
A BIOGRAPHICAL MEMOIR

OF

H. HULBERT EATON, A. M.

LATE ASSISTANT PROFESSOR OF CHEMISTRY IN THE MEDICAL DEPARTMENT OF
TRANSYLVANIA UNIVERSITY.

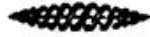


BY CHARLES W. SHORT, M. D.

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MEMOIR.



GENTLEMEN:

I APPEAR before you on the present occasion, not for the purpose of delivering to you an address strictly introductory to that branch of Medicine which it is my province to teach in this School, but to devote the first hour of our meeting to a last tribute of respect to the memory of one, who was endeared to me by many ties of friendship—who was highly and justly esteemed by my colleagues—who was well known, and consequently much respected by many among you. The occasion I trust will be deemed a meet one, to make an heart-borne offering before you at the shrine of private friendship, and to express, in this public manner, the respect and estimation entertained by this faculty, for the character and attainments of him, who, although by many years the youngest of our body, and the last who has been added to it, yet in the wise and inscrutable dispensations of Providence has been the first removed from among us.

Indulge me therefore for a few moments, whilst I endeavour to pourtray before you, a brief outline of the life, the labours and the character of **HEZEKIAH HULBERT EATON**, late assistant to the Professor of Chemistry in the Medical Department of Transylvania University.

The Biography of one so young, whose few and short days were alone devoted to pursuing the noiseless path of Science, cannot be expected to offer adventures or incidents of a kind to catch popular applause, or to engage the attention of the public; but to you, young gentlemen, who, like the subject of

our notice, have entered on the same road to knowledge, and look to its pursuit in one of its most honorable branches, as the business of your life, the few circumstances which I may mention in reference to the early life—the education—the advancement and promotion of our late colleague, will not be uninteresting. And here I must acknowledge myself indebted for a portion of what I shall relate to the kindness of a mutual friend, who from longer association and more intimate connexion, knew Mr. Eaton even more thoroughly than myself.*

Mr. Eaton's ancestors were of the first respectability, and among those on the paternal side was the gallant General William Eaton, the celebrated Hero of Derne, whose bold and chivalrous exploit on the coast of Barbary, in capturing by storm, with but a handful of men, one of the strongest holds of the Tripolitans, forms a proud and romantic subject of American military enterprise; and was the first step towards bringing that heretofore indomitable race to terms of peace and amity. The father of our friend was Professor Amos Eaton, well known for his exertions and success in rendering popular the various branches of natural Science, his own predilection for them having been derived, as he acknowledges, from hearing Dr. Mitchell's first effort at the Lavoisierian Chemistry, and Dr. Hossack's earliest essay in Botany. He was moreover about this time a fellow student of the distinguished Washington Irving. Having been stripped by the vilest fraud of an extensive landed estate, he was induced to resort to Science for a living, and being invited to introduce the study of natural history into different colleges throughout New England, he was successively engaged at Williams and Amherst Colleges, in Massachusetts—Middlebury and the Medical College of Vermont, and numerous other literary institutions, until finally he was employed permanently by the Hon. Stephen Van Rensselaer, to conduct the experimental school which that gentleman had munificently founded at

*Henry A. Griswold, A. M. Professor of Mathematics &c. in the Eclectic Institute Lexington.

Troy, in New-York, of which Institution Professor Eaton is now the principal.

At Katskill, in the state of New-York, his fifth son, the subject of our present memoir, was born on the 21st of July 1809. He attended a common school in that place and in Chatham, where he was engaged in the ordinary manner in acquiring the rudiments of a common English education, until about the year 1818, when his father having removed to Albany, was engaged to deliver a course of lectures to the members of the Legislature, in the rooms of the Capitol, on Chemistry and Geology, as applicable to agriculture. Here, though but in his 9th year, the fancy of the son took fire at the chemical experiments and geological demonstrations, and he now first began to collect fragments of rocks and to ask their names. In the following year (1819) we find our young naturalist assisting his elder brothers in the collection of plants for the illustration of the lectures of their father. They carefully labelled and preserved duplicates. They studied together minerals, rocks and insects, and sedulously preserved specimens of all they could collect. In this employment, together with a devotion of part of their time to the more usual elementary branches of education, the brothers continued until the spring of 1823, when the father being called, as before mentioned, to Amherst College in Massachusetts, took with him his son Hulbert as his assistant in Chemistry, Mineralogy and Botany. Though only in his fourteenth year, he was the chief manipulator for this course in Chemistry—he labelled plants and minerals for the students, scarcely one of whom was so young as himself, and in every way discharged his duties to the entire satisfaction of a fond father, and the admiration of the class.

