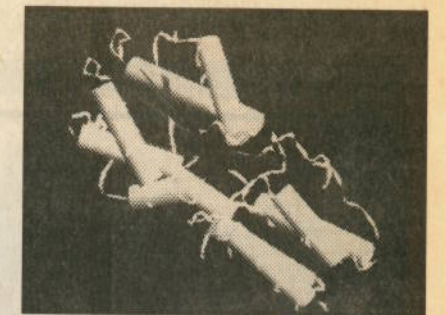


SPECIALISTS

Condemned to a Dark Age of science

Last week's budget statement by the Chancellor is seen by many of Britain's scientists as a foolhardy betrayal... Technology Correspondent Roger Highfield asks our most distinguished brains to assess their blighted prospects



Molecular design: Britain leads the world

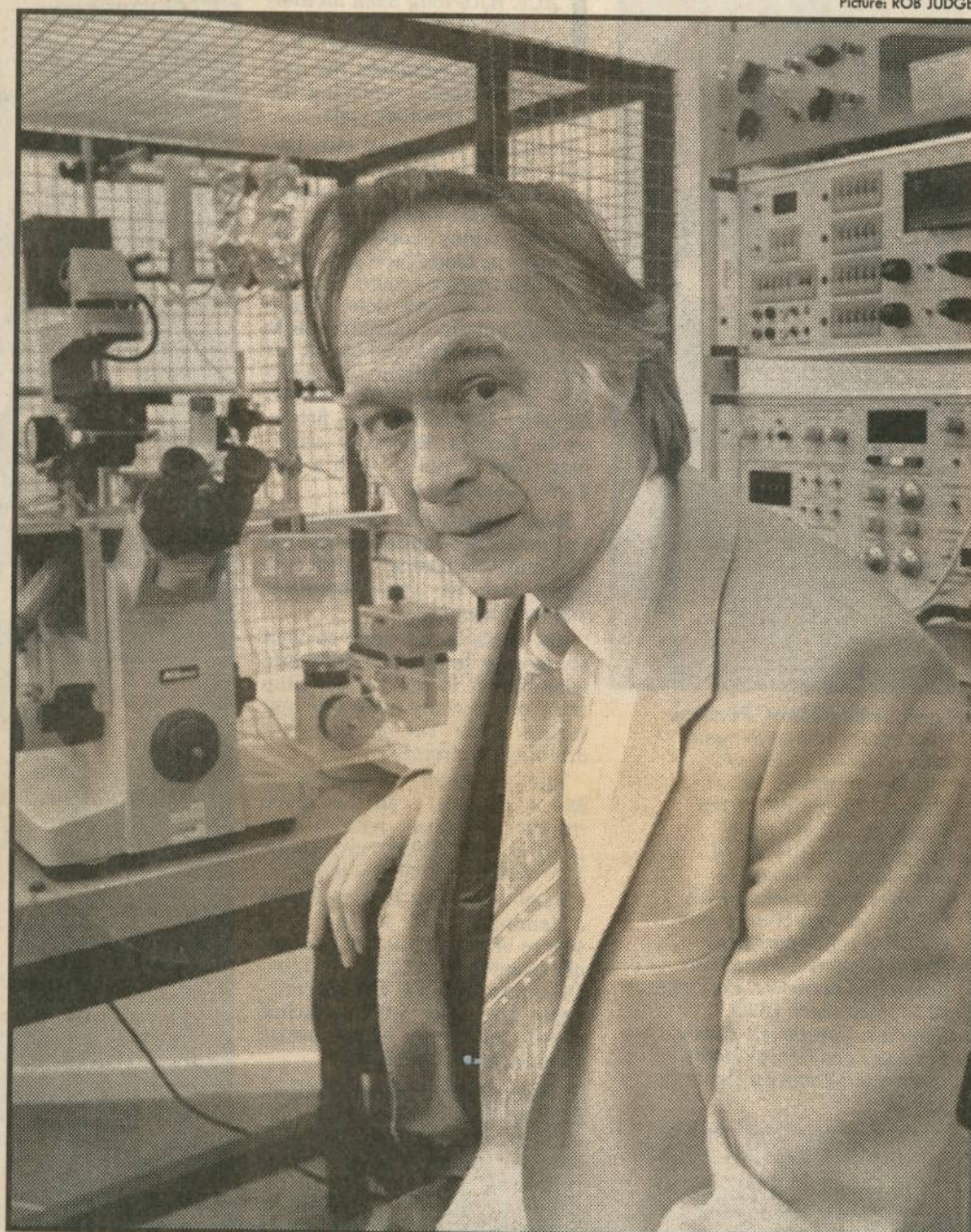
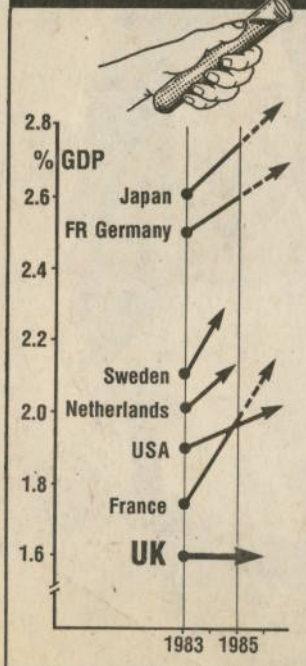
MAJOR PROJECTS NOW AT RISK

- CERN, the world's leading particle physics laboratory. Britain may have to withdraw.
- ESRF, a major international facility for performing X-ray research. Requires £6 million per annum contribution from Britain, but officials offered none at a recent meeting.
- THE INSTITUTE of Molecular Medicine in Oxford threatened for the sake of £1 million.
- STRATEGIC marine research projects, investigating climate, pollution and ocean resources, jeopardised by short-term funding.
- TODAY, the 13-nation European Space Agency discusses its programme until the year 2,000 which includes a new launcher, Ariane 5, the Columbus space station and the French Hermes space vehicle. After the Government recently rejected increased spending on space, Britain is destined to play the role of bystander.
- A NEW generation of optical telescopes, planned to keep Britain at the forefront of astronomy, looks unlikely to receive funding, according to Sir Francis Graham-Smith, the Astronomer Royal. "Unless we plan for the future, we will be in a state of decline."



