

for this traffic, and the net figures, once returnees are taken into consideration, are not clear. But the numbers at least raise the possibility that, beneath the surface, things are not quite as rosy as they often are made out to be.

Stoltenberg, a historian by training but a career politician by vocation, became Science Minister in 1965, at the age of 37—a post he accepted in preference to several other high-level cabinet posts he might have had. Politically, this was a good move, since science budgets, though on the way up, were free of political contention, and, while his cabinet colleagues were frequently being battered on one issue or another, he was easily riding the indisputable line that Germany must do more research and cooperate with her neighbors on big science and technology projects. It is generally agreed that he did this extraordinarily well, and, among other things, Stoltenberg clearly deserves credit for having salvaged the

European launch vehicle project when Britain's attempt to pull out last year nearly brought about a collapse.

Nevertheless, with Germany now about to go into fairly large-scale space and computer efforts, fears persist that perhaps the wrong lessons were derived from the success that, despite a seemingly late start, she achieved in atomic energy. When that program began, back in 1958, Britain and the United States were facing bills for a lot of expensive wrong turns and false starts. The Germans watched, copied what looked good, and finally emerged with a research program and, eventually, a salable line. In fact, the West Germans have clinched the first sale of a power reactor to a South American country, a 318-MWE (megawatt electric) heavy-water reactor to supply power for Buenos Aires. The Germans built the *Otto Hahn*, Europe's first nuclear-powered ship, and two 600-MWE reactors, of American design but German con-

struction, have been sold to German utilities on a strictly commercial basis—with no government subsidy involved, or at least detectable. Furthermore, German work in fast breeder reactors is considered to be top-notch and likely to put Germany into a strong competitive position for the power reactor market that is shaping up for the late 1970's.

Against this background of a relatively late start and apparently swift success against international nuclear competition, the lure of the computer field is an understandable one. But the story there is quite different. IBM dominates the field, and a handful of others share the bit that is left over. For Germany, on a national basis, to try to take on that sort of competition, even if only to fill in the few cracks that remain, might well turn out to be the first big fiasco in what has otherwise been an all-success story.

—D. S. GREENBERG

Nixon and NSF: Politics Block Appointment of Long as Director

Political considerations appear to have blocked the appointment of Franklin A. Long, vice president for research and advanced studies at Cornell University, as the new director of the National Science Foundation. The vetoing of Long—who until last week seemed all but certain of the post—occurred at high levels in the Nixon administration. The stumbling block was apparently related to Long's liberal positions on arms control and disarmament, an issue which is currently of great concern to the administration but has no bearing on NSF. The incident is almost certain to cause an uproar in the scientific community, which regards the NSF job as "nonpolitical," and it is bound to exacerbate relations between Nixon and the academic world, which has never been very enthusiastic about the President anyway.

As recently as last Friday, 11 April, it appeared certain that the White House would name Long to succeed Leland J. Haworth, who will retire on 30 June after 6 years at the helm of NSF. Long was tentatively scheduled

to meet with President Nixon that afternoon, and there were plans to announce his appointment to the press shortly afterward. Then, at the last minute, both the meeting and the announcement were canceled. Administration sources told *Science* that the cancellation was caused by a sudden change in the President's schedule. But this explanation is disputed by close friends of Long's.

One close associate of Long's, who was deeply distressed at the sudden turn of events, told *Science* unequivocally that "discussions between Long and the White House have terminated." The associate said the termination was caused by difficulties "of a political character" which are related to Long's involvement, officially and unofficially, in arms control and disarmament issues. The associate could not say precisely what issues were involved.

As far as can be determined, Long has not been among those scientists who have attacked the Nixon administration for its decision to deploy a "thin" ABM system—called "Safe-

guard"—to protect the nation's missile sites from surprise attack. Long told *Science* last week (before his appointment fell through) that he has taken no public stand on the Safeguard system and that he approved of the Nixon administration's seeming desire to hold arms limitation talks with the Russians. A colleague of Long's believes the White House may have been concerned about Long's liberal record on arms control in general, rather than about any specific stand he has taken.

However, another source close to the incident said the blocking of Long was triggered by administration anger over an article of his which appeared in the December 1968 issue of the *Bulletin of the Atomic Scientists*, entitled "Strategic balance and the ABM." This article is not a particularly biting attack on ABM deployment and does not specifically criticize Nixon's ideas on the subject, which were not made public until after the article had been published. Long's article did, however, state that ABM deployment would be "a strong pressure toward acceleration of the arms race;" that it "could spell the end to the growth of any significant detente between the United States and the USSR;" and that it might jeopardize the partial test-ban treaty. It is perhaps understandable that Nixon might have second thoughts about appointing someone who had expressed reservations about ABM deploy-

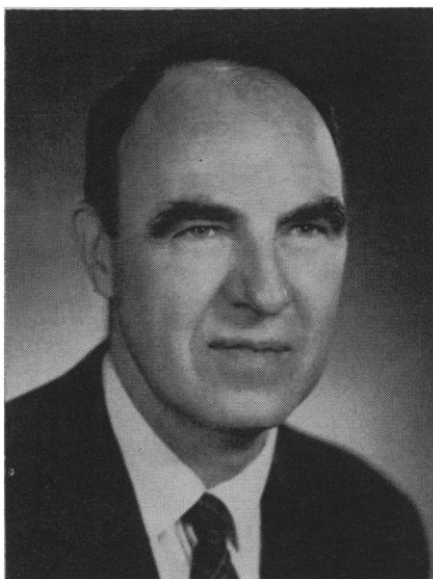
ment, but sources close to the situation were upset at the idea that a man's views on military matters should disqualify him from the directorship of a purely civilian agency like the NSF.

