

of the straight lines, or the area is equal to a constant times the square root of the slope. Thus the area, Σ , is given by the equation

$$\Sigma = k A^{1/2} \quad (3)$$

With nitrogen at -195.8°C , $k = 4.06$ if the area is desired in square meters per gram. For other vapors the values are: water, 3.83 at 25°C ; *n*-butane, 13.6 at 0° ; *n*-heptane, 16.9 at 25°C . It is extremely simple, by the use of a solid whose area is already

known, to determine the value of the constant k for any other vapor at any other temperature.

The apparatus used for the measurement of the pressures and volumes, that is, for the determination of an adsorption isotherm, is shown in Fig. 9. With this, pressures up to 100 mm of mercury can be measured to 0.002 mm, up to 400 mm, to 0.1 mm, and up to 1,000 mm to 0.5 mm.

(To be concluded)

OBITUARY

HAROLD HIBBERT

In the passing of Harold Hibbert on May 13, the world has lost a foremost specialist in the chemistry of lignin and cellulose, a gifted and beloved teacher and a scientist of international renown. Hibbert was born in Manchester, England, on August 27, 1877. He attended Victoria University College at Manchester, graduating in 1897 with a B.Sc. degree and first class honors in chemistry. In further recognition of his marked ability, Hibbert was awarded the Levinstein Exhibition Fellowship for research in organic chemistry at Owens College of the University of Manchester under William H. Perkin, Jr., son of Sir William, the inventor of mauve. Perkin, Jr., was in his fortieth year and was attracting research students from far and near. He was the first of three great leaders in organic chemistry to exert a marked influence on Hibbert's career. His alma mater's public recognition of his talents was a great stimulus towards higher goals. Hibbert's very active career extended over a period of almost fifty years, years crowded with achievements.

Completing his studies at Owens in 1900, and receiving the degree of M.Sc., Hibbert next accepted a post as teacher in chemistry at the University of Wales. But in 1904, anxious to broaden his knowledge of organic chemistry, he left Wales and arrived at Leipzig in October, 1904, to work under Arthur Hantzsch, who had recently taken over the laboratory and classes of Johann Wislicenus. Hantzsch was a born scholar and philosopher. His lectures on organic chemistry were an inspiration. They were accompanied by numerous experiments and were unparalleled in interest and originality. What appealed to his classes and to Hibbert in particular was Hantzsch's keen sense of humor. In tackling a research problem Hantzsch preferred the physical rather than the chemical attack. Hibbert's sincere respect for his professor and Hibbert's natural charm and cordial manner brought him into intimate contact with Hantzsch and his family, a distinction which but few other students could boast of. Hantzsch was an ideal host, well versed in art, poetry and music.

Leipzig awarded Hibbert the Ph.D. degree "summa cum laude" in 1906. At Leipzig Hibbert met a small group of American chemistry students—Lind, Lamb, Bray and Fink—who urged him to visit America and to accept the post of research assistant in chemistry at Tufts College, Boston. The two years (1906–1908) under Arthur Michael at Tufts, Hibbert always regarded as his most valued and stimulating experiences. He returned to England in 1908 and researched for a little over a year at the Imperial College of Science. Hibbert then decided to go back to America and was appointed research chemist at the Wilmington laboratories of the duPont company (1910–1914). His work on the isolation of the two solid isomeric forms of nitroglycerine was one of the outstanding discoveries in the field of explosives and threw new light on the underlying causes for the instability of frozen dynamites.

In 1914 Hibbert joined the ever-growing group of skilled research chemists at the Mellon Institute in Pittsburgh and concentrated his attention on new methods for the manufacture of acetic acid and acetaldehyde from acetylene, products badly needed during World War I. His association with the Mellon Institute continued until 1919, when he was made assistant (and two years later associate) professor of chemistry at Yale University. Here he concentrated his studies on the chemistry of cellulose. He was instrumental in organizing the Cellulose Division of the American Chemical Society, with which he was intimately identified until the last.

