

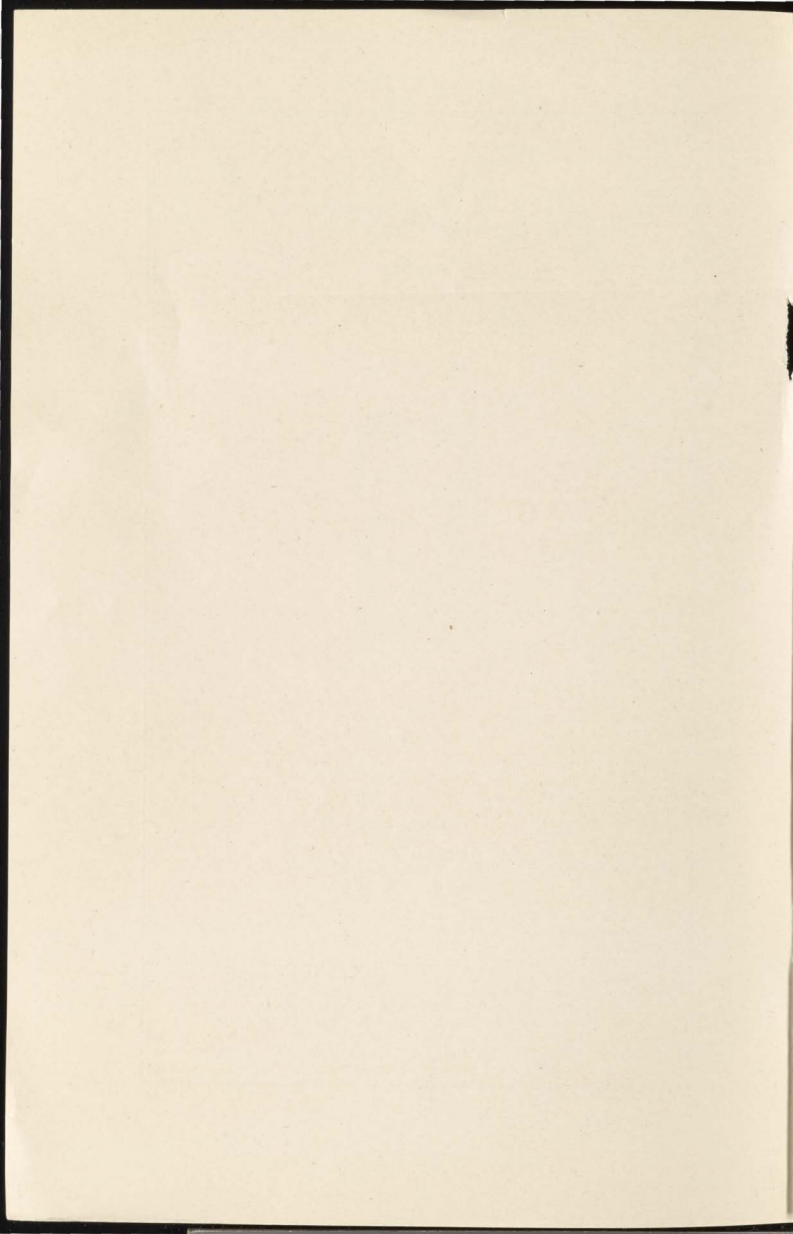
SOCIAL SCIENCE AND SOCIAL PROGRESS



Frank O. Lowden

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the 1929 graduating class of the
University of Oregon, June 11, 1929,
at Eugene, Oregon.

By FRANK O. LOWDEN
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The social sciences are beginning to apply the same method which has revolutionized the material sciences and in them, as I believe, is the best hope for the future progress of our civilization. Economics, psychology, sociology and political science, if I read the signs correctly, are having a renaissance.

