

True Progress Depends  
Upon Clear Thinking

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The struggle of truth against prejudice, of the new against the old, of progress against things which are established, is going on now as it has since the world began. The fight is waged just as earnestly now by those who advocate change and is opposed with the same dogged bitterness by those who oppose it as it has been at any time in the past.

This struggle has been going on in our own profession between the laboratory and clinical medicine, between the specialist and the general practitioner, between clinical medicine and public health, and now between private practice and governmental medicine.

In politics we see the struggle between nationalism and internationalism, between the totalitarian state and parliamentary government, between dictators and democracy; in industry between the large corporation and the small, between capital and labor, between the producer and the consumer.

If we inquire why this is true, we find that there is at the bottom of this struggle the conflict of new ideas with those which are established and accepted. Were it not for this struggle, progress would cease and everything would stagnate.

In this changing world, what is radical today is conservative tomorrow. When Eugene Debs ran for President of the United States on the Socialist ticket, in 1912, he was considered by the reactionary members of society as a dangerous radical; yet the important planks in his platform now have become a part of our political philosophy, having been enacted into law by Democratic and Republican Congresses.

Progress is based on a change of opinion, made necessary to meet new conditions. Change is resisted by the human weakness of thinking that one's own opinion has the sanctity of demonstrated fact. How often is this proven untrue; but alas, how rarely is the truth accepted without a struggle! As the late Justice Holmes so well said: "Certitude is not the test of certainty. We have been cocksure of many things that are not so."

It is interesting to contemplate the workings of the human mind. It is its function to gather knowledge of things in the present, also of things which have been transmitted and recorded as existing in the past. These constitute the basis upon which man forms his opinions, and so they determine his course of action.

While opinions can be given only on things that are controversial, because if they are not controversial they are facts, they are often asserted and maintained as though they were proven truths; and those who hold different opinions from ours are considered either as stupid or as woefully ignorant, failing to see what should be plain to anyone. The failure to distinguish between facts and things which are only accepted, is a fundamental fallacy which pervades discussion on all subjects. Gravitation is a fact. The effect of gravitation in certain of its implications might be a subject of controversy. That the tubercle bacillus is the cause of tuberculosis is a fact. The influence which other factors such as constitution, the weather and nutrition exert in lowering the individual's resistance to the bacillus is controversial. That Germany is a Fascist power is a fact. That a great portion

of the population of Germany accepts Nazism and Hitler as being important, even necessary factors in German prosperity and in European stability is a fact, but that their opinion is correct is subject to controversy.

Opinions may differ because they are based upon facts along with other principles which are only accepted; and because, further, they are considered in connection with the individual's experience. The validity of opinions is often nullified by individual emotions and personal interest. Therefore, they are often not personal opinions at all. A pernicious habit is that of giving an opinion without facts, or experience on which to base it; for when given, the author of it feels that he must defend it.

It is necessary to remember that there can be an honest difference of opinion on important questions; because, while facts are the same to everyone, each has a different store of accepted facts and each has had a different experience. This is illustrated by an incident which I witnessed. Two men who usually differed on political questions were having an argument which resulted, as usual, in neither convincing the other. At the close of the discussion one said to the other: "Bill, what surprises me is that you and I read the same literature, and you read it so unintelligently."

It should not be surprising that there is a difference of opinion on many questions. The surprising thing is that any individual should show so little charity toward the opinions which differ from his own. A question may be decided against us and still be decided correctly.

Because of the complexity of modern civilization, no man can have sufficient knowledge to express legitimate opinions on more than a very small number of the problems which arise for solution. He may have the facts, but may not have had the experience which is necessary properly to interpret them; and furthermore, he may not be able to differentiate spurious from real facts when set forth in such a manner as to mark them as having been demonstrated. Free speech, free press and freedom of assembly, however, prove to be efficient guarantees of the rights of the multitude because when there is free discussion from different points of view, the general opinion will usually be responsible for the course of action.

Specialization has given a small group of men who have become particularly successful in a given field of endeavor a standing of eminence among their conferees. Unfortunately, success in one line often makes a man feel capable of giving an opinion on many subjects, whether or not they are related to the one in which he has acquired eminence. Success does not necessarily mean wide interest or wide knowledge; on the other hand, it usually limits one's horizon and narrows his view.

Success is apt to prejudice one in favor of the conditions under which he has become successful; consequently the successful physicians, lawyers, industrialists, labor leaders, financiers, and churchmen find themselves united in favoring the preservation of things in *status quo*. Rarely do they favor radical change. On the other hand, those who have not been so successful are willing and anxious for a different order. Success makes for conservatism and reaction, while anything less than success makes one more willing to try something new.

A conclusion which successful men are apt to draw is that what is good for them is best for all. The less successful, however, might be nearer the truth were they to voice the same conclusion. The feudal lords would never have overthrown feudalism of their own initiative. It required the discovery of

America and the creation of the spirit of independent action through new commercial adventures to tear down the system which had dominated Europe for centuries. Feudalism was displaced by capitalism.

