government spending, requires the services of men skilled in the economic arts, and such crucial policy questions as when to have tax cuts or tax increases, how much to have, and what the wage-price guideposts should be, increasingly become technical decisions.*

*As one quondam bureaucrat has earnestly argued, "the development of public policy and of the methods of its administration owe less in the long run to processes of conflict among political parties and social or economic pressure groups than to the more objective processes of research and discussion among professional groups." Don K. Price, Government and Science — a statement written little more than ten years after V. O. Key, and reflecting the differences, perhaps, of the pre-war and post-war experiences of political analysts.
But the most important political consequence of all this is the passing of effective power, in almost all political systems, from the legislative and parliamentary bodies to the executive, and the re-emergence of what Bertrand de Jouvenal has called, in his elegant fashion, The Principate. How could it be otherwise when, in the nature of modern politics, foreign policy is no longer "diplomacy" but an unceasing round of strategic maneuver in which crucial decisions have to be taken speedily, and when, because of the new patterns of social change, the very need to plan policies, rather than lay down laws, gives the initiative to the Executive?

In the United States we have seen, in the past twenty-five years, the enormous transformation of the Presidency into the Executive Office of the President with the addition of new staff functions—such as the Bureau of the Budget, the Council of Economic Advisors, and the Office of the Science Adviser—directly within that office. For the long run, it is not the growth of the personal powers and prestige of the President that is important, but the institutionalization of such crucial control and directing functions.

Although these essential changes—the new role of the Executive, the conflict between technocratic rationality and political bargaining, and the orientation to the future—have been variously described, political theory has, so far, failed to absorb them into a new conceptual structure.

• Number, density, interaction

While our eyes have been focused on the visible political changes, some underlying structural changes, of the kind that Paul Valéry alluded to, have in crescive fashion been transforming our society. Thus, the effects of the increase in number, interaction, and density of population are enormous. Here, I shall take the communication pattern as an instance.

a) The loss of insulating space. If one looks at American history, what strikes one immediately is the tremendous amount of violence, particularly labor violence, which took place over a period of 65 years (from 1877, beginning with the railroad strikes, and ending with the outbreak of war at the end of 1941). From any rough set of indicators that one chooses—the number of times troops were called out, the number of riots, the number of individuals killed, the amount of sabotage, the number of man-days of work lost, the amounts of money spent by corporations in fighting trade unions—it is highly likely that there was probably more violence here than in any country in Europe. Yet the U.S. did escape the political holocausts that wracked European society, and some basic accommodation between business and labor was reached.

One can identify many factors which account for this difference
between American and European society, but surely one of the most important ones, particularly before World War I, was what one can call the factor of "insulated space." One of the distinguishing features of political violence in Europe is that most of it took place close to, or at, a political center. What would have happened to the French Revolution, for example, if the Constituent Assembly had met at Dijon, rather than at Versailles, twenty miles from Paris and subject to the pressures of the Paris crowds? Clearly all such if questions are unanswerable, but their formulation allows one to see the possibility of alternatives. In the United States, our early violence took place largely at the "perimeters" of the society (in isolated coal mining communities, in the Far West and Rocky Mountain areas) and the "shock effects" had small radial range.

The introduction of modern mass communication allows us, in many cases forces us, to respond directly and immediately to social issues. There is little question that the presence of the television cameras in Selma, Alabama, depicting the use of crude violence (snarling police dogs, electrified cattle prods) against the Negro marchers aroused an immediate national response which was reflected in the presence of thousands of persons who poured into Selma, the following week, from all over the country. Without television, it is likely that the shock effect, even if transmitted through news photos and newsreels, would have been dissipated (and, before the rise of the mass media, would have never had a national impact).

One can see this by a crude comparison of two incidents. In the winter of 1893-94, the growing economic distress and mass unemployment brought the formation of scattered groups of jobless into "armies" who declared for a "march on Washington" to demand relief. The best known of these was "Coxey's Army," led by the populist "general" Jacob S. Coxey. Although detachments of the armies started out from various parts of the country, and Coxey led his contingent from Massillon, Ohio, only 400 persons reached the national capital, and the "armies" were easily dispersed.

