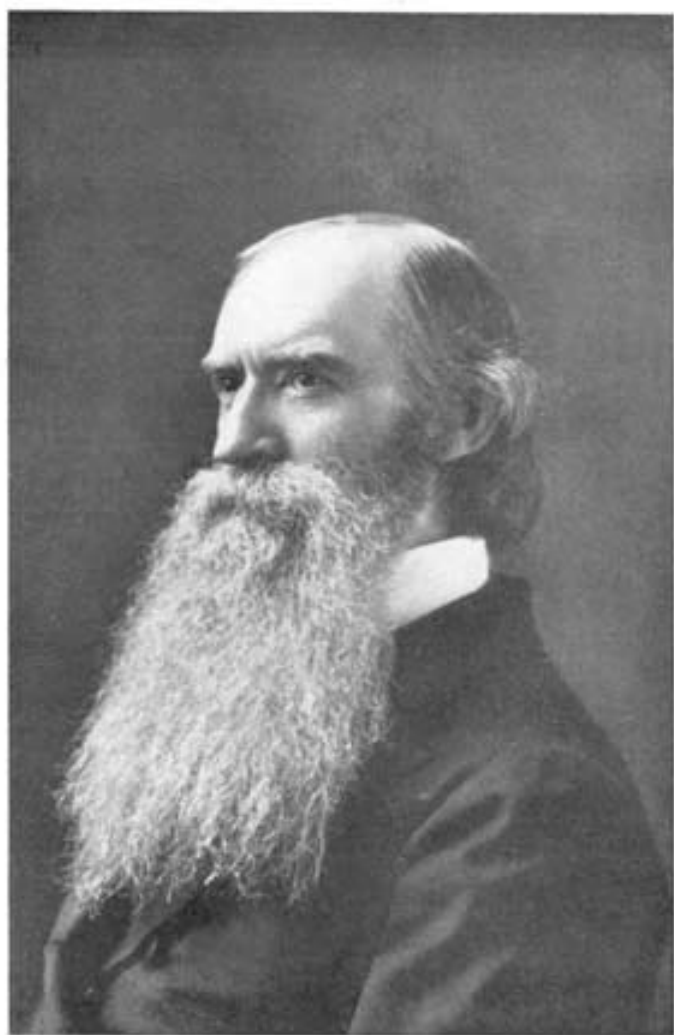


BIOGRAPHICAL MEMOIR
OF
JOHN STRONG NEWBERRY.

1822—1892.

BY
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D. A. Newberry

BIOGRAPHICAL MEMOIR OF JOHN STRONG NEWBERRY.

It is more than ten years since our honored associate, Dr. JOHN S. NEWBERRY, died, but that event has not hitherto been commemorated in the archives of the Academy by the usual biographical memoir. Because of the great excellence of his character, and especially because it was long my privilege to call him my friend, I promptly undertook the task that has lately been assigned to me of preparing such a memoir, and I herewith present it to you.

JOHN STRONG NEWBERRY was born in the town of Windsor, Connecticut, on December 22, 1822, and died in the city of New Haven, Connecticut, on December 7, 1892, having then almost completed three score and ten years. He was a man of such prominence in scientific, educational, and national affairs and so much loved and respected by those who knew him, that many biographical sketches of him were published soon after his death. The facts pertaining to his life and labors have been so fully set forth in those sketches that, although I was personally cognizant of a considerable portion of his career, I prefer to use for the historical portion of this memoir much of the material that has been obtained from members of his family and other personal friends and embodied in the publications referred to. The following genealogical notes prepared by one of Dr. Newberry's sons have been extracted from one of those publications :

