

A BIOGRAPHICAL SKETCH

READ PURSUANT TO APPOINTMENT

BEFORE

THE PHILADELPHIA MEDICAL SOCIETY,

At a Stated Meeting, Saturday, 16th February, 1816:

OF THEIR LATE PRESIDENT

PROFESSOR BARTON.

BY WILLIAM P. C. BARTON, M. D.

AN HONORARY MEMBER OF THE SOCIETY.

PHILADELPHIA:

PUBLISHED AT THE REQUEST OF THE SOCIETY.

J^r Maxwell, printer.

1816.

“ At a Stated Meeting of the Philadelphia Medical Society, held at their Hall, on Saturday, the 23d Decmber, 1815:

“ Resolved, 1st. That the Society-view with sentiments of deep regret the death of Professor B. S. BARTON, as an event which has deprived the Society of the useful labours of a worthy president, the University of Pennsylvania of one of its brightest ornaments, the Medical profession of one of its most erudite members, and the United States of one of its most distinguished and useful citizens.

“ Resolved, 2dly. That a committee be appointed to wait on Dr. Wm. P. C. BARTON, to request him to prepare and read before the Society, a Biographical Sketch of the late Professor Barton, previous to the termination of the present Course of Lectures.”

Extract from the Minutes of the Society,

GOVEYNEER EMERSON, *Secretary.*

“ At a Stated Meeting of the Philadelphia Medical Society, held at their Hall, on Saturday the 24th of February, 1816:

*“ Resolved, That the Thanks of the Society be presented to DOCTOR BARTON, for the very appropriate *Biographical Sketch of the late Doctor Benjamin Smith Barton*, which he has read before the Society, and that a copy of the same be requested for publication.”*

(By NATHANIEL CHAPMAN, M. D. President, and
SAMUEL CALHOUN, M. D.)

Extract from the Minutes of the Society,

GOVEYNEER EMERSON, *Secretary.*



D^r. BENJ^t. S. BARTON.

A BIOGRAPHICAL SKETCH

READ PURSUANT TO APPOINTMENT BEFORE THE PHILADELPHIA
MEDICAL SOCIETY, AT A STATED MEETING, ON SATURDAY, 16TH
FEBRUARY 1810,

OF THEIR LATE PRESIDENT

PROFESSOR BARTON.

BY WILLIAM P. C. BARTON, M. D.

AN HONORARY MEMBER OF THE SOCIETY.

"I come to bury Cæsar, not to praise him."

SUCH were the words of Mark Antony, (according to the poet,) over the dead body of the valorous, the invincible warrior of Róman fame; and surely never fell from human lips a speech more copious or more eloquent!

How admirably does it not convey, in a few brief syllables, a code of charitable and benevolent duties! How shrewdly does it not intimate, that a great man's eulogy should neither breathe the empty sentiments of indiscriminate praise, nor the fulsome strains of adoration. Such commendation is as evanescent as it is injudicious and unmerited. Test the verity of its spirit by the light of reason, or the dispassionate dictates of judgment, and it is no more.

Does it not too tell us, that if Cæsar had worth, his death could not extinguish it—nor his mortal absence from the sight of the world—obliterate its recollection of his greatness?

On the other hand—does it not admonish us, while we are parsimonious of our praise, to be niggards also, of our censure? Does it not whisper to the moral ear this truth—that humanity is frail? And how artfully does it not insinuate, that if Cæsar had faults, his funeral dirge ought not to be the vehicle of their publicity, but contrived rather as a sacred seal, to preserve them from the eye of malice, or the finger of scorn.

Does it not too inculcate the moral duty of investing the frail, the spotted portion of a great man's memory, with a shroud of charitable forgetfulness; and does it not do all this with the evangelick spirit in which the poet has given us the benevolent caution to "tread lightly o'er the ashes of the dead."

Genius, gentlemen, is too frequently accompanied by morbid sensibility; and the high-wrought powers of the human mind, rarely shine with unsullied lustre. The first annunciation therefore of a great man's death, should be the watch-word to seal the history, or, if possible, the recollection of his frailties—the countersign to facilitate their passage, along with the mortal remains of the human fabric they inhabited, into perennial oblivion.

I have been seduced into these reflections, by a retrospect of the last ten years. During this span of time, it has been my fate to see four* of five professors, who were my teachers when I entered the university, pay the debt of nature. And though two† of these were, in the paths whither their peculiar talents directed their labours and their zeal, the brightest figures in the history of our country's science—yet I cannot add, that the spirit of the comments I have given on the words of Mark Antony, has been either conceived or applied in relation to their memories.

I shall now proceed, gentlemen, after requesting your pardon for this trespass on your time, to the performance of the task with which you have honoured me, on the threshold of which I have been arrested by the preceding reflections—a task which, while it affords me an opportunity of speaking, in the plain language of truth, of the merits of a departed son of science—gives me not the pleasure of adding, that the chasm in the science of our country which his exit from this world, to him a world of

* Dr. Shippen, Dr. Woodhouse, Dr. Rush, Dr. Barton.

† The two last named in the preceding note.

troubles and of pain, has left—is likely to be immediately filled by any remaining sojourner in the temple he so long inhabited, and of which he was one of the most distinguished ornaments.

Not, gentlemen, that I would hazard the vain, the empty, nay, the untrue assertion, that science has no votaries left in this country,—but, that her genius and talents exist at this epoch of our history, in the younger portion of our scientific population, is a position I feel neither the fear of contradiction in advancing, nor the apprehension of disappointment, in cherishing with the warmest enthusiasm.

Standing, as I do, in the near relationship of a nephew, to the late professor Barton, I cannot be insensible of my being placed in a situation of considerable delicacy. Yet, being honoured by your invitation, gentlemen, to render the homage of this respectable society, to the genius and talents of one of its most conspicuous and eminent members, whose loss we have so recently had occasion to deplore, I enter upon the duty assigned to me, with the less diffidence. In undertaking this task, however, I feel myself agitated by mingled emotions of sorrow and complacency; as friends of science, you, gentlemen, will more especially participate in those regrets, which the community in general ever suffers, from a privation of the usefulness and example of an eminent citizen; while good and enlightened men universally, derive a pleasing gratification from recognising merit, and doing honour to the memory of departed worth. Death extinguishes that spirit of jealousy and envy, which too often assails the fair fame of eminent men, during their lives, and thus affords an opportunity to *all*—even to the invidious themselves—to contemplate the character of a great man dispassionately, and to form a just estimate of its value. On such occasions, the great body of society possesses an interest in having the deserts of such of its members as have distinguished themselves by eminent attainments, and useful pursuits, duly appreciated:—literary and professional men, and the votaries of science, are more particularly interested in commemorating, with suitable demonstrations of honour and respect, the names of those, who, by their learning, their abilities, and their zealous exertions, have contributed largely to augment the mass of useful knowledge, and, consequently, to confer proportionable benefits upon mankind.

Viewing, then, in this point of light, the duty I am called upon to perform, it shall be my endeavour to obey the *command* of my associates in this body, (for such, gentlemen, I consider your invitation,) with fidelity and with truth.

It is not a formal eulogium, that is expected from me, on the present occasion, nor is it an eulogium that I would desire to deliver:—*that* should be attempted by some hand, more competent to the arduous undertaking; by some one more capable of doing justice to a subject of such magnitude, and requiring much nicer elegance of style, more appropriate powers for publick address, than I possess, or aspire to—but, in exhibiting to you such an historical sketch of the *life* of the late professor Barton, principally in relation to his professional character, and of his literary and scientific attainments and pursuits,—as my limited time and materials enable me to offer, I may be considered, even by those who may feel disposed to question the delicacy of my acceptance of this office, as only performing my duty to this society, in commemorating the didactic talents and scientific attainments of its late eminent president; such a sketch too, may justly be considered, as furnishing that, which of itself, constitutes a theme of exalted eulogy.

