

cruiting, for a good chairman, they say, brings some former colleagues with him and naturally attracts other talented men.

● *Research space.* Most of the medical school's activities will be housed in a building to be constructed at the center of the Mt. Sinai medical complex. Construction will not begin until 1968, and until it is finished in late 1971 or early 1972, the school will be cramped. "We're scratching for every inch of space we've got," Dean James says. An initial basic science building, converted at a cost of \$6 million from a parking garage, should be ready by next summer in time for the first class. Yet the space shortage may not only hinder the school's operation, but it also could hamper faculty recruitment.

● *Fund-raising.* Sinai has a wealthy and industrious board of trustees (actually, there are two boards now, one for the school and one for the hospital, but their membership overlaps significantly). The cost of beginning the medical school now stands at \$107 million—\$78 million for the building, \$25 million for an endowment, and \$4 million

for initial start-up expenses—but already the school has nearly \$75 million, including more than \$32 million in private pledges or gifts. (The other money comes from the federal grant of \$26 million, anticipated state aid of about \$4 million, and about \$12.5 million from the hospital's reserve funds.) Dean James is appealing to foundations for some of the \$4 million the school needs in start-up funds. Costs could also go up. "Some of these new devices are fantastically expensive," he comments, and even the normal course of inflation might prove troublesome. Moreover, Sinai is counting on receiving money from two potentially uncertain sources. First, it is negotiating with the City University to buy its basic sciences building for around \$6 million; and second, it is hoping that the federal government will modify its normal definition of "hospital facilities" to allow Sinai to qualify for about \$3.8 million of the \$26-million grant.

Sinai clearly seeks to excel as a medical school. The personality of the institution is proud and ambitious; it

wants to do more than alleviate the shortage of physicians. There is opportunity; for example, the City University will establish near Sinai a 4-year Health Career Institute to train skilled medical technicians and teachers for medical technicians at 2-year colleges. The institute's undergraduates will use Sinai as a learning laboratory. With James as dean, this project could conceivably be the start of an expanding program of community medicine.

It may be, of course, that the continuing costs of creating a great medical school are far greater than even the founders have anticipated. This will be a problem, for under the affiliation agreement, Sinai is fiscally autonomous. It will receive about \$250,000 annually from the City University to support ten faculty chairs, but except for this payment, the school is on its own. But, whatever a future catalog of institutional anxieties contains, a dearth of admissions candidates will never qualify for inclusion. There are already more than 400 inquiries for Sinai's first very small class.

—ROBERT J. SAMUELSON

## Smale: NSF's Records Do Not Support the Charges

In recent months the dealings between Stephen Smale and the National Science Foundation have been copiously reported in these columns, and at this point many, if not most, readers probably feel that more has been proffered about this convoluted controversy than they care to know (*Science*, 15, 22, 29 September; 6 October).

There is, however, a need to take up the subject again, for, on the basis of material that NSF has recently made available from its own files, two very disturbing facts are now clear concerning the Foundation's treatment of the professionally distinguished and politically left-wing mathematician from Berkeley:

(i) NSF is unable, or at least unwilling, to provide any documentary evidence to support its allegations of impropriety or substandard performance

on Smale's part in the administration of his government grant; but even more important, (ii) at the time NSF made these allegations, it was in possession of documentary evidence which either clearly contradicted the allegations, or showed them to be based on trivial and technical departures from ambiguous regulations.

Both conclusions are drawn from voluminous files that NSF made available at the request of *Science*. The request for these materials was at first refused, but later was fulfilled when *Science* formally cited the recently enacted "Freedom of Information Act" (P.L. 89-487), which requires federal agencies to make available upon request broad categories of government records that previously could be withheld from public inspection.

It should be recalled that when

Smale applied for a new grant to help support and expand the mathematics research group that he heads at Berkeley, NSF replied, "in light of Professor Smale's performance in the administration of the present grant, we cannot tender a new grant to the University based on the proposal in its present form." The letter went on to suggest that the proposal for future support be divided into at least two separate proposals, one of which "should confine itself strictly to the needs of Professor Smale in the pursuit of his own research interests without involving NSF support of other faculty members." Subsequently, Philip Handler of Duke University, who is chairman of the National Science Board, issued a statement that, in part, said, "The Board . . . concurs with the Director [of NSF] that management of this grant has been relatively loose and has not conformed to appropriate standards."

Smale demanded a bill of particulars, but NSF officials failed to respond. On a nonattributable basis, however, several of the highest officials of the Foundation told *Science* that the allegations concerning Smale's administrative per-

formance were based on the following:

1) When Smale applied to the National Academy of Sciences-National Research Council (NAS-NRC) for a \$400 travel grant to cover expenses of visiting Moscow—where he was to receive a prize and deliver a paper at the International Congress of Mathematicians—he failed to notify the Academy that he also had the use of \$1,000 in travel funds that were included in the NSF grant to his Berkeley group.

2) Smale failed to notify NSF that during the summer and fall of 1966 he would be away from Berkeley, where he was principal investigator on the NSF-supported project.

