New Broom Sweeps Clean at NSF

The new director has asked two top officials to resign and a third is leaving voluntarily, clearing the way for Reagan appointees

An unprecedented shake-up is under way in the top echelons of the National Science Foundation (NSF). The new director, Edward A. Knapp, has asked for the resignations of deputy director Donald N. Langenberg and assistant director Eloise E. Clark. Langenberg is leaving on 31 December, Clark will be kept on perhaps until a replacement is found. A third senior official, Francis S. Johnson, is leaving voluntarily to return to the University of Texas at Dallas. The remaining top position, assistant director for physical and mathematical sciences, is currently vacant.

Since all four posts are filled by presidential appointment, the Reagan Administration now has the opportunity to name every senior official in NSF. The Presidential Personnel Office, the White House unit responsible for presidential appointments, has long wanted to have Reagan appointees in the foundation and applied pressure on Knapp to request the resignations, according to well-placed sources. Knapp, who was nominated as director last month, takes full responsibility for the shake-up, however. "They didn't order me to do it, it was my decision," he told *Science*.

Knapp acknowledged that officials in the Presidential Personnel Office talked with him before he requested the resignations, but denied he was pressured by them. "The White House is interested in all the presidential appointments in the government, and if they didn't discuss this with me they wouldn't be doing their job," he said.

Knapp said the reason for the shake-up is that he wants to assemble his own management team. In most organizations, a change of top personnel following the appointment of a new boss would not be regarded as unusual. But this is the first time it has happened at NSF, where senior positions are not regarded as political appointments. The director serves for a 6-year term, and previous incumbents have been kept on during changes of Administration. The deputy director and three assistant directors have no fixed terms however, and thus can, in theory, be replaced at any time. (The director before Knapp, John Slaughter, resigned after 18 months to become chancellor of the University of Maryland.)

The Office of Science and Technology Policy apparently played little part in the shake-up. Knapp said he discussed the resignations with George Keyworth II, President Reagan's science adviser, and Keyworth told *Science* that he "thoroughly supported him in his desire to assemble a team with which he can work." Knapp and Keyworth are friends; they both worked at the Los Alamos National Laboratory before coming to Washington.

Keyworth said he is "a bit taken aback" by suggestions that the shake-up will politicize NSF. "If you take a hard look at Ed Knapp and the people he is assembling, you will see that it is not politicizing" the foundation, he remarked. So far, however, no replacements are even being considered, and it is likely to be several weeks before nominations are made.

The quality of the replacements is likely to be critical in determining how long lasting the impact of the resignations will be. "If they are selected entirely on the basis of their qualifications, then the scientific community will not look askance" at the changes, predicts Frank Press, science adviser to President Carter and now president of the National Academy of Sciences. An official in the Presidential Personnel Office, Ron Mann, said the Administration will be looking for "the best qualified scientists." Asked whether political considerations will be taken into account, he said, "We would expect them to support the Administration's policies."

The National Science Board, which helps set policy for the foundation, must draw up a list of candidates for the positions, and its suggestions will be considered—but not necessarily accepted—by the Presidential Personnel Office. Knapp will have a strong say in the selection process, and Keyworth is also expected to play a major role.

The board was not consulted or informed about the resignations, according to its chairman, Lewis Branscomb, chief scientist at IBM. "I fear that the manner in which these personnel decisions were made and announced will exacerbate our ability to find highly qualified candidates who will accept," Branscomb said. The board next meets in January.

All of this could complicate Knapp's own confirmation process. The Senate Committee on Labor and Human Resources was hoping to hold hearings on his nomination and perhaps complete the approval process during the lame duck session, but it has now decided to put off action until next year. Asked whether he is concerned that the shake-up at NSF could jeopardize his confirmation, Knapp said "I have to do the job the way I want. I can't run the agency on the basis of being confirmed or not being confirmed."

Apart from negative reactions to the personnel changes, Knapp seems to be well regarded by people who know him. "I haven't heard one negative thing from anybody who has interacted with him, and that's unusual if you know the scientific community," says Press. In spite of being asked by Knapp to resign, Clark has good things to say about him. "I am very favorably impressed by Dr. Knapp, and I hope he is going to be a really good director," she says.

Knapp was not on the list of candidates proposed by the National Science Board. According to Branscomb, he was omitted simply because the board did not know him at the time it drew up its list last summer. Several others on the list were approached by the White House, but all said they were not interested in taking the job. Langenberg was recommended by the board, but he was passed over by the White House.

Knapp's name was already known to the White House because he had been nominated in September as assistant director at NSF for mathematical and physical sciences. Prior to that, he spent 24 years at Los Alamos, most recently as head of the accelerator technology division. His candidacy for the directorship of NSF is said to have been strongly supported by Keyworth.

