

UK TO CREATE RESEARCH COUNCIL FOR PARTICLE PHYSICS AND ASTRONOMY

In a plan announced this spring in a much-awaited "white paper" on science, engineering and technology, the British government will establish a new research council for particle physics and astronomy. The effect will be to segregate contributions to large international programs such as CERN from the rest of the budget for physics and chemistry, so that the physical sciences are not squeezed so hard whenever British contributions to international institutions unexpectedly rise due to drops in the value of the pound sterling.

Another equally important effect of the reform will be to protect particle physics itself, which has been besieged ever since the mid-1980s, when the Kendrew Report recommended sharply cutting overall expenditures on particle physics and renegotiating the British share in CERN. Since then, following management reforms made at CERN at Britain's demand, the possibility of Britain's actually withdrawing from CERN has been pretty well laid to rest. But the nation's spending on domestic programs in particle physics has been cut on the order of 20%, as the Kendrew panel recommended.

With the publication of the white paper, "Realizing Our Potential: A Strategy for Science, Engineering and Technology," the British government "seems to have grasped the problems connected with international subscriptions and exchange rates," comments Donald H. Perkins, a particle physicist at the University of Oxford. From now on, the responsibility for meeting such subscriptions will be up to science and engineering as a whole rather than just particle physics, and so that is "much better," Perkins says.

The white paper is a product of the Chancellor of the Duchy of Lancaster, who was given Cabinet-level responsibility for science last summer (see PHYSICS TODAY, July 1992, page 60). Britain being a parliamen-

tary democracy, the major recommendations of the paper are almost sure to be implemented, assuming the current government headed by John Major survives.

The improved prospects for British particle physics are especially significant at a time when CERN's leadership is keen to win and retain Britain's support for building a Large Hadron Collider in the LEP tunnel. Not long before the white paper was released, William Waldegrave, the current Chancellor of the Duchy of Lancaster, offered a prize to the person who could best explain to him on one side of a standard sheet of paper why the Higgs boson is worth finding. (The winner has yet to be announced.) This might indicate a certain skepticism as to whether construction of either the LHC or the Superconducting Super Collider made sense, although the stated aim of the competition was to get scientists to think about how they communicate and about the importance of the public's understanding their work.

Major findings

Despite science workforce trends in Britain that parallel those in the US, the white paper focuses rather squarely on the need to assure a continued supply of highly trained personnel. It expresses some doubt about the possibility of making accurate long-term projections for the labor market and favors decentralized evaluation and decision-making.

At the same time, the white paper suggests there should be more emphasis on career counseling and guidance. Among other things, it says that the master's degree should be a normal step in doctoral research programs supported by Britain's scientific research councils and that the master's degree should be a usable degree in itself. The white paper endorses the notion, first proffered in a Royal Society report on the "science base" last year (see PHYSICS TODAY, December 1992, page 73), that more



William Waldegrave

postdoctoral support should be provided for "high fliers," without being specific about who should provide that support or in what amount.

The white paper's other major findings are as follows:

▷ The Advisory Board for the Research Councils will be abolished and its functions absorbed into the Office of Science and Technology, which is headed by chief scientific adviser William Stewart. A new post, director-general of research councils, will be established in OST.

▷ The Science and Engineering Research Council will be divided into an Engineering and Physical Sciences Research Council and a Particle Physics and Astronomy Research Council; biology and the Agricultural and Food Research Council will be folded into a Biotechnology and Biological Sciences Research Council. Each council will have a part-time chairman and a full-time chief executive.

▷ OST will prepare a "Forward Look" each year. It will draw on a new Technology Foresight Program that is to identify generic technologies underpinning diverse industries

and on advice from a newly created Council for Science and Technology. The Forward Look will identify gaps or imbalances in education, training and research; evaluate Britain's efforts vis-à-vis its main competitors; assess the balance between civil and defense research and between domestic and international research; seek opportunities for synergy across programs; and try to obtain more concerted action and collaboration between the public and private sectors.

▷ The dual funding mechanism for universities, whereby university research is supported through two funding channels, is to be retained. But mechanisms are to be developed to provide tighter coordination between the research councils and the government's education departments.

The Chancellor of the Duchy of Lancaster and OST considered but rejected the notion of setting up a single research organization on the model of the US National Science Foundation. They also rejected the idea of establishing so-called Faraday institutes to do applied research on the model of Germany's Fraunhofer institutes, a concept both major political parties endorsed in last year's national election campaign. The idea of creating separate agencies to fund curiosity-driven and mission-oriented research was rejected as well.

