

HISTORY IN THE MACHINE AGE¹

Not so long ago I thought that the important questions in history centered around such problems as whether the battle of Tours should be called of Tours or of Poitiers; whether Attila, the king of the Huns, failed to make his threatened attack upon Rome because he was ill, or because he was bought off, or because he was overawed by Pope Leo; whether Rome fell in 325, 476, 768, 1453, or whether it has not fallen yet; whether Leif Ericson reached Chesapeake Bay or went only as far as the Jersey coast, or, perhaps, Rhode Island, or Cambridge, in Massachusetts, or perhaps not any farther south than Labrador; and did the Chroniclers use *concilium* and *consilium* interchangeably, or did they use them to represent quite distinct ideas? To the historian these questions are not only interesting but highly important.

From the midst of such engaging problems, I was drafted to serve on a committee to reconsider the readjustment of our school program in social science subjects to prepare our youth to meet the problems of modern society more adequately. With me on that committee were economists and educators, political scientists and sociologists, as well as some who represented primarily persons of affairs interested in the schools. That committee took as its first problems: What are these new conditions? In what direction are they moving? What kind of life are the children now in school going to face when they leave school? The attempt to answer these questions brought into sharp focus the bewildering progress of modern science and technology, the marvels which it has wrought in our own day, and the hints of even greater marvels which it promises to bring

¹ Presented on January 16, 1933, as the annual address of the eighty-fourth annual meeting of the Minnesota Historical Society. *Ed.*

forth in the near future. It brought into relief, too, the economic, social, and political changes which have followed in the wake of this technological advance.

And then, against such a background of current problems and activity, came the next question of what studies we should provide to equip the pupils to cope with such a world. In answering this question almost every possible form of social science and every conceivable arrangement of those forms is being canvassed. So, too, is the question of how far back into the past this instruction shall go. Has modern technology laid down the challenge that our youths would be better equipped to adjust themselves to the marvels of the coming age if we did not fetter them with too much knowledge of the past? Then they would have no old ways to unlearn. Then they would not be crossing arterial automobile highways in an ox-cart manner, so to speak. Would it not be better if they learned little or no history at all? Historians, of course, feel rudely jolted by such questions. But they have been raised in all seriousness by well-intentioned persons and, as such, merit consideration. I am submitting to you tonight some of the reflections which those questions have raised in my mind during the past several years. Is the obliteration of knowledge of the past, in whole or in part, really the challenge of technology, or only the superficial judgment of its self-appointed spokesmen?

I have thought of these problems much in the past five or more years, but this is the first time I have been called upon to collect those thoughts. I now feel that I was beguiled in a moment of weakness to prepare a talk for this meeting. The superintendent should have given me another five years in which to organize those thoughts, in order to set them forth so that they might mean to the audience all that they mean to me. But he has assured me that you can readily supply the finished form to the ideas which I attempt to express. There is not time enough, nor is it neces-

sary before this audience, to undertake a comprehensive discussion of the cultural functions and values of history. I shall, therefore, confine myself to those aspects of the topic which may be of direct concern to the technologist. Let me, then, approach the question from three angles. First, the sentimental. Is the knowledge of the past essential to the enjoyment of life? Second, the practical. Is knowledge of the past essential to the successful conduct of affairs? And, finally, the scientific. Is knowledge of the past essential in penetrating the limitless depths of unrevealed learning?

First, the sentimental. Did you ever stroll with a child of four or five or six? If you have done so, you will have no difficulty in recalling the steady procession of questions provoked by everything in sight. What? Why? How did it happen? These questions had to be answered about each new object of interest. More likely than not you had exhausted your supply of historical fact, and, unless you are a very unusual person, your supply of fiction as well, long before the stroll was ended. You probably vowed then and there that you would take out a membership in the historical society and study its publications before you ventured on another stroll like that.

If you did not make that vow then, you did so when you entertained some friend or relative from a distant place. The accustomed neighborhood of your routine life may not plague you with riddles, but guide some stranger about it, and at once it begins to reveal its wide variety of questions—all of which you are called upon to answer. The more critical intelligence of grown-up curiosity deprives you of recourse to any reserve of fiction. You are called upon to present the facts—historical facts. And when you yourself leave your accustomed neighborhood, you find yourself bristling with similar questions, questions so insistent that you cannot refrain at times from asking a perfect stranger to supply the answers. Apparently we never outgrow the

tendency to ask those questions, nor the urge to have those questions answered—nor are we satisfied with a fanciful answer, however entertaining. We insist on the truth, and that truth about most objects of interest is history. All of us, whether harassed parents, or hosts to strangers, or visitors in other parts of the state, are grateful to the historical society for placing markers on the more significant historical sites. We are so grateful, in fact, that we want more, and, in addition, more extended information.