For the speculations of the scholastics we are substituting the more prosaic method which Bacon indicated in his "Novum Organum." The science of economics affords an excellent illustration. As Professor Tugwell says, in "The Trend of Economics":

"The most useful result of eighteenth and nineteenth century economic thinking seems to us now to have been the formulation of 'laws' which men immediately set to work to circumvent—and did!

And so the economists, now employing the statistitcal method, which is only another name for the inductive method of Bacon, are writing the science of Economics anew.

What parts of the structure which we call civilization are functioning least successfully? Is it not the very parts in which the material sciences can be least employed and in which the social sciences must shape the course? We have seen the tremendous advance which has been made by the material sciences in the production of commodities useful to men. When it comes to the beneficent distribution of those commodities, however, have we been equally successful? The distribution and marketing of the world's goods are carried on by an intricate network of human instrumentalities. Are we in this field making the same progress we have made in production? It is no uncommon thing to be told by the manufacturer that but half the cost which the consumer pays for his product has been incurred when the product leaves his factory. On an average, the farmer receives but a third of the price which the consumer pays for the food which the farmer produces. Nor does transportation in either case, as might be supposed, account for the larger part of this spread between the price that the producer receives and the price that the public pays. Production is constantly being cheapened through the aid the material sciences give. Distribution is largely effected through the conventions of men. The question which arises is, can not the conventions of men be improved to more nearly match the achievements of the material sciences?

Are business cycles, which result at times in so much human distress, inevitable? This question is being earnestly studied by many of the foremost economists of the time.

There is the problem of the stable measure of value into which our scholars are delving deeply now. It would be hard to overestimate the distress and injustice that have come in the past because of our inability to find and agree upon an unchanging standard of value. There are those who predict that when we have discovered a stable measure of value, the present standard will be regarded with as much disdain as we now look upon wampum—the early standard of our Colonial days.

If society were perfectly articulated, why should there ever be an idle man who wished to work? There is some one somewhere who would like to have the product of the idle man's labor in return for something he himself can produce but does not now produce. Is it too much to hope that when men shall have perfected their human relationships so as to bring them up to the accomplishments of the material sciences poverty can be abolished from the world?

One of the most notable results of science in the industrial field is mass production. Mass production has doubtless cheapened the cost of manufacture, to the great advantage of both capital and labor engaged in industry. There are some by-products of mass production, however, the advantages of which are not so apparent and which are of grave concern. Paradoxical as it may seem, while mass production has cheapened the cost of many commodities, it has increased the cost of living. For it has had the effect of bringing many articles down from the region of luxury to that of necessity in any practical scheme of living. To illustrate: the automobile a few years ago was a luxury enjoyed only by comparatively few.

Now it has become so cheapened that a very substantial portion of our people ride in automobiles. This has changed the whole structure of society, both in the country and in town. It will not do to say that one can get along without an automobile now as well as he could a quarter of a century ago. For society has been so transformed by the use of the automobile that one who does not possess an automobile is marooned in the community in which he lives. For, those amenities of closely knit community life which he once enjoyed are destroyed by the ever moving panorama which he sees before him and there is nothing to take its place unless he himself joins the procession. The automobile, therefore, becomes a necessity in the present scheme of life. And so with many other articles which were once deemed luxuries but have now become necessities in the evolution of this machine age. This is all perhaps to the advantage of those who are engaged directly in these great industries.

But the great majority of our people are not to be found in industry. They are living out upon the farm or engaged in the professions or belong to the salaried class. Of the latter, to use but one illustration, there is the teaching class. How about the great army of men and women who are employed in the educational field and from whom the public demands as its right a decent standard of living, these men and women whose scientific research and whose training of the young keep this machine age going? How long shall we be able to enlist brains and character in this most needful of all professions if we do not pay salaries sufficient to maintain a standard of living upon a level with that of the skilled artisan? For all of these classes the machine age has increased the cost of living by converting luxuries into necessities, without providing a similar increase in income.