“Thomas Newberry, of Devonshire, England, settled in Dorchester, Massachusetts, about 1630. He died there about 1636, and his widow and children removed to Windsor, Connecticut, about the same year. His son, Captain Benjamin Newberry, was the first named of the seven proprietors to whom Windsor was patented in 1685. He commanded the military of the colony. He left two sons, Thomas, who was the ancestor of the Detroit and Chicago Newberrys, and Benjamin, who was our ancestor. Captain and Major Benjamin 2d seems to have succeeded to his father's position as chief of the military forces of the colony. His son, Captain Roger, married Elizabeth Wol-

cott, daughter of Roger Wolcott, governor of Connecticut. Captain Roger graduated at Yale College in 1726, and was a deputy to the general court for eleven sessions. In 1740 he commanded a company from Connecticut in the expedition against the Spanish Main, and was present at the repulse of Admiral Vernon at Cartagena in April, 1741. He died on the voyage home.

“General Roger Newberry, son of Captain Roger, received his commission as lieutenant in the colonial forces in 1767. He was commissioned as major in 1775, the commission being signed by Jonathan Trumbull, governor, and George Willys, secretary, of ‘His Majesty’s Colony of Connecticut.’ In 1777 he received a commission as colonel, signed also by Jonathan Trumbull, governor, and George Willys, secretary, ‘of the State of Connecticut.’ In 1781 he was commissioned as brigadier general, and in 1783, after the peace, as judge of probate. He was one of the proprietors of the Connecticut Land Company, who purchased from the State of Connecticut the northern counties of Ohio, known as the ‘Western Reserve.’

“Henry Newberry, son of General Roger, went to Ohio in 1824 to look after his father’s landed interests. He located his land at the falls of the Cuyahoga river, and founded the town since known as Cuyahoga Falls. Upon this property was mined the first coal known to have been offered for sale in Ohio. My father, John Strong Newberry, was the younger of his two sons.”

The lands of the Western Reserve Land Company were resold to settlers, a large part of whom were emigrants from Connecticut, of which State that region was then a recognized province. Many of those pioneer settlers were persons of education, who had enjoyed the advantages of a region that had already become one of the chief centers of education in America, and their intelligence and thrifty character were so strongly impressed upon the new communities that the results are to this day readily distinguishable among the inhabitants of that region, who are largely their descendants. It was in a community thus formed and characterized that the years of Dr. Newberry’s childhood and youth were passed.

Although his father, Henry Newberry, with his wife and nine children, of whom John was the youngest and then only two years old, was among the earliest settlers, he made ample provision for the comfort and advantages of his family. Their

home was established at Cuyahoga Falls, about thirty-five miles south of the present city of Cleveland. Here the father became actively engaged in various enterprises, among which were his town proprietorship, the building of mills, and the opening and operating of coal mines. He also interested himself actively in securing an outlet for his products by way of Lake Erie, for railroads were then in their earliest experimental stage, and their future possibilities were not dreamed of by even the most sagacious business men. The son was thus reared in an energetic family and among men of strong, resolute, and intelligent purpose. These associations naturally gave strength to his own character, which was integrated and refined by the influence of a cultured home, presided over by a mother to whom her children gave loving obedience and to whom all others gave the sincerest reverence.

The physical surroundings of the boy were also fortunate and gave ample scope for the development of that love of nature by which he afterward became so strongly characterized. The fauna and flora of the region round about his home were then in their primeval condition and abundant in all their native forms. The valley sides of the Cuyahoga river presented many good sections of the underlying strata and betrayed the secret of their origin and that of the physical history of the valley. The shales taken from his father's coal mines were filled with fossil remains of plants of the by-gone Carboniferous age, not unfrequently accompanied with remains of fishes, and short journeys brought him in contact with other abundantly fossiliferous strata. The book of nature was thus opened at legible pages to his youthful eyes, and that he read it attentively and understandingly his after life abundantly proved. He early began to make collections, especially of living and fossil plants, and before he entered college he had made a large herbarium and prepared a "Catalogue of the Plants of Ohio." He had also filled a large room of his father's house with fossils to which in after years he gave long and effective study.