A recent book has brought to my attention again how universal and persistent is that human desire to ask questions about the unusual and the strange. This book is the little, but highly instructive and entertaining, work entitled *An Introduction to the History of the Teaching of the Social Sciences* by Henry Johnson of Columbia University, whom some of you will recall as vying with Sinclair Lewis for a place among the most distinguished sons of Sauk Center. Professor Johnson cites the fourth chapter of Joshua. There, you may remember, is told the story of the placing of the twelve stones at the crossing of the Jordan. Why were they placed there? Let me quote, "That this may be a sign among you, that when your children ask their fathers in time to come, 'What mean ye by these stones?' Then ye shall answer them," and there follows the allusion to the Ark of the Covenant. Joshua was not only aware of this human trait, but he deliberately made important use of it.

And it was something of that same wisdom which prompted the European statesmen of the nineteenth century to be so insistent upon teaching national history to all the children. They also erected many monuments to provoke questions which that history answered. The most recent school of psychologists would approve this wisdom of Joshua through its theory that what the individual learns affects his personality, in a sense becomes part of him. Thus persons learning the record of a common environ-

ment would, to that extent, become unified. Next to the consciousness of a common kinship, society knows no stronger bond than that of a common tradition. Devotion to a common ideal has held people together, but ideals have an unhappy way of crumbling in the face of reality. The knowledge of a common tradition is much more lasting—the deeper, the truer it is, the more firmly it will bind. Ideals arising from such a foundation have a far better chance of survival. Thus the sentimental interest in the past contributes not alone to the amenities of life but becomes at the same time a powerful cohesive force, the more essential the larger the society.

Now let us consider another aspect of the sentimental interest in the past. Not long ago, I heard the "Skipper," as the students have affectionately named the conductor on the inter-campus trolley line, congratulating an elderly passenger. When the passenger had alighted, the Skipper explained to me that the elderly gentleman had just discovered that his grandmother was the sister of Senator Stephen A. Douglas. Both the Skipper and the gentleman in question seemed happy at the discovery. They are not peculiar in that respect. Many people are interested in finding out about their ancestors. The extensive use of the genealogical records of the Minnesota Historical Society abundantly attests this interest. On the whole, the effect of this interest is good. Most of us have a considerable number of ancestors, but we tend to limit our interest to those who have done something of distinction. Finding such, it becomes a matter of concern to us to live up to their reputations as nearly as we can. Few people can afford to rest exclusively upon the reputation of their ancestors, however, for someone is quite certain to call attention to those whom we ourselves may have overlooked. The result is that genealogical interest in this country has, on the whole, had a good influence. But, whether good or bad, the impor-

tant fact for this paper is that genealogical interest does exist on a large scale and constitutes another interest in history which will persist.

Such curiosity and its satisfaction might at first glance seem limited rather strictly to matters of local concern with a history that goes back only a few generations. It requires only a little reflection to discover that this is erroneous. Only recently the University of Minnesota auditorium saw a celebration in honor of Björnson, the poet of Norwegian independence. A short while before that there was enacted in the Minneapolis auditorium a celebration commemorating Gustavus Adolphus of Sweden, who died at Lützen in Germany three hundred years ago. Recently there appeared a book marshaling the evidence in support of the Kensington rune stone, which purports to be the record of a Viking expedition to western Minnesota nearly six hundred years ago. For many years St. Paul was the headquarters of a society for the commemoration of the signing of Magna Charta, which happened back in England in 1215. Two years ago the legislature of this state passed an act recognizing the celebration of Leif Ericson Day in honor of his discovery of America about the year 1000. When this society held one of its peripatetic meetings at St. Cloud, I was asked to answer certain questions about the Benedictine monasteries which stand just west of that city. In answering the questions I was carried back to Bavaria eleven hundred years ago and to Monte Cassino in Italy three hundred years before that. Professor Herbert Heaton once remarked that the cadence in the speech of some of his students at the University of Minnesota was more like that of his native Yorkshire, England, than that of any other people he had heard. Had he followed up that similarity, he might, perhaps, have been carried back to the influence of a common Viking ancestry. During the past year our attention has been invited to the Minnesota maiden of twenty thousand years ago discovered

by our own archeologists and much publicized as the first American tragedy—an allusion to the fractured skull of the skeleton at the bottom of a prehistoric lake. Apparently there are no limits in time or space from which to draw the answers to questions that purely local objects of interest may raise.

How will technological development, immediate and prospective, affect this sentimental demand for knowledge of the past? We are promised increased leisure, more time to roam about the countryside. We are promised better and cheaper transportation—an assurance that we shall thus roam about. We are promised television, by means of which scenes from all parts of the world may be flashed before our eyes more frequently than has happened in the past. Each of these promises, and many more not yet so clearly stated, carry with them the prospect of raising many more questions which only history can answer and which history will be called upon to answer. How greatly this society can add to the pleasure of us all, if it will hasten its work of putting up markers on our landscape and supplying the account of incidents and events which they commemorate! Then we may look forward to something of the pleasure which the Virginian or the inhabitant of Massachusetts enjoys as he travels along his highways, where nearly every hill and crossroads carries a marker of some historic event. Hills and valleys, prairies and plains adorned with a rich carpet of historic associations ease the path of the weary traveler, lighten his way, and relieve his sense of loneliness. Perhaps we cannot hope for some time to equal Kipling's feat of adorning any ordinary hill (Pook's Hill he called the one he chose) with a record of thousands of years of history, but this society can do much to adorn the commonplace about us and thus add greatly to our happiness.

