

running definitely behind German and Japanese.

Writing in the January issue of *Physics Today*, Robert T. Beyer, in an article titled "Hurdling the language barrier," reported the results of an analysis he made of a sample of 3000 abstracts from the latest issue of *Physics Abstracts*. About 76 percent of the articles in the sample were originally written in English, 14 percent were written in Russian, 4 percent in German, and 4 percent in French. Other languages accounted for only 2 percent.

Allowance has to be made for the prejudices of the editors in favor of English and other European languages, but it is undeniable that *Physics Abstracts* is a chief source of reference for physicists throughout the world.

A similar analysis, reported in *Chemical and Engineering News* of 17 July 1961 and based on *Chemical Abstracts*, traced articles to countries rather than languages. This analysis showed that 27.1 percent originated in the United States, 19.1 percent in the Soviet Union, 13.8 percent in the United Kingdom and Commonwealth countries, 7.8 percent in Japan, 7.8 percent in Germany, and 5 percent in France.

Studies show that the Soviet Union and Japan have registered the most important increases in contributions to scientific literature. Many observers see signs, however, of a significant rise in scientific productivity in France in coming years. And this is largely because de Gaulle, as President, has been, along with other better-publicized things, a great technocrat.

It should be noted that the ascendancy of English in scientific literature is in part due to the growing tendency of scientists in non-English-speaking countries—in Scandinavia, the Netherlands, and Japan, for example—to write in English. And, as Beyer points out in his article, some Continental and Japanese journals are publishing partly or wholly in English.

A massive translation program in the United States, which has concentrated largely on Soviet publications, has also acted to increase the hegemony of English.

Contributing, in a rather unflattering way, to the triumph of English has been the fact that the British have long been renowned as the worst linguists in Europe and that Americans probably surpass them.

There are unquestionably strong incentives for scientists to find a common

language, and English, by a series of accidents, seems to have become the *lingua franca* of science. The French are famous for their cultural chauvinism, but it appears likely that among French scientists, in this matter of language, another famous Gallic characteristic, realism, will prevail.

—JOHN WALSH

Wooldridge Report: Study of NIH Producing Conflicting Reactions among Congressional Figures

Within congressional circles concerned with medical research, the Wooldridge report on the National Institutes of Health (*Science*, 26 March) has stirred some curiously contradictory reactions.

Those members who have helped to accelerate NIH's growth are delighted with the report, and feel that its endorsement of the NIH program opens the way politically for resuming the practice of adding substantial funds to the administration's budget request. But Representative L. H. Fountain (D-N.C.), whose investigations led to a cooling of congressional affection for NIH, says he finds ample substance in the report for his contention that the billion-dollar NIH operation contains serious deficiencies.

What the difference boils down to is a matter of judgment on certain key parts of the report. The committee, in concluding that "few, if any, one billion dollar segments of the federal budget . . . are buying more valuable services for the American people than that administered by the National Institutes of Health," reported that in examining the quality of 240 extramural research grants, its investigating teams "expressed serious reservations about 9 projects and adjudged 7 to be unworthy of support." And it went on to state that, "in scientific research, such a ratio of ill-advised projects, when judged after the fact, is impressively low."

Fountain, however, indicated in a statement to *Science* that he feels otherwise. "The 'ill-advised' projects . . .," he said, "constituted about 6.7 percent of the total. . . . When NIH is spending well over half a billion dollars a year on research grants, we should not be complacent about the waste represented by ill-advised projects amounting to almost 7 out of every 100. I am disappointed that the Committee did not concern itself more with improving

NIH policies and procedures to reduce or eliminate this waste."

Fountain also disputed the committee's finding that, "despite the 10-fold increase in NIH support of research during the last 8 years, there is no evidence of overall degradation in quality of the work supported." The congressman stated that "this, of course, is a judgment unaccompanied by supporting facts and one which is contrary to the evidence of a steady decline in recent years in the priority ratings assigned to projects by the study sections. The proportion of the best projects has declined, while there has been a corresponding increase in the proportion of supported projects in the lowest priority groups."

Fountain added an endorsement of the findings of the Wooldridge committee's administration panel, which, among other things, called for closer surveillance of the NIH program by the NIH administration and the grantee institutions. The panel's findings, he said he was pleased to note, were similar to those of his own investigating committee.

At this point, it is difficult to estimate the effect that Fountain's reservations may have on congressional efforts to go beyond the administration request of \$1.146 billion for NIH in fiscal 1966. From comments made in the course of appropriation hearings last year, it is clear that Representative John Fogarty (D-R.I.) and Senator Lister Hill (D-Ala.), the congressional angels of medical research, are impatient to resume the rapid growth pace that characterized NIH through the late 1950's and into the first 2 years of this decade. Because of doubts raised by Fountain's investigations, and because of the public impression that medical research was wallowing in money, they chose to back off, rather than risk defeat, and in the past 2 years NIH has operated on a financial plateau. The sums have grown a bit, but in general growth has simply kept pace with higher costs of existing programs.

This year, however, it is reported that efforts may be made to add at least \$50 million, and possibly a good deal more than that, to the administration request. It is also reported that Fountain may hold public hearings on a number of matters that could prove embarrassing to NIH. Among them is the matter of overhead payments to grantee institutions. The present regulation calls for payment of up to 20

percent of direct costs. In an effort to seek an easy way around the horrendous bookkeeping tangles of direct and indirect costs, NIH has generally allowed a straight 20 percent, regardless of whether the costs actually were lower. At present, NIH is working hard and fast on procedures to keep the payments in line with the certifiable costs, but Fountain and his committee staff are on to some past cases that might prove difficult to explain, especially at a time when congressional friends of NIH are pushing for a bigger budget.