Mass production made it necessary to invent mass selling in order to dispose of the multiplying products of industry. Mass selling, with its elaborate organization and its colossal expenditures in advertising, have created, as we are told by the advertisers themselves, a new psychology among the people. Not only does this great expense frequently counterbalance the cheapened cost in production, but it too is constantly transferring objects of use from the list of luxuries to that of necessities. While the per capita income of our people has increased in recent years, that increase has not kept pace, so far as we can judge, with the new wants created by mass selling.

Another by-product of the machine age—all the world is rapidly becoming industrialized. Governments are more and more interesting themselves in finding foreign outlets for exportable goods. We are told that nations are facing the severest struggle in history for domination in trade. Under modern conditions it is becoming a well recognized fact that the real underlying causes of war are economic in their nature. With the enormous production for which this machine age is responsible, how shall we contrive to prevent this increasing rivalry for markets from growing into a clash of arms.

With the tremendous emphasis that has been put upon the production of goods, we tend more and more to measure life in material terms. We exalt and honor the man who avails himself of all the researches which the scientist has made and builds for himself a huge fortune, and we forget even the name of him whose patient toil has made all this possible. How shall we restore the sense of proportion between the achievements of the two? How shall we keep our sense of spiritual and moral values from being swept away by this mighty avalanche of material goods?

I have suggested a few, and only a few, of the questions that arise as a result of this machine age—questions we must answer if civilization is to endure. These questions all have to do with human relationships. A heavy burden is thus laid upon the social sciences.

Society, too, has not yet learned how to husband its natural resources. We are told by the economists that all wealth comes primarily from the earth. It furnishes food and raiment and shelter for mankind. It supplies all the raw materials upon which our marvelous industrial system is based. When we contemplate the wasteful methods by which we mine our coal, our fast disappearing reserves of copper and iron, the rapid depletion of our forests, and above all, the diminishing fertility of our soils, we must,

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I think, challenge the estimate of our national wealth which the census gives. Other nations in the past equally have deluded themselves as to their growing wealth, to find that it was but ephemeral after all. Vladimir G. Simkovich, professor of economic history in Columbia University, tells us of this:

"Go to the ruins of ancient and rich civilizations in Asia Minor, northern Africa or elsewhere. Look at the unpeopled valleys, at the dead and buried cities, and you can decipher there the promise and prophecy that the law of soil exhaustion held in store for all of us. It is but the story of an abandoned farm on a gigantic scale. Depleted of humus by constant cropping, land could no longer reward labor and support life; so the people abandoned it. Deserted, it became a desert; the light soil was washed by the rain and blown around by shifting winds."

Today it is agreed on every hand that our farm population is in distress. And all economists are of a single mind that unprofitable agriculture means rapid soil deterioration.

The progress and security of a nation depend largely upon the kind of people who live in the country. The cities may be more splendid and brilliant. They are more likely to attract the notice of visitors from foreign lands. They may have a more conspicuous place in the histories which men write. He, however, who would measure the soundness of a nation and predict its future will go out into the open country to learn what manner of men he there will find. A city may burn to ashes and a more splendid one arise upon its ruins. But when the soil from out of which the greatness of the city springs is once impoverished, or the people living upon it reduced to penury, the city will vanish from the map of the world. History records a long line of great, splendid metropolitan centers that enjoyed their brief day—brief as history measures time—and then disappeared forever because they neglected the countryside which had nourished them. This may have come about by the exhaustion of the soil. It may have been by the gradual impoverishment of those who till the soil. It does not matter. For the maintenance of the soil and the well-being of those who cultivate it are equally vital to any nation that would endure.

The civilizations of the past have had a common history. In their earliest stages conditions of living were primitive, wealth as we view it was unknown, and human life was precarious. As civilization advanced simplicity gave way to complexity, there was a gradual increase in wealth, and life became securer within the state. This process went on until civilization reached its climax and entered upon its decline. This has been the story of all the civilizations which preceded our own. Is there a relentless law of the rise and fall of civilization from which no civilization is immune? Is man bound forever by some cruel fate to move forward until the paths of progress are blocked by an unseen hand, with nothing but disaster ahead of him? These are questions which thoughtful men everywhere are asking themselves. And these are questions which the universities must answer if they are to have an answer.