Let us turn now to the second interest, the practical. Thus far I have talked of history in a way that scarcely

enters the thoughts of the professional historian. He may, if forced to do so, recognize these demands for history and even admit that the satisfaction of these demands is a large task. But he feels that history has a much greater function to perform in the realm of public affairs. This was stated most simply and most clearly by Professor Carl Becker, whom many of you will recognize as a former member of the Minnesota Historical Society and professor of history at the University of Minnesota. In his address as president of the American Historical Association, which he delivered when that association met in our state, he described history as serving public affairs as memory serves the individual man. Imagine, if you can, how a person would carry on his affairs if his memory of the past was gone. Enough cases of partial or temporary amnesia have occurred to make this exercise no great strain on the imagination. If Professor Becker's observation is correct, then for the group history is the most practical of subjects and an indispensable adjunct of all social science and public policy. Its study must not be merely selective and sentimental, but thorough, comprehensive, and precise.

But the practical value of history has not always been thus recognized. Napoleon is said to have described history as "but a fable agreed upon." If that was his opinion, it raises some interesting reflections on why as emperor he concerned himself so much about the teachings in the schools and especially about history as a school subject. Perhaps H. G. Wells was moved by a somewhat similar, if more benign, view when he wrote his famous *Outline of History* in the hope that it would become the universal textbook and that thus the whole world society could have a knowledge of a common past. Henry Ford stated somewhat the same view in a more vigorous and American way in his famous remark that "history is bunk." Then, having made that remark, he devoted much of his energy to the history of transportation and the development of his inter-

esting and very complete museum of the subject at Dearborn, to which the historians were invited most cordially when they met at Detroit. Such testimony is rather equivocal. What two of these eminent men condemn with words, they approve in acts. And since their acts came after their words, we can only assume that each of these men really regarded history as of the utmost practical value.

But in what sense is history practical? It is true that researches by students in Biblical history resulted in the discovery of oil wells in the Near East and that the researches by Professor Bolton and his students in Mexican history led to the rediscovery of some rich silver mines. One might even add in this category the rediscovery of Grand Portage by Dr. Buck, which has opened up one of the most charming tourist goals in this state. But it is not in such immediate sense, I think, that any of us would regard history as of practical value.

A somewhat better illustration is afforded in the history of agriculture. This, curiously enough, is a relatively recent addition to the historian's interest. True, the old puritanical Roman, Cato, wrote on agriculture. So, too, did the esteemed English bishop of Lincoln in the twelfth century, and Thorold Rogers published his memorable work on the history of agricultural prices nearly a century ago. But these men were interested chiefly in agricultural administration, that is, management, political and economic, not in farming proper. Dr. Herbert Kellar, also a former member of the University of Minnesota department of history, now for many years active head of the McCormick Historical Society of Chicago, is one of the pioneers in this field. He observed that in American agriculture there was a curious recurrence of mistakes every other generation. Sons seldom repeated the mistakes of their fathers, but they almost invariably repeated the mistakes of their grandfathers. The reason for this, he believes, lies in the fact that, without any written history, American farmers passed

on their experience by word of mouth from father to son. The father was so conscious of the mistakes which he had discovered that he took particular pains to teach his son to avoid them. In so doing, he forgot to emphasize the lessons which *his* father had taught him—these he took for granted. This condition, Dr. Kellar thinks, can be corrected by a written history of agriculture which will enable the farmer of this generation to avoid not only his own father's mistakes but likewise those of his grandfather and his great-grandfather. If so, that history will be eminently practical.

An illustration of even wider scope may be drawn from the field of economics. One of the most instructive and most thoughtful books that have appeared in the past two years in the field of economics is by one of the economists on the faculty of the University of Minnesota. I refer to *Economic Stabilization in an Unbalanced World* by Professor Alvin H. Hansen. He is discussing the present economic crisis and pointing out the various factors which play a determining part in that crisis. Its peculiarly instructive character lies in its recognition of the many factors, some of them most remote from what we ordinarily consider economics, which determine the daily bread-and-butter existence of ordinary men. Leaving aside such cosmic factors as sun spots and weather cycles, and concerning ourselves only with the man-made factors, we find these in such apparently remote reaches as moral reforms and changes in styles of beauty. Why should the desire of a people to improve moral conditions through prohibition disturb economic affairs? Yet it did, both in Norway and in our own country. Why should the desire of women and men, both, to retain that youthful figure cause economic distress alike in Cuba and in Minnesota? Yet it did. Professor Hansen has emphasized the fact that economic consequences flow quite as surely from peoples' ideas of art and beauty, from their reactions to weather and climate, their concepts

of religion and society, and from their development of science and technology and methods of politics as they do from economic factors more narrowly and traditionally construed. Economics is preëminently practical in its purpose and intent, and the book of Professor Hansen deals with the most modern developments in the field of economics. Yet his work suggests that the full understanding of our practical and economic problems lies in the intricate interrelationship of the almost infinite variety of human activities. History, broadly grasped, can furnish us this detailed understanding of the interrelationship of human affairs.

