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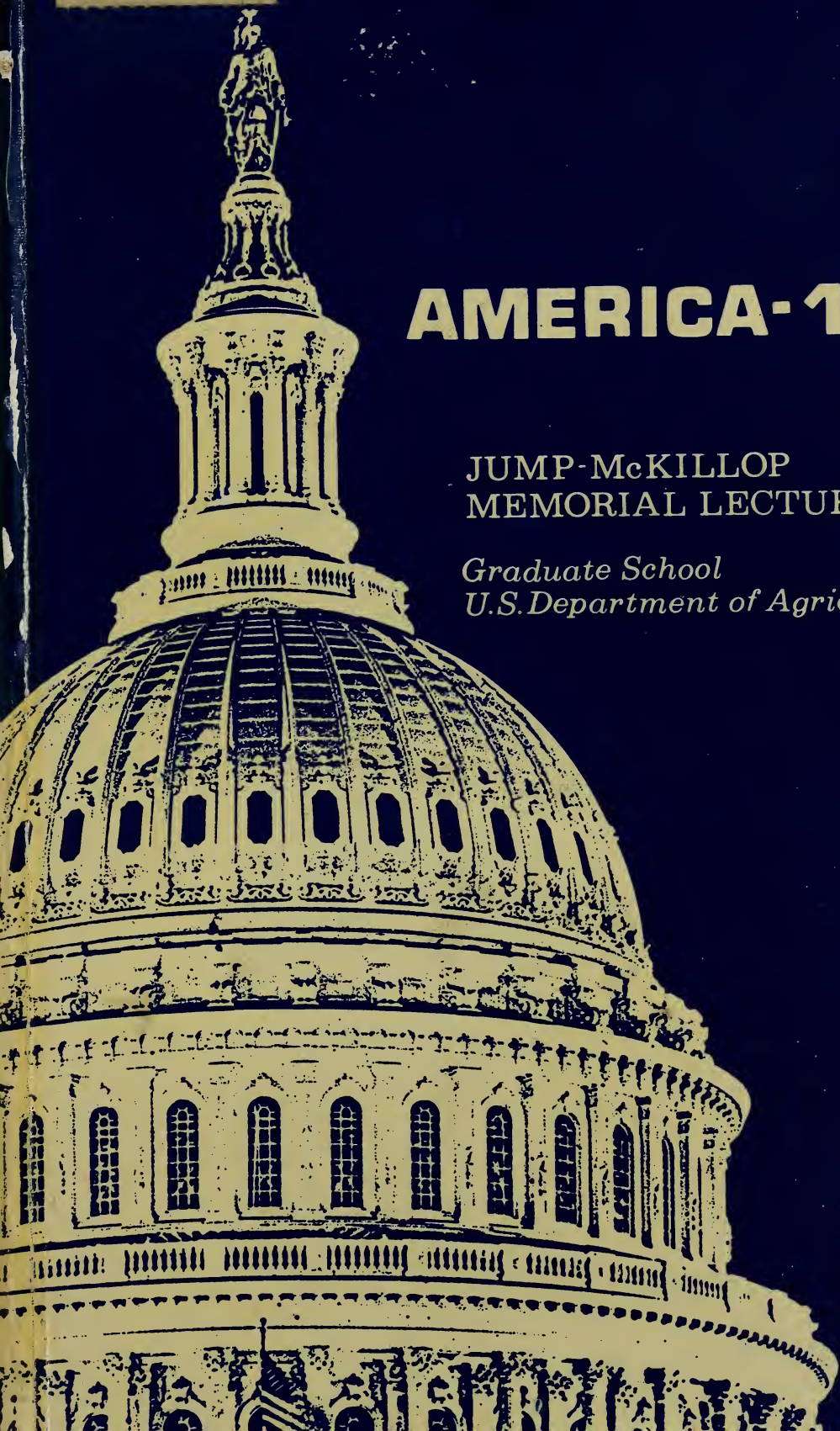
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# AMERICA-1980

JUMP-McKILLOP  
MEMORIAL LECTURES/1965

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# AMERICA 1980

THE WILLIAM A. JUMP  
— I. THOMAS McKILLOP  
MEMORIAL LECTURES IN  
PUBLIC ADMINISTRATION/1965

*Edited by Robert L. Hill*

The Graduate School  
U. S. DEPARTMENT OF AGRICULTURE  
Washington, D. C.



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**GRADUATE SCHOOL  
UNITED STATES DEPARTMENT  
OF AGRICULTURE**

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## The William A. Jump—I. Thomas McKillop Memorial Lectures in Public Administration

In recognition of the service of William A. Jump and I. Thomas McKillop to the Department of Agriculture and their contributions to the development of public administration in the United States, the Graduate School in 1952 established the William A. Jump—I. Thomas McKillop Memorial Lectures in Public Administration

### WILLIAM ASHBY JUMP

William A. Jump, who died on January 22, 1949, had been Department Budget Officer since the creation of that position in 1922 and Director of Finance since 1934 when the Office of Budget and Finance was established. His entire career was devoted to public service in the United States Department of Agriculture. In 1947, the Department, in recognition of his outstanding contributions, presented him with a Distinguished Service Award.

Mr. Jump was an outstanding leader in and out of the Federal Government in the field of public administration. Perhaps more than any other man in his lifetime, he influenced the development of modern budgetary and management concepts and the application of these concepts to the formulation and administration of Federal programs. In 1939-40, he served as a member of a subcommittee of the President's Committee on Civil Service Improvement. He was one of a group which founded the American Society for Public Administration. After the war, he contributed to the organization of the Food and Agriculture Organization of the United Nations, and in 1947-48 was United States representative on the five-nation Subcommittee on Finance. He participated in the establishment of the United States Department of Agriculture Graduate School and taught in the School for many years, and was a guest lecturer on public administration in many of the leading colleges and universities in the country.

### I. THOMAS MCKILLOP

I. Thomas McKillop was killed at the age of 38 in an airplane accident on June 30, 1951. During his short span of years he was an educator, a private management consultant, and a public servant. Born in Scotland, he was educated in America. He joined the staff of the Rural Electrification Administration in 1947 as an Industrial Engineer and later was made Chief of the Management Division. In the Rural Electrification Administration his work was based on agency's philosophy of helping rural people help themselves. Mr. McKillop brought to public administration the philosophy of scientific management of which he had profound understanding, yet in the execution of his daily tasks he always considered the rights of individuals. His contribution to public administration stemmed from a rare combination of native ability, management proficiency, and belief in human values. Mr. McKillop was a leader in the Graduate School's public administration program and one of its most successful teachers.

## PREFACE

*America 1980.*

What will things be like 15 years from now?

This is an intriguing question for almost anyone. It is a very practical question for those who shape and guide the course of affairs. For if we are to have any degree of conscious control in fashioning our destiny, we must take stock of our position from time to time; note what appear to be the controlling factors and overriding trends; and make our plans and govern our actions accordingly.

This little book should be helpful to those who want to take stock of our position as a Nation and have a hand in determining our position 15 years hence. It contains in brief compass basic facts about our population, resources, and economic trends. It contains some lively and imaginative projections of political events and of the quality of life in 1980. There is advantage in its brevity. We get the overall view, uncluttered by detail.

The men who give us this picture know whereof they speak. Each is an expert and authority in his field. Their statements were originally given as lectures in the Thomas Jefferson Memorial Auditorium of the U. S. Department of Agriculture during March 1965. On stage with each lecturer were two "reactors," experts in their own right, who initiated a discussion of the formal presentation. Concise statements by these reactors are also included in the book.

The Graduate School has had a special institutional interest in these lectures. They have not only provided a certain measure of "adult education." They have also served to signal and stress the need for the education and full development of every one of our citizens in accordance with his interests, capacities, and the needs of the times. The most urgent needs now and in times to come are for "brainpower."

Our technical-industrial civilization demands ever more scientists, engineers, technicians, managers. Availability of such personnel is probably the most important limiting factor in our potential for survival and growth. At the same time, there is need for education in the humanities, in cultural fields, in the arts, and in activities related to the anticipated increase in leisure.

The Graduate School is—and has been for some 44 years—making its contribution to these individual and social needs. It is a self-supporting institution that grew up in the Department of Agriculture. However, its courses are open to any qualified employee of the Federal Government and to other qualified persons as facilities permit. The School has five main programs: resident evening, special, correspondence, public lectures, and the press.

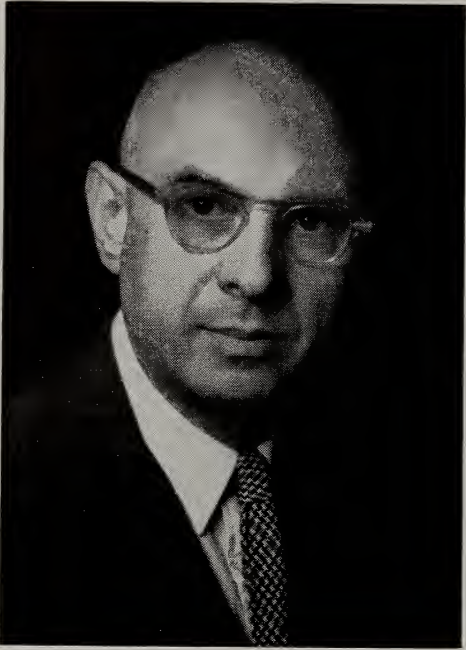
The lectures printed here were given as Series VI of the William A. Jump—I. Thomas McKillop Memorial Lectures In Public Administration. The series was planned and assistance given in their presentation by a Committee consisting of the following: James L. Sundquist, Deputy Under Secretary of Agriculture (Chairman); Adam Yarmolinsky, Assistant to the Secretary, Department of Defense; William M. Capron, Assistant Director, Bureau of the Budget; Seymour L. Wolfbein, Special Assistant to the Secretary for Economic Affairs, Department of Labor; Robert L. Hill, Assistant to the Director of Personnel, Department of Agriculture; Nicholas J. Oganovic, Deputy Executive Director, U. S. Civil Service Commission; Roland Renne, Director, Office of Water Resources Research, Department of the Interior; Edmund N. Fulker, Assistant Director, USDA Graduate School. To each of these, we tender our thanks for a job well done. We also wish to express here our gratitude to the lecturers and reactors for their very excellent contributions.

JOHN B. HOLDEN

*Director, Graduate School*

# AMERICA 1980





### GERHARD COLM

*Chief Economist, National Planning Association, Washington, D.C. From 1946 to 1952 he was an economist with the Council of Economic Advisers, Executive Office of the President. Was a member of the UNKRA mission to advise on economic stability in Korea, 1953. Born in Germany, he has been a student at the Universities of Munich, Berlin, and Frankfurt; associate professor of economics at Kiel University. From 1933 to 1939 he was professor of economics, New School for Social Research, New York City. Since 1940 he has been a lecturer at George Washington University. Author: Economic Consequences of Recent American Tax Policy (with Fritz Lehmann), 1938; Who Pays the Taxes, 1940; The American Economy in 1960, 1952; Essays in Public Finance and Fiscal Policy, 1955; The Economy of the American People in 1958, rev. edit. 1961; numerous articles.*

# MAN'S WORK AND WHO WILL DO IT IN 1980

Gerhard Colm

## Prophecies or Projections

This lecture series is designed to present to you a picture of America in 1980—15 years from now. I can't speak for the other participants in the program, but I personally have little confidence in my own ability to foresee the future. Embarking on a 15-year forecast, I am impressed by the fact that 15 years appears as a long period in some phases, as short in others. Think of a forecast made in 1930 for 1945. And on the other hand, think of the quite reasonable estimates made around 1950 for 1965.

I believe it is not idle to think about the future as it is intended in these discussions. However, three points, in my opinion, distinguish meaningful projections from prophecy by inspiration.

1. Meaningful projections must be based on specific assumptions, particularly with respect to world political events.

2. Meaningful projections must be based on facts and tendencies of the past and present and must interpret their impact on the future.

3. Meaningful projections should be understood to serve as tools for establishing goals and assumptions for planning—planning of government policy, planning of business investments, planning of labor strategy.

The greatest uncertainties today result from the turmoil



in the world and the manner in which our own and other countries' policies react to the turmoil. An economist would be foolish to make predictions in this realm. He can only make assumptions, possibly alternative assumptions. I propose that we assume we will manage to muddle through without blundering into a nuclear holocaust. A pessimistic economist who believes in the probability that such a holocaust cannot be avoided would still use the possibility of avoiding it as a prudent assumption for long-term economic planning. We use assumptions not necessarily of greatest probability but of operational validity.

Other uncertainties cannot, however, be assumed away. Most important among these is the technological future. Actually, how we view our national goals, our economic potential, and the consequent tasks for economic policy for the next 10 or 15 years depends, to a large extent, on our evaluation of technological developments. The greatest controversy with respect to what America may be like in 1980 stems from different views of the pace and consequences of technological change.

There are those who believe that the advent of automation and what has been called "cybernation" will force a complete change in our outlook. There are, on the other hand, those who believe that automation is just another step beyond mechanization so that the most reliable projections can be obtained from an extrapolation of past trends. It would be pointless to sidestep this controversy by making alternative assumptions. The consequences for government, business, and labor policy of the one or the other interpretation are so extreme that alternative projections would leave the decision maker with no guidance.

### **The Technological Revolution**

Before painting our own picture for America in 1980 I will briefly contrast two different interpretations of techno-

logical developments. The view of the complete technological revolution is most dramatically presented by the Ad Hoc Committee on The Triple Revolution, the manifesto which was submitted to President Johnson last year and circulated all over the nation. It was signed by a group of thoughtful and respected social scientists and made a deep impact on the thinking of many people. Robert Theobald, a leading member of the Ad Hoc Committee, is an even less compromising representative of this thinking. One of the three revolutions is the result of the rapid adoption of automation and cybernation, which results in the wholesale replacement of labor (manual and in part managerial) by machines. Robert Theobald quotes a RAND Corporation computer expert with the following statement: "Two percent of the population . . . will in the discernible future be able to produce all the goods and services needed to feed, clothe, and run our society with the aid of machines."<sup>1</sup> Two percent of the population in 1980 would be 5 million as against an estimated labor force of 95 million. In this age it could no longer realistically be assumed that within the foreseeable future 25 million additional workers will find remunerative employment. It is proposed, therefore, that most people should receive an income not for work as traditionally defined, but for culturally meaningful, nonremunerative activities of their own choosing. There are great civilizations in the past in which the work was done by slaves while the citizens developed a flourishing culture by creative leisure. Correspondingly, the signers of this manifesto believe that our own society must develop a large creative leisure class while the material goods and some of the services are supplied by robots who direct automatized productive machinery. If one accepts this opinion of rapid replacement of labor by self-directing machinery by 1980, not a greatly increased but reduced labor force

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<sup>1</sup> See Robert Theobald, *Cybernation—Threat and Promise*, in *The Bulletin of the National Association of Secondary-School Principals*. Vol. 48 (295) Nov. 1964. p. 22ff.

would be employed. Hours of work would be radically shortened. A national dividend would be distributed to those not working, and the main task of government policy would be to promote creative activities which do not result in products or services for sale. These people have a clear answer to the question posed in the title of this lecture: Man's Work and Who Will Do It?—the machines will do it.

In contrast with this view is the opinion of those who believe that automated production and cybernated decision making is still in the experimental stage. They contend that Theobald and associates confuse the technological possibility of automation with the reality of its adoption. This view is forcefully expressed in a current series of articles in *Fortune Magazine*.<sup>2</sup> It is true that employment in manufacturing and particularly blue-collar occupations dropped in the years after the peak of 1953 and only recently has regained the level of 10 years ago. But the author of these articles attributes this not to automation but to a change in the composition of manufactured products. The proportion of weapons and space equipment in production has been growing, and in this sector labor requirements for each million-dollar output are less than in civilian industries. With the leveling out of defense and space production the author believes that a turn towards increasing employment in manufacturing, including blue-collar occupations, is taking place.

In the past mechanization has replaced labor in many instances but in the process of industrialization always resulted in creating more job opportunities than had become obsolete. This view leads to the conclusion that nothing revolutionary has taken place or is likely to take place. Edward Denison estimated for the Committee for Economic Development<sup>3</sup> that the traditional rate of growth may increase from

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<sup>2</sup> See articles by Charles E. Silberman in *Fortune*, Vol. LXXI, No. 1 and 2, January and February 1965.

<sup>3</sup> Edward Denison, *The Sources of Economic Growth in the United States and*



the long-term 3% perhaps to 3.3% not because of an extraordinary increase in productivity but because of a more rapid increase in the labor force. I fear that this conservative point of view will result in resigning to a steadily growing rate of unemployment.

I cannot agree with either one of these two positions. Like the signers of the Triple Revolution manifesto, I believe that automation and cybernation are not merely a stepped-up version of the century-old process of mechanization. This view appears to me comparable to that which holds that nuclear warfare is merely a continuation of the age-old development of more and more deadly weapons. Nuclear weapons do differ from conventional weapons because they affect not only the vanquished but also the victor and the neutrals. They are truly suicidal on a global scale. In mechanization, certain processes were performed by machines which were serviced and directed by human workers. Under automation the service and direction of the machines, too, is mechanized. Also, I cannot agree with the *Fortune* articles which attribute the shifts in manpower exclusively to a change in the product mix and deny all influences of technological developments. Technological unemployment will be, if it is not yet, a problem.

Thus, although I agree that automation has a revolutionary potentiality, I differ in three respects with the evaluation of its consequences.

1. The triple revolutionists are hypnotized by technological possibilities and have failed realistically to evaluate their actual applications. There are many functions of the human brain which can theoretically be performed by machine but which for the foreseeable future can still be performed better and more cheaply by humans. In spite of contrary claims, it still appears that automation introduces an inflexibility into

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*the Alternatives Before Us*. N.Y., A Supplementary Paper of the Committee for Economic Development. 1962.

the production process with which management has not yet learned to deal. I am certain that these problems will be solved, but it will take considerable time.

2. Those who are concerned with lack of work opportunities overlook the potential increase in demand for all kinds of goods and services which will result from success in the war against poverty. Also the rebuilding of our metropolitan cities and of hundreds of smaller towns will require a growing number of workers even if the most modern techniques are used. Until most cities, homes, and factories provide decent living conditions and tolerable work environment, I believe it is premature to speak of lack of job opportunities. What is needed is that these opportunities be realized.