The scientific spirit distinguishes this age in which we live above all that went before. It is chiefly responsible for the very form our present civilization takes. Industrialism, which is the predominant quality of that civilization, is in very truth the child of science. In every step in the evolution of an industrial society it was science that pointed the way.

In this wonder-working period of ours, man has indeed largely conquered the forces of nature and made them to serve his will. As Joseph McCabe, in "The Marvels of Modern Physics," says:

"The living thing, which has been the toy of the elements for hundreds of millions of years, is becoming their master."

Science has enormously increased the productive capacity of man. In the industrial field one man can produce as much as six men could produce seventy-five years ago. In agriculture one grower of wheat is equal to twenty growers of the days of our Revolutionary Fathers.

While the achievements of science and invention have improved immeas-

urably the condition in life of the average man, scientists everywhere believe that we are on the eve of far greater discoveries than any that have hitherto blessed mankind. Science has shown that the atom, which long was thought to be an inert thing, the ultimate basis of all matter, tiny as it is, contains a force which transcends all known forces so far used. When men shall learn to avail themselves of this force, as our scientists confidently tell us they will, production, which is the aim of all labor, will be greatly quickened. One of the most noted of recent scientists is reported as saying that within the life of the present generation three hours of labor will be as fruitful as eight hours are now. The discovery of that magic called radium has opened up vast new possibilities to the eye of science. In fact, the earth seems trembling upon the verge of new discoveries which will revolutionize life and bless mankind. There seems to be but one thing that can prevent this consummation so devoutly to be wished—and that is man himself.

In the onward march of the material sciences, it is to be noted with regret that it was not the universities or the institutions of higher learning which took the lead.

Bacon published his "Novum Organum" in 1620, the year the Pilgrim Fathers landed at Plymouth Rock. This is commonly regarded as the beginning of the present scientific age. He suggested observation of facts and experimentation as substitutes for scholastic theories.

It might be supposed that the universities of that time would be the first to feel the impetus of this new movement. But not so. Curricula of the universities remained as they had been from the beginning. The first effort to organize the new knowledge of the world in which we live which sprang from the Baconian method was made, not by the universities, but by the Royal Society organized in England in 1660. The universities of England, for more than a century, were seemingly oblivious of this new movement which was to transform the world. And so in the new world, the colleges, which were founded largely upon the English model, long contented themselves with the classics, with logic, with elementary mathematics, and were unmoved by the new spirit of science which was abroad in the world. About the middle of the eighteenth century, however, the influence of the scientific spirit had made its impress upon America, and Benjamin Franklin founded what was called at first the American Academy, but which later was reorganized as the American Philosophical Society.