Some of the disquiet in the scientific community over the shake-up may be muted when NSF's budget is released early next year. It apparently will contain healthy increases for the foundation at a time when most other areas of

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federal expenditure are being heavily pruned. Mathematics, in particular, will be given a generous boost, and the social sciences, which have been targeted for severe cutbacks in previous years by the Reagan Administration, will be given a modest increase, according to several sources. Knapp, who was nominated toward the end of the budget process, will be able to take some of the credit for the increases.

Nevertheless, the reaction to the resignations among scientists is sure to be negative, because in the past NSF has been considered immune to such changes. Branscomb, for example, says, "It is very unfortunate that in the year the President has apparently given high priority to NSF, he should send a confusing message by this set of personnel decisions."

Congress made the deputy and assistant directorships at NSF presidential appointments in order to give them visibility and status. Presidential appointments are usually political, however, and NSF is now finding that out.—**COLIN NORMAN**

German Firms Move into Biotechnology

Chemical giants are increasing their domestic support for basic research in molecular genetics—but will universities be left out in the cold?

Berlin. One hundred years ago, the German chemical industry invented the blueprint for the modern research university, at the time a unique mechanism for linking basic science to the worlds of manufacturing and commerce. Today, the same industry is once again designing new bridges to the academic community, spurred by the need to catch up with Japan and the United States in the rapidly expanding field of biotechnology. This time, however, universities are having to struggle hard to stay in the game.

In many ways, chemical giants such as BASF, Hoechst, and Bayer—three of the four largest chemical companies in the world—are adopting strategies identical to those pioneered by comparable manufacturers in the United States. On both sides of the Atlantic, company executives have agreed increasingly to sponsor the work of basic scientists; their common aim is not merely to obtain ideas for new products and processes, but to train their own staff in new research techniques and to provide a broad window on the markets of the future for themselves and their competitors.

There are, however, two major differences between Germany and the United States. One is that, given the virtual nonexistence of risk capital to grease the wheels, and an apparent aversion among many German scientists to the type of scientific entrepreneurship found in the United States, cooperation between the academic community and industry is being heavily primed by public funds. The other difference is that both funding constraints and political controls have made German universities increasingly unattractive to industry as research partners. This is among the reasons given by executives from Hoechst, for example, for creating a new department of molecular biology at the Massachusetts General Hospital in Boston 2 years ago, a decision still widely criticized by many German scientists who feel the money should—and could—have been spent domestically.

The Academic-Industrial Complex

This is the sixth in a series of occasional articles about the emerging relationships between industry and universities.

Illustrating both trends is a plan recently announced by the Berlin-based pharmaceutical company Schering AG to establish a new institute for research into genetic engineering (*Gentechnologie*) jointly with the city of Berlin. The budget of the new institute will be 80 million marks ($33 million) over the next 10 years, half coming from each partner, and the institute will employ a staff of about 30 scientists. Although the director will have a chair at one of the two Berlin universities, the institute itself will remain entirely separate in both funding and administration.

The federal government is keen to help build stronger bridges between public and private research institutions as part of a broad effort to promote basic research in biotechnology (see box). So far, however, it is proving difficult to forge links between industry and the universities. These difficulties stem less from antagonism toward the principle of building links with industry (many universities would currently welcome a new source of research funding) than from the more pragmatic problems of sustaining an active university-based research community in the current political and economic environment.

Many universities are suffering delayed consequences of the forced growth of recent decades. In the 1960's and 1970's, the German university system expanded dramatically to meet rapidly growing demands for higher education; at the time there was sufficient support from both state and federal governments, not only to sustain this growth but also to maintain a stable balance between teaching and research.

The situation has now changed. Student numbers continue to grow, fanned by the bleak job prospects facing those who leave school. But state governments, from which the universities receive their basic funding, are now demanding stringent cuts in university budgets to meet a period of economic austerity—in some science departments by up to 30 percent. Legally required to continue meeting teaching commitments, many universities are inevitably having to make cuts in their research activities, while inadequate funding for both staff and equipment has undermined the effectiveness of those activities that are being continued.

On top of this, university administrators are faced with the multiple legal requirements that have arisen from other social reforms introduced in the past few years, such as the limited number of times research staff can be employed on short-term contracts before they must be given a full-time position. Such changes have substantially improved the position of researchers; but they have also made universities nervous about accepting too many outside research contracts. After several years of battles over the reforms, however, the last of which were introduced by the federal government in the late 1970's, no one seems to want to negotiate a new round of changes in university regulations.

As a result, many companies interested in sponsoring basic research have

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