In 1925 Hibbert accepted the crowning appointment of his career, the E. B. Eddy professorship of industrial and cellulose chemistry at McGill University, Montreal. Here he taught and inspired students from all parts of the country. Almost one hundred had the rare privilege of working in Hibbert's laboratories. Upon his retirement in 1943 a large bronze plaque was presented to him engraved with the signatures of seventy-five men and women who had received their advanced training under Hibbert.

Out of an imposing total of 200 publications in the scientific and technical journals 100 of these appeared jointly with one or the other of his students.

Hibbert received numerous signal honors in recognition of his outstanding attainments. His alma mater in 1911 bestowed upon him the degree of D.Sc., honoris causa, and the University of British Columbia, in 1936, the L.L.D., honoris causa. He was a fellow of the Institute of Chemistry, London; a member of the National Academy of Sciences; and honorary member of the Society of Chemical Industry, London.

In 1917, Hibbert married Beulah Virginia Cole, and much of his success was due in no small measure to her guidance and inspiration.

COLIN G. FINK

COLUMBIA UNIVERSITY

RECENT DEATHS

DR. GEORGE HERBERT MEEKER, dean emeritus of the Graduate School of Medicine of the University of

Pennsylvania, died on September 4 at the age of seventy-four years.

DR. BERTRAM G. SMITH, professor of anatomy in the Medical School of New York University from 1921 until his retirement in 1942, since when he has been living in Albuquerque, New Mexico, died on July 30. He was sixty-nine years old.

DR. GEORGE STEPHEN DE RENYI, associate professor of anatomy of the University of Pennsylvania School of Medicine and the Graduate School of Medicine, died on August 24 at the age of fifty-three years.

DR. THOMAS DARLINGTON, from 1904 to 1910 Health Commissioner of New York City, died on August 23 at the age of eighty-six years.

DR. HOWARD D. MARSH, formerly professor of psychology at the College of the City of New York, and a member of the faculty for thirty-four years, died on August 26 at the age of seventy-four years.

SCIENTIFIC EVENTS

NAVY HOSPITAL FOR ASTHMATICS AND ASSOCIATED ALLERGIES¹

BECAUSE of the increased frequency of allergic complaints arising in Naval personnel and the lack of a scientific study of the cause, treatment and control of these patients, the Bureau of Medicine and Surgery, Navy Department, has allocated a hospital facility devoted in a special manner to the study and care of asthmatics. The hospital is located near the desert region, in the city of Banning, Calif., and an efficient staff under specialists trained in allergy has been assigned. The area was selected because of environmental conditions conducive to the advancement of patients afflicted with allergic diseases. The high altitude, equitable climate, low pollen and mold counts made the facilities ideal for a control study of asthma. Over 200 asthmatic patients are presently admitted to the hospital, and preliminary studies have revealed that these patients may be catalogued into 3 general classes: (1) Those whose allergy (asthma) existed prior to enlistment (EPTE); (2) those in whom it did not exist prior to enlistment (DNEPTE); and (3) those whose asthma did not exist prior to enlistment, although a state of hypersensitivity did exist prior to enlistment (EPTE aggravated). Groups 1 and 2 represent 65 per cent. and 15 per cent., respectively, of the patient load, whereas group 3, 20 per cent., represents cases of hypersensitivity prior to enlistment, although no manifestations of asthma were present until after the patient entered the

service. Most of the men had seen service overseas chiefly in New Guinea, the Philippine, Solomon and Admiralty Islands, and approximately 90 per cent. of them had their affliction aggravated by this type of foreign duty.

Although present facilities permit only limited investigation and treatment, more extensive work, particularly regarding offending factors and desensitization studies, are planned for the immediate future.

Current observations of hay-fever patients showed improvement up to 90 per cent., which verifies existing low pollen count in this desert area, whereas the asthmatics have shown improvement in approximately 40 to 50 per cent. Correlation of the patients' daily complaints with pollen and mold counts are under way as well as those relating to temperature and humidity.

As would be expected, the number of sick days for these patients is very high. The stupendous detail work required for testing such a large segment of personnel is apparent. Present plans, however, call for more complete equipment in supplies and personnel. It is hoped that some very substantial conclusions will be forthcoming toward a better understanding and appreciation of the knotty problems associated with asthma and allied allergic conditions.

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¹ Preliminary report.