Politics has long been the favorite preoccupation of history and historians. The dictum of Freeman that "history is past politics, present politics future history" is familiar to all of you. Though the past generation in this country has professed a much wider interpretation, the majority of historians in this country still cling rather closely to the political view. This may be justified, certainly extenuated, by the reflection that history, like its sister social sciences, is concerned with public rather than private affairs and that sooner or later all important public affairs are registered in the realm of politics. Perhaps it will always be so. The duty of recording the political history of the commonwealth is certainly one of the first duties of this society. People of the state and nation will always be keenly interested in the doings of those whom they select to look after public affairs. If any criticism be made, it should be that this interest is not as keen and widespread as it might be. In recent years, since the world has become so closely knit, the ordinary channels of public information have been possibly too closely concerned with affairs of the nation and relations between nations and too little with our local needs. This has distracted the attention of the public from its immediate affairs and from its state and local officials, who still do more than three-fourths of the governing which di-

rectly affects us. It becomes increasingly the duty of the historical society to offset this discrepancy, and to acquaint the people of the state with the efforts which its elected and appointed officers have made in its behalf. Few states are better served than this has been by the illustrious work of the late President Folwell in his four-volume *History of Minnesota*. Though broad in his interests, as his fourth volume shows, he was perhaps most keenly interested in the politics of this state. It is only fitting that the society should continue the excellent work which he started.

Voters seldom take into account a candidate's knowledge of history—they send men into office who have no such knowledge and they sometimes retire from office men who are unusually well equipped. Despite the voters' apparent disregard of this important qualification, it is remarkably true, both in national and state affairs, that the leadership in the legislative branches has been quite consistently by the older men. In this way the oversight of the voters has been corrected. These older men may or may not have been students of the history of their state and country when originally elected. They may not be any more able than the younger men just entering office, they may have no loftier desires and aims than those young men, but they possess the leadership because, among other reasons, they know more of the history of the problems they must consider. They know the background of their colleagues, their preferences and prejudices; they know the conditions of each constituency; they know the problems which are apt to arise and what the ramifications of those problems are. They have learned, if only through experience, considerable of the history of state and nation. It is primarily this fact which distinguishes leaders from newcomers. Doubtless there have been many mistakes repeated in the laws that have passed both Congress and the legislature, but the effect of the tendency to repose leadership in the older men has, I think, kept the number of mistakes lower than it might

otherwise have been. It is probable that we have suffered more from a lack of historical knowledge in the administration of law than we have in the making of it.

There is another way in which history affects the actual and practical conduct of affairs. It sometimes happens that public and private affairs seem to clash. I was reading recently Mrs. Emily A. Babcock's excellent translation of the history of the crusades written eight hundred years ago by William, the scholarly Archbishop of Tyre, and was struck by some of the remarks in his preface. He says:

In the present work we seem to have fallen into manifold dangers and perplexities. For, as the series of events seemed to require, we have included in this study on which we are now engaged many details about the characters, lives, and personal traits of our subjects, regardless of whether these facts were commendable or open to criticism. Possibly descendants of these monarchs, while perusing this work, may find this treatment difficult to brook and be angry with the writer beyond his deserts. They will regard him as either mendacious or jealous, both of which charges, as God lives, we have endeavored to avoid as we would a pestilence.

It is through this devotion to truth, so clearly recognized by the archbishop as the historian's duty, that many a reputation, which the passion and conflict of the day may have besmirched or neglected, is finally reestablished. Thus history serves to encourage the devoted public servant, despite the misunderstandings and misrepresentations with which he is momentarily assailed.

The importance of the practical aspects of history deserves much greater space than I shall devote to it here. If in talking about public affairs I have seemed to devote myself largely to government, it is only by way of illustration. All of you can readily think of business and social affairs to which the application of history is of the utmost practical value. Enough, perhaps, has been said to indicate that, whatever the developments of technology may be, the demand for the practical aspects of history will be unimpaired.

Let us now turn to the third phase of our theme, the scientific. It may not be amiss by way of introduction to examine technology itself and the foundations upon which it rests, the sciences. What is their attitude toward the knowledge of the past?