3. The truly revolutionary aspect of the new technology is overlooked by these revolutionists who to some extent are still thinking too much in terms of the past. They are thinking that automated machines will take over only the work that human labor did in the past. That process is taking place to some extent. More important is, however, that new technology makes possible functions and services which were not performed at all in the past. Numerous possibilities have been opened up, such as space exploration, oceanics, long-term weather prognosis and weather control, new means of transportation and communication, new tools for medical diagnosis, and new methods of teaching and research. With respect to conventional goods and services the labor saving aspect is important but probably more important are the great possible improvements in quality. One of the most dramatic potential "spill-overs" from production for space equipment is a new approach to reliability in general production.

However, it took 20 years for nuclear fission to come near commercial application. It may take another 15 or 20 years to bring present technological knowledge acquired in de-

fense and space production to general application. Such application will lead to large-scale replacement of manual, clerical, and managerial labor by machines, but also to the opening up of new and radically improved methods of production and services. The first tendency will make it possible for fewer people with shorter hours to do the same work; the second will create job opportunities for new types of work. It is not possible to predict with scientific authority which of the two tendencies will prevail over the next 10 or 15 years. Further research work is still needed to make even an educated guess. On the basis of preliminary studies I venture to express the opinion that, in the foreseeable future, meeting the demand for unsatisfied needs of millions near the subsistence level, for rebuilding our cities, homes, and factories, and for new and better products and services will still outweigh the labor saving aspects of automation.

When Henry Wallace, exactly 20 years ago, published his book *Sixty Million Jobs*<sup>4</sup> he was called a visionary. Today more than 70 million are employed in civilian jobs. President Johnson recently spoke of 100 million jobs 20 years from now. By 1980 it should be about 95 million. Is it realistic to think of 25 million additional jobs in 15 years? Will there be work for them to do?

### The Work to Do

In order to appraise the work that needs to be done the National Planning Association has prepared estimates of what it would cost to achieve reasonable levels of consumption, education, health, and all other national goals within a 10-year period. The estimates are at present in constant dollar terms; their translation into manpower requirements has been initiated. Table 1 shows the dollar expenditures which would be needed in pursuit of 16 national goals by 1975.

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<sup>4</sup> New York. Reynal & Hitchcock, Simon & Schuster, 1945.

Table 1. Gross expenditures for the individual goals, 1962 and 1975  
(in billions of 1962 dollars)

Goal	Actual expenditures in 1962	Projected expenditures in 1975	
		For pre-empted benchmarks	For aspiration standards
1. Consumer expenditures, savings, and standards of living	\$356.8	\$572.6	\$659.6
2. Private plant and equipment	48.9	102.3	151.6
3. Urban redevelopment	64.2	83.3	129.7
4. Social welfare	37.8	55.5	92.4
5. Health	32.3	39.1	85.4
6. Education	30.4	39.7	82.1
7. Transportation	35.1	56.2	75.4
8. National defense	51.4	39.0	67.6
9. Housing	29.4	36.3	62.0
10. Research and development	18.3	32.3	38.8
11. Natural resources	5.9	7.7	16.7
12. International aid	5.1	3.1	13.2
13. Space	3.2	5.7	9.4
14. Agriculture	7.2	5.2	9.2
15. Manpower retraining	.1	.4	2.8
16. Area redevelopment	.4	.4	1.0
Total Gross Cost	\$726.5	\$978.8	\$1,496.9
Adjustment for double counting	170.5	206.8	369.9
Net Cost	556	772	1,127
GNP	556		981

The first column gives expenditure estimates for each goal in 1962 used as a base year. The grand total adds up to the GNP, after adjustment to eliminate double counting. The second column presents estimates for 1975 assuming no improvement in the average quality of the service but only allowing for the increase in population in general, or, for example, in the case of education for the increase in the number of pupils, and so on. The third column reflects the increase in expenditures assuming that standards be improved in accord with recommendations made for each goal by groups of responsible experts and knowledgeable indi-



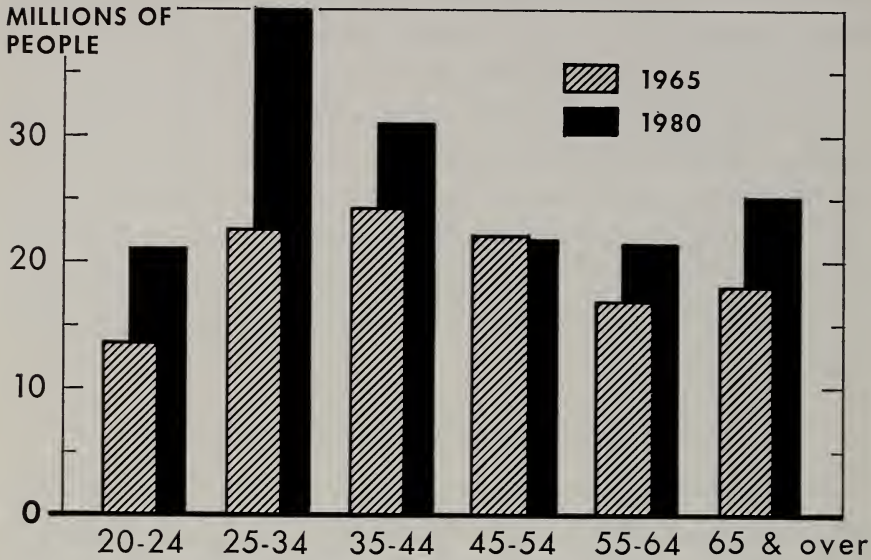
viduals. These "aspiration goals," as we call them, add up to a total of more than one trillion dollars, an increase of \$570 billion from 1962 to 1975, or an increase of 5.5% per year. I do not have corresponding estimates for 1980. Because the aspirations grow with time, we may assume that they will continue to increase by the same rate to 1980. As the increase in aspiration goals would be equal to the increased total GNP we must ask if an average annual growth of 5.5% appears feasible. What, then, appears as a reasonable estimate of the potential growth for production during the next decade?

### The Economic Potential for 1980

For estimating the economic potential for 1980 we have one element which can be estimated with a high degree of probability, namely, the size of the population of working age. Those who will be of working age by 1980 are already born, so that the number is not affected by the future birth rate but only by the slowly changing death rate of adolescents and adults. Chart 1 shows the increase in population over 20 years of age from 1964 to 1980, and the noticeably faster increase in the younger and the older age groups.

The next step takes us from the size of the population to the size of the *labor force*. The two are connected through the labor force participation rate. For the population of working age as a whole the labor participation rate has been going up over the last 75 years. For males alone it has been declining, mainly because of a rising proportion of adolescents in school and earlier retirement of the aged. This declining tendency was, however, more than offset by the spectacular increase in the proportion of girls and women of all ages joining the labor force. For the next 10 years we estimate that the average participation rate will remain virtually constant with a small decline for males, a small rise for females. For the subsequent 5-year period we expect some

# AGE DISTRIBUTION OF THE ADULT POPULATION



SOURCE: BUREAU OF THE CENSUS, CURRENT POPULATION REPORTS SERIES P-25, "B" OR MEDIUM-HIGH PROJECTION.

Chart 1

net decline in the participation rate of most age groups. These projections are in contrast with the prescriptions of the Triple Revolution manifesto which, as we have seen, urges an immediate drastic curtailment in the participation rate by paying people for not working.

To some extent, Social Security and private pension programs for the aged, scholarship programs for students, paid vacation for workers, sabbatical leaves with pay for university professors—and more recently for steelworkers—all move in the direction recommended by the Triple Revolution manifesto. I believe we will move further in this direction. Practice of art by laymen, participation in parent-teacher associations and other civic duties, travel-study groups, and all the do-it-yourself activities absorb increasing time. However, millions of workers are moonlighting—taking a second, part-time job in addition to their full-time primary job. Probably the majority of workers still prefer an

increase in income to a drastic reduction in hours, at least when the reduction in hours would exclude an increase in wage rates or even necessitate a reduction. Over a 15-year period, I believe that the proportion of adults in school, on sabbatical, or in retirement will increase, but not anywhere near to the extent envisaged by the authors of the Triple Revolution.

### **Hours of Work**

What has been said with respect to the labor force participation rate also applies to the hours of work. In the last 75 years hours of work have been reduced from more than 60 hours per week to nearly 40 hours. For the last 10 years, in the nonagrarian sector of the economy, they have remained relatively constant, except for cyclical variations. There is considerable pressure to reduce the statutory 40-hour work week. However, it is uncertain whether such a measure would reduce hours actually worked or whether it would mainly increase statutory overtime, thereby raising costs of production. As a method of wage increase, overtime has the disadvantage of a very uneven impact on various groups of workers. Our projections of future economic potential do incorporate a further gradual reduction in hours of work, either by shortening the statutory work week or by collective bargaining agreements. By 1980 we estimate an average work week of 35.9 hours, again a much lesser reduction than assumed by those who believe that all needed work could be done by a few people working just a few hours per week.

### **Productivity**

Since the turn of the century output per manhour has increased on the average by about 2.2% per year. For the next 15 years, however, we estimate a continuation of the 3% rate of increase, experienced since the late Forties. The increase over and above the long-term historical rate is intended to



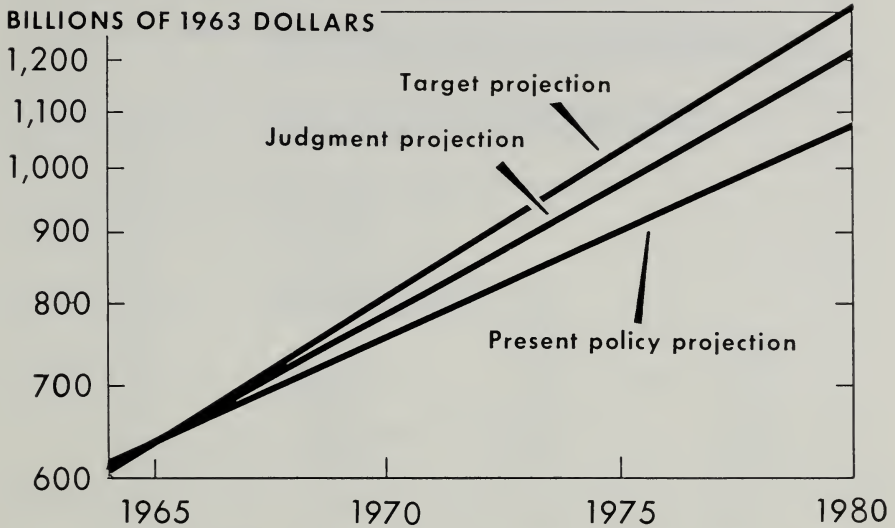
make allowance for the enhanced rate of technological advance. The increase is, however, much less than would be estimated by the triple revolutionaries. We should always consider that a technological advance will first be adopted in a few plants or a few firms. Then only gradually will it be adopted by more firms as factories and equipment are replaced. We do not now and are not likely in the near future to have a situation in which automated factories are so much cheaper that the equipment of whole industries becomes obsolete overnight. At present, the most remarkable advance has been made in inventory control through use of electronic data processing. This results in saving of working capital and not directly in increased labor productivity. For a long time it can be foreseen that factories automated to various degrees will be competing with each other. A part of increases in productivity will be absorbed by rising sales costs and other overhead charges. Finally, as an aside for the statistical technicians among you: some of the new or improved services which become possible by automation are not directly reflected in production as we customarily measure it, and therefore are also not directly reflected in productivity.

### Projection of Total Production

I do not want to bore you with further details but will show you the result of these and related considerations. Chart 2 presents the projected increase in GNP from the present to 1980. The chart has three projections: a *target projection* which shows the maximum potential growth which we believe is feasible under our economic and social institutions. It assumes that unemployment in a few years can be reduced to 4% and ultimately to around 3½%. It shows an average rate of growth of 4.9% per year. Then you see the lowest line representing an estimate of the development of production if *present fiscal and monetary policies* would be continued. This would imply unemployment ris-

# GROSS NATIONAL PRODUCT

Actual 1964 and Projected 1965-1980

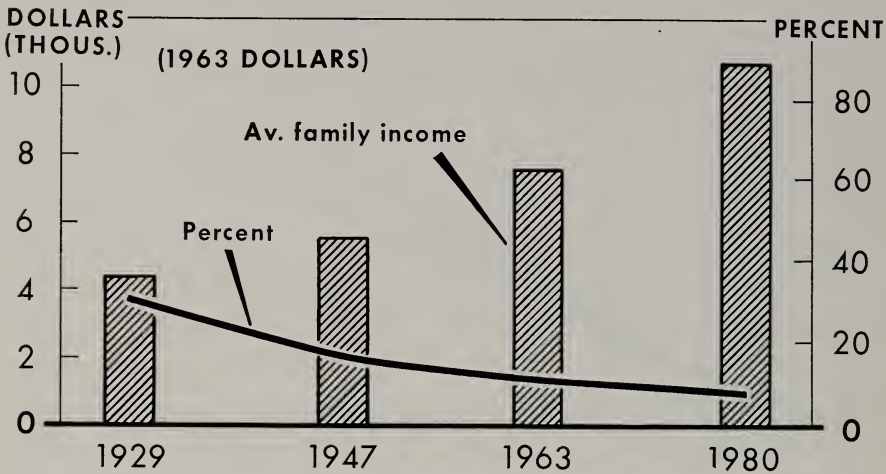


SOURCE: CENTER FOR ECONOMIC PROJECTIONS, NATIONAL PLANNING ASSOCIATION.

Chart 2

ing to 8.5% and more. This may still be a too optimistic projection. A policy of no change may result not only in a slow rate of growth and rising unemployment but also in periodic recessions, if not depressions. The difference between the target and the present policy projection indicates the increase in production which should be brought about by policy measures. I will discuss some of these in the final section of these remarks. I have also indicated a line well above the present policy but below the target projection. This, the *judgment projection* as we call it, assumes that the government will pursue a policy in support of economic growth and counteracting recessions but that not all measures needed for success will be adopted in full and in time. This projection realistically assumes some human failure in economic diagnosis and prescription and some slippage in political implementation. This judgment model would indicate that in constant prices total production would rise by

# AVERAGE FAMILY INCOME AND PERCENT OF FAMILIES WITH INCOME OF LESS THAN \$2,000 1929-63 and Projected 1980



SOURCE: PROJECTION BY CENTER FOR ECONOMIC PROJECTION, NATIONAL PLANNING ASSOCIATION.

Chart 3

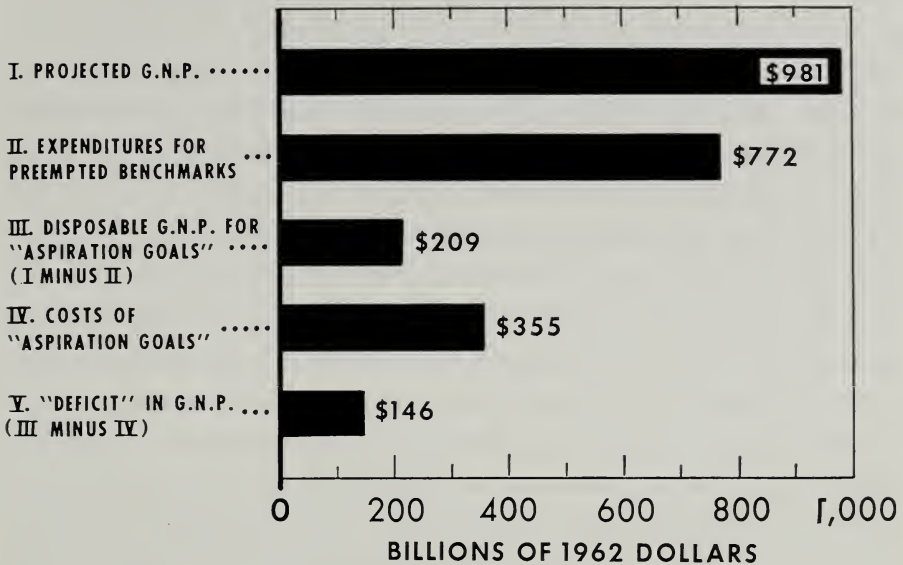
somewhat more than 4% per year, or would double 1965 production to reach one trillion, 200 billion dollars by 1980.

Chart 3 shows what such an increase would mean in terms of the income of an average family. Average family income, which was (in 1963 dollars) \$4300 in 1929, rose to \$7500 in 1963 and would exceed \$10,500 by 1980. The number of families whose incomes is below \$2000 (again in 1963 dollars) has been reduced from 30% of all families in 1929, to 11% in 1963, and would drop to 7% in 1980. Success in the war against poverty would mean a further and faster reduction.

## Aspiration Goals and Economic Potential

Once we have projected a possible future GNP we can compare it with the estimated costs of the aspiration goals discussed earlier (chart 4).

## RESOURCES AND GOALS FOR 1975



SOURCE: CENTER FOR PRIORITY ANALYSIS, NATIONAL PLANNING ASSOCIATION.

Chart 4

We must again take the year 1975 as our benchmark because we do not have estimates of the aspiration goals for 1980. Our judgment GNP projection for 1975 was \$980 billion. If we increase expenditures for our goals only in proportion to the rise in population and other demographic factors, we would need \$772 billion for all costs of our goals. Almost one-half of the potential increase in production would be "preempted" by demographic developments. This leaves about \$200 billion for new and improved standards. The total net costs of the aspiration goals were, however, \$355 billion in excess of the preempted benchmarks. This indicates that the demand for goods and services which make up all our aspirations would exceed by about \$150 billion the prospective ability to produce in 1975. Achievement of all aspiration goals would require a sustained average growth of production by  $5\frac{1}{2}\%$  per year. Our judgment model dem-



onstrates a realistic rate of growth of about 4%. If we cannot fulfill all our aspiration goals we have to determine priorities in deciding what combination of goals appears of greatest importance.

The fact that such a tremendous amount of work still needs to be done does not mean that it necessarily will be done. Goals that reflect our aspirations need to be transformed into active demand and potential production into actual production. Our economic potential may remain unrealized if we are not bold and imaginative enough in the pursuit of the goals that can be achieved with our vast but not unlimited resources. Here we reach the important conclusions that in order to accomplish as much of our national goals as is feasible, policies to support economic growth and increase of productivity should still be our major concern. The most effective way for expanding our capacity for achieving goals is to push ahead in pursuit of these goals.