The early settlers of the Western Reserve gave their most earnest attention to the establishment of schools in the new communities, and young Newberry received instruction in the best of those which the region then afforded. When he reached the proper age he was prepared for college at a special school

that had been established in the town of Hudson, about eight miles from his home. Upon completing that preparation he entered Western Reserve College, which was also then established at Hudson, but it was some years afterward removed to Cleveland. He was graduated from that college in 1846, being then in his twenty-fourth year. During the last two years of his college course he also pursued studies in medicine, and upon his collegiate graduation he entered the Cleveland Medical School. He was graduated from the latter institution in 1848 with the degree of Doctor of Medicine.

At that time, in accordance with his previous intention, he began to formulate his plans for the practice of medicine as his lifework, but in doing so he met objections within himself. It is true that he had already received his medical degree and also much special instruction from the best of his medical teachers, but he was far from satisfied with his preparation for a profession which he had long held in the highest esteem. He therefore decided upon a course of foreign study, although he had already begun the practice of medicine at his home in Cuyahoga Falls. This determination he carried out in the autumn of 1849, and having a few months previously married Miss Sarah B. Gaylord, of Cleveland, he sailed with her for Paris, where they remained two years enjoying the advantages of that great center of science and art.

The young doctor was assiduous in his attendance upon medical lectures and clinics during his stay in Paris, greatly strengthening the foundation of his medical education and increasing his knowledge in various ways. The attractions of the museums, the Jardin des Plantes, and the scientific lectures of the distinguished men of that time were very great, and he profited by them to the uttermost, without detriment to his main purpose. He returned to America in 1851 and began the practice of medicine at Cleveland, where he met with immediate success. As time passed every thing seemed to indicate that he was permanently established as an eminent and much respected physician; but at the end of four years of the work for which he had so carefully prepared himself he came to the parting of the ways. Notwithstanding his sincere devotion to medicine, his love for the natural sciences was in no way diminished, but rather increased, as the years went on. Although his professional duties

were laborious, he continued his nature studies without interruption, and from time to time he published articles on those subjects which attracted much public attention.

During the years that Dr. Newberry was practicing medicine at Cleveland, the Government at Washington was preparing for the exploration of various portions of our great western domain. In 1855, an expedition was organized, under command of Lieutenant R. S. Williamson, to explore the country between San Francisco bay and the Columbia river, and Dr. Newberry was appointed assistant surgeon in the U. S. Army and geologist and botanist to the expedition. That was a position and an opportunity for which he had long been unconsciously preparing himself, and when the offer came he did not hesitate to close his medical practice at Cleveland and accept it. He chose the new way that was thus opened to him, and the results showed that he chose wisely. The Williamson exploring party made San Francisco the base of their field operations, and having accomplished the ordered explorations, they returned to Washington, D. C., arriving there in January, 1856.

While preparing the report of his field operations in Washington, he was chosen to the chair of chemistry and natural history in the institution at Washington known as the Columbian University,* but which is not to be confounded with Columbia University at New York city, with which he afterward became permanently connected. He retained his connection with the former institution for one college year, or only while he remained at the capital city.

In 1857 Dr. Newberry was appointed physician and naturalist to the Government expedition which was generally known as the Colorado Exploring Expedition, or the Ives Expedition, so-called from its commander, Lieutenant Joseph C. Ives. The thrilling experiences of the members of this expedition, especially in transporting their boats overland and ascending the Colorado river of the West as far as its great cañons, have become a part of the history of early explorations in the far western part of our country, most of which was then an unknown land. Dr. Newberry's labors as physician to the party and aid

* Since this article was written, this institution has changed its name to George Washington University.

to the commanding officer were very severe, but he nevertheless collected a large amount of information upon the geology and botany of the region which he traversed, and made many valuable notes upon the Moquis and other Indians of the Southwest. The party returned to Washington in the early summer of 1858, and Dr. Newberry spent the remaining months of that year in preparing his report.

