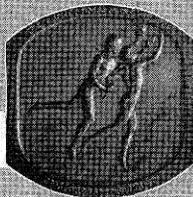


# ENGINEERING AND SCIENCE

Monthly



Vol. IX, No. 2

February, 1946

## THE HARVARD REPORT

By C. K. JUDY

EVERY college man amuses himself at times with casting a backward glance at his years in school. What did those years give me? Does their contribution fit harmoniously into the pattern of my life? Would I, could I begin again, revise my course of study?

A critical examination of many replies to such questions yields generalizations, each of which may become a focal partisan issue: basic science or technology; vocational courses or liberal; natural or social science? For several years, the advocates of liberal education have issued manifestoes and appeals in an effort to check the over-emphasis on science and on vocation in educational practice. The war stimulated them to greater effort, for it seemed that in war the paramount value of science and technology would cheapen still further the liberal courses. Parenthetically, it might be noted that the climax of destruction and the war's end have, ironically enough, generated a reaction among scientists themselves; some, at least, are favoring the inclusion of the social sciences as beneficiaries under the Bush Plan—the most grandiose proposal ever made for subsidizing scientific investigation.

Closely similar to the revisionist campaign waged by the exponents of liberal education is the reform proposed by the Harvard report (*General Education in a Free Society*; Harvard University Press); the authors indeed admit that they might have used the term "liberal" instead of "general" had they been talking only of college curricula.

### COMMITTEE APPOINTED

Three years ago the president of Harvard University appointed a committee of twelve to study American education and to make a report on "The Objectives of a General Education in a Free Society." The report, published recently, is a model of analysis and conservative appraisal. It cannot fail to interest an alumnus of the Institute, and for two reasons: it presents a rationale of general or liberal education, against which as a background he may set his own experience in college (for better, for worse); and it sharpens for his attention as a parent the outlines of an education for his children in high school or college.

### REPORT COVERS WIDE FIELD

The report is not about Harvard University; only one of its six chapters is given over to suggested improvements in the Harvard curriculum; four chapters are devoted to high school and college in general, and one to adult and extra-academic education. In the four chapters presenting the general argument, the high school is oftener under discussion than the college, and rightly so, for high school graduates outnumber college graduates six to one; and all have equal rights in a free society.

Education is our labor-saving device to enable a man to live a good life in the environment in which he finds himself. Now for some time—roughly for a hundred years—the multiplication of the fields of knowledge, mainly scientific and technological, and the need for developing expertness through a kind of division of labor, have led to a multiplication of courses in schools to keep pace with the changing world we see. Spectacular changes have diverted our attention from the constants, or the more slowly changing elements, in human life: the common ground, the traditional wisdom, the inheritance, we enjoy without earning. We are not born in a vacuum. There is a tension in life between the divisive influence of separate interests and the unifying influence of common beliefs and ideals. The Harvard committee contends that at the present moment it is the common ground that needs emphasis.

"A supreme need of American education is for a unifying purpose and idea. As recently as a century ago, no doubt existed about such a purpose: it was to train the Christian citizen. Nor was there doubt how this training was to be accomplished. The student's logical powers were to be formed by mathematics, his taste by the Greek and Latin classics, his speech by rhetoric, and his ideals by Christian ethics . . . this enviable certainty both of goal and means has largely disappeared. . . . For some decades the mere excitement of enlarging the curriculum and making place for new subjects, new methods, and masses of new students seems quite pardonable to have absorbed the energies of schools and colleges. . . . In recent times, however, the question of unity has become insistent. We are faced with a diversity of education which, if it has many virtues, nevertheless works against the good of society by helping to destroy the common ground of training and outlook on which any society depends."

(Continued on Page 9)

answer the question propounded. His answer, while not too well formulated, was accepted and he turned again to his notes. Unfortunately, he had not prepared an outline of his argument, but was instead working from a typed brief covering many pages. The interruption had driven from his mind the prepared argument. The notes were better suited to reading than to oral presentation, and under the crushing force of the occasion he could not find his place. Pages were fumbled. A drink of water. Papers on one side of the stand were turned. Back to the notes, but without effect. Another drink. More fumbling. For six long minutes that unfortunate man stood mute before the Supreme Court of the United States. Every lawyer in that room could have shrunk through a very small knothole, so real was the feeling of common embarrassment with a fellow lawyer. Finally, and years too late, a junior stood up and asked if he might say a few words. Consent was given by a nod, and the junior took over and did very well. Our friend, after standing a few moments, sat down and did not rise again during the entire case.