### **Policies in Support of Economic Growth**

We emphasized at the beginning that the projections are not prophecies. The increase of total production to more than one trillion dollars and the increase in jobs to 95 million by 1980 will not come about automatically. It requires the ingenuity of industrial and farm managers, devotion of labor, and prudent government policy. The importance of government's role in support of economic growth and the creation of job opportunities has been pointed out in last year's Manpower Report to the President: "About  $\frac{4}{5}$  of all the job growth in the nonfarm sector of the American economy from 1957 to 1963 was (directly and indirectly) generated by activities and expenditures of the Federal, State, and local governments." In 1964, partly under the impact of the tax reduction, relatively more jobs were created by the expansion in the private sector of the economy. There cannot be any doubt that the creation of 25 million additional jobs

will require effective support of government programs. I cannot in this brief lecture develop a program of government policy in support of sustained economic growth.

A massive tax rate reduction was adopted in recent years—this was a ground-breaking and successful experiment in fiscal policy; a smaller excise reduction is planned for this year. Now the greatest contribution to economic growth and welfare could be made by the expansion of high priority government programs. The combined programs of the War against Poverty and for the Great Society are moves in the right direction. They require imaginative implementation and also inventiveness in new organizational methods.

We are now at the threshold of atomic energy at competitive prices. A worldwide communication industry is about to use space. Neither of these events could have taken place had it not been for large-scale government programs in research and development. Similar undertakings in developing much needed fresh water sources, in farming and mining of the oceans, and in air pollution control are getting underway. New methods of rapid transportation are in the experimental stage. In all these fields new methods of government-business cooperation are being tried out. The War against Poverty and urban renewal in addition require new forms of cooperation between the Federal Government and the State and local governments. We need ingenuity in making use of the technological possibilities of our age. We need equal ingenuity in devising methods of organization required to realize these potentialities. In a lecture series dedicated to the memory of William Jump, the pioneer in new methods of budgeting, it is appropriate to mention that these new kinds of government undertakings also require new methods of program appraisal. They should consider not only their budgetary impact but also the impact on every aspect of economic development and manpower requirements.

I believe it will become possible and desirable to reduce hours of work, to permit gifted adolescents to continue their education, to make it possible for adults of all ages to interrupt periods of work for study or retraining, and to enable aged and disabled to retire on adequate pensions. We have to adjust education and training to the requirements of the labor force, and we can and should promote increasing leisure and cultural developments which make creative use of leisure possible. What I would like to emphasize is:

1. Training must be related to an increase in job opportunities in a growing economy;

2. Increased leisure is one, but only one, of our goals which should be pursued in accord with all the other goals and with due concern for the national and international tasks.

What we do not need is a crash program for paying people for not working. What we do need is the implementation of programs which will greatly expand opportunities for suitable and useful employment. In time this will make expanded and creative leisure possible.

America in 1980—

I do not know what it will be like. It may be a huge graveyard and a contaminated pile of rubble left over from a nuclear holocaust. It may be a country of autocratic rule if serious setbacks occur in foreign policy, if internal racial tension is not mitigated, if living conditions are not improved, or if mass unemployment is permitted to develop. What we do know is that all this need not happen. We do know that America in 1980 can be a country of a high standard of living in which educational facilities and leisure for the development of human capabilities is no longer a privilege of a few, in which work is still the source of income for most adults but in which the work is done in a more pleasant atmosphere, and in which at least some strides have been made toward improving the living and transportation conditions in the cities. America in 1980, I hope, will be in the

forefront of new scientific ventures in peaceful competition with other countries. America in 1980 will, I hope, make contributions to the maintenance of peace and the advance of underdeveloped and overpopulated countries. America in 1980 will use material advances as a basis for cultural developments which offer opportunities for gradually expanding leisure activities. It will, I hope, be a country in which, even with almost 250 million population, spots will be left for solitary meditation.

This is not a prophecy, nor the description of a utopia. It is a vision of desirable and realistic goals which we should keep in mind to assure that the policy decisions of today move in the direction not only of a great but also of a good society.



## REACTION: Seymour L. Wolfbein

Dr. Colm is one of these speakers who put discussers and reactors in a lot of trouble. First of all, he actually prepared his paper; second, he even sent it to us, leaving us with absolutely no excuse whatsoever for not being prepared. To those of you who know and who have been reactors and discussers, this is a very unusual performance.

I have two comments that I would like to make. *First*, and I hope you don't consider this gratuitous, but I think it is important to point out what we have had this afternoon was a series of projections, and a look-ahead, which really doesn't go down the traditional pathway which many of us have had to walk in the years past. This is an *aspiration* budget and we certainly have needed something like this for a very long time. I consider this really a breakthrough in terms of looking ahead.

We are taught that there is a big difference between the level of living and the standard of living. The level of living is the one we are operating at now and the standard of living is the one we aspire to; and knowing that difference and discerning it makes all the difference in the world. Dr. Colm has perceived this in presenting a "standard of living" projection for the years ahead.

As you economists will know, even a great man like David Ricardo, in talking about the Iron Law of Wages, came to the last edition of his classic volume where he recognized the fact that people do save and do abstain and do aspire to a higher level of living; at that point he had to forego a lot of his conclusions.

And a lot of us have been engaged in the business of projections for a long time, being very careful to take over from well-known benchmarks, being careful to note what the population was going to be, what the American Medical Associ-

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*Dr. Wolfbein is Special Assistant to the Secretary of Labor for Economic Affairs.*

ation was saying about the projections for doctors, and what nurses were saying about projections for nurses and what somebody else was saying about machinists. Dr. Colm takes off from a different vantage point—and I must say it is high time. And I want to congratulate you, Dr. Colm, on this kind of approach. Now it wouldn't look nice if all I did was congratulate you, so let me just raise a few points and end up by asking you a question and then that will be all.

Perhaps this is obvious, but it ought to be asked and this is why I am carrying around our 1965 Manpower Report, because we raised the question then and it is very applicable. What if we do achieve this aspiration level? Who is going to consummate it? Who is going to carry it out?

We've only got 15 years 'til 1980 and you mentioned a very interesting point: 15 years can be a very long time or 15 years can be a short time. I don't know whether this is true of the audience here, and I don't know their age level but for the majority of the population of the United States, 15 years will find them, if I may coin a phrase, in the mainstream of their careers. It will make a big difference to these people and their jobs if we do or do not get the people, in numbers and quality, to carry out the projected levels of activity.

Where are you going to get all these teachers? Our Manpower Report shows that between now and 1975 alone we are going to have to hire 2¼ million teachers for the elementary and secondary schools. That is 600,000 more than all the teachers we have in America today. So who is going to provide the manpower to meet the goals of the great society or your aspiration budget? We need 100,000 more librarians, the President's Message on Education says. I suspect you support it. Do you know how many we have altogether today in the U.S.A.? Less than half of that. And you and I can go down each one of the professions and make the same point.

Now we know what happens when 1980 rolls around and we haven't got all these needed workers: People will still be doctored, they'll still be taught, and somebody will look up the catalogue and find you a book, but the *quality* will be much less. So my first question to you is: where are you going to get the people to consummate the goals you set up?

My *second* point is as follows: You know that one of the big criticisms being made about the way we are carrying out our poverty programs revolves about the utilization of some people in poverty in those very programs and asking them how it should be done. I have a suspicion that a lot of the projections that we make are (maybe yours are, too) based on typical white, middle-class aspirations. What would happen if you really asked and really discerned the standards of living and aspirations of some of the disadvantaged folks in society. I have a suspicion that if you pegged it on some of that, rather than on what we think they are, you would find that we could go way beyond even what you are projecting; and if that is the case, then I really come back to the first question. Where are we going to get the people? Where are we going to get the quality to do this? What steps do we have to take now to begin to move in the needed directions?



## REACTION: Frazier Kellogg

Dr. Colm's efforts have, as usual, resulted in an excellent and thought-provoking paper. The only disturbing element for this observer is that there is little to disagree with. This leaves me with the alternatives of either sitting down or using Dr. Colm's paper as a point of departure for some of my own thoughts. I choose the latter.

One way of answering the question of who will do man's work in 1980 is to cite a recent cartoon which portrayed two men in primitive attire. One, the inventor, was admiring his invention—the wheel. The other, a suspicious sort, confronted the inventor with a query about what people were going to do with all the leisure time made available by the invention.

It is very difficult for me to take seriously the threat of machines doing most of man's work in 1980. In the first place, man isn't now doing much of the work he is capable of and which desperately needs doing. Aside from considering those kinds of work or efforts which lie beyond that which is currently acceptable as remunerative by current standards, there is a fantastically large backlog of unmet human needs and the work to meet them is acceptable as remunerative by current standards. Moreover, I'm convinced that it will be difficult for men to do that work well unless new technologies are brought to bear on those needs. Improved technologies are a key element in filling the gap between Dr. Colm's target projection and aspiration goals.

I'd like to spend a moment exploring the potential of one particular set of technologies in this context. I'm particularly impressed with the potential application of the new information technologies to the improvement and extension of the educational system. Indeed, people have already begun to

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*Mr. Kellogg is Deputy Executive Secretary, National Committee on Technology, Automation, and Economic Progress.*

conceptualize a broadly based system of continuous education in the U. S.: this is the beginning of an "aspiration goal." There are several ways in which the new information technologies might help effect such a system. It has been known for a long time that individuals have different patterns of learning and absorbing information. The increased ability to mechanically store and manipulate vast quantities of information taken in conjunction with a variety of new ways to present information suggests that more individualized learning patterns can be accommodated. Moreover, today's teacher spends most of his time just disseminating information. Hopefully, the new technologies could absorb most of that chore and free the teacher to become involved with more students on a person-to-person basis. The new information technologies might also be useful in making it easier to remedy incomplete and/or obsolesced educations in comparatively short periods of time by today's standards. In summary, the employment of these new technologies will add considerably to our educational capacity in both qualitative and quantitative terms. Even with such improvements, however, there would probably still be a shortage of teachers unless salaries for their services were raised considerably compared to other professions.

The last few years have witnessed an increase in the interest and energy of the Federal Government in setting up aspiration-type goals. Education appropriations have increased sharply, the War on Poverty is on its way, task forces to develop plans for building the Great Society have begun to operate, and Dr. Colm's organization is busy costing out the programs set forth by the Eisenhower Commission on National Goals. All of this will add considerably to the responsibilities of government at all levels, and the complexities and volume of information involved for legislating and managing programs will demand faster and more rationally based public decisions. Here again the new information tech-

nologies and systems analysis capabilities offer hope in helping make government more responsive and effective in recognizing and dealing with public needs.

I think a more proper statement of the question is not who will do the work in 1980, but what will man's work be in 1980? The evidence suggests that we have already made a start at deciding just that, and a good deal of the new work will be labor intensive.



## JOSEPH L. FISHER

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## HANS H. LANDSBERG

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## RESOURCES IN 1980

Joseph L. Fisher and Hans H. Landsberg

Those who make a specialty of projecting the future frequently prefer looking far ahead, even to the year 2000, partly because there is safety in distance. By the time to which the projections extend arrives, people will have forgotten what was said even if those who made the projections are on the scene to review their own figures. When several of us at Resources for the Future prepared our book on *Resources in America's Future* a couple of years ago, we found some comfort in the thought that 1980, as well as 2000, was so far off in the future that we would never be held to account. But as the two authors of this lecture reflected on *Resources in 1980*, it swept over us that 1980 is no farther ahead of us than 1950 is behind us, and 1950 seems only yesterday. Parenthetically, we wonder if these same thoughts would be running through the head of George Orwell if he were alive today, or through the heads of those of you who may have read Orwell's *1984* when it was published 16 years ago.

What has happened, we suppose, is that the projectors—be they economists, demographers, engineers, or whatnot—have stretched the time horizon ahead so convincingly that large numbers of important people now make their plans and decisions in the light of the results. The projectors have created economic frameworks for the future which have proved helpful in government and business policy. What may have started as an academic exercise has turned out to be



of great practical use, even to the extent that under the general direction of Gerhard Colm, last week's speaker in this series, the National Planning Association now provides long- as well as short-range projections as a service to business, governmental, and other subscribers. 1980 is truly only tomorrow; we shall be there before we know it.

We could cite more evidence to prove that long-range projections have become essential to the conduct of American business and government. In the United States Department of Agriculture that would be unnecessary. But business leaders also have come to recognize the need for systematic long-term projections of the aggregates of the economy as well as the subaggregates of interest to them. One business leader who took part in the recent CBS television series on the American economy said in effect that the principal job of top management was to take a long-range and comprehensive view of the economy in general and those parts affecting the business firm in particular. Only in this way, he said, can business leaders provide effective policy guidance for their firms.

Our concern in this paper will be for natural resources in 1980. What are the likely demands for resource products going to be 15 years from now with a growing population, an expanding economy, and changing ideas as to what will make up the Great Society? And how may these demands be met most effectively from existing sources, from new discoveries, from cheaper substitutes, from more imports, or whatever? Moving on from this demand-supply picture of 1980 we shall consider briefly the critical factors in the conservation, development, and use of natural resources during the period to 1980 if demands and supply are to be evened out in a satisfactory way.<sup>1</sup>

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<sup>1</sup>The projections, statistics, and methodology in this paper are, for the most part, based on: Hans H. Landsberg, Leonard L. Fischman, and Joseph L. Fisher, *Resources in America's Future* (Baltimore. The Johns Hopkins Press for Resources for the Future, Inc., 1963).

## A Framework for Resource Projections

A framework for economic growth and resource development is provided in table 1 which shows the size of the U.S. economy for the three chosen years 1950, 1965, and 1980 (the latter at three levels: low, medium, and high). These projections to 1980 are more or less consistent with those presented by Colm, although his somewhat higher rate of growth would fall above the medium projection shown here. His set of estimates which assume no improvement in quality of service and allow only for the increase in population would fall near the low estimates for 1980. His "aspiration goals" would be noticeably above the high level indicated here, largely, we suspect, because our "high" reflects a feasible development, albeit less likely than the "medium," whereas Colm's "aspiration goals" represent the sum of individual aspiration goals, an outcome he considers above what is feasible. In terms of annual GNP growth per year, his "as-

Table 1. Size of the U. S. economy, 1950, 1965, and projected 1980

	1950 (actual)	1965 (est.)	Levels of demand <sup>1</sup>	1980 (projected)
Population (millions) . . . . .	152	195	L	226
			M	245
			H	279
Labor force (millions) . . . . .	65	78	L	98
			M	102
			H	109
Output per worker (thousand 1960 dollars) . . . . .	5.6	7.9	L	9.8
			M	10.4
			H	11.5
GNP (billion 1960 dollars) . . . . .	363	617	L	965
			M	1,060
			H	1,250

<sup>1</sup> L = Low, M = Medium, H = High.

Source for 1950 and 1980: Hans H. Landsberg, Leonard L. Fischman, and Joseph L. Fisher, *Resources in America's Future* (Baltimore. The Johns Hopkins Press for Resources for the Future, Inc., 1963).

piration" rate would be 5½ percent as compared to about 4½ percent in the high-level estimates here.

The projections of table 1 have been worked out in the conventional way. Population estimates (up 25 percent from 1965 to 1980) are based on likely birth, death, and migration rates. The labor force for 1980 (up 31 percent) has already been born so that the range from low to high can be much more narrow than in the case of population. The proportion of persons in the working age groups that will actually be in the labor force may increase slightly as more women want to have jobs, although this may be offset somewhat by a further prolongation of schooling and earlier retirement for older people. The weekly hours of work in nonagricultural employment are assumed to diminish slowly so that by 1980 the average work week would be about 38 hours. Output (GNP) per worker, or productivity, (up 32 percent) is assumed to increase at about 2 percent per year for the middle estimate. This will require continued applications of capital for replacement and for new purposes, although the capital-output ratio may continue to drift downward slightly. Imbedded in the productivity increase are improvements in technology, education and training, management, and other factors.

Putting all of these together one arrives at a GNP for 1980 of \$1,060 million (up 72 percent), with a possible range extending from \$965 million to \$1,250 million, all in 1960 dollars. Altering any one of the ingredients would of course change the projected GNP. The factors most difficult to estimate are the productivity rate and the employment-unemployment rate. If unemployment could be reduced from 4% of the labor force as assumed in the projections to 3%, there could be one million more people at work in 1980 due entirely to this fact. This would be the equivalent of something more than 10 billion dollars in output. An increase in projected growth of productivity of seemingly small absolute



dimension, such as an additional half of one percent per year, would cumulate to about a 10-percent increase over a 15-year period.

The purpose of casting up these aggregative projections is to establish a framework which serves as a general constraint on requirements for a variety of intermediate raw materials and natural resources and at the same time provides a useful starting point or benchmark for testing policies and decisions. In each instance these specific requirements—for agricultural products, metals, chemicals, fuels, etc.—are consistent with the aggregative projections, and are related to historical trends for the specific products themselves.

In projecting the 1980 requirements for these “intermediates,” we have taken into account the shifts in demand among products arising out of anticipated technological changes and shifts in what people want. Chart 1 shows the outcome of such calculations in terms of projections of the Federal Reserve Board industrial production index. No provision, however, has been made for changes in relative prices among various products. That is to say, no allowance is made for the increase in price that would result from an increase of demand unrequited by an increase in supply. Obviously this is a major abstraction from what actually would happen, but it has the advantage of allowing a gap between demand and supply to open up over a period of years, although one knows that in actuality any such gap would be closed through the operation of the price system.

The requirements for so-called intermediate resource commodities have been relayed back to the basic natural resources of land, timber, water, energy, and other mineral substances. Some of these are indicated in table 2. At this third level the range from low to high tends to narrow somewhat as the demands for a relatively few basic resources converge from the wide range of intermediate or derived products. Thus, the demands for wheat, cotton, feed grains, and

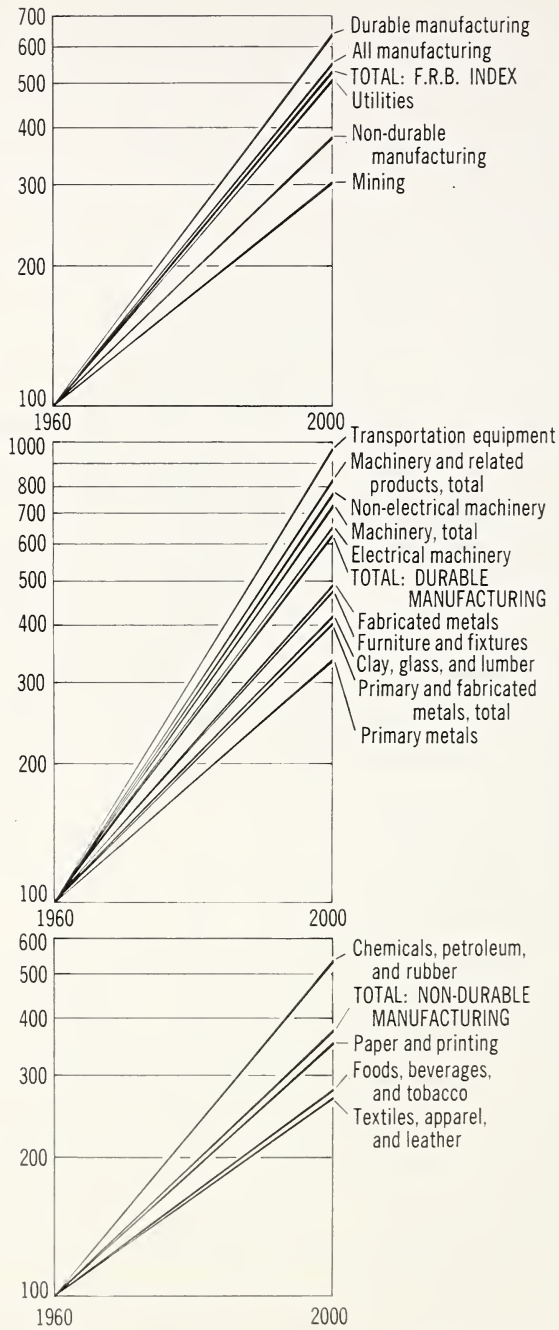


Chart 1. Rising industrial production.