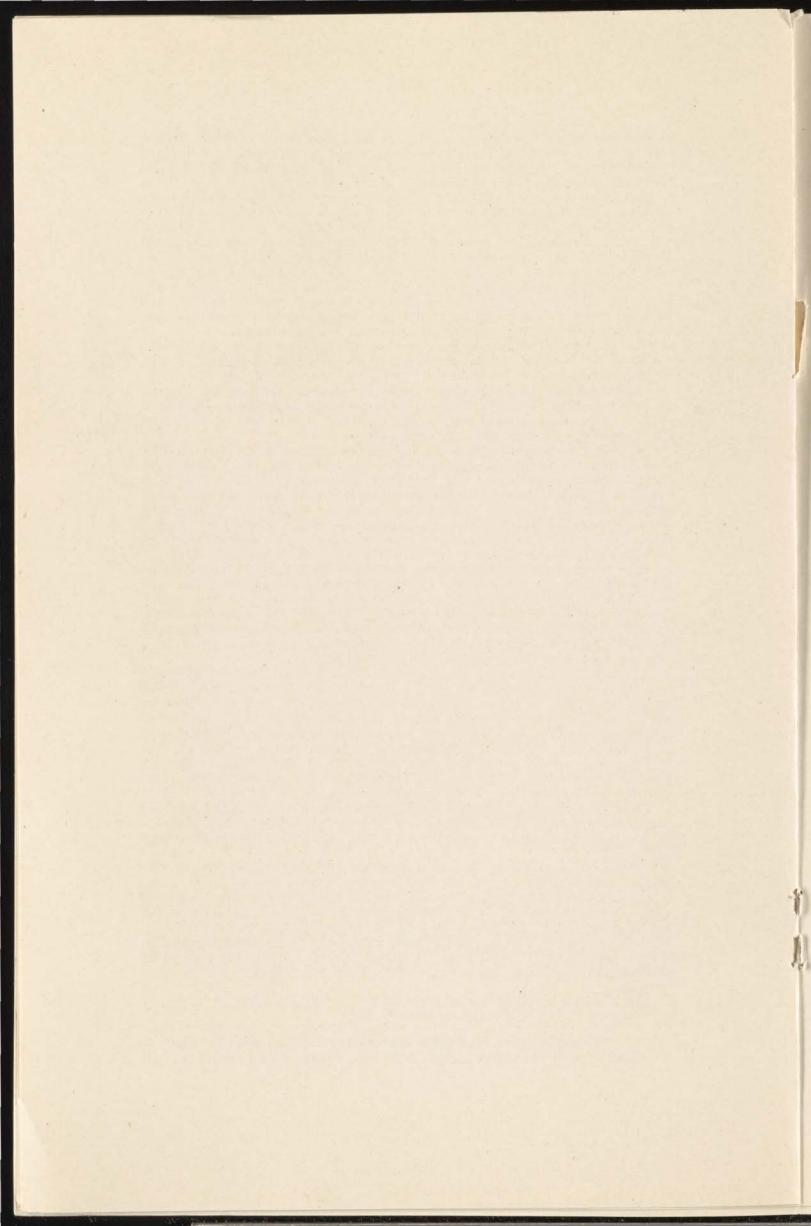
Though in establishing the American Philosophical Society, Franklin but followed the precedent set by the Royal Society in England, of which he was a member, he enjoys the distinction of being the first in the modern world to extend the scope of the college and university so as to include the developing sciences. In 1755 he was instrumental in establishing the College of Philadelphia. Scholastic subjects were included in the curriculum, but to these were added scientific instruction in all of the sciences that thus far had been evolved. This was the beginning of the revolution which has transformed the curricula of the modern universities of the world.

Nor was Franklin satisfied with instruction in the material sciences alone. The College of Philadelphia included in its teaching such subjects as "history, civics, ethics, government, trade, commerce and international law."

The modern university is now making its full contribution to the continuous achievements of the material sciences. Have the so-called social sciences, however, kept pace with their material sisters in the progress of the age? It was but natural in the development of the social sciences that the method which had transformed the material sciences should be long delayed. The social sciences deal so largely with intangible forces involving human nature, that it was more difficult in these sciences to apply the method of observing facts, of applying the rule of trial and error, than in the material sciences.

Despite man's triumphs over mere matter, as distinguished an authority as Professor Fetter, of Princeton, recently said:

"Throughout the nineteenth century the civilized nations, like children with new-found toys, rejoiced in each new wonder of



material progress. Suddenly we were made to realize how far material progress had outstripped spiritual growth.

"Race, biologic quality, human psychology are the foundations and substructures on which any civilization is built. Are these present foundations strong enough to stand the increasing pressure of the enormous superstructure of our material achievements? Many men are asking whether indeed civilization has not already begun its descent into the twilight of the gods. There is no longer doubt in any thoughtful mind that the danger that threatens the world can be averted only by drafting all the powers of science, and all the finer possibilities of human nature, into the service of a new statesmanship."

