

JOHN THEODORE CASH

1854–1936

JOHN THEODORE CASH, who died at his home in Hereford on 30 November, 1936, in his 82nd year, was elected to the Fellowship of the Royal Society in 1887. For thirty-two years he was Professor of Materia Medica and Therapeutics in the University of Aberdeen and was given the title of Emeritus Professor on his retirement from the Chair in 1919.

Born in Manchester on 16 December, 1854, he was sent at nine years of age to the Quaker Schools of Bootham, York, and later to Kendal. After the death of his father in 1866, his mother took council regarding the education of her two sons and was advised to go to Edinburgh. She removed there in 1868 and Alfred Midgley, the elder son, who also died in 1936 (*aet.* 85 years), commenced medical studies at the University. John Theodore attended first the Collegiate School and then certain Arts classes at the University. An interesting incident, as later events proved, was the award of a special prize in Political Economy for a series of essays which took the form of the speeches of Bright and Cobden in four volumes, for in 1881 he married Margaret Sophie, the youngest daughter of the Rt. Hon. John Bright, who proved a most sympathetic help-meet and made his later life particularly happy. Medicine, however, attracted him and he joined his brother in the Medical Faculty. During his studentship he was one of the late Lord Lister's dressers. He qualified M.B., C.M. and also M.R.C.S. in 1876. In 1879 he graduated M.D., receiving a gold medal for the thesis which he presented. Post-graduate work in Berlin, Vienna, and Paris followed qualification, then a house-physicianship at the Edinburgh Royal Infirmary under the late Dr. G. W. Balfour and afterwards a short residency at Chalmers Hospital. But his sympathies were with the scientific side of medicine and he returned to Berlin and investigated in the Physiological Institute under Kronecker the question of muscle elasticity and movement, the results of which were published in the *Verh. physiol. Ges. Berl.* and the *J. Anat. Physiol.* Later he removed to Leipzig and worked in Ludwig's laboratory on the digestion of fats. On completing this research he came to London and was invited by Lauder Brunton to take charge of the pharmacological laboratory at St. Bartholomew's Hospital. A large number of papers were published conjointly during the next few



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years ; but besides this conjoint work Cash pursued a number of other investigations and he was invited to do research work for the Local Government Board under Sir John Burdon Sanderson. Several reports by him on Disinfection were published in the Blue Books of the time. He also undertook the demonstratorship of Physiology at King's College under Professor Yeo and even delivered a portion of the systematic course on Physiology during Professor Yeo's absence. The three appointments involved strenuous work and only a strong constitution prevented a breakdown. The Chair of Materia Medica and Therapeutics at Aberdeen became, almost providentially for him, vacant. He was persuaded to apply for the post and was eventually chosen from a large number of candidates. It was a part-time appointment, practice being allowed ; but Cash followed his bent towards scientific medicine and devoted all his time to the Chair. Many papers, especially during the early years of his tenure, came from his pen. With the extension of Marischal College he reorganized the department and obtained for it suitable class-rooms, a museum, and well-equipped research laboratories. Later he was instrumental in forming the Phillips' Library of Pharmacology and Therapeutics, the printed catalogue of which extends to over 200 pages and which is perhaps the best provincial departmental library on the subject. He also took a considerable part in the administrative work of the University. He acted as Dean of the Faculty of Medicine and as representative of the University on the General Medical Council. On this body he took an active part in the preparation of the British Pharmacopoeia of 1914, and even continued investigations regarding it after its publication. For long he acted on the Board of Examiners for the Indian Medical Service, and for some time he was also examiner in Pharmacology at Oxford.

During the war period his position as Dean of the Faculty of Medicine enabled him at the request of the Admiralty and the War Office to obtain many graduates for the Services and the help of army students to act as dressers especially at the Naval (northern) base. He did more. He organized in his department at the University a war-work party and supervised it during its continuance. The party raised £5700 for its requirements, produced over 400,000 dressings and over 40,000 garments and hospital comforts. He even joined the volunteers as a private and won a shooting prize—an engraved walking stick—for the highest score. He retired from active work at the end of the war.

