

ticular have expressed concern about French intentions and had declined to participate in the budget compromise unless the French gave assurances that the results of fast-reactor work done in France would be available to all members of the Community. The Dutch gave up this stand in the July compromise, but no assurances from France have been forthcoming.

German association on fast-reactor

work is also scheduled to expire at the end of the year. German private industry, heavily supported with government funds, has moved into fast-reactor development work. Some observers feel that the French are progressing rapidly in fast-reactor development, but that French industry cannot exploit the new technology as rapidly as German industry can. For this reason there is speculation that the French are reluc-

tant to see information going freely to the Germans. If the two dominant countries in fast-reactor development should not renew their associations on the work, Euratom would be left with a vast hole in its research program.

To some extent Euratom is facing the same transitional problems that the Atomic Energy Commission in the United States and the Atomic Energy Authority in Britain are facing. The advent of the competitive kilowatt-hour produced by fission-reactor-powered generating plants ends an important early chapter in Euratom's R & D effort. And private industry is assuming a rapidly increasing share of work on the fast reactors. With four research installations employing more than 2000 of its staff of 3000, Euratom, like the AEC and AEA, is beginning to think and talk more of diversification.

Here the scope for Euratom appears ample. The organization is the logical one to assume research responsibilities for the Common Market countries, and these responsibilities can only expand. Levies on movements of goods in the agricultural common market, for example, are accumulating, and the demand for agricultural research is sure to rise. These funds, and funds from the European development fund to be used in behalf of underdeveloped countries associated with the Common Market, could, in part at least, be devoted to research.

Euratom provides the existing mechanism most likely to be effective in dealing with the problems of the "technology gap," to which the Common Market is now addressing itself. What Euratom can do is already being explored.

This doesn't mean that Euratom will give up its work on atomic energy. Its task as an agency for the supply of atomic fuels is certain to grow. The Euratom inspection system, if it can be made to mesh with the larger system contemplated under a nuclear non-dissemination treaty (*Science*, 21 July), will increase in importance. And Euratom's work in the dissemination of scientific information, if properly cultivated, should prosper.

If Euratom has proved something of a disappointment in its first 10 years, perhaps the reason is that too much was expected of it as a pathfinder for European integration. Euratom's experience proves, as much as anything, that its members are unready for real supranational cooperation, industrially as well as politically.—JOHN WALSH

Smale: NSF Shifts Position

The National Science Foundation last week substantially revised its position on the grant application of Stephen Smale. The change, a conciliatory one that is apparently aimed at bringing the case to an amicable conclusion, would open the way for Smale to continue as principal investigator of an NSF-supported mathematics research project at Berkeley (*Science*, 6 October).

At the end of August the Foundation suggested that Smale's application for renewal and expansion of support for himself and the group be broken down into at least two separate proposals. The suggestions, contained in a letter from William E. Wright, NSF division director for mathematical and physical sciences, stated that "one of the new proposals should confine itself strictly to the needs of Professor Smale without involving NSF support of other faculty members."

Last week, while letters of inquiry and protest continued to arrive at the Foundation headquarters in substantial numbers, a new letter signed by Wright, dated 23 September, went out to Berkeley. Alleging "numerous and widespread misinterpretations" of the August letter, it went on to state:

"The Foundation remains convinced that timely negotiations can result in a grant to the University of California with Professor Smale as principal investigator, which would support his research needs and those of his immediate collaborators in a manner completely consistent with our ability to sustain mathematical research generally."

Thus, after having sought to remove Smale as principal investigator, NSF, in effect, has taken the position that it is now willing to consider renewal of something resembling the arrangement that is provided for in the existing grant. No details were furnished as to the "numerous and widespread misinterpretations" of the August letter.

Smale responded that he is pleased by the new NSF position. But what he will do about it is not yet clear. He still insists that NSF substantiate or withdraw its charges of poor administrative performance on his part. He had also indicated interest in a proposal to NSF, originated by L. Bers of Columbia, that a small panel of mathematicians be appointed to look into and advise on the case. No action has been taken on the proposal.

Nor is it likely that any will be. For, in the matter of Stephen Smale, NSF's deepest longing is to put the case to rest and restore the sense of good faith that has traditionally existed between the Foundation and its academic clients. To turn the controversy, or any part of it, over to an outside committee might only serve to keep things boiling, when otherwise they might simply quiet down. In the view of some people associated with NSF this is especially so when the outside committee would probably be drawn from the ethereal ranks of mathematics.

Meanwhile, nothing more has been heard from Representative Richard L. Roudebush, the Indiana Republican who leaped in to take credit for NSF's initially negative response to Smale's grant application. At this point, it appears that the congressman belongs in the crowded camp of Washington "rainmakers." They incessantly beat the drums, and when it rains, they announce, "Look what I did."—D.S.G.