THE INQUIRING MIND IN A CHANGING WORLD

In the immediately practical sense, the idea of a changing world is carried unavoidably in the term “the new deal,” which means re-shuffling the cards and beginning again. I happen to live in Washington, where one sees the dealing intimately every day. And yet rather than attempt to discuss any special phase of this great problem, in economics, science, or government, in the so-called practical sense, I am choosing to speak in terms that are practical in the more fundamental view, regarding what may concern certain underlying principles which must be recognized where true progress is made.

I have been impressed by the tendency of education to stress knowing all about many things, whereas it is also necessary to know in many cases rather “what these things are all about.” It is this aspect of knowledge that we find expressed in basic human conceptions stated in philosophy and religion. Some pride themselves on having no religion and no philosophy—which is commonly tantamount to saying that they have both, but they may be too weak to stand the test of exposure to discussion, and of little value for purposes of life.

So, in spite of the fact that I know how difficult it is to express the values of human experience to those who are just about to enter upon such experience, I am venturing to discuss a topic which we confess to be almost infinitely difficult

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1 Address delivered by John Campbell Merriam, Ph.D., Sc.D., LL.D., President of the Carnegie Institution of Washington, at the nineteenth annual commencement convocation of the Rice Institute, held in the Academic Court, Monday morning, June 4, 1934, at nine o’clock.
—and yet we know that it is unavoidable in considering the greater world questions of this and other ages.

There is no problem so old, and yet so strikingly representative of our situation in this particular time, as that concerning extent to which the peculiar qualities of the human mind may be used to control the world in which we live. The idea expresses itself through literature from the story of creation to headlines of the morning papers. It involves questions touching philosophies and religions, and relates to urgent problems of economic and political organization. In the sense of immediate, personal significance this matter concerns some of the major opportunities for constructive thought and action open to graduates prepared for service such as the world now offers.

In spite of what some may assume to be its unpractical or purely philosophical implications, there is no problem that has attracted interest over the ages more strongly than this influence of human intelligence upon the world, and its ultimate effect on welfare of the human race itself. Whatever other significance attaches to accounts of the Garden of Eden and the happenings there, it is interesting to find the suggestion that man attained knowledge making him dangerous. Lest with newly acquired abilities he might eat also of the tree of life and live forever, man was banished from the Garden and told to earn his living by the sweat of his brow.

In a manner reminding us of ancient ideas, the press of today carries vigorous arguments regarding dangers of newly acquired knowledge derived through research, or the inquiry of science. One suggested remedy involves closing the doors of that recently discovered Eden, the laboratory, where the tree of knowledge bears many kinds of fruit useful for sustaining and healing of the nations.
In its earlier interpretation this exceptional ability, or knowledge, possessed by human kind may have been looked upon as intuitive. At the present stage of history it is the influence of inquiring, investigating minds, with their capacity for accumulation and organization of information, that causes us to consider carefully the results of human activity upon world processes.

According as conditions vary, we view this difficult subject with reference to influence of man's activities upon the world around him, or upon structure and function of society, or in a practical sense upon opportunity of the individual. Always we recognize the fact that there reside in human kind peculiar qualities and powers, the use of which represents both responsibility and opportunity.

Seen in still another light, we note the possibility of important difference in the influence of man's special qualities as between what might happen in a static world compared with one undergoing change. In early references to this question it can be assumed that the world was seen as in effect a completed work. But in the vision of modern knowledge our universe appears as a rapidly changing panorama. Viewed with respect to these conditions, it is natural to inquire whether possibly man himself changes or is modified by influences about him, or arising indirectly through his own activities.

Both scholars and the intelligent public can be considered as accepting today the idea of a world that varies markedly from age to age in the sense of historical stages. Just as the telescope has penetrated unimagined realms of space, so intensive study in piecing together fragments of history has shown us far regions of past time, with the story of great changes experienced by the earth and its inhabitants.

