OBITUARY NOTICES.

THOMAS STEWART PATTERSON.

1872—1949.

THOMAS STEWART PATTERSON was born at Greenock in July, 1872, and died on February 14th, 1949, at his home in Glasgow, close to the precincts of the University he had served with devotion and distinction for nearly forty years. The son of a chemist—and in course of time, writer of his father's Obituary Notice for the Journal (Thomas Law Patterson, *J.*, 1916, **109**, 387)—he was educated at Greenock Academy and at Merchiston Castle School, Edinburgh, before beginning the serious study of chemistry, first under W. Dittmar at the Andersonian College, Glasgow, and then under V. Meyer at Heidelberg. In 1895 he graduated Ph.D. at Heidelberg, with a Thesis entitled, "Ueber Iodoso- und Iodo-benzaldehyde." The ensuing year he spent as Priestley Scholar, under P. F. Frankland, at Mason College, Birmingham, and here was aroused an interest in stereochemistry, and particularly in optical activity, that lasted through his lifetime. From 1896 to 1904 he acted first as Demonstrator and later as Assistant Lecturer in the Yorkshire College, Leeds, and then transferred to Glasgow University where he combined the duties of Senior Assistant to the Regius Professor, John Ferguson, with a Lectureship in Organic Chemistry. During an inter-regnum following Ferguson's retirement in 1915, Patterson had general charge of the Chemistry Department until in 1919, with G. G. Henderson succeeding to the Regius Chair, he himself was appointed to the newly founded Gardiner Chair of Organic Chemistry, which he held until his retirement in 1942. He was D.Sc. of London (1909) and Glasgow (1911), and, shortly after his retirement, the title of Emeritus Professor and the LL.D. of Glasgow were conferred on him.

In the course of a very active life Patterson published over a hundred scientific memoirs and in addition made several notable contributions to the history of chemistry. In some eighty papers dealing with various aspects of optical activity he accumulated a wealth of accurate measurement, often ingeniously contrived and exposing the multiplicity of factors which affect optical rotatory power. Assisted by various collaborators his critical studies in optical superposition (Part I, *J.*, 1905, **87**, **33**; Part IX, *J.*, 1940, 862), his successful use of an optically active solvent for the study of intramolecular change (*Ber.*, 1907, **40**, 2564; Part I, *J.*, 1912, **101**, 26; Part VIII, *J.*, 1941, 606), and his extensive inquiry into the influence of solvents on the rotation of optically active compounds (Part I, *J.*, 1901, **79**, 167; Part XXXVII, *J.*, 1940, 290), all contributed their content of fact and experimental method to the enrichment not merely of his own field, but of others contiguous to it. On the other hand, his "Attempt to Harmonise the Relation between Temperature and Rotation of Optically Active Substances" (*J.*, 1913, **103**, 145) and the use he made of the Armstrong–Walker diagram (cf. *J.*, 1916, **109**, 1176; 1929, 2042) show the type of comprehensive system for which primarily he sought and by which, on occasion, he was able to correlate large sections of his measurements. It was foreign to his nature and standards to speculate on causes before the pattern of effects had been clearly defined and the persistence of his search reflects the tenacity of purpose which was at all times characteristic. To his eager mind and acute powers of observation projects of all sorts came crowding. Some of these he employed to help his associates towards the status of independent research, which he constantly advocated; others he developed, indulging especially his flair for mechanical contrivance or the design of apparatus (cf. *J.S.C.I.*, 1902, **21**, 456; 1924, **43**, 281; *J.*, 1927, 1717), but seldom allowing himself more than a brief departure from his main lines of inquiry. Latterly, however, an increasing portion of his time became absorbed in historical research.

