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Secondary-School Science and Mathematics

It is now clear to both scientists and educators that secondary-school science and mathematics courses must be revised, so that the teaching of science and mathematics in secondary schools can reflect more adequately modern scientific developments. If this is to be accomplished, scientists must be deeply involved and, in many instances, will have to take the initiative. It is probable that this work can be done most effectively by working groups of scientists and secondary-school teachers and administrators.

In October the AAAS held a Conference on Mathematics Instruction. Participating in this conference were mathematicians, scientists in the other fields that depend heavily on mathematics, and teachers at the elementary and secondary levels. The purpose of the conference was to review present efforts to improve the teaching of mathematics and to explore whether there were ways in which AAAS could be of help in this effort. The conference revealed that important studies in the secondary-school mathematics curriculum are under way, and that leading mathematicians are active in this work. The most notable studies for the secondary-school level are by the Commission on Mathematics of the College Entrance Examination Board and by the University of Illinois Committee on School Mathematics. The National Council of Teachers of Mathematics is organizing a study of mathematics in grades 1 to 12, and their plans also call for very active participation of mathematicians.

A major study, directed toward a rather complete revision of the physical science courses in secondary schools, is being developed. Other scientific societies have committees which are examining ways of improving these courses. In Kentucky there is a state-wide committee, composed of scientists and secondary-school teachers, which is undertaking an important study of the science curriculum for grades 1 to 12. A similar study is in the planning stage in California for elementary-school science. Both of these projects are operating in cooperation with the state departments of education and include scientists as well as elementary- and secondary-school teachers. In addition to the great values that will come from better science and mathematics courses, curriculum study of this kind will enable scientists and school personnel to develop much more satisfactory and continuing working relationships.

Since the American school system is organized on a state-wide basis, much of the work in curriculum revision will have to be done at the state level. It is recommended that scientists concerned with this problem investigate possibilities of the establishment of a curriculum committee in their states in cooperation with state departments of education. The national studies will depend on the states both for experimentation with proposed new materials and for implementation of recommendations. Such state committees will be in an excellent position to assist in the national studies and to see that the recommendations of the national groups are understood and accepted, and without too much delay. This is the time for action at both the national and state levels.—JOHN R. MAYOR, *AAAS Science Teaching Improvement Program.*