

*President  
L. A. DuBridge,  
Alfred P. Sloan, and  
Caltech Trustee  
Lindley C. Morton  
on their way to the  
dedication of the  
Sloan Laboratory of  
Mathematics and  
Physics.*



## An Industrialist Looks at Higher Education

*by Alfred P. Sloan*

Perhaps I can express why I am here this evening by referring to an incident told me by that great scientist and educator, the late Dr. Karl T. Compton. The story is about one of those so-called high-powered industrialists that we read about once in a while — a hypothesis which I do not think has ever been validated — but anyway we will assume it to be a fact for the moment. Bill, I shall call him. Now, Bill served long and faithfully, and in the course of human events time tapped him on the shoulder and Bill retired. A short time after, a group of his former associates called one afternoon to cheer up the old boy and to see what he was up to. After the party got going, someone asked Bill what he did now that he did not have to work the way he used to. Bill said he did not

get up as early in the morning as he used to, but when he did, he made a dash for the newspaper. He examined the obituary column and, if his name was not there, he relaxed and made the best of it.

Now, no one could quarrel with Bill's right to relax, but I challenge the thought that he should make the best of it. On the contrary, I think he should make the most of it. He should recognize that he owed our society a debt for the opportunities that had been made available to him. He should be willing to turn back a reasonable proportion of his time and talents, and some proportion of his substance — if he was able to save anything from the tax collector — into the economic stream for the further advancement of the society to which he owed so much. Therefore, as a

*A talk given by Mr. Sloan at a dinner in his honor at the California Club in Los Angeles, following the dedication of the Alfred P. Sloan Laboratory of Mathematics and Physics at the California Institute of Technology, December 1, 1960.*

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sort of proxy for this man, Bill, I appear here as an advocate of the advancement of education in all its ramifications, and in the promotion of research — especially basic science — in a way, education's affiliate.

It is academic to say that knowledge is the means of promoting progress along the whole front of human endeavor. It is, nevertheless, a fact. Social values, economic values, human values involving human behavior, health values, security values, spiritual values, all have their grass roots in knowledge, and can thrive only in an atmosphere of expanded knowledge and understanding. And that applies equally to scientific values, which particularly concern us here. Science might be defined as an assemblage of systematized knowledge.

And is it not true that education is the catalyst, or creative instrumentality, upon which the expansion of knowledge depends? Today, in terms of the generalities, higher education is at the crossroads economically and academically. In the enormous expansion of our economic life in the postwar era, many social services have been left behind. Higher education is one of them. Higher education today needs not only modernized patterns of educational values — new frontiers in fact — but it needs money for salaries, bricks and mortar, equipment, and modernization. And, in too many instances, it must meet deficits.

Among the ranks of the higher educational institutions there appears to be no exception as respects these needs. The unaccredited college, the struggling accredited institution, the celebrated prestige university, the outstanding technological institutions, our leading medical schools — all are urgently, in fact desperately, in need. And the sum total of their needs today is staggering. Tomorrow such needs will be further aggravated by an anticipated increase in population, and an expanding demand for advanced education.

Now, why has all this happened?

I believe a revolution has taken place as to the status of education among the activities of our society.

It might be dated as the end of World War II. In the old concept, education was an incident — recognized, but little elaborated upon. In the new concept, education is evolving as a problem of major social and economic significance in the deliberations of our society. There is no single cause for this. I am inclined to think the leading motive is the dramatic ascendancy of science, stimulated by the technical accomplishments of the war. This has penetrated into all areas of human activity: business, the professions, government, education itself. It has opened up new vistas of accomplishment for all strata of society. It has stimulated the ambition of great numbers and provided an incentive to make accomplishment worthwhile.

The business impact on education, and the impact of education on business, stand out crystal clear. Over the years, management has moved from a philosophy of “hunch” to a philosophy of “fact.” Education becomes of increasing significance to business as the transition takes place, and its impact is accelerated as complexity succeeds simplicity and as technology increases complexity. It is a surprising fact that today the management, and technical and professional groups, are becoming the largest single group in our work force, forging ahead of our individual operators; and the rapidly developing technique of automation stimulates the trend. Thus, we see business as creating not only a market for education, but an expanding market: in fact, education becomes a competitive necessity in business.

Now, what are we going to do about this?

To my mind, higher education should move to a greater utilization of existing facilities — increased turnover we call it in business. The value of time in the educational process should be reappraised. Can we not do the job more quickly and with equal efficiency? There should be a more aggressive acceptance of programs that contemplate prepaid, or postpaid, loans in part. This should have a favorable impact on tuition.

Higher education offers to society a most valuable asset — one that cannot be lost, stolen or destroyed; it enhances earning power; it adds lustre to life. Its value will be better appreciated and more effectively capitalized if it is earned, or paid for in maximum reasonable measure. Giveaways, or something for nothing, either for education or for so-called international benefits, are not respected. They serve to create a hunger for more, always more. Higher education might develop more effective organization within itself for the pleading of its own cause for financial support. Our educational curriculum should be modernized in practical terms of existing social and economic needs. The responsibility of higher education to basic research raises an important question of policy. New techniques utilizing modern instrumentalities should be developed to increase the efficiency of the instruction process.