Ariane 5

UK: BOTTOM OF SPENDING LEAGUE ON CIVIL R&D



Picture: ROB JUDGES

"A BACKWARD LEAP"... Campaigning biochemist Prof Denis Noble's indictment of the Government line on pioneering research

In thrall to charity

EVERY major cancer institute in Britain is now funded by charity, not the Government — a dependence which may, ironically, present dangers of its own.

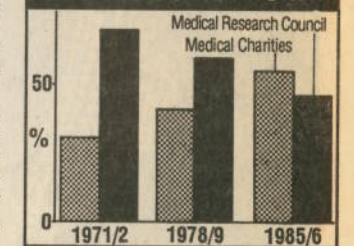
Medical historian Dr Joan Austoker of Oxford University said: "Medical charities in general are disease-oriented, and this could result in a concentration on applied rather than basic research. Yet we need fundamental research that is not immediately recognisable to either the general public or industry. In such areas, support from government is critical."

Even Lord Dainton, who created the ABRC and is the trustee of a number of charities, warned that too much charity-funded research would be a bad thing. "If you are going to have your policy made by the whims of people who create charities you will not get a balanced research policy for the nation."

On the over-all level of MRC funding, Sir Walter Bodmer, director of research at the Imperial Cancer Research Fund, was unequivocal: "It is grossly inadequate." And Dr Dai Rees, secretary of the MRC,

MEDICINE

UNIVERSITY MEDICAL RESEARCH: WHERE THE FUNDS COME FROM



said: "We are going to be in real trouble."

The MRC has closed several units, notably those investigating developmental neurobiology and trauma, and cut back its cyclotron units which are used for cancer treatment. It had hoped in this way to generate funds for exciting new units to investigate, for example, nutrition and toxicology. But Dr Rees said: "All we have done is to stay where we are, minus the units we have lost."

The MRC is not even sure it can afford to set up a new collaborative centre, which aims to take research out of the laboratory and into the market place. "It is ironic, because this is the kind of activity the Government is most keen on," said Dr Rees.

Jobs in jeopardy

AGRICULTURE

AT A TIME when food poisoning is on the increase, research into the subject is in jeopardy as a result of cuts in the budget of the Agricultural and Food Research Council (AFRC). Around 17,000 cases of food poisoning were reported last year compared with 13,000 in 1985, with a realistic total estimated at near the million mark.

Now 70 posts, including a team working on botulism, are to be lost at the Institute of Food Research, which has laboratories at Norwich, Bristol and Reading, according to Geoffrey Evans, a higher scientific officer.

According to Mr Joe Duckworth of the Institution of Professional Civil Servants, more

genetics. Food research takes the brunt of the cuts.

In the past three years the AFRC has shut the Weed Research Organisation near Oxford, the Letcombe Laboratory at Wantage, which investigated soil and drainage, amalgamated some 30 institutes into eight groups, and lost 1,600 scientists and support staff.

According to Mr Joe Duckworth of the Institution of Professional Civil Servants, more

"THE BRITISH are in danger of becoming the industrial peasantry of the 21st Century."

"Britain will become a second-or even a third-class nation if we do not place more importance on science."

"Unless things are changed we shall soon live in a country which is backward not only in its technology and standard of living but in its cultural vitality..."

THESE are not the ravings of a few misguided individuals, nor the gripings of the odd professional who wants to better his lot.

These predictions come from Prof Denis Noble of Oxford University, founder of Save British Science; Sir Kenneth Durham, former president of the British Association for the Advancement of Science and chairman of Woolworth Holdings; and Prof Sir George Porter, president of the Royal Society.

The British Association backed the £103 million increase called for by Government advisers, the Advisory Board for the Research Councils (ABRC), which estimated that in 1988-89 another £52 million would be needed to protect the science budget from increased costs, £44 million to restructure science so that "resources are used to best effect and that science's contribution to the nation's economic development grows rapidly", and £27 million "to relieve chronic equipment problems... which are restricting the ability of the country's best research groups". The



Sir Francis Tombs: "Discipline"

ABRC chairman, Prof Sir David

what are deemed first-rate research projects by the five research councils. The Natural Environment Research Council manages to fund less than half of these "alpha-rated" projects, the Agricultural and Food Research Council funds half, the Economic and Social Research Council funds two-thirds, and the Science and Engineering Research Council funds 70 per cent.

Prof Noble adapted a familiar slogan to condemn Government policy as *Zurücksprung für Technik* (a backward leap for technology).

□ WHY BOTHER with science at all? After all, the Treasury informed a House of Lords select committee that there was no relationship between research and the health of the economy. Incredibly, the president of the Royal Society also reported hearing senior civil servants say: "There is too much science (like the butter mountain), that our economy does not need it, that we should rely on others to do it and concentrate on important matters like better management."

will hold more sway with Whitehall officials.

He told The Daily Telegraph: "The notion that it would be economical for a country to put a lot of resources into applied, directly useful research, but little into basic research seems to me to be false."

arguing about additional resources."

On funding international projects: "One problem with international collaborations is that they acquire a momentum of their own, with no one government in control."

On the claim of some scien-

when Acost was supposed to be examining the level of space funding.

"We have the really bizarre situation where the Government's decision on the funding of space research was announced before the matter had been referred to the new