Table 2. Requirements for selected natural resources, 1950, 1960, and projected 1980

	1950	1960	1980
Cropland, including pasture (million acres) . . .	478	447	443
Recreation land, excluding reservoir areas and city parks (million acres) . . . . .	42	44	76
Urban land, including city parks (million acres).	17	21	32
Timber (billion cubic feet) . . . . .	12	12	19
Fresh water withdrawal depletions (billion gallons per day):			
East . . . . .	10.7 <sup>1</sup>	13.7	24.3
West . . . . .	50.3 <sup>1</sup>	59.7	68.7
Pacific Northwest . . . . .	9.4 <sup>1</sup>	11.1	13.5
Oil (billion barrels) . . . . .	2.3	3.2	5.3
Natural gas, excluding natural gas liquid (trillion cubic feet) . . . . .	6.8	12.9	23.5
Coal (million short tons) . . . . .	523	436	630
Iron ore (million short tons) . . . . .	117	131	209
Aluminum, primary (million short tons) . . . . .	1.0	2.1	5.7
Copper, primary (million short tons) . . . . .	1.7	1.7	2.6

<sup>1</sup> 1954.

Source: Hans H. Landsberg, Leonard L. Fischman, Joseph L. Fisher, *Resources in America's Future* (Baltimore: The Johns Hopkins Press for Resources for the Future, Inc., 1963).

other agricultural crops—among which there can be large shifts and substitutions—cumulate and converge onto the demand for agricultural land itself. This whole system of requirement estimates, beginning with the aggregative projections of the economy and working through intermediate products to the basic natural resources, makes up a comprehensive and interrelated framework in terms of which business and governmental policies can be considered and hopefully made more effective and more consistent one with another.

At this point let us rapidly scan a few of the conclusions for some selected resources that this type of approach suggests.

## Land Use Problems

By 1980 our projections cast up substantial increases in the demand for products of the land, especially for livestock feed and forest products. These would be met from substantially the same amount of land in crops, grazing, and forests as is now devoted to those purposes. This magic is done the same way this country has been doing it for the past several decades; mainly, by increased application of fertilizers, machinery, electric power, better seeds, improved cultivation practices, more skillful management, more efficient marketing, and all the rest. Nor are violent assumptions needed. A 1980 wheat yield of 31 bushels per acre, a corn yield of 80 bushels, and a hay yield of 2.3 tons begins to look less formidable as the years pass.

Of the major categories of land use, the demands for recreation land and for urban land are growing most rapidly. These reflect growing population, higher incomes, the increased attractiveness of urban areas for permanent living and outdoor areas for recreation, and other related economic and social factors. In the case of outdoor recreation there are limits as to how many people can find satisfactory recreation on given tracts of land at the same time. There is such a thing as the carrying capacity of land and water areas for outdoor recreation although its precise characteristics and levels of toleration are not sufficiently understood. One of the challenges of the future here, as in urban land, is to increase carrying capacity through more skillful design and planning. Fortunately to some considerable extent the recreation land requirement can be met by laying this type of use on top of forestry, grazing, or other land use through programs for multiple purpose development and management. This safety valve does not exist to the same extent in the case of urban land although even here the benefits from more skillful planning can be large. If 150,000 acres of nonurban land

have to be given up for every million increase in the population, then nearly 8 million acres will undergo this use shift between now and 1980. It will be important that city growth be directed into those areas of less value for agriculture and other purposes, to the extent possible.

### The Outlook For Water

Much has been written about the impending crisis in water in this country. Actually it seems to be more a crisis in terms of sudden widespread awareness that water is no longer a free good than of an actual threat of widespread water shortage. In fact, this country has reached a point in its history when water will have to be conserved and managed like other economic goods. Large investments will be required if mounting demands are to be met, and much more systematic schemes of management for whole river systems will have to be devised and applied. In the East fresh water withdrawal depletions (that is, water taken from lakes and streams and actually used up) will rise some 50–60 percent in the next 15 years, but this does not unveil the real problem which is one of handling satisfactorily the tendency for pollution in various forms to increase. Industrial wastes, municipal sewage, soil washed from the land, and other forms of water deterioration have reached a point such that, in conjunction with population and industrial growth, the subject has taken on a dramatic and urgent character. The connection between water pollution and outdoor recreation is important: a large portion of the need for dam and reservoir construction in the eastern part of the country arises out of the desire for more and more people to make use of streams for recreational purposes. Water storage is one way of augmenting low flows and flushing pollutants down the rivers and into the bays. Storage may also be needed to pre-



serve the scenic and amenity qualities of streams; at the same time it may destroy land values in the submerged tracts. Thus careful weighing of relative merits and demerits will increasingly be called for.

In the West, as always, the problem can be seen more in quantitative terms. Economic development in certain more arid parts does appear to be severely limited by available water supplies, but even here there is more flexibility than many suppose. Over most of the West more than 90% of the fresh water supply that is depleted is used up in irrigation agriculture, frequently in the production of crops already in surplus. The use of any newly developed water supplies for industrial, municipal, and recreational purposes, instead of agriculture, could support a considerable further population and industrial growth. In the same manner any shift in present water use away from irrigation and toward these other uses would have the same effect. Here one encounters legal and institutional problems of considerable dimension, but the press of economic growth forces must surely result in some transfer of water use in this direction.

The most constructive way of looking at water problems in this country is in terms of the analysis of whole river systems, looking to the finding of optimum management and use patterns. This approach, difficult at best, is further complicated by the prevalence of side effects: that is, the use of one part of the stream typically has important effects on downstream users which do not enter the calculations of the upstream user. A thoroughly systematic approach to the management of a river system would have to take all of the significant effects into account, upstream and downstream, plus those that can be brought within the decision of individual business and governmental units as well as those of more general effect. We run here into problems of extreme difficulty involving a number of private and public planning and decision groups.



## Growing Diversity of Energy Sources

The story of meeting our future demands for energy is a fascinating one and perhaps justifies more attention here because it may be less familiar to this audience. One might start out by saying that if the future growth and well-being of this country were a direct function of the availability of energy at no more than current costs, and of an increased variety of sources, then he could indeed afford to sit back in the assurance that matters were well in hand. Put differently, for the period that we are here considering, availability of energy supplies will not represent a brake on growth. Technology has served us well. Not only have we learned to be more efficient in the use of energy, so that a given rate of growth in GNP is accompanied by a relatively smaller growth in energy requirements—a condition that was not true during earlier periods in our history—but we have also immeasurably enlarged the depth and width of the field from which we draw our energy supplies (chart 2). One might say that this has been true for some time and need not be especially emphasized in the year 1965. Variety was increased as we went from fuelwood to coal and from coal to oil and gas. Abundance was increased when we learned to locate oil and gas fields and to drain reservoirs of an everincreasing portion of their content. But there are new items on the agenda that radically change the order of magnitude. Where in the past we may have thought in terms of increments, we must now speak of new dimensions. And in addition, wonder of wonders, we have a strong revival of a fuel that not so long ago seemed to be on its way out, following fuelwood into oblivion.

To take up the last point first, coal, of which this country has vast reserves, has been making a remarkable comeback. The fact that it has for all practical purposes lost all but two markets—electric power generation and the metallurgical industry—undoubtedly makes it more vulnerable to technological change in those industries as well as to fluctuating

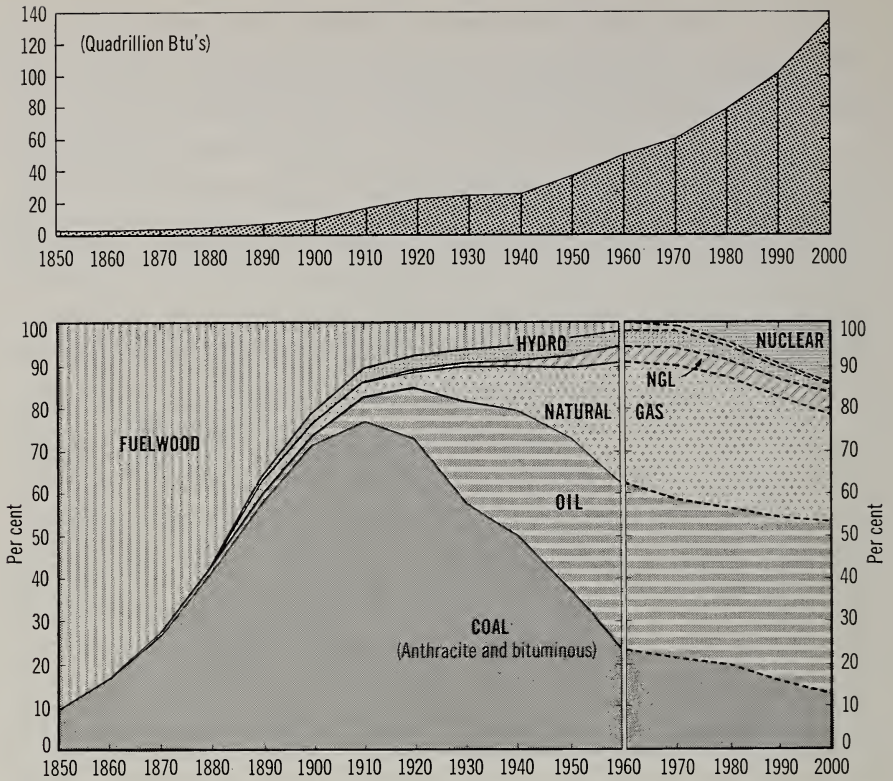


Chart 2. Past and projected energy use: rising total consumption and a shifting pattern of supply.

business conditions, but by tying itself to the fast rising fortunes of the electric power industry it has hitched on to a mass market that not only promises continuing growth but has stimulated new vigor in the field of coal technology. Coming up squarely against competing fuels and in danger of losing its most promising use, it has suddenly found ample scope for new technology, not only in mining but in transportation and handling generally.

As for new sources, nuclear energy clearly is most important, even though we still have very few operating plants from which to extrapolate into the future. Even those who are reluctant to predict the rate of entry of nuclear-generated electricity into the economy, have little doubt that we are fast

approaching, if we have not already reached, the threshold at which a nuclear plant represents a realistic alternative, in many parts of the country, to the utility that wishes to expand its facilities. The practical impact by 1980, given the time lag between design and operation, as well as the still fluid state of technology, is likely to be small, certainly less than 20 percent of generating capacity and perhaps not more than 10. The important point to make is that by 1980 we shall be in possession of operating data on a good many nuclear power reactors and have removed many if not most of the problems that now plague the appearance of every new proposal, whether in New York City or Bodega Bay in California. There is even a good chance that by 1980 a commercially viable breeder reactor may have been developed, and with that step we shall indeed enter into a new dimension of energy adequacy.

Finally, in the years between now and 1980 we should learn a great deal about the economic exploitation of our own oil shale resources and the oil sand resources of Canada. The latter is well on its way with a plant now being erected and scheduled to begin operations in 1967. According to the Canadian authorities, it is only the need for phasing-in this new, superabundant source of oil that limits installations to one plant at a time, where, on technical and economic grounds, there might be many. Our own country faces a similar problem in the future utilization of the oil contained in the shale deposits in three of our western states. While the technical problem appears somewhat more difficult than in the case of the Canadian sands, one might nonetheless be justified in saying that by 1980 we shall have found the means of extracting the oil at a competitive price and that the problem will then be how to produce without throwing the entire energy industry, or at least the liquid fuel industry, into turmoil and disorganization. Beyond all of these possibilities, foreign sources of oil which are considerably cheaper than



conventional sources within this country, can continue to be drawn on. About 20 percent of total crude oil and refined products consumed in this country is now imported, and more would come in if it were not for the quotas. The year 1980 may also see imports of natural gas, liquified and shipped under pressure in specially designed ships.

Within this broad panorama we shall also see a fierce competition for each piece of the energy market between the traditional competing sources. While it is likely that even by 1980 our motor vehicles will still run on gasoline, it is not as likely that as many of our homes will be heated by gas and oil. Undoubtedly electricity is going to make substantial inroads, and with these inroads will come a further spread of other electric appliances, above all air conditioning, which by 1980 might have reached the status of a routine rather than a luxury accessory. Altogether, the highly competitive situation in the energy field that is bound to prevail in the next decade or two cannot but benefit the final consumer. At the same time, governmental decisions, at various levels of the hierarchy, will be needed to reconcile, direct, and protect in the public interest. Something more nearly approaching a national energy policy, or interrelated set of policies may be useful.

### Technology and Minerals

The key characteristics then in energy are more efficient use by the consumer, more efficient exploitation of what is known to exist, greater skill in discovery, and wider substitutability. The same elements are present in minerals other than fuels. Examples are numerous. Thinner wall steel pipes or less tin per ton of tinplate betoken an increased efficiency in use. Ability to work copper deposits that contain only 15 pounds, or less, of copper per ton of ore rather than four or five times that much as in earlier times, or to handle



bauxite with decreasing content of aluminum and increasing content of silica, are examples of how the economic limits of ore materials are being pushed back. Discoveries of major deposits through methods other than identifying a surface outcrop of the mineral itself and following the vein or body of ore into the ground are numerous. Geophysics, geochemistry, botany, and other branches of the natural sciences have been put into the service of prospecting, as have new techniques of air-borne exploration. At the same time our basic geological knowledge of the earth's crust is increasing. And finally, the possibilities for substitution have grown vastly and are going to grow further still. There are the inroads of one metal upon another such as the encroachment of aluminum upon steel, a phenomenon in which we are probably just at the beginning. And there is also the encroachment of nonmetallic materials upon metals, such as the continuing expansion of synthetic materials, which are rooted primarily in gas and petroleum hydrocarbons.

What the resource mix in 1980 will be is especially hard to tell because small differences in price will swing consumption from one raw material to another. But price in itself, that is price per pound or per cubic foot, is not in itself a sure indicator, so that even if one could evolve quite sophisticated calculations, one would still not be able to account for all elements in the likely preferences of consumers. A material may be cheaper per unit of weight, but it may be more costly to fabricate, more costly to maintain, more difficult to work in combination with other substances, or have a host of other characteristics that affect its use as much as does its price, if not more so.

In this context even a 15-year span is a long time, particularly when we consider the rapidly evolving world of the petrochemicals or the chemicals in general. It is therefore more interesting to look at a few key materials such as iron

and aluminum. Transposing oneself back 15 or 20 years and assuming that one had known then what one knows now about the technology of utilizing the low-grade deposits of taconites and similar materials in the Mesabi and neighboring ranges, one might well doubt that the great worldwide search for high-grade iron ore that netted the world large deposits of high-grade iron ore in Canada and Venezuela and along the West African coast would have taken place, or would have taken place under United States leadership. Especially since last November when the voters of Minnesota approved a referendum which creates a favorable tax situation for iron ore production, the outlook for domestic availability of iron ore has become a very encouraging one. True, by 1980 we shall probably continue to draw a substantial percentage of iron ore from imports, since investments have been made that will not be easily abandoned. In addition, there still exists a slight cost advantage over domestic materials. But, and this is the important point, this cost advantage has been shrinking radically, or putting it differently, the penalty of going from imported to domestic material has lost much of its impact. Furthermore, there is good reason to assume that between now and 1980 the technology of utilizing nonmagnetic iron ore, of which there are billions of tons in this country, may have been successfully developed.

The prospect is not very different in the case of aluminum. Bauxite is so abundantly available abroad that there has been no great pressure to develop domestic substitutes. Nonetheless, enough work has been done and published to indicate that the penalty of going from imported high-grade bauxite to inferior locally available materials—and available in vast quantities—would not be frightening. By that is meant that after some initial friction the price of aluminum ingots might increase by no more than 10 percent or so. We might add parenthetically that the greater ease of substitut-

ability of domestic materials carries some important implications for commercial policy, foreign aid, etc.

There is no time to run through each of the other important metals, or even nonmetals, that are used as materials in our industrial society. But you might well come back at us at once and say that the few comments made on the outlook for iron or aluminum are not at all typical. You may object that for such materials as lead and zinc, not to mention manganese, chromium, or nickel, the grounds for cheerfulness are substantially reduced if not entirely eliminated. To this there are two answers. The first is that we must in any event widen the horizon to include materials available outside the United States. This of course complicates the quantitative analysis, sometimes to the point of making it nothing more than a vague order of magnitude. But even that, one comes to learn, is better than a hunch, an impression, or an analogy.

The second answer, however, lies in quite a different field. Here we come back to substitution. For example, there are very few applications of zinc in the standard automobile, which could not be filled, at a small cost in the short run and probably none at all in the long run, by other materials, such as aluminum or various types of synthetics. One need not look very far back to find that the use of lead as a cable covering material has given way to plastics, eliminating an important use. Again not so long ago, lead was thought of as the only shielding device for nuclear reactors. Large tonnages were anticipated for this application. But technology turned up other materials as preferable. On the other hand, there is nothing in sight right now that could take the place of lead in the automotive battery, at least nothing at a comparable price.

What we are leading up to is that materials do not "run out" for all applications at once. They do run out for the marginal use, and the marginal use is precisely the one for



which a satisfactory substitute can be found as the cost of the original material goes up. One comes back here to what was said in the very beginning regarding the projection techniques and their special characteristics. In retrospect supply always equals demand because price adjusts the one to the other, eliminating those "requirers" which cannot make the grade. Thus, in our projections when we find "shortages" in the future, we know two things: (1) that we have identified a potential trouble spot for *some* consumers; and (2) that, barring any change in any of the concomitant assumptions, the price of that particular material will rise relative to all other prices. You might look at it this way: a material's pricing itself out of the market is not by definition a calamitous event. There is merit, however, in one's ability to raise his sights high enough to be aware of this contingency well ahead of time.