In the summer of the same year (1823) he acted in the same capacity, as assistant to his father, in a course on some of the branches of natural history, at Middlebury College in the state of Vermont; and in the autumn of that year he accompanied his father on a geological tour of three thousand miles, over the western parts of the state of New-York, and

some portions of Massachusetts. This afforded him a rare opportunity, under the kind auspices of an able instructor, greatly to extend and enlarge his acquirements in geology and mineralogy. In the winter of the same year, he turned that knowledge to profitable account in the assistance which he rendered to his father in a course of Lectures delivered by him in the Medical College of Vermont, on Chemistry, Natural Philosophy, Zoology and Botany.

In 1824 the Rensselaer school was established—Professor Eaton was appointed to the superintendence of it, and to the interest and advancement of this institution have his labours since been exclusively restricted. Young Eaton entered among the first students of this institution. The intellectual discipline to which he was here subjected resembled that of his previous life. In the words of its founder, the object of the school was “to furnish instruction in the application of science to the common purposes of life.” All parts of the plan were strictly practical. In every exercise the pupil was made to take the place of the teacher. He became the lecturer, performing himself the experiments necessary to illustrate and prove the truths of Chemistry and Natural Philosophy. In like manner he was taught to visit workshops and manufactories, to scrutinize the application of scientific principles and to imitate their results in the laboratory. In such a school we may readily suppose that our young friend was perfectly at home—that although nominally a pupil, he was also an instructor, and that acting upon the sound principle, *qui docet docetur*, whilst communicating information to those less favoured than himself, he was constantly adding to his own store of knowledge. Such time, moreover, as was not necessarily employed within the walls of the Institute was industriously devoted to collecting and analyzing subjects in natural history.

In April 1826 he took the Rensselaer degree of Bachelor of Arts, and in the following summer he delivered, unaided and alone, two several courses of experimental lectures on Chemistry, at Black Rock and Rochester; and in the winter

one on the same branch of science, in the Female Academy in Canandaigua. In the winter of 1828, when only in his 19th year, we follow our youthful lecturer to a more extended field, where we find him boldly venturing upon a broader arena, and in the literary and scientific circle of Boston, delivering a course on chemistry before the Mechanics Institute, of which a distinguished literary gentleman of that city was president. In this manner he was taught betimes one of the most important and difficult of all lessons—how to act by himself—a lesson absolutely necessary for a life of efficiency and usefulness.

On his return from Boston a highly flattering testimonial of his acquirements was conferred upon him, by his election to a Junior Professorship in the Rensselaer school, in the place of Dr. L. C. Beck, who had resigned it for a situation in the Medical College of Vermont. Having now become a colleague with his father, and being elevated to an honorable post in the halls of his alma mater, the young professor took great pains to improve himself in extemporaneous lecturing—in general literature—in practical mathematics, and especially in extending the bounds of his knowledge in all the natural sciences.

He did not, however, long remain in this situation, for in the autumn of 1829, at the invitation of the Rev. Benjamin O. Peers of this city, he was induced to turn his thoughts towards the west, with the view of making it the theatre of his future action. In adopting this movement he was no doubt influenced in a great degree, by a conscientious persuasion of duty, and a philanthropic reference to the wants of the West, where he was well assured that in his vocation of Instructor, his labors would be rendered more extensively useful. He was certainly influenced too, in no small degree, by an eager desire to explore the natural productions of this comparatively unknown region; and his youthful heart beat high within his bosom, as the extended and boundless valley of the Mississippi opened before him, rich in promise of many a joyful—many a profitable hour spent in the exploration of

its treasures—its hills and its dales—its mines and its minerals—its cliffs and its cataracts—its rivers and its lakes—their fishes and their shells—its trees—its shrubs and herbs—its quadrupeds—its birds and its insects. Fired by inducements of this sort the decision was speedily taken and as promptly acted on. Leaving then his paternal roof, and throwing himself on his own resources, he arrived at Lexington early in the winter, and immediately associated himself with Mr. Peers in the management of the school founded by that gentleman, and since known as the Eclectic Institute.