This lawyer was experienced in many courts. The weight of the prestige of the Supreme Court, coupled with his failure to prepare adequately to meet such a foreseeable contingency, proved to be his undoing.

#### THE CLOCK DOES NOT STOP

But back to your case. The notes to which you refer, if you are wise, are such that a hurried glance will tell you what points have been covered and what remain. You do not read your notes, for there is little to read. Each point, however, suggests an entire line of thought; though you are interrupted frequently, you are never lost.

The argument progresses and, noting Justice Roberts' nods, you feel certain that at least this strong man is with you. Justice Frankfurter has been giving some trouble and there are several of the court of whom you have some doubts. All sense of time has long since vanished. Suddenly you become aware of the fact that Chief Justice Stone is leaning forward in his seat. Can your forty-five minutes be up? You lift the long black book which contains your notes and peer over the top of it at the little red and yellow lights which it has hidden on the stand. You suspect that your time is more than gone without your having noticed the warning light. You ask Chief Justice Stone if your time is up and he nods. The clock overhead indicates that you took five minutes not yours. You suggest the advantages of a long book to the Chief Justice, who smiles. You thank the court and return to your place at the lawyers' table, wondering if, under the circumstances, you have not acquired some rights in the quill pen provided there for the lawyers' benefit.

The majesty of the law, the sovereignty of the people and the rights of man are impressed upon the conscience by the Supreme Court in a unique way. Man, the individual, takes on increased stature and the problems of life a new dignity through the knowledge that this court is concerned therewith.

#### THE ENGINEER'S STAKE

The engineer's interest and stake in the Supreme Court are great. Within the framework of our Federal Constitution this court stands as the arbiter to determine that thus far and no farther may the way of our economic life be changed. Legislators who would nationalize research or abolish the patent system must act with the knowledge that their actions are subject to review by this tribunal. A supreme court composed of so-called

liberals will uphold the constitutionality of enactments which would be thrown out by a court composed of so-called conservatives. There is always much to be said in support of a dissent, and a personal bias or philosophy is all that is needed to shift a justice from a majority viewpoint to that of the minority.

The future of engineering and technological research in this country is likely to be the subject matter of much Congressional consideration during the next few years. The patent system which provides the rewards for new developments to those willing to undertake them has been under attack for some time. Bills are now pending before Congress relating to these fields and, if enacted, will in all likelihood be tested before the Supreme Court. Our Congressmen will vary and change with the political winds, but so long as our Supreme Court remains constituted of men outside the normal forces of politics and economics, we can hope that the balance-wheel effect which it provides will serve to protect us.

#### The Harvard Report

*(Continued From Page 3)*

"... there are truths which none can be free to ignore, if one is to have that wisdom through which life can become useful. These are the truths concerning the structure of the good life and concerning the factual conditions by which it may be achieved, truths comprising the goals of the free society."

These truths are conceived to lie in three traditional areas of human thinking: the humanities (literature, the fine arts and philosophy), the social sciences (social, political and economic interests and history), and the natural sciences (mathematics, physical and biological science). For the purpose of this review it is not necessary to quarrel with the nomenclature, nor to disturb the schematism by remarking the absence of religion, formerly the strongest of unifying forces.

#### APPLICATION TO HARVARD

In particular application to Harvard, the proposal is therefore that of the sixteen full courses required for the degree, six shall be general—one from each of the areas of knowledge—and three more which shall not be in the student's "field of concentration."

It is interesting to note that there should be required one course in "Great Texts of Literature," one in "Western Thought and Institutions" and one in either physical or biological science. After "Western Thought and Institutions" a second course in the field of the social sciences should be, "American Democracy." The recommendation of this course furnishes the ground for an objection that has been raised against the philosophy underlying the concept of general education: does the desired unity, the common ground, call for inculcation of a set of social and political principles? If so, it violates the liberal theory long prevalent that, at any rate, higher education should be the exercise of free enquiry, not indoctrination of any view, however excellent. This liberal theory has been maintained with great difficulty against many attempts to invade it. Is the Harvard report such an attempt? Your reviewer does not think so, but the question should be looked at.

The book is highly recommended. It ranks among the best of the many, too many, volumes about education that are dropping weekly from the press. Harvard is not alone in urging a revaluation of the ends of education, and of the means for attaining those ends, but the Harvard report has a breadth of scope, a rationality in analysis, and a conservatism of conclusion, that comport well with Harvard's position as a leader in education.