### A Summary Outlook for Adequacy

This sketch of resources in 1980 could be further developed with detail as to particular resource materials, but the main outlines have already been made visible. The United States is not likely to run out of essential raw materials by 1980. Basic agricultural crops are more likely to remain in surplus supply. Fresh water should be available to meet essential needs provided larger investments and more careful management are applied systematically to the development of whole river systems. Energy supplies from a variety of sources, including the atom, promise not only adequacy but quite possibly a noticeable reduction in cost. For the basic metals of iron and aluminum plentiful sources overseas plus increasing reliance on lower grade domestic sources made possible by technological advances would seem to be sufficient to contain any problem of shortage through 1980 and without a doubt well beyond that. For some of the



other metals there could be supply difficulty despite a further reaching into low-grade ores and despite technological improvements in mining, processing, and fabricating. In these instances substitutes will have to be sought, frequently from among the nonmetallic materials such as plastics, glass, paper products, and ceramic materials. In this connection it is useful to point out that diversion into the raw materials stream absorbs only a very small portion of all oil and gas and that even rapid growth of petrochemicals in the decades to come will not alter this condition significantly.

Across the board in resources, further economies in the use of materials can be expected as thicknesses, weights, and other characteristics are altered without sacrifice in the quality of final products. Another slightly different way of putting it is to say that conservation of resources and materials can yield further protection against any running out, or even serious increase in cost. This means conservation of the basic resources of land, water, and minerals themselves; it means also conservation at all essential stages in processing and transportation of materials; it means finally conservation in use by industries and individuals.

This is not to say, of course, that certain materials may not run short temporarily, or give difficulty in particular places or particular times. Examples of shortages of this kind undoubtedly will occur in the next 15 years as they have in the last 15. One may mention, among others, the likely difficulty in obtaining enough land and water for outdoor recreation suitably located near major population centers. In addition, certain metals may give this kind of trouble before imports, substitutes, new discoveries, and the like can come to the rescue. Or political disturbance, most likely temporarily, may upset the flow of international trade. It is possible also that 15 years from now we may see more clearly a difficulty in the supply of forest products, probably

not at that time but for a period 15 years beyond that. Today, the outlook has to be quite conjectural.

### Issues and Policies

Moving on from these summary remarks, what seem to be the critical factors on which the adequacy of resources in 1980 will turn? Several may be mentioned briefly in concluding this paper. First, technology and its adaptation in industry will be the hinge on which many questions of shortage or surplus will turn. Examples of the importance of maintaining and expanding technology are strewn throughout this paper; it remains only to say here that any slackening of technological advance will have quick and adverse repercussions on the resource sectors. Underlying technological advance is the educational system as a whole, both in its quality and in terms of the number of students trained, from the graduate schools and the technical institutes back through the secondary and elementary schools.

Second, the quality of industrial and resource management will be decisive for the resource outlook to 1980. In many instances this will mean management of whole systems of resources such as the land and water in a river basin, or a forest which can yield significant recreational, watershed, and other benefits in addition to forest products. In other instances it will mean the establishment of guidelines in allocating research and development funds, as for example in energy, and policy formation not in separate compartments—one for gas, one for oil, one for the atom, etc.—but in some comprehensive framework.

Third, the resource prospects for 1980 will depend in considerable measure on the maintenance and, if possible, extension of the foreign trade and, where appropriate and meaningful, overseas investments of this country in energy, metals, forest products, agricultural crops, and other resource materials. We have pointed out already the signifi-

cance of overseas sources of oil and some metals, and we have alluded to the dependence of American agriculture on large export markets for half or more of such crops as wheat and cotton. A viable and growing world economy will be important in the United States economy; it will be even more important for political and social problems that beset the world. At the same time, it is well to realize that in many respects technological advance by providing substitution possibilities has been reducing the penalties this country would have to pay for drawing to a larger degree on its own resources. Thus what is enlightened self-interest might become harder to discover.

Much has been written about the population explosion. The population of the United States in recent years has been growing at slightly more than one and a half percent a year, which would mean an increase of more than a quarter by 1980. This is a rapid growth, but it has been taken into account in the preceding discussion of both demand for natural resources and their supply. In other parts of the world—in much of Asia, Africa, and Latin America—the increase in population is considerably greater, in some cases more than double the United States rate. In such places the increase in production of useful resource materials is hardly keeping pace with the growth in the number of people. No such comforting set of conclusions for 1980 as can be offered for the United States can be offered for two-thirds of the population of the world living in densely populated and economically underdeveloped areas. And even in the United States population cannot go on increasing forever. But there is time here for institutional and behavioral changes to intervene before people are crowded off the earth.

Finally, to sum up, the importance of far sighted, internally consistent, and carefully designed public policy regarding resource development can hardly be overestimated. No prescription will be offered here, although some of the

outlines of improved resource policies for the future are implied in our discussion. Policies which aim to speed and diversify technological advance, extend good management more broadly to the resource sectors, and encourage international trade and investment are important. A better integration of the various elements in resource policy itself can contribute vitally toward making certain that the favorable prospects for resources in 1980, as sketched here, will be realized.



## REACTION: Ronald R. Renne

Dr. Fisher's paper and his discussion are very reassuring. It's nice to know that he feels optimistic about the future and believes that in no particular area of strategic importance, whether it be land or water, or energy fuels, or metals, are we likely to be in a position in these next 15 years to experience sufficient shortage to really slow down significantly the economic growth or development of the Nation.

I am sure we all appreciate, of course, that physical availability of resources is one thing, and economic availability quite something else. Dr. Fisher certainly has emphasized that in his paper. It will require imaginative, effective, continuing planning and research. We all appreciate how much water we have in absolute amounts. There are oceans of water, literally, and three-fourths of our planet is covered with water. But only 3 percent of this water is fresh (not salty) and some four-fifths of this 3 percent is locked up in ice and snow masses in the Antarctic and Greenland and the Arctic. Our problem is to get water of the right quality, in the needed amounts, in the right place, at the right time.

Many scientists have said that we will need a doubling of our fresh water supplies by 1980 over those of 1965. We will need to consider various methods and costs of reclaiming and reuse of water. We are experimenting with desalination techniques and trying to make a major breakthrough below costs of about a dollar per thousand gallons of water. If we can get costs down to 20 to 35 cents a thousand gallons, it will become useful and competitive for certain uses in certain areas. Some think a combining of the production of fresh water with the production of electric power in the salt water to steam to condensed water process, using atomic energy, may bring a sizeable reduction in costs. The electric power would be generated by the steam, and the fresh water would result from

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condensation of the steam. But there are many unsolved problems, indicating need for more research.

I think it is especially important this afternoon for us to take account of the fact that in the case of this one natural resource—water—we could triple our proposed research effort and still be far below what is being spent for research in many other industries, such as the automotive industry, the electricity and communications industry, and others of our modern industries. We are spending today less than 1 percent of our investment in water facilities annually for water research. Currently, the Federal Government is spending about 75 million dollars annually on water research. If we take the low figure of some 10-billion-dollars-a-year investment in water facilities, 100 million dollars would be only 1 percent, and this compares with many other enterprise expenditures on research and development as high as 12 to 15 percent. If we were to spend 3 percent, we would still be below the average of our more significant and important industries by a great deal.

And so I say, Dr. Fisher, that perhaps it is not too early to begin more effective planning, creative leadership, and appropriations to get more and more scientists to work on these very perplexing problems. I am mentioning water just as an example. We tend to be cautious and think that not much can happen in 15 years, but we may do certain things or fail to do certain things during this 15-year period that may have a significant influence in determining the state of affairs in the 15 years that follow, that is, from 1980 to 1995 or 2000. And so I think one has to look now not just at 1980, but at some of the things we should be doing between now and 1980 that will influence so importantly the conditions that will prevail for the 15-year period after 1980.

## REACTION: Harry A. Steele

I would like to make a comment on the projection of land requirements in case some people in the Department of Agriculture may get too much comfort out of Dr. Fisher's figures. Our Land and Water Policy Committee has been giving this very careful consideration. Based on the best data and judgment that we can put together, we feel that the situation in 1980 won't be quite as easy as Dr. Fisher's figures indicated. In fact, we think that it won't be much different from right now, as we have some 40 to 50 million acres of average cropland held out of production in various Government programs. This problem has other dimensions. Out of our 2.3 billion acres of land in the United States, we have about 800 million acres that might be considered potential cropland. About 640 million acres of this is fairly good and some is marginal. We think that, perhaps, as much as 600 million acres of this could be developed for crops at a cost and at the expense of other uses. This would be about 200 million acres more than we are using now, so the Department of Agriculture programs have to be designed with an eye to this potential because any adjustment program that makes it profitable to develop land will defeat itself. So we have several problems in managing this resource.

I might mention a couple of points on water. In relation to the future use of water, if we examine the total water supplies measured by precipitation, we find that about 70 percent of it is used on watershed lands either for evaporation or transpiration through the plants. A good bit of this is wasted on vegetation of uneconomic value, although it may have some scenic or wildlife value. A small breakthrough in the management of watershed lands, which would increase usable water supplies or the efficiency with which water is used, would have great significance to the rest of the econ-

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omy, particularly in water-short areas. The same is true with irrigation agriculture. About 90 percent of the total consumptive use of water is accounted for by irrigation; here, again, a small gain in efficiency could result in water saving of great benefit to other parts of the economy.

Now I would like to make one further comment and, perhaps, turn it into a question. It would seem to me that the secret of the optimism that Dr. Fisher had on balancing requirements and potentials in his paper was the projection of improved management of our resources. He did not develop this idea very fully. The pattern of land use, the relationship of various conflicting uses, and the incompatible uses, side by side, are causing trouble. The suburban sprawl and the conflicts that are happening as urban people move out into the countryside or as recreation use increases may be more important problems in the next 15 years than the total balance of the requirements for and the output of our resources which, with our prediction of technology, seems to be adequate. In the water field, we have had a Senate Select Committee study which resulted in a whole series of legislative proposals—a Water Research Planning Act, which Dr. Renne administers; a Water Resources Planning Act, which has been passed by the Senate and is now before the House; a whole series of comprehensive river basin planning studies are under way—and we are taking major steps to solve our water problem. Also, we have a Public Land Review Commission, which is looking at the legislation and policies for management and administration of public lands. But I would submit that we don't have anything in the field of land policies for either rural or urban private lands that are comparable to this. It seems to me that here is an area where we have a lot of scattered, isolated efforts, unrelated efforts, uncoordinated efforts under way, but we have no real united national effort to look at this problem and to devise solutions.



Solutions might include the national interests and state, county, district, city, and local interests, and should be directed toward the multiple goals and purposes that society wants from our land resource. I think I would like to have some comments on this suggestion.



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## QUALITY OF LIFE IN 1980

Paul N. Ylvisaker

Legend has it that a printer's devil one year found himself alone at press time with the *Farmers' Almanac* set up with all weather predictions complete except for July 4. Somehow, the editors had left the forecast for that day blank. So with heroic abandon, the young apprentice cast up a prediction for "Snow, rain, sleet and hail." And that year, in one hapless section of North Dakota, the heavens obliged; and a lucky devil was made into an honest man.

After a month of brooding about today's assignment, my sympathies are with that daring young man. But I don't have his courage, and I doubt if I'd have his luck. Today, you'll have to be satisfied with a less colorful escape from an impossible predicament.

For no one can speak definitively about the quality of American life—neither as it is now nor surely as it might be 15 years hence. Quality involves taste and perception; and where these are concerned, the Romans told us long ago you can't expect final answers or agreement.

But if you'll be satisfied with less, I'll make a stab at the questions before us.

Which are: granted that the America of 1980 will be bigger by just about every statistical index we measure it with, will life in America be any better? Or really any different?

You can find hints and fragments of answers to these questions of quality by consulting the statistical oracles of

our society and the numbers they preside over. The advancement of their art of projection is itself one of the emerging and significant features of American life. Within the last generation, we have changed from a society which regarded the future as a mystery at once so distant and so impenetrable that it fell more under the bailiwick of the gods than of men. Attempts to sift it through scientifically and with an eye toward rational control were met—especially in government—with corresponding skepticism and moral outrage. In this hall, I need only mention the fate of the Land Use Planning movement and the demise of the National Resources Planning Board in 1943.

Compare those times with today. The pace of change has so accelerated, that any present moment is 50% future. Long-range planning has by necessity become a working unit in any public or private organization worthy of its salt. Even the organized church is doing it. And these are not idle probes, limited to research and confined to the production of livestock or the construction of public and private works. They are directed at policy, designed to influence decisions, and move assertively into the realm of social planning.

The deficiencies of the art are many—and I will come to some of them in a moment. But consider how far that art has developed in such a short time, how much of a foothold it has gained, and what place it will have by 1980. Whatever the margin of its errors, this continuous forward probing robs the future of most of its surprises, reduces the risk of society walking blindly into boobytraps and ambushes, and contributes a good deal to equanimity and stability in society's handling of its affairs. Fortunately, it has not become a monopolized mystique. Long-range forecasting and planning have become suffused throughout our society, making it possible for lesser as well as larger units to assert a place for themselves in the sun of tomorrow.



By 1980, we will probably see considerable advances in the state of the art. But more important than any narrowing of the margin of error, will be the further spread in the practice of forecasting and planning to institutions now barely touched but needing it badly: especially state and local governments, private health and welfare agencies, local philanthropy, labor, and education. And we will have become far more sophisticated and systematic in the translation of these probes into policy, through advance analysis of probable consequences and carefully devised experimentation.

This smoother feeding of a future of accelerating change into an ever-complicating present was anticipated—at least for the benefit of the private sector—a quarter century ago by Joseph Schumpeter. What he pointed toward then was the “routinization of progress.” 1980 will have brought us far in this direction, in public as well as private affairs. Or may have. Because our capacity to deal with society’s future depends upon the mastery of arts far more complex than the amassing and manipulation of data. Until we have addressed ourselves to some questions and problems of social change, we had better not use the words “will” and “shall” to describe the quality of life in 1980. The modesty of “maybe” and “perhaps” is far more appropriate and becoming.

To project the quality of life in 1980 we can begin with some of the statistical forecasts demographers and economists have supplied. But before we’re through, we’ll have to open the closet of unknowns and imponderables which the quantifiers have carefully and sometimes conveniently assumed away. For another 40–50 millions of Americans *will* be alive in 1980 if their forebears prove rational and resourceful enough to cope with nature, themselves, their friends, and their enemies during the intervening years. Can this capacity be assumed merely because the historical

odds are in favor? Or should we be taking somewhat less comforting cues from a kind of social marginal analysis which judges contemporary behavior in matters of Selma, the Mafia, and Vietnam?

Again, the longevity of 1980's Americans may be extended past the present threescore and ten—if agreement can be reached among hostile sectors on ways and means to remove bottlenecks in medical services; stop pollution of air, land, and water; increase highway safety while reducing violence and addiction; and achieve as much progress in the general analysis of health and the allocation of remedies and resources as we have in combatting particular diseases. And how sanguine can one be of such progress, judging from the agonies of achieving medicare, or of controlling automobile exhausts, or of mastering the economics of medical services and insurance, or of stemming the use of cigarettes, or of previewing and preventing the harmful effects of new drugs and pesticides?

Again, the entire net increase of the American population between now and 1980 may settle among the inhabitants of our major metropolitan areas—or a growing share may not. What they do will depend on whether these communities have managed to achieve enough physical renewal and social justice to remain at least livable. Maybe they will. Maybe they won't.

But we might as well face it: to venture any projections of a qualitative sort, we, too, are going to have to make certain assumptions. For me, the most important set grow out of differing answers to the question,

Whether the United States will grow more resistant to challenge and change;  
or whether it will remain about as pragmatic and flexible as it has in the past;  
or whether it will step up its capacity to adapt, invite, invent, and anticipate?

Each of the three answers one might select provides an alternative assumption on which to rest some forecasts of the form and quality of American life in 1980. These forecasts would provide a range crudely analogous to the statisticians' "Low," "Medium," and "High." In this case, the labels I'll use are "America in Decline," "America—More of Same," and "The America I'd Like My Children to Help Build—and Inherit." Which exposes my prejudices, but leaves the odds and likelihoods still to be determined.

### **The American Capacity for Qualitative Growth**

Before translating assumptions into forecasts, let's take a longer look at current indications of how this country is responding to change: call it, if you will, America's marginal capacity for qualitative growth.

First, give credit where credit is due. This country has been extraordinarily responsive, flexible, and inventive; these, in fact, have been the hallmarks of its character. With such strong historic momentum, one could normally presume these traits would persevere through the brief span of another 15 years. The odds are they will—and I will shortly cite evidence to believe they are becoming even more fixed and vital a part of the American character.

But this happy outcome is by no means certain. With accelerating change and complexity, the American capacity for third-dimensional growth will have to expand merely to keep even with the times. And there are some disturbing signs that it may not. One, the fact that we have got along in the past with only part of the American system growing at full capacity at any one time. For example, it has been characteristic of the federal system that while one level (say, the states) has been dynamic, the other has been static—and to that rule could be added the intermittent responsiveness of local government. Fits-and-starts, and missing engines, will

hardly keep us abreast of the challenges of the next 15 years. The requirement will be full power all the way.

Another cause for doubt is the wearying of the human animal, battered by conflicting interests and frazzled by the rat-race of constant change. His cry goes up: "Stop the World, I Want to Get Off!" Recent research suggests that the lemming is driven to the sea not by want of food brought on by periodic overbreeding, but by nervous exhaustion and breakdown from having to contend with the social complexities of so many fellow-rodents. Which isn't so far from Richard Maier's contention that the major problem of 1980's megalopolis will not be such graspable nettles as food and water shortages, but an overloading of the human communications system—its capacity to absorb infinitely proliferating signals and still to respond rationally. The rise of social ailments—mental illness, juvenile delinquency, alienation—have long been admitted as part of industrialization and urbanization in the Western world. This year, the Soviet Union ended its futile efforts to define the problem away by Marxist doctrine, and conceded that alienation (and presumably the other social ills) was also a growing characteristic of modern socialist society. It's at least reassuring to know that we won't be suffering alone.