BENJAMIN SMITH BARTON, a younger son of the late reverend Thomas Barton, a learned episcopal clergyman, long resident at Lancaster in this state, was born in that opulent and comparatively ancient borough, on the 10th day of February, 1766. He bore the intermediate name of Smith (given to him at his baptism) in token of the intimate friendship that had subsisted, during a period of twenty-five years, between his father, and the then learned provost of the university, of that name, by whom he was baptised.* His mother was a sister of the celebrated Rittenhouse. Both his parents were eminently qualified to infuse into the minds of their children, the rudiments of knowledge, and the principles of virtue; but, unfortunately, their younger children were too soon deprived of these advantages. The subject of this memoir lost his mother when he was little more than eight years of age; and though his father's death did not happen till he had attained his fourteenth year, he was bereaved of the parental care and instruction of one of the best of parents, about a year and a half

* Dr. William Smith.

before that event. His father left Pennsylvania early in the autumn of 1778, intending to proceed to Europe; but he was arrested by sickness before he could, with convenience embark, and never returned. Thus at the age of fourteen was his son Benjamin left an orphan.

Mr. Barton had, however, before his departure from Lancaster, taken care to provide for his minor children, a suitable and convenient place of abode in the neighbourhood of that town: where they were placed in the midst of many of his best and most faithful friends, and under the immediate superintendance of a person of great worth and long experienced friendship for the family. Comfortably situated in this pleasant rural retirement, this little household continued between one and two years: and there, abstracted from the noise and bustle of a town, our youthful student—ever assiduous from a very early period of his life, in the acquisition of knowledge,—devoted much of his time to reading. He never appeared to be fond of those active bodily pursuits and athletick exercises, in which boys employ much of their time; though he occasionally engaged in them. The scene around him was well adapted to the contemplation of nature, and he was of a contemplative turn of mind. His inclination seemed, at that period of his life, to direct to the study of civil history; of which he very early acquired a considerable knowledge: but it is not improbable, that having, during the life of his father, and while under his roof, acquired some taste for natural history and the culture of plants—subjects to which that gentleman devoted much of his attention*—

* It appears by a paragraph in a note to the "Observations on the desiderata of natural history," that Dr. Barton's father had paid very considerable attention to some part of natural history. Speaking of tin, which upon the authority of Gronovius, Dr. Barton says has been found in Pennsylvania he has the following remark: "If I do not greatly mistake, there were specimens of tin in the fine collection of North American minerals, which was made by my father near forty years ago, at a time when he paid more attention to this part of natural history than so far as I know, any other person in the (then) colonies. The greater part of my father's collection was sent to England; but falling into the hands of those who knew but little of its value, it has never been heard much of, or mentioned in any of the printed accounts of minerals that I have seen."

There is moreover, in the family, and I believe now among the late Dr. Barton's manuscripts, a letter from Linnæus to the doctor's father, in which he

the objects of this kind by which he was surrounded while in the country, may have drawn his mind to similar pursuits, and the cultivation of natural science generally—certain it is, that his predilection for natural history—more especially for botany—discovered itself very early.

In the spring of the year 1780, our young student (with one of his brothers) was removed to the town of York, in this state, where he was placed in an academy, then under the direction of that accomplished scholar, Dr. Andrews, late provost of the university, and who had himself been a student of divinity of Dr. Barton's father. There he continued nearly two years; and, having his studies directed, during that time, by so able a preceptor, the student, aided by his own genius and great application, acquired that critical knowledge of the learned languages, more especially of the Latin, which formed so prominent a feature in his literary attainments. Young as he then was, he read the Greek and Roman authors with avidity, and became enamoured of classic learning:—this is strongly evinced by many of his juvenile letters to his brother William, between September 1780, and March 1782, considering this brother the eldest of the family—as he then did—in the light of his natural guardian and best friend; a character in which he repeatedly recognized him.

At the age of sixteen years, this young scholar made his first attempt in composition, in an "*Essay on the vices of the times.*" This essay is still in existence. It bears testimony to the early genius and discernment of the writer; and possesses no inconsiderable portion of merit, even in point of style. He manifested too, very early in life, a vivid fancy for drawing; and in the execution of his designs with the pencil, at an immature age, he discovered that taste and genius in the art, which he afterwards cultivated with much success, and practised, in occasional hours of leisure, with great accuracy. This was a talent that he often rendered

tells him that *Cuscuta Europea* (a little twining parasitick plant) will probably be found in America, and stating that the plant generally (then) called by that name, was a distinct species and should be called *Cuscuta Americana*. This letter (and there may have been more) seems to imply that the reverend Mr. Barton had paid some attention to botany, and had even corresponded with Linnæus on the subject.

subservient to his pursuits in natural history and botany;* branches of science which are greatly assisted in their acquisition by the investigator possessing, himself, a facility in copying the subjects appertaining to them. Besides his extreme neatness, faithfulness and truth, in the delineation of natural objects, more particularly of plants, by the pencil, he acquired great adroitness in the beautiful art of etching on copper, and I have now in my possession, among other efforts of this kind, the figure of a dog, which exhibits the most true and perfect attainment of this nice art I have ever seen—It was made about five years ago. Dr. Barton did not despise these adventitious aids of science, and he often declared it as his opinion, that no man could become a nice, discriminating, and eminent botanist, without possessing that acumen in perception of proportion, colour, harmony of design, and obscure differences in the objects of the vegetable world, which alone belong to the eye of a painter. The accuracy, the vividness, the sensibility (if I may be allowed the expression) of his eye, were truly wonderful. I dwell more on these points than in the estimation of some, perhaps, they may seem to merit, because they have a near relation to the authenticity of the engravings that accompany some of his works. I *know* they may be relied on, for what passed *his* inspection and received *his* approbation, in this way, must be faithful as the pencil and the graver could make them. Those who painted the subjects of natural history† for

* The following extract from a letter written by Dr. Barton to his cousin, July 14, 1785, from the western boundary of Pennsylvania, shows that he very early applied his talent for painting to useful purpose:

“ Tell H—— she may depend upon the promise I made her, of drawing her a landscape; and probably some other pictures. I have already taken drawings of several curious and beautiful flowers, together with one of the falls of the river Youh: this last I will send her as soon as a safe opportunity offers.”

BENJAMIN BARTON.

† I have frequently painted these subjects for him, and can therefore speak with the more certainty of the fact. In all my drawings made for him, whether of plants, animals, bones, &c. I learnt the absolute necessity (to please his eye) of adhering very faithfully to my models. The first lessons I ever received of scrupulous correctness in drawings of this nature, were from him. In fact he was, if I may be allowed to use such language, religiously conscientious not to suffer any things of this nature to pass with his name, unless they were true and

him know, and those who have multiplied those paintings by the graphick art also know, and can verify the statement I have given, of his uncommon perception of errors, in drawings and engravings. It always took quick cognizance of those defects, which other delineators of natural objects, or, in different words, other naturalists who suffer the authenticity of their names to accompany unfaithful or caricatured representations of the works of nature, too frequently allow to escape their observation, and in this way being into disrepute the real advantages derived from pictured illustrations.

In the year 1782 the eldest brother of the subject of this memoir, took him into his family in this city, in which situation he continued between four and five years. During this period he prosecuted his collegiate and medical studies; the first in the college of Philadelphia, where however he did not take the degree of bachelor of arts, and the latter under the celebrated anatomical professor Dr. William Shippen, with whom he commenced the study of medicine, in the beginning of his eighteenth year.

While he was yet a pupil of Dr. Shippen, he accompanied his uncle, Mr. Rittenhouse, and the other commissioners appointed for that purpose, in running the western boundary line of Pennsylvania. On this occasion he was absent from Philadelphia about five months, having set out with the commissioners in May, 1785, and returned in October following. He was then only between nineteen and twenty years of age, but from his scientifick acquirements he was an useful associate of the commissioners. It was in this excursion that he first had an opportunity of mixing with the savage natives of this country—then he first turned his attention to their manners, their history, their medicines and pathology, and to other interesting points of inquiry, all of which he pursued with

faithful representations. In evidence of this I will only mention this one fact,—that in the drawing of the horny lizard, of which he has had a superb engraving made, he caused every spinous process or horny protuberance (which were exceedingly numerous) on the back, tail, and legs of the animal, to be distinctly and separately counted, and made to correspond, *even in number*, in the drawing. This indeed may be considered as overreaching the point of necessary truth, and I so considered and still consider it; but it at least must be received as a remarkable evidence of a wish to adhere to faithfulness in portraits of nature.

great zeal for the remainder of his life. His researches on these subjects, are among the most ingenious, if not the most useful of his labours. They enriched his philosophical inquiries and speculations with curious facts, and enhanced the value of his investigations of the *materia medica* and *alimentaria*, with some of their most important additions.

