

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

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Mr. Kenneth E. Trombley, Editor
American Engineer
1121 15th Street, N.W.
Washington 5, D.C.

Dear Mr. Trombley:

Attached at long last is my recollection of my remarks at the New Jersey Society of Professional Engineers' Annual Convention. Since I adlibbed my talk and since I spent most of my time on this subject and did not follow my printed text, this probably represents an abridgement of the remarks I made at that time. As you know, I was the Vice President of ECPD and my attempt was to arouse more interest among the chapters of New Jersey in guidance work; as would be expected, some of our chapters are very active, while others leave much to be desired.

The only change I have consciously made is that of removing any possible provincialism. Please feel free to change my text or add to it in any way you see fit. Please feel free, also, to wastebasket this material if you so desire. The general intent, however, I am convinced is a good one.

Yours very truly,

MDH:MS
Attachment

M. D. Hooven



THE FUTURE SHAPE OF THE ENGINEERING PROFESSION

Abridged from an M. D. Hooven talk given at the
New Jersey Society of Professional Engineers' Convention,
Newark, New Jersey, April 22, 1955

How do we shape our professional status? Or, perhaps more correctly put, how has our professional status been shaped? Since engineering is among the oldest of the professions to have been practiced, and among the youngest to have been organized, history, rather than any effort from engineers themselves, has probably determined the shape of the profession as it now exists.

There are many areas, however, in which engineers acting in concert today can help to give shape to the profession of the future. The most obvious and perhaps the most fruitful field for determining the future lies immediately at hand. Its locale is the secondary school system. It is here that the transition from being just one of the boys to being a prospective engineering student occurs. It is here that the call to serve a great profession must be clearly sounded and perceptively received.

Engineers are not doing too well with the younger generation. Every child must at this period in history grow up to be a member of a technological civilization. Every bright child, particularly if he has within him a reasonable amount of reliability and stability, must expect the possibility of being tapped for science or engineering. And at present there has been introduced

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into the educational system odd deviations from the "three R's" which seem at least to have had the result of making fewer people desirous of serving technology than previously. There is in the later grades an increasing dearth of science and mathematic teachers. In high schools this is being keenly felt. Many engineering colleges report that they must give a year of additional work in order to bring a possible engineering freshman up to college entrance level in science and mathematics. Whereas most of the preceding generation took physics when in high school, now less than five per cent of high school students are enrolled in a course such as this which is fundamental to the understanding of the present technological civilization. One half of the upper quarter of high school graduates do not go on to college.

No matter how the question of quantity of students required for engineering education is argued, there can be no dispute over the quality required. Only the very best can make the grade. An analysis of Army General Classification Test scores shows that the brightest students are now enrolled in physical sciences, chemistry, and engineering. Law keeps crowding ahead. Medicine and the ministry will never be content to take second choice. Since engineering and the physical sciences already number as many graduates as do law, medicine, and the ministry combined, and since the demand for engineers seems to be increasing steadily, it does not take any great gift of prophecy to foretell increasing competition among the professions for the cream of the class.

Here is where N.S.P.E. finds itself in a position of great responsibility. Geographically organized, it is in an excellent position to help local school authorities maintain high standards of learning in the secondary schools. Close attention to the need of science teachers for summer jobs in industrial technology is an obvious duty. Insistence on the availability of science and mathematics courses is a necessity. And finally, who is better qualified to give vocational guidance to a neighborhood boy than the engineer who is himself a neighbor? He, should he find a prospect who is good in math only, or one whose manual cleverness is exceeded by lack of ability in reasoning, can best guide these prospects into other fields. Or, should he find a boy obviously earmarked for engineering, the neighbor-engineer becomes immediately the proper guide and mentor for the candidate.

The Engineers Council for Professional Development leans heavily on N.S.P.E. in its high school guidance work. Initiated many years ago, high school guidance by engineers reached only scattered areas throughout the United States and Canada even though the effort was continent-wide in scope. There was little coordination between areas. Some six or seven years ago intense efforts were made to attain complete coverage and state committees were set up, arranged in regional groupings. It was natural that the state professional societies predominated in the formation of these state committees since many of them were already doing excellent

counseling work. As of now, there are at least eight states in which the professional society committee is the state committee. In many others, the professional societies are cooperating with local sections of the technical societies in establishing town or city committees for student guidance. It is a rewarding work.

Every high school in the nation should have a group of engineers available to it for advice and consultation with the school authorities or guidance for the students. Herein lies a community duty which must not be avoided. Each state society, each county chapter has a pleasant chore ahead.

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11/15/55