If it is increasingly difficult for the citizens of this complicating world to remain rational and responsive in the thick of things, consider the lot of the man thrust into the hot seat of governmental or social responsibility. The spreading diversity of the present and imponderables of the future press in upon him relentlessly, whether he is the beleaguered chairman of the local zoning board, the superintendent of an urban school system crucified by the politics of de facto segregation, or an American President trying to fit the single bridle of consensus on millions of political horses riding in every possible direction. The temptation to delay, to finesse, to dissemble, and to dodge is as old as politics itself:



yet it grows with the times. A more dangerous tendency is to rage against the future and raise an army of rednecks and mossbacks to repress those dedicated to bringing in the new. There is still another: the final act of exhaustion and disgust, that drove the marshall of High Noon to throw his badge of office at the feet of his fellow citizens and quit the town.

All of these and other foibles and frustrations conceivably might accumulate in the years ahead to produce an American rigidity to change, and the beginnings of decline. But the dominant mood now is one of stimulating change and invention: we are going through one of the liveliest and most creative periods in American history, at least with respect to domestic affairs. (And Senator Fulbright's recent speech may signal another round of creativity in foreign affairs.) Witness the signs and the product: three Supreme Court decisions within a decade that have forced fundamental changes in education and race relations; in the structure and functioning of state government; and in the administration of justice and the profession of law. Major legislation at all three levels of government which has roused the conscience and resources of the nation into an attack on the physical and social ills of our local communities. Executive leadership in the White House and in growing numbers of state capitols, county courthouses, and city halls which has burst the traditional confines of politics and bureaucracy to enlist science, industry, arts, and academia in the formulation and execution of public policy. Private recognition that ours is an age of public purpose and affairs, reflecting itself in a massive shift in interest and employment toward government and nonprofit sectors (which now account for one-third of all employment, 35% of the Gross National Product, and two-thirds of all jobs created over the past 5 years). Pride and protest among the minorities and the young, which in a decade brought social changes that had eluded the grasp of earlier centuries. The rise of research and development into

a universal, multi-billion-dollar activity; and the emergence of philanthropy as a built-in incentive to social reform. A renaissance in the arts, pointing this time toward the public's rather than the patron's interest. And a revolutionary change in social outlook, which has removed the verbotens from the earlier untouchables of social engineering and family planning, and is converting the church from negative to positive.

This promises indeed to be a golden age of American social and political development. It builds on a broad consensus provided by the resolution of the old debate between liberals and conservatives:

the conservatives admitting that social engineering has not and need not bring about tyranny and disaster; that it has in fact helped keep us alive and prospering, and opens more markets for business than it closes;

the liberals conceding that the system is too complex and has too many advantages for drastic changes to be effective; that the public interest isn't necessarily synonymous with governmental action (in effect, America this past generation has adopted the theory and practice of competition in the public interest).

This rapprochement between former foes has produced a powerful alliance which so far has outvoted every coalition of discontents brought together to oppose it; it won the last election by an unprecedented margin of over 10 million votes. It has provided a climate of pragmatism extraordinarily favorable to a melding of public and private interests and toward large-scale efforts at social engineering. What's more, it's building, or riding with, an economy that can afford these efforts, and write them off or gloss them over when they fail. Not all will fail. Already there have been some notable successes (not least the stabilization of the economy), and more of them as this new breed of public entrepreneurs acquires experience and sophistication.

But this consensus, too, is vulnerable—and an even newer breed of American radical is uncomfortably close to finding its Achilles Heel. For as Keynes once argued that the old guard had stabilized the economy at less than full employment, the new critics have identified social engineering and consensus with an “Establishment” that has achieved political equilibrium at a level well below full social justice. These new critics are in the minority, and many of them are too young to vote. But they are precociously adept at making an overwhelming majority listen and step lively; and they have an uncanny ability to tie their charges to demonstrable social failings and inequities. Negroes and hyphenated Americans *have* been discriminated against; Big Education *has* become isolated, impersonal, and irrelevant; adults *have* become prone to preach one set of morals and practice another; organized and white-collar crime *has* bought and inveigled its way to acceptability; the church *has* abandoned its concern for the lost sheep in favor of suburban life with the wealthier ninety-nine; the individual *has* been cast adrift in modern urban and industrial society. These new rebels know all this. And so do we.

For a while, these criticisms were voiced only by those who wrote successful books, and were listened to as raptly and as innocuously as hired preachers on Sunday. But the newer breed of critics don't write books. They picket; they march; they boycott; they challenge; they shame; and they make life uncomfortable for those who were formerly secure. They influence the results of elections; they force Presidents to speak and legislatures to act; they evoke violence though seldom initiating it. And like a column of marching ants, they devour every cause and gnaw white every institution they come across on their way.

They are a novel form of an old American tradition: that



of social protest. As with other irritants before them, deposited in the body politic, pearls of social progress are molded about them. Or hopefully will be.

There are two reasons to wonder. One lies in the split personality of the new rebels. For while they are united by their abhorrence of injustice and their readiness to risk lives and reputations in frontal assaults upon it, they are at odds with themselves over the kind of victory they will settle for. The majority—or major instincts—are akin to the Populists, farmers, and laborers who preceded them: they want acceptance of themselves and their ideals in an improved American society. But there is a strain—small but endemic—that is different and disturbing. It may sometimes speak the language of foreign doctrines, but is hardly the tool of anyone; it is in fact more *sympatico* with the unrest that is making life just as difficult for Communist Commissars as for our own establishment.

For this special kind of rebel is sounding the cry of the alienated and the disillusioned: that the whole system smells to high heaven and basically he doesn't want any part of it, except nihilistically to harass it to death.

In 15 years, the chances are almost zero that nihilism will inherit or scorch the American earth. But there are enough things going for it that its potential for growth can't be ignored. For one, it can capture and sour a mass of idealism which America has nurtured but not exploited, and can appeal to a mass of alienation which is piling up in every class, age group, and walk of modern life. For another, it feeds upon the failure of more moderate groups, including the new brand of social engineers, to find solutions to problems of social injustice that really make a difference before the available time runs out.

These have always been the challenge of nihilism to the human effort to master nature and its own destiny. We enter



1965–70 with the odds strongly in favor of a successful response.

But let's consider all three possibilities:

### Looking Backward—Alternative #1 “America in Decline”

It began to be apparent in the late 1960's. Imperceptibly at first, there was a shift in the pH of the American soil: things went slightly more acid. Then more so, and what was highly creative became progressively more barren.

A thousand historians have a thousand and one theories about why it happened and whose fault it was.

I'm no historian, but I saw it coming when the Congressional committees began their investigations of the Poverty Program 3 years after it was enacted. Disillusion, hostility, and discontent had been gathering for months: costs of the program had been soaring; the job corps turned out to be more corps than jobs; community action programs had erupted into bitter factional and political fights; and by then, the minority groups had seen too little benefit to risk their remaining equity in support.

And their equity *was* dwindling. The public—and worse, their membership—had tired of marches and demonstrations. These who had “got theirs” gradually withdrew to their own comforts; those who had not, either joined the orthodox pressure groups, or talked more and more of abandoning the idea of nonviolence, and sometimes they did.

Life stealthily became less secure.

And the more insecure it became, the more people spoke loudly and certainly about what it should be and how it should be lived. Men of moderation and outreach and with a penchant for trying something new got caught in the freeze. Lines hardened. Those in established groups survived and if the groups were big and powerful enough they prospered. Life for the unattached was rough. But the unattached be-

came fewer. They were absorbed into a growing assortment of military and public works corps, and were fully occupied by the increasing requirements of defense and the burgeoning attention to the public infrastructure needed to assure and absorb industrial output.

The arts flourished—or rather, the building of arts centers and cultural facilities. Universal education from 4–20 took most of the kids off the streets and reduced the unemployment rate. More millions than ever in 1980 are now watching more TV stations than ever longer than ever. For a while in the 1970's viewing fell off. People got bored. But there wasn't much else to do; and now that we've made it to the moon and the Russians have made it to Mars, things are back to normal again.

Except for increasing viral infections and automobile casualties, our communities are safer. The crime rate began dropping in the mid-Seventies as we doubled the constabulary, and the courts turned away from protecting the rights of the accused to ensuring the rights of the citizenry. Delinquency dropped even more abruptly, as the birth rate fell off, teenagers were moved off the streets, campus riots were brought under control, and censorship was applied to TV, movies, and magazines.

Our cities have spread out even farther along the new highways; and we have all the automobiles and busses they said we'd have back in 1965. The old slums and gray areas have been pretty well demolished by now. We gave up on rehabilitation, moved the lower income groups en masse into the old FHA suburbs, and they seem pretty happy living there by themselves.

As a matter of fact, except for a few malcontents here and there, the population seems rather content. Or maybe passive. The mass-produced suburban houses and apartments they're living in don't cost them very much; and they have 3 weeks vacation with pay.

Also our Gross National Product and family income are well within the minimum range projected by the economists of 1965. Although there was that young professor they fired the other day who argued that you really couldn't tell, because the government had changed the method of calculating the GNP. . . .

### Looking Backward—Alternative #2 “America—More of Same”

Considering the primitive statistical tools, computers, and electronic data processing equipment they were using back in the Sixties, it's remarkable how close the forecasters came to anticipating the shape and quality of our life in 1980.

They missed a few things—and some of them they might have caught if they had tested more carefully the internal consistency of their projections. For example, they were so tied to the historical inelasticity of their governmental systems and political folkways that they failed to project certain major shifts which sooner or later were bound to result from accumulating increments of change in public management and social behavior. Thus we don't have any any such things as “central cities” any longer—at least not in law and public accounting. They're all dissolved into the larger urban regions of which they're a part. The same applies to suburbs, and to a few of the smaller and/or depopulated states. You won't find Rhode Island, Connecticut, Montana, or Nevada on any of our maps or separated in our public accounts. Like a number of others, they've been absorbed.

Missing these events, the forecasters of 1965 also were trapped into exaggerating some of the social problems and political trends of their times. Since we no longer have “central cities,” the problem of Negro and other segregation is not nearly as acute as the earlier prognosticators feared. Also if they had fed *Baker v. Carr* into their computers, they

would have been less timid in their guesses about the staying power of certain states and the social lag associated with states' rights.

And even if they had exercised more statistical care and used some of our latter-day machines, they couldn't always have been sure which of several contradictory trends in 1965's events they should have chosen to project. It was anybody's guess—then and for some time afterwards—whether the bars to immigration would be lowered (which they were); whether the postwar baby crop, when it came their time to form families after about 1965, would choose to have as many children as their parents or not (and they did not); or whether the death rate would be pushed up by accumulating mortality from certain practices—like smoking; spraying with insecticides; air pollution; etc.—adopted before their dangers were known (and it was). As a result of these understandable errors, and an underestimate of the success of family planning, 1965's projection of our total population was a bit on the high side. And thank the Lord for that.

Because they've proved right about nearly everything else.

Automobiles, for instance—they're coming out our ears. During the past 15 years, they've been outnumbering our baby crop by a ratio of over 2 to 1. And the end isn't in sight, despite all the thought and money we've put into possible alternatives. We built that high-speed transit tube from Boston to Norfolk; and it did better with sightseers than the World's Fair. It also cleared some of the air traffic over the dangerously crowded East. But it didn't take people out of cars.

They were also right about the continuous growth and sprawling of our metropolitan regions. You can't tell where one leaves off and the other begins, nor one from another; they all look like Los Angeles. But we've gotten used to the life, and in many ways we've improved it. Scattered as we



are, none of us lives more than safe walking distance from an elementary school, a short riding distance from medical stations, shops, and a cultural center.

Some of the ghettos, unfortunately, are still to be seen—not so often in the old sections, which have been largely replaced by attractive row-housing and apartments for the middle- and upper-incomes, interlaced with parks. Much more so in the postwar FHA developments. But not a one that's without social service centers, good maintenance and lighting, and neighborhood schools.

The quality of life? We get along. A 35-hour week; 3 weeks paid vacation; schooling for our kids from 4–20; a job change because of automation every 5 years or so, but retraining and placement almost immediately; full medical protection; and enough of a paycheck to cover expenses and even all those taxes, which, by the way, your forecasters also underestimated. But by and large they're worth it—it took some doing to stop all that rising crime and delinquency back in the Sixties and Seventies, and we're also breaking the back of the welfare costs we had accumulated. Streets are a lot safer and cleaner. TV is pretty dull.

I just wish they could do something about all those cars, and then maybe build a golf course a man could get on to without waiting for 3 hours. . . .

**Looking Backward—Alternative #3**  
**“The America I’d Like My Children To Help**  
**Build—And Inherit”**

The last 15 years have been uncertain every step of the way; they've been tense sometimes, rugged sometimes, wild, woolly, but creative—and I wouldn't have missed a day of it.

To the comforts and the freedom of mid-century America, we've added *concern*. *We care*. And if there were two things that started us on our way, they were the protests and the

poverty program of 1965. One woke us up and the other put us to work.

Let me tell you first what happened to those marches and demonstrations. You left off with those cliffhangers at Selma and Berkeley. The hang-ups lasted for a while, and so did the marching; the authorities in both cases proved willing to negotiate, but both sides got caught not knowing quite what ought to go into the long-range bargaining package. But when they finally got down to fundamentals (and it helped when Negroes and students were given the vote), they began producing the reforms and conditions which stimulated economic development in the Deep South and broke the grip in which that strange combination of medievalism and mass production had held Big Education.

From that point on, "The March"—as it came to be called—became an American institution. Some people argue it's the fourth branch of government. Because whenever the other three branches, and the power structure of society, tend to let things slide, the March begins.

Of course it wasn't that predictable or acceptable in the early years. The March came close to being discredited on a number of occasions when it was used simply to badger and harass, and when some fairly untidy characters got mixed up on both sides of the picket line. But some very able leadership emerged, reminiscent of the Sidney Hillmans of the labor movement, dedicated to the nonviolent tactics of Martin Luther King, and capable of dealing both with intrigue and radicalism on their own side, and with intrigue and resistance by their opponents.

And so during the Sixties and Seventies the parade of new reforms began and the drumbeat picked up. After the South and the universities, it came the turn of practically every soft spot in the system. No institution was exempt, and the reforms never came faster. First it was vocational training; then the labor unions; then philanthropy; then the arts; then the penal system; then the welfare and charity ar-

rangements; they even went after the rackets and the hoods, beginning in the respectable places they hurt most.

After a while it became fun—or at least the thing to do, and be done to. Signs began appearing: “We have been successfully marched against” and Madison Avenue had a field day. (One company topped them all by claiming: “Our products have been *demonstrated!*”) Orders and rank of merit appeared on lapels; students got college credits for taking part; and Ph.D. theses in the social sciences finally spoke the language of the people. And by the time the new reformers remembered the Department of Agriculture, the President and Secretary had already worn a path around the building.

The high point came actually in 1976, when the longest parade of all broke up the Yankee monopoly on the World Series. The victory came when Mickey Mantle Jr. was traded to Atlanta.

If the March got things going, it was the Poverty Program, as I said, that got things working. It was protected during those fumbling first years by the angels the Lord must have sent to watch over it. Because some of those early beginnings were real lulus. But basically most Americans *wanted* the program to work. It stood for the things the country had waited too long to do or have done. And its very looseness gave every new and unorthodox idea and approach in America’s pragmatic reserves a chance to test its merits.

So for every bumble (let’s be honest, for every third or fourth bumble) there was a ringing success. Mayors and Governors and Cabinet Secretaries who had pioneered in this new business of social engineering, and were lucky enough to bat over .500, became heroes and the measure of those chosen to join and follow them in office.

Their bureaucrats after a while caught the spirit, too, although many of the more worldly-wise and skeptical waited too long, and their agencies were left out and then cut back.

Business got into the act, first when prowling for contracts

to take up the slack of lagging defense and space business. Then, when involved, they were swept along by the energies and enthusiasms of their younger executives who had long languished for a sense of public service and recognition.

An extraordinary lot of good things got done in American society, and in unexpected and ingenious ways. For example, young architects, volunteering for public service, began designing low-income housing and neighborhood facilities and street furniture—and you've seen the difference they've made in the urban landscape. Along with young economists and engineers drawn from business and the universities, they've also managed to put all the utility lines underground (though they had to conspire a March on the power companies to do it); they've redesigned highways and brought back walkways and bikeways; and a number of them have broken away entirely to form R&D labs, working under contract with public works departments at all levels of government. Lawyers and systems engineers have practically done over the administration of justice and have revised zoning and land tenure and municipal tax systems.

For a while, the theorists of public administration and private management had nervous breakdowns trying to fit these maverick types and procedures into old schools and concepts and salary scales. They even tried a few reprimanding lectures at Harvard's Littauer and Business Schools. Then they gave up altogether and left to write their memoirs. But some theories and regularities are emerging; at least the public entrepreneurs are succeeding in recruiting more and more associates in teaching them the art of breaking social and political bottlenecks. They've even developed standards by which to measure the efficiency of public services and expenditures—but I'm personally leary of this latest wrinkle. It smacks of a new orthodoxy. The genius of the movement has been that it has never been doctrinaire except in its insistence that things get done and the public gets served. If



things can be done without going through the laborious route of government, so much the better. If government is needed, so be it. But the closer to the job and the people to be served, the better.

I've gotten ahead of my story. From poverty, this new frontier of social concern and engineering moved out in every direction, usually but a wave behind the last "March," and sometimes ahead of it. The educational, juvenile, and welfare fiascos of earlier American society occupied most of their energies; these were the toughest problems to crack. But the new effort to lick them constituted a massive Hawthorne effect—and soon enough, those who had been, or might have been, the alienated found themselves drawn within the society by the concern that was shown.

The effort to improve the urban habitat picked up, too, as the agenda for action was finally pulled away from its limiting concern with what bricks and mortar could be provided on the slim margin of consent among banking, construction, and supplier interests. The legislative programs of 1965 were landmarks.

The arts and humanities? They're alive and active in every community, age group, and income level. Not so much because of all those governmental and foundation grants, although they've helped. But because the country's alive. So much so that the productivity teams other nations used to send here during the Marshall Plan days, have been replaced by missions to see how we're handling our social concerns and public affairs.

You ask about those statistical projections of 1965 and how they turned out?

I don't really know. We're not sure numbers really matter.

Except maybe for all those students and those cars and those taxes. . . .