In the summer of 1963, Negro civil rights leaders called for a March on Washington to bring pressure upon the administration for the passage of a civil rights bill, and by plane, bus, rail and car, 250,000 persons descended onto the capital in an extraordinary demonstration of political purpose. Differences of issue apart, it is clear that one incident is a product of a regional society, the other of a mass society.

In effect, our society has become more "permeable" and open to plebiscititarian pressures. One may applaud the fact that the nature of the mass media increases the likelihood of a spectacular rise in "participatory" democracy, but these instances are also more likely to be on emotional issues, so that the loss of "insulating space"
itself may permit the setting off of chain reactions which may be
disruptive of civil politics and reasoned debate.

b) Communication overload. Whatever else may be said about
the 20th century, it has produced the greatest bombardment of aural
and visual materials that man has ever experienced in his history.
To the linotype, camera, typewriter, telephone and telegraph, the
20th century has added radio (and radio telephone), teletype, tele-
vision, microwaves, communication satellites, computers, xerog-
raphy and the like. Transistors and miniaturization not only facilitate
an incredible packaging of communication senders, receivers, and
recorders in the small space of a space ship, they also allow auto-
mobile telephony, walkie-talkies, portable radios and television sets,
and finally, on the agenda, person-to-person communication by
“wrist-watch” radio anywhere in the country (and soon the world?).
Radar and LORAN have taken over most of the air-sea guidance of
transport, while an incredibly deployed watching system like SAGE
(already, in part, obsolete) permits a national command-control
system, using real-time computers, to patrol the continental defense
from the distant early warning lines.

George Miller, the Harvard psychologist, once demonstrated, in
a marvelous article, “The Magical Number Seven Plus or Minus
Two,” the finite limits to the number of different “bits” (or signals)
that a human channel could encompass at one time.* But the problem
is not the single instant, it is the total number of sensations that an
individual is subject to. Some random sampling of the communication
media illustrates, in a cursory way, the growth of the networks
of interaction. In 1899, there were one million telephones in the United
States, or 13.3 per 100,000 population; in 1963, there were 84,440,000
telephones or 442.5 per 100,000 population. (Over 350 million local
calls are made daily in the U.S.) In 1899, 6,576,000 pieces of mail
were moved in the U.S.; in 1963, 67,853,000,000 pieces of mail were
sent (more than half of them first-class). In 1924, 1,250,000 families
had radio sets, and 530 stations were on the air; in 1964, more than
90 percent of families had radio sets and 5,607 stations (AM and
FM) were on the air. In 1949, 940,000 families had television sets, and
17 stations were sending pictures; in 1964, more than 90 percent of
all families had television sets, and 564 television stations were
broadcasting regularly.

The extension of the range of communication has brought the
entire world into instant reach of any listener. Consider only the mul-
tiple geography lessons that each of us has had to learn in the last
25 years, from a knowledge of the strategic value of the Chagos

*See George A. Miller, The Psychology of Communication: Seven essays.
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Archipelago as an equatorial staging area halfway between Aden and Singapore, to the distinction between the Congo Republic (Leopoldville), formerly Belgian, and the Republic of the Congo (Brazzaville), formerly French. And consider, too, the number of different political figures and the bewildering number of political parties that we have to learn about to keep abreast of the news.

For the society and the political process, there are enormous problems which arise from this communications overload. At a time when, in our psychological values, we place a greater emphasis on individuation, where is the possibility of privacy, of a "psycho-social moratorium" (a term used by Erik Erikson to describe the need of sensitive adolescents to escape the pressures of schools, career choice, and the like), and a relief from the stresses created by these incessant "messages" out of the blue? Certainly, for the year 2000 this may be one of the most urgent of all social problems.