To learn in early childhood that the coral-bearing lime-
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stone rocks beneath my father's house in eastern Iowa were formed on the bottom of an ancient sea, and that deposits of alien rock strewn over the limestone plains had been carried there through influence of huge flows of ice, meant for me, personally, early acceptance of the idea that this has been a world of tremendous changes.

Today no one stops to question the story of life leading back through the period of the sabre-tooth tiger and the dinosaur to still earlier ages when the aristocracy of living creatures attained no higher level than that of slimy things crawling on the shore. Also there are few who find difficulty in accepting as our ancestors those men who struggled through the Stone Age and were contemporaries of the mammoth in a past geological period.

And yet it is interesting to note that with all we know of history and its continuous movement, there are few questions more vigorously contested today than that concerning the effect upon human kind of this uninterrupted surge of change or movement in the world. Some would see man as undisturbed by it; others look upon human life as moving and changing. Stated in another way, those tremendously significant problems concerning the meaning of the great stretch of human experience called history, constitute today one of the greatest fields for critical discussion. The question has shifted from inquiry regarding evolution of nature to that concerning possibilities for advance of man.

Should we look upon the world as unchangeable, one might conceive of the influence of man's intelligence upon it as large, and the effect of his relation could conceivably have importance in determining the length of time he will maintain his existence. But with a rapidly changing world, the importance of this contact might be increased greatly, and the period of survival of mankind shortened. Or perhaps
we may think of adaptation to changes as they take place bringing advantages tending to extend life of the race, and at the same time giving new possibilities for evolution.

The dinosaur, with a brain of relatively small size, did not take thought for the morrow and became extinct. Will the human race follow the same course, or will intelligence find a way for adaptation and maintenance of its place, or will new types of evils we devise bring relatively early extinction?

So far as we are aware, no other group of organisms has found so many ways in which to widen invitation to deterioration. We have only to note that, with all of our scientific study of diet, over-eating is an unquestioned abundant cause of death among valued members of society. Also with vast development of human works in physical construction and in social organization, we extend the complication of human relations in such manner as to open the way for disasters like the World War.

It will be the task of future historians to decide whether in this age man has already reached the highest possible stage of evolution in the sense of physical, intellectual, and spiritual characters. A lifetime of study devoted to subjects in this field gives me, personally, a perfectly clear picture of mankind slowly building itself upward in physical and cultural qualities through vast periods of the earlier and later stone ages. That we should accept present intellectual capacity and comprehension of man as at the highest possible level would seem to leave only the pleasures of accumulation and organization for the future. I would hope that there will not be absent from the future world that opportunity for advance that has characterized nature through all time as we know it.

Physical changes which might better our situation are largely matters of biology. But in a great number of rela-
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tions this biology connects itself closely with nervous and mental activities. Whether these factors concern our intellectual opportunity, and even our dispositions directly or indirectly, it may not be necessary to assert. But we know that in practical, everyday life these relations are given large value.

I should hope that with the tremendous advance of science, physical, biological, and psychological, the future may make possible such physical advance as will give a better life and wider opportunity for its effective use and enjoyment. What actually happens will depend upon our interest in looking still more deeply into the plan of nature; also it will depend upon the degree of wisdom in our use of knowledge secured.

What the future has in store for us in the region of social, economic, governmental, and spiritual values is again dependent largely upon our honesty of purpose, ability to concentrate attention of many workers in many countries, and perhaps through many ages, upon selection of what best meets human needs. The long struggle to find methods for organization of society which can give order and freedom, and yet secure power of the group for achievement not possible for the individual, has brought forth great principles upon which to build. The adjustments have been difficult. Swift changes in generations bring the almost infinitely difficult problem of passing on through education the results secured. Selfishness and lack of vision destroy again, and again, and again the new structures. And yet the world as a whole has probably today a better idea of how men can live effectively and with satisfaction, as groups and as individuals, than in any earlier age.

