



NATHANIEL LORD BRITTON
January 15, 1859–June 25, 1934
(Photograph by Underwood and Underwood, July, 1907)

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(WITH PORTRAIT)

Opportunity and the man conjoined to make the career of Nathaniel Lord Britton a notable one. The City of New York, spacious and wealthy, was a fitting site for an institution to be devoted to the study of the plant sciences and to the public display of plants and plant products of scientific, economic, and horticultural interest. Doctor Britton was the man of vision, energy, and resource, who, above all others, made the dream of a few a living reality. In a very large measure, it was his driving vitalizing force that, within less than thirty-five years, converted raw materials into The New York Botanical Garden, one of the leading institutions of its kind in the world.

Nathaniel Lord Britton was born at New Dorp, Staten Island, on January 15, 1859, and died at his home, 2965 Decatur Avenue, New York, January 25, 1934, being thus in his 76th year. He was the son of [Jasper] Alexander Hamilton Britton and Harriet Lord Turner. The family name suggests a connection with British soil, but it had its deeper roots in Bretagne or Brittany in northwestern France. Schrank's Malvaceous genus *Lebretonia* is believed to commemorate a botanically minded member of the family in a previous century. The first of the American line appears to have been James Britton, who came from London in 1635. A later representative of the line, Nathaniel by name, and his wife, Elizabeth, in 1695 acquired title to the Obadiah Holmes property in New Dorp, Staten Island, and in 1925 the Nathaniel of this sketch and

his wife, Elizabeth Gertrude, deeded a part of this land, with the old "Britton Cottage," to the Staten Island Institute of Arts and Sciences, in the hope that the old house would "long be preserved as an illustration of early colonial construction."

According to the available photographs, Nathaniel Lord Britton was a very boyish-looking youth, when, in 1879, at the age of twenty years and a little less than five months, the trustees of Columbia College conferred upon him the degree of Engineer of Mines. There was in those years no formal instruction in botany in Columbia College or its School of Mines. However, Dr. John Strong Newberry, the Professor of Geology and Mineralogy, was an "all-round naturalist of the old school," who had published a few papers on living plants and many on fossil ones. He had encouraged young Britton's botanical interests, which had been fostered by early association with Mr. John J. Crooke, on Staten Island. Crooke was a graduate of Yale, primarily a chemist and physicist, who made large collections of shells, birds, minerals, and plants. On Mr. Crooke's death in 1911, Doctor Britton wrote that he had been favored with his "intimate acquaintance since boyhood and his [Britton's] direction to lines of scientific inquiry was induced by this companionship and suggestion."¹ It is said that even as a child the young Nathaniel, when taken on drives, knew the names of roadside trees and other plants in a way that seemed very mysterious to his parents. In those early years on Staten Island, association with the slightly older Arthur Hollick, his classmate in the School of Mines, was also a factor in shaping the development of the future botanist. In company with Hollick, he joined the Torrey Botanical Club in October, 1877. Hollick and Britton's "The Flora of Richmond County, New York" was published in 1879, the year of their graduation. Britton's first appearance in botanical literature had been somewhat earlier—in the *Bulletin of the Torrey Botanical Club* for October, 1877, under the title "Staten Island Plants." After miscellaneous notes on the local occurrence of various species, he observes that on dropping open-flowered plants of *Opuntia vulgaris* (?) the radiately extended anthers are by the shock (or by a slight tap, even when not dropped) drawn in against the stigmas, afterwards, when left quiet,

¹ Journal of The New York Botanical Garden 12: 161. 1911.

resuming their extended positions. This simple observation on the prickly pear was a forerunner of the sumptuous four-volume Britton and Rose monograph of "The Cactaceae" of the world! However, the implications are physiologic rather than taxonomic. His second, third, and fifth contributions, all published in the *Bulletin* while still an undergraduate in the School of Mines, have physiologic or phaenologic rather than systematic bearings. The second is entitled "When the Leaves Fall." It includes a table of 65 species of trees, shrubs, and vines, with notes as to the condition of the leaves on five dates in October and November, 1877. He observes that "the female in dioecious plants appears to hold its foliage longer than the male * * * —very strongly marked in *Ailanthus glandulosus*, *Acer saccharinum* and *A. rubrum*, and *Salix alba* and *S. discolor*, but not in *Populus*." A companion piece, a few months later, is "When the Leaves Appear." Another brief paper, just before his graduation, bears the title "Notes on the Relative Age and Dimensions of a Number of Different Trees."

On his graduation from the School of Mines, in 1879, he became Assistant in Geology under Professor Newberry and for the five following years he was also Botanist and Assistant Geologist of the Geological Survey of New Jersey. In 1881 he published "A Preliminary Catalogue of the Flora of New Jersey" and this apparently served as his thesis for the degree of Doctor of Philosophy, which was conferred upon him in that year by Columbia College. A revised and enlarged edition of this Catalogue appeared in 1890.

On August 27, 1885, Doctor Britton married Elizabeth Gertrude Knight, daughter of James and Sophie Anne (Compton) Knight, who was not only a constant helper in all his subsequent undertakings, but also achieved individual fame as a bryologist and plant conservationist.² Her recent illness and death appeared to be a shock from which he never recovered. The last time that he left his rooms alive was on February 27 to lay his life companion to rest in the old Moravian Cemetery on Staten Island. Just four months later, to a day, others performed for him the same sad service.