3) In violation of regulations that require that American carriers be given preference for NSF-supported foreign travel, he returned to the United States on a French vessel.

4) The time that he spent in Europe on NSF-supported summer salary was accounted for, but in a fashion that left considerable doubt as to whether he actually spent time as he said he did.

#### Examination of the Records

Taking these points one by one, and referring to material that was in NSF's possession when the allegations were made, the following was found to be the case.

1) Smale responded affirmatively and accurately to an NAS-NRC inquiry about other sources of funds for travel. The NAS-NRC form on which Smale applied for the \$400 travel grant contained the question, "Have you requested or been granted funds which *might* be used for travel to the 1966 Congress? If so, give details" (italics supplied). His reply was, "On NSF contract application." (At the time Smale filled out the form, October 1965, decision was still pending on the NSF grant that was to contain the \$1000 in travel funds.) The NAS-NRC award of \$400 was accompanied by a letter, dated November 1965, that, in part, stated, "There are a large number of meritorious applications which cannot be supported. It is hoped that you will promptly notify us *if you will not use this award either because you have other sources of travel funds or because you find it impossible to attend the Congress*" (italics supplied).

Smale, of course, planned to attend the Congress, so there was no need to notify NAS-NRC on that point. As for the \$1000 that came from NSF, this sum had been furnished him under

a provision in his NSF-approved grant application which stated that "travel funds are requested for the investigators to attend conferences." Unlike many mathematicians who were going to the Moscow conference on a low-cost charter flight from the United States, Smale was going directly from Europe, where, with the use of NSF's \$1000 in travel funds, he conferred during parts of May, June, and July with other mathematicians at an institute in Paris, at the University of Geneva, and at a conference in Bonn. Thus there is little or no support for the contention that he improperly applied for and accepted the NAS-NRC travel grant to go to Moscow when he actually had another source of support for that journey. Perhaps the most that can be said is that he had two separate funds for legitimate travel and he neglected to compartmentalize the Moscow trip and the European travels.

2) NSF puts great stock in its allegation that Smale failed to notify the Foundation that he would be absent from the Berkeley mathematics department during the summer and the fall. There is, however, a letter in NSF's possession, dated 11 May 1966, in which the administrative assistant of the Berkeley mathematics department wrote to NSF's program director for Analysis, Foundations, and Geometry as follows: "As Professor Smale will be in Europe this summer and on leave in the fall quarter, he would like Professor S. Kobayashi to direct the project while he is away." The materials furnished *Science* by NSF contain no reply to this letter, but the Berkeley mathematics department says it has a memorandum of a telephoned reply from NSF approving the request.

#### Payment of the Fare

3) The regulations that accompany NSF awards clearly specify that preference is to be given American carriers. No such regulations accompanied the \$400 that Smale received from the NAS-NRC. And it is his contention that the \$300 tourist class fare on the S.S. *France*, from Le Havre to New York, came out of the NAS-NRC grant. Since the overall NAS-NRC travel fund was in large part provided by a grant from NSF to NAS-NRC, it might be said that Smale was in violation of the spirit of the rules. But he had to get back from Moscow somehow, which justifies the use of the NAS-NRC Moscow travel grant for

crossing the Atlantic. And, in the absence of any explicit restrictions on the NAS-NRC money as far as foreign carriers are concerned, it would appear that this part of the episode scarcely supports Handler's charge "that management of the grant has been relatively loose and has not conformed to appropriate standards."

4) As for the time Smale spent in Europe on NSF-supported salary, he certified that he had an office at one or another institution or was in attendance at a conference from the last week in May through the end of July, thus meeting the requirement of 2 months of scholarly activity in return for 2 months' pay. NSF exudes skepticism, but when asked to provide something more substantial than strong hints of disbelief, it has nothing.

#### NSF's Response

After the NSF documents were examined by *Science*, Handler, NSF director Leland J. Haworth, and William E. Wright, director of the NSF division of mathematical and physical sciences, were informed in a letter that nothing could be found to substantiate the NSF allegations concerning Smale. They were asked whether such substantiation was to be found in certain categories of material that NSF said it was entitled to withhold under the Freedom of Information Act. Replies were forthcoming from Handler and from Clarence C. Ohlke, head of NSF's Office of Congressional and Public Affairs. Both these replies were to the effect that the substantiation was not recorded in documents, but rather had come in telephone conversations last year with various officials of the University of California. *Science* was advised to consult a certain one of these persons for details. On a nonattributable basis, this individual spoke freely and at length, pointing out, however, that the events in question took place a year ago and his memory was not fresh. "NSF," he explained, "told us that Smale had not notified them that he would be away." When this U.C. member was told that Smale had indeed advised NSF that he would be away, he seemed puzzled and said, "Well, they objected to a lot of things he did, and I think you published all of them, but I can't recall details."

At this point, it must be said that there is something putrid about this whole business, and the aroma seems to come out of NSF headquarters.

—D. S. GREENBERG