Professor Cash's contributions to pharmacology cover a wide field. The first sentence of his first contribution (with Lauder Brunton) to the *Transactions of the Royal Society* indicates his chief interest—"The great

object of Pharmacology is to obtain such knowledge of the relation between the chemical constitution and physiological action of bodies as to be able to predict with certainty what the action of any substance will be". And this interest is manifest in his other contributions with Lauder Brunton and W. R. Dunstan respectively to the Society. But, as the appended list of his publications shows, he did not confine himself to substances of known chemical constitution or even to pure substances, and not even to pharmacology, for we find him investigating the valvular action of the larynx, intestinal rest and movement, and even salmon fungus. Whatever the work, it is carried out with consistent care and is characterized by accurate observation and often ingenious experimentation. He was an honorary member of the Pharmaceutical Society and was an LL.D. of Edinburgh and of Aberdeen.

Professor Cash's chief recreation was salmon and trout angling. For many years he dressed and made his own flies, a particularly useful trout fly—"the Professor Cash"—being called after him. He had fished in most of the rivers of the British Isles and Norway. He held the record catch for the lower Dee for eight years and it is many years since he landed his thousandth salmon. He was a charming companion and, although a great disciplinarian, had a keen sense of humour. One incident will suffice as illustration. A bishop, himself a great angler, was enumerating the wonderful pieces of water he had been invited to fish on. Professor Cash listened with deep interest and at last, with a twinkle in his eye, replied: "Almost thou persuadest me to be . . . a bishop"! His keen observation and scientific interest continued to the end. Thus, during his last illness, which was borne with characteristic courage and calmness for more than four months, he used to time with a stop watch the relief of the dyspnoea obtained by the inhalations of oxygen prescribed for him. His last words were: "my love to all my friends".

He is survived by two sons and two daughters. His wife predeceased him in 1924.

Publications embodying results of research work:—

1. "Ueber die Beweglichkeit der Muskeln in ihrem natürlichen Zusammenhange." ('Verh. physiol. Ges. Berl.,' 1880.)
2. "Relationship between the Muscle and its Contraction." ('J. Anat. Physiol.,' vol. 15, pp. 431-445, 1881.)
3. "Ueber den Antheil des Magens und des Pankreas an der Verdauung des Fettes." ('Arch. Physiol.,' 1880, pp. 323-333.)
4. On the action of various alkaloids on the processes of oxidation." (With Lauder Brunton. 'St. Bart. Hosp. Reports,' vol. 18, pp. 267-270, 1882.)

5. "On the valvular action of the larynx." (With Lauder Brunton. 'J. Anat. Physiol.,' vol. 17, pp. 363-378, 1883.)

6. "Influence of heat and cold upon muscles poisoned by veratria." (With Lauder Brunton. 'J. Physiol.,' vol. 4, p. 1, 1883-84.)

7. "The effects of certain modifying influences on the latent period of muscle contraction." (With G. F. Yeo. 'Proc. Roy. Soc.,' vol. 33, pp. 462-480, 1882.)

8. "The variations of latency in certain skeletal muscles of some different animals." (With G. F. Yeo. 'Proc. Roy. Soc.,' vol. 35, pp. 281-292, 1883.)

9. "On the relationship between the active phases of contraction and the latent period of skeletal muscle." (With G. F. Yeo. 'J. Physiol.,' vol. 4, p. 198, 1883-84.)

10. "Description of a double cardiograph for the frog's heart." (*Ibid.*, 'J. Physiol.,' vol. 4, pp. 128-132, 1883-84.)

11. "On the effect of the electrical stimulation of the frog's heart and its modification by heat, cold and the action of drugs." (With Lauder Brunton. 'Proc. Roy. Soc.,' vol. 32, pp. 383-384, 1881; vol. 35, pp. 455-495, 1883.)

12. "Ueber vorbeugende Gegengifte." (With Lauder Brunton. 'Cent. f. d. med. Wissensch.,' vol. 22, pp. 545-546, 1884.)

13. "Contributions to our knowledge of the connexion between chemical constitution, physiological action, and antagonism." (With Lauder Brunton. 'Phil. Trans.,' B, Part I, vol. 175, pp. 197-244; 1885; Part II, vol. 182, pp. 547-632, 1892.)

14. "On the alterations in the action of digitalis produced by febrile temperature." (With Lauder Brunton. 'Practitioner,' vol. 33, pp. 272-281, 1884.)