## REACTION: Adam Yarmolinsky

As evidence of the uncertainty of the art of prediction, I wonder whether when Paul Ylvisaker and I met some 10 years ago, it would have occurred to either of us that we would be here on the platform today speculating about the world 25 years away from that date. My reactions to what Paul Ylvisaker had to say are many and diverse, and he has given me and all of us a good deal of food for thought. I would like to confine my brief remarks here to an area that has perhaps not been touched on as much as some of the other aspects of the future that we look forward to. I suggest that the quality of life in 1980 depends at least as much on international as it does on domestic developments, and I suspect that the two are not unrelated. I thought I might take a leaf from Mr. Ylvisaker's book—a hastily scribbled leaf on my part—and try, not three, but two kinds of micro-miniaturized projections backward, beginning again, as he did, with a more pessimistic view, and looking back from one kind of 1980:

In that pessimistic view, it would be hard to trace where our troubles really began. We suspect the decision that we weren't prepared to make the continuing sacrifices involved in our staying in South Vietnam really marked the beginning of all our troubles. The fall of Thailand, Burma, the Philippines, the isolation of Australia, the strengthened alliance between Indonesia and Communist China, and the takeover of Malaysia, I suppose, were all predictable. Perhaps the present so-called popular front government in India might have been predicted. I think it was a little bit less predictable that we would find in the nations of Central Europe the rise of the Peking-allied factions in each of those countries, with unfortunate results, of course, for our relations with those countries and the situations of the people

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themselves. The fact that almost none of us imagined way back in 1965 was the extent to which the influence of Peking would spread to Latin America and throughout that continent. The fact that we now have had to replace the Great Society with a kind of Fortress America was even less predictable, I suppose. Nuclear proliferation has brought us to a widespread program of blast shelters and weekly Civil Defense drills. The Defense budget has, necessarily, grown enormously; and instead of the problems of the balance of payments, which we thought were difficult at the time, we have the much greater problems of living with economic autarky. We don't have a garrison state—we are able to avoid that, but certainly we are living in a society under siege.

Having grossly microminiaturized that unhappy set of projections backward, let me give you what might be the other side of the coin: Last week, the last Viet Cong guerilla emerged from the jungle and surrendered his ancient Chinese-produced weapon, for which he no longer had any useful ammunition. It was interesting that his emergence with that old weapon coincided with the news of the outcome of the great struggle in China behind the bamboo curtain. The Government has finally decided to allocate a much larger fraction of production to consumer goods. Of course, we don't know how long that decision is going to hold good. There are some pretty militant elements still over there, and we still concern ourselves with our own security problems and the security of the world, but at least that's rather heartening. Of course, the business pages of our newspapers have been talking about the flood of microminiaturized portable color TV sets which have been flooding U.S. markets from India, taking over from our own producing efforts in this field at a cost so low that we cannot possibly compete. We are reading also about the celebration of the first quarter century of the Alliance for Progress, which has just con-

cluded on a note of high hope. But we are disturbed, of course, by the rather violent speeches of the Latin American leader, Carlos del Galos, opposing expansion of U.S. investment in Latin America, and saying that Latin America really stretches from the Rockies to the Cordilleras. In the United States, the Defense budget is still high, but it has now been reduced, as a percentage of our Gross National Product, to less than 7%, as compared to a 10% rate in 1965. At the rate at which our national product is expanding, and our Defense expenditure pretty well leveled off, we look for more and more resources that are available not only to wind up the last stages of the War Against Poverty, which is now moving into its final phase—we have now got the percentage of people whom we define as living in the state of poverty in this country down to something less than 5%—but also to be applied to such major endeavors as the rebuilding of American cities, which we now see moving into a phase where the results are clearly visible. This surplus can also be applied to other advances; for example, the provision of education for every child in this country from the age of four to the age of twenty is now almost a reality.

That concludes my very brief sketch of the international picture that perhaps goes along with the more encouraging vision of the domestic scene that Mr. Ylvisaker described for you. But I would like to add just a word or two on what perhaps makes the difference. And I would like to suggest that the difference between the darker and the brighter pictures on the international side is not just a matter of our perseverance in being willing to sacrifice blood and treasure in far corners of the world, in being willing to maintain the kind of strength in the field and in the garrison that is necessary for us to take a firm position at the conference table. It depends also on the kind of imagination—the kind of marches, if you will, the kind of goals for the marches and the demonstrations in the global arena that had been de-



scribed in the domestic arena; because I suggest that the problems in the global arena are at least as troublesome, at least as likely to overwhelm us if we don't take action to deal with them, if we don't devise the kind of solutions that are large-minded and generous-hearted and in the spirit that we find on the encouraging side of the picture Mr. Ylvisaker described at home.

I spent last weekend (I guess it was two weekends ago now; we are moving towards 1980 more rapidly than I realized) in a very encouraging gathering. This was a conference of returned Peace Corps volunteers, called by the President here in Washington. Almost a thousand volunteers came from all over the country, and met with a number of us non-volunteers to talk about where they had been and where they were going. The thing that most impressed me among the number of impressive things that took place in, and came out of the conference, was the ability of these volunteers to see that the international concerns, the overseas concerns with which they had been occupied for a period of 2 years, were as closely related to the domestic concerns that they were now taking up as, in Robert Frost's happy metaphor, the vision of the two eyes together. There were no problems for these young people in seeing that the problems, the concerns, the programs, which they were now facing were all of a piece with the problems they had been facing in Asia, Africa, and Latin America.

It seems to me that this single vision is essential to a brighter vision of the world of 1980.

**REACTION: Donald N. Michael**

It is a pleasure to have heard Mr. Ylvisaker's very exciting and elegant presentation. Having heard it, I am most difficult about reacting. Let me just add a few complementary and unorganized remarks.

A very important consideration for judging the state of mind in 1980 is that those who are now 40 to 60 years old will be out of a large part of the active social system by then, and those now 20 to 40 will be in. This latter group is a mixture of the kinds of values, aspirations, preoccupations, and life styles found in the three "ideal types" of futures that Mr. Ylvisaker presented. Thus, around 1980, as part of the quality of life, we are likely to be struggling with a set of contradictory trends and, correspondingly, we will be struggling with a set of very nagging and very important questions about what should be the style of life and the quality of life at that time.

The work-leisure problem. Not everybody is going to have work all the time. And the meaning of work for a lot of people is likely to change. Increasingly, for many, many people, work will not be the basis for self-definition as it has been since the rise of the Protestant ethic. As the size of chunks of free time increases, the problem of finding self-fulfillment in leisure will be a growing one for those who are in the present 20-40 year old age group. For the vast most part, they have not been educated to use leisure. Our learning experiences prepare us for work; we have no life style compatible with what we think we mean when we talk about "using rewardingly" much leisure.

I think an increasingly nagging set of important problems affecting the ethical and intellectual quality of life for at least some people during that period will have to do with the ethics and politics of biology. A few examples: During this period we can expect substantial developments in psy-

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chopharmacology—hallucinogenic agents, tranquilizers, cognitive stimulators, and so on. These agents will induce behavior changes and possibly personality changes. Such changes necessarily affect relationships between people and consequently have social implications. Who will decide in whose interests it is to allow, encourage, or insist on such alterations in personality?

Then there's genetic engineering. I don't expect in the next two decades it will have reached the point where we can seriously or perhaps significantly alter the human condition by manipulating the genes, but by 1980 it should be quite clear that this capability will be realized shortly. Under what circumstances and who has the right to alter the genetic components of a human being and thereby, before he is born, affect his destiny? Consider this dilemma: a genius I.Q. might be a blessing for the society, but a curse to the person who grows up alienated from his commonplace parents and thereby driven by guilt.

I suspect there will be an intense argument over the degree to which we should rationalize our activities; that is, emphasize standards of efficiency and logic in the conduct of a very complex society, and the degree to which it is to our benefit to be inefficient. The scale of societal problems we have to deal with is amply evident in Mr. Ylvisaker's paper. And the potency of the techniques available for dealing with them for efficiently manipulating ourselves and our environment will increase enormously, particularly in the behavioral sciences. This great improvement in the capabilities of the social sciences will be due in large part to the ability of the computer to simulate and validate complex models of social and institutional behavior. Thus, both the pressures and opportunities to rationalize our activities in order to deal with the kind of complexity we face will be great.

At the same time, because of the conflicting value emphases among the older groups and those moving in and taking over power, control, and status from them, there will be



large numbers of people who have no desire to see the society highly rationalized. The countervailing forces they bring to bear will produce a great and continuing tension between institutions espousing rationalization and those pushing for inefficient styles of behavior which may be all the more desirable just because they counteract some adverse social and psychological consequences of high degrees of rationalization. I think we will see much more of what seems to me to be the case with the poverty program: rationalization may be necessary at top administrative levels to implement effectively a considerable degree of inefficiency at local levels in order that many more people may be kept busy doing a lot of things pleurably and usefully. Many more, that is, than would be the case if the local activities were conducted according to the canons of efficiency and precision.

The last question derives directly from the previous one. Possibly the most persistent question, the greatest challenge, for our society will be how to maintain a popular and meaningful level of participation in the democratic process for most people in the society. Society's problems will become more complex, and both the knowledge and the techniques needed for manipulating that knowledge in order to produce policies and programs for dealing with the complexities of the society will become increasingly esoteric. Thereby, the link between the everyday experience, knowledge, and commonsense understanding of the typical American, and the esoteric knowledge of the elite who do the interpreting, manipulating, and planning will be strained as never before. The question arises: how will a real democracy operate, given such a gap between the public and its leaders? In the long run, education might do it, but, as of 1980, most of the adult population will still be comprised of only moderately educated voters: for the most part, the products of the new push in education will only then be reaching their majority.







### JOSEPH S. CLARK

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## GOVERNMENT IN 1980

Joseph S. Clark

### I

William James once said that the first lecture he ever heard on psychology he gave himself. This is the first talk I have ever heard on Government in 1980. It may well be the last I give but it surely will not be the last you hear.

This is a perilous undertaking. Moreover, it is an intensely optimistic one. For it assumes that we will *have* a government in 1980. We may well not, unless the nation states, including our own, renounce some part of their sovereignty and enter into a comprehensive treaty on general and complete disarmament under enforceable world law. The threat of a total destruction of world civilization through a nuclear or, if you prefer, a chemical, radiological, or bacteriological World War III, looms constantly ahead of us 24 hours of every day.

Yet one must make the basic assumption that the peoples of the world, all of whom loathe war, will not permit their governments to drag them into one. If they fail we might as well adjourn this meeting forthwith. And in addition, in spite of headlines and recurring crises, I believe that the next generation, better educated in the implications of world affairs than our own, will see an increasing degree of international understanding, including a very considerable degree of internationalization of government itself.

First: changes in government, and politics, come about more in response to what Justice Holmes once called "the

felt necessities of the times" than the intellectual perception of problems and formulation of rational solutions to them. To paraphrase Holmes again, the evolution of law and, therefore, of government is based on experience rather than logic.

The substance of government policy and the structure of government itself are the results of experience with earlier policies and structures. We created the Constitution of the United States more or less by accident because our experiences under the Articles of Confederation after the American Revolution made it obvious that drastic changes in our national government were essential for our very survival. I believe we can do the same thing again on an international scale.

The danger, however, with relying solely on experience lies in the truth of Sir Winston Churchill's famous remark that democracy is the worst form of government ever invented except every other one. Accordingly it acts slowly after problems have become critical and, therefore, more difficult to solve. And it relies far too much on muddling through. In government, in the modern world, we can no longer rely on that invisible hand of Lady Luck which has performed such yeoman service for economists for so long in avoiding disaster. The consequences now of the failure to make needed adjustments in time are infinitely greater than they used to be.

It follows that one of the greatest needs of the future will be to increase the role of rationality in government, discarding far more frequently and quickly than in the past the irrational force of old-fashioned patriotism and tradition. We can no longer expect in Matthew Arnold's words, "That Chance will bring us through."

The second reason is that economics helps shape politics and thus the approaches taken by government to solving problems.



My confidence that by 1980 we will have a truly impressive internationalization of government stems from the conviction that continuing world economic integration will compel further world governmental integration. The evolution of the European Iron and Steel Community is a small example of what I mean. The efforts to reduce tariff barriers and increase international trade is another. The growth of East-West trade is a third. The Alliance for Progress is a fourth.

Here at home the continuing movement toward a national economy will dictate more and more national economic planning. The folly of permitting the enormous potential of our economy to be wasted by failing to erect national and international institutions for the release of that potential is too visibly absurd to be tolerated.

My third reason for believing we will have a government in 1980 is that the power of government, particularly our national government, is continuing to grow. Most Americans—indeed most of the people of the world—have come to believe that government has the duty to advance economic, political, and social justice. For a definition of what I mean by this phrase I refer you to the major goals stated by my three predecessors in this series. Clearly both the national government and the United Nations will have to discharge a larger and larger share of the responsibility for attaining these goals.

Obviously there are dangers in this course. Joe Clark's 1980 must not be permitted to become George Orwell's 1984. Yet it seems clear to me that our task is not to reduce the power of government, national or international, but to devise institutions that will help insure that that political power is exercised responsibly and with wisdom and restraint.

Max Lerner once said that the task of democratic government is to be total without being totalitarian. The urgency

of this task in the world today is becoming greater with each passing year.

E. B. White has defined democracy as the recurring suspicion that more than half of the people are right more than half of the time.

Our task in 1980 is to hitch Mr. White's definition to Mr. Lerner's goal at home and abroad. The task is a formidable one.

## II

Let us then proceed from the assumption that the nation states will by 1980 have yielded enough sovereignty to a world organization to make possible the maintenance of peace; and that there will in that year be a strong national government in the United States. Then let us make assumptions about the next 15 years very similar to those of your three previous speakers.

Gerhard Colm's cautious judgments about the world of work and the state of the economy which await us 15 years hence are very close to my own. That is, we will have a highly technological economy generating a Gross National Product in excess of one trillion dollars. Government policy will, of necessity, have among its chief preoccupations the preservation of full employment, maximum production, and maximum purchasing power.

I agree with Messrs. Fisher and Landsberg that we will have the physical resources to sustain this amazing growth well beyond the end of the century. I would add the proviso that our natural resource concerns in the coming years will be more with the problems of physical environment engendered by increasing urbanization and numbers of men than with the problems of finding raw materials.

And I share the same nagging worry as Paul Ylvisaker concerning the "wearying of man" in the face of constant technological and social change. The world into which we are

moving is so awesome in its powers and potential that there is a real danger that our leaders will find themselves under almost super-human psychological strains in attempting to guide it. Nevertheless I accept his premise that the quality of life will improve.

What then will government look like in 1980?

First of all it will be considerably more internationalized than at present.

As military solutions to international political problems become more and more untenable, there will be a great expansion of enforceable international law and with it increasing reliance upon international means of adjudication and conciliation for settling political disputes.

A permanent international peace-keeping force will have been established and some form of enforceable general disarmament policed by an international organization will have become effective. The problems of Germany and of China will have been solved through peaceful means.

These developments will release enormous resources for the peaceful development of civilization.

By 1980, there should be an effective international monetary system under which no one nation is expected to shoulder the burdens of providing the rest of the world with a reserve currency. Developed nations will pool their financial resources to meet the credit needs of the underdeveloped countries. Thus the U.S. will be freed from the balance of payments constraints which have held it back recently in fostering adequate economic growth.

Other forms of economic aid to the underdeveloped countries will have been internationalized, too. There will be increased international exploration of outer space.

Second: Despite its obvious inefficiency and the fact that it is ill suited to the needs of modern life the framework of our Federal government will remain essentially unchanged. Appropriate for an age when that government was best



which governed least, it creaks and groans under the strains put upon it both at home and abroad by the ever increasing pace of constant change. Yet the essential conservatism of American political thought plus the deeply imbedded folklore which enshrines the "Founding Fathers" prevent the system from being taken apart and put back together again in something closer to our heart's desire.

While a new governmental structure will not come in the foreseeable future we can expect that new techniques will evolve in the next 15 years through tinkering with existing procedures. Perhaps members of the House will achieve 4-year terms.

There is no reason why we should always think of the Constitution as sacrosanct. Certainly its writers would have been the first to urge its revision in order to meet the changing circumstances of national social, economic, and political life. But it is unlikely that the American people will be prepared for any wholesale Constitutional revision within the next 15 years.

The powers of the Presidency will continue to expand; but in 1980 we will still have a President, a Congress, and a Supreme Court. One can hope that Congress will have reformed itself in order better to perform its Constitutional duties of legislation, oversight, and investigation. One can hope that a drastic executive reorganization will enable our huge and sprawling bureaucracy to perform more adequately its increasingly complicated administrative functions. One can expect that an enlightened Supreme Court will continue to revise ancient jurisprudence to meet the requirements of modern justice.

One can hope that the legislature and to some extent the governors of the fifty states will rise to the constantly increasing responsibilities imposed on them by the complexities of the modern world. One can hope that municipal and county government will improve in quality. One can further hope



that patterns of metropolitan area and regional government will emerge to solve, on a subject by subject basis, those problems such as shelter, transportation, and water supply which spill over municipal and often state boundaries.

But there is likely to be little drastic change in the framework of American government. We will have to do the best we can with a political and governmental structure conceived to prevent tyranny and to deal with the rather primitive problems of an age that has passed.

### III

The world into which we are moving will be one specializing in technological innovation. It will be a world of constant change and systematic invention. This will have much to do with the powers exercised by government.

We have already seen in defense and space the achievement of national goals undreamt of a decade ago. We have proved that when we set priorities our 20th century technology can produce in a matter of a few years a human advance which would otherwise have taken decades for achievement.

As government seeks to harness more and more of our technology to meet our needs, the dividing line between the public and private sectors of our economy will grow steadily more ambiguous and the area of cooperation between government and private enterprise broader. Some services hitherto considered private may become quasi-public. Others now thought to be public may be contracted out to private industry. And still others will be matters of close cooperation, public and private.

But to succeed in utilizing the potentials of this new world of technology and science there will have to be more direction, more coordination, more national definition of goals—in other words, more national planning.

In a static society, anticipation and foresight are unneces-

sary. But when the daily lives of nearly 200 million people are in constant flux; when their individual welfare is threatened by forces beyond their control; then planning and a definition of social objectives is essential. And only government can provide that perspective for the community as a whole.

In 1980, therefore, with many of our fiscal resources released from the heavy burdens of national defense budgets, we will find more, not less, government involvement in our social and economic affairs.

We will have a body at the highest policy-making levels somewhat akin to the present National Security Council if you will. That agency will concern itself less with the operating responsibilities of Federal agencies and more with the functional challenges of 1980. It will cope with the special education, environmental, social, and transportation problems of a highly affluent society.