Capitalism has dominated the world for the past three or four centuries. That it has been the best system the world has yet known is granted; but, like feudalism, it has within itself the seeds of its own destruction. To endure, it is not sufficient that it has met the needs of the past. It must meet the problems of today and forestall the crises that may be on us tomorrow! It cannot be static, reactionary; it must analyze the problems of the day and move forward to their solution.

Capitalism has thrived on individualism but now individualism clashes with individualism and brings antagonism and confusion. All of us who have profited under this system and are wedded to it should bend our best energies to the end that the system be not adapted to our own interests alone, but that it serves the best interests of society as a whole; otherwise, it will make its own displacement necessary. Destruction, if it comes, will come from within.

Modern science has developed an unusual openness of mind in its own field. In recent times there has been no belief on the part of great scientists that scientific progress has any narrow limitations. Einstein's theory of relativity and Millikan's discovery of the cosmic ray encountered only small ripples of opposition. The advances made in the power age met little resistance. Technological advances which have overturned one established system after another have been taken as a matter of course. If the possibilities of technological accomplishment are limitless, as is quite generally believed, the problems thus far presented are insignificant compared with those of the future.

There have been so many discoveries made in medicine during the past three-quarters of a century that the medical mind, too, is open and always in expectation of new progress. This was not the case even a few decades ago. It had seen so comparatively few great changes in previous centuries that medicine had become opposed to progress and resisted the truths which were promulgated by such men as Harvey, Semmelweiss, Pasteur, Koch and Lister as being unthinkable. Leaders were willing to live in contentment with their ideas, some of which were centuries old, rather than admit that their tenets could be wrong.

It is said that when Harvey demonstrated the circulation of the blood at a meeting of his confreres, he returned home very much dejected. His wife asked how the demonstration had gone, to which he replied that the pity of it was that not a physician over thirty-five years of age would believe it. This was not only an example of the conservatism of the profession of medicine at that time, but it also furnished an example of the static state which is so apt to come with age.

When, in 1847, Semmelweiss suggested that puerperal fever was carried from the dissecting room to the parturient woman, the suggestion was so out of harmony with the medical thought of the time that he was driven from his position in the University of Vienna by the leading obstetricians of Europe.

The announcement by Pasteur that infection was caused by particles which floated in the atmosphere and was not due to spontaneous generation went contrary to all medical thought. It furnished the basis for bacteriology, public health and sanitation, yet it was resisted by the best men in medicine of that day. So was antiseptics, when promulgated by Lister; although, without it, modern surgery could not have developed.

How a mind can be open to one great truth and closed to another is illustrated

by an incident in the lives of two great medical men, Virchow and Koch. Virchow had combated previous tenets in pathology, and established the cell as the basis of pathologic reaction. This became the basis of modern pathology.

To Koch came the co-honor with Pasteur of founding bacteriology and the especial honor of being its greatest exponent. When he discovered the tubercle bacillus he desired to demonstrate it to Virchow, whom he invited to his laboratory for the purpose. Virchow refused to go but was finally induced to do so by Cohnheim, a contemporary and friend.

At the appointed time Virchow carried his low power microscope which had proven so efficacious in the study of pathologic tissues with him to Koch's laboratory. Putting it down on the laboratory table he asked Koch to use it in the demonstration. Koch replied that it required a special, high power microscope, much greater than that used in examining pathologic tissues, to show the tubercle bacillus. To this Virchow replied: "What that microscope does not show does not exist." A mind that could create cellular pathology could not accept the next great creation in Medicine, bacteriology. Again the progressive became the reactionary.

It was only in the nineteenth century that man was able to throw off the ecclesiastical idea that he was made to populate the earth and that the earth was a special, divine gift to him.

In spite of all accomplishments in modern times resistance is still shown to the new; nevertheless progress is always the order of the day. The fixed and static waken, if they ever do, to find that they are living in a world which has moved on. Sometimes movements are rapid; at other times slow. Great forward movements were made after the fall of Constantinople and after the discovery of America, although it took time for them to gain full momentum. The French Revolution and the World War, on the other hand, were each followed by a rapid and complete overturning of the old political, economic, cultural and social systems. The World War, in the words of President Emeritus Lowell, has not only "produced confusion, but an atrophy of thought" which prevents men from grasping the meaning of what has happened. This accentuated the effects of the mechanization of industry which already had caused an upheaval in established systems, and to which there still has been no concerted effort at intelligent adjustments. Chaotic thinking will not dispel the actualities which society faces today, but the combined thought of the best minds moulded by intelligence and unselfishly applied should direct the course of civilization to new heights of attainment.

One must bear in mind that the present era has accumulated the facts upon which to build a greater and an enduring civilization, and that it also possesses the machinery for its destruction. Thinking, clear thinking, is necessary; thinking to determine what is good for all rather than what will add to the success of those who are already successful; thinking which will enable us to adopt a course which guarantees security and justice to all, a course which is competent to effectually check sinister forces which are everywhere showing themselves today. Such thinking alone will preserve our Democracy for our children and our children's children.

The present crisis in world affairs demands men who are willing to serve society rather than men who are demanding that society serve them. This is the essence of the call of the twentieth century. This is the demand of Democracy. It is the answer to our children's hopes.