And for the political process, consider only one image: the number of problems, terrifying in number, which automatically flow today to Washington as a political center, and the multifarious issues which the President, therefore, has to confront, and often decide upon, in "real time." Can such a system continue, without breakdown?

• Rates of diffusion

The communications revolution, while accelerating many things, has most dramatically accelerated the rate of diffusion of social demands.

The point about diffusion is the critical one for any consideration of social change — and prediction about the future. For it is not the spectacular innovations (crucial as they may be as turning points) which are the important elements in changing the social map of a country, but the rate of diffusion of products and privileges. For diffusion is not automatic. In the case of products, it rests upon certain entrepreneurial talents, and the ability to break through the cake of custom or the barriers of entrenched interests. In the case of privileges, it rests upon the ability of disadvantaged groups to mobilize political pressures. And both of these are operative only within the framework of the value system of a society.

One of the reasons why the predictions of Tocqueville, made more than 130 years ago, are still so cogent, is that he had hit upon the great "master key" to American society — the desire for equality. What has been the property or privilege of the few is demanded, legitimately, by the many. The enormous change, for example, in the character of higher education, which affects us all, is not due to any sweeping technological innovations or even the post-World War II baby boom, but to the extension of higher education from the few to the many. In 1935, for example, 12.2 percent of the
(9.2 million) 18-21 age group attended college, while in 1964, more than 40 percent of the (11.2 million) 18-21 age group was in college.

Out of this same impulse, there is a constant set of rising expectations about what the society can produce. It has been estimated, for example, that about twenty percent of our people live in poverty. But this is a definition of poverty by 1964 standards. If we applied, say, 1947 standards, only about fifteen percent of the people would be considered poor today. It is the nature of the American experience to "upgrade" constantly the notion of what constitutes a decent minimum, and correspondingly to upgrade the definition of poverty. As Herman Miller, the assistant to the director of the Census, points out in his book, Rich Man, Poor Man, according to the Bureau of Labor Statistics, a "modest but adequate living standard" in New York City in 1947 required a family income (in 1961 dollars) of $4000 a year. This criterion rose in 1961 to $5,200—a twenty-eight percent increase. At this rate, by 1975, the new decent minimum for a family will be (always in 1961 dollars) $7,000. As Mr. Miller concludes: our standards will be lifted a little higher, our belts will be opened another notch, and there will still be a large block of families living under new and higher substandard conditions.

In seeking for clues to social change, therefore, the important task is to be able to identify which aspects of privilege or advantage today will be demanded by the many tomorrow. (More travel, travel to more distant places, winter vacations, summer houses?) And it is the diffusion of these privileges to an increasing number that provides a key to the kinds of social and political demands we shall witness in the coming years.

But changes in number also mean a change in scale. Increases in size change the nature of organizations, give rise to multiple hierarchies, introduce new problems of coordination, and pose new questions of order and planning. Students at Berkeley, for example, complain of depersonalization because of the size of the University—yet decentralization (or the creation of more universities) is not a complete answer because of the scarcity of professional talent relative to the demand. The spread of medical care has prompted the introduction of more technological devices (e.g., multiphase diagnostic screens) which, many complain, "mechanize" the doctor-patient relationship. Yet this is a concommitant of a mass society. (The other answer, increase the number of doctors, is easy rhetorically, yet difficult both because of the problems of recruiting more doctors and the long time-lag in the training period.)

The question of the size and scope of all social units—the appropriate size of governmental units, the optimal size of various organizations, the decentralization of function and the creation of a "human scale" in a mass society—is the most crucial sociological
problem that arises out of the influence of number, density and inter-
action, and the consequences of diffusion and change of scale.