Without some account of the success of Mr. Peers and Mr. Eaton in their philanthropic enterprise, a notice like the present would be very incomplete. Few and unimportant to the public, were the events of his previous life, but the result of this experiment we believe, to be of incalculably more importance to the world, than the achievements of many lives prolonged in years and exalted in public estimation. It was a demonstration that earliest childhood is the proper period for commencing the acquisition of the most useful of all knowledge—the knowledge of things; or rather that the educator, when he receives from the hand of nature, the young mind provided with language and perfect senses, should contrive to employ, as she had done from the first opening of the infant's eyes, those ready ministers of improvement. It was a demonstration that by a philosophic method of instruction, boys of an early age, may know more of the great facts of chemical and mechanical philosophy—more of the organization and productions of the vegetable, animal and mineral kingdoms—more of the growth, manufactures, properties and uses of the objects amid which they live and move, than is known by most men on their entrance into active life. The method of teaching pursued in attaining these results was the peculiar method of the Rensselaer school. There, however, it was employed only with matured minds. Mr. Eaton was the first to make trial of it with boys. In lecturing to them he was remarkable for the clearness with which he

presented scientific truth to the young understanding. All truth, indeed, is simple, and, when properly presented to the mind of young or old, it requires no more effort of comprehension than the fact that one and one are two. In the analysis and simplification and illustration of it to the senses, lies the great secret of the teacher; and in that secret was Mr. Eaton deeply versed. By means of it his classes of boys, especially in Chemistry, were enabled to display a knowledge of the subject that produced general astonishment.

To qualify himself yet the more thoroughly for the important duties now devolved upon him, he availed himself of every opportunity afforded him from the labours of teaching others in still further teaching himself. He prosecuted with great industry and earnestness the study of the natural history of this immediate neighborhood, and of the surrounding country, so far as opportunities were offered him for exploring it. During these excursions it was my happy privilege to be his frequent companion, and truly can I bear witness to the amiability of his manner—the instructiveness of his intercourse—the ardor and enthusiasm of his devotion to nature—his admiration of her beauties—his untiring industry in the laborious pursuit of her objects—his patient examination of them—the acumen of his discernment—the accuracy of his deductions—the lucidness of his description—his careful and pains-taking preservation of every thing collected.

One of the most lengthened of these excursions was made in the fall of 1830, and extended one hundred miles north of Lexington. In this tour, which was made chiefly on foot, many interesting objects were examined and considerable collections made. At the Big-bone-lick—that immense—amazing charnel house of extinct and yet existing animals—our friend enjoyed himself superlatively, in examining the different localities of these osseous deposits, and judging for himself of the probable causes which could have congregated into one spot, such masses of the skeletons of the mastodons—the antediluvian horse—the elk—the buffalo—the deer

and other animals. In this cemetery of ages long gone by, he gathered many interesting relics; and among the debris of disinterments scattered in profusion around, where the man of science has dug for the sake of science, and the man of mammon for money, our young friend collected several hundred pounds of bones thrown aside by less scientific collectors as valueless. In patiently investigating as far as they could be ascertained, all the circumstances of this odd and interesting spot, he was led definitively to embrace the opinion of those who contend, that the skeletons of the mammoth and other extinct animals, have been buried in this and other analogous situations by fortuitous currents of the great deluge; and to reject the idea of those who suppose that these huge monsters were congregated there by the search for salt water—in the pursuit of which they became entrapped in the morass, where their giant bodies sinking beneath its surface have laid buried for ages.

