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*ELECTION OF FELLOWS*

The result of the balloting for Fellows, as canvassed by the Council, was announced, and the following persons were declared elected Fellows of the Society :

ERMINE COWLES CASE, A. B., A. M. (Kansas State University, 1893), M. S. (Cornell University, 1895), Ph. D. (University of Chicago, 1896). Instructor in State Normal School, Milwaukee, Wis.

ARTHUR GRAY LEONARD, A. B., A. M. (Oberlin), Ph. D. (Johns Hopkins University), Des Moines, Iowa. Assistant State Geologist, Iowa Geological Survey.

CHARLES HYDE WARREN, Ph. B. (Yale, 1896), Ph. D. (Yale, 1899), Boston, Mass. Instructor in Geology, Massachusetts Institute of Technology.

The following memorials of deceased Fellows were read :

*MEMOIR OF EDWARD WALLER CLAYPOLE\**

BY THEO. B. COMSTOCK

Edward Waller Claypole, born at Ross, Herefordshire, England, June 1, 1835; geologist of world-wide fame and teacher of geology of remarkable personality and effectiveness; an original fellow of the Geological Society of America; member and oftentimes president of numerous other organizations for the promotion of research, needs no eulogium from one privileged to greet him as monitor, friend, and fellow-worker. The impress of his severely conscientious labors, the importance of his contributions to geologic literature, his unswerving devotion in the cause of its propagation, have left indelible traces on the records of American geology for thirty years now past. Many of my readers are better fitted

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\*The memoir was not read at the meeting, but is here inserted in its place, as on the printed program.

to tell the story, but none could attempt it with greater willingness or with more reason to perform the task as a token of esteem and affection.

Doctor Claypole died at Long Beach, California, one of the coast resorts near Los Angeles, August 17, 1901. He had moved to Pasadena, California, in 1898, on account of the impaired health of Mrs Claypole, and was there busily engaged as a professor in Throop Polytechnic Institute. Although an obscure, but serious and painful ailment, apparently affecting chiefly the left hand, had caused him to rest under physician's orders, only the most intimate friends had any fears of fatal results, and these were not anticipating an early termination of his life. The worst contemplation was the possibility of retirement from active pursuit of his regular routine. While rising from bed on the morning of August 16, he suddenly became unconscious and remained thus until his death, at 11 p. m. of the 17th. The immediate cause was cerebral hemorrhage. His devoted wife survived him but a few weeks, dying October 6, 1901, at Pasadena. The remains of both were cremated, in accordance with their own expressed wishes.

The accompanying bibliography affords convincing evidence of the breadth of mental grasp of this man and his inability to overlook the simplest fact presented to him in contemplation of nature. But we must here confine our attention strictly to the geologic work on which his record was largely made. Contemporary estimates are not always reliable in such cases, but there will be no question of the importance of Doctor Claypole's investigations and their bearing upon the progress of this science during the last quarter of the nineteenth century. His papers were models of simple, straightforward expression, and stand as a marked example of what should be sought in scientific publications. He attracted attention not by his controversial literature, although few were better equipped than he for that class of work, but his papers nearly always provided the last word in argument, because he never came before the public until all his material had been thoroughly threshed and freed from chaff. It is this characteristic of careful pruning and rigid self-restraint which makes his writings of permanent worth. One may take at random from the list any title whatever, and if the date of its publication be noted carefully, investigation will demonstrate that it appeared many months, usually several years, after his work upon the subject began. Many able geologists are best known to their contemporaries by their environment at the time of their published work. It was not thus with Claypole. His periods of residence in given localities were collective, formative epochs, in which he gathered facts laboriously and digested them well; but he announced the results usually long afterward and frequently after removal from the scene of his studies.

To him the universe presented positive evidence of "the constancy and inevitability of natural law—its unswerving constancy, its inevitable certainty"—and the object of his investigations was never restricted to a narrow field, but he modestly and patiently toiled to seek and record truth in whatever aspect it came before him. Hence his record, partly also from the enforced conditions of his profession of teacher, was not limited to one particular line of investigation, even within the bounds of geology.

He began with the study of broad problems of areal physical geology, along lines and in fields made classic by his inspirer, the great Lyell. His first known publications dealt with evidences of land "Subsidence in the southwest counties of England during the present period." These ought to be read by every young student, as texts to go along with their Lyell and Geikie, Dana and Le Conte. These papers, and one on the Carboniferous system in a part of Midlothian, are a foretaste of what might have been his career had not misfortune, in the guise of urgent need and cruel persecution, sent him to America in 1872.

Naturally, at that period, his attention was forcibly drawn to studies of glacial phenomena, and his contributions to this department were material and frequent for many years. Upon cognate subjects, his only really controversial work was done. It would have been impossible then to contribute anything novel to the discussion without drawing fire from one or other quarter, and his views were not always greedily accepted by the contending factions. Even now it may be early to seek a final verdict, for too many able contestants survive and make valued additions to our knowledge of this great subject; but none will dispute the vigor of Claypole's logic, the earnestness of his purpose, or the worth of his contributions. His name would live for these alone, albeit they are but fragments of his vital productions.