• The public and the private

The conventional model of the economy concentrates on the private, profit-seeking center. Yet what is public and what is private, and what is profit and what is not-for-profit, is no longer an easy distinction these days. The aerospace companies are private, yet the Federal government purchases 74 percent of their entire output. All profits above a negotiated sum are returned to the government; the government, rather than the competitive market, determines the firms' profitability, and even their survival. The New York Port Authority and the Triborough Bridge Authority are non-profit public corporations, yet they make enormous profits, which are reinvested in new enterprises far beyond the original charter of these corporations. In practical effect, they differ little from private utilities who pay off a fixed sum of their indebtedness as interest charges and use profits for reinvestment. The Battelle Institute is a not-for-profit research foundation; the Arthur D. Little Company is profit seeking; yet the activities of the two are quite similar. (Battelle did the experimental and development work on xerography and now reaps large royalties; Arthur D. Little does a considerable amount of public service work at no fee.) Mutual insurance companies and mutual savings banks are not-for-profit, yet their dividends, interest rates, salaries, and practices are virtually identical with capital stock insurance companies and savings banks. The University of California at Berkeley is a state university, yet receives large amounts in corporate gifts and other private giving. Columbia University is a private school, yet more than half of its annual $100 million budget comes from Federal contracts and grants. The medical and health service field, the largest “growth industry” in the country, is a commingling of private, profit, non-profit, and government activities.

If one looks at the not-for-profit sector as a whole, taking into account the wide range of government, educational, and health services, the striking fact is that about one-fourth of G.N.P. and “not less than one-third and possibly almost two-fifths of all employment is accounted for by the activities of that sector." In the 1950-1960 decade, in fact, nine out of every ten new jobs added to the economy was generated in the not-for-profit sector—i.e., by the vastly enlarged role of the Federal government in connection with the cold war, the expanded activities of state and local governments in providing community services, and the growths of the education and health and welfare fields.

The growth of the not-for-profit sector brings into focus, as employers of significant amounts of manpower, a whole array of organizations whose structure and form differ to a considerable extent from the usual model of "bureaucracy." These are universities, research laboratories, hospitals, community welfare organizations and the like. The "received" doctrine, as drawn from Max Weber, and accepted by most students of stratification theory, posit a bureaucracy as having a division of labor based on functional specialization, a well-defined hierarchy of authority, impersonal, 'bureaucratic' rules of behavior, and the like. This is the "ideal type" model which is often best exemplified in business corporate structure. Yet the variety of new kinds of organizations that are emerging (particularly ones with a high component of technical and research personnel) indicate that the older models, patterned on pyramidal structures, may no longer be applicable, and that in the coming decades the "traditional" bureaucratic form will have given way to organizational modes more adaptive to the needs for initiative, free time, joint consultation and the like. The emergence of new structural forms of non-bureaucratic organization is one more item on the long agenda of new problems for the post-industrial society.

- **A system of social accounts**

The development of national economic accounting provides us with an instructive picture of the workings of a modern economy. There are, at present, for example, four types of accounting systems which allow us to measure different kinds of economic phenomena and transactions: (a) National Income and Product Accounts sum up the total value of goods and services transacted in the economy and the allocation of net income among households, government, business, and foreign units; (b) National Moneyflow Accounts trace the flow of funds between financial and non-financial units, including households and government; (c) National Interindustry Accounts set forth the value of purchases and sales of goods and services between variously "disaggregated" units of business, government, household and foreign sectors; (d) National Wealth Accounting, in effect a national assets inventory, evaluates the reproducible assets and resources of the nation.

Yet these and other economic concepts, particularly the now familiar Gross National Product, are limited in their use, and sometimes — more by popular opinion than by professional economists — give us a distorted picture of the social economy. GNP measures the sum total of goods and services transacted within the market economy. It is immediately apparent that services performed within a household — by a wife, for example — are not "valued." (The British economist A. C. Pigou, a pioneer of welfare economics, once
remarked that if a widowed vicar paid his housekeeper a weekly wage, this was an addition to the national income; if he married her, it became a subtraction. The point at stake is that "income" in rural areas (where a substantial amount of food may be produced at home) is often "under-valued" as against urban income—a fact neglected not only in some discussions about poverty in the U.S., but in the international comparisons between the U.S. and some well-to-do-agrarian countries, (e.g., Denmark, New Zealand) who, on the scale of GNP, rank lower than their real income would put them.

