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Course Content Improvement, British Style

Publication of the first general report of the British Nuffield Foundation Science Teaching Project provides an opportunity to compare British and American approaches to the problem of improving science teaching. There is much in common between the two. The Nuffield statements that "the central objective is 'science for all'—not merely for future specialists," and that "present-day science teaching should place much more emphasis on imaginative enquiry and the judgment of evidence, and much less emphasis on dogmatic assertion and the memorising of facts" might just as well have been written in this country. So might the description of working arrangements. Organized groups of scientists and teachers are producing new texts, guides, demonstrations, experiments, and teaching aids. Experimental use of the new materials in selected schools will determine the changes to be made before they are released for general use.

There are also significant differences between British and American approaches. Curriculum organization in this country called for 1-year courses in biology, chemistry, and physics. The British system has permitted the Nuffield group to start with 5-year sequences in each of these fields, for children aged 11 to 16 in selective secondary schools. Thus they have been able to adopt a much more longitudinal or developmental approach than we have.

Work on science for children from 8 to 13 in primary schools and nonselective secondary schools will get started early in 1964, and the group hopes to start a parallel program in mathematics within the year. Later on they may proceed to the development of other courses: one for 16- to 18-year-old students who wish to specialize in science; one for students of like age with other interests; one for 13- to 16-year-olds of less than average ability; and a combined physical and biological science course for the 11 to 16 range.

As a matter of general policy for all courses, pupils' guides, teachers' handbooks, films, apparatus, experimental guides, and collections of problems and questions are intended to be sufficiently flexible to permit a considerable amount of adaptation to different levels of ability and to differences in the plans and wishes of individual teachers. Commendably, the development of new examinations that will better fit the major objectives instead of rewarding the parroting of a mass of detail is getting earlier attention than it has in most of the American programs. While this emphasis is made necessary by the British examination system, it is in any event desirable as a basis for evaluating the whole venture.

The Nuffield group has had the opportunity to profit from both successes and mistakes of the American programs that started a few years earlier. Included on the steering committees, central staff, and writing groups are a number of recent participants in American summer institutes, writing groups, and visiting programs. There is a reciprocal opportunity for us to profit. Work here began at the senior high school level and is now being extended to higher and lower ages. But work at elementary and junior high school levels is not yet far along, and not yet have we really tackled the problem of articulating the whole program from elementary beginnings into the early collegiate years. The British system of sequential courses forced the Nuffield group to look at some problems we have so far neglected. The results of their experience—which might best be imported through participation by a few American scientists—can enable us to move more rapidly toward the kind of articulated program that should soon become our objective.—D.W.