Dr. Rittenhouse, who early perceived and acknowledged the talents of his young relative, procured for him this important situation—important, as it gave the first impulse to that spirit of inquiry and research into the history of our Indians, which has resulted in an accumulation of so many curious materials relative to their origin and the affinities of their language.

This learned man continued to Dr. Barton, through life, a firm and a constant, as he was an illustrious friend. In a letter published in the memoirs of Rittenhouse, the doctor thus acknowledges the succour and the patronage he received from his distinguished relation:

“He was dear to us both, to all his relatives and friends, and to his country. To me, let me add, he was *peculiarly* dear. The most happy and profitable hours of my life were passed in the society of this virtuous man. I followed his footsteps in the wilderness of our country, where he was the first to carry the telescope, and to mark the motions and positions of the planets. In the bosom of his family, I listened to his lessons, as an humble disciple of Socrates or Plato. Science mixed with virtue was ever inculcated from his lips. But to me Mr. Rittenhouse was more than a friend and preceptor. *He was a father and supporter.* He laid the foundation of what little prosperity in life I now, or may in future enjoy: and if it shall ever be my fortune, either by my labours or my zeal, to advance the progress of science, or to reflect any honour upon my country, I should be the most ungrateful of men, if I did not acknowledge and wish it to be known that it was *David Rittenhouse* who enabled me to be useful.*”

Towards the close of the following summer, Dr. Barton embarked for Great Britain, with the view of prosecuting still further his medical studies at the university of Edinburgh. He remained

* See Barton's Memoirs of Rittenhouse, p. 445.

at that school about two years; except some few months in the earlier part of the year 1787, which he passed in London. During his residence in Edinburgh he applied himself with unremitting zeal to his professional studies, attending very regularly the lectures of the eminent medical professors who then taught in that university.

In his letters from that place to his brother William, he mentions in terms of high respect the late doctors Walker, Gregory, Black and Hume; from all of whom, particularly the first named, who was the professor of natural history, he received the most marked attentions. Indeed he frequently, in his lectures on natural history, introduced the name of Dr. Walker, and ever spoke of him in terms of unbounded respect, and even veneration. He thought he owed much of his success in pursuits of natural history, to the kind encouragement of this professor, united to the fostering and encouraging notice and friendship of the late Mr. Thomas Pennant, a well known and distinguished English naturalist, with whom he was long in habits of correspondence and good fellowship. As an evidence of his high respect for this great man, he named his only son after him, and often spoke in terms of satisfaction of this circumstance, since he said his motives for the compliment could never be misconstrued, Mr. Pennant having died a considerable time before his friend gave his name to his son.

It appears from a letter to his brother, dated at Edinburgh on the 29th of September, 1789, that his health, even at that early period of his life, had been delicate. "My spitting of blood," says he, "has left me, and I am no longer tortured with the gout." In the same letter he mentions, that he had then lately received his diploma from the Lisbon academy; and that Dr. Rush had written him a very polite and friendly letter. At Edinburgh he experienced many marks of the respect in which his talents were there held. Young as he was at that time, he obtained from the Royal Medical Society at Edinburgh—of which he was admitted a member before he had been a year in that metropolis—an honorary premium for his dissertation on the *Hyosciamus niger** (of Linnaeus)—This was the Harveian prize. About three years ago he

* A deleterious plant, commonly known by the name of Black-henbane.

received the prize (the first having been lost.) It consists of a superb quarto edition of the works of William Harvey, elegantly bound and gilt: on the fly leaf of which is the following inscription in manuscript, and signed by the elder Dr. Duncan.

Hanc ingenii mercedem
 æquo jure decretam
 Viro generoso Benjamin Smith Barton, Pennsylvaniensi:
 Propter ægregiam dissertationem
 de Hyosoiamo nigro,
 publice tradendam curabat
 Sodalitas Edinensis Filiorum Æsculapii,
 Festo solemnî in Harveii honorem instituto,
 Pridie Idus Aprilis
 1787

Andreas Duncan, senr. a secret.

While Dr. Barton was in London in the first part of the year 1787, he published there a little tract, entitled "Observations on some parts of Natural History: to which is prefixed an account of some considerable vestiges of an ancient date, which have been discovered in different parts of North America." This is called Part I, and is inscribed to his eldest brother. It appears that he intended to have completed his work in one octavo volume, consisting of four parts on the subject of natural history; the first, as he observes in the preface, being a distinct work, having no connexion with that branch of science. This was the first work he ever published. Although in this little book the Dr. evinced much ingenuity and a laudable spirit of research in relation to the antiquities of his native country, the work is evidently the performance of a young writer, and, in fact, the author was then only in the twenty-second year of his age: besides, it was written under the pressure of bodily infirmity, occasioned by ill health, and amidst many discouraging circumstances. Indeed, he soon regretted the 'premature' publication of the work; for he candidly acknowledged its deficiencies, within a few months after its appearance. Speaking of it, in a letter of the 29th of Sept. 1787, addressed to his brother from Edinburgh, he said, "when you write to me, do give me your unreserved opinion concerning this premature performance; let me however previously observe, that I am already

ashamed of many parts of it; and I am confident my language has made you smile. But perhaps an apology may be urged in my behalf: the subject is entirely new, and the work was written at a time when the mind was in that fickle and inconstant state, so frequently the attendant and consequence of disease. Notwithstanding all its imperfections, I am not sorry that I have given the work to the public: I have at least the credit of having directed the attention of the world to a curious and interesting inquiry—but peculiarly so to an *American*. You will say, my hypotheses are *puerile* and *crude*; but can they be more so than the hypotheses of antiquaries on most subjects?—I think not. You will also say I should have suffered my work to lie on the shelf for a few years; but then the facts I have given to the world would have been all this time unknown.” These frank confessions of faults do honour to a young author, more especially, to one who afterwards acquired so much literary fame as the late Professor Barton. They are introduced on this occasion, as a laudable example of candour, in a man of great intellectual powers—as one worthy of being imitated by all young authors too tenacious of their own opinions. Yet after all, the book in question, is by no means so deficient in merit, as its author, himself, seemed to consider it. On the contrary, it does credit to so young a writer.

For reasons which he communicated to his brother by a letter dated at London, the 2d of February, 1789, Dr. Barton chose to obtain his medical diploma from the celebrated German university, founded by George the II, at Gottingen, in the duchy of Brunswick, rather than to apply for one which he was entitled to receive, from the university of Edinburgh. With these reasons, there might, perhaps, have been blended some degree of dissatisfaction with the deportment of two of the professors in the medical school of the latter, towards him; one of these, to whom on his arrival at Edinburgh he presented an highly recommendatory letter from his preceptor in medicine, professor Shippen—never showed him the slightest attention; and the conduct of the other was, *as he conceived*, reprehensible for a similar cause. Yet, while he acknowledged with gratitude and a commendable pride, the very polite and friendly attention with which he was honoured by all the other professors, it can scarcely be doubted that circum-

stances of this nature would have increased—if they did not originally excite, in the mind of a young man of quick sensibility, those unpleasant sensations which he then experienced. But however this may have been, certain it is, that he determined to graduate at Gottingen. I have not been able to ascertain at what time he visited the German university, for that purpose. It appears that he repaired to the continent of Europe, after he finally left Edinburgh in the autumn of 1788: consequently, he must have gone to Gottingen between that period, and the time of his departure from England, in the latter end of July 1789, on his return to America. It may be proper to notice in this place, that whilst in London, Dr. Barton was treated with great kindness and attention by the celebrated Mr. John Hunter, in consequence of his presenting to that illustrious anatomist, an introductory letter* from Professor Shippen. It appears also, from the doctor's letter last referred to, that while in London, in the winter of 1788–9, some favourable proposals were made to him to settle in Russia: but his strong attachment to the country of his birth, and to his relatives and friends in that country, induced him to decline the acceptance of an invitation, which would, probably, have been highly acceptable to a young man of equal ambition and less feeling. He received while in England very uncommon proofs of friendship and regard, from the late Dr. Lettsome.† These Dr. Barton duly appreciated, and in a dedication of one of his works‡ to him he says, “Your attentions to me, during my residence in London, in the year 1787, were those of a kind and affectionate friend, and cannot be readily forgotten. Nor have you withdrawn your attentions, notwithstanding the distance by which we are separated from each other.”