Moreover, if national income is understated by considering GNP alone, the sense of progress can be exaggerated by the "additive" nature of GNP accounting. Thus, when a factory is built, the new construction and the new payroll are an addition to the GNP. If, at the same time, the factory pollutes a stream and builds a filtration plant to divert the wastes, these expenditures, too, become an addition to the GNP.* True, more money has indeed been spent in the economy; but the gross addition simply masks an "offset cost," not a genuine contribution to economic progress. The definition of what is an addition and what is an offset clearly is a difficult task, but one insufficiently recognized in the popular discussion of national economic accounting, and in the widespread acceptance of GNP as a "welfare" or "growth" measuring device.

One can have a meaningful sense of progress only by knowing its costs, direct and indirect. A difficulty in national economic accounting today is that of assigning the costs generated by one group which often are borne by others (e.g., the costs to the community of strip mining, gouging out a countryside).** But the problem is not one that can be handled on an ad hoc basis. We need a broader cost matrix.

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*In a similar vein, Victor Fuchs of the National Bureau of Economic Research, in writing of the expansion of the service sector of the economy, remarks: "There has been a presumption [among economists] that the more highly developed the economy the more useful the [real GNP as a] measure becomes.... But the trend may now be in the other direction, because at very high levels of GNP per capita, a large fraction of productive effort is devoted to the services (where real output is very difficult to measure) and to other activities (that are not measured at all)." Among the activities that are not measured today, in fact, are many government services, since these cannot be valued at market prices.

**A "far-out," but still telling, example is that of New York City, which in order to reduce the "costs" of snow removal no longer hires additional private trucks to cart away the snow but has its sanitation department push the snow into the middle of the busy streets where passing taxis, buses and cars grind it into slush that is then hosed down the sewers. The city reduced its costs, but the amount of slush which splattered on the trousers, coats, and dresses of the passersby increased the cleaning and dyeing bills in the city by a substantial amount. From the point of view of the city and the cleaning industry there was a distinct gain; but this surely was an "irrational" way of distributing the extra costs involved.
In effect, what we need is a System of Social Accounts which would broaden our concept of costs and benefits, and put economic accounting into a broader framework. The eventual purpose would be to create a "balance sheet" that would be useful in clarifying policy choices.

What would a system of social accounts allow us to do? The word "accounts," as it stands now, is perhaps a misnomer. Sociologists have been able to establish few completely consistent sets of relationships (such as the relationship, say, between unemployment and delinquency). Even where sophisticated social analysis can establish relationships, it is difficult to establish these in measurable terms. But we can begin by seeking to establish a conceptual framework.

A System of Social Accounts would begin with a series of social indicators that would give us a broader and more balanced reckoning of the meaning of economic progress as we know it. This effort to set up a System of Social Accounts would move us toward four goals:

(a) the measurement of the social costs and net returns of innovations,

(b) the measurement of social ills (e.g., crime, family disruption),

(c) the creation of "performance budgets" in areas of defined social needs (e.g., housing, education),

(d) indicators of economic opportunity and social mobility.

The following elaboration of the four problems referred to above is meant to be merely illustrative.

(a) Social Costs and Net Return: Technological advances create new investment opportunities. These investments are expected to be paid for by the enhanced earnings they produce. But clearly there are losses as well. The major loss is the unemployment created by technological change, particularly in those instances where the advanced age of the worker of the particular skill that is displaced makes it difficult for him to find new employment. Or, a new plant in an area may create new employment opportunities, yet its by-products — water pollution and air pollution — may create additional costs for the community. Long ago, Professor A. C. Pigou demonstrated, in his The Economics of Welfare, that there is frequently a divergence between the private cost borne by an entrepreneur and the social costs. Into the cost account of the private entrepreneur goes only those items for which he has to pay, while such items as maintenance of the unemployed, provisions for the victims of industrial accidents or occupational diseases, costs of access roads, etc. are borne, in the old phrase of J. M. Clark, as "social overhead costs."