In 1859 he was again in the field, this time as geologist of the San Juan Exploring Expedition, under the command of Captain J. N. Macomb, which began its work of exploration at Santa Fé in July of that year. This journey also took him over some of the wildest portions of our western domain and afforded opportunity for much valuable observation. He returned with the expedition to Santa Fé in the following November and went from there to Washington, where he remained until he had finished the preparation of his report. Owing to the then unsettled state of the nation, which culminated in the Civil War, that report was not published until 1876, seventeen years after the observations were made. Its publication after so long delay was in recognition of its great value; but because of that delay Dr. Newberry was deprived of the credit of priority, which was justly due him, in much of the important geological and ethnological work, which was afterward published by various authors from observations made in the region which he investigated when it was entirely new.

Upon the outbreak of the Civil War Dr. Newberry reported to the War Department at Washington, in whose service as assistant surgeon he had already passed five years. For the time and for that great emergency he was ready to abandon all his cherished plans for scientific work, and he promptly offered his country the benefit of his medical training and experience, which was as promptly accepted. He was appointed to the United States Sanitary Commission in June, 1861, and entered zealously upon his work. His ability and efficiency were at once recognized, and he was soon made secretary of the western department of the commission, which had supervision of the sanitary service in the great Mississippi Valley region, with headquarters at Louisville, Kentucky. He continued in this work of the sanitary service through and until after the close of the Civil War, and if he had never performed any other work

of any kind his service upon the Sanitary Commission would be sufficient to entitle his name to be held in grateful remembrance by his country and by humanity. One who was officially associated with him, and who was thoroughly acquainted with the workings of the commission, said of him: "All the agents of this work were selected by Dr. Newberry and assigned to their special duties. With an executive ability that is rarely equaled, he seemed instinctively to put every man to the task he was best fitted for and to keep him up to his most efficient work. All reported to him at least every month, and oftener when emergencies demanded. All were treated with the utmost kindness and consideration, and all learned to love and honor him. No part of his life-work is entitled to higher honor."

Should time permit I would like to dwell long upon this great work of Dr. Newberry, but I can only make passing reference to a summary of it, written by himself. It is represented by entry number 60 in the accompanying list of his published works and consists of 543 octavo pages. A crowning proof of his integrity of character is found in the full accounting which he rendered to the Government for all the money and property, amounting to millions of dollars, that passed through his hands in the course of his official work.

It was while Dr. Newberry was engaged in the great work of the U. S. Sanitary Commission that our Academy was organized, and he naturally became one of the original fifty members. His subsequent as well as his previous scientific work shows how well he deserved that honor.

At the close of the Civil War, in 1865, his inclination was strongly toward a resumption of his scientific pursuits rather than a return to the practice of medicine. The Smithsonian Institution then offered the best advantages available to him for research, and he accordingly became a scientific associate of that renowned institution. This association, however, was of short duration, for in the next year, 1866, he entered upon what was to be his chief life-work in science and education—that is, he was then chosen to the Chair of Geology and Paleontology, which was at that time established for the School of Mines of Columbia University, in New York city. He was the first occupant of that chair and he retained it until his death, twenty-six years afterward.

This settlement in educational and scientific work was the consummation of Dr. Newberry's earnest desire and the fulfillment of his early dreams. From this time on his career was free from radical changes, and was one of steady growth, immense labor, and abundant results.* Important as were his previous scientific labors and great as was his work upon the U. S. Sanitary Commission, we must regard the years during which he occupied his chair at the School of Mines as the most important period of his life. It was within that period that he produced his greatest impression upon the university which honored him and which he honored, upon scientific education throughout the land, upon its rising young men, and upon the city which was the scene of his labors.

