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How Can The Engineering Demands Of The War Effort Be Met?

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A Prize-Winning Tau Beta Pi Essay

On November 11, 1918 at 11 o'clock, an armistice was declared between those nations that were locked in a titanic struggle for existence. With the ending of the war came peace—24 short years of comparative tranquility purchased at a cost of 4 million lives. Victory in itself had not been enough; we had failed to win the peace. The cessation of hostilities was not an end in itself—it was but a means to an end that we had failed to capitalize. All this we have realized 24 years later and with this realization has come a better understanding of the term "war effort"—that it must include our postwar plans as well as our more immediate problems of winning the victory—the victory that is but the first step in the battle for peace.

The problems involved in winning the victory have resulted in the present clamor from our military forces and our ever-growing industrial army for more and still more engineers. But we must not forget that our post-war activities will demand the ingenuity and intelligence of our best minds if we would carry to a successful finish that which we have merely started by winning the victory. We must not throw all of our resources into the first phase of the battle lest we be caught short at that time when we will need most desperately the best trained minds available in the whole world.

This has been called an engineer's war because of the part that engineering has played in making it the greatest disaster of all time. The deadly weapons of modern warfare are the direct result of applied engineering. But the engineers did not create the war; the fruits of engineering progress have been used by the powers-that-be for selfish motives and not for their original purpose—the development of a better world for mankind.

It has been called an engineer's war because of the vital part being played by engineers on both the military and industrial fronts at this very moment, and it has also been called an engineer's war by a small group who have recognized the major role to be played by engineers in the conquest of the problems that will follow an armistice. We may do well to look a little closer at this latter reason.

An inherent characteristic of engineers is their

distaste and repugnance of playing politics. Therefore they have stayed out of the field of social administration with the result that those who did come into power have used the engineers as tools in gaining their ends—whatever they might be. We need but to look at Europe today to see the havoc created by this misuse of engineering in foreign countries.

In America, however, we have seen the engineer play an increasingly important part in the field of public administration. Our executives, directors, and managers are coming in greater numbers from the ranks of men in the engineering profession. This is as it should be for an engineer is trained to always seek the one best method whether his problem deals with the satisfactory operation of a power plant or with the efficient management of a huge corporation. He has been trained to put a premium on efficiency and this alone should qualify him for the work of public administration.

After the war the social problems of the world will be appalling—keen, trained minds will be needed desperately if we would prevent the immediate re-occurrence of another call to arms. We must leave our engineers in school where they belong until they have completed their course of study.

In the words of Willard Chevalier, publisher of **Business Week**, "If we are going to help the young engineers who are coming out of our schools to meet the challenge of a post-war period, the very best thing that we can do for them now is give them the most thorough fundamental training that we can in the science and technique of engineering as a whole."

In Germany, Italy, France, England and in all the countries engaged in the present conflict, education in the colleges and universities must have reached a new low in so far as number of graduates and degree of training is concerned. At Cambridge and Oxford University in England alone, between 50 and 60 per cent of the student body has been taken out of the classroom. It is reasonably safe to assume the same conditions to exist in all the other warring nations and probably to a

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much more serious degree in the belligerent countries.

As a result, there will be a blank space in the endless train that is Education. This blank space has not come along yet and won't be along for a few more years, and therefore any stunting of the natural growth of education—any decrease in the number of graduates receiving thorough training in the universities of these countries will not be considered a serious factor until that time when the need for trained men will be greatest—then they will find them not.

America was the last great nation to throw her shoulders against the slipping wheel of victory and therefore our colleges and universities have not suffered to any great extent as yet. For this reason this country is in better condition than any other to keep the light of Education burning at its brightest flame. But we must not permit a single break in the steady line of trained engineers coming from our great universities; we must "keep 'em coming" if we would preserve our democracy and win the peace.

The whole world will need our engineers—not so much today, for today we have Yesterday's engineers, but for Tomorrow—for the Morrow brings great tasks for the keen minds that have been developed in the best manner we know how by giving them "the most thorough fundamental training that we can in the science and technique of engineering as a whole."
