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Science Legislation Puzzles

Senators and Representatives have returned to Washington in a mood to "do something" about the support of science and the improvement of science education. Among the proposals—some new and some held over from the last session—the largest number contain provisions for scholarship grants or loans. Others deal with graduate fellowships, direct support of one kind or another for high school science teachers and teaching, for college science laboratories and equipment, for student guidance programs, for increased research support, for an expanded program of translating, abstracting, and disseminating the world's scientific literature, and for consolidating into a Cabinet-level department some of the Federal agencies that have major scientific responsibilities.

Underlying these varied proposals are two fundamental issues on which agreement has not yet been reached. One is the question of how much the grave realities of world conditions require that attention be devoted to attempts to bolster our immediate strength and how much the longer-run needs require that attention be given to improvements that will bear fruit 8 or 10 or more years from now. Emphasis on the immediate problems leads to proposals for missile development, increased support for research, especially applied research, and provision of translating services. Emphasis on the future leads to proposals for the improvement of education and the encouragement of larger numbers of able college entrants. This issue is likely to be settled by doing some of both, for while there is wide agreement that immediate steps are essential, there is also much conviction that longer-term efforts must also be undertaken.

It is in these longer-term efforts that the second issue arises. It is this: How much emphasis should be concentrated on improving instruction in science and mathematics and how much on improving education generally? Considerable compromise is likely to be necessary before this question is answered. On the one hand, it is widely held that education in science and mathematics has fallen behind education in other fields at the secondary school level and that special efforts would restore rather than disturb educational balances. It is also argued that special emphasis is justified when special needs are so clearly apparent. On the other hand, it is feared that we may attempt to make scientists out of students who have no aptitude for science, that we are likely to overemphasize science to the detriment of other vitally important fields, that we may even overemphasize the physical sciences to the detriment of other scientific areas. These differences of judgment may have to be resolved on specific proposals rather than in general terms. Most scientists and educators agree that undergraduate scholarships should be awarded on the basis of ability rather than on the basis of the prospective field of specialization. Yet persons who hold this view may agree that in the high school the teaching of science and mathematics merits special support because of the rapid changes that are taking place in these fields, the more acute competition for persons with a good knowledge of these fields, and the resulting difficulties of securing an adequate number of well qualified teachers.

It is a matter of considerable urgency to reach substantially greater agreement than now exists upon the actions that appear to be of greatest importance. Agreement among scientists will not guarantee adoption of the ideas upon which they have agreed, but lack of agreement will increase the confusion and seriously weaken the opportunity to secure sound legislation.—D.W.