The impression which he produced upon the scientific world is largely indicated by his published works, much the greater part of which were written within that period. He was one of the chief agencies in bringing about the organization of the School of Mines for Columbia College, which was one of the more important steps that were then and afterward taken toward making the college a university in fact. He labored constantly and with great success to bring up that school to a high standard of efficiency. Its museum, which is one of the best of its kind, was his creation, and a large part of its fossils, rocks, and minerals are of his personal collection. His influence upon the citizenship and the municipal affairs of New York city was very great, and he was constantly consulted upon scientific and hygienic questions pertaining to the city government and policy. When he assumed the duties of his professorship general interest in New York city upon scientific matters was at the lowest ebb. Under his influence the moribund "Lyceum" was rehabilitated and soon became the living, flourishing New York Academy of Sciences of today, and other scientific institutions of the city shared in the general awakening that his influence created.

Of his influence upon his students at the School of Mines I will speak further on, and now refer briefly to his characteristics as an educator and to the honors which have been bestowed upon him. When he and his fellow-American naturalists were in the earlier years of their manhood and of their isolated studies there were no schools of science in America, and neither geology nor any of the biological sciences had a distinctly recognized place

in any college curriculum. The first teachers of these sciences were necessarily the self-taught naturalists of those days. Among those teachers Dr. Newberry began his educational work with the broadest preparation, of which his medical and surgical training was an important feature, and he was unquestionably one of the ablest teachers of his time. When he came to his chair at the School of Mines he was possessed of a matured originality of thought and constructive ability, which enabled him to organize his courses of instruction upon such an efficient plan that it has needed little change to this day. He came to his educational work, as he did to that of the Sanitary Commission, with an effective grasp of the subject, which was that of a veteran.

All the honors that were naturally due to one of his ability came to him as a matter of course, among which the following may be mentioned: He was President of the American Association for the Advancement of Science for the meeting at Burlington, Vermont, in 1867, and in the same year his Alma Mater conferred upon him the degree of Doctor of Laws. In 1868 he was elected president of the Lyceum of Natural History of the City of New York (which in 1876 became the New York Academy of Sciences), and he remained its president by annual reëlection until his death, twenty-four years afterward.

For some years after his college work was established at New York, Dr. Newberry retained his residence and citizenship at Cleveland, and when, in 1869, the Geological Survey of Ohio was provided for by legislative enactment he was chosen to be its director. For three years thereafter he gave that work all the time he could spare from his college duties, but after those three years he gave it less attention, although he continued to publish reports of the survey. In 1874 the work of the survey was suspended by failure of the legislature to provide the necessary funds, and much dissatisfaction, and even bitterness of feeling, was engendered among those who had taken part or had been interested in it. Dr. Newberry thought, and with apparently good reason, that injustice had been done him in his relation to the survey. Soon after its suspension he removed his residence from Cleveland, Ohio, to New Haven, Connecticut, where he ended his days.

At the Centennial Exposition, which was held at Philadelphia in 1876, he was appointed one of the judges, and made a

report on the building and ornamental stones. In 1880 he was elected President of the Torrey Botanical Club, in New York city, which office he held by annual reëlection for ten consecutive years. In 1884 the United States Geological Survey assigned to him the investigation of its fossil fishes and a part of its fossil plants. In 1888 he was awarded the Murchison Medal by the Geological Society of London for distinguished services to geological science. He became an original member of the Geological Society of America in 1888, and was elected first vice-president of the society for the following year. He was one of the organizers of the International Congress of Geologists, and was elected its President for the meeting at Washington in 1891; but his failing health made it impossible for him to perform the duties of that high position or even to attend any of the meetings of the Congress. Besides the aforementioned honors that came so justly to our distinguished associate, he held honorary membership in most of the learned societies of America and a large part of those of Europe.

