

SCIENTIFIC EVENTS

FARADAY'S DISCOVERY OF BENZENE¹

IN his discourse at the Royal Institution, on Friday, June 12, on Faraday as a chemist, Sir William Pope reminded his hearers that Faraday devoted his life to experimental research in chemistry and physics in the Royal Institution, and, at his death in 1867, he was mourned as one of the greatest natural philosophers of the early part of the nineteenth century. Faraday made his advent as a scientific investigator at a moment when striking advances in chemistry were imminent and were indeed to be foreseen; the work of his immediate predecessors, Lavoisier, Davy, Dalton, Berzelius and Avogadro, had made of chemistry an exact science, and such a genius as Faraday was needed for the development of experimental methods. He worked on a variety of chemical subjects for several years, and on June 16, 1825, laid before the Royal Society the results of his study of the liquid deposited from compressed oil gas, in the course of which he had discovered the compound of carbon and hydrogen now known as benzene. At this centenary of his discovery, we celebrate the anniversary of the initiation of a large branch of organic chemistry which in later years became of great scientific importance and, in addition, became the foundation of the several vast industries. Among these latter are to be numbered not only the manufacture of coal-tar dyes, but also important sections of the pharmaceutical, photographic and petroleum industries. Faraday was the first to make a quantitative study of the chemical changes which result from electrical action, and discovered certain electrochemical laws which are of profound chemical significance. He also carried on numerous investigations on optical glass, steel alloys, the transparency of very thin sheets of gold and the so-called colloidal solutions of metallic gold in water.

On June 16, the centenary of Faraday's discovery of benzene was celebrated at a full gathering in the historic lecture-theater of the Royal Institution. His Grace the Duke of Northumberland presided, and in his opening remarks directed the attention of the rising generation to the motives which had inspired Faraday's life, to his profound trust in facts of observation and to his scientific use of the imagination. Although manufacturers have come to recognize the value of such work as Faraday's, in government circles there is still failure to link up scientific methods and discoveries with the public service. His Grace then presented diplomas of honorary membership of the Royal Institution to Professor E. Bertrand

(Paris), Professor E. Cohen (Utrecht), Prince Ginori-Conti (Italy) (through his representative Dr. G. A. Nasini), Professor J. F. Norris (Boston), and Professor G. Sakurai (through Professor M. Katayama), who were introduced individually by Sir Arthur Keith, secretary of the institution. Appreciations of Faraday's work were delivered by Professor H. E. Armstrong, who dealt mainly with the organic chemical aspect, and Professor Ernst Cohen, who spoke as a physical chemist. Professor Armstrong stated that the committee organizing the celebration had decided to award at intervals—perhaps sexennially—a medal for conspicuous achievement having some relation to Faraday's discovery of benzene. The first award would be made to Mr. James Morton, of Grangemouth, for distinguished work in connection with the manufacture and applications of anthracene dyestuffs.

FREEDOM OF TEACHING

At a meeting of the Southern California Sigma Xi Association held at the University of Southern California on June 2 the following resolution was unanimously adopted and the secretary of the association directed to transmit copies to the several papers published in Los Angeles and also to the editor of *SCIENCE* with a request that publication be made in order that the position of the association might become known:

Resolved, That the Southern California Association of Sigma Xi view with amazement and concern the propaganda that is going on in certain parts of the country, having as its object the restriction of the freedom of teaching in science. We would remind the thinking public

- (1) That our civil, religious, intellectual and economic progress have resulted very largely from this freedom within the schools, colleges and universities of the land. To attempt to take away this constitutional right is to return to the methods of the Middle Ages.
- (2) We call attention to certain essential characteristics of the method of science:
 - (a) The sincere search for truth without reference to the effect of such truth upon previous opinion or belief.
 - (b) That any statement of the findings of science is in the nature of the case a statement of the balance of evidence and not a dogmatic assertion of finality. Even the "law" of gravity is subject to revision or restatement.
 - (c) That there is and can be no conflict between religion and science: to assert the contrary is to misunderstand the scope of both.

