Book Reviews

Education and Freedom. H. G. Rickover. Dutton, New York, 1959. 256 pp. $3.50.

Conant says that there's nothing wrong with the American high schools that a few changes will not correct [*The American High School Today* (McGraw-Hill, New York, 1959); reviewed in *Science* **129**, 382 (1959)]. Rickover wants a brand new deal. He believes that the high-school curriculum is watered down; too many high-school teachers are not qualified for their jobs; much time is being wasted; excellence in teaching is yielding to mediocrity; badly needed human talent is being lost; our schools are inferior to those of the Russians (who abandoned John Dewey to copy the European system); we need demonstration schools (European model) to revolutionize our educational system by setting up bench marks of excellence—bench marks that will lead to national standards for the certification of teachers and to a series of comprehensive examinations for measuring the achievements of high-school seniors before they are graduated.

Conant identifies the comprehensive high school as a uniquely American contribution in the Anglo-Saxon tradition. Thus, he elicits in this country a flood of warmth and receptivity. Rickover, on the other hand, paints a harsh picture of the villain in the piece—a revered American philosopher who so misled American educators and administrators as to give rise to a new species called "educationists." These must first be destroyed if our country is to survive. In easy stages, Rickover's advocacy of Russian (European) education assumes a non-American look which soon becomes un-American in its projected image. As Max Lerner says, "If Rickover were clearer about education *for* freedom, he would be much more savage than he is about the Russian educational system."

Conant and Rickover are seeking many similar goals, but in ways that are contrastingly different. Some of Conant's recommendations call for educational upheavals as radical as any which Rickover is advocating. One example is the proposal to reduce the number of secondary schools so that all of them can have at least 100 students in the senior class. In my humble opinion this may take a century of effort, if it can be done at all. Furthermore, we need 400 or 500 in the senior class to do the job for the academically talented that needs doing, unless we are ready to spend at least twice as much money for education as we are presently willing to spend. Rickover would give his blessing to any device which would make classes more homogeneous with respect to ability but would probably be impatient with, and suspicious of the efficacy of, the "comprehensive" features of the high school.

I regret Rickover's passionate impatience because I prefer his overhaul job to a mere tinkering with the educational system. If we are impressed by the seriousness of the world picture Rickover paints, then we must admit that we are at war in a struggle for the survival of all that is dear to us. No half measures will do. I wish Rickover had not seen fit to attack Dewey when he was really attacking Dewey's interpreters. I wish he had not glamorized the European educational system to an extent not necessary to make his essential points. In doing so, he precipitates arguments from the opposition that are as *ad hominem* as his own. While Rickover's interest in education may have originated in dissatisfaction with the education of the men he sought for work on the *Nautilus,* one must admit that his understanding of the history of education is superb. Certainly, he has traced with force and clarity the debt we owe to the best in Greek and Roman culture.

Weighing all in the balance, I must side with Rickover. The time has come when we can no longer afford to paralyze action in educational reform. Talent *is* being wasted. We *are* falling behind the Russians. Our high schools need *more* devotion to excellence. Equal educational opportunity is *not* the same as equal educational exposure. Heterogeneous classes *do* tend toward mediocrity. The sights *must* be raised for all our students—bright, average, and slow. Not all scholars are good teachers, but good teachers must first be scholars. The action of good mind upon good mind in classrooms *does* promote learning in ways never dreamed of it. It is *not* undemocratic to organize schools with classes that are more nearly homogeneous in interest and ability. Special schools, where it is feasible to establish them, *are* most potent instruments for excellence in teaching and in learning. The essence of democracy *must* be to let each child become all that he is capable of being.

Whether Conant's gradualism or Rickover's revolution prevails depends in the last analysis upon the progress of the cold war. The hotter it gets, the sooner we will move in the direction toward which Rickover leads.

MORRIS MEISTER
Bronx Community College,
New York, New York

Foundations of Modern Physical Science. Gerald Holton and Duane H. D. Roller. Duane Roller, Ed. Addison-Wesley, Reading, Mass., 1958. xvi + 782 pp. Illus. $8.50.

Physics. Henry Semat and Robert Katz. Rinehart, New York, 1958. viii + 927 pp. Illus. $9.

Physics for Engineers and Scientists. Richard G. Fowler and Donald I. Meyer. Allyn and Bacon, Boston, Mass., 1958. xiii + 546 pp. Illus. $8.

Principles of Modern Physics. A. P. French. Wiley, New York; Chapman and Hall, London, 1958. ix + 355 pp. Illus. $6.75.

Introduction to Modern Physics. C. H. Blanchard, C. R. Burnett, R. C. Stoner, R. L. Weber. Prentice-Hall, Englewood Cliffs, N.J., 1958. xi + 414 pp. Illus. $10.

The first three books listed above deal with elementary physics—that is, first-year college physics; the last two are for more advanced students. Each book has a different outlook and general method, and the existence of these differences is an indication of the different reasons for teaching and studying physics in college today.

The Foundations of Modern Physical Science, by Holton and Roller, is intended, according to the authors, "mainly for courses of two types: (a) the one-year general physics course for science majors (including premedical students) outside physics and engineering, and (b) the course for majors in the humanities and social studies, including the physical science course for liberal arts students and the integrated or general education course." The approach to the study of physical science is the same as in Holton's well-known