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STATE AND SOCIETY

in basic physics support rather than one of 10%. "What else in our economy," remarked one program officer, "grows at the rate of 15% or even 10% or 8%?" The real question that the physics community should address itself to, say these officials, is to determine the point at which the growth rate for our discipline should become stabilized, compatible with the growth rate of the overall economy. As another official put it, "We have to give more thought to how much we really need as reflected by the public interest." Then, having made this decision, the community must lay out effective mechanisms for turning the corner without disaster occurring. For surely, they add, the most dire consequences will ensue when support for thousands of graduate students suddenly ebbs and no plans for their scientific wellbeing have been formulated by the community itself.

Scientists Assail Hindsight, Agencies Mull Broader Study

While scientists continue to criticize a Defense Department study (Hindsight) into the cost effectiveness of technology used in weapons systems, federal program officers are considering a similar investigation into basic research. These officials discount any direct relevance the Hindsight study might have to the usefulness of basic research in general. But they propose using Hindsight methods to determine the effectiveness of federally supported research in producing new concepts for basic science itself.

Project Hindsight is a continuing study, headed by Chalmers Sherwin and Col. Raymond Isenson, of recent research and technology contributions to weapons systems. One of its most important and not at all surprising findings is that, in the systems studied, the contributions from research were greatest when the effort was oriented. Or in the words of Isenson, "When there is a useful communication link between the man who has the problem and the man doing research, there is a greater probability that the work will be utilized." Two very stringent limitations are imposed on the study; con-

tributions before World War II are not included nor are the "countless results of research, that although indistinguishable in themselves, contribute to the pool of general knowledge of scientists and engineers from which ideas are drawn." In the near future, the project will undertake a study of this knowledge pool.

In view of these restrictions in selected areas of ordnance, neither the authors of the report nor official Washington know what to make of the hubbub that has arisen over it. "What's all the fuss about?" is the comment one hears. For some interpreters, equating basic with undirected research, have suggested that Hindsight may question some of the many claims of basic research to public utility while several scientists, responding to the attack as if motherhood itself had been impugned, have assailed the report and its interpreters as misleading and myopic.

Close observers of the situation suggest that the Hindsight report was merely exploited as a catalyst in the growing battle between critics and defenders of support for basic research. It is common knowledge that scarcely a week goes by in Washington when a Congressional office or an applied-technology group or a science philosopher does not pick at the foundations of basic research in its relation to the public welfare. And it is just as true, say these observers, that basic research is only heard from when it attempts to raise a counterargument and feels its very existence in jeopardy. "The argument for federal support solely because one is a graduate-student is finished in this country," said one Oak Ridge official recently. And his colleagues in the Capitol hope that the organizations that speak for research will speak with a louder voice in identifying scientists and their laboratories with the common interest.

The Hindsight study, though scarcely noticed by Congress, has excited the interest of several agencies. Program officers for research, in particular, view the report as a pioneering attempt in one area that might profitably be duplicated for basic research. These officials are now discussing the possibility of performing a cost-effectiveness study of the funds spent for research in a particular subdiscipline.

For instance, important discoveries such as stimulated emission or tunneling in semiconductors would submit to an historical analysis in which their concepts would be traced, by means of a citation index or other method, back to their many antecedents. Conversely one could take the papers of individual researchers and determine the impact of their research on other workers in the field. In these and other ways federal officials hope to arrive at a better understanding of just how efficient is their funding of basic research. For undoubtedly many officials acknowledge that an undetermined proportion of federally sponsored research is not fruitful.

Societies to Assist in AIP Information Program

The American Institute of Physics has organized an advisory committee that will enable AIP member societies to review and evaluate the institute's information program as it develops. To this end, members from each APS division as well as scientists from each of the other member societies have been selected by the society presidents to form the group. Additional roles of the committee may include examining the relation of physics information programs to the national scientific information network and to international cooperative projects as well as providing advice to the AIP staff through procedures of the committee.

During the first committee meeting on 3 Feb., AIP presented its program activities involving electronic composition, comprehensive indexing and informal communications. Also discussed were the MIT/TIP and British IEE programs. The committee scheduled another meeting for 16, 17 Apr. and elected Sanborn Brown of AAPT as its chairman. Other committee members include Paul Cross, Philip Morse, Walker Bleakney, David McCall, Thomas Lauritsen, Sam Treiman, Thomas Stix, Conyers Herring (American Physical Society), Edward David (Acoustical Society of America), Marshal Wrubel (American Astronomical Society), Robinson Burbank (American Crystallographic Association), Lucien Biberman (Optical Society of America), Elliot Kearsley (Society of Rheology). □



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