The Federal budget will no longer be a simple ledger which meets the needs only of the Bureau of the Budget and the Appropriations Committees. It will be a major planning document with capital investments separated from operating costs. And it will be used, not as a bookkeeping device, but as a giant economic balance wheel designed to maintain reasonable price stability and full employment with maximum production. It will expand when we have unused manpower and productive potential and contract when resources are scarce and inflation threatens.

This will inevitably alter the structure of both our politics and our government.

#### IV

Any assessment of what American government will look like in 1980 inevitably requires an assessment of the American electorate in 1980.

The Congress has just passed and the President signed ed-

ucation legislation that marks the entry of the national government into this field in a truly significant way.

Yet this act is only a beginning. It takes no gift of prophecy to recognize that the operation for a decade and a half of a massive and growing national program of support for education can greatly transform the nature of the electorate.

A mobile, affluent, highly educated electorate will replace what has historically been a stationary, unevenly educated electorate a large fraction of which has been indifferent to political issues and living close to the margin of poverty.

The old issues will have disappeared. The ancient appeals will no longer work. The traditional ties will no longer bind.

National issues will dominate political discussion in an electorate increasingly issue-oriented both by capacity and concern.

It is, of course, true that public opinion will, then as now, lag behind what is currently needed. But we can anticipate that the gap will lessen with the improved education of the public bringing with it the demand for more qualified elected public officials.

Large, uneducated, deliberable blocs of voters, on which state and local political machines have long prospered, will have largely disappeared. The liberating effect of education together with a growing stake in the economy will loosen the chains fastened on the public by the traditional political organizations.

The pace of social and technological change will condition an electorate equipped by education to view innovation without apprehension and new departures as new beginnings. This, in turn, will create a new American Establishment which will have a strong impact on both politics and government.

Forty years ago when Calvin Coolidge defined the business of America as business, the membership of the American Establishment was drawn almost exclusively from the business

community. America was urged to dedicate its energies to getting more business in government and less government in business.

The nature of the American Establishment is changing and will continue to change. My generation has witnessed the decline of the propertied business class and the rise to power of the professional class, a class skilled in the technology and skills of urban industrial America. It includes lawyers, doctors, engineers, planners, college professors (who may occasionally even teach), foundation leaders, public relations experts, and executives who do not own the vast businesses which they none-the-less direct.

What we are witnessing is a transfer of power from those with a stake in the maintenance of the status quo to those possessed of great skills in the processes of change.

Political skill in 1980 will require the exploitation of educated opinion rather than the manipulation of organizations. And political power will pass into the hands of those best equipped to use the political skills the times will demand. This is not to say that the vested interest lobbies will disappear. They won't. But they are unlikely to be able in 1980 to fool even some of the people all of the time as they do so well today.

The national political parties will achieve greater ideological homogeneity as the Negro gets the vote. The sustained domination of national issues will bring with it two national political parties, one with its primary loyalty to property rights, the other more concerned with compassion. The classic sectionalism of American politics will recede still further. No longer will it be said that there is no philosophical difference between the two major parties.

There are grave risks in all of this. It presages a politics in which the stakes at election time are higher than we are used to. It posits the danger of considerable oscillations in public policy as the parties alternate in control of govern-



ment. And it raises the specter of our politics being subject to manipulation by the formidable skills of modern propaganda dissemination.

Yet I do not think these risks can be avoided. This is the direction in which we are inevitably moving. As our national government assumes more power we must keep it under control of those who recognize the national interest and refuse to be led astray by modern propaganda.

But I refuse to be pessimistic because I think human ingenuity is equal to this task.

## V

Greater national power does not necessarily mean less power for the states and local government. It is not a question of dividing up a fixed amount of power; as the area of government expands so will the share reserved to lower levels of government increase.

I do not believe this expansion of government is bad.

I would argue that in the past the increasing responsibilities assumed by our national government have meant an extension not a limitation of individual human freedom. The Civil Rights Act of 1964 is only the most recent example of how the extension of Federal powers has fostered, not restrained, individual liberty. In the future society of 1980 those powers will have to be even more widely assumed in order to protect the civil rights and civil liberties of the individual citizen.

Nor does this mean that decision-making will come to be centered in the national government. Far from it. For paradoxically, as the operation of the economy becomes more complex, the need for decentralizing both decision-making and administration becomes more imperative, as Khrushchev found out several years ago.

Greater national power can be accompanied by greater devolution of power to state and regional and metropolitan

governments and to private decision-makers. New relationships will grow up pragmatically between the various levels of state and local government and the national government. Local government will become much more regionalized as some of the older forms of local government atrophy.

About one-sixth of our state budgets now come from Federal grants-in-aid. By 1980, this share will climb to more than a third as we work out ways for the Federal and local governments to share national sources of tax revenue.

The bonds between the various levels of government therefore will be strengthened and more intertwined. There will be a new national Federalism.

Congress will find itself hard put to keep up with such profound changes. Its organization, its rules, its procedures, will have to be modified so that it can gather the intelligence and react with the rapidity required to make wise policy in a fast-moving and technological world.

New techniques of management and methods of administration—as well as organization of the Executive Branch along more functional lines—must be employed to overcome the inertia of bureaucracy. Perhaps this Graduate School in the Department of Agriculture is a step in the right direction.

## VI

Inevitably this prognosis is an amalgam of hopes, projections, expectations, and fears. As all of you know, such a forecast is terribly vulnerable to the accidents of history. Can we pull it off? Who knows?

The great weakness of democracy is political lag and, at certain levels of government, inadequate leadership. A dictatorship can quickly remold its institutions, save only the institution of dictatorship itself; a democracy cannot. A democracy inevitably lumbers along. And short of crisis, it

rarely sees the need to modernize its machinery to meet new and strange demands.

Those who see the need and have a vision of what progress can bring, can do no other than keep trying. For if the task is great so also are the tools at our command. And so also is the victory to be won if reason can prevail.

### **REACTION: John Brademas**

I am very glad to have been invited to take part in this program with Senator Clark who, I think, as well as any other member of the United States Senate, combines the virtues of intelligence and imagination and courage. I know you have enjoyed his observations and found them as provocative as have I.

I have jotted down six questions for the Senator:

1). What will the Republican and Democratic Parties be like in the year 1980?

2). What will government be doing in our metropolitan areas? How can we plan? Do we plan on a regional basis when we look at these sprawling urban and suburban developments? What kind of institutional arrangements so far as Government is concerned will we find ourselves being required to establish?

3). Where are we going to obtain the political leadership that we will require in a world of this kind?

4). How can we develop the kind of world-community on the basis of which we can erect enforceable world law?

5). The Senator also spoke of the role of the states in 1980 and used the phrase "a new national Federalism." I wonder if he has anything further to say on what kind of institutions we are going to develop for this new national Federalism?

6). What revisions would Senator Clark suggest we make to the Constitution?

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*Mr. Brademas is U. S. Representative in Congress (Democrat) from the Third District of Indiana.*

## REACTION: George A. Graham

We have heard from the Senate and the House, and I guess I am supposed to represent the great unwashed public—or perhaps even the “sprawling bureaucracy” here before us, of which I have at times been a member.

I think I might comment somewhat in order on the questions as they have occurred to me as I listened to this very stimulating talk. On the question of sovereignty, I don't think we are going to lose our National Sovereignty, I think we have already lost it! That is, in terms of real independence of action. We have an increasing awareness of our dependence upon and the necessity of adjusting our policies to the necessities and even the wishes of others. This is one of the phenomena of our time.

Being a political scientist, I might comment on what seem to me to be constitutional changes—using constitution not in the sense of the written document, but the system of government by which we live—its allocation of powers and functions. In addition to this awareness of a diminished or altered sovereignty, 15 years hence, we will have recognized the drastic changes which will have taken place in the Federal system. The Federal influence in the basic governing policies, it seems to me, will have been greatly increased in this period of half a generation. Federal policies will certainly go farther in education, even in law-and-order matters, and probably also in that great morass of urban affairs.

Here I am not saying that we can muddle along with our existing local government structure. It seems to me that we will be—15 years hence—in the throes of trying to rationalize the authorities, the machinery, and the structure of local government, particularly as it applies to metropolitan areas. This will be an agonizing struggle, which, by that time, I

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think we will be in the midst of carrying through. It will be a painful period.

Then, as the Senator has suggested, I see a great increase and perhaps a clearer recognition of a new sector in our society. We now speak of the governmental sector, and of the private sector; I suspect that the public sector which overlaps them both, and is in between and is different from either, will have expanded enormously. We may then be, in this area of government by contract, in the process of trying to develop a public ethic which does justice to the public responsibilities of this public sector, which is neither "government" nor "private."

We may well be even more influenced than we are today by the views which we have of the world abroad. I suspect that we may well see in 1980 a new Europe. A Europe which has reintegrated, not only France, but Britain and probably also Russia. This will be a new and, I think, more stable force in the world, and it will change the whole perspective which we have regarding world affairs. Accompanying this, I suspect that we will see beginnings of a more discriminating look at the other parts of the world. We talk about foreign aid now, and foreign programs, and foreign policy. I suspect that we will begin to be recognizing the differences between Africa, with its peculiar problems, Asia, with its different problems, Latin America, with its still different problems, and will have begun to recognize the great differences which exist within these continents. We may well be at the point of a more discriminating and realistic approach to our policies with reference to these countries and our programs there.

Out of this recognition and awareness, I think it is possible that we may see a new foreign service. Not a foreign service to replace the foreign service which we have today, and which does, I think, a distinguished job in its function of making contact with the governing classes throughout the world; but perhaps we will have a foreign service in addition

to this which will make, for the first time, effective contact with the governed classes, the governed masses of society in Asia, Africa, and, in particular, Latin America. In these areas, it seems to me that even the people who govern these countries are not fully in contact with the masses of the people—there is too great a gulf.

I suspect that this new foreign service could be built on some such foundation as the Peace Corps people who are abroad with their various programs, and some of the foreign aid programs, which are working closely with the masses of people in these countries. By this new system, we may send people abroad for a couple of years, bring them back and re-integrate them with our society in their teaching, or other professional or vocational roles, then ask them to take a second tour of duty abroad 4 or 5 years later, and perhaps ask them to take a third tour somewhat later. We may thus create a new foreign service which puts us in effective contact with the masses of people—something we haven't had in the past.

Perhaps another constitutional question that will have arisen in 15 years will be a challenge on constitutional grounds to the growing committee control of the details of administrative operations in the government, something we have seen growing rather definitely in the last 20 years. I trust that this challenge will not be made until after the Supreme Court's rule of one man, one vote, has been applied to the state legislatures and to the Congress—until we have a more adequately and fully representative group of state legislatures and Congress. Then the challenge can be made.

I suspect that there will then be some reconsideration, some revision, of the methods by which Congress controls administration. I do not think, however, that changes will diminish the power of Congress. I suspect that they will increase its effectiveness, although, perhaps, shift its emphasis.

I would guess that Congress will be less changed than the

administration and the executive branch in the next 15 years. But, even so, I would expect to see within Congress a rather important change in the leadership system, the internal power system of both Senate and House, with movement toward a stronger, more responsible and probably more representative leadership in each House. I suspect that we may in a sense go back to the 1908–09 period when the break with strong central leadership was made and try to reconstitute it, but with more responsible and representative obligations. This will be an interesting development. Do you think I expect too much?

As to the parties and the public, I can go back in memory to the days when Professor Charles E. Merriam, of the University of Chicago, at Political Science Association meetings used to say, "Party realignment could be just around the corner." And he was always right—but that is where it has remained. Nevertheless, there are cleavages in our society which are politically significant. One of these, it would seem to me, is the cleavage between that body of people who are national or even international in their orientation, their affiliations, and in their outlook, and that larger group of people who are essentially local in their affiliations, outlook, educational experience, and in the orbit in which they move. The former, you might say, are metropolitan citizens of the world. They are the people who are leaders in the executive branch, leaders in the business and professional world, many of them distinguished members of the Senate and House, but still a minority of the population. There is a cleavage between them and the larger, more locally oriented group. How will these groups ultimately affect the voting on public issues?

In all probability, we will see changes of some importance in the organization of functions within the executive branch. The question has been raised, Will there be a Department of Urban Affairs? We might also ask, Will there be a De-



partment of Science and Education? In their pragmatic way, the English, I understand, are now setting up ministries along these lines.

All in all, the changes which we will make will be of fundamental importance, but I would agree with the Senator that the basic look of our government will be much as it is today.

**RESPONSE: Senator Clark**

Mr. Graham was helpful to me, unlike my dear friend John Brademas, because he didn't ask me any questions. Therefore, I shall tell him no lies. I shall run down the line of the six questions Congressman Brademas asked me and comment briefly on each.

What will be the profiles of the Republican and Democratic Parties in 1980? This is a very dangerous question to attempt to answer. I would prognosticate, John, that the Democratic Party, under the impetus of the Great Society, will win the election of 1976; that Bill Scranton of Pennsylvania, having defeated Joe Clark for the Senate in 1968 will be elected the President of the United States in 1972, but then the Republican Party will veer to the right too far again, and the Democrats will come back triumphantly in 1980 and the Republicans will be getting ready to lick their wounds and possibly get another single term about the end of the century.

Will there be a Department of Urban Affairs? Yes, in 1965; we don't have to wait for that very long.

Where are we going to find the planners to handle our urban affairs, and particularly the vexed problems of regional and metropolitan area government? My guess is that by 1980 we will be engaged in that agonizing reappraisal of which Mr. Graham spoke, and that some of the areas are easier to deal with than others. For example, the problem of water supply, I think, will be pretty well settled on a regional basis without too much interference from those vested politi-



cal interests which make it so rough to get anything done at the metropolitan area government level. The problem of land use planning and utilization, I think, is still pretty tough. The whole shelter problem, the transportation problem, are really rough, the interrelationship of highways, railroads, mass transit, open space, recreational areas, are all things for which I share a great concern with Mr. Graham. We just don't have adequate governmental institutions to deal with them. My guess is we are such conservative people fundamentally that we will not have solved those problems by 1980, but we will be in the middle of trying to do it.

John Brademas wants to know where we are going to get the political leadership to deal with these constantly more complex problems, and this gives me grave concern too. In earlier days I have phrased this problem as "How are we going to staff freedom?" and "How are we going to utilize adequately our manpower resources?" "How are we going to see that the round pegs go in the round holes, the square pegs in the square holes?" and, "How are we going to so increase the rewards and diminish the punishments of those careers where talent is in short supply, but where the national interest requires a far higher level of ability than we are getting now?" Well, I do believe that the passage of the Manpower Retraining and Development Act back in 1962 in Title I gave us a good series of guidelines, a good policy statement as to how we can do this. I believe there will be a vast expansion in the whole matter of manpower planning within the next 15 years—not only with respect to finding jobs for the less fortunate with strong backs and weak minds, which seems to be our most critical problem at the moment, but also in wisely and efficiently utilizing our vast pool of skilled and trained talent in the national interest. I would hope we would cease spinning off so many of them into war and into space—and would bring more and more of them into the uses of peace; that some of the kinds of mechanisms

which have been so useful in developing space technology could, for example, be applied in finding solutions to such problems as our sick railroads. I tend to be mildly optimistic about the result, but I would certainly say that a 4-year term for Congressmen is one of the absolute musts if we are going to continue to get the kind of dedicated people in Congress which John Brademas represents today. It just isn't right to expect those people to go out and start running for reelection all over again the minute they take their seats in January after the November election.

Now it was suggested that the states might wither away—and well they may. My own view is, though, as I said earlier, that we will be able, with scotch tape and bailing wire, to fix up our existing governmental institutions and relationships utilizing regional developments along river valley lines or economic lines. A further development of planning at the regional level, which in due course will tie in with the various state governments! Appalachia is one, the Upper Midwest may be another.

Now, I would like to make my next to last comment on the question which John asked me about how do we get the community organization to make enforceable world law possible—while at the same time commenting on Mr. Graham's comments about the integration of Europe including Russia and our more sophisticated recognition of the regional differences and, therefore, the necessity for different policies for different geographical areas of the world. There are many who think enforceable world law is a pipe dream. On the other hand, some very serious students of the problem who have thought deeply and written extensively about it believe the way we would get at it would be something like this: We will go back to the 18 nation disarmament conference at Geneva. Certainly, the increasing threat of destruction to civilization resulting from nuclear weapons—and the vast and hitherto little explored develop-

ments in radiological, chemical, and biological warfare, plus the enormous economic advantages to be realized by both Russia and the United States in having the burden of heavy armaments lifted from them; plus the need for both to combine against an intransigent China—will bring us to a point at the conference table in Geneva at which the Russians and ourselves will iron out the present significant, but not insuperable differences, which exist between their Treaty of General and Complete Disarmament and our Treaty of General and Complete Disarmament, both now on the table.

These differences have been narrowed by the 18-point agreement between Ambassador Zorin and our Mr. McCloy so that the divergences between the two drafts, while very significant indeed, are, in my view, negotiable. I am optimistic enough to think that out of this can come an international disarmament organization which will supervise the disarmament process. It will have to assist it a World Court unimpeded by the Connally Reservation and similar reservations on the part of other countries. There will be international agencies of conciliation and mediation to which political problems can be brought. Decrees of solution will be made by these international tribunals and the decrees will be enforced by an international peace force.

Now this, to many, is still such a pipe dream that it seems surprising to hear a United States Senator lay it out on the line.

Yet, I believe that the alternative is probably the destruction of this, the 21st civilization, because some idiot will pull a nuclear trigger or turn loose some gas or virus and we will all be in the soup.

If we keep constantly in mind, first, the great threat of destruction; second, the enormous economic advantages which could result from a disarmament agreement; and third, the fantastic potentials for the future of this civilization if we can achieve a just and lasting peace, I am fairly confident that we

are going to be able to achieve our objective. Although I agree with Dr. Graham that we have to bring Russia back into Europe, my view is that in trying to do it, we should leapfrog over NATO. The NATO nations are not ready yet, it appears, to unite Europe and won't be for some time after the death of General De Gaulle.

Our primary diplomatic approach should be to work out a detent with Russia with respect to all the major problems which separate us. In my opinion they are ready for it. First, because they have become a "have" nation. Secondly, because they know, as white men, they are disliked as much by the other races as we are. Third, because they are in a terrible row with China. And lastly, because their own economic self-interest must turn them towards the West.

My last comment is, with respect to what changes I would like to make in the Constitution of the United States: It goes something like this, my term will expire in 1968. I have not yet made up my mind whether to run for reelection or not; if I decide not to run for reelection, or if I run for reelection and win, thereafter, but not now, I'll tell you what changes I would like to make in the Constitution of the United States.









