

## SCIENCE POLICY

**Sir Brian Speaks out**

THE achievements of science, whether medical or physical, are of no avail unless mankind can teach itself to make use of them. This was Sir Brian Flowers's theme when he delivered the annual Silvanus Thomson memorial lecture last week at a conference organized by the British Institute of Radiology.

Sir Brian, ebullient as ever, spoke about the support of scientific research with particular emphasis on collaboration between the various sciences. As has been his habit of late Sir Brian cocked a snoot at Lord Rothschild as well as criticizing his contribution to the notorious green paper.

As an apology for addressing the conference on a topic outside physics, Sir Brian said that "if that noble biologist, Lord Rothschild, can lecture the Royal Society of Arts about opportunity costs, whatever they may be, I can take heart from the old proverb 'What one fool can do another can'".

In a speech that can possibly be read as a statement of intent by the Science Research Council, Sir Brian emphasized that in future man can not observe and analyse the world "in Olympian detachment." Also, future technological developments "will be assessed not only for what they do for man but also for what they do to man".

Sir Brian reviewed the ecological crisis and emerged as the holder of a moderate view. He called for greater education to curb the growth rate of the population in underdeveloped countries and, as far as the depletion of the Earth's resources are concerned, he said that "society will increasingly devise means for their replacement through the development of synthetic substitutes and of new sources of power".

Sir Brian emphasized that the SRC's interests concern "the role of biology now, and in the future, and the inter-relations between biology and other branches of science". He added that, thanks to the achievements of the physical sciences and technology, man has made enormous strides in developing and adapting his environment to his own immediate needs. These achievements, according to Sir Brian, must, however, be looked upon as "perturbations of the ecosystem of which man is a part".

A nail was knocked into the coffin of the pure physical scientist when Sir Brian asked whether "we have now come to a time of pause in the affairs of physical science". This is not because of a belief such as existed at the turn of the century, that all is known—in fact, Sir Brian asserted that this is far from true, and that high energy physicists

and astronomers, in particular, are on the verge of important new discoveries. The reason, said Sir Brian, was that the scientist "is growing dissatisfied with present day motives and values, and is looking for a fresh, more biological approach in which man shall no longer be subservient to machine".

In yet another attack on Lord Rothschild's belief that research can be classified in neat packages, Sir Brian said that the nature of scientific research made it impossible to predict the outcome in advance. "Call that scientific roulette with Lord Rothschild if you will", Sir Brian added, but anyone who maintains that research is useless because its ultimate practical goal cannot be identified "would be a brave and foolish man". "The unexpected is the whole point of scientific research," said Sir Brian, and he amply demonstrated this by referring to the practical developments that have arisen from research into superconductivity.

The research councils are now faced with more difficult tasks than they have been faced with in the past, according to Sir Brian. No longer do they have only to decide on the relative priorities of well defined fields of research, such as astronomy or electrical engineering, but they also have to decide on priorities between projects that are sponsored by several research councils simultaneously — pollution research being one example.

Sir Brian used the platform to make yet another plea to the government to take a more moderate view of the reorganization of government research and development than has been suggested by Lord Rothschild. Sir Brian cited the Institute of Radiology's record in making use of new kinds of radiation in hospital medicine and he said that this transference of ideas from the research laboratory to the hospital is "what the organization of research must foster". Sir Brian concluded with a call to the formulators of the white paper on reorganizing government research and development not to forget the difficulties of predicting in advance the course of research.

**SRC and Biology**

THE Science Research Council said this week that its expenditure on biology was going up, in real terms, at 5 per cent a year—much faster than its support of nuclear physics, which is the biggest single field of research funded by the council. A spokesman for the council also said that Sir Brian Flowers's speech to the British Institute of Radiology did not "herald any immediate change in the SRC's priorities".

## RESEARCH COUNCIL

**ARC Foresees a Squeeze**

THE annual report of the Agricultural Research Council published on Wednesday will be a disappointment to anyone who expected to read the council's reactions to Lord Rothschild's report published in the green paper of last November. In an apologetic tone the council regrets that as the annual report was written just after the green paper was published and before the council had submitted its views to the Secretary of State it "has not been possible to include any comment in this report". Rather lamely the council adds that nonetheless the "prolonged uncertainty" has "inevitably" inhibited long term planning and "undoubtedly" affected morale.

What the council does include in its report, however, is a detailed account of much of its research and a clear warning to university researchers that times are going to get harder. The council says that although the value of the research grants it gave rose by £116,699 to £586,393 in 1970-71, and the grants for purchasing items of equipment over £1,000 amounted to £60,961, "it is probable that the growth rate will have to be reduced in the future". More university departments are applying for grants the council says, partly due to the shortage of money elsewhere, and as a result the council will in future consider grants on only two occasions in the year, in April and July.

On a happier note, the council reports that an ICL 4/70 computer which the Flowers Report recommended that the ARC should have in 1966, was delivered to Rothamsted Experimental Station in the course of the year. Sixteen of the ARC's units are already on line to Rothamsted.

The research work described ranges from work on pre-slaughter stress in poultry to potato spraing disease and includes the news that a new synthetic pyrethroid has been synthesized at Rothamsted which has the advantage of acting as quickly as the natural pyrethrins and, when combined with a synergist, as efficiently as resmethrin—one of the synthetic pyrethroids originally discovered at Rothamsted (see *Nature*, 233, 441; 1971).

In the course of the year three ARC units were disbanded and no new ones established, but the council's expenditure still rose from £15,023,000 in 1970 to £16,932,000 in 1971, an increase of 13.3 per cent. The Institute of Animal Physiology at Babraham remained the largest spender of the ARC units at £815,871, but grants to the ARC's own units and institutes rose only £420,000 while its grants to other research institutes rose by £1,200,000.