Why this note of despondency repeated with ominous frequency from time to time? Is it not because those sciences that have had to do with human relationships have not kept pace with the mere material sciences?

The scientists tell us that the first noticeable progress upward began when man became a social animal. So long as he was not conscious of being a member of a society, however primitive, progress was impossible to him. It was only when social consciousness came to him that he began his upward climb to the heights upon which he stands today.

Perhaps in this we find the clue to a higher civilization than any we have yet attained. Just as the material sciences have vastly improved the condition of mankind, so the social sciences seem now to have entered upon a new career of usefulness to the world.

It was in the recognition of the possibilities of the material sciences that the social sciences received their greatest impetus. I quote from that great work called "The Rise of American Civilization," by Beard:

"In the midst of the intellectual activities which surged up with increasing power as the eighteenth century advanced was formulated the most dynamic social theory ever shaped in the history of thought—the idea of progress or the continual improvement in the lot of mankind on this earth by the attainment of knowledge and the subjugation of the material world to the requirements of human welfare."

This concept was unknown to the ancients. It was unknown to medieval times. For the first time in history the idea dawned upon men's minds that there might be continual progress. An implication of this concept was that such progress should go so far as to embrace all mankind. It was the most powerful impulse that had been set in motion against the idea of the need in society of classes or of slave and free. From its impulse there came largely the revolution in America and the revolution in France. It inspired the urge toward democracy. It has become the underlying and still but half-recognized principle of the social sciences. It is the absolute condition upon which rests the perpetuity of the modern state. The happiness and well-being of the average man and woman must be steadily advanced if our civilization is to endure. The economist may explain, the statesman may excuse, our failure to accomplish this, but the fact remains that no government can endure if the well-being of the men and women and children under that government is not continuously improved.

And why should we despair of the indefinite progress of the human race? We are told by the scientists that man had been upon the earth for at least fifteen hundred thousand years before he learned to make the crudest instrument of stone. And that event was only eight thousand years ago. One and a half million years to invent his first crude tool! And only eight thousand years from that primitive invention to the marvels of today!

Of all the institutions of men involving human relationships and presenting perplexing problems, government perhaps stands foremost. From the days of Aristotle political philosophers have discussed the relative merits of monarchies, aristocracies and democracies. Our own fathers, called upon to establish a new form of government in a new world, had before them all this accumulated wisdom and, besides, the experience of mankind since

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the dawn of civilization. They set up, as Lincoln phrased it, "a government of the people, by the people and for the people." They created in the light of all history a representative republic. During the nineteenth century no one arose to dispute the wisdom of the fathers as to the form of government which they had established. Controversy might rage about the proper construction of our basic law, but no one denied the validity of the fundamental principle of the new government. Whatever differences of opinion prevailed in other realms of thought, it was taken for granted by all that popular government would remain a heritage forever to those who should come after them. Here, at least, was solid rock upon which future civilization should rest. It seemed, too, to the profoundest students and statesmen of the time that all the world was drifting towards this ideal.

We are admonished now, however, by the swift current of events in the old world, that self-government, if it is to endure, must discharge successfully the increasing burdens which are being laid upon it. Government, too, must employ all the resources of the social sciences.

