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PROF. THEODORE GEORGE WORMLEY.

BY EDGAR F. SMITH.

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ONE by one the men who contributed so materially in developing the science of chemistry in America are passing from among us. They have, for the most part, been men of broad training, who quietly, unostentatiously, but persistently, pursued some special line or branch of the science, and as a result of their untiring efforts have wrung from nature facts which possess not only a theoretical, but also practical value. In this band of earnest investigators and seekers after truth, none will deny a high position to him, whose name heads these lines.

As a member, councilor, and past vice-president of our Society his record may well claim our attention, while we pause to briefly note the lesson of his life and his achievements.

Little is known of the early days of Professor Wormley, other than that he was born in 1826 at Wormleysburg, one of the numerous villages nestling among the hills of that garden-spot of Pennsylvania—Cumberland County—the birthplace of so many men who have been powerful in affairs of the state and nation, as well as leaders in the various departments of learning.

His ancestors were Germans, who emigrated to America, as nearly as can be ascertained, about the year 1753. At what age the future professor left his native village for Carlisle, the seat of Dickinson College, remains unrecorded, but the records of that institution show that when sixteen years old (1842) he entered the preparatory department, where he

remained two years, when he was admitted to the Freshman class and continued in the regular course of study to the close of the Sophomore year. His name appears in the register of the College in the following year, but with the statement that he was pursuing a partial course.

Professor Wormley's vacations in these preparatory years were usually spent in scientific expeditions to the Western and Northern sections of the great state of Pennsylvania in pursuit of natural history studies. The leading spirit and guiding mind of these excursions was the late head of the Smithsonian Institution—Spencer F. Baird—then the curator of the museum and professor of Natural History in Dickinson College, "whose enthusiastic and unreserved devotion to science was calculated to awaken a deep interest in such studies \* \* \* and a number of young men, who afterward achieved eminence, received their first impulse from him." Of this number was Theodore Wormley, whose predilection for science studies was also encouraged, promoted, and greatly influenced by another Dickinson professor, Dr. William H. Allen, then professor of chemistry in the college, but subsequently the presiding head of Girard College.

This early preference for scientific investigation, no doubt, led Professor Wormley to choose medicine as his profession, so that after the customary year of preliminary reading under the preceptorship of Dr. John J. Myers, we find him matriculated in the Philadelphia College of Medicine, an institution not existing at present, but from which he graduated in 1849. Then followed a year's residence in Carlisle, after which he removed to Chillicothe, O., remaining there but a short time, when he proceeded to Columbus, O., where the practice of his profession was begun. His first professional appointment came in the year 1852, when he was elected to the Chair of Chemistry and Natural Science in The Capitol University, located in Columbus, O. This position he held until July, 1865. While holding this Chair he also held the professorship of Chemistry and Toxicology in Starling Medical College, to which he had been elected in 1854, and from which he resigned after twenty-three years of most satisfactory work. The hours not devoted to teaching or research were occupied in the discharge of appointments, for

which his qualifications admirably fitted him, such as State Gas Commissioner of Ohio (1867-1875), and Chemist of the Geological Survey of Ohio (1869-1874). In both these positions Professor Wormley rendered most distinguished service, as is amply evidenced by the various State Reports in which his records are published.

His acknowledged reputation among medical men as a teacher and toxicologist led to his election, on June 5th, 1877, to the Chair of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania, becoming thereby the direct and worthy successor of such eminent men as Benjamin Rush, James Hutchinson, James Woodhouse, J. Redman Coxe, Robert Hare, and Robert E. Rogers. And here he continued until the morning of January 3rd, 1897, when the final summons came, and the earnest, ever-active master laid aside the working tools of life to penetrate the veil which separates us and the present from the great hereafter.

For forty-five years Professor Wormley taught and investigated. The results of his researches appeared under the following titles:

1. On Some of the Chemical Reactions of Strychnia. Chem. News, 1860.
2. Notes on Some of the Chemical Reactions of Atropine. Chem. News, 1860.
3. Notes on Some of the Chemical Reactions of Brucine. Chem. News, 1860.
4. Chemical Reactions of Corrosive Sublimate. Chem. News, 1860.
5. Chemical Reactions of Morphia. Chem. News, 1860.
6. Chemical Reactions of Narcotine and Meconic Acid. Chem. News, 1860.
7. Nobert's Test Plate and the Striae of Diatoms. Chem. News, 1861.
8. Quantitative Estimation of Urea. Chem. News, 1882.
9. Recovery of Absorbed Morphine from Blood. Chem. News, 1891.
10. A Contribution to Our Knowledge of the Chemical Composition of Gelsemium. Am. J. Pharm., 1870.
11. Alkaloids of Veratrum Viride and Alum. Am. J. Pharm., 1876.
12. Preparation and Toxic Effects of Gelsemia. Am. J. Pharm., 1877.
13. Reinsch's Test Fallacies. Am. J. Pharm., 1880.
14. Constitution of Gelsemium. Am. J. Pharm., 1882.
15. Some of the Chemical Properties of Mydriatic Alkaloids. Am. J. Pharm., 1894.
16. Tests for Quinine. Am. J. Pharm., 1894.
17. Recovery of Absorbed Morphine from the Urine, the Blood, and the Tissues. Univ. Med. Mag., 1889-90.

18. Concordant and Micrometric Measurements. Univ. Med. Mag., 1890-91.

19. Chemical Analysis of Coals, Iron Ores, etc. Ohio Geol. Survey, 1870.

Editor of the Ohio Medical and Surgical Journal, 1862-1864.

These in a measure indicate the direction of his activity, but the lasting monument which he raised to science and his own glory is his grand work entitled "Micro-Chemistry of Poisons." In it are embodied the records of thousands of the most painstaking observations. The patience displayed in the preparation of this volume of world-wide reputation—the recognized authority in all lands—is marvellous. It is interesting also to note that in this, his greatest effort, he was assisted by his devoted wife, who learned the art of steel engraving solely for the purpose of delineating upon steel nearly one hundred exquisite illustrations of crystals, drawn directly from the object as observed under the microscope.

A marked characteristic of all work done by Professor Wormley is its extreme accuracy. In searching for the truth, time and labor ceased with him to be factors. Repetition was practiced to an almost painful degree. Every subject was studied from all possible points of view, so that in his special field it is not in the least surprising that he was early recognized as an authority and expert.

As a teacher he ever maintained a high rank. His power of imparting knowledge was equaled by few. That patient spirit which dominated all his work manifested itself here and is evidenced by thousands of students to-day. Details were presented with care, and every effort was made to have even the dullest neophyte understand. It was ever the aim of the professor to have the principles of the science thoroughly grasped and comprehended by his pupils. Superficiality he despised. Thoroughly conversant with his subject, he possessed the power of presenting it in an extremely lucid manner.

Though modest and retiring to a degree, Professor Wormley was the recipient of many honors, and received elections to many scientific societies. Thus he was one of the Vice-Presidents of the Centennial of Chemistry, held in Northumberland, Pa., in 1874; a member and Vice-President of the American Chemical Society; a member of the American Philosophical Society; a member of

the American Metrological Society; a corresponding member of the New York Medico-Legal Society; a Fellow of the College of Physicians, Philadelphia; a Fellow of the American Association for the Advancement of Science, and a Fellow of the Chemical Society of London.

In 1870 he received the honorary degree of Doctor of Philosophy from Dickinson College, and the same degree from Pennsylvania College in 1877, while Marietta College, Ohio, conferred upon him the degree of Doctor of Laws in 1870.

Personally Professor Wormley was a modest, unassuming man. Few knew him well. Those who were fortunate enough to brush aside the mantle of reserve which usually surrounded him, found a genial, kind, sympathetic companion, with a mind stored with the most varied knowledge and ready to unfold itself to those who had won his confidence. In his comments upon the work and writings of others he was extremely considerate. No bitter criticism was ever allowed to pass his lips, no matter how widely the views set forth by their authors may have differed from what he believed to be correct. True, upright and just in his dealings with all men, it is not surprising that he won the hearts of the great student body and of all with whom he came in contact. By them his memory will ever be cherished as one who loved and sought the truth alone, who was content in the quiet of his laboratory, away from the noise and bustle of the world, to work out the facts, which as we find them arrayed in his great work, will cause future students of chemistry to render to his name that homage which ever falls to the master in any great effort.

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## NOTES ON CAFFEIN.

BY G. L. SPENCER.

Received January 13, 1897.

SHORTLY after submitting the above title to the Secretary, the November, 1896, number of the Journal was received, which included a paper on the estimation of caffeine. This paper in many respects anticipated the notes I intended submitting to the Society.

It was my intention to discuss some of the statements of Gomberg<sup>1</sup> in his paper describing his volumetric method for caffeine,

<sup>1</sup> This Journal, 18, 331.