The materials of technology are derived for the most part out of the earth. Here the chief science is geology. How does geology make its discoveries? Where may such or such minerals be found? Will earthquakes ever occur again? Will volcanoes burst forth or subside? Will changes occur in the surface of the earth, will new lands appear, old lands sink beneath the water? These questions are about the future. And how does the geologist proceed in answering them? By delving into the past. His chief concern is to find out how the lands were formed, whether by action of fire or by water or by shifting in the earth's crust, and, if by all of these, how long each force operated and how they interplayed in their operation. The more accurately he knows these remote factors, the more definitely he can gauge potential resources of the earth, whether these relate to accumulated minerals or to water supply, and the better he can forecast changes in the surface of the earth. In other words, the geologist's power to contribute further to the discoveries of the future is almost directly proportionate to the accuracy and fullness of his knowledge of the past. And upon this science depend, in large part, all the technologies which operate in chemistry and metallurgy.

Or let us turn to the most remote, the most objective, of all the sciences, astronomy. It is concerned with the study of the universe and contributes to the enrichment of nearly all other sciences, physics and geology most directly. With the aid of larger, more powerful telescopes, man is peering ever farther and farther into the apparently limitless (or perhaps limited) universe. At any rate the astronomers have pushed the limits farther and farther.

Thousands of stars, hitherto invisible and hence unknown even with the aid of the older telescopes, have been brought within the range of human knowledge. Most of the astronomer's discoveries will come in this widening and particularizing knowledge of the stars beyond the range of former instruments. And as his knowledge of these increases, he will learn more about the forces which affect the stars nearer to us. When we examine the nature of this newer knowledge of the astronomer, we are again met with the same paradox in an even more fascinating form. The farther the stars are distant from the earth, the longer it takes the light they shed to reach us. Even the older telescopes caught glimpses of stars whose light had traveled thousands of years to reach the earth. The newer telescopes are bringing into range the light of stars so many light years away that figures have ceased to have meaning. It is possible, even probable, that some of those stars whose light the astronomer now sees no longer exist. The astronomer is literally looking into the past, a past more remote than any we have ever dreamed of, and, what is more, he is actually seeing that past as it once was, though it may not now be so. Nothing could be more fantastic, and yet such seems to be the accurate truth. And what would not an astronomer give to have detailed records of the heavens a thousand years ago! But the interest in all this for us at the moment is the fact that the new discoveries in the field of astronomy promise to come from the deeper and more accurate study of the past. And from the astronomer's discoveries must come an enrichment of physics and geology and all the sciences and technologies dependent upon them.

Having considered the earth below and the stars above, let us now turn to the realm of those things which exist between the earth and the sky. Here the biologist holds sway. He at least is free from the fetish of the past, for his material is all of it mortal and perishable. The bio-

logical sciences are concerned with man and other living things as they relate, or may relate, to man. These sciences, too, have made great discoveries and promise many more. It is upon them that the technologies of agriculture, medicine, and psychology depend. Are these sciences less exact because they are concerned with forms so fleeting, so transitory, that they can be studied only in the limits of their own brief lifetimes? Is the future of the biological sciences less promising because they have no past to observe such as geology and astronomy? Perhaps so. But the biologists have sought to correct this deficiency by creating a past comparable to that of the other sciences. I refer to the theory of evolution. The development of this doctrine that the higher forms of life are developed from the lower forms, the lowest of which are not far removed from the physical elements with which the geologist and astronomer deal, has provided the biologist with a vista of time comparable to that of the more exact sciences. Thus, like the astronomer, he too can gaze into the past, except that he does it through a microscope. His discoveries, therefore, are largely bound up with the degree of accuracy with which he reads the past development of the higher from the lower life structures. It is on this hypothesis that he pursues his studies of all forms of life, confident that he is thereby making some contribution to the understanding of human life. That the biologist is thus definitely concerned with the study of the past is most clearly revealed in the eagerness with which archeologists, anthropologists, and paleontologists dog the footsteps of the geologist for occasional fragments of authentic past biology as they are revealed in skeletal, shell, bone, or fossil finds. Thus far the finds have confirmed the hypothesis of the biologists to such an extent that the geologist uses their dogma in reading his own past. And, with slight reservation, we can say of the biologist as we have of the geologist and the astronomer that the extent and value of his discoveries will

depend in large measure upon the accuracy and fullness of his knowledge of the past.

Now if science, upon which all technology depends, is seeking its discoveries in the study of the past so fully, can the student of society disregard that past? To be sure he is more limited than the biologist, for he is concerned only with the activities and relations of man to man. He cannot summon a limitless past with the help of a microscope. Yet he does possess one advantage which the biologist lacks. The subjects of his concern have kept records which both describe and reveal in growing fullness not only their acts, but the feelings which prompted the acts and also the hopes and fears, the wishes and dreams which man had, and has, for the future. But man was long in reaching the point at which he learned to keep these records. The period of recorded history is only a few thousand years, a pitifully brief span of time in the eyes of the biologist and scarcely visible against the span of astronomical time.

