Extracts from College Annual Report
1970-71

DEPARTMENTAL REVIEW

In May Dr. R. O. Davies left the department to take up a chair at University College, Cardiff. While congratulating him on his new appointment, his colleagues are saddened by his departure, especially those who, claiming membership of the department over as long a period as he can, have gained most from his friendship and his professional advice. Colleagues in other departments will be aware of his weighty contributions to the development of the College, as a member of the Academic Board, as a Governor representing the academic staff and as the first Sub-Dean of the Faculty of Science. They may not be as aware as we are of his excellence as a teacher at every level. On this we have no need to rely on our own direct experience (in the seminar and, more especially, in the common room) because many past students, given half-a-chance, will wistfully recall the quality of his teaching. We hope he will enjoy his new position; we are sure his new department is already feeling the benefit of *his* presence.

Professor David Bugg joined the department as Professor of Nuclear Physics following Professor Ashmore's departure last year. He took up his appointment in December after three months as Visiting Professor at the University of California, Riverside. He has quickly taken up that special admixture of academic duties and travel to the high-energy accelerators (at Harwell and Geneva) which our nuclear physicists have now to live with. This group extended its activities during the year by undertaking an experiment on antiproton-proton interactions at CERN in Geneva. Under Dr. P.I.P. Kalmus and Dr. W. R. Gibson, three postdoctoral research associates, two postgraduate students and an experimental officer moved to Geneva for a period of between one and two years. Dr. Kalmus spent the whole session in Geneva while Dr. Gibson carried more than a normal teaching load in the department. Their roles will be reversed in the coming session. Apparatus for the experiment had been constructed in Britain and the subsequent analysis will also be carried out at home. Such experiments (and those on nuclear scattering conducted during the year by Dr. J. A. Edgington at Harwell) are financed by the Science Research Council — as were attendances by members of the group at meetings in Madison, Trieste, Bologna, Lancaster, Amsterdam and Erice. It is therefore important that Professor Bugg and Dr. Kalmus are both now members of the SRC CERN Panel and of the Rutherford Laboratory Users Committee. Dr. Kalmus managed to find time to act as

Examiner for the MSc. course in Nuclear Physics at North-East London Polytechnic.

Dr. O. M. Copland was appointed to a one-year lectureship and took special responsibility for Computer Applications, both in lecturing and in serving on the Computer Centre committees. This is a subject of growing interest among undergraduate students (and Dr. Copland's examination paper on the course he taught was especially commended by our Visiting Examiner). Dr. Copland is leaving to take up a permanent appointment at Queen Elizabeth College where he will no doubt be as valuable on this front as he has been to us. Dr. D. J. Newman spent the year as Visiting Associate Professor at the University of Alabama and gave seminars at John Hopkins, Argonne National Laboratory, Carnegie-Mellon University, Waterloo University and Virginia Polytechnic Institute, Blacksburg. He returns to take up the department's interests in Computer Applications.

We learned with pleasure that Dr. J. A. Bastin, at present Reader in the department, will be appointed to the chair vacated by Professor G. O. Jones from October 1971. The part-time M.Sc. course in Astrophysics which he planned, with schoolteachers particularly in mind, started this year with a class of about 40 and has been proceeding successfully. His astrophysical research activities with Drs. Clegg and Beckman continued strongly with further expedition to the Pic-du-Midi telescope to obtain the first solar maps for long-wave infra-red showing clear features which correlate with sun spots and plages. Their past and planned work was reported at meetings in Holland and Belgium, and ESRO have invited them to take part in the early planning for a satellite for infra-red astronomy. Dr. Bastin's and Dr. Edgington's work on lunar rocks also continues and, apart from reporting on this to conferences at Houston, Newcastle and Reading, they have visited a number of Universities and schools to lecture on the subject.

The recognition of the College by the S.R.C. as a Major Centre for polymer research brought a grant of £62,000, partly to be used to promote the polymer studies in progress in the department under Drs. Bloor and Wilson (and partly for the polymer work under Professor Andrews in the Materials Department). This has led to the appointment of an Experimental Officer, with another to follow, to set up a chemical laboratory for the preparation of polymers in new forms. Dr. Burfoot has, in the last few weeks of the session, been exchange professor at the Ferroelectrics Laboratory in Dijon. Earlier in the year he chaired the Ferroelectricity session at the 8th Solid State Physics Conference in Manchester.

The weekly theoretical physics seminars arranged by Professor Valatin continued with some eminent speakers and good audiences. Professor Valatin was invited to visit NORDITA, Copenhagen, in May to give a colloquium and Dr. 0. L. Sewell gave an invited

talk at the conference held in Oxford in April in honour of Professor C. A. Coulson's 60th birthday. Dr. Sewell was also an invited lecturer at the Summer Institute for Theoretical Physics in Boulder, Colorado, and Dr. K. J. Barnes was an invited participant at the 15th International Conference on High Energy Physics in Kiev. Dr. W. Young spent a month at Easter at the University of Rome, at the invitation of Professor C. di Castro.

We should also note the award of SRC senior fellowships to two of our Ph.D. students for theoretical particle physics. P. H. Dondi and P. Dittner. These are very strongly competed for; to gain one would be grounds for satisfaction, to have two is really a mark of distinction and we congratulate them on their work. In addition L. C. Y. Lee Chi Kwong gained a CERN Fellowship for experimental particle physics and D. I. Marsh an I.C.I. Fellowship for polymer research — both calling for congratulation.

This report is in large part a catalogue of foreign travel; the teaching of the department has nevertheless continued and the year saw a re-appraisal of our undergraduate programme within the new degree structure. The course unit structure was the subject of a paper read by Professor Martin in June to a meeting at the Royal Society on The Future Development of Degree Courses. Dr. Charap also attended and reports that considerable interest in the subject was shown by delegates he spoke with. Arising out of the meeting Professor Martin has been asked to give a similar talk at Manchester, and to provide information on our arrangements to a number of other Universities. The "May Evenings" — four evenings of lectures and demonstrations to schoolchildren — were again very well attended, by more than 600 pupils.

Gallery 273 presented a full series of exhibitions including one in which every drawing shown was sold.

DEGREES AWARDED

Ph.D.s

JOHNSON, MICHAEL W.	January 1971
PARK, WILLIAM McN.	May 1971
BRADSHAW, JOHN M.	June 1971
ROBINSON, PETER J.	June 1971
WILLIAMS, DAVID T.	June 1971
CARTER, BARRY S.	July 1971
DEAN, JOHN R.	July 1971