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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.

Science, Government, and Information

The inventory of scientific literature is enormous and is increasing steadily. The problem of using this literature effectively has become of growing concern, especially to those engaged in applied research. Recently a thoughtful study was made by a panel under the auspices of the President's Science Advisory Committee. The group, with Alvin Weinberg as chairman, prepared a well-written report, *Science, Government, and Information*, which merits wide attention. The 52-page report is strongest when stating the problems; the practicality of some of the remedies outlined is less certain.

About one-third of the document is devoted to "analyses of the nature of the information problem" and to "attributes and problems of the information transfer chain and of information systems"; the remainder is a series of recommendations. Some of the recommendations are addressed to the government, some to the technical community. The recommendations to government agencies are explicit and could easily be implemented. For instance, "Each federal agency concerned with science and technology must accept its responsibility for information activities in fields that are relevant to its mission. . . ." Action on the part of a few key men in government is all that is needed to accomplish this.

Some of the recommendations to the technical community seem less practical. Authors of technical papers are urged to "title papers in a meaty and informative manner," to "write informative abstracts," and to "refrain from unnecessary publication." We have had experience with authors. Almost all of them would argue that, whereas others are deficient in these respects, they themselves are not.

One recommendation which could be implemented is that some scientists and engineers "commit themselves deeply to the job of sifting, reviewing, and synthesizing information," since "reviewing, writing books, criticizing, and synthesizing are as much a part of science as is traditional research." The technical community is urged to accord such individuals esteem commensurate with the importance of their jobs and to reward them well.

The authors of some books and review articles deserve, and get, little esteem. However, the history of almost every branch of science records instances where a book or review article was crucial in advancing a whole disciplinary area. Physicists still speak reverently of two review articles by Bethe and of one by Bethe and Bacher which appeared in *Reviews of Modern Physics* in 1936 and 1937. These articles organized and illuminated the nuclear physics of that day. Many would agree that their impact on physics was comparable to work for which the Nobel prize has been awarded. Unfortunately, these major contributions were not recognized in that way.

One means of getting better review articles and books would be to establish appropriate prizes for excellence. Award of these should be based on the scholarship displayed and the impact of the article or book on the development of a field of science. If the standards of selection were rigorous, the awards large, and the attendant recognition great, the attitude of many scientists toward publication of their work would be greatly altered.

The creation of appropriate prizes is feasible. It could be done by foundations, or by government on the initiative of professional societies. We recommend that the officers of scientific groups give earnest consideration to this suggestion.—P.H.A.

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