Largely positive reception

The white paper is not without its fair share of science policy clichés and buzzwords ("challenges of the next century," "productive potential of the economy as a whole," "strategic," "frontier" and so on), not to mention the occasional blinding truism ("Excellence is very important; second-rate research is a poor buy"). As such the report is not immune to the cheap shot. Even so the general reaction in the British physics community would seem to be guardedly positive.

Perkins, echoing the official reaction from the Royal Society, says, "One doesn't know of course how it's going to turn out"—that is, how the report will be implemented.

"It's good that we have a white paper on science, as this is a first in 20 or 30 years. It's a good white paper because it's the best one we have," comments John Mulvey, an emeritus professor of physics at Oxford who now serves as national secretary of Save British Science, a lobbying group for science and engineering. Mulvey sees the white paper as a sign that the government is taking science policy much more seriously, and he agrees with Perkins

that Waldegrave has what is needed to be an effective friend of science and to take the job of running science seriously. He also agrees that segregation of the budgets for large international projects from the budget for the rest of the physical sciences is a good thing, though he worries a little that the implications for the rest of British science—that the large projects will now be funded from science as a whole—may be "sinking in rather slowly."

Mulvey's main complaint with the white paper is what he sees as its excessively narrow focus. He argues that the main problems with British competitiveness are outside the science base and cannot be solved by tinkering with elements of the base.

Specifically Mulvey points out that in terms of industrial support for R&D, Britain now ranks 22nd on a list of 22 countries compiled by the International Institute for Management Development in Lausanne, Switzerland. In a ranking of senior management competence, the same organization ranks Britain 19th, and it ranks Britain 20th in terms of educational quality, ahead of only Greece and the US.

Equally important, Mulvey observes, is that Britain spends roughly 1% less of its gross national product on civil R&D—as opposed to defense R&D—than Germany or Japan. One percent, he points out, is equivalent to about six billion pounds per year. As long as that structural problem goes uncorrected, Mulvey sees little promise in fiddling around in the science base with amounts measured in tens or hundreds of millions of pounds.

Industrial and defense research

Issues connected with defense research and industrial research do not go wholly unaddressed in the white paper. The report notes that defense research expenditures will be about one-fifth lower in 1995–96 than in 1987–88, and it anticipates that they will be lower still by roughly one-third at the end of the century. The report notes that industry support for university research grew from 27 million pounds in 1982–83 to 114 million pounds in 1990–91 and that 20 Interdisciplinary Research Centers have been established involving business–university collaborations.

The report also notes that businesses have been highly involved in LINK, a EUREKA-like program for Britain, which combines academe and industry in precompetitive research projects.

In a critical vein, the report takes industry to task for "not always [hav-

ing] been good at articulating its needs and identifying the scope for collaboration." But it is silent on the issue of how much money British industry spends, or should spend, on research.

—WILLIAM SWEET

WERTHAMER RESIGNS AS APS EXECUTIVE SECRETARY

The American Physical Society and N. Richard Werthamer have announced Werthamer's resignation as executive secretary of the society, citing differences over APS management policies and practices. Werthamer's resignation became effective 16 July.

APS president Donald N. Langenberg of the University of Maryland expressed the gratitude of the society for "Werthamer's significant contributions to the APS during his tenure as executive secretary. We wish him well in his future undertakings."

Werthamer became executive secretary in June 1990 (see PHYSICS TODAY, July 1990, page 79). In announcing his resignation, Werthamer said, "I am pleased to have helped the society to strengthen its leadership presence among scientific organizations internationally and in such matters as preparing for the relocation of its headquarters from New York City to College Park, Maryland. I am confident the society will continue to grow in its activities on behalf of physics and the broader society physics serves."

A committee chaired by APS past-president Ernest Henley of the University of Washington has been formed to search for a successor to Werthamer. Pending the appointment of a new executive secretary, Harry Lustig has been designated acting executive secretary and continues as APS treasurer.

HENNAGE IS NEW EXECUTIVE DIRECTOR OF OSA

In May David W. Hennage became the new executive director of the Optical Society of America. He replaces Jarus Quinn, who is retiring after serving in that position for 24 years.

Hennage comes to OSA from the Chicago Museum of Science and Industry, where he was vice president and chief operating officer. Prior to that he was chief financial officer for