One little occurrence may serve to show the ardent and enthusiastic manner with which he embraced every opportunity, and employed every moment for extending his knowledge, and enlarging his collections in natural history. On the excursion to which I have just referred we visited the Ohio and Great Miami rivers, chiefly for the purpose of examining and collecting their shells. The time was a most propitious one for such investigations, for the season having been unusually dry the waters of those fine streams were low, and consequently afforded an easy access to the shellfish which inhabit them; and of these some rare, and many interesting species were found. On one particular occasion when exploring the treasures of the Miami, some diversity in our objects parted us for an hour, when returning to the quarter where I had left Mr. Eaton, I saw him wading deep in the water—his pockets strutted out with their contents—his arms scarcely able to grasp their collections—his countenance brightened with joy, he exclaimed, “Surely my friend this cannot be reality—I must be dreaming!”

The result of this excursion was published in the 4th vo-

lume of the "Transylvania Journal of Medicine," under the title of "Notices of Western Botany and Conchology:" and this paper has been favorably mentioned in some of the Eastern Journals of Science—especially that part of the communication relating to the shells that were gathered, which was exclusively the work of Mr. Eaton.

The next year brought with it an important epoch in the life of our young friend. At the close of the session in the Medical Department of this school, in the spring of 1831, the Chemical chair was left vacant by the resignation of its incumbent, and promptly filled again by the appointment of his successor. Mr. Eaton's preeminent attainments had already attracted the attention of the friends and members of this institution, and at the recommendation of the faculty he was unanimously elected by the trustees Assistant Professor of Chemistry. For one so young this was high honor. He was placed by it in a conspicuous and responsible situation, and he immediately resolved to labor and to study for the enlargement and completion of the means of chemical instruction in this department. Owing to the absence of his colleague it became his duty to make the necessary arrangements and preparations for the lectures of the ensuing winter. He visited the eastern cities for the purpose of procuring apparatus, re-agents, and other means, as well as to examine the construction and fixtures of the best laboratories. How greatly that of this school was improved in point of convenience, utility and arrangement by the information and materials furnished by this visit, I need not here insist on. The session commenced with a large, a highly respectable and intelligent class. The exertions of the assistant professor were unremitting in the preparation and arrangement of the matters called for by each day's lecture; and in the performance of the experiments for their illustration, he was signally adroit and invariably successful.

Through the urbanity of his colleague the subject of Electricity was given up to him entirely, and on this important elementary matter of the science, he delivered a number of

highly interesting and instructive lectures, illustrated by apt and brilliant experiments. His efforts, indeed, throughout the entire term gave universal satisfaction to his colleagues and the class; and contributed not a little to the success and popularity of his department.

During the winter he was married to a lady of this city to whom he had been long and devotedly attached. His prospects were now eminently enviable. No young man in the west—perhaps not one in the union—had better reason than he, to look forward to a life of honorable usefulness—preeminent distinction, and domestic happiness. With enthusiastic feelings he not only studied how to discharge the varied and responsible duties assumed by him, but also to promote to the utmost of his abilities the cause of that science, ever near to his heart—the cause of natural science in this portion of our country. In the hope of awakening the attention and interest of the medical class to the value of this kind of knowledge, and thus sending to every corner of our valley a number of active votaries to make observations and collect specimens, he resolved to give them a number of additional lectures, on the outlines and classification of the several branches of natural history. The execution of this project was but just commenced, when he was arrested in his labors by a hæmorrhage from the lungs. By this visitation, alarming at its onset, he was confined to the house until the termination of the session: but by the first of April he had so far recovered as to be enabled to resume his studies, and attend to some of his duties, though in a feeble and exhausted condition. His health, however, rapidly improved, under exercise and regimen, and before the end of the month he was so far restored as to be able to take lengthened excursions on foot, in pursuit of his favorite objects. Again

———“with fresh born vigor he inhaled
The balmy breeze, and felt the blessed sun
Warm at his bosom, from the springs of life,
Chasing oppressive damps and languid pain.”

Again with the rapture known only to the naturalist, he witnessed the first evolutions of approaching spring—again the song of birds chirping from bough to bough delighted his ear—again was his eye charmed by the anemone and the violet, bursting from their sleep of winter—again were his senses regaled with the vernal odours of the hyacinth, the lilac and the rose; and oft ascended from his honest heart thankful adorations to the giver of all good, for health restored and happiness in prospect.

