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The Complete Curriculum

Current proposals for increasing the emphasis on natural science and mathematics in college raise the question of what should be the proper balance in general education between science and the humanities. If we grant the need for more people with professional competence in science, as well as for more citizens with appreciation of the results of science, then the fear arises that our educational institutions will be turning out graduates with no interest in other forms of human endeavor and no feeling for the beauty of ideas.

The question of what elements must be included in a course of study if that course is to be complete is not new, and the attempts to answer it tend to follow a definite pattern. Imagine a conference of people with diverse academic backgrounds. Each participant will interpret his own special knowledge as a necessary part of any plan for general culture. The chief languages, modern history, ancient history, the latest results of science, the great novels—and we are still thinking only in terms of Western civilization—all must go in. Topic is added to topic until it becomes apparent that the participants are not just ignorant but utter dunces.

Fortunately, the way to avoid this unpleasant conclusion has also been worked out before. It is to argue that a curriculum for general education cannot be separated from one for special knowledge. Alfred North Whitehead put the matter very nicely in his collection of essays on *The Aims of Education* (reprinted as a Mentor Book). In the essay from which the volume gets its name he writes: "The subjects pursued for the sake of a general education are special subjects specially studied; and . . . one of the ways of encouraging general mental activity is to foster a special devotion."

Justification for this union of the general and the special follows immediately once it is granted that the goals of education have something to do with fruitfulness of mind. If the study of a given subject is to mean something more than the memorizing of a given routine, then the study of additional subjects is not necessarily the answer, for it may only mean the memorizing of additional routines. What is necessary is to set forth the principles by which knowledge is come by, but to do so at once in terms of a specific use and at the same time apart from that use.

To teach a branch of science so as to encourage general mental activity involves many things. At one level it involves presenting a body of knowledge *as* a body of knowledge—to the extent, that is, that connections among the parts have been established—not as a set of isolated answers to isolated questions. At a second level, it involves tracing the routes by which both the answers and questions are first suggested and the methods by which the answers become warranted as true. At a third level, it involves bringing to light the individual and communal values that make science possible.

With proposals on hand for increasing the emphasis on science, the first impulse for those concerned with general education is to call for a comparable increase in emphasis on the humanities. But what we are trying to suggest is that the way to correct specialization in science is more complex than seeking a point-by-point balance with other disciplines. A concern with broad coverage can become the pursuit of an unattainable ideal. Completeness in education moves not only horizontally but also vertically.—J. T.