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The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

## Devil's Advocates

Increasingly the future shape of science is being determined by legislative actions taken by men who can be expected to have only a superficial knowledge of the technical facts embodied in their decisions. The government provides about two-thirds of the support for the nation's efforts in science and technology, and the fraction has been growing.

On the surface it would seem that more money for science is a good thing. Indeed, I have heard some scientists say that it would be almost impossible to provide too much support. However, the realities today are that in many areas of science and technology the crucial bottleneck is brains, not money. For instance, top-quality physicists are in short supply, and this deficiency is likely to continue. When Congress votes to expand activity in a field requiring first-rate physicists, it simultaneously makes the negative decision to remove them from other important endeavors.

It has been pointed out that the educational background of members of Congress is heavily weighted toward the legal profession, with little representation from science. The remedy usually proposed is that more scientists should get into politics. On the surface this suggestion is attractive. One obvious difficulty is the time it would take for any considerable group to be elected. A second problem is that, in becoming politicians, the erstwhile scientists would in general lose their professional acuity. Moreover, there is no certainty that a man trained in science would bring as much wisdom to Congress as one trained in the law. Some of the most narrow-minded, uncompromising, chauvinistic individuals in this world are scientists. Many research workers are deeply convinced that their narrow area of inquiry is the only one worth pursuing. I recently sat on a panel which cheerfully toyed with the desirability of channeling the total gross national product into a single area of scientific endeavor. A man representative of such a body of opinion would be a dangerous nuisance on the congressional scene.

The government does not suffer from a quantitative lack of scientific information. Rather, the difficulty is that most of the advice comes from special pleaders. The executive branch has good counsel from the Bureau of the Budget and Jerome Wiesner's office, but the Congress has no independent impartial source of advice. Since the legislative branch cannot evaluate technical proposals, the temptation arises to employ phony arguments in advocating major projects. In scientific circles there is a tendency to be more concerned with the glamorous, salable aspects of a proposal than with intrinsic merit.

It seems well to consider other ways of improving the scientific judgments of Congress. To make good decisions it is not necessary to digest all the facts. It is necessary to be well advised. One of the more promising methods would be to make available to Congress a special group of scientific counselors. These would supplement existing staff and would not be permanent government employees. They could be nominated by such a body as the National Academy of Sciences on request of Congress. They might serve for short, intensive periods while retaining their professional connections. They would be expected to act as devil's advocates (the *Washington Star* recently made a similar suggestion), with a duty to insure that the public interests was well protected. If such a system could be properly implemented, a substantial improvement in the quality of science legislation might ensue.—P.H.A.