Patterson was firmly convinced that the historical method, despite its difficulties, is the best approach to teaching science. This, with his passion for accuracy, was enough to ensure at least an occasional excursion into historical work, as instanced in his article on "Polarimetry" (Thorpe's Dictionary of Applied Chemistry, 1913) and by his essay on "Soda, Nicolas Leblanc and the French Revolution" (first read during his stay at Leeds and later published in *Proc. Roy. Phil. Soc., Glasgow*, 1924—1925, LIII, 113). Undoubtedly also his association with Ferguson and the respect in which he held that renowned bibliographer played their part, but the circumstance which ultimately set him deep in historical research was his introducing in 1924, for the benefit of his Honours Class, a course of lectures on the History and Philosophy of Chemistry. The honest teacher quickly became his own severest critic and sought the remedy in knowledge gained at first-hand. About this time books of Ferguson's unique collection,

purchased by the University, were made available and for long periods Patterson was lost to his colleagues behind a wall of dusty tomes, whence he would emerge triumphant, shedding drudgery and fatigue in the joy of a doubt resolved or a point of detail settled. His thoroughness won him general acclaim when the results of his work began to be published. His critical appraisal of Mayow appeared in *Isis* (1931, XV, 47) and was followed by a series of articles on Priestley, Richard Boyle, Van Helmont, Beguin, Vallensis and others, published mainly in *Annals of Science* (1936—1948). Much remains unpublished. In a special issue of *The Alchemist* (Glasgow University Alchemists' Club, **17**, June, 1942), produced in his honour at the time of his retirement, students, colleagues and authorities in his branches of research record their appreciation of his services to science and of his abilities as an administrator. There, too, a fairly complete list of his publications and many sidelights on his personality will be found and need not be duplicated here. Suffice it to say that the graceful and merited tributes from high quarters in two Continents show the esteem in which he was held during his lifetime.

He was a man of great charm, friendly, sincere and full of human understanding. He gave of his best to the young people in his care and was rewarded by a full measure of their respect and affection. In the lecture-room, as in conversation, his genuine scholarship, wide culture, and his precise, thoughtful exposition were sources of delight to his hearers, whilst in controversy, being committed and nothing loth, he maintained with equanimity a seemingly impregnable front. His outlook was tinged with conservatism (how strenuously, yet without rancour, he would have contested it!) but at times the schoolboy peeped from behind the professor's dignity and may be discerned even in his writings. Once, anticipating editorial disapproval of a less erudite form of reply to an opponent's argument, he blandly made his point with "—the *capita, ego vinco; caudae, tu perdis* principle is inadmissible in science." His fine sense of humour lightened laborious days, and the zest he had in life afforded the ready means of timely relaxation. Photography, cricket, golf supplied hobby and recreation, whilst most of his summer holiday was spent on his yacht, *Trilby*, which carried auxiliary motor-power in a temperamental mechanism named " Svengali." He was a member of the Clyde Corinthian Yachting Club.

Apart from departmental duties, made arduous by the effects of two World Wars and by a major share in the planning of new buildings to which he moved his department in 1940, Patterson served the University in many ways: he was Dean of the Faculty of Science (1923—1927), an Assessor on the University Court (1933—1941), and a member of numerous committees. He took a prominent part in the affairs of scientific societies in Glasgow. Becoming a Fellow of the Chemical Society in 1904, he served for a period as Member of Council (1921—1923) and later shared in the work of a Local Committee of which he was part-founder and the first Chairman (1937—1940).

In 1905 he married Miss L. P. Johnstone, daughter of the Rev. M. P. Johnstone of Greenock; she and a son survive him.

J. D. Loudon.

MARC TIFFENEAU.

1873—1945.

On Whitsunday morning, May 20th, 1945, Professor Marc Tiffeneau was struck down by apoplexy on the platform of the Gare du Nord, Paris, on his way to visit an invalid friend.

One of a family of eight, he was born on November 5th, 1873. His father and his grandfather owned a millinery business in Mony Oise, a few miles north of Paris. He attended the local Communal School and later the Marist Brothers College at Pont St. Maxence, Oise, where he passed the Bachelier examination at the age of sixteen. He then became an apprentice in the Pharmacie Frigaux and later in the Pharmacie Vigier, Paris. After three years' study in the Faculté de Pharmacie—gaining the gold medal in 1900—he filled posts in various hospitals as pharmacist and for a time was interested in the perfume business " de Laire." During this period he did much study and research and graduated as D.Sc. in 1907 and as M.D. in 1910. From 1924 to 1926 he was Professor in the Faculty of Science and from 1926 to 1944 in the Faculty of Medicine, and during 1939—1940 was Dean in the latter Faculty in the University, Paris.

