NEWS AND VIEWS

Another Accelerator

THERE is good news this week for British high energy physicists. NINA, the electron accelerator at the Daresbury Laboratory of the Science Research Council, was operated successfully for the first time on December 2. Designed for an energy of 4 GeV and a current in excess of 1 μA, early indications were that NINA would reach these targets easily. There are two similar machines already in operation—the joint Harvard–MIT 5 GeV machine at Cambridge, Massachusetts, and a machine working at near 6 GeV in Hamburg. The energy of NINA is lower, but the beam intensity is higher; currents of 0·5 μA have already been obtained, and currents of several μA are confidently predicted, although the target of 10 μA may prove unduly optimistic. At reduced current, energies of 4·5 GeV have already been obtained. This has been achieved by efficient injection of electrons and by operating at much higher radio frequency power than existing machines. The ring around which the electrons are accelerated has long straight sections between the curved ends, which makes it possible for experimental apparatus to be inserted very easily. The accelerator is likely to be used mainly by the northern universities, and the universities of Manchester, Liverpool, Glasgow and Lancaster have already suggested experiments. Possible experiments are those on quantum electrodynamics at very small distances, the production of elementary particles such as K mesons, and the testing of symmetry models for elementary particles.

High energy physics is an expensive business. The £4·5 m which NINA has cost, however, is chicken feed compared with the cost of the CERN programmes, particularly the proposed 300 GeV particle accelerator. The design for this machine is now settled, but it remains to obtain the approval of the governments both for the site—twelve have been suggested so far (see *Nature*, **211**, 337; 1966)—and for the budget. Although the question of a British contribution to this new machine has been discussed by the Council for Scientific Policy, no decision has yet been reached. It is thought that the administrators would welcome a chance to delay the decision for a year.

Open Persuaders

SOME of the resentment in Britain at the departure of scientists and engineers for the United States has been embittered by advertisements appearing in the United States which offer to help American employers recruit from the United Kingdom. One offender is Careers Incorporated of Los Angeles, New York and London, which provides a kind of packaged deal for intending employers. The company quotes a number of American corporations, including Ampex, Avco, Bell, Bendix, Boeing, Douglas, General Dynamics, General Electric, Grumman Aircraft, Itek, Texas Instruments, United Aircraft and Westinghouse, among its customers and is now seeking to extend the use made by American companies of what are called the "Career Centers". Careers Incorporated said in a brochure distributed early in 1966 that "this June another group of American employers will use the Career Center method to hit England hard" and also promised intending users of the service that they will be "completely protected from bad 'brain drain' publicity" because of the confidential character of their involvement with Careers Incorporated. The company was then hoping to have 2,000 British scientists on its books by June. American employers were offered a 10 per cent discount for signing up before May 16 and were told that the fee for using the Career Center in London for one week during 1966 would be $3,250—a charge which included hotel accommodation. The company's brochure also suggests to potential employers in the United States that the cost of moving a British family to California, "air travel and household goods complete", amounts only to $1,500.

Although there is no suggestion that Careers Incorporated does anything but make it easier for those who wish to move to the United States from England to do so, the frankness of its advertising seems to have caused dismay in influential circles in Britain. An official of Careers Incorporated said on the telephone earlier this week that operations similar to that carried out this year would be mounted in 1967, probably beginning in February or March.

Television Discreet

A FORM of television so discreet that even the British House of Commons might feel enthusiastic about it was described by Dr. L. H. A. Pilkington at the Royal Institution on Friday, December 2. The system uses two lasers. Light from the first passes through an optical system and scans the object. The scanning light is scattered and picked up by means of a photomultiplier tube, which converts it into electrical energy. The signal is then amplified and used to modulate the output of the second laser. The varying intensities of light from the second laser pass through the same or a similar optical scanning system which converts its signal back into a representation of the object. The system therefore replaces both the television camera and the television set.

In simple form the system can only show one-dimensional objects, but Dr. Pilkington also demonstrated a more sophisticated design developed by the Perkin–Elmer Corporation in the United States. This can show two-dimensional pictures on a television screen, and has some distinct advantages compared with conventional systems. Since the scanning laser is its own light source, no lighting apparatus is needed. In the Royal Institution lecture theatre the system operated in almost complete darkness, and produced clear pictures on the screen. Since the laser camera does not focus light and form images in the same way as a conventional camera, it is free from depth of focus restrictions.

Plans for Caltech

A NEW 60 in. telescope for the Palomar Mountain Observatory was promised by the president of the California Institute of Technology, Dr. L. A. DuBridge, in his annual report for 1965–66, the seventy-fifth anniversary of the foundation of Caltech. The most up to date photometric telescope built, it will supplement the 200 in. Hale telescope which is itself being improved by electronic instrumentation. For the radio