After an absence of somewhat more than three years, Dr. Barton arrived at Philadelphia, from London, and was immediately received into the family of his eldest brother, with whom he had

* This letter was accompanied by drawings of the Ohio bones.

† I was introduced to this eminent physician when in London, about four years ago, by my friend the present Dr. Rush; and the warm and friendly manner of his inquiries after his old friend strongly evidenced, that the high esteem he had conceived for him, was neither abated by time, nor effaced by distance.

‡ Collections for an essay towards a materia medica of the United States—Part second, 1804.

always corresponded from his earliest youth, when residing at a distance from him. He remained in his brother's family a few months, until he was enabled to make suitable arrangements, and to provide himself with a convenient situation, for establishing himself in the practice of physick, in this capital: he had then completed the twenty-fourth year of his age.

The well known abilities of Dr. Barton, introduced him speedily into notice, and soon after he began to get into some practice as a physician. By his reputation, too, for attainments in natural science, he acquired literary and academick honours, at a period of life when, in ordinary cases, the conferring of such would be deemed premature; for soon after his return to America,* he was chosen a member of the American Philosophical Society in this city, of which he became on the 1st of Jan. 1802, one of the vice-presidents, an office he continued to hold till the day of his death. From the first period of his election to membership of this society, he became one of its most active, as he was one of its most intelligent members. The printed transactions of the society are evidences of this. They contain many papers on various subjects relating to natural science, from his pen.

I have now arrived at that period of the life of Dr. Barton, in which he made his *debut* on the theatre of science, as a publick teacher. Previously to doing this, however, I pray your patience for a few moments, while I take a necessary retrospect of the beginning of this great medical school, which now vies with the far-famed universities of Edinburgh and Leyden.

In the year 1765, the original plan of the college of Philadelphia, was greatly enlarged, by the addition of the medical school; with the appointment of professors for reading lectures in anatomy, botany, chemistry, the materia medica, the theory and practice of physick, and also for delivering clinical lectures in the Pennsylvania hospital.

Dr. William Shippen the younger, first filled the anatomical chair in the College of Philadelphia, afterwards the University of Pennsylvania, which he continued to occupy for nearly forty-three years, with great respectability. He may justly be considered as the founder of the medical department of this school. He em-

* On the 16th of January 1789.

marked alone in the capacity of private lecturer on anatomy in the winter of 1762-3, being the first winter after his return from his studies in Europe. His success as a private lecturer, demonstrated the expediency of engrafting a medical school on the College of Philadelphia, and in consequence, he was unanimously elected the professor of anatomy and surgery, on the 17th of September, 1765. This able teacher held that chair until his death, which occurred the 11th of July, 1808, in the seventy-fifth year of his age.* I have been more particular in relation to Dr. Shippen, because he was, as I have just stated, the founder of the medical school; for until he delivered lectures in Philadelphia, the voice of a publick lecturer had never been heard here. Dr. Adam Kuhn, now living and in the practice of medicine in this city, who had been a pupil of Linnæus at Upsal, was appointed professor of botany, connected with the materia medica. The late eminent Dr. Rush was appointed to the chair of chymistry, and Dr. Thomas Bond, an ingenious and eminent physician, gave clinical lectures in the Pennsylvania Hospital. In the year 1789, the trustees of the College of Philadelphia instituted a professorship of natural history and botany, which was conferred on Dr. Barton, then only twenty-four years of age. Dr. Kuhn had previously to this delivered some courses of lectures on botany, but natural history had never before been taught. Dr. Barton then was the first lecturer on natural history in Philadelphia, and, so far as I know, the first teacher of natural science in the cis-atlantic world. This appointment was confirmed to him in the year 1791, on the incorporation of the college with the University of Pennsylvania. Dr. Barton, at the period of his death, had held this professorship for the space of six-and-twenty years. I beg leave in relating the benefits to natural science that resulted from the labours of the late industrious Professor, to quote what I have published on this point in the preface of my *Prodromus of a Flora Philadelphica*. "During this period Professor Barton delivered twenty-five courses of lectures on botany, in which he inculcated a high sense of the real *benefits* of the pursuit, in a medical point of view, with an enthusiasm that gave unequivocal evidence of his attachment to the interests of the science and the honour of the university. Such was the suc-

* See Barton's *Memoirs of Rittenhouse*.

cess of these efforts, that during the period when the laws of the university rendered it obligatory upon the candidates for its honours, to print their inaugural theses, not one commencement was held without a number of dissertations being published, detailing experiments on the medicinal properties and effects of indigenous vegetables; most of them undertaken at the instance, and prosecuted under the auspices of the Professor. The authors of these tracts were scattered annually through different sections of the United States; many of them cherished the love for botanick pursuits which they had imbibed here—they became botanists—and thus have the exertions of the Professor been seen and felt beyond the precincts of the university. In addition to these facts, it may be mentioned, that many years ago Dr. Barton successfully applied himself to the production of an elementary work on the principles of botany, of acknowledged excellence.* Of this I shall speak again when I enumerate the publications Dr. Barton gave to the world.

About five years after Dr. Barton was appointed professor of natural history and botany, viz. at the close of the year 1795, Dr. Samuel Powell Griffiths, who is still living, and a respectable practitioner of medicine of the society of Friends in this city, intimated his intention of resigning the professorship of materia medica in the university, some time in the course of the winter. Dr. Barton became a candidate for it. On this occasion his friend and relative Dr. Rittenhouse, warmly interested himself in the doctor's behalf. In a letter which he addressed to Dr. M'Kean, then chief justice of Pennsylvania, and an eminent member of the board of trustees of the university, he expressed himself in these terms, respecting his nephew—terms of high eulogium from such a man as Rittenhouse, and one who was alike scrupulously sincere, and incapable of flattery: "He certainly has ability sufficient," says Mr. Rittenhouse, "to enable him to be useful in any branch of medicine, and ambition enough to induce him to make the greatest exertion; besides, the materia medica seems so nearly connected with botany and natural history, his favourite studies, that I flatter myself he will be successful in his intended application," &c.*

* Barton's Memoirs of Rittenhouse, page 436.

To this chair of *materia medica* Dr. Barton was shortly after appointed, being then but just turned of thirty years of age, and having been professor of natural history and botany near six years. And here, gentlemen, *begins* and *rests* the high professional reputation of Dr. Barton in medicine. To the important lectures on this subject, continued by him till the period when the loss of one of the great pillars of this medical school afforded him an opportunity of a translation to the vacant chair of the practice of physick, is entirely attributable the present conspicuous elevation of the *materia medica* professorship in this university. Those who have attended the lectures of the late professor on this point of medical science, can bear honourable and powerful testimony in favour of their importance, their learning, their usefulness; and it is no small circumstance in favour of the exertions of his successor in this chair, that we hear nothing of its reputation being in any degree deteriorated, although the present incumbent succeeded to it under circumstances of a very discouraging, nay, almost overwhelming nature.

In chronological order it now becomes proper to digress from the subject, and mention that in the year 1797, Dr. Barton married a daughter of Mr. Edward Pennington, long since deceased, but for many years an eminent and respectable citizen of Philadelphia. This lady, together with the only children, a son and a daughter, survive their husband and father. A year after this event, viz. on the 28th of January, 1798, he was appointed to succeed Dr. Kuhn, as one of the physicians of the Pennsylvania Hospital, which he continued to hold till his death.

I have just hinted that Dr. Barton was translated from the chair of *materia medica* to the practical chair, relative to which it is necessary to make a few remarks. From the preceding sketch of Dr. Barton's character, you will not be long in concluding that he was a man of high ambition. The fact is so. He possessed this passion in relation to matters of literary reputation and science, in a most exalted degree. He had long viewed the splendour of professor Rush's deserved elevation in the paths of medical science, with emotions that could not but stimulate him to more vigorous and continued exertions to equal his fame. Let me add too, whatever may be thought generally to the contrary, he did that great man ample justice in his unreserved conversations respecting his literary and medical career.

