

at about 1.5 percent of Philips's annual sales, or a total for research of about \$30 million a year. About 4 to 5 times as much is spent on development.

Outside Holland complications arise in the administration of research, particularly when Philips's other European labs are conducting "third party" research financed by local governments. The results of military work are kept secret, and the central research organization has no access to such results. A Philips lab in one of the other European countries may be doing contract military work, research financed out of the central research budget, and projects paid for by the national company. Conflict over lines of authority occurs, but Philips people have learned to live with it.

There would appear to be a temptation to have Philips labs specialize according to national research strengths—chemistry in Germany, perhaps optics in France, solid-state research in Britain. But Philips takes the view that the host countries would dislike such a policy, and it has tried to base research fairly broadly. Research is carefully coordinated, however. Philips, for example, contemplates entering the highly competitive computer field sometime in the future. Philips now owns one small Dutch computer company, and research work on "memories" is being carried out at the Philips British research laboratories; on peripherals, at the Hamburg labs; and on software, in Belgium.

In the United States, Philips development has a special history. When Holland was invaded in 1940, control of Philips properties in North America passed to a trust under provident prearrangement by the management. After the war, whereas in Britain a similar trust was turned back to the full control of Philips, it was decided that North American Philips would be in a better position if the trust were continued and the company were more "American." Government contracts were one consideration. The Philips research lab at Briarcliff, New York, is covered by the arrangement, and its research results are normally not available to the Philips central research organization.

Philips research policy, which seems to work well enough in practice, is not easy to state in principle. But Philips research director H. G. Casimir, in an anniversary anthology of research, of which he was an editor, put it this way. "For the future of a single industry it

## Handler Statement on Smale Case

*Philip Handler, chairman of the National Science Board, has issued the following statement, reprinted in part, concerning the relationship between Stephen Smale, the Berkeley mathematician, and the National Science Foundation, of which the board is the highest-ranking advisory body. The statement was delivered to Science following completion of an article on the Smale case for the issue of 15 September, but prior to publication.*

September 12, 1967

1) The Director of the National Science Foundation has kept the National Science Board informed of the successive events relating to the Foundation's support of the research of Dr. Stephen Smale. . . .

2) Last fall the Board discussed the activities of Professor Smale on the occasion of his attendance at the International Congress of Mathematicians in Moscow . . . and agreed that Dr. Smale's political activities did not, to the Board's knowledge, warrant any change in the relationship between the Foundation and the University of California with respect to Dr. Smale.

3) The Board . . . concurs with the Director that management of this (Smale's) grant has been relatively loose and has not conformed to appropriate standards.

4) The Board understands that Professor Smale is a mathematician of exceptional competence whose research fully warrants support from public funds.

5) . . . Were the two or more applications suggested by the Foundation found to be scientifically meritorious, the magnitude of the support . . . provided to Dr. Smale as well as to his colleagues would be determined by the magnitude and merit of these proposals as well as by the funds available to the Foundation. . . . These would certainly suffice to enable Dr. Smale to continue his productive career in mathematics. In short, the relationship between the Foundation and Dr. Smale would be similar to that between the Foundation and any other independent investigator on a university faculty.

6) The Board does not regard this as a punitive action. In view of the record of Professor Smale's administration of the current research grant, this action would merely limit his administrative responsibilities to management of the funds entrusted to the University of California for support of the research of his own immediate research group, a pattern consistent with the overwhelming majority of all research awards by the Foundation.

7) Those of the Board who have been apprised of the events of the last several days deplore the actions of those who have sought to conduct in the public press negotiations between the Foundation and the University concerning a purely administrative matter. (*End of statement*)

While NSF maintains that no final decision has been reached in the Smale case, Representative Richard L. Roudebush (R-Ind.) is claiming victory in his efforts to block an extension of support for the Berkeley mathematician. A press release issued 18 September by the congressman's office stated that Roudebush "has won a two-year battle with the National Science Foundation to bar a leftist California professor from receiving a quarter million dollar Federal grant." The press release stated that last year, after Smale protested U.S. foreign policy during a visit to Moscow, "Roudebush acted . . . to rescind Smale's \$91,500 grant, but the National Science Foundation refused. Last June," the press release continued, "Roudebush learned that the NSF was planning another \$247,900 grant to Smale, and Roudebush again objected and the NSF took the award of taxpayer funds to Smale under advisement. Roudebush learned this week that NSF has decided not to grant the \$247,900 to Smale."

NSF's view of the matter is that Smale's application has not been rejected; rather, it has been returned with a suggestion that it be rewritten and resubmitted.—D.S.G.