

ranged from a replica of Marconi's original transmitter as used in 1897 to the marine type of rotating radar aerial with P.P.I. display which is being fitted to merchant ships to-day. Special attention was also given to the modern applications of radio waves, including high-speed communication and printing equipment, direction-finding apparatus, and mobile telegraph and telephone equipment for police and other purposes. In view of the present widespread use of radio waves for communication, broadcasting, television, navigational aids, surgical and industrial purposes, it is interesting to have this reminder that the whole of the technique in these fields has been developed during the past fifty years.

### Amalgamation of the Institutions of Mechanical Engineers and Automobile Engineers

AN important and heartening announcement is that of the amalgamation of the Institution of Mechanical Engineers and of the Institution of Automobile Engineers, which took place on April 13. During the past fifty years and more, the individual energies of engineers have been dissipated and their corporate authority has been lessened by the multiplicity of engineering institutions which grew up to satisfy the needs of specialist branches of the profession. Though many of these younger institutions have done excellent work in furthering the development of particular sections of engineering, which it was felt at the time of their foundation were neglected by the senior institutions, there is no doubt that the engineering profession has been split by conflicting allegiances, and that it has been more difficult for engineers to speak with one voice on important issues. The Institution of Mechanical Engineers was founded in 1847, so that the amalgamation occurs most happily in the year that the Institution celebrates its centenary. The Institution of Automobile Engineers is forty-one years old.

Under the terms of the agreement to amalgamate, the Institution of Automobile Engineers will surrender its charter and dissolve the Institution. Its corporate members will become corporate members of the Institution of Mechanical Engineers, being placed as the first members on the register of a newly formed Automobile Division. Whatever the advantages of the welding together of the combined membership—and they are great—it has clearly been made possible only by the generous and broad view taken, in the first place, by those holding office in the Institutions. The amalgamation augurs well for the future of mechanical engineering, and it is to be hoped that other institutions will not be slow to follow the example.

### Jubilee of the Electron

APRIL 30 marked the fiftieth anniversary of the announcement by J. J. Thomson, at an evening discourse at the Royal Institution, of the existence of the electron, and the first approximate estimate of its mass. Cathode rays had been extensively studied in many laboratories for the previous fifteen or twenty years, and their peculiar properties had been widely discussed. It was Thomson's genius which enabled him to unravel the confusing and almost contradictory clues which the experiments afforded as to the nature of the phenomenon, to grasp what was important and what was secondary in the evidence, and to make the final experiment which demonstrated beyond all reasonable doubt

that the cathode rays consisted of negatively charged particles, all alike, and all much smaller than the smallest particle hitherto known to science, the atom of hydrogen. The Institute of Physics and the Physical Society, in collaboration with the Institution of Electrical Engineers, is arranging to mark this jubilee by a series of lectures and other functions in London on September 25–26 next; an exhibition demonstrating the great influence this discovery in pure physics has had on the life of the community will be opened at the Science Museum, London, on September 26 and will remain open for about three months.

### Heredity

THE importance of an international forum of publication in science is not likely to be underestimated by readers of *Nature*. In many branches of science the responsibility was undertaken before the War by journals published in Germany and, to a less extent, in Italy and Japan. Their sudden removal by war was not so seriously felt at the time, owing to the temporary reduction of fundamental research, but it has now raised a serious problem. The position of genetics in this regard is a special one. This science is not only rapidly advancing but it is also rapidly broadening its scope. Indeed it is beginning to cover every aspect of biology and every form of life. It is beginning to weave the threads of many different sciences and techniques into a single pattern. Darwinism and biometry, Mendelism and cytology are being joined together, and the needs of medicine and agriculture are being met by the establishment of a single fundamental discipline. But the work that is necessary to accomplish this task is scattered over the whole world and is developing different characters in different countries.

In these circumstances an explicitly international journal of genetics is bound to serve a useful purpose. Dr. C. D. Darlington and Prof. R. A. Fisher are founding such a journal in collaboration with a group of distinguished foreign geneticists. It will be known as *Heredity* and will be published by Messrs. Oliver and Boyd. The articles promised for the first volume (of which Part 1 is now due to appear) include contributions from a dozen different countries. They cover, if not the whole range of genetics, at least a large part of it. Of outstanding interest perhaps is a bibliography of genetics articles published in Germany and Italy during the War and a summary of British work for the same period. The development of this journal will be watched with keen interest throughout the scientific world.

### Whitworth Scholarship Regulations

NEW regulations for the Whitworth Scholarships which the Minister of Education will offer for competition in 1948 have been published (H.M. Stationery Office. 3d. net). The following awards will be available: two Whitworth Senior Scholarships, tenable for two years, valued at £325 each; five Whitworth Scholarships, tenable for three years, minimum value £200 each; ten prizes valued at £20 each, to unsuccessful competitors for Whitworth scholarships whose work deserves recognition, the money to be spent in the furtherance of the competitor's engineering education. The conditions governing the Whitworth Scholarships have now been altered in two main respects. Candidates must have completed twenty-four months of works training instead

of thirty months as hitherto, and entry is still limited to part-time students. The Ministry of Education Science Scholarships examinations in engineering will continue to be used for the purpose of making the awards, but the conditions for these have also been amended. Candidates will be required to reach a certain minimum standard in the two qualifying papers of mathematics and applied mechanics, and will also be required to take three scholarship papers, chosen from a number of alternatives. Workshop technology is introduced for the first time as one of these subjects. The entries for the Whitworth Senior Scholarships have, in the past, been governed by the same conditions as for the Whitworth Scholarships. Many university students could not qualify, however, because of the practical training conditions; this requirement has now been omitted, but a successful candidate will have to spend at least one year in a works on taking up a Senior Scholarship. No formal examination will be held, but a candidate must submit a thesis on one of a number of specified subjects.