Can it then be deemed unnatural, and will you not expect to hear, that upon the death of professor Rush, Dr. Barton became desirous of filling his chair? He accordingly applied for it, and was appointed some few months after the decease of his learned predecessor. This chair he held in conjunction with that of natural history and botany, till the day of his death. It was, however, his intention, had he lived, to resign the latter, perhaps about this time. He believed that the duties of a lecturer on natural history and botany required all the fire, the zeal, the bodily and laborious exertions of a young man. The energy and fervour he had once shown in teaching those branches, he believed himself no longer capable of, neither did he wish to substitute for the necessary perambulatory excursions with his botanical class (which had been always frequent) the tame and uninteresting lectures of an old, and, what is an inevitable consequence, of a closet teacher.—He well knew that demonstrative branches, like those of natural history, could neither be faithfully taught nor properly elucidated by a man whose age naturally made him prone to the more inactive pursuits of life. He had been eminent as a teacher of those sciences, because he was young and active—when he became older he was unwilling to detract from his well-earned reputation. Besides these motives, he had determined to devote the remainder of his life to the more important chair to which he had succeeded. In a conversation with me a short time after his accession to the practical chair, in which he stated his intention to keep that of natural history and botany but a year or two longer, he declared his firm determination to direct the concentrated powers of his mind to the fulfilment of the duties of his new professorship; and in his dedication of his *Archæologiæ Americanæ Telluris*, &c., to Mr. John Mason Good, an eminent surgeon of London, with whom he had long been in habits of correspondence, he thus expresses himself: “It is my object to collect materials for a history of these extinct animals and vegetables, the remains or impressions of which are daily discovered in the rapid progress of American population and improvement. I can hardly flatter myself that my time, devoted as it *must* be to other, and to me more important pursuits, will ever permit me to prosecute these archæological inquiries very far;” and in the preface of the same work he says, “I at one time, indeed, for some years toge-

ther, flattered myself that I should have found leisure to have devoted a considerable portion of my life to the study of organic geology. But my recent removal, in consequence of the death of Dr. Benjamin Rush, to a more practical chair in the university of Pennsylvania, and a determination to devote a principal portion of the remainder of my days to the cultivation of *practical medicine*, now teach me that it is too late to attempt any very extensive, and especially very *systematic* views of these among the most difficult portions of natural history."

These declarations were an earnest of that assiduous application to the duties of his new chair which he certainly paid with, to him, a fatal degree of faithfulness and labour. His constitution had been worn down by reiterated fits of irregular gout; and a recent as well as severe attack of hæmoptisis, had left him even but a remnant of that trembling and precarious health which for years before had been his companion. As no sickness could tame the vivid flashes of his mind, ever active, restless, and engaged, his hours of pain were continually aggravated by an attention to his studies and the duties of his chair. Nature was not equal to the task imposed on her. And as she ever returns in sickness and in disease the hours which are purloined by active minds, from her customary and necessary rest, Dr. Barton soon perceived the pernicious consequences of his midnight and injudicious toils. That his efforts to support the reputation of the university curtailed his existence I firmly believe. He had delivered but two courses of lectures in the practical chair, when his increasing ill health forced him to have recourse to the last resort to renovate his constitution: I mean a sea voyage. He accordingly embarked for France in the month of April 1815, and returned by the way of England in November following, not benefitted by his too hasty travel and return.

In the month of February, 1809, Dr. Barton was elected president of this society, Dr. Rush having resigned that station some short time before. This circumstance was a subject of gratification to our deceased associate, as it evidenced the highest respect for his professional standing that it was in your power to bestow. He felt the interest of this society much at heart; and if he did not give demonstrations of this by his frequent attendance, that circumstance should be attributed to his precarious health, his

numerous literary avocations and engagements, and his anxiety to finish some works, the completion of which he was very desirous to accomplish. He has left you, gentlemen. No longer will his exertions be made for your interests—for science—for the honour of his country. Let your remembrance of these be perennial, or I should rather say co-existent with your lives—for he justly deserves to be held in long, tenacious, and respectful recollection.

You have chosen, as his successor, one of your late vice-presidents, who has given you frequent evidences of his attachment to your interests, and his zeal in promoting your prosperity. I feel much confidence in congratulating you on this choice, for I am persuaded it has fallen on a friend to young men, and one ever ready to lend his aid to the advancement of their interests and their pursuits.

The primary disease of doctor Barton was unquestionably hereditary gout, of an irregular form, which assailed him in very early life, having had, as I have before mentioned, some violent arthritic symptoms while a student at Edinburgh. About three years ago he was attacked, during the night, with violent hæmoptisis. The discharge of blood was copious, and attended with considerable pain in the breast. This alarming symptom, indicating the approach of a more serious disorder, appearing in a constitution feeble, enervated, and worn down by study and the gout, could not fail of producing anticipations of a fatal consequence in the mind of a physician. Accordingly, Dr. Barton dated his approaching death from this event. His prediction was subsequently verified: for certain it is he never after enjoyed even the scanty portion of health that had before been his lot. He had afterwards other attacks of spitting of blood, and for a long time purulent expectoration, cough, and even hectic flushes occasionally; insomuch that he was inclined himself to believe, and his friends who heard his complaints, and witnessed their effects, believed—that a pulmonary affection had at length supervened. It was in this state of health that he devoted his labours to the writing and preparation necessary to fit himself for the new chair he had been appointed to; and, as I have before hinted, these labours doubtless accelerated his death. It was also in this state of health, after more serious indisposition, during the

preceding winter, that he embarked last spring for Europe, with how little real benefit, or even melioration of his malady, I have already stated. Previous to his departure he had many symptoms of hydrothorax, and this disease, in fact, proved the immediate cause of his death. After his arrival at New York he was violently affected with the distressing symptoms of this disease, and his life for three weeks was despaired of. He was spared however to reach his home in this city, and after a protraction of this indulgence of Heaven long enough to receive the visits of all his relations and friends, near to him, as well as of most of his medical brethren of this city, he expired suddenly in the bosom of his family on the morning of the nineteenth day of December last. He was in fact found dead in his bed. His wife, three hours before, had seen him unusually tranquil in his sleep. He seemed to have a strong presentiment of his approaching dissolution on the evening preceding his decease: for he requested, contrary to his usual custom, that his physician, professor Wistar, should not be admitted to him that night, and refused to have the friction of his legs continued, intimating by his manner his conviction that neither medical advice, nor any remedies, could any longer be of service to him. He possessed his mental faculties, if not wholly unimpaired, at least unusually active and correct, till the last moment that he spoke. Three days before his death he wrote a memoir on a new genus of plants, named in honour of him, and requested me to make a drawing of one of the species to accompany it. This I did, and at the next meeting of the Philosophical Society, I read this memoir for him. It will of course make its appearance in the next printed volume of that society's transactions, and must always be viewed as a memento of his wonderful activity of mind, which continued its operations for the elucidation of science even to the last day or two of his life—and this too in the midst of disease, of pain, and of sorrow.

The following letter from his physician, Dr. Wistar, received this morning, will give you a more particular account of his last illness:

“DEAR SIR,

“Your uncle was affected with the ordinary symptoms of hydrothorax. I believe the disease commenced before he left this

country. From his account it appeared to be mitigated during his voyage to France, and while he resided in that country, but increased a short time before he left England. There was a continued succession of storms during the homeward voyage, and he soon became so ill that he could not bear the recumbent posture, and therefore did not lie down during almost the whole of the time he was on board the ship. His sufferings were such that he wished for death. He used the dried squill as a diuretic, during the voyage, but it did not produce the desired effect. After he landed, a greater diuresis was effected, and he was considerably relieved. His death, although not expected at the time when it occurred, was similar to what I have known in at least half a dozen instances of hydrothorax. One of my patients died within five minutes after her return from riding. Another died as he was walking in a wood. Dr. Kuhn, the elder, was found dead in his chair. The late Mr. Milnor, of Trenton, I have been informed, died at his desk.

“ I am very respectfully yours,

“ C. WISTAR.”

“ *Thursday, Feb. 15th, 1816.*”

Such was the event that has bereaved the cause of American science of its ablest, its truest, and its most substantial advocate—its most *substantial*, for reasons I shall now state. Dr. Barton, in the commencement of his career, was not only indigent, but oppressed. He continued his exertions, however, undismayed by poverty, and unintimidated by enemies. And to those who know more intimately than it would be proper to state in this memoir, the struggles he made in early life through the most discouraging, nay appalling influence of want, added to the direful ravages of disease,—his subsequent elevation appears astonishing. His public lectures, and his various works, the rich harvest of his meritorious exertions, soon relieved him from the pressure of indigence, and the mental uneasiness, nay, sometimes distraction, that supervenes upon it. He whose mental exertions survive such a fate, and who perseveres through it, is not, believe me, a common man!