15. "Why do medicines sometimes fail to act?" (With Lauder Brunton. 'St. Bart. Hosp. Reports,' vol. 20, pp. 213-224, 1884.)

16. "Report on certain chemical disinfectants." ('Rep. Loc. Gov. Bd. Med. Off.,' vol. 14, pp. 192-203, 1885.)

17. "Further report on mercury as a means of prophylaxis to anthrax." (*Ibid.*, vol. 15, pp. 185-188, 1886.)

18. "Report on the disinfectant properties of oxygen and ozone." (*Ibid.*, vol. 15, pp. 193-208, 1886.)

19. "Report upon the chemical examination of the excreta of diarrhoea cases." (*Ibid.*, in Mr. Ballard's report.)

20. "Contribution to the study of intestinal rest and movement." ('Proc. Roy. Soc.,' vol. 40, pp. 469-470, 1886.)

21. "On modifications in the action of aconite produced by changes in body temperature." (With Lauder Brunton. 'St. Bart. Hosp. Rep.,' vol. 22, pp. 271-288, 1886.)

22. "On absorption of gas by the intestines and the action of carminatives upon it." (With Lauder Brunton. 'St. Bart. Hosp. Rep.,' vol. 22, pp. 289-304, 1886.)

23. "Temperatur erniedrigende Wirkung des Morphins auf Tauben." (With Lauder Brunton. 'Cent. f. d. med. Wissensch.,' vol. 24, pp. 241-242, 1886.)

24. "Ueber den Einfluss der Thierart und der Temperatur auf die Wirkung des Opiums und des Morphiums." (With Lauder Brunton. Carl Ludwig's 'Festgabe.')

25. "On the circumstances which modify the action of caffeine and theine upon voluntary muscle." (With Lauder Brunton. 'J. Physiol.,' vol. 9, p. 112, 1888.)

26. "Carbolic acid and its allies, including antipyrin and antifebrin." ('Brit. Med. J.,' vol. ii, pp. 975-982, 3 Nov., 1888.)

27. "The physiological action of the nitrites of the paraffin series considered in connexion with their chemical constitution." (With W. R. Dunstan. 'Phil. Trans.,' B., vol. 184, pp. 505-639, 1894.)

28. "The pharmacology of aconitine, diacetyl-aconitine, benzaconine and aconine considered in relation to their chemical constitution." (With W. R. Dunstan. 'Phil. Trans.,' B, vol. 190, pp. 239-393, 1898.)

29. "The pharmacology of the alkaloids of aconite." ('Brit. Med. J.,' vol. ii, pp. 1041-42, October 8, 1898.)

30. "The pharmacology of pseudoaconitine and japaconitine considered in relation to that of aconitine." (With W. R. Dunstan. 'Phil. Trans.,' B, vol. 195, p. 39, 1902.)

31. "The pharmacology of pyraconitine and methylbenzaconine considered in relation to their chemical constitution." (With W. R. Dunstan. 'Phil. Trans.,' B, vol. 195, p. 97, 1902. Also 'Lancet,' vol. ii, 1901, and 'J. Physiol.,' vol. 27, p. xix.)

32. "Salmon fungus." ('Proc. Physiol. Soc.,' pp. xix, xx. 1901.)

33. "The pharmacology of indaconitine and bikhaconitine." (With W. R. Dunstan. 'Proc. Roy. Soc.,' B, vol. 76, p. 468, 1905.)

34. "On the physiological action of the seeds of *Garcia nutans*, *Omphalea megacarpa*, and *Omphalea triandra* from Trinidad. (J. Physiol.,' vol. 36, p. 488, 1908.)

35. "An experimental inquiry into the relationship of action to dose especially with reference to repeated administration of indaconitine." ('Brit. Med. J.,' vol. i, pp. 1213-18, May 23, 1908.)

36. "The contraction of frog's muscle after administration of lead." (Schmiedeberg-Festschrift, 'Arch. exp. Path. Pharmacol,' p. 93, 1908.)

37. "The dermatitis produced by East Indian satinwood." ('Brit. Med. J.,' vol. ii, pp. 784-790, October 7, 1911.)

38. "The physiological action of the oil and seeds of *Croton Elliotianus* from British East Africa." (With W. J. Dilling. 'J. Pharmacol,' vol. 6, pp. 235-281, 1914-15.)

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