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Things that Happened at the Meeting of Engineering Teachers

BY MISS S. A. HARBARGER, SEC'Y.



THE Engineer's training should give him breadth as well as technical knowledge and skill. On this point, at least, all the members of the Ohio Section of the Society for the Promotion of Engineering Education present at the second annual meeting seemed to agree. What they did not agree on was the method of obtaining breadth. There seemed to be a feeling, however, that the engineer's education might better start with the technical work and include, as the course progressed, the broadening subjects. This order of work is contrary to the practice usually followed in other professional courses, such as law and medicine, but, apparently, it suits the interests of the engineer.

This meeting of teachers of engineering and allied subjects and of others interested was held May 19 at the Case School of Applied Science in Cleveland. Sixty-five people were registered. The following Ohio schools were represented: Akron University, Ohio State, University of Cincinnati, Wittenberg, Toledo University, Lakewood Technical High School, Cleveland West Technical High School, Cleveland Y. M. C. A. School of Technology, and Case School of Applied Science. Sixteen members were present from the Ohio State University.

"Methods of Teaching Lettering" was a very interesting and unusual chalk talk by Professor W. D. Turnbull of Ohio State. As a prelude Professor Turnbull gave a brief history of lettering, illustrated with examples. "Lettering should be taught with the same dignity as any other subject," said Professor Turnbull. "It takes long and persistent practice to become a good letterer. Not all engineers can be experts, but all can improve by careful and persevering practice. There is good form in lettering, and the engineer should follow it. A well-executed drawing may be rendered useless by poor lettering." Professor Turnbull stressed the idea that an engineer cannot put on paper what he cannot see in his mind's eye.

Professor Vose of Case, in his survey of "Some Tendencies in Engineering Education," presented his conclusion that the tendency at present in engineering training is toward broadening the course of the engineer. "The several systems modifying the four-year course are a direct result of a period of specialized training. Each experiment is an attempt to give the desired breadth of training, but all experience to date seems to indicate that it is out of the question to give both breadth of training and adequate technical preparation in a four-year course."

Some suggestions on the most profitable means of getting information from textbooks were presented by Professor C. W. Foulk of Ohio State. He pointed out that there are good books on how

to study, but that they are rather ineffective remedies, as they are themselves textbooks. There is need for a laboratory manual on this subject—one that will give specific directions for the actual procedure after the physical conditions are favorable. According to Professor Foulk, a manual on "How to Study" should provide:

- (1) A rapid review of what has preceded the immediate assignment.
- (2) A preliminary survey of the particular lesson.
- (3) An inventory of the major classifications.
- (4) The reproduction from memory of the principal points stressed in the assignment.

"Very few students can give any detailed account of how they study," said Professor Foulk, "for they have no definite method of procedure."

In "Methods and Content of a Lecture Course for Freshman Engineers at Ohio State University," Dean E. A. Hitchcock briefly outlined the plan of the survey course and stated that its objective is "to give the freshman engineers a vision of engineering and its breadth; to help them decide the type in which they have most interest, and to adapt it to themselves individually."

The subject which received attention in practically all of the discussions was the question of broadening the education of the engineer. Under the title, "German an Essential in Engineering Education," Professor W. D. Trautman of Case discussed the value of modern foreign languages in an engineering course. He gave a resume of the answers to a questionnaire regarding the utility and necessity of a study of modern languages by the engineer. "The questionnaire was sent to seventy colleges, all members of the S. P. E. E., and to twenty-six engineers, also members of the S. P. E. E. The latter were chosen at random. * * * *

"To the question, 'Do you consider it worthwhile for the engineering student to spend some of his valuable time in college from the practical point of view?' thirty-five said 'Yes' and eleven said 'No' or 'Doubtful' or 'Little.'

"To the question, 'Do you think it worth while for the engineering student to spend some of his valuable time in college studying languages, from a cultural point of view?' forty one said 'Yes' and five said 'No.'

"To the question, 'Do you think that a knowledge of foreign languages is essential to the educated man?' twenty-nine said they did, and thirteen said they did not. * * * *

"The last question was, 'Should languages be eliminated from the engineering curriculum?' thirty-two voted to retain languages and fourteen to eliminate. This shows that, in spite of the

recognized value of languages, other considerations, particularly crowding of the schedules, are persuading educators to eliminate languages. Some answers definitely contain this idea. Others would put languages in the preparatory course. Some would lengthen the course and make the engineering course five years, or make a liberal education prerequisite to an engineering education. Some of you will recognize in these remarks signs of the times. Why should not the engineering profession be on a par with that of the law or with the medical profession? More and more the engineer is dealing with ultimate values and his training should not be narrowed. So say many of the answers.

“ * * * * Mr. George M. Bacon, Civil Engineer, Salt Lake City, says: ‘My feeling is that the answer to this question is dependent on the question as to what is the proper function of the engineering school, and about this there is a great variety of opinion. If the school is primarily for the production of hewers of wood and drawers of water, which the majority of graduates become, then why bother with the foreign languages? If, however, the school keeps ever in mind the few who rise above the general level, then the broadening and cultural value of other languages ought to be available.’

“President Richmond of Union College has this to say: ‘I am glad to give you my opinion in the matter of the study of languages in engineering education. In my opinion, the principal weakness in our present engineering education is the lack of cultural background. The engineer should be something more than an engineer. He should be an educated man. At present the product of many engineering schools is not an educated man in any broad sense, but a mere technician. In my judgment, no man can secure the kind of culture which is expected in one who has had the advantages of a higher education without some acquaintance with foreign languages. Their value from a cultural point of view is unquestioned. From the utilitarian point of view, I should still advocate the study of modern languages, but in most cases it will have to be done more thoroughly to produce really valuable results.’

“President Burton of Michigan has this to say: ‘I am certainly of the opinion that the knowledge of foreign languages is essential to one who pretends to be really educated. He must know more of the world than his own particular little nook, and one cannot appreciate the feelings or the culture of other people without that first-hand contact which comes through knowing their language and their mode of thought.’

“‘If there are any engineering colleges which are seriously considering the elimination of all language work from their curricula, I would characterize the policy as most short-sighted.’

“President Howe of Case School sums this all up neatly, but also puts the inevitable, which must be considered, before us. He says: ‘I do think that a knowledge of foreign languages

is essential to an educated man, but I do not think that an engineering college gives a broad education to any student. There is not time enough to do so.’

“Like still water, that remark runs deep. Does the engineering college educate? Is engineering to be a profession or a craft? This goes back to Mr. Bacon’s remarks. Can it be a profession if it does not demand an education? President Howe says that it cannot get an education out of a four-year course. This involves the question of languages with the question of a more-than-four-years’ course, a question which this paper is by no means qualified or anxious to discuss. It is, however, a matter which will become more and more insistent as the years roll on, but a matter for the broad and far-seeing minds of great engineers and great educators to discuss.”