#### Collection of Czechoslovak Chemical Communications

FOUNDED in 1929 for the purpose of publishing in French or English the results of researches conducted by Czechoslovak chemists, the *Collection of Czechoslovak Chemical Communications*, which ceased publication in 1939, has now been resumed under the same editorial direction of Profs. J. Heyrovský and E. Votoček. The first issue for 1947 contains an appreciation of the scientific work of Prof. Antonín Šimek, who was executed by the Germans during the War (see *Nature*, 152, 69; 1943). About half this issue is taken up with the recent polarographic researches of Heyrovský and his co-workers, who have studied certain phenomena at the dropping (and streaming) mercury cathode both polarographically and oscillographically. These open up an important new field in the study of electrode interfaces. From the laboratory of Prof. Votoček there is a paper on the synthesis of the remaining monomethyl-azulene. The authors, F. Šorm and J. Fajkoš, started with *cis*- and *trans*-cyclopentane-dipropionic-(1, 2)-acids, and by a series of interesting steps arrived at the trinitrobenzene compound of 6-methyl-azulene. This was decomposed chromatographically over an aluminium hydroxide column. Finally, methyl-azulene was crystallized as a purple-blue solid, m.p. 83° C. Another contribution to organic chemistry is by Dr. R. Lukeš, who describes N-methyl-1.2.5.6.-tetrahydropyridine. The subscription for the journal has been raised to £2 or 400 Czechoslovak crowns.

#### Royal Institute of Chemistry: Anniversary Meeting

THE sixty-ninth annual general meeting of the Royal Institute of Chemistry was held on April 18. In presenting the report of the Council for 1946, the president, Mr. G. Roche Lynch, referred to some of the principal developments in the work of the Institute. Closer contact with the four Dominion chemical institutes had been established through a meeting with their representatives which was held in London last June. The first edition of a "Directory of Independent Consultants in Chemistry and Related Subjects" was issued during the year. Highly successful courses in "Oils and Fats" and "Spectroscopy", arranged at the University of Liverpool by the

Liverpool and North Western Section of the Institute, represented the first of the series of courses, conferences and symposia to be held under the auspices of the Institute as such. Through the generosity of Dr. David Spence, a series of Henderson Memorial Lectures had been established as a tribute to the memory of the late Prof. G. G. Henderson, a past president of the Institute; and the first lecture in this series was delivered by Sir Ian Heilbron. By agreement between the Ministry of Education and the Institute, the scheme for national certificates has been amended so as to provide separate certificates in chemistry and in applied chemistry. During 1946, the membership of the Institute (fellows and associates) passed the 10,000 mark. Mr. G. Roche Lynch was elected president for 1947-48.

#### "Specpure" and "H.S." Elements and Chemicals

CERTAIN metals and chemicals of the very highest purity for spectrographic work were first supplied on a small scale by Messrs. Adam Hilger, Ltd., in 1923, and their "H.S." and "Specpure" chemicals are now well known. With increased demand for more substances and greater quantities, it has been found desirable to transfer the preparation of these carefully standardized substances to Messrs. Johnson, Matthey and Co. The range of available chemicals, to be marketed as "H.S.", "Specpure" or "Matthey" standards, has been considerably extended; some sixty-eight elements are listed, either as metals, oxides or salts, in Johnson and Matthey's latest catalogue. They are all of the highest possible purity, and their manufacture is controlled spectrographically.

#### International Geological Congress, 1948

THE 18th Session of the International Geological Congress, originally planned for 1940 and postponed on the outbreak of war, is to be held in Great Britain in 1948, on the invitation of the Geological Society of London. A third circular containing preliminary arrangements for the session has been issued. Meetings will take place in London during August 25-September 1, 1948, and the following subjects have been provisionally listed for discussion: (1) Problems of Geochemistry; (2) Metasomatic Processes in Metamorphism; (3) Rhythm in Sedimentation; (4) Geological Results of Applied Geophysics; (5) Geology of Iron-Ore Deposits; (6) Geology of Petroleum; (7) Geology, Paragenesis and Reserves of the Ores of Lead and Zinc; (8) Geology of Sea and Ocean Floors; (9) Pliocene-Pleistocene Boundary; (10) Faunal and Floral Facies and Zonal Correlation; (11) Correlation of Continental Vertebrate-bearing Rocks; (12) Earth Movements and Organic Evolution. Geological excursions covering most of the British Isles, which are planned to take place between August 7 and September 18, form part of the Congress programme. They include sixteen long excursions (7-16 days) before the meetings in London, and sixteen of similar length after the meetings. There will also be daily excursions, centred on London, between August 22 and September 3. Sir Thomas Holland is president of the General Organising Committee and president-designate of the Congress. The general secretaries are Mr. A. J. Butler and Dr. L. Hawkes, and the treasurer is Mr. F. N. Ashcroft. All communications should be addressed to the General Secretaries, XVIII Session International Geological Congress, Geological Survey and Museum, Exhibition Road, London, S.W.7.