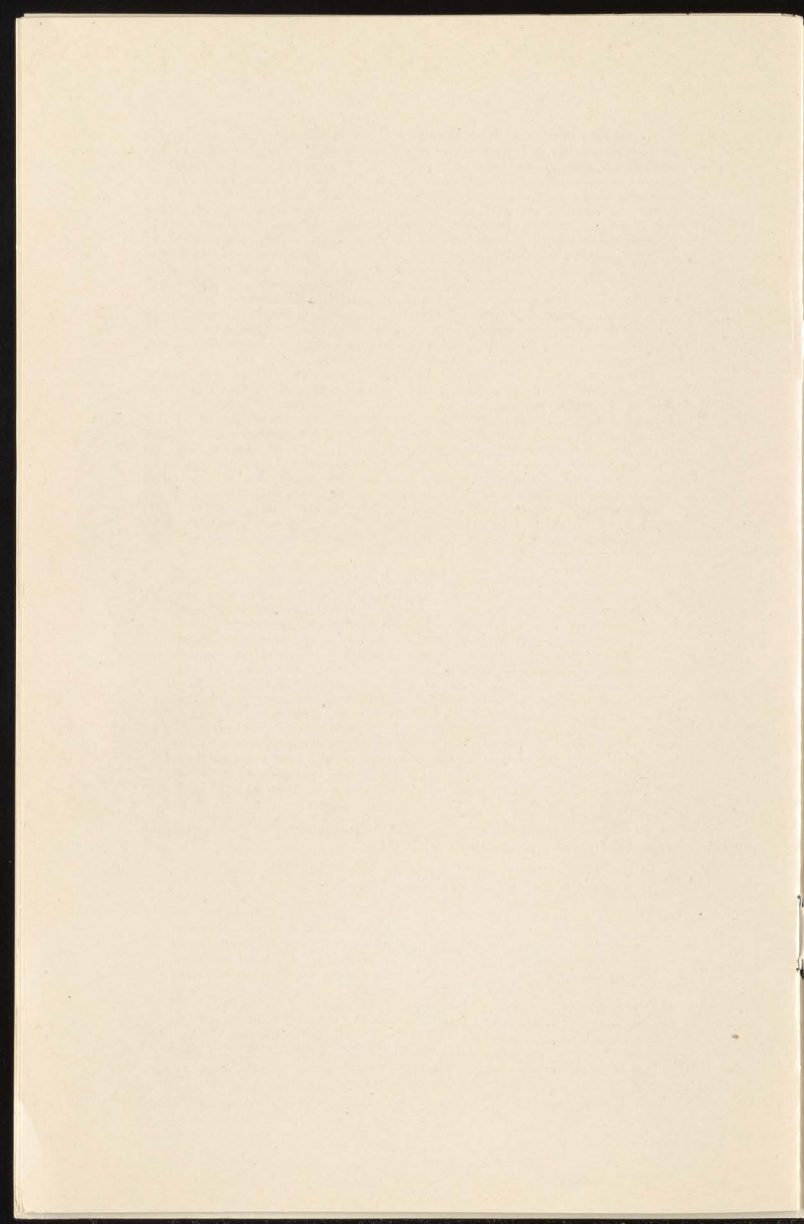
Government all the time becomes more complex. Many men regret the loss of simplicity of earlier days in government just as they regret the loss of simplicity in other affairs of men. They dream of a return to the simpler times, but they dream in vain. A growing complexity in all the affairs of men has always gone with an advancing civilization. The moment men first applied the principle of division of labor, that moment they set out on a path marked by an ever-growing complexity in human relations. As science is largely responsible for this growing complexity in affairs, so science alone can enable us to so order this complexity that it can be dealt with effectively. To meet the demands of this increasing complexity we must enlist all the aid which science has to give. As your own President, in an address delivered before the American Political Science Association, at Columbus, in June, 1923, said:

"The application of scientific method to the natural sciences has revolutionized the world. It has made possible a material progress that is appalling. It has produced power creating forces that have served humanity with prodigality in times of peace, and threatened the very civilization that created it in times of war. The industrial revolution has brought magnificent progress and mighty problems. It has yielded marvelous prosperity and profound perplexities. It is these problems and perplexities that now menace our institutions. The power controlling sciences must supplement the power creating sciences if civilization is to endure. It was the application of scientific method to material forces that produced our mightiest problems and it is only through the application of the same scientific method to the problems of our political and institutional life that our democracy can survive. We must be as scientific in the solution as we have been in the creation of our problems."