His friends were now flattered with the hope of his perfect and permanent recovery; and he returned with his accustomed zeal to his varied scientific pursuits. Among these, he was engaged in preparing for the press a work on the ornithology of this neighbourhood, intended as a manual for the student in that branch of natural history: a large portion of this work was already printed, and the examination of subjects, and preparation of materials for the remainder required a considerable amount of bodily as well as mental exertion. In addition to these labors—perhaps too great for his yet delicate condition—he had resumed the duties of teaching and lecturing at the Institute; when, about the 1st of May, a repetition of the bleeding seized him. It was the summons of death! Vain were now the efforts of his skillful physician; vain the untiring, unremitted assiduities of a devoted wife; vain the anxious solicitude of his numerous friends. It became too soon manifest that the canker which healeth not was rankling in his bosom, slowly doing its fatal work but certain to effect it. And although for a while, with that strange delusion, so characteristic of his disease, he still cherished hopes of life and usefulness, yet when his failing strength and his extenuated frame convinced him that his days were numbered, the better resolution was taken; and in the full possession of his intellectual powers, he turned away from his schemes, and hopes, and generous ambition, to prepare for his end.—He died on 16th of August (1832) in the 23d year of his age.

Never was the ruling passion strong in death more striking-

ly revealed, than in the dissolution of our friend; for in the last moments of his existence—in the delirium of expiring mortality—he fancied himself amidst flowery fields, and called upon his friends to participate in these pleasures with him. He died as he had lived, an ardent admirer of the works of nature, and with full, unwavering reliance on the goodness and mercy of nature's God.

Mr. Eaton's character as a man of science, corresponded to his education. Of his ripe judgement and accuracy of observation, he gave ample proofs in the few papers published by him on matters of natural history. Professor Amos Eaton's *Manual of Botany*, decidedly the most popular work on this branch of science which has ever appeared in America, received in its 5th edition, material emendations from the hand of his son; who, with the assistance of another pupil* of the Rensselaer school, revised the entire work for the press. His posthumous production on the birds of Kentucky, had he been spared to complete it, would doubtless have proved a valuable acquisition in this department of natural history; and it reflects no small degree of reputation on the character of our colleague, that he should have plumed a wing for venturing a flight over that field of science, which had been enriched by the labours and adorned by the splendid productions of Wilson, of Bonaparte, and Audubon. Mr. Eaton had been elected a member of the Academy of Natural Sciences of Philadelphia, and I believe also of the Lyceum of Natural History of New-York. He was in habits of intimacy and correspondence with many of the first natu-

* "It is proper for me to state, that DR. WILLIAM AKIN, of Rensselaer school, and HENRY H. EATON, adjunct professor in the school, prepared the species, after the genus *Carex*. I assisted no farther than to supervise the work. I decided in doubtful cases, compared their translations with the original authors, examined the proof-sheets, and gave all the new specific names. But they selected, arranged, compared, and transcribed the whole. They compared descriptions with plants in their extensive collections, and suggested numerous valuable improvements." *Prof. A. Eaton's remarks at the close of the 5th edition of his Manual of Botany: May 13, 1829.*

The public will be gratified to learn that a 6th edition of this valuable *Manual* is now in press, under the immediate supervision of its author, which will embody all the additions to the American Flora down to the present time. S.

ralists of our country; among whom Professor Torrey, the Linnæus of America, was his intimate friend.

Has his life been in vain? Though removed when his prospects were the most cheering and our hopes the most confident, he lived long enough to prove how rich, and various, and useful, may be the acquisitions of years so rarely devoted to science. And perhaps this moral is impressed more strongly on our minds, than if the achievement of riper years had been allowed to outshine the accomplishments of his youth; for his were not the ephemeral corruscations of precocious youth, soon to be obscured in a manhood of humble mediocrity, but the well-earned and lasting attainments of diligence and zeal, increasing with his days and growing with his years. Such attainments as the most of us may acquire, with the same amount of patient study, and laborious research. Let each one of us, then, gentlemen, be instigated by the bright example of our departed friend, and whilst we mourn the loss of one so highly accomplished, so deservedly esteemed, let us determine to follow in his footsteps until we arrive at the same goal of honour and usefulness.