

First we may mention certain utilitarian subjects which have a cultural value, but are primarily tool courses, furnishing the keys to unlock new horizons of knowledge. Such are the first courses in writing and in speech, the introductory courses in foreign languages, exercises in formal logic, and the study of laboratory techniques. These may be compared with learning the notes in music and practising scales on the piano in that they are preliminary to more satisfying work. They are all of the highest importance, though it is not always necessary to teach them in separate courses. For instance, John Milton agreed with some modern educators that extensive courses in Latin were not necessary. Instead, he suggested, after some rudimentary instruction all of a student's other courses, such as history, geography, and mathematics, should be taught from Latin textbooks and conducted in the Latin tongue, a procedure which would make unnecessary any concentrated study of the language as such. It was a heroic proposal, to which neither his own age nor ours has been able to measure up. But the principle is sound. Particularly as regards rhetoric and logic, effective self-expression and accurate reasoning from premises to conclusions are necessary in all fields of knowledge and should be the concern of every instructor.

Among the major fields of knowledge, the natural sciences, including mathematics, occupy a highly important place. They have to do with the nature of the physical universe, and since observation of the physical world must be the concrete basis for all speculative thought, science must be the foundation of philosophy. Conclusions based upon facts can have validity only in so far as the facts are correct. Every student should have some knowledge of scientific facts and of the methods by which they are ascertained. Natural science, properly taught, has several incidental values. First, it provides training in orderly thinking and the careful arrangement of one's knowledge. Second, it teaches the student to distinguish between evidence and proof, for an erroneous assumption is more glaringly revealed by the results than in any other branch of study. Third, it develops a practical turn of mind, the habit of solving a problem in terms of the particular factors involved rather than trying to force it into some general ideological mold. Fourth, it encourages a student to "face the facts" and to discard erroneous ideas which result from his own prejudices or from earlier teaching. A possible danger is that the student of science will deliberately narrow his vision by flatly rejecting all ideas and values which cannot be precisely determined by the experimental method.

In contemplating the universe, the human mind proceeds in two ways, the moral and the esthetic. The word "moral," used in its broad sense as derived from "mores," implies a study of human experience in order to determine a right conduct of life. The historian records the way men have acted in the past. The social scientist studies men en masse, the relations of social groups to each other and to their environment. The ethicist studies the conduct problems of individual men in their relations with other individuals. The psychologist seeks to determine why men act as they do, to find in man's physical organism the secret of his mental impulses. All