Tiffeneau was a man of boundless energy and gave much help to many societies—Société chimique de France (1897, 1913 Council, 1920 Joint Secretary, 1938 Vice President); Société

de Pharmacie de Paris (1909, 1918 Secretary, 1935 President); Société de Chimie biologique (1914, 1922 President); Société de Thérapeutique (1911, 1931 President).

Among the honours conferred upon him were Lauréat de l'Académie des Sciences; 1911 Prix Jecker (divided), 1923 (whole); Chevalier 1922, Officier 1938, de la Légion d'Honneur.

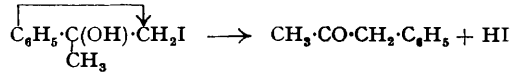
In addition to French societies, he belonged to many others including the Chemical Society, London, of which he became a Fellow in 1920.

In his youth Tiffeneau had become a great friend of Ernest Fourneau (later Professor) and they gathered a group of enthusiastic young chemists, the group being entitled " Molécule." This group enabled the Société chimique de France to survive the 1914—1918 War.

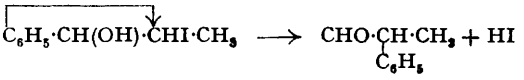
The friendship of Fourneau with Tiffeneau lead to the marriage of the latter to Fourneau's sister. In his biography of Tiffeneau (*Bull. Soc. chim.*, 1948, [v], **15**, 905), Fourneau speaks of the delightful home life and particularly of the " mélomanes enragés " (mad musicians). Gustave Roussy (*Presse Med.*, 1945, **53**, 438) tells the story of Tiffeneau, a keen admirer of Wagner, pawning the gold medal (Pharmacie) he had just gained, in order to pay his travelling expenses to Bayreuth !

As previously mentioned, Tiffeneau devoted his time between 1889 and 1900 mainly to pharmaceutical work, but during the rest of his life there came from him either alone or with collaborators a steady stream of investigations in pure chemistry and to a smaller extent in physiological chemistry. The records of these—some 250 in number—appear mainly in the *Comptes rendus* and in the *Bulletin de la Société chimique de France* (112 papers) and others in the appropriate pharmaceutical, biological, and medical journals, a full list being given in Fourneau's biography (see above).

His first investigation, on anethole, was carried out in collaboration with Professor M. Béhal (*Compt. rend.*, 1901, **132**, 561) and gave proof that Bougault's idea that anethole has a trimethylenic chain is wrong and showed that its oxidation product has an allyl chain : $CH_3O{\cdot}C_6H_4{\cdot}CH{:}CH{\cdot}CH_3$. This was the beginning of the long series of researches on molecular transposition, that is change within the molecule, the migration of carbon radicals causing profound modifications. Typical examples are the following, in which hydriodides split off hydriodic acid :



and



giving evidence of the migration of phenyl and methyl groups; others might be given showing the elimination of water from hydroxyl groups.

He introduced the terms " affinity capacity " of a radical, meaning the maximum quantity of affinity which it possesses and can exchange with an adjacent atom, and " migratory aptitude," meaning the relative ease with which a radical detaches itself from the atom to which it is attached.

The substances upon which Tiffeneau worked included ethylenic compounds, halohydrides, epoxides, glycols, vinylic alcohols, etc.

Space does not permit more than a mention of his physiological chemical work, but C. Heymans (*Arch. int. Pharmacodyn.*, 1945, LXXI, 202) recalls " ses belles recherches " on the relations between the chemical constitutions of new products, which he synthesised, and their pharmacological actions; on fundamental work on hypnotics and anæsthetics; and on alkaloids such as caffeine, digitalin, hordenine, and others.

JOHN E. MACKENZIE.