With fuller recognition and better opportunities for him at this juncture, undoubtedly American glacial literature would have been enriched beyond its actual marvelous development; for there is a ring of zeal and acumen in certain of his papers which carry weight and hint of no ordinary power of observation and ratiocination. Geology has lost in this direction by its gain in other fields into which circumstances turned his energies.

Fugitive papers (1877-'79) on migration of plants and animals probably grew out of his studies of the Drift. They are strikingly valuable and deserve wider circulation than was given them.

Upon the Second Geological Survey of Pennsylvania, under Lesley, Doctor Claypole touched familiar ground in that hazy stratigraphic zone extending from Silurian to Carboniferous, which has puzzled and non-

plussed more geologists than any other section. The publication of reports, as then customary, by volumes covering political areas, has partly obscured the glory of Claypole's work, although Doctor Lesley frankly credited him with it in his introductory remarks.

The significance of these determinations, as measured by the work involved, may lose force in distant perspective, but his fellow-workers can understand what it meant in those days to get the facts, and some can rightly estimate the value of the deductions and their intimate bearing upon their own labors in related fields. It was by these discoveries that a notable controversy was afterward settled and the valued work of a living authority rendered possible and invaluable. The results, epitomized, of Claypole's work in Perry county, Pennsylvania, were:

1. The identifying of No. V (First Geological Survey of Pennsylvania) as Clinton and Onondaga.

2. Demonstration of the absence of hitherto assigned Niagara and Corniferous.

3. Allotment of previously assigned Corniferous to Marcellus.

4. Definition of Upper Hamilton, Genesee, and Portage.

5. Discovery of Chemung and Catskill fauna extending high up into so-called Catskill.

6. Tracing of Kingsmill sandstone in all Catskill outcrops.

The finding of fish remains in Silurian rocks was an epoch-making discovery in itself, but the presentation of the facts and the detailed and painstaking studies given the fragments by Doctor Claypole were far more worthy of commendation. He continued to develop the subject long after retiring from the survey, and these contributions are among his best. The drawings were made by himself, and most of them are remarkable for their accuracy and clearness. Later, in Ohio, he bestowed much attention upon the Placoderms of the Devonian, publishing many papers on the anatomy of Cladodonts and their stratigraphic range.

In later years he wrote more of philosophic character, for which his long life of preparation and rumination had thoroughly equipped him. His paleontologic studies continued, and he won the Walker Prize as late as 1895, for his essay on "Devonian formation of the Ohio basin," an admirable review which, unfortunately, has never been published. He also continued his glacial studies when so placed as to have material at hand, and he was still hard at work garnering new facts from the Sierras of California when the end came. Shortly before his death he read a valuable paper bearing upon these researches before the Cor-dilleran Section of the Geological Society of America.

To those privileged to know him well, Doctor Claypole was the embodiment of simple, faithful, modest worth, exerting an influence, like

all pure things, as if unconscious of any merit, yet impressing all with a sense of honor, strength and energy, and leading to nobler efforts by his example. His one aim, ambition and the fruition thereof, were always truth at any cost. This spirit breathes and lives in his written works. They are commended to all young students of nature.

## CHRONOLOGY

1835. Born at Ross, Herefordshire, England, June 1.  
 1852. Began teaching at Abingdon, Berkshire, England.  
 1854. Matriculated at the University of London.  
 1862. Received the degree B. A. from the University of London.  
 1864. Received the degree B. Sc. from the University of London.  
 1865. Married Jane Trotter, of Coleford, Gloucestershire, England.  
 1866. Appointed tutor in classics and mathematics at Stokescroft College, Bristol, England.  
 1872. Resigned position in Bristol; came to America after death of his wife.  
 1873. Appointed professor of natural history at Antioch College, Yellow Springs, Ohio.  
 1879. Married Katharine Benedicta Trotter, cousin of his first wife.  
 1881. Left Antioch; appointed on staff of Second Geological Survey of Pennsylvania.  
 1883. Appointed professor of natural science in Buchtel College, Akron, Ohio.  
 1888. Received the degree D. Sc. from the University of London. Became one of the founders and editors of the *American Geologist*.  
 1898. Appointed professor of geology and biology at Throop Polytechnic Institute, Pasadena, California.  
 1901. Died at Long Beach, California, August 17.

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## MEMOIR OF GEORGE M. DAWSON

BY FRANK D. ADAMS

It was but two years since—at the Washington meeting—that we deplored the loss of one of our most distinguished Fellows and a former President of our Society, who had passed away at a ripe old age, Sir William Dawson. Today we have to record the death of his gifted son, also one of our past Presidents, and the latest, who was cut off suddenly in the prime of life and in the midst of what promised to be a long and useful career.

George Mercer Dawson was the second son of the late Sir William Dawson, and was born at Pictou, Nova Scotia, on August 1, 1849. In 1855 his father, who had for some years been acting as Superintendent of Education in Nova Scotia, received the appointment of Principal of McGill University, Montreal, and with his family took up his residence