The question of which costs should be borne by the firm and which by the community is clearly a matter of public policy. Increas-
ingly, for example, firms responsible for polluting the waters of a river are asked to bear the costs of filtration. The Ruhr, flowing through West Germany's most dense industrial region, is at present less polluted than it was twenty years ago. Swimming and boating are commonplace. This happy circumstance is the result of a cooperative arrangement between 259 municipalities and 2,200 industries along the river who have developed a system of effluent fees calculated to encourage the construction of waste disposal systems. In this case the entire cost of pollution is assigned to the source. On the other hand, certain costs of severance pay or maintenance of an older labor force on a firm's payroll may be so huge as to inhibit the introduction of useful technological devices, and such costs might more efficiently be borne by the community than by the firm itself. But these questions of public policy can only be decided when we have a clearer picture of the actual social costs and returns of particular innovations.*

(b) The Measurement of Social Ills: Every society pays a huge price for crime, juvenile delinquency, and disruption of the family. The costs of child care and mental health are also high. There are no simple causes, such as unemployment, of such social ills. Yet such ills and social tensions do, in a measurable way, have significant effects on the economy (from loss of able-bodied workers because of mental illness, to direct losses of property because of thefts and riots). Although data on crime, on health, dependent children and the like are collected by U.S. Government agencies, there is rarely any effort to link these problems to underlying conditions; nor is there a full measure of the cost of these ills. Systematic analysis of such data might suggest possible courses of remedial action.

(c) Performance Budgets: The American commitment is not only to raise the standard of living, but to improve the quality of life. But we have few "yardsticks" to tell us how we are doing. A system of social accounts would contain "performance budgets" in various areas to serve as such yardsticks. A national "housing budget," for example, would indicate where we stand in regard to the goal of a "decent home for every American family." It would also enable us to locate, by city and region, the areas of greatest needs and so provide the basis for effective public policy. A series of community health

*Andrew Shonfield, in his book Modern Capitalism, points out that the construction of a new subway line in London was held up for over a decade on the premise that it couldn't pay its way — until someone demonstrated that the secondary benefits resulting for the people not using the line (in speeding taxi and private vehicular flow and the like) would result in a true return on investment which was 10 percent over the capital cost of the project. Andrew Shonfield, Modern Capitalism (Oxford University Press, 1965), pp. 227-229.
indices would tell us how well we are meeting the needs of our people in regard to adequate medical care.

(d) **Indicators of Economic Opportunity and Social Mobility:**

More than twenty-five years ago, in *An American Dilemma*, Gunnar Myrdal wrote: "We should . . . have liked to present in our study a general index, year by year or at least decade by decade, as a quantitative expression of the movement of the entire system we are studying: the status of the Negro in America. . . . But the work of constructing and analyzing a general index of Negro status in America amounts to a major investigation in itself, and we must leave the matter as a proposal for later research."

Two decades later, we still have no "general index" of the status of the Negro in America. In a strict methodological sense, no "comprehensive indexes" are perhaps possible; but we can assemble specific indicators. Thus, where once it seemed impossible to conceive of a "value" figure for "human assets," the creation of recent years of a "lifetime-earning power index" gives us a measure to reflect the improvements in income which come with increased education, improvement in health, and reduction of discrimination. And economists have a term, "opportunity costs," which allows us to calculate not only direct costs but also the gains foregone from the use of those resources elsewhere.

This approach derives from a proposition: American society would be in a better position to appraise its achievements, its needs, and its shortcomings by being able to specify broad national goals and national priorities. This proposition itself rests on the underlying assumption that we remain a democratic polity capable of peaceful bargaining and trade-off between groups, as well as being able to shape a political rationality which subordinates technique to consensual ends.