In the autumn of 1889 Dr. Newberry showed signs of exhaustion, which was due to his advancing years and severe labors, and in the following winter he took a severe cold, from the effects of which he never fully recovered, although he still continued to work. Even during his summer vacation in 1890 he continued to work upon the "Fossil Flora of the Amboy Clays," which task he greatly desired to bring to a close. But the beginning of his end was near, for on December 3, 1890, he was prostrated by a stroke of paralysis. He rallied a little soon afterward, and for a part of the year 1891 he attended to his duties at the college during a few hours each day, but his need of absolute cessation from work was imperative. He sought recuperation in the Southern States, in California, and on the shores of the Great Lakes, but to no purpose, and with waning strength he returned to his home in New Haven in 1892. On December 7 of that year the end came and the good man was at rest.

To my mind it is unnecessary and inappropriate for one who has been chosen to write for our archives a biographical memoir of a deceased associate to criticise in judicial terms either the intrinsic or relative value of his published works. If I should attempt it in Dr. Newberry's case I am sure I should be quite as likely to err upon any point as he may have been. I herewith

append a bibliographical list of his published writings, consisting of two hundred and twelve entries and extending over a period of full forty years. These publications are before the world for its deliberate judgment, and I have no fear that the result will be unfavorable. They comprise a remarkable range of subjects for the labor of one man, the chief of which are geology, both general and economic; paleontology, both vegetable and animal; physiography, zoölogy, botany, and archæology.

My more than thirty years' acquaintance with Dr. Newberry was to me a constant source of pleasure and intellectual profit. He seemed to have high ideals in mind for discussion whenever we met; but still he was eminently human, and I loved him because he was so. His individuality was so distinctive and his personal and professional influence upon other men so great and beneficial that I would like to present to you an adequate estimate of them, but I can at best only make a few brief and disconnected references to them on this occasion. He was possessed in a marked degree of the four cardinal virtues of the ancient philosophers—justice, prudence, temperance, and fortitude—and to these were added charity and human kindness in the fullest measure. He was prompt to render and to require justice. If he ever erred in prudence, it was toward charity. His temperance was that of the highest type of manhood, and the greatness of his fortitude was eminently shown in the protracted closing scene of his life.

The full extent to which he exercised the virtue of human kindness can never be fully known, because it was always unobtrusively done; but it is known that he extended it even to the lowermost limits of humanity. General William Birney, who was his fellow-sojourner in Paris and his life-long friend, reminiscently gives me that testimony of him. He says, for example, that he never knew Dr. Newberry to pass a beggar in the streets of that city without bestowing alms. That was an approved form of charity and of modest recognition of "noblesse oblige" in those days, and he continued the habit in after life, often against his better judgment, evidently because it grieved him to witness even seeming distress without trying to relieve it. His old friend mentions other instances illustrating his inborn kindness, but the foregoing are sufficient to show the great breadth of his humanity.

A marked feature of his individuality was his sincerity. He was always free in conversation, but never trivial. He was kindly and genial, but there was always a serious earnestness in his manner that reflected his sense of right and of the responsibilities of life and its labors. He did his scientific work and spoke of it with a sincerity that indicated a high estimate of every fact connected with it. He was never irreverent, but a physical fact was to him as sacred as a moral principle or a religious tenet.

Few men have worked in so many different fields or worked so well in them as Dr. Newberry. He was a naturalist in the broadest sense of the word, and a great one. Many of the best American naturalists who were his contemporaries achieved their successes in the face of obstacles and disadvantages that would have dismayed most men. He had advantages superior to theirs, and having the same indomitable energy he was to that extent their superior in the accomplishment of results. Yet nothing was further from his thoughts than an undue assumption of superiority over any of his colaborers in science. He was always ready, in a natural and friendly manner, to give encouragement and approval to any friendly naturalist who was capable of profiting by it, and the recipient of favors of which he was the real author often did not know whence they came. He enjoyed the proper and discreet use of his own influence in favor of a deserving friend.

