

# Extracts from Queen Mary College Annual Report 1955-56

## DEATHS

The College learned with deepest regret of the death of EMERITUS PROFESSOR H. R. ROBINSON on 28th November, 1955.

Professor Robinson came from University College, Cardiff, as Head of the Physics Department in 1930. Since the war he had suffered from various forms of ill health which he endured courageously and without complaint whilst pursuing a busy life in which the humanities as well as science played a prominent part. Yet it was no surprise when he decided to retire in 1953. He had readily offered to see the new Principal settled in office before laying down at one time the Headship of the Physics Department and the appointment of Vice-Principal where especially his deep wisdom and understanding had served the College well and won for him great affection. The College was most fortunate when the University appointed him as one of its own representatives on the Governing Body.

Yet again it was no great surprise to his former colleagues to learn that it was to him as a Senator of long standing and wide experience that the University turned to find a Vice-Chancellor on the sudden death of Sir Roderic Hill. Professor Robinson not only served as Vice-Chancellor for the outstanding months of his predecessor's original term but was then elected Vice-Chancellor in his own right. This great personal honour was reflected upon Queen Mary College and it was therefore appropriate that whilst he was in office as Vice-Chancellor the Governors should have elected him a Fellow of the College. He was not, alas, to be admitted as a Fellow, for the burden of his new office revived the symptoms of a dormant complaint and he was obliged to resign from the Vice-Chancellorship a matter of weeks before Her Majesty Queen Elizabeth the Queen Mother was installed as Chancellor of the University.

This great servant of Queen Mary College and of the University of London will long be remembered with affection and admiration.

## DEPARTMENTAL REVIEW

Members of the Department were grieved to hear during the year of the death of Emeritus Professor H. R. Robinson, Professor of Physics in the College for twenty-three years and subsequently Vice-Chancellor of the University.

Dr. J. G. Powles, I.C.I. Fellow at the University of Durham, was appointed to the vacant Readership in Experimental Physics at the beginning of the session. Dr. Powles, who has worked in several Universities in Europe and America, including Manchester, Paris and Princeton, is setting up a research group in the field of nuclear magnetic resonance and dielectrics. Mr. H. W. Hunter of Birkbeck College has been appointed Assistant Lecturer. Mr. Hunter is known to the Department as a former member of the technical staff.

Professor Jones, Dr. Davies, Dr. Dobbs, Mr. Heastie, Dr. Leech, Miss Scott and Mr. D. H. Bowen represented the Department at the International Conference on Low Temperature Physics held at the Sorbonne, Paris, in September 1955. This party made a substantial contribution to the Conference, and were handsomely entertained. Dr. Powles gave an invited paper at an International Conference on Radio-frequency Physics held in Geneva in March 1956. Dr. Leech attended a theoretical week-end at St. Andrews, where he gave a paper.

Several members of the Department attended the Conference on Low Temperature Crystallography held at Oxford in April 1956. Contributions were made in the names of Mr. Figgins, Professor Jones and Dr. Riley and of Dr. Dobbs. At this Conference the first accurate measurements of lattice parameters to be made at very low temperatures were reported by our group.

Advanced lectures given during the session have included courses on Nuclear Magnetic Resonance by Dr. Powles, on the Statistical Thermodynamics of Solids by Professor Jones, Dr. Davies, Dr. Dobbs and Dr. Eisenschitz, and on Solutions by Mr. Heastie.

Several members of staff have now begun to undertake the supervision of research students for the first time and the total number of research students is growing accordingly. A rearrangement of certain teaching laboratories has provided an additional research laboratory.

The students' Physical Society has been active throughout the session and has organised many meetings addressed by visiting speakers, a number of visits to other laboratories and an outing. The Society joined with the Historical Society in a mid-week session at Cumberland Lodge with the general theme "The Past and Future of Civilisation" Visits by the Society to Cumberland Lodge, of which this was the second, have been very successful and promise to become regular events. Professor and Mrs. Bindoff were guests at the Society's Annual Dinner, which was followed by an entertainment in

which every member of the staff took part.

## EXAMINATION RESULTS

### Ph.D.

P.A. Walker, July, 1956

### M.Sc.

B.R. Orton November, 1955

### BSc Special Examination in Physics

#### First Class Honours

T.J. Dean

#### Second Class Honours, Upper Division

R.V. Peacock [December, 1955]

A.R. Boot

L. Finegold

S. Parke

#### Second Class Honours, Lower Division

K.A. Woolner [December, 1955]

C.S. Barham

M.A. Gunstan

Cynthia L. Pyle

J.R. Pyle

N.N. Truman

#### Third Class Honours

J.R. Barry

M. Brown

L. Burrell

C.J. Hayward

E.H. Noé

## PUBLISHED WORK

**J. R. BARKER and E. R. DOBBS**

Measurement of the elasticity of solid argon with an ultrasonic interferometer. *Philosophical Magazine*, 46, 1955, 1069.

