

# Extracts from College Annual Report 1949/1950

## DEPARTMENTAL REVIEW

The Physics Department is acquiring, on the second floor of the East Block, some valuable additions to its laboratory space. Part of the second floor is to be used as an elementary laboratory, thus releasing more ground-floor space for the General Laboratory which recently had to give up a large room for conversion into research laboratories, and which badly needs the additional accommodation. This laboratory also serves Ancillary students, and it may soon have additional strain placed upon it by the projected changes in the General B.Sc. Regulations.

The remainder of the new space on the second floor is to be used for research, with possibly one room as a seminar and reading-room for Honours students.

On the teaching side the chief matter for report is the effect of the progressive elaboration of our degree syllabuses, which have been proceeding for the last three years or more. In spite of certain economies effected by combining parts of the more elementary courses, the number of lectures given weekly is more than double the pre-war number, and if the new General B.Sc. courses come into being, they will almost certainly bring a further increase. The third-year work in the new B.Sc. Special Physics (experienced for the first time in 1949-50) involves not only highly specialised lecture courses, but also a complete change in laboratory methods. Similarly the new Physics courses, ancillary to Special Chemistry, are much more elaborate than the Subsidiary course which they replace. We now have three years' experience of this and it has to be said that the response of the students to the change has been highly satisfactory. They clearly feel that the new work is more interesting than the old, and more worthy of their attention.

There is an important change to report on the research side, where Dr. G. O. Jones, Reader in Experimental Physics, has started a number of cryogenic investigations—some of which are closely related to theoretical problems which are a special study of Dr. Eisenschitz, the Reader in Theoretical Physics. The need for a London school of low-temperature research has frequently been emphasized by the University Board of Studies in Physics; this board is following with great interest the beginning of the work here, and has promised full support for our plans. Dr Jones is developing novel techniques by which it is possible to attain, and maintain, extremely low temperatures with relatively small-scale apparatus, and there is a very reasonable hope that, with the necessary support, Queen Mary College may be made into the University's main center of cryogenic research.

## PUBLISHED WORK

### H.R. ROBINSON

Section on Michael Faraday *in* *Les Inventeurs Célèbres* (a collective work under the editorship of Professor L. Le Prince-Ringuet), *Paris, Lucien Mazenod, 1950.*

### **J.P. ANDREWS**

Semi-Conductors, *Science Progress*, 1949.

With C.A. Hogarth: Variations with Oxygen Pressure of the Thermoelectric Power of Cadmium Oxide, *Philosophical Magazine*, 1949.

With EL. W. WRIGHT : Temperature Variation of the Electrical Properties of Nickel Oxide, *Proceedings of the Physical Society*, 1949.

### **R.K. EISENSCHITZ**

Thermodynamics and the Canonical Distribution, *Journal of Chemical Physics*, 1950.

Reviews : .E. Justi : Leitfähigkeit und Leitungs-mechanismus fester ; . Stoffe, *Nature*, 1949.

F. Hund: Wirkungsquantum und Naturbeschreibung, *Science Progress*, 1950.

### **G. O. JONES**

With F. E. SIMON : What is a Glass?, *Endeavour*, 1949.

With A. J. CROFT: Methods of Storing and Handling Liquefied Gases, *British Journal of Applied Physics*, 1950.

With F. A. HOLLAND, J. A. W. HUGGILL, and F. E. SIMON: Solid Helium at "High" Temperatures, *Nature*, 1950.

Reviews : R. N. Haward: The Strength of Plastics and Glass, *Journal of the Society of Glass Technology*, 1949.

N. F. Dorsey: The Freezing of Super-Cooled Water, *Proceedings of the Physical Society*, 1950.

P. Freedma : The Principles of Scientific Research, *Oxford Science*. (In the press.)

### **E.J. IRONS**

Review: H. Margenau, W. W. Watson, and C. G. Montgomery: Physics, Principles and Applications, *Science Progress*, 1950.

### **J.W. LEECH**

The Measurement of the Specific Heats of some Organic Liquids using the Cooling Method, *Proceedings of the Physical Society*, 1949.

With MASSEY, BATES, and FUNDANINSKY: On the Born Approximation. (In the press.)

### **J.R. BARKER**

New Coil Systems for the Production of Uniform Magnetic Fields. *Journal of Scientific Instruments*, 1949.

The Magnetic Field inside a Solenoid, *British Journal of Applied Physics*, 1950.

An Improved Three-Coil System for Producing a Uniform Magnetic Field. (In the press.)

850 entries in Gray's Dictionary of Physics. *Longmans, Green*. (In the press.)

**J.A. PRYDE**

Chambers's Encyclopaedia, *Newnes*, 1950: Article on Conduction of Electricity in Gases.