All of us can still recall the mingled feelings with which we first read of Dr. Schliemann's excavations at Troy, where he found the ruins of one city underlain with the ruins of still another; and, in fact, further investigations have indicated the ruins of some nine or ten cities on that same site. There was something staggering in the thought that a society could flourish, build a great city, and cease, its cities falling in ruins, the buildings crumbling, and the whole levelled by dust and overgrown with vegetation until, long afterwards, another society began to build another city on that same site, perhaps unaware that there had been a city there before. If we could only console ourselves with the thought that this happened at Troy alone! But can we? Not so long ago travelers and archeologists roaming through the thick tropical forests of Indo-China came upon traces of architectural ruins. Clearing away something of the forest and excavating, they came upon the magnificent temple of Angkor, mute evidence that in that region there

had once flourished a civilization highly developed in art and technology too. Recent archeological investigation in central Asia is disclosing there, also, evidence of great cities which flourished centuries ago in the midst of well-developed civilizations equipped with both art and technology. Nor are these archeological discoveries confined to the older continents. Excavation in Central America, aided by the airplane observations of Colonel Lindbergh, have disclosed the existence of cities of the Mayan civilization here on this continent. Each of these discoveries has revealed the fact that a society had grown up, progressed far in a knowledge of art and technology, and had finally ceased to develop; then all its proud achievements were lost and obliterated, the region in which they flourished reverting to forest or desert and the society to a state of savagery or barbarism. All these illustrations smack of the prehistoric; their story has been lost; perhaps they represent accidental, sporadic developments, even though Spengler, in his *Decline of the West*, thinks he reads therein the working of a universal law.

Such things could not occur in a continuing society? Let us turn our thoughts to the oldest continuing societies of which we know, those of the Mediterranean world, Egypt and Greece and Rome; or to the pyramids and the great temple of Karnak, marvelous achievements both, viewed by technology or art. Society has continued in those regions, it is true, but did it continue to develop that art and that technology? The best artists, writers, scientists, and philosophers of our own time still marvel at the excellence which the Greeks attained twenty-five hundred years and more ago. Did the Greeks maintain and continue that civilization? Even to this day it is possible to find shepherds herding their flocks amidst the ruins of some of the finest buildings the world has ever seen. And Rome? No society until our own day had advanced farther in technical lore than had the Rome of the Cæsars and

Augusti. Yet centuries after Cicero, Cæsar, and Virgil were gone, the inhabitants of Rome were dragging marble columns and marble slabs from the old buildings to burn for the lime they might yield. The story which the ruins of lost history mutely tell is fully confirmed by that of those civilizations whose history is known. Both continue to remind us that there seem to be limits to the progress which a society can make.

It might be rash for me or anyone else to attempt to define these limits. We who have seen our country grow continuously from the little settlements on the eastern seaboard to its present size with a growth that varied from time to time, but always moved forward, would have great difficulty in accepting the notion of limits. We who in our own lives here in the Middle West have seen the log cabin transformed into a skyscraper of concrete and steel, have seen the open fireplace yield to the automatic heating plant, have experienced the shift from candle light to the neon lights of today, and have seen new arrivals come by airplane where once they came by covered wagon or even pack train and canoe—we, I say, would have difficulty in admitting that there can be limits to progress. And yet, I think there are limits, and I must be venturesome enough to guess what they are.

The lower limit seems easy enough to fix. The difference between civilization and savagery is the learning of a single lifetime. I do not mean to imply that a savage society could by its own efforts achieve the height of civilization in a period of seventy years. On the other hand, I do mean that an intelligent child of savage parents could be taught to be an efficient member of civilized society in less than a lifetime. I also mean that a child of even most intelligent parents, members of a highly developed society, could, if reared among savages, grow up a savage. There is nothing speculative in these assertions. Such things have happened, though not frequently. The reason is simple

enough. In the period of recorded history—and by this I mean not the speculative past of the archeologist and anthropologist, but only the past few thousand years for which we have written records—man has changed but little, if at all. If he has not changed outwardly, it is little likely that there has been any more change inwardly. We are therefore safe in assuming that man was just as capable of learning at the beginning of recorded history as he is today, and, conversely, that he is just as capable of being a savage today as he was then. The lower limit, therefore, may be described as a state of savagery, and it can be attained possibly within a lifetime by even the most highly civilized society. That is the meaning of the successive cities on the sites of Troy, of Angkor, Karnak, and Chichen Itza.

Is there an upper limit, or rather is it possible to describe the upper limit to which society may progress? It seems highly ungracious in this day in which eugenists are dreaming of an age when society will consist of superindividuals, the product of as careful breeding and selection as is to be found anywhere in biology, to suggest that there are such upper limits. Perhaps they will forgive me if I confine my speculation to the next few thousand years, leaving the more distant future to their dreams. Up to that point I can find ample support from one of the biologists themselves, Professor H. S. Jennings of Johns Hopkins University. He says, if I can paraphrase him correctly, that man today is such a mixture of strains that, even if the eugenists had their way and only the most superior individuals begot offspring, the proportion of superior people two or three thousand years hence would not be appreciably larger than it is today. For that reason I think we are safe in assuming that the kind of people composing society over this period will be much the same as they are today, and as they have been through the written period of history. That being so, the upper limit of the progress of society

seems determined by the extent to which people—and nations—are willing to work together, each doing the particular service he is best equipped to do, each respecting the similar service of his neighbors, and all having regard to society in its widest sense.