Perhaps no teacher ever commanded more sincere and loving respect from his students than was accorded to Dr. Newberry by the classes of young men who from year to year thronged his lecture-room at the School of Mines. He was literally their "guide, philosopher, and friend." All of them, as they have gone out into the world, have taken important part in its activities, many have themselves become teachers, and all revere his memory. I think it not too much to say that the influence which he exerted upon these men by his personal contact with them and the instruction which he imparted during the twenty-six years of his professorship was as great and beneficial as that which has been exerted by his published writings, valuable and numerous as the latter are.

It was sad to see our friend stricken down while he was yet in the full vigor of his intellectual faculties and in the full exer-

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cise of his influence for good, but his fortitude in the face of impending death excited our admiration. We felt that he had accomplished the full measure of a life's work, that the world is better and wiser for his having lived in it, and that to us his life had been a benison.

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2. On the Currents of the Gulf Stream and of the Pacific off Central America. Family Visitor, 1851.
3. On the Geographical Distribution of Certain Species of Land and Fresh Water Shells. Proc. Amer. Asso. (1851), p. 105.
4. On the Origin of the Quartz Pebbles of the Carboniferous Conglomerate. Family Visitor, 1851.
5. On the Specific Identity of Typhus and Typhoid Fevers. Minutes Ohio State Medical Society, 1852.
6. On the Fossil Fishes of the Cliff Limestone. Annals of Science (1853), p. 12.
7. On the Structure and Affinities of Certain Fossil Plants of the Carboniferous Age. Proc. Amer. Asso. (1853), p. 157; Annals of Science, vol. I, p. 268.
8. On the Carboniferous Flora of Ohio. Proc. Amer. Asso. (1853), p. 163; Annals of Science, vol. I, p. 280.
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10. New Fossil Plants from Ohio. Annals of Science (1853), pp. 116, 128, and 153.
11. Fossil Plants from the Ohio Coal Basin. Annals of Science, vol. I (Cleveland, 1853), pp. 2-3, 95-97, 106-108, 164-165, 268-270.
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13. Report on the Economic Geology of the Route of the Ashtabula and New Lisbon Railroad. Cleveland, Ohio (1857), 8vo, pp. 49.
14. On the Mode of Formation of Cannel Coal. Amer. Jour. Sci., vol. XXIII (1857), p. 212.
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25. The Ancient Vegetation of North America. Amer. Jour. Sci., vol. XXIX (1860), p. 208.
26. The State-House Well of Columbus, Ohio. Report of Superintendent of State House (1860), and Reprint.
27. The Aurora of 1859. Amer. Jour. Sci. vol. XXX (1860), pp. 347-356.
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29. Geology of the Colorado Exploring Expedition. Washington (1861), 4to, pp. 153, pl. 6, 2 maps.
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31. The Surface Geology of the Basin of the Great Lakes. Proc. Boston Nat. Hist. Soc., vol. IX (1862), and Reprint, pp. 7.
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35. Prospectus of Neff Petroleum Company, Knox County, Ohio (1866), pp. 16-23, 40-43. Gambier, Ohio.
36. Report on the Fossil Fishes collected on the Illinois Geological Survey, by J. S. Newberry and A. H. Worthen. Rept. Geol. Survey of Illinois, vol. II (1866), pp. 1-134, pl. XIII.
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38. Modern Scientific Investigation, its Methods and Tendencies. Presidential Address, Proc. Amer. Asso. (1867), p. 1, Reprint.
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53. Geological Survey of Ohio. Report of Progress for 1870, part I; Structure of the Lower Coal Measures in Northeastern Ohio, pp. 1-53, 4 charts.
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Some of Dr. Newberry's cyclopedic writings are mentioned in the foregoing list, but his chief work of that kind was done for Johnson's Cyclopedia. He was one of the editors of that work, having had special charge of the subjects pertaining to geology and palæontology. Besides the elaborate articles on these subjects from his own pen which that cyclopedia contains, he aided his editorial associates with reference to a multitude of other relevant subjects. This mass of cyclopedic work, therefore, should receive distinct recognition in any bibliographical list of his writings.