

The Knowledge Bank at The Ohio State University

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WHY AND WHEN OF ENGINEERING

By PERRY BORCHERS

WHY did you select engineering for a profession? That, probably, is a question that has been put to you many times; and no doubt your answer has been one of complete reluctance. You have shrugged your shoulders and with an arch of the eyebrow, have said: "I don't know; I just selected it."

Is it that you feel it to be the best selection of a life work that you could find? Is it that you picked it out as you would a shirt or a tie or a pair of shoes? Or was

it the result of weighty decision on your part after you had consulted your mind on the matter, and had stayed awake nights turning the problem over in your sleep?

The College of Engineering is the author of a questionnaire that revealed some very interesting material from its students on the subject of what interests caused them to choose engineering and when did they seriously decide on this profession. The results were astonishing.

The purpose of the questionnaire, as first planned

by Junior Dean J. M. Weed, was to discover the reason for the great number of freshmen handicapped by entrance conditions. Nearly 35 per cent enroll with conditions.

Freshmen engineers replied to these questions: "When did you decide on engineering?" Explain. "Did you receive information on College of Engineering entrance requirements?" "Who gave the information?"

Several of the students reported that they had decided on engineering "as far back as I can remember." However, the blue ribbon for an early choice goes to the boy who states that he made his decision in the second grade. The reason for his decision he left to our imagination.

Trailing closely came two students whose life work was chosen in the third grade, and in all, 54 budding engineers first started budding before leaving grade school. The necessity of choosing a course upon entering high school forced 68 to select engineering. In the sophomore year, which has few studies applicable to engineering, the number declined to 57, then rose to 95 in the junior year and to 166 in the senior year.

It is unfortunate that chemistry and physics are not taught until the last two years of high school, for it was found that interest in these subjects was a main factor in the choice of an engineering career. If these two sciences came during the first years of high school it would give the student a better opportunity to arrange his high school course to meet engineering requirements. It is noticeable that those who chose engineering before the third year of high school had fewer entrance conditions.

The interests which drew students to engineering are, in order of importance, chemistry, physics, mathematics, machinery and "tinkering," drawing and sketching, electricity and radio, aviation, and construction. Besides these there were scattering votes of interest in business and sales engineering, automotive engineering, refrigeration, and Diesel engines. A number of students expressed a liking for technical things or for the curriculum of the College of Engineering.

There were other influences. For example, a home workshop started the career of one engineer; radio as a hobby, another. Although most students chose engineering because of their liking for a certain field, two freshmen selected it because of a dislike for classical subjects, such as history and foreign languages. An inspection of the General Electric Company in Cleveland and a visit to Rensselaer Polytechnic Institute, the second oldest engineering college in the United States, started two students on the path to engineering learning. The book, "Creative Chemistry," by Slosson, so interested one boy that he decided on chemical engineering.

From these replies and from a knowledge of the subjects which are of greatest importance to each separate branch of engineering, it may be predicted that chemical engineering will have the greatest enrollment, and will be followed in order by mechanical, civil, and electrical engineering.

That it is a difficult matter to choose a career is shown by the fact that 63 students did not decide on engineering until after graduation from high school and until it was absolutely necessary to choose a college; 35 others were influenced by work done after graduation.

A list of the concerns employing these students includes chemical laboratories, railroads, a milk plant, a Diesel engine factory, an enameling plant, steel corporations, mines, an ice plant, an electric manufacturing company, ceramic and metallurgical laboratories, machine shops, engineering offices, and construction work on tunnels, in C. C. C. camps, and on other projects. At least four of these students must have shown promise, for they started engineering upon the advice of their employers, who even helped secure information about college requirements; another stated that after working in a plant two years he found it impossible to get ahead without an engineering education.

From this second list one can fairly predict that the work which influenced the student to take up engineering will probably be the field for which he will prepare.

Two freshmen were remarkable in that they returned to school after a seven and nine years absence, by which time, of course, most young people give up thought of furthering their education.

Finally, seven did not elect engineering until after one year of college, and a number of others found great difficulty in deciding between engineering and other occupations which included medicine, law, chemistry, commerce, accounting and drafting. Last of all comes one student who answered the question, "When did you decide on engineering?" with the laconic reply, "Never decided," which leaves one with a sense of bafflement.

It was found by the questionnaire that two-thirds of the students had received information on requirements from one or more sources. Friends were the source of information of 150, high school teachers followed with 133, principals 110, university bulletins 80, parents 59, superintendents 41, brothers or sisters in college 21, the university examiner or registrar 17, visiting professors and speakers 11, university students 9, and vocational guidance instructors, surprisingly, only 4.

Friends, the questionnaire revealed, had greater influence on students than their parents. This might suggest several interesting things. Do friends always play a greater part in a student's life than his parents?

It might also suggest that few of the students come from families of engineers, perhaps because the children of the engineer see his work without the glamour so often attached to it by fiction.

Many students, it is possible, unconsciously followed the procedure of one freshman who said: "I eliminated everything else, and engineering was all that was left." Yet the greatest tribute among the answers came from still another: "I always liked to be an engineer because he works for the general good of humanity."