

the method of maximum likelihood is introduced, the proofs of its main properties being given in outline. The second article is concerned with 'interval' estimation, first from the point of view of the theory of confidence intervals and then in terms of fiducial probability, the contrast between these two methods of approach being illustrated by a discussion of the Behrens-Fisher problem. Rigorous proofs of the theorems are not attempted, and the emphasis throughout is laid on the new ideas which are involved. Another welcome feature of the presentation is the inclusion of many worked examples.

### Chemical Society's Anniversary Meeting: Chemistry and Atomic Research

THE Chemical Society is holding its anniversary meetings for 1949 in Oxford, during March 28-30, and then in London, during March 31-April 1. The keynote throughout these meetings will be the recent chemical developments in the field of atomic energy and the way in which radioactive elements may be used in chemical and biochemical investigations. A noteworthy feature is that the Ministry of Supply has invited a number of distinguished men of science from Europe and America to participate in the general discussion and interchange of ideas; it is expected that the following will be present: Prof. R. E. Connick, Prof. J. W. Irvine, Dr. G. Wilkinson (United States); Dr. G. Bouissères, Dr. J. Gueron, Dr. B. Goldschmidt, Dr. M. Haissinsky (France); Dr. L. Yasse, Dr. R. H. Betts (Canada); Prof. O. Hahn, Dr. F. Strassman (Germany); Prof. G. Hevesy (Denmark); K. E. Zuimen, H. Hillert, G. Johannson, E. Berne, R. Lidner (Sweden). The Oxford meeting, at Rhodes House, South Parks Road, will be devoted principally to a symposium on "The Chemistry of the Heavy Elements", consisting of four sessions under the chairmanship of Dr. R. Spence (for the first two), Dr. E. Glueckauf and Dr. J. S. Anderson respectively. This symposium has been arranged in conjunction with the Chemistry Division of the Atomic Energy Research Establishment, and the programme will include a visit to Harwell. In addition, there will be two sessions on "Radioactive Tracers", the first session, "Preparation", being under the chairmanship of Dr. J. M. Fletcher, and the second, "Nuclear Aspects", under Dr. W. Wild. March 31 will be devoted to the annual general meeting of the Chemical Society, and this will be held at Burlington House, London, W.1. The Longstaff Medal will be presented to Sir Cyril Hinshelwood, and this will be followed by Sir Ian Heilbron's presidential address: "Concerning Amino-Acids, Peptides and Purines". On April 1, at the Institution of Civil Engineers, Great George Street, London, S.W.1, there will be a discussion on "The Use of Radioactive Tracers in Chemistry". This will be divided into two parts: the first, on "Applications in Inorganic and Physical Chemistry", with Prof. F. A. Paneth in the chair, and the second, on "Applications in Organic Chemistry and Biochemistry", with Prof. G. Hevesy presiding.

### Acoustics Measurements on Church Bells

DURING the Second World War, when the Germans occupied Holland, they ordered that church bells should be collected to provide a source of bronze for war prospects. This plan met with great resistance from the Dutch, so that after the liberation, several hundreds of bells of different origin and ages, which had escaped being melted down, were gathered at a number of places. At the end of the War, the Dutch

Department for Research in Arts and Measurements took the opportunity to collect complete information on the æsthetic and acoustical properties of these bells, many of which were two or three hundred years old. Part of this work was carried out by E. W. van Heuven, who is to read a paper on this investigation at a meeting of the Acoustics Group of the Physical Society, to be held at the Royal Society of Arts, John Adam Street, London, W.1, on March 18 at 3 p.m.

### Announcements

THE Committee for Agricultural Research of the Privy Council has appointed Prof. James Gray, professor of zoology in the University of Cambridge, to be a member of the Agricultural Research Council. This is Prof. Gray's second term of office as a member, his first being during 1942-47.

It is announced from the University of London that Dr. J. H. Taylor has been appointed to the University chair of geology tenable at King's College as from October 1, 1949. The following doctorates have been conferred: *D.Sc.* on Mr. R. L. Wain (reader at Wye College); *D.Sc. (Eng.)* on Mr. A. R. Collins (Imperial College of Science and Technology).

MR. A. L. FLEET, formerly assistant secretary and registrar of the University of Bristol, has been appointed assistant secretary of the Association of Universities of the British Commonwealth, the office of which is now at 5 Gordon Square, London, W.C.1.

THE Rouse Ball Lecture in the University of Cambridge will be given by Prof. W. Pauli, of Zurich, at noon on March 10. His subject will be "Physical and Mathematical Aspects of Recent Developments in Quantum Electrodynamics". The lecture will be in English and open to all who are interested.

A MEETING at Göttingen of the Deutsche Bunsengesellschaft für physikalische Chemie has been arranged for April 23-24, 1949.

THE Institute of Welding and the British Welding Research Association are arranging a Conference on "Welding as an Aid to the Saving of Steel and Manpower", to be held at Ashorne Hill, near Leamington Spa, during March 22-25. Applications for tickets and all correspondence should be addressed to the Secretary, Institute of Welding, 2 Buckingham Palace Gardens, London, S.W.1.

UNDER the terms of a grant from the Cotton Industry War Memorial Trust, the Textile Institute is offering to young craftsmen in the cotton spinning and weaving industry a three-year scholarship (of about £750 total value) to study textiles at a university. This scholarship is in addition to the new £1,000 open scholarship of the Institute. Details of both scholarships are available from the General Secretary, Textile Institute, 16 St. Mary's Parsonage, Manchester 3.

THE Institution of Naval Architects is offering the following scholarships to British subjects less than nineteen years of age: Trewent, for naval architecture, £175 a year, tenable at the Universities of Durham, Glasgow, Liverpool, and the Royal Naval College, Greenwich, for 3-4 years. Denny, for marine engineering, £130 a year, tenable for four years at the University of Glasgow. Entries for the above close on May 31. Full particulars may be obtained from the Secretary of the Institution of Naval Architects, 10 Upper Belgrave Street, London, S.W.1.