

directions, and mounted more frequently than not to secure a wider prospect, but without any thought of the final goal. The army contains a multitude of recruits drawn from the most various fields, the biologist, the chemist, the physiologist contributing their share to medical triumphs just as truly as the pathologist, the bacteriologist, the hygienist, the clinician. The inspiration has been the search for truth and joy in the search far more than any utilitarian motive. In the fullness of time comes the great achievement; the leader is hailed, but he stands upon the shoulders of a multitude of predecessors whose contributions to the result are often lost from view.

In full recognition of the dependence of success in the warfare with disease upon increase of knowledge, the Rockefeller Institute for Medical Research was founded by the enlightened munificence of Mr. John D. Rockefeller, to whom we make grateful acknowledgment. Likewise to the broad sympathies and active interest of his son, Mr. John D. Rockefeller, Jr., the origin and development of this institution are largely indebted.

What has already been accomplished, as well as the general scope and aims of the institute, have just been concisely indicated to you by Dr. Holt. My purpose has been to show, although of necessity most inadequately, that these aims relate to matters of the highest significance to human society, that the present state of medical science and art requires large resources for its advancement, and that the returns in benefits to mankind have been and will continue to be great out of all proportion to the money expended.

May the hopes of the founder and of those who have planned this institute be abundantly fulfilled! May it contribute largely to the advancement of knowledge,

and may the streams of knowledge which flow from it be 'for the healing of the nations.'

WILLIAM H. WELCH.

It seems to me significant that this home of scientific research is placed amid the teeming population of a great city. Science has for its end service, and there will be no quicker or more useful application of the discoveries made here than among the tens of thousands who live just outside these walls.

In no way has knowledge more completely revealed its power than in the triumphs of modern engineering and of modern medicine. Engineering and medicine have conspired together to make human life pleasanter and happier, and to relieve it from a large amount of suffering and pain. The transmission of energy over long distances and in new forms and the discoveries of the modern pathologists have changed the conditions and even the aspect of life more than we realize.

These buildings are dedicated to the relief of human disease and human suffering by the application of scientific method to the study of a concrete body of facts. They will exert their influence in three ways: they will add to the sum total of human knowledge in respect to medicine; they will aid in developing a company of trained scientific observers; and they will help spread abroad in the public mind a respect for science and for scientific method. Each of these services is a public service, but the last named is perhaps the greatest.

Pasteur, whose name will often be spoken here and always with reverence, understood this. In 1870, when his country was crushed under overwhelming disaster and staggering under blow upon blow, he found voice to say that neglect of science and of scientific research was a powerful cause of

the moral and the military humiliation of France. Said Pasteur:

France has done nothing to keep up, to propagate and to develop the progress of science in our country. * * * She has lived on her past, thinking herself great by the scientific discoveries to which she owed her material prosperity, but not perceiving that she was imprudently allowing the sources of those discoveries to become dry. * * * While Germany was multiplying her universities, establishing between them the most salutary emulation, bestowing honors and consideration on the masters and doctors, creating vast laboratories amply supplied with the most perfect instruments, France enervated by evolutions, ever seeking vainly for the best form of government, was giving but careless attention to her establishments for higher education.

Each year shows more clearly how true this view is, and how fully it applies to the triumphs both of peace and of war. Japan has even more profoundly impressed the world by her knowledge of scientific fact and by her rigid application of that knowledge than by the valor and military skill of her soldiers and sailors. No people are more in need than our own of learning the all-important lesson that the modern Germans and the modern Japanese have to teach. Respect for the man who knows and loyalty to demonstrated truth are characteristics of civilization that is founded on rock. Our American happy-go-lucky, wasteful way of approaching a serious problem, our naïve egotism and our exaltation of the man who does things, no matter how, must sooner or later give way to more patient study, to more respect for the experience and wisdom of other countries than our own, and to more regard for correctness and sound principle, than for a superficial costly 'efficiency,' if we are to hold the place in the world's esteem for which we are rightfully ambitious.

This institution is to be welcomed, then, not alone for what it will do for medicine, and not alone for what it will do indirectly for the relief of suffering human beings.

It is to be welcomed still more for the lessons it will teach to our public opinion; for the guidance it will offer toward a juster appreciation of the relations between theory and practise, between observation and reasoning; and for the assurance it affords that generous support is to be had in this dear country of ours from men of affairs for research of the highest and most severe type.

Of the subjects with which the institute is to deal, when we reflect upon their variety, their far-reaching importance and their manifold relationships, can we say less than Faraday once wrote to Tyndall:

Our subjects are so glorious that to work at them rejoices and encourages the feeblest, delights and enchants the strongest.

NICHOLAS MURRAY BUTLER.

THE educated public needs to obtain a clearer idea than it now has of scientific research, of its objects and results, and of the character and capacity of the men who devote themselves to it. The educated classes have a tolerably accurate conception of research in such subjects as history including antiquities, economics, philology, law and government; for research in these subjects relates chiefly to the past, remote or near. The public has also been long interested in the inventor's resourceful and persevering habit of mind—the inventor who is trying to make some new application of acquired knowledge, or to discover a new fact or principle which can be put to commercial use. But scientific research is somewhat different from these other kinds of research. It has deep roots in the past; but its object is never to demonstrate merely what has been done or said, or to obtain a monopolistic profit. Invariably its object is to extend the boundaries of knowledge, and to win new power over nature. It is not chiefly concerned to enlarge records of the past, or to make them