Among the first objects of his attention, when he obtained the means of realizing it, was exploring the extensive wilds of our

country, to cull the rich and unknown treasures, particularly among the vegetable productions, which he believed were there; and to obtain information respecting every curious and useful subject of natural history, that invited the attention of the naturalist. Unable, from his professional engagements, to travel himself, and search out these curious spoils, he employed the talents of others, whom taste may have qualified, while their circumstances incapacitated them for such pursuits. To these he afforded, liberally, the requisite funds, and necessary information. The only remuneration Dr. Barton received for these unequivocal demonstrations of his love for science, were the acquisition to himself and others, of useful and novel information, and the thanks and acknowledgments of those who were the subjects of his liberality.*

* In proof of the above remarks, I may here not unappropriately cite, from the late valuable publication of Mr. Pursh, on our American plants, the following passage, alike honourable to the memory of Dr. Barton, and to the good feelings of Mr. Pursh:

“ Within this period [between 1802 and 1805] I had also formed a connexion with Dr. Benjamin Smith Barton, professor of botany, &c. in the university of Pennsylvania, &c. whose industrious researches in all the different branches of natural history are so well known to the literary world. He likewise, for some time previous, had been collecting specimens for an American flora. As I was now very anxious to explore the remote parts of the country, particularly the interesting ranges of the Allegany mountains, I was enabled by the kind assistance of this gentleman, to take a more extensive range for my botanical excursions, which, during my stay at the Woodlands, had been confined within a comparatively small compass, the necessary attention to the duties of that establishment not permitting me to devote more time to them. Accordingly, in the beginning of 1805, I set out for the mountains and western territories of the southern states, beginning at Maryland and extending to the Carolinas (in which tract the interesting high mountains of Virginia and Carolina took my particular attention) and returned late in the autumn through the lower countries, along the sea-coast to Philadelphia.”—*Flora Americae Septentrionalis*, by Frederick Pursh, London, *pref.* p. ix.

I have made this full quotation, that every one may see for himself the extent of country over which Mr. Pursh travelled at the expense of his patron and employer.

Dr. Barton also extended his assistance to a young English botanist, a Mr. Nuttall, “ whose zeal and services,” to use the words of Dr. Barton, “ have contributed essentially to extend our knowledge of the north-western and western flora of North America; and to whom the work of Frederick Pursh is under in-

Thus gentlemen have I endeavoured to point out some of the more prominent of the numerous exertions made by your late president, in the cause of American science. The advantages that have resulted to its interests, by such substantial coun-

finite obligations."—In justice to Mr. Pursh I beg leave to state, that for the assistance so received, he gives Mr. Nuttall all due credit, although there appears to be some little disagreement between them, respecting the discovery of a new genus of plants, called *Bartonia* by their joint consent, in honour of, to use Mr. Pursh's words, "their mutual friend, Dr. B. S. Barton." Respecting Mr. Nuttall, I beg leave to quote from a manuscript paper now in my possession, written by Dr. Barton three or four days before his death, the following observations:

"I became acquainted with this young Englishman in Philadelphia several years ago; and observing in him an ardent attachment to, and some knowledge of botany, I omitted no opportunity of fostering his zeal, and of endeavouring to extend his knowledge. He had constant access to my house, and the benefit of my botanical books.

"In 1810 I proposed to Mr. Nuttall the undertaking of an expedition, entirely at my own expense, and under my immediate direction, to explore the botany, &c. of the northern and the north-western parts of the United States, and the adjoining British territories. Accordingly, having provided him with a *special* passport from the president of the United States, Mr. Madison, and with whatever else I deemed necessary, together with a considerable collection of manuscript queries and memoranda, Mr. Nuttall took his departure from Philadelphia in April, 1810.

"His route was by Pittsburg to Detroit, Michilimakinak, Fox River, the Falls of St. Anthony, &c. He deviated, however, from the route which had been pointed out to him, having been prevailed upon to ascend the Missouri in company with some of his own countrymen, some Americans, and others, whose objects were principally traffick.

"He proceeded to the Mikanee-towns; from thence to the territory of the Mandan Indians, in the boat of a Spanish gentleman; and in the same vessel descended the Missouri to St. Louis, near the confluence of this great river with the Mississippi, in the autumn of 1811.

"Among a very considerable number of plants which he observed and collected, in the course of his journey, there were two species of a genus which he observes in his notes to have the "facies" or aspect of cactus, and which he very properly referred to the class and order of *icosandria monogynia*—he named this genus *BARTONIA*. One of the species he calls *Bartonia superba*, and the other *Bartonia polypetal*. The former he found in flower in August and September; growing all the way from the river Platte to the Andes, on broken hills and the clefts of rocks—(Pursh adds, not I fear on the best authority, 'and on volcanic soil.') He speaks of it as a plant (herba) about three feet high, whose 'splen-

tenance, fully appear in the valuable work of Mr. Pursh, which contains the united discoveries of this gentleman and Mr. Nuttall.

With a view still farther to elucidate this point, and to give you, in the fairest way possible, such an history of his improvements in science, as your resolution appointing me to perform this duty, requires—I shall beg your patience for a short time, while I briefly enumerate his various works, their titles, and their extent, by affixing the number of pages in each. Such a catalogue will not only enable each of you to make your own deduction on the subject, but it may perhaps, be a mean of giving you some useful information respecting the number, the nature and extent of Dr. Barton's works—some of which are, in this country, as yet unknown. They are, so far as I can collect them as follow:

1. De Hyoscyma nigro—the Harveyan prize dissertation, before mentioned, 1787. (I am doubtful if this is printed.)
2. On some parts of natural history, &c. &c. his first work, before mentioned, published in London in 1787—octavo, about 80 pages with an engraving.
3. A memoir concerning the fascinating faculty which has been ascribed to the rattlesnake and other North American serpents; first edition, octavo, 36 pages—1796.
4. Collections for an essay towards a materia medica of the United States. Read before the Philadelphia Medical Society on the twenty-first day of February 1798—49 pages, octavo.

did flower expands only in the evening, suddenly opening after remaining closed during the day, and diffusing a most agreeable odour. It may justly rank, (he adds) with the most splendid plants of either America, and very probably inhabits Mexico, if not South America.

“The other species, *Bartonia polypetala*, he describes as a perennial, growing on gravelly hills, near the Grand Detour, and flowering in August.

“In the latter end of the year 1811, Mr. Nuttall returned to England by the way of New Orleans. Previously to his departure, he transmitted to me a number of the dried specimens and seeds which he had collected. Among these there were specimens of both species of *Bartonia*, together with a good collection of seeds. At the same time, he sent me a manuscript book, in which he has given pretty full descriptions of the two plants by the names which I have already mentioned: viz. *Bartonia superba* and *Bartonia polypetala*.”

5. Fragments of the natural history of Pennsylvania; folio, 42 pages—1799.
6. New views of the origin of the tribes and nations of America—octavo, 165 pages—1798.
7. Supplement to a memoir concerning the fascinating faculty which has been ascribed to the rattlesnake and other North American serpents, in a letter to professor Zimmerman of Brunswick, in Germany—octavo, 38 pages, 1800.
8. Memoir concerning the disease of Goitre, as it prevails in different parts of North America; octavo, 94 pages, 1800.
9. Collections, &c. part first, second edition—64 pages, octavo—1801.
10. Elements of botany, or, outlines of the natural history of vegetables, illustrated by 30 plates, first edition, two volumes octavo, together 508 pages—1803.
11. Collections, &c. part second first edition, 53 pages octavo—1804.
12. Facts, observations, and conjectures relative to the generation of the opossum of North America, in a letter to mons. Roume of Paris 8vo. 14 pages, 1809.
13. A discourse on some of the principal desiderata in natural history, and on the best means of promoting the study of this science in the United States; read before the Philadelphia Linnean Society, on the 10th of June 1807—octavo, 90 pages—1807.
14. Some account of the Siren Lacertina, and other species of the same genus of amphibious animals: in a letter to Mr. John Gottlob Schneider of Saxony, with an outline engraving of the animal, from a finished drawing made by myself. Octavo, 34 pages, 1808.
15. Collections, &c. 3d edition, octavo, 120 pages; 1810.
16. A memoir concerning an animal of the class of reptilia, or amphibia, which is known in the United States by the names of alligator and hell-bender, with an engraving; octavo, 26 pages—1812.
17. Flora Virginica: sive plantarum, præcipue indigenarum, Virginicæ Historia inchoata. Iconibus illustrata.* Pars prima, octavo, 74 pages. Printed in 1812, and going only as far as the

* There are no plates in it

fourth class of the Linnæan arrangement.* This work has never yet been published in this country, though I have some reason for believing Dr. Barton took it with him in his last voyage to Europe. It is nothing more than an enlarged and new modified edition of the *Flora Virginica* of Clayton and Gronovius, with the addition of the specifick names under which the plants enumerated are described by Michaux, Willdenow, Persoon, &c.

