

preparation of a manual of proposed standard practices for surveys on R&D for the Frascati Conference on this subject in 1963. At the NIESR Freeman led research into the electronics, plastics and chemical process plant industries, and became a frequent consultant in Europe on questions concerning the economics of science. In 1965 he was invited by the University of Sussex to create the first British university centre in the science policy field.

Under Freeman's leadership and largely in response to requests from government and industry, the original group has grown in four years from two to over thirty research fellows, research students and staff. Its activities range from social and economic history of science to the relationship between science, industry and economic development, both in advanced and developing countries. Within the last two years fresh work has begun on the study of science in China and the Far East, on the economics of innovation and on safety in industry. Teaching duties of the unit's staff bring it into close contact with both science and arts schools of the university, while its research has made it a focus of international interest. Although the Phillips chair does not attempt to answer the unit's need for long term continuing support, it is a welcome witness to the increasing significances of science policy studies, which Christopher Freeman has helped to pioneer.

100 Years Ago



We referred last week to the "situation" at the Paris Observatory. The action of the French Government has been of the promptest and M. Le Verrier is no longer Director. This step indicates very clearly—too clearly we fear—the strength of the case put before the Minister of Public Instruction, in the memorial, of which a copy has been sent to us. This document, which is signed by all the *chefs de service*—Villarceau, Marié-Davy, Wolf, and Loewy—and the *astronomes adjoints* without exception, discusses all points connected with the administration of the Observatory, scientific and otherwise. It is to be sincerely hoped that M. Le Verrier may be able yet to do service to astronomy, in some other capacity, some position where his great talents alone will be called into play. His is a name that will never die, let us hope it is but momentarily eclipsed.

From Nature, 1, 387, February 10, 1870. The "situation" referred to was that the entire staff of the observatory had threatened to resign if Le Verrier were not dismissed, because of his uncompromising policies. He was reinstated at the observatory in 1872, but with reduced powers. Nature's comment on February 3 was that "the present régime at the Observatory of Paris has been rather more autocratic than could be patiently endured, even in a country subjected to eighteen years of personal government". Le Verrier predicted the existence of Neptune in 1846, without knowing that Adams had reached the same conclusion in England.

UNIVERSITY ENTRANCE

Continuing the Swing

by our Education Correspondent

MORE than 1,300 places in the science, engineering and technology faculties of British universities were unfilled last October. In May 1969 the universities estimated that 10,447 engineering and technology places and 16,828 science places would be available this year. But in the event, only 9,984 and 15,978 students were admitted to these faculties, representing a shortfall of 463 and 850 respectively. This reduction in numbers, given in the report of the Universities Central Council on Admissions for 1968-69, seems to have been caused by a lack of suitably qualified applicants. In the sciences, the number of applicants was only 1.5 times greater than the number of places available, while the ratio for the arts was 1.8 : 1 and for the social sciences it was 2.5 : 1.

Because of the lack of competition for places, science, engineering and technology faculties seem to be willing to accept students with significantly lower qualifications than those accepted by arts or social science faculties. During the clearing procedure in September, when unfilled places are filled by suitably qualified candidates who were unsuccessful in the first round of the lottery, 38.5 per cent of the engineering and technology candidates and 37.4 per cent of the science candidates were accepted, compared with 14.9 per cent of the social science and 21.0 per cent of the arts candidates. Moreover, if A-level grades are awarded points—five for an A grade down to one for an E—282 candidates out of 922 with scores of five or less were awarded places in mechanical, electrical and civil engineering in the clearing procedure, compared with thirteen out of 343 in English.

The total number of admissions, at 61,139, was 3.1 per cent up on the total for October 1968, however, but the report says that "if suitably qualified candidates had applied in sufficient numbers, the increase in admissions could have approximated to 4.5 per cent". The number of applicants for university places was 114,289, which suggests that there are almost twice as many candidates as there are places available. But Dr Geoffrey Templeman, chairman of UCCA, suggests that this is misleading. He says in the introduction to the report that about one in five applicants do not achieve the minimum university entrance qualification, and that about 15 per cent of those who apply in any given year can be expected to have applied for admission in a previous year. He suggests, therefore, that about three out of every four qualified candidates were awarded places last October.

GRADUATE EMPLOYMENT

Industry's Share Growing

GRADUATES who go straight into employment in Britain now outnumber those who continue to study. The University Grants Committee's latest volume of statistics (*First Employment of University Graduates, 1967-68*, HMSO, 10s) shows that out of a total for the year of 42,615 graduates with first degrees, 17,508 took up a job in Britain and 17,047 carried on with their education. In 1966-67 the figures were 14,775 and 15,190 respectively. Industry seems at last to have reversed its declining attractiveness to graduates,