¹ From *Nature*.

- (3) We urge all representatives of science in school, college or university to:
 - (a) Inculcate a love for zealous research after truth and loyalty to that truth when found;
 - (b) Exemplify in their own attitude both the dignity of science and the proper restraint of the workman in science; only so can we deserve the support of enlightened public opinion.
- (4) That we hereby express our hearty approval of the American Association for the Advancement of Science in its effort to assist in reaching a prompt, clear and just understanding in regard to the rights of teachers of science.

EXPENDITURES OF THE ROCKEFELLER FOUNDATION

A SUMMARY of the expenditures of the Foundation in 1924 is presented in the following table. A detailed financial statement will appear in the annual report.

PUBLIC HEALTH

International Health Board—hookworm disease, malaria, yellow fever, county health work, laboratory service, fellowships, etc.	\$2,536,334
Mental hygiene	47,778
Hospital, Dispensary and Nursing Studies.....	182,034
School of Public Health, Harvard University...	425,000
National Health Council	4,805

MEDICAL EDUCATION

China Medical Board	1,146,298
Canadian Medical Program	513,664
University of Oxford	240,116
State University of Iowa	450,000
Free University of Brussels	144,000
University of Hongkong	127,812
Four other universities	162,118
Central Europe—Journals and Apparatus.....	73,275
Fellowships, studies, etc.	367,744

MISCELLANEOUS

Marine Biological Laboratory, Woods Hole, Mass.	500,000
Fellowships in Physics, Chemistry and the Biological Sciences	127,116
Payments on ten-year pledges to educational enterprises	27,500
Relief work in Japan	18,373
Concilium Bibliographicum, Zürich	15,000
Shakespeare Memorial Trustees	6,585
Special Studies	5,089
National Information Bureau	1,000

ADMINISTRATION

Executive Offices	167,181
Total	\$7,288,822

THE SOUTHAMPTON MEETING OF THE BRITISH ASSOCIATION

THE British Association has issued the preliminary program of its annual meeting which will take place in Southampton from August 26 to September 2, inclusive, under the presidency of Dr. Horace Lamb, lately professor of mathematics in the University of Manchester.

Southampton, which the association has not visited since 1882, is a focal point of oversea communications, and with this feature and the railway centenary of the present year in view, the program gives special attention to various aspects of transport. This will form the subject of two days' discussion in the sections of economics and engineering jointly, while Sir Archibald Denny, as president of the engineering section, will give an address on "Fifty years' evolution in naval architecture and marine engineering," and an evening lecture will be given by Mr. R. V. Southwell on "Aeronautical problems of the past and of the future."

Among other addresses, that to the physical section by its president, Dr. G. C. Simpson, director of the Meteorological Office, will deal with "The new idea in meteorology." The address by Mr. A. R. Hinks, secretary of the Royal Geographical Society, as president of the geographical section, will be concerned with the science and art of map-making, a subject appropriate to the town which is the home of the Ordnance Survey. Professor A. V. Hill will speak in the physiological section on "The physiological basis of athletic records." Mr. Tate Regan, in the chair of the zoology section, will deal with "Organic evolution: facts and theories." Mr. W. W. Vaughan, headmaster of Rugby, will address the educational section on "The warp and the woof in education." Miss Lynda Grier, principal of Lady Margaret Hall, Oxford, will take "The meaning of wages" as the subject of her address as president of the section of economics. Other subjects for discussion in the sections are the cost of farming and the marketing of agricultural produce; health in schools; the functional significance of size; the ignition of gases; the botanical geography of tidal lands; variations in gravitational force and direction, and recent investigations in the modern psychological field of vocational guidance.

SCIENTIFIC NOTES AND NEWS

DR. ROBERT G. AITKEN, director of the Lick Observatory, has been elected president of the Pacific Division of the American Association for the Advancement of Science.

At the commencement of Brown University on June 17, the first award of the Susan Colvin-Rosen-