18. Elements of Botany, or outlines of the natural history of vegetables, illustrated with forty plates; the second edition, first volume. 310 pages, with an index of forty pages—1812.
19. Additional facts, observations, and conjectures, relative to the generation of the opossum of North America, in a letter to professor J. A. H. Reimarus of Hamburg; octavo, 24 pages—1813.
20. *Archæologiæ Americanæ Telluris Collectanea et Specimina*; or collections, with specimens, for a series of memoirs on certain extinct animals and vegetables of North America; together with facts and conjectures relative to the ancient condition of the lands and waters of the continent; illustrated by engravings.† Part first; octavo, 64 pages—1814.
21. Elements of Botany, second volume, in 1814.
22. Memoir concerning the fascinating faculty which has been ascribed to various species of serpents; a new edition, greatly enlarged and embellished by a plate; quarto, 76 pages—1814.
23. An edition of Cullen's *Materia Medica*, with notes.
24. Ditto first vol. Cullen's *First Lines*.
25. *Medical and Physical Journal*.

Besides these separate works, the following is a list of his papers and memoirs, read to the American Philosophical Society and printed in the different volumes of the transactions of that society.

1. An account of the most effectual means of preventing the deleterious consequences of the bite of the *crotalus horridus*, or rattle-snake. *Philo. Trans.* vol. 3d, pages 14, quarto.

* It is my intention to continue this work, the *Flora* of Gronovius being so valuable, that when completed on the plan begun by Dr. Barton, it cannot fail to be useful as a book of reference. For this purpose I earnestly solicit the gentleman of the medical class and other persons from Virginia who may pursue the study of botany, to aid me by their correspondence, and the transmission of dried specimens or seeds of indigenous plants, with their localities and time of flowering.

† The work has no plates.

2. An inquiry into the question whether the *apis mellifica*, or true honey-bee, is a native of America. Ditto, 20 pages quarto.
3. A botanical description of the *podophyllum diphyllum* of Linnaeus, in a letter to Charles Peter Thunberg, M. D. Knight of the Order of Wasa, Professor of Medicine and Botany in the University of Upsal, &c. Ditto, 14 pages quarto, accompanied with a plate of the plant to which Dr. Barton gave the name of *Jeffersonia*, in honour of Thomas Jefferson.
4. An account of the fascinating faculty which has been ascribed to the rattle-snake and other North American serpents. Vol. 4th of the Philo. Trans. 40 pages quarto. (This paper afterwards appeared in the form of a separate work, as has been mentioned, and went through two editions.)
5. Some account of an American species of *dipus* or *jerboa*. Ditto, with an engraving of the animal. 11 pages quarto.
6. Observations and conjectures concerning certain articles which were taken out of an ancient tumulus or grave, at Cincinnati, in the county of Hamilton, and territory of the United States, north-west of the Ohio; in a letter to Dr. Priestley. Ditto, 36 pages quarto.
7. Hints relative to the stimulant effects of camphor upon vegetables. Ditto, 3 pages quarto.
8. Some account of the poisonous and injurious honey of North America. Vol. 5, Phil. Trans. 16 pages quarto.
9. Memorandum concerning a new vegetable *muscipula*. Vol. 6, Phil. Trans. 3 pages quarto.
10. Some account of a new species of North American lizard.—Ditto, 5 pages quarto, with an engraving of the animal.
11. Supplement to the account of the *dipus Americana*, in the 4th vol. of the transactions of the Am. Ph. Society. Ditto, 2 pages quarto.
12. Hints on the etymology of certain English words, and on their affinity to words in the languages of different European, Asiatic and American (Indian) nations, in a letter to Dr. Thomas Beddoes. Ditto, 13 pages.

Besides these there are other papers which will appear in the next volume of the society's transactions, and which have been read some years: viz.

13. At a special meeting of the Philosophical Society, Feb. 24, 1804, Dr. Barton was chosen to deliver an eulogium upon Dr. Priestley. This was a very learned and extensive memoir—it is not yet published, though I suspect it remains among his manuscripts in a state for publication.
14. In February 1800, he read to the Am. Phil. Society an extensive memoir, entitled, “A geographical view of the trees and shrubs of North America”—not yet published.
15. And a memoir (which gained the Magellanic premium) concerning a considerable number of pernicious insects of the United States, which will appear in the next volume of the society's transactions. (These two last papers are mentioned by Dr. Barton in his discourse on the desiderata in natural history, &c.) and it is from that circumstance that I here enumerate them.

Professor Zimmerman translated into German, the memoir (Transactions Phil. Society) on the bite of the rattle-snake. Also the memoir on the fascinating faculty of the rattle-snake, &c. to which last he added notes, and an introduction in the German language, of 22 pages duodecimo.

The Elements of Botany have been republished in London, and translated into the Russian language at St. Petersburg.

These, gentlemen, are all the works which have been printed by Dr. Barton. Some of them have never yet been published, and many of them were designed entirely for the inspection and perusal of his numerous European correspondents. As it may be supposed, these works obtained for him great notoriety in Europe where he is honoured and respected.* Besides them Dr. Barton

* It may not be amiss to enumerate the foreign academick honours which Dr. Barton received at different periods of his life. I have it not in my power, however, to do this in chronological order, since I have not at this time access to any materials that will enable me to do so. He was a member of the Imperial Society of Naturalists, at Moscow in Russia; one of the foreign members of the Linnæan Society of London; correspondent member of the Society of Antiquaries of Scotland; member of the Danish Royal Society of Sciences at Copenhagen; and also member of the Royal Danish Medical Society at Copenhagen. Of this last named academy he was chosen a member several years ago, at the same time with the late Professor Rush. The diploma from this society, however, Dr. Barton received only a week or two before his death, by Mr. Peder,

republished the letter of John Henry Burkhard, to Leibnitz, written in the Latin language. He had written a Latin preface to this republication, which I have perused in manuscript and also in a proof-sheet. At the time I saw them, it was the intention of Dr. Barton to circulate it with the preface, among the botanical students. By inspection of the work which has now fallen into my hands, I find the preface is omitted, and the letter appears in its original form without comment. For the cause of this omission, with which I confess myself somewhat astonished, it is not difficult for me to account. On some future and more appropriate occasion, I shall endeavour to explain the history of this remarkable attempt to wrest from Linnæus, his long accredited claim to originality in the principles of his sexual system.

The ardent thirst for literary fame, which strongly marked the character of Professor Barton through life, rendered him a most indefatigable student from his earliest youth. He read much, wrote a great deal, and contemplated nature with unceasing attention. His numerous publications afford, of themselves, sufficient proofs of an uncommon degree of industry: but besides these, he was long engaged in collecting materials for other works, and preparing some for the press; all of which, it is greatly to be regretted, will now probably be lost to the world.

Amidst his professional avocations, which were numerous—the duties of his station, as a medical teacher, which were arduous, minister from the king of Denmark to the United States; a gentleman to whom this country is indebted not only for an extensive portion of good will and high estimation, but for the meritorious exertions he has, ever since he came among us, been in the habit of making, to circulate our scientific works among the *litterati* of his own country—exertions which his diplomatic situation and praiseworthy intentions, afford him great facilities of performing in a manner highly creditable to our reputation for national talents and learning.

