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Science and the Humanities

Take away science and technology from our civilization and there would remain only chaos and starvation. We exist in complete dependence on an organizational and production complex which provides food, clothing, shelter, and the common defense. Less obvious, but equally important, is the philosophic significance of the knowledge which science has generated. Attaining an understanding of the natural laws which govern our lives and the universe about us is a profoundly enriching experience. Unfortunately, only a relatively few citizens, mostly scientists, understand the implications of science or can visualize its future impact. Some humanists, having only the haziest concept of science, have come to regard it as a mysterious and intractable Frankenstein. Others are more constructive and have discussed the need for communication between scientists and nonscientists and especially between scientists and politicians. The gap between the scientists and other citizens is growing, and scientists will have to assume a substantial share of leadership in meeting the problem. Hence it is timely to present one aspect of the matter. On page 1375 of this issue, James H. Mathewson discusses "Science for the citizen—an educational problem." Mathewson has addressed himself to the question of college curricula for the scientist and nonscientist, and he argues thoughtfully concerning the inadequacies of present approaches. He points out:

... elementary science courses are not taught with a broadening function in mind. They are designed to train the science major in specialized fact, theory, and technique from the start. They generally cover only one field in science, with little instruction in how the subject relates to other fields inside or outside of science. Under these circumstances the nonscience major finds his encounter with science a torment of meaningless detail, providing little that he may profitably use for a wider purpose than satisfying an academic regulation. He does not need to become a specialist in a science; he does need to understand the essential nature of science as a whole and his relation to it.

The science major remains correspondingly undereducated. He is frequently permitted to avoid all but the briefest exposure to nonscience courses and activities.

Mathewson proposes revisions of the content of survey courses. We believe that implementation of his ideas would have constructive consequences. But we doubt that his suggestions are sufficiently comprehensive to meet the challenges of the need. First, a quibble about his proposal that the humanists study scientists rather than science. An implication is that there is such a thing as a type specimen, a standard sample, a guaranteed genetically pure "long-hair." Actually, in behavior and thought pattern no two scientists are alike. Many, however, are characterized by a hunger for knowledge that does not stop at the boundaries of their specialties. Once their formal education is finished they inquire into other fields. After the rigors of training in science, the subject content of the humanities seems hardly more difficult than a good novel. While it is feasible for a scientist to overcome deficiencies in earlier training it is almost impossible for humanists to acquire a knowledge of science once the formal educational process is completed. An average man, or even a superior one, cannot learn science from scratch. Our principal comment, then, is that a drastic revision of the educational process, including secondary school training, is overdue. We believe that a realistic curriculum for the secondary schools might well include almost continuous exposure to science, beginning in the primary grades. This would give partial recognition to the realities of a changing world and enrich immeasurably through philosophic values the lives of all.—P.H.A.