I know no better illustration of this truth than that contained in a recent address of Dr. Charles H. Mayo:

"Medicine," he says, "has a vastly wider field than it had a generation ago. Its very triumphs have brought it new difficulties and further obligations. With the aid of the scientists, medicine has succeeded in upsetting the law on which evolution has depended for the progress of living creatures; now the unfit survive. However much we may glory in the triumph of humanitarian principles, and however impossible it is for medicine to travel any other road, we must not close our eyes to the evil of protecting and perpetuating the physically and mentally unfit. In thirty years the proportion of insane in our country has doubled. The appalling figures show all clearly that diminishing mortality entails an increase in mental instability and criminalism. Out of the impossible situation which we are fast approaching, the world must be led by medicine, since nations decay and disintegrate from within."

It is a hopeful sign of the times that political science especially is now concerning itself with the actual facts in government. It is substituting



the laboratory method for a *priori* speculation. It is finding more and more its close relation to the other sciences. A conference of the new school of political science is not complete unless there are present also students of the other social sciences and even of biology. For the new school finds all these sciences touching one another at a hundred points.

In all other fields of human activity this is the method which has been employed successfully. Why should the domain of government be an exception?

Business already has learned in a measure to avail itself of some of the lessons which the social sciences teach. Not only is the physical laboratory to be found as a part of the equipment of large business, but there is a department in one form or another devoted to the human relations involved in any great enterprise. Just as business has grown away from the "rule of thumb" and employed scientific methods more and more, so the government must avail itself of all the knowledge which science can bring to the problems of government.

Change is the law of life. Even language does not attain its final form until it is dead. The institution we call government is in process of constant change to meet changing needs if it is to endure. The problem always is how to fit the change to the need at least cost and without detracting from the efficiency of the structure as a whole. This is oftentimes a difficult and always a delicate problem. To solve it correctly requires ability of a high order, a thorough understanding of the facts, and an accurate knowledge of the political principles that science and experience show to

We would be blind if we did not recognize the fact that an assault is being made upon representative government all along the line.

Recently, in an address before the American Bar Association, James M. Beck, late solicitor-general of the United States, said:

"No present fact is more significant than the reaction in many nations against democracy and in favor of one-man power. It matters not whether the one man be called a czar, emperor, king or dictator—the essential fact is his power. Today many of the oldest nations of Europe are in the grasp of dictators. . . .

"At no time within the memory of living man has Lincoln's ideal of a government of and by and for the people been more openly denied and flouted."

Even Lord Bryce, staunch friend of the democratic principle in government as he was, wondered in his last great work, "Modern Democracies," if self-government was to endure.

In our present mood, we are not impressed with the solemn warning of Bryce and other scholars of our time. We assume that whatever may happen to other nations, we are secure. Can we be sure, however, even in America, that we still hold our ancient faith in the cause of self-government? Visitors returning from Europe feel compelled to applaud the achievements of Mussolini, though he has overthrown the representative system of a great country.

It is true that self-government had failed in Italy when Mussolini seized the reigns of government and she seemed on the verge of anarchy. In other countries of the world where dictatorships have supplanted constitutional government there was the same imminence of disaster. The mournful fact remains that self-government had proven unequal to the strain that was placed upon it. The lesson from all this is that popular government, if it is to endure, must acquire and maintain an efficiency in government superior to that of any autocrat. If the people cannot themselves maintain an orderly government and cannot through constitutional means secure social justice to the great body of the people, autocracy in some form is bound to come.

I still believe that representative government which our fathers sought to establish is the best hope of earth. I can not close my eyes, though, to the fact that it is now on the defensive. I have an abiding faith that it yet will overcome its foes; but only because we shall make it function better and better all the time; and this can be accomplished only when we have applied the same scientific method to government which we have applied elsewhere and which has revolutionized the world.

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