If mankind is to adapt itself to a changing world, and perhaps continue its evolution, it is necessary that we recognize the critical necessity of giving to study on organization and
evolution of society an amount or a value of thought at least comparable to what has been devoted to other great works carried forward in the interest of society. But, knowing the dangers of world conflict, we spend billions on armament as compared with what might be called thousands on learning to know the means of understanding and of maintaining mutually constructive human relations. Again, if we can learn to place around great business enterprises safeguards against so-called bonanza financing comparable to those which we set up for protection of the right to hold property once acquired, there could be wider peace and larger freedom.

To make such advance as has been suggested means recognition of these facts by society and by the individual. Whatever it be called, vision or planning is essential. It is also to be remembered that according to the view expressed by those who see the world and society as in a process of evolution, the world scheme, including society and man, is itself constantly changing, and no program can be adequate which fails to take this factor into account.

Just as the critical position of this country and others at this time seems the outcome of inadequately guided or controlled constructive action, so one may look upon the present situation as presenting almost infinitely multiplied opportunity for activity designed to give the best means for adjustment and for further progress. It will be a rare field of business or government or science in which you do not find widely voiced, the cry for men with creative ability, vision, and balanced judgment. There are millions without employment, and yet the need for those able to do the most critical work is not met.

So at this particular moment in the experience of mankind there is unexampled call both from the nation and from the
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world for those who have minds that insistently inquire as to the values in situations as they really are, and show ability to find further remedies. This means that opportunity is not just knocking at the door—it is calling loudly.

It has become the fashion to say that no other period of history has presented so many human problems demanding attention. In part this is because we have come to feel the effect of these situations through unpleasant personal experience. But these great questions were with us in the last decade, and the need for their solution was just as marked as at this moment. When disaster impends it is easy to obtain a hearing on the factors involved. When there is seeming prosperity we listen less readily to discussion of what we do not desire to see.

The basic principles of economics and government that determine action and direction of movement are the same in periods of prosperity and of depression. The mind that carries its inquiry below the superficial features has the only real picture of what is taking place. It is such a type of inquiry or vision that is needed. It does not matter whether its work is done under the stress of emergency or in periods of apparent tranquillity but of actual danger.

No one who faces the major problems of agriculture, mechanical or power industries, finance, general economic trends, international relations, or even of so-called exact science, deceives himself into thinking that all the questions have been solved. In every science, profession, or trade, the number of critical problems for which answers are urgently needed is very great. It is not possible to conduct any kind of business or professional activity without meeting them at almost every step.

I have referred to these questions in terms of inquiry rather than as research, though the attitude of mind in the
two is the same. It is within the reach of every intelligent worker to make inquiry as to what things need answer, and at least to look down the path which one must follow if solution is to be found. The contribution by honest inquiry touching every aspect of these activities through practical and theoretical examination may be very large. The possibility that such collective knowledge may determine governmental policy is also important.

In this connection it is desirable for us to keep in mind that unless government over the world is to pass into the hands of the few, its success will depend upon ability to develop widely among men this habit of inquiry and honest, independent thinking at a level higher than that thus far attained.

If the world were unchanging in its physical and life conditions, and man were not driven forward by the urge of his inquisitive, constructive faculties to new levels of social, economic, and governmental organization, it might be possible to set up a program which would place less responsibility on the individual. In the changing world as it exists, our hope lies in continuous alertness, and in exercise on the part of all groups and individuals of powers deriving normally from the peculiar qualities with which mankind has been endowed. To avoid such responsibility is to invite that type of evolution advanced by the brutal laws of survival of the fittest, rather than by principles resting upon intelligent, constructive cooperation and brotherly love.

What has been said regarding society as a whole concerns also the individual, including each of us present here today. If the world program is as it has been pictured, its advance is ultimately dependent upon the thinking and action of individuals singly as well as collectively. The tendency to shift responsibility for initiative is large. In reality the value
of initiative is one of the most important factors involved in the foundations of government. In this struggle for the highest type of individual liberty there are no exemptions or exceptions. The penalty for failure is not punishment as ordinarily understood, but in simple terms it involves immersion in the sea of oblivion.