**D. H. BOWEN and G. O. JONES**

The effect of pressure on the superconducting transition temperatures of tin and thallium. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 514.

**R. O. DAVIES**

Ordering parameters in thermodynamics. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 489.

*with* **J. LAMB**

On the description of rate processes by means of relaxation times. *Proc. Physical Soc.*, B, 69, 1956, 293.

**E. R. DOBBS**

Argon to-day: new applications in research. *Chemical Products and the Chemical News*, 18, 1955, 463.

Elasticity of solid argon by an ultrasonic method. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 440.

Equation of state and elasticity of solid argon. *J. of Chemical Physics*, 24, 1956, 477.

**E. R. DOBBS and K. LUSZCZYNSKI**

The lattice constant of solid krypton. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 439.

**P. R. DOIDGE**

The transition to superconductivity. *Philosophical Trans. Royal Soc.*, 248, 1956, 553.

**R. K. EISENSCHITZ**

'Virial theorem' for the flow of energy. *Physical Review*, 99, 1955, 1059.

**D. GUGAN**

Simple high-pressure closures and electrodes. *J. of Scientific Instruments*, 33, 1956, 160.

**R. HEASTIE**

The determination of the solid-liquid phase equilibrium diagram of argon and krypton. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 324.

The solid-liquid equilibrium diagram of argon and krypton. *Nature*, 176, 1955, 747.

The efficiency of the fuel cell. *Fuel*, 35, 1956, 135.

The use of vapor pressure measurements for the determination of phase equilibrium diagrams of condensed binary mixtures. *J. of Chemical Physics*, 24, 1956, 490.

**J. A. HULBERT and G. O. JONES**

The superconducting bolometer as a detector of thermal radiation from low-temperature sources. *Proc. Physical Soc.*, B, 68, 1955, 801.

A superconducting bolometer used to detect low-temperature radiation. *Conference de Physique des Basses Temperatures*, Paris, 1955. *Communications*, 577.

**G. O. JONES**

*Glass*. Methuen, 1956.

The physics of extreme conditions. II. Matter at low temperatures. III. High pressures and high densities. *Discovery*, 16, 1955, 471 and 500.

Revelations of an amateur violinist. *Manchester Guardian*, 11 June, 1956.

**with J. ROTBLAT and G. J. WHITROW**

*Atoms and the universe*. Eyre and Spottiswoode, 1956.

**G. O. JONES and P. A. WALKER**

The diagram of state and specific heats of liquid argon. *Conference de Physique des Basses Temperatures, Paris, 1955. Communications*, 321.

**J. W. LEECH**

The influence of retardation on the London - van der Waals forces. *Philosophical Magazine*, 46, 1955, 1328.

Cohesive energies of van der Waals solids. *Conference de Physique des Basses Temperatures, Paris, 1955. Communications*, 443.

**J. W. LEECH and A. J. MANUEL**

Magnetic properties of some anhydrous chlorides of the iron group. I. Magnetic resonance. II. Interpretation of the cryomagnetic anomalies in CoCl<sub>2</sub>, FeCl<sub>2</sub>, NiCl<sub>2</sub> and CrCl<sub>3</sub>. *Proc. Physical Soc.*, B, 68, 1955, 210 and 220.

**D. H. MARTIN with L. F. BATES**

A study of domain structures in alnico. *Proc. Physical Soc.*, B, 68, 1955, 537.

Ferromagnetic domain nucleation in silicon iron. *Proc. Physical Soc.*, B, 69, 1956, 145.

**D. L. MARTIN**

The specific heats of lithium fluoride, sodium chloride and zinc sulphide at low temperatures. *Philosophical Magazine*, 4, 1955, 751.

**J. G. POWLES**

Nuclear magnetic resonance. *Science Progress*, 44, 1956, 449.

Nuclear magnetic resonance absorption in polyisobutylene. *Proc. Physical Soc.*, B, 69, 1956, 281.

Radio-frequency physics: conference in Geneva. *Nature*, 177, 1956, 1022.

**with H. S. GUTOWSKY**

Proton magnetic resonance of the CH<sub>3</sub> group. 111. Reorientation mechanism in solids. *J. of Chemical Physics*, 23, 1955, 1692.

**F.D. STACEY**

The behaviour of ferromagnetics under strong compression. *Canadian J. of Physics*, 34, 1956, 304.