For the past 6 or 7 years, Long has worked vigorously for arms control. In 1962 he became the first man to hold the post of assistant director for science and technology in the U.S. Arms Control and Disarmament Agency (ACDA), a position which gave him a key role in preparing and helping to negotiate the partial nuclear test-ban treaty with the Russians in 1963. He is also given major credit for building up the technical capability of ACDA. George W. Rathjens, Jr., of M.I.T., who served as Long's deputy at ACDA, rates Long as a "reasoned liberal" on arms control matters and says he was "the most vigorous advocate" among the key people at ACDA for moving ahead on arms limitations efforts.

Since leaving ACDA in 1963, Long has continued to work for arms control and for international cooperation by serving as a U.S. representative on the continuing committee for the Pugwash conferences, and by serving on the board of directors of the *Bulletin of the Atomic Scientists*.

Long's candidacy was probably not helped by his previous political activity on behalf of the Democratic Party. Long is a registered Democrat who participated in the 1964 Scientists and Engineers for Johnson-Humphrey movement and who was listed as a member of Scientists and Engineers for Humphrey-Muskie in 1968. He told *Science* he has previously been registered as a Republican and as an Independent and is "not deeply" committed to any partisan viewpoint. Long's colleagues do not believe his political leanings provoked the White House to veto him, but the lack of a Republican record certainly didn't help him once questions were raised about his arms control views.

At this writing it is not clear precisely who was the key figure blocking Long's appointment. Long was among a small number of scientists nominated for the directorship by the National Science Board, the policy-making body for NSF. He is said to have been backed for the job by Lee A. DuBridge, the President's science adviser, but DuBridge was apparently overruled by White House political advisers or other key Republican powers.



Franklin A. Long

Full details on the maneuvering could not be obtained before this article went to press. DuBridge and Long could not be reached for comment. And Philip Handler, chairman of the National Science Board, told *Science* he was "not at liberty to discuss the matter or disclose any details."

The blocking move was obviously of an abrupt and last-minute nature. Both Cornell University and the NSF had biographies of Long prepared for release to the press, and many members of the National Science Board were unaware as recently as last Monday that the appointment was off.

The blocking of Long is sure to cause fireworks in the scientific community, for many of the nation's leading scientists believe he would have made an outstanding director of NSF, an agency which will spend some \$490 million this year in support of basic research and scientific education. Hans A. Bethe, Nobel prize-winning physicist and a colleague of Long's at Cornell, believes he would make "a strong head of that agency and push for lots of support." George B. Kistiakowsky, Harvard chemist and former science adviser to the late President Eisenhower, says Long would make a "first class NSF director—whatever tasks I've seen him assume he has always done well." And Robert L. Sproull, provost at the University of Rochester and chairman of the Defense Science Board, believes Long has "outstanding attributes" that would make him a strong agency head.

Long has held a number of important scientific and advisory posts in the

federal government. He served as a member of the President's Science Advisory Committee (PSAC) from 1961 to 1966, and has remained a consultant to PSAC and a member of its panel on space technology since then. Long chaired a PSAC committee that put out a landmark report in January 1967, entitled "The Space Program in the Post-Apollo period," and he participated in the official investigation of the fire that killed three astronauts in 1967.

Long has also contributed to military research in a number of ways. Colleagues say he chaired a PSAC panel on strategic weapons in the late 1950's, though membership on such panels is not made public; he has consulted for various Army and Air Force agencies; and during the Second World War, he served as a research supervisor in a National Defense Research Committee explosives laboratory in Pittsburgh, which was headed at one point by Kistiakowsky.

Long is said to possess a good understanding of the varied fields of science, and his own credentials as a physical chemist are impeccable. One eminent fellow chemist describes Long's work as "steady and very solid—not spectacular, Nobel Prize-type research, but fine research all the same." Long's research in kinetics, solution reactions, and other areas of physical chemistry won him election to the prestigious National Academy of Sciences in 1962.

NSF has seemed to be drifting for many months now—and the snafu over Long's appointment is not expected to improve matters. Several top posts have been left unfilled pending appointment of a new director, and the retrenchment caused by last year's budget cuts has slowed forward momentum. Prospects seemed to brighten earlier this year when President Nixon boosted NSF's spending ceiling by \$10 million, took time out from his busy schedule to meet with the National Science Board, and indicated that NSF should play an "ever-increasing part" in the support of academic science. But the optimism and good will engendered by this high-level solicitude may be disrupted by the Long incident. It took several years and an unpopular war to strain relations between the Johnson administration and the scientific and academic communities, but the Nixon administration may begin to detect a certain coolness in a matter of months.

—PHILIP M. BOFFEY