The advantages derived by the individual from exercise of honest and effective inquiry as a habit of life are greater than is commonly assumed. They comprise on one hand the fundamental values that concern the scientific or philosophic or religious conception of our relations to the great movement of evolution or creation with which each individual may be connected. In another direction they have relation to effectiveness and enjoyment of life that can be secured only in part by other kinds of approach.

I do not believe that evils arising through man's god-like qualities will, as a poet has suggested, "drive him on," to be the "wreck of his own will, the scorn of earth, the outcast, the abandoned, the alone." But I am of the opinion that if our possessions of ability and creative power are not guarded carefully we may meet disaster. Nothing less than embedding the idea of responsibility for these qualities in the mind of every individual will suffice.—This means of course you and me.—With this accomplished the world may go forward on a career of creative activity without fear.

To have even an infinitesimal part in a great movement such as the longer history of the world shows us, and to keep the touch with this advance which each individual should have, gives a dignity to life scarcely possible by any other means. Without knowledge of the past and belief in the future, life would indeed represent a hopeless existence. To eat, drink and enjoy the pleasures of the moment might under such circumstances well take a place of high im-
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portance. But, today we no longer live isolated from the past out of which man has been created, and to which we owe our existence, and in large measure our possibilities for the future. Each individual has, or may have, a part in this scheme of things that arises from a remote past, and reaches into a future that we see but dimly.

Though we are by nature endowed with qualities that lead us to inquire, investigate, and build upon new knowledge, our educational program unfortunately tends only too often to develop discipline at the expense of initiative, and imitation may overshadow inquiry and constructive ability. Psychologists speak frankly regarding the small percentage of use for aspects of the mind that should lead toward the building or creative type of effort.

But, more and more, education comes to recognize the need for development of those powers that help us to see, to find, to organize, or to create where no material of the type we need seems available. Out of these activities arises much, even in the smaller things of life, that leads to individual accomplishment, and to that attainment which is in considerable measure the wine or stimulus of life. As the world panorama changes and old things give way to new, the lure of opportunity leads the inquirer on to further achievements and to larger interests.

Relation of the habit of inquiry to enjoyment of life is a factor of high importance. Today we look upon a degree of appreciation and enjoyment as not only permissible, but as constituting a necessity in living. Many basic pleasures of the senses begin to pall early in the span of years. Those forms of appreciation linked with imaginative conceptions linger, or show increased development with later life. Music, color, artistic combinations, with the higher values of truth, remain. The significance of money, control of organization
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and even of power, may fade in middle life. The joys of an inquiring mind that reaches out into the endless vistas of space, time, beauty, and reverence, continue to increase. Alike for poor and rich, for great and those of modest rank, they give that which time does not strike down, and which change only intensifies.

Out of the developing individual experience there tends to grow an attitude toward life which gives perspective instead of formless space and order in the place of aimless movement.

Some years ago, one whose name I do not know published a series of stanzas of which one voiced confidence in the ultimate values and outlook of the universe. It was presented in terms of our attitude toward fading splendor of the autumn woods. In a manner it expressed the longer vision of those penetrating minds that see in what might appear to be waning glories of humanity only a stimulus to further effort—an effort in which the elements looked upon as destructive may become a saving power.

The theme of these verses concerned destiny; with spring, summer and autumn contrasted. The first touched the influence upon us of that miracle of miracles, the opening of spring. As paraphrased it reads:

Who walking in the spring may see
Fresh green upon the poplar tree,
And smiles with hope as he goes by,
Begins to see his destiny.

The last lines, relating to autumn read:

He who can see the glory fade
From noble works that God has made
And keep faith fresh in his soul's eye
Is master of his destiny.

Those who see most clearly the greater story of mankind, with its record of progress from age to age, and know also
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the inherent power of inquiring, constructive minds to build out of and upon the past, can best appreciate the significance of this statement.—An educational experience has given knowledge of your abilities, and has tested your power in their use. You know also the story of that struggle for truth and spiritual liberty carried through millennia up to this day of June in 1934, and—to each of you may I say—I am sure that with this vision of life, faith will be kept fresh in your soul’s eye, and that you will be master of your destiny.

John C. Merriam.