

engineering degrees should be given only as the result of a post-graduate course open exclusively to those presenting arts degrees. While the increasing number of men holding such degrees who come to our best engineering schools is most encouraging, it will be unwise to insist upon this as an entrance requirement. To do so would exclude many earnest young men who possess the natural ability, ambition and industry to achieve success in whatever they undertake, but who have neither the means nor the time for both the arts and engineering courses. What we may properly insist upon is that the courses in our engineering schools be liberalized by the introduction of some culture studies. Dr. J. A. L. Waddell, who has been insistent in urging the broadening of engineering education, said in an address to the Engineers' Society of Western Pennsylvania:

"Technical teachers are beginning to awaken to an appreciation of the fact that it has become absolutely essential to instruct their students in other lines than mathematics and technics in order properly to fit them for their life's work and that American engineering courses will have to be broadened so as to provide thorough instruction in economics, history, oratory, logic, business and other studies of a non-technical nature. Without a good grounding in such lines the engineer of the future will continue to be a narrow technist—unappreciated by the community and insufficiently compensated for his labors."

I am not taking too literally the subject assigned to me and insisting upon a study of "the humanities." The term is an old one and its meaning is not quite clear. The Century Dictionary defines the humanities as "including learning or literature of a merely human or secular kind as opposed to divinity, and generally the several branches of such literatures as philology, grammar, rhetoric, poetry, the study of the ancient classics and the like." Professor G. P. Marsh notes that the conviction of the value of these studies as a moral and intellectual discipline has led scholars almost universally to ascribe the origin of this appellation to a sense of their refining, elevating and humanizing influence. He expresses the belief, however, that it is an erroneous etymology, holding that they were so called in distinction from divinity, the two studies of philology and theology then completing the circle of scholastic knowledge which at the period of the introduction of the phrase scarcely included any branch of physical science. May I not then take sufficient liberty with my subject to insist that engineering courses must be enriched by the introduction of culture studies?

It is quite probable that familiarity with the classics, supplemented by a thorough course in one's own language, will greatly enrich one's vocabulary, but all of this is not needed to enable an engineer to write an intelligent report or to address a board of directors. It is not necessary that a report dealing with an engineering subject should be expressed in the language of a Howells or a James, nor will its force and that of its conclusions be lessened by the occasional use of a split infinitive or through the employment of a phrase that might give pain to some purists. It will, however, be much more forceful if expressed in simple but virile language, the habitual use of which can be acquired only by the reading of the best literature.

Many of the so-called colleges of liberal arts no longer insist upon Greek and require little Latin on the part of candidates for admission, while Latin is not carried beyond the freshman year except as an elective, although the enforcement of the group system, with one major subject and carefully balanced electives, is calculated to pro-

duce a well-educated man, if not a scholar in the old sense. Why should not our engineering schools so modify their curricula as to insist upon a major group of engineering subjects, supplemented by a thorough course in the English language and literature, a good training in, not a smattering of, one other modern language, and courses in history, economics and the law of contracts? But the technical school men will say, we would not have time to do this unless we shorten or omit some of the courses which we believe to be essential to an engineering education or add another year to our course. Then let them adopt one or the other of these alternatives, and it is quite probable that the records of their graduates would reflect greater credit upon these schools than they have in the past. A number of specific instances could be given of men whose professional training has been along entirely different lines and who have attained conspicuous success as engineers. While these cases may be exceptional, they are sufficiently numerous to justify a reference to them and even to support the plea for liberalizing engineering training.

The six-year course leading to both the arts and engineering degrees which has been adopted by a number of our universities is most encouraging evidence that engineering is coming to be considered one of the learned professions, and yet for those who can afford the time and money the ideal plan would be to pursue their culture studies in one of the smaller colleges which have not yet gone to an extreme in the adoption of the elective system. A young man will be more likely to attain real culture in such an institution, his interests will be broadened, his life friendships will be among men of various professions and occupations and he will have a better opportunity to find himself and make a wise choice of a profession if that choice may be deferred until the latter half of his college course. The influences and associations of the college campus are distinctly humanizing and, even though he may attach as much importance to athletics as to scholarship, he will have laid an admirable foundation upon which the superstructure of his professional education may be reared. The writer realizes that, while this plan may be ideal, it is beyond the reach of a great majority of those who wish to enter the engineering profession.

Next to this in its advantages may be placed the six years' course leading to the arts and engineering degrees, but even this is too long in most cases and the greatest number of engineering students will continue to begin their professional courses immediately after finishing their secondary school work.

It is unfair to these young men, it is unfair to the engineering profession, to confine their further education wholly to strictly technical courses. Extend these courses to five years, if necessary, in order to introduce the liberal studies which have been referred to, giving credit to those who present degrees from reputable colleges, so that they may complete the strictly technical work of the curriculum in four or even three years. In other words, it is time that those who are responsible for the training of engineers realized that they are fitting men for one of the learned professions and that this cannot properly be done unless the curriculum is humanized.

Eight million dollars' worth of street extensions, widenings and connections are in prospect for the West Side district of Chicago as a result of the action taken by the Chicago Plan Commission. The work will make the first unfolding of the Plan of Chicago in its aim for better traffic conditions throughout the West Side.