This can be illustrated from the relatively simple and material field of industry. How long would it take a single individual, assuming that he knew how to do it, to manufacture a single automobile? I do not mean merely assembling the parts, but actually making them out of the raw materials. Perhaps no single individual could do it. But if he could it would probably take him a lifetime. On the other hand, note what happened when Henry Ford organized his thousands of workers, each performing only a single operation. I do not have exact figures, but I am doubtless safe in saying that the output averaged a number of cars a year for every worker in the industry, possibly even as high as one car for every worker each working day. But whatever the exact figures may be, the illustration brings out certain principles—first, the little progress made by *one* man attempting to do *all* parts of the work; and, second, the phenomenal progress made by a *thousand* men each doing *one* part of the common task.

The progress of society, however, is something much more comprehensive than making an automobile. Furthermore, the political, economic, and social systems essential to social progress are much less obvious and much more complex than such a purely material creation as an automobile. And yet the principles revealed in the case of the automobile would seem to apply here with even greater force. The upper limit of progress is determined, therefore, by the extent to which people and nations are willing to work together, each content to do a portion of the world's work adequately, and appreciating the importance of allowing others to do the same.

That is not only the upper limit of social progress—it

is also the limit of technology itself. We sometimes forget that technology is the achievement of man, his creation, the tools with which he accomplishes some of the hopes and desires which he has always felt. Without man's wish and willingness, there would be neither electric light nor radio nor telephone, neither airplane nor automobile nor railroad. Without it there would be little to call our machine age. I said, without man's wish and willingness — I omitted one, perhaps most important, condition. People are not born willing and able to work together in this fashion. That is a cultivated virtue, the outcome of education. It is only through education, either formal or acquired by the very process of living, that the individual learns to control his impulse to do as he pleases when he pleases. It is only through education that the individual learns that he can gain even greater comforts and pleasures by restraining his impulse than by yielding to it. It is only through education that he learns that by doing well only a few things and letting others do in similar fashion the few things which they do best, everyone can enjoy comforts, conveniences, pleasures, and joys such as the greatest monarchs of less favored societies could only envy. This education, then, is *an*, I might almost say *the*, essential condition for social progress.

And what is this education through which the individual learns to acquire the willingness to check his impulses, to do well a few things, so that he may enjoy the greatest measure of comfort and pleasure? Not the least part of it, certainly, is a study of the social past with its panorama of societies which did have a large measure of such willingness and ability to work together and of societies which did not, of societies which attained a high degree of civilization and of societies which reverted to savagery. The more fully he learns to understand them, the reasons for their successes and failures, the more fully will he be willing to restrain his own immediate impulses for the attainment

of the more remote, but greater, gain. The better he knows that history, the more willing he is to join in social progress, and the greater must be the technological development of his time. It is likewise true that the more widely this knowledge of history is disseminated, the more fully it is shared by the whole society, by everyone in it, the greater will be the opportunities for progress. A world society is possible only through continuous and universal education. And thus we reach, in the field of the social sciences, the same conclusion that has been reached in the other sciences. Progress in social science is proportional to the fullness and accuracy of the knowledge of the past, and social progress is dependent upon the extent to which this knowledge of the past is shared by all the people. Therein lies the basis of the willingness of society to support such progress upon which, in turn, not only technology but all the sciences depend. In this connection it is well to recall the remark of a recent writer that no branch of engineering is as hard as the engineering of human consent. And thus we come out at the end of our reflections with the paradoxical conclusion that what are generally regarded as the least scientific branches of learning are the most fundamental. That is one of the lessons which the forests over Chichen Itza and Angkor, the sands over Troy and Palmyra, and the broken columns of the Parthenon and the Coliseum tell in such tragic fashion. Such are the reflections to which the title of this paper has led. If those reflections are at all sound we may well ask what are their implications for the work of the Minnesota Historical Society?