But that is far from meeting the whole need. Financial support must be forthcoming along a wide front, and in greatly enlarged volume, if we may hope to meet our objective. That is the responsibility of our society as a whole, a challenge that is not by any means being realized.

I believe that two of the most important reservoirs of private and organized resources available for support of higher education that can be greatly expanded are business enterprise and the modern private foundation. Most other reservoirs, if they were adequate in terms of present need — which I question — are drying up because of the impact of high taxation and continued inflation.

It has been a tradition among private foundations that the needs of higher education find their explanation and their justification in the high value which society attributes to education's contribution to our



Tenants of the Institute's new Sloan Laboratory — Back row: Shih, Gaier, Block, Dean, Fuller, Kavanagh, Kobrak, Sands, Glashow, Pellam, Deery, Zachariasen, and Whaling. Second row: Tully, DePrima, Wright, Wielandt, J. Todd, T. Lauritsen, Mercereau, Walker, Gell-Mann, Division Chairman Bacher, and President DuBridge. Front row: Apostol, Barnes, Luxemburg, Chakerian, O. Todd, Dilworth, Erdelyi, Zaanen, Wilcox, Hall, and Ryan.

society. Our schools, colleges and universities conserve the best in our civilization and communicate that best to each succeeding generation. They select and train specialists for the arts, sciences, and professions, and identify capacity for leadership. They carry on basic research that advances man's knowledge of himself and his universe.

The resources of private foundations have already reached imposing totals and will continue to accelerate at least over the next few years. The foundation is, I believe, an efficient means of personal philanthropy, for it provides flexibility, makes possible the recognition of change, and is independent of time.

Foundation policies are developed on an individual basis. Many foundations channel their activities into limited areas. Most prefer, in dealing with higher education, to support projects along a wide front rather than on an individual basis. Many will not support facilities involving fixed capital, but confine their grants to more active programs. The needs of a specific higher educational institution, require, therefore, a special appeal to a foundation, or foundations, likely to be favorably inclined. The individual donor will continue to function but I believe in a descending order of importance. We must look more and more to the private foundation, especially where significant programs are involved.

As a matter of fact, the needs are so large and so numerous that even if the resources of a foundation are impressive, limitation and discrimination become a matter of necessity. Nevertheless, the private foundation presents a highly significant and an increasing reservoir of potential support for higher education. The foundation, then, must be exploited to the utmost. Its business is to give. It is not permitted by law to create a surplus. And it can give its capital in whole or in part as it may choose.

I should like to inject here a controversial observation. I am opposed in principle to educational support taking the form of endowment. I believe the need is so great, and the available sources so small in proportion, that financial support should be utilized as a spending asset limited to a period not to exceed ten years. We must remember that our prime responsibility is to the existing generation.

### *The responsibilities of business*

As to the responsibilities of business, no thoughtful person can doubt that private enterprise and education have a basic community of interest. The American private college and university, the recognized standard-bearers of education, owe their material existence to the fruits of private enterprise and, conversely, private enterprise owes its extraordinary accomplishments in part to the knowledge created in the educational process. Thus, business gets the benefit of higher education and business has the money to support education.

In return for this support, business has every right to expect that the quality of our educational aims, in terms of today's technology, and the effectiveness with which we are utilizing existing educational resources in pursuing same, will offer the youth it serves unique educational values, thus exerting a substantial influence in advancing the future status of our society in terms of human progress and security. As an industrialist, I hold that business should accept the challenge of financial responsibility to education. It has such a responsibility to keep education not only virile but free. Business must do this in defense of its own great opportunities in our free competitive society.

### *Council for Financial Aid*

Several years ago, in collaboration with the then chairman of the United States Steel Corporation, and the Standard Oil Company of New Jersey, with myself as chairman of General Motors Corporation, there was organized the Council for Financial Aid to Education. Our objective was to create a consciousness on the part of business management of its responsibility to the educational system of our country. And to do this by all proper means, such as education, statistical information, organized effort of all types, including what I shall call — if I may — all forms of sound propaganda.

The activity was liberally financed by four outstanding Foundations. Aside from the difficulties that always exist in starting a new effort, the activity has, I believe, been eminently successful. It has succeeded in developing a gift psychology for higher education on the part of management. It has awakened management to a broader realization of what it owed higher education, and what such education means to it. In addition, and perhaps more important than the material gain, has come a developing acceptance of that basic idea, bound to be accelerated in significance with the passing of time. We can, I am sure, look forward to a widening in scope and a broadening of material support from business as time and the further acceptance of the concept expands and develops.

Well, adding all together, this is how, for right or wrong, an industrialist looks from the outside at the problems of higher education. Its significance as a measure of our prosperity and security stands out crystal clear. Its needs, in terms of financial support, are equally clear and of a high order of significance. Its programs — if I might speak of them in all-embracing fashion — of reorganization and reconstruction to meet changing demands and limitations, involve an enormous complex of more or less conflicting philosophies and procedures. But where there is a will, there is a way, and it is certain that out of all the consideration that is now being given the problem, progress will be made by compromise and adjustment, to the end that the objectives we seek will in large measure be achieved.