

## Two Cheers for Nuclear Physics

CRITICISM of the way in which the UK has supported big science was given by Sir Harry Melville, the retired chairman of the Council for Scientific Policy, in the Appleton Memorial Lecture to the Institution of Electrical Engineers. In nuclear physics, Sir Harry said, the home effort was certainly too large if the powerful international facilities to which the UK contributes were taken into account. "By arranging better collaboration in Europe, considerable economy could have been achieved in the construction and operation of machines of moderate size." It was argued, Sir Harry said, that nuclear physicists needed to be trained on medium-sized machines if they were to use the bigger international machines. "Yet many countries in Europe do not have national machines and they still work effectively with the international facility." If national prestige were to be an index of success, the accelerators in the UK had been badly timed.

Big projects well timed, on the other hand, could give the country a lead for many years over other countries and add to its scientific prestige. Radio-telescopes, Sir Harry thought, had been well timed and, although the capital cost of the equipment was high, the costs of running telescopes were relatively low. Radio astronomers were also more useful in industry than others, because of their varied experience. But Sir Harry had nothing kind to say about big optical telescopes in Britain. "In optical astronomy the utilization of telescopes is very low indeed because of the atmospheric conditions and it is questionable whether any large telescope should ever have been installed in this country. The natural trend is to erect telescopes in countries overseas where observing conditions can be relied on for long periods of the year."

The next few years would be of great importance to the universities. The Government had announced the financial provision for the next five years, and the research councils knew how much they would be getting in the next three years. Sir Harry was unimpressed. "The increase in moneys year by year is extremely modest, having regard to the job which has to be done, especially in science. A good deal of re-thinking and pruning will have to be done if quality is to be maintained . . . there can be a very real danger of stagnation if vigilance is not maintained and management is not made effective."

## ELDO Hopeful

WITHIN the next fortnight, all being well, the next launching in the ELDO programme will take place from Woomera, Australia. ELDO staff are hoping that the launching, called F6/2, will make up for the disappointment of the last launching, which went perfectly until after the separation of the first and second stages. The second stage engines failed to ignite. ELDO is confident, however, that the failure did not reflect on the design of the second stage, but was caused by an electronic failure. For the next firing, simple modifications have been introduced to prevent the same thing happening again.

For the F6/2 launching, the second stage will again be live, and the upper stages will carry the basic elements of systems intended for full test in later flights.

It will be the first flight for testing all the separation systems for all three stages and for satellite injection. After separation, the second and third stage plus satellite will continue in ballistic flight a small distance from each other. The impact zone, in the Pacific some 2,300 miles from Woomera, will be reached in about 18 minutes.

## Robbing Peter, Paying Paul

from our Oxford Correspondent

OXFORD colleges vary greatly in wealth, from the older men's colleges—St John's, Christ Church and All Souls—with their munificent endowments, to the penury of the newer men's colleges and most of the women's. Shortage of money has put the members of poorer colleges at a disadvantage in many ways; it is difficult for them to appoint tutors in recondite subjects, so that many students have to be taught outside their colleges. Stipends at some women's colleges have been very considerably lower than those at men's colleges, and there have been far fewer tutors for the same number of undergraduates.

Congregation has now, however, passed a statute which, it is hoped, will eliminate these disparities. Colleges are to contribute to a university fund on a sliding scale so that the poorer colleges will be paying nothing and the richer ones up to a quarter of their income above £150,000. The fund will then be distributed among the poorer colleges so that eventually the endowments of all colleges will exceed £600,000, £200,000 more than the figure recommended by the Franks Commission. The contribution of colleges to the fund will be assessed according to capital rather than income. The Franks Commission had originally recommended an assessment on the basis of capital as being ideal, for certain colleges have large amounts of capital yielding low interest rates, but the commission concluded that this method of assessment would be too difficult to undertake, and decided that contributions should be evaluated on the basis of college incomes. The problem of valuation now lies with the University Chest and the College Contributions Committee, which will be administering the scheme from July 31 next year.

Transitional arrangements have been made: the two graduate colleges, St Anthony's and Nuffield, which specialize in the social sciences, will be taxed by the university at a lower rate than undergraduate colleges. For some time, grants to poorer colleges have been made by the Common University Fund, but the last payments of this kind have been made in the form of £80,000 to be divided between three colleges, and all the work of making the colleges financially equal will now be carried out by the Contributions Committee.

## Hydrofoils or Hovercraft?

THE British interest in hovercraft has tended to overshadow hydrofoils, another interesting development. Mr R. Gresham Cook, Conservative MP for Twickenham, is alarmed about this, and opened an adjournment debate on the subject in the House of Commons last week. While Britain has been building 40 hovercraft, he said, nearly 1,000 hydrofoils—craft the bows of which are raised from the water by the action of wing-