The sentimental values of the past it is clearly the duty of the society to furnish. The past which requires our attention most is that right about us, and each year adds to the lot. We want information about all of it, and this society ought to be in a position to inform us. On the practical side, the implication is just as urgent. The more complete, the more accurate and detailed the information which

this society collects, arranges, and edits, the more useful it will be to members of the legislature and state officials, to local officials and business concerns, to churches and other social organizations. That service is pressing and insistent. We are all glad to know that the society has widened the scope of its interest and is moving farther in the direction which Professor Hansen's book so clearly indicates is essential even to the most directly practical affairs of business. And for the demands of science, the collections of material of the society, its cataloguing, calendaring, and classification, its editing, and its publications are of fundamental value. However much we may be thrilled by large and sweeping generalization about the world and all past ages, the scientific, like the practical, study of history rests, in the final analysis, upon the completeness and accuracy of the material and the fullness with which it reveals the impact of social forces upon the daily lives of the individual. For this the work of the society is basic and every effort should be made to enable its collections to meet this demand. It must be gratifying to the members of the society in reading the superintendent's annual report to note how fully the staff of the society realizes its obligations and opportunities. And it must be doubly gratifying to note what extraordinary progress has been made by the staff despite the limited resources.

Does modern technology challenge the study of the past? I do not think so. Whether we view the question from the sentimental, the practical, or the scientific approach, technology demands an increased, rather than a lessened, study of the past. In fact, the greater the progress of technology, the more widespread must be the study of history and the other humanities to support it.

To the shortsighted technocrat who is dazzled by the advance of machinery and the new age, we must reply that, if there is any shortcoming, it is that history, whether studied as such or as revealed in literature and the arts,

has not been studied either well or widely enough. It is precisely this enrichment of life and thought and purpose that our stressful times demand and which a judicious reading of the past can supply. As we look at our troubled world, we are almost overcome by the urgency and the immediacy of its pressing problems. Perhaps the chief offering that history, the mother of all the humanities, can make to this generation must lie in its very capacity to enlarge the comprehension and sympathies of the human mind and spirit. That ripe and gracious quality of learning, that maturer aspect of knowledge derived from an understanding of the implications of many diverse facts, must be more highly esteemed amongst us. A poised and disciplined judgment, centered not in the present moment alone, exigent though it be, is certainly one of the qualities that our times demand. A broad and wise diffusion of historical knowledge, coupled with a deep realization that other ages than our own have faced and made momentous decisions, whether for good or ill, must steady the thinking of us all. If the historian cannot, like the physical scientist, attempt to measure "the true movement and the calculable order of the universe," yet, amid all the confusion, he can repeat as one of the sure lessons of history that answers to our strivings are not given but must spring from the imaginative daring of high intelligence. These answers must be created—and in our own day—from a fine fusion of the humanities with science and invention in a synthesis never before attempted. If we fail, our civilization, like others in the past, must perish before its own apathies and ignorances. But the historian *must* not fail in this, his heavy, perhaps heaviest, responsibility to his own time.

In closing, let me turn again to the historical problems with which I began. At the outset they seemed so far away and long ago. After this excursion into the technological age, they no longer seem either distant in space nor remote in time. That their value for the purpose of gen-

eral culture has immeasurably increased is obvious. More startling, however, is their added importance for the practical needs of life.

If it is true that people have changed but little in the period of written history, if they have only modified the language and tools with which they seek to attain their wishes, then the problems behind those tools, the relations of man to man, group to group are still the same. And if, as Herbert Kellar discovered in the field of agriculture, people in any given generation are unable to recognize all the problems and conditions in which they work, then the whole range of written history is scarcely wide enough to yield a clear knowledge of all the problems that are at work in the infinitely more complex realm of society. It follows that the only adequate preparation society has to meet the particular problems that are apt to occupy the center of the stage is by having at all times an adequate staff of its scholars scanning every inch of the historical horizon for signs of social forces, processes, and problems; for all of them are still operating, ready to burst into prominence as circumstances may occasion. Perhaps the recurrence of the question of church and state in our election four years ago is an illustration. If such is the practical bearing of historical problems which, at the beginning of this paper, seemed so remote, no one will be more anxious than the social scientist that these problems be accurately and fully solved, for upon their solution his own deductions and inferences depend.

Thus the problems which seemed important years ago are not less but more important now. Times have changed, indeed, and with technology's advance will change still more, but the one reality emerging always clear underneath the complexities of human history is the apparent inevitability of change in the specific concerns which occupy the attention of the moment. Perhaps it was the contemplation of this fact which led William James to observe that

"Habit is the fly-wheel of society without which we should have chaos." Philosophers are accustomed to a cosmic view of human affairs. Nietzsche, in the best of all his essays, on the meaning and use of history, took a somewhat gloomy view when he concluded that only great minds could look at truth, as history reveals that truth, and yet retain hope and strength for pressing on. This thought was echoed with something of a smile by Santayana, poet as well as philosopher, when he reminded us "to see ourselves in the mirror of stars and infinity and laugh as we pass." This capacity is not the least of the results to be derived from long dwelling with the muse of history. High courage of both kinds our age demands, and history, wisely and widely read, can supply it to us all.

AUGUST C. KREY

UNIVERSITY OF MINNESOTA
MINNEAPOLIS



Copyright of **Minnesota History** is the property of the Minnesota Historical Society and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. Users may print, download, or email articles, however, for individual use.

To request permission for educational or commercial use, [contact us](#).