When we compare the conduct of this intelligent Dane in relation to the points just hinted at, with the disgusting vanity of *their own*, and unqualified anathemas of the genius of *our country*, so continually exhibited by the herd of poverty-stricken and needy foreigners which swarms around us—who abuse while they receive their bread from us—and poison our reputation while they would starve but for our charity—we cannot fail to draw conclusions highly in his favour. I can offend none by these remarks, but those whose consciences whisper they are the subjects of them: *qui fecit, ille capit.*

ous—and a considerable portion of his time that was occupied in keeping up an epistolary correspondence with distinguished men of science,* as well in the old world as in his own country—amidst all these occupations, it is a matter of surprise, that he could have found a sufficiency of leisure for his multitudinous pursuits in literature and science: and the more especially, when it is taken into view, that he was frequently impeded in these pursuits by the privation of health.

Natural history and botany were his favourite studies,† and in

* Among the most distinguished of these are the following named:

The count de la Cépède, peer of France, &c. to whom Dr. Barton dedicated the quarto edition of his memoir on the fascinating faculty of the rattle-snake.

Professor E. A. W. Zimmerman, of Brunswick, in Germany.

Professor J. A. H. Reimarus, of Hamburg.

Professor John Frédéric Blumenbach, of Gottingen, to whom he dedicated his memoir on the disease of Goitre.

Mr. Thomas Pennant, the celebrated author of Arctic Zoology.

John Mason Good, Esq. F. R. S. &c. surgeon, of London, (well known by his poetical version of the Songs of Solomon)—to whom he dedicated his *Archæologiz Americanæ Telluris*, &c.

Dr. James Edward Smith, the learned president of the Linnæan Society of London, to whom he dedicated the second edition of the first part of his *Collections*, &c.

Professor Autenrieth, of Tubingen.

Mr. Tilesius, an eminent naturalist of St. Petersburg, Russia.

Monsieur Roume, of Paris, an intelligent French naturalist.

Mr. John Gottlob Schneider, of Saxony, a late celebrated writer on amphibious animals.

Dr. Patterson, of Londonderry, in Ireland.

Monsieur G. Cuvier, of Paris, the illustrious author of many learned works on organick geology, &c.

Sir Joseph Banks, Bart. the well known liberal and munificent patron of literature and science.

Dr. John Walker, professor of natural history in the University of Edinburgh.

Baron Humboldt.

Professor Pallas, of Russia.

Professor Sparrman, Sweden.

Professor Thunberg, Sweden.

Professor Burmann, of Holland.

† In the preface to his *Elements of Botany* he thus speaks of his attachment to these sciences: “The different branches of natural history, particularly

his investigation of these branches of science, he made a conspicuous figure. He employed much research, respecting the origin of the tribes and nations of America, on which subject he has, I am persuaded, left many valuable manuscript materials. He was fond of investigating what may be termed the *antiquities* of this country; and particularly interested in zoological inquiries.

He was a skeptick in matters of science, depending on human testimony—in fact, his incredulity was astonishing. He upheld the value of skepticism in his lectures—and in one of his publications he thus expresses himself: “Credulity is the most injurious feature in the character of the naturalist, as well as of the historian. Its influence, in one individual, is often felt and propagated through many ages. Unfortunately, too, it has been the vice of naturalists, or those who have touched on questions relative to natural history.”

The genius of Dr. Barton was of the highest grade: it was rapid, comprehensive, and brilliant in the extreme. He was well aware of the inefficacy and fruitlessness however, of its unaided efforts—he did not rely therefore on the native powers of his mind alone, great as they were, but applied himself closely to the avocations of the closet. He was not only a man of extraordinary industry, but of quick perception, and various information. His genius prompted him to conceive with celerity all the varied and diverse relations of those subjects, to which the bent of his mind more particularly attached him—he was therefore, a rapid writer.

zoology and botany, have been my favourite studies from a very early period of my life. The happiest hours of near sixteen years of cares, of difficulties, or of sickness, have been devoted to the cultivation of these interesting sciences. During this long period, I have never ceased to look forward, as I still look forward, with an ardent satisfaction, to the time, when natural history (including botany) shall be taught as an indispensable branch of science, in our university. That period, however, has not yet arrived. I have, however, the satisfaction of observing, that these sciences are making some, nay, even great, advances among us; and I still flatter myself, that the directors of our principal American universities, or other seminaries of learning, but, *in particular, the trustees of the University of Pennsylvania*, (in which all the branches of medicine are taught much more extensively than in any other part of the United States) will see the *propriety* and even *necessity*, of giving *more substantial encouragement* for the extension of natural history among us.”

He possessed a memory remarkably, nay extraordinarily tenacious and faithful, particularly with respect to facts and chronological events. He never forgot what he once determined to remember, hence he read with great advantage; and though his reading was always desultory, irregular, and to all appearance hasty—he was able to make the most profitable use of it. He possessed a good judgment, much imagination, and a taste for the fine arts. He was indeed a man of uncommon genius and excellent professional talents.

As a medical teacher, he was eloquent, instructive, and when occasion called for it, quite pathetick. His voice was good, though attenuated, penetrating, and sometimes rather sharp—his enunciation clear and distinct—his pronunciation constrained, and his emphasis, owing to his remarkable kind of punctuation, and a desire to be perspicuously understood, was studied, forced, and often inappropriate. In his lectures, his diction was cacophonous and unpleasant.

As a writer, he is ingenious, rich in facts, profound in research, and always abounding in useful information. He wanted, however, in a great degree, a talent for generalizing. Hence his various works are characterized by an egregious want of method, or perspicuous arrangement. His style, it must be confessed, is always diffuse, inelegant, and frequently tautological. As he never corrected what he once wrote, or at least but rarely, these defects in his composition were the natural consequences of his vehemence in writing. His punctuation is truly remarkable, and, for a man of his discernment and extensive reading, singularly incorrect.

As a physician, he discovered a mind quick in discriminating diseases, skilful in the application of appropriate remedies, though he certainly was a very cautious if not timid practitioner. No man read more extensively on the subject of diseases—in fact he was deeply versed in pathological knowledge, derived from books. As however his medical practice was never very extensive, his practical observations delivered in his lectures were strikingly marked with the evidences of overweening caution. Hence he recommended to his pupils, and always employed himself, unusually small doses of medicine. He was however in the main, an observing and intelligent practitioner, and was remarkably assiduous in his attentions, and soothing in his behaviour to his patients.

In figure he was tall, and exceedingly well formed; in middle life he might be considered as having been handsome. His physiognomy was strongly expressive of intelligence, and his eye was remarkably fine and penetrating.*

In temperament he was irritable and even choleric. His spirits were irregular, his manners consequently variable, impetuous, vehement. These repeated vacillations between equanimity and depression, were generally owing to the sudden and repeated attacks of his continual earthly companion—irregular gout.

In familiar conversation he was often elegant, remarkably facetious, but never witty.

As a parent, he was kind, tender and indulgent, to a fault.

He possessed some high virtues; among the most elevated of them, was his unaffected love of country. Indeed, his patriotic feelings were not only strong, but frequently expressed with unreserved warmth. He always spoke with extreme impatience of the arrogance of pretending foreigners of the literary grade, too many of whom resort to our country, being nothing in their own, and perpetually insult us by their vain and insufferable denunciations of our claims to national genius, talents and learning.

Such, gentlemen, was the late Professor Barton! May not such a man be truly called great? Before he had completed the fiftieth year of his age, the world was deprived of his talents—his country, more particularly, of his usefulness, and his family of a kind and affectionate protector. While the exit of so ardent a lover of the pursuits of science has given serious occasion to its remaining votaries to deplore his loss, may we not hope that they will emulate his talents and his worth!

* The best likeness extant of Dr. Barton, is the fine profile, done in mezzotinto, by St. Memim (the engraving prefixed to this sketch is copied from it) when the doctor was about thirty-seven years of age. The life-size crayon profile, from which the miniature mezzotinto was taken, is also a very good likeness: it is the property of the Pennsylvania Hospital, where it now is. His portrait of *kit-kat*-size, was painted while in England, by his ingenious friend and early protégé, Mr. Jennings; this was, at the time it was taken, a good likeness. And another, in a more finished style of painting, though certainly not a happy resemblance, was painted by Mr. Rembrandt Peale, within the last two years of the doctor's life. Mr. Trott painted a fine miniature picture of him, which is in all respects, except the expression of the mouth, a most excellent likeness.

The execrable caricatures now exposed for sale in the print-shops and book-stores, have only the most distant traces of resemblance.