As of now, the Wooldridge committee report is up for review and comment along the chain of command of the Department of Health, Education, and Welfare, and, as a consequence, public pronouncements are not in order along that route. But the committee's suggestion of "some decrease in the present proportion of intramural research" has understandably had something of a demoralizing effect on NIH's staff. The effect was such that last week NIH Director James Shannon met in closed session with the Bethesda staff to discuss the report. Shannon's remarks were off the record, but it is understood that he disagreed with some of the methodology of the Wooldridge study, and he is also reported to have questioned the committee's criticism of NIH's capacity for long-range planning. In any case, Shannon, Fogarty, and Hill constitute an enormously powerful and harmonious trio in government medical research, and as long as they hold office, it is unlikely that NIH is going to be changed in any way that they find distasteful.

Public reaction to the Wooldridge study has been limited in volume, probably as a consequence of a general lack of interest in the innards of research administration. However, the New York Times this past Sunday took exception to some key aspects of the study. Addressing itself to the issue of university- versus government-conducted research, it stated that "what is disturbing is that a majority of the Wooldridge committee consisted of persons having university affiliations. The group had not a single representative of Federal Government scientists. This circumstance must weaken the authority of a recommendation so intimately affecting the interests of the great university science research establishments."

—D. S. GREENBERG

Advisory Set: New Appointments Reduce Harvard-MIT Presence on President's Science Committee

Ever since Sputnik created a major demand for technical advice in Washington, scientists, engineers, and administrators from Cambridge, Massachusetts, have occupied a large proportion of the key advisory roles.

The first three of the four men to serve as presidential science adviser came from Harvard or M.I.T. And at the end of last year, six of the 18 members of the President's Science Advisory Committee (PSAC)—the topmost science advisory body in the federal hierarchy—were based at those institutions. Inevitably, regions that have not fared well with government-granting agencies have charged that the so-called "Cambridge crowd" dominates White House science advice and sees to it that Harvard and M.I.T. are well cared for. The reply is that the government seeks the best advisers, and lots of them quite reasonably happen to be located at such outstanding institutions as Harvard and M.I.T.; in addition, it is argued that these universities merit their support on the basis of quality. And finally, advisers from Cambridge, and elsewhere, often point out that efforts to achieve geographical dispersion are often baffled by the refusal of nominees to accept a burden that cuts heavily into their professional and personal lives.

Whatever the case may be, the presence of Cambridge in high advisory circles seems to be diminishing considerably. Donald F. Hornig, who was appointed White House science adviser late in 1963, is a Princeton chemist, and last week five new appointments to PSAC left that body with only one Cambridge man, Edward Purcell of the Harvard physics department, although five Cantabrigians still remain associated with PSAC under the designation of consultants-at-large.

The PSAC appointments, for 4 years each, were made to fill a series of vacancies that occurred with the expiration of seven terms at the end of last year. Of these seven expirations, five were from Cambridge: Harvey Brooks, dean of engineering and applied physics, Harvard; Paul Doty, professor of chemistry, Harvard; Edwin R. Gilliland, professor of chemical engineering, M.I.T.; Jerome Wiesner, dean of science, M.I.T.; and Jerrold R. Zacharias,

professor of physics, Harvard. Also expiring were the PSAC terms of Wolfgang Panofsky, director of the Stanford Linear Accelerator, and Colin M. MacLeod, who had been on PSAC while serving as deputy director of the White House Office of Science and Technology.

The new appointments bring to PSAC its first career government scientist, Lewis Branscomb, chairman of the Joint Institute for Laboratory Astrophysics, which the National Bureau of Standards operates at Boulder. In the past it was felt that the presence of a government scientist on PSAC might confuse lines of authority in the executive agencies. Just what promoted the innovation isn't clear, but it should be pleasing to those government scientists who have often complained that government-operated laboratories have not been adequately spoken for in the high councils.

The other new appointees are Marvin L. Goldberger, professor of physics, Princeton; Kenneth Pitzer, president of Rice University; George Pake, provost and professor of physics, Washington University; and Gordon MacDonald, of the Institute of Geophysics and Planetary Sciences, U.C.L.A. The newcomers to PSAC join the following: Melvin Calvin, Berkeley; Richard L. Garwin, Columbia; Philip Handler, Duke; Franklin A. Long, Cornell; William D. McElroy, Johns Hopkins; John R. Pierce, Bell Telephone; Herbert F. York, University of California; and Purcell. By custom, PSAC consists of 18 members, and if custom prevails, two additional appointments remain to be made.

The consultants-at-large are on call for particular problems but do not regularly participate in PSAC proceedings. They are, Detlev W. Bronk, Rockefeller Institute; James B. Fisk, Bell Telephone; James R. Killian, M.I.T.; George Kistiakowsky, Harvard; Edwin H. Land, Polaroid Corporation; Emanuel R. Piore, IBM; Isidor I. Rabi, Columbia; Wiesner; MacLeod; and Brooks.

The motivation for the shift away from the past emphasis on Cambridge is difficult to pinpoint. White House sources say that the new appointments do not arise from any specific presidential directive, but, as one of them explained, "geographical dispersion is in the air and the appointments reflect the situation."—D.S.G.