The years following Doctor Britton's marriage were, like essentially all of his years, characterized by ceaseless mental activity. In addition to teaching, he found time for numerous obser-

² Journal of The New York Botanical Garden 35: 97-104. 1934.

vations on the higher plants, most of which were published in the *Bulletin of the Torrey Botanical Club*, of which he was editor from 1888 to 1898. In 1886 his title in Columbia College was changed to Instructor in Geology and Botany and in 1891 to Adjunct Professor of Botany. During all of this time he was laying the foundations in fact, if not with full intent, for the Britton and Brown, "Illustrated Flora of the Northern United States and Canada," which came out in three volumes, 1896-98. Illustrated floras had appeared in Europe, but this was the first sustained attempt in the United States to describe its plants with a text illustration of the characteristic features of each species. The work was a popular success and now, thirty-six years after the publication of the third volume, when it is of necessity somewhat outmoded, the work still remains a good seller. It has played a great part in popularizing the study of plants in the United States and Canada, as has also its non-pictorial one-volume successor, Britton's "Manual of the Flora of the Northern States and Canada."

Doctor Britton himself is authority for the statement that the beginnings of the history of The New York Botanical Garden may be traced to a remark made to him by Mrs. Britton in the summer of 1888, when they were on a visit to the Royal Botanic Gardens at Kew, England. Mrs. Britton, impressed by the beauty and scientific interest of the plant exhibits at Kew and by the importance of the Royal Gardens' numerous contributions to the literature of the plant sciences, said, in effect: "Why couldn't we have something of this kind in New York?" At a meeting of the Torrey Botanical Club held on October 24, 1888, Mrs. Britton gave a description of the Royal Gardens at Kew. At the next meeting of the Club, a committee was appointed, consisting of E. E. Sterns, Arthur Hollick, Thomas Hogg, H. H. Rusby, T. F. Allen, N. L. Britton, J. S. Newberry, and Addison Brown, to consider the idea of establishing a botanical garden in the City of New York. At a meeting of the Club on January 8, 1889, an appeal for such a garden, prepared by the committee, was adopted and ordered printed. The consent of the Department of Public Parks was secured for the establishment of the proposed garden if sufficient means for its maintenance could be obtained. An Act of the Legislature of the State of New York, drawn by Judge Charles P. Daly and Judge Addison Brown, became a law when signed by Gover-

nor Hill on April 28, 1891. This established a corporation known as "The New York Botanical Garden"

"for the purpose of establishing and maintaining a botanical garden and museum and arboretum therein, for the collection and culture of plants, flowers, shrubs, and trees, the advancement of botanical science and knowledge, and the prosecution of original researches therein and in kindred subjects, for affording instruction in the same, for the prosecution and exhibition of ornamental and decorative horticulture and gardening, and for the entertainment, recreation, and instruction of the people."

The list of incorporators included forty-eight names of New Yorkers of distinction. Besides the botanists Addison Brown and Nathaniel L. Britton, there were such well-known names as Seth Low, Charles A. Dana, Henry C. Potter, Cornelius Vanderbilt, Morris K. Jesup, J. Pierpont Morgan, Andrew Carnegie, D. O. Mills, William C. Schermerhorn, John S. Kennedy, David Lydig, Samuel Sloan, and William E. Dodge. The Act of Incorporation authorized and directed the Park Commissioners to set aside for the proposed Garden not exceeding 250 acres in Bronx Park or some other public park north of the Harlem River, if, within seven years, the corporation should secure by subscription not less than \$250,000 "for successfully establishing and prosecuting the objects aforesaid." The first subscription, of \$25,000, was made by Judge Addison Brown, and was followed by a subscription of an equal amount by Columbia College.³ By June 18, 1895, the required \$250,000 had been raised by subscription, the Commissioners of Public Parks were asked to set aside 250 acres of land in Bronx Park, and the Board of Estimate was requested to appropriate \$500,000 for the erection of suitable buildings, as had been made mandatory by the act of the state legislature. A Board of Managers had already been elected, with Cornelius Vanderbilt, President; Andrew Carnegie, Vice-president; J. Pierpont Morgan, Treasurer; and N. L. Britton, Secretary. Seth Low, President of Columbia University, accepted the chairmanship of the Scientific Directors.

³ Columbia, aside from her broad interests in education and research, had a sentimental interest in botanic gardens from the fact that the twenty acres occupied by the Elgin Botanic Garden of Dr. David Hosack—the present site of the Rockefeller Center—was donated to Columbia College by the State of New York in 1814 and has long constituted one of the chief sources of revenue of Columbia College and the subsequent Columbia University.

A little later an agreement was entered into with Columbia College whereby the herbarium and botanical library of the College were to be deposited at the Garden and the facilities of the Garden were to be placed at the disposal of teachers and advanced students of botany in the College. On June 17, 1896, Doctor Britton was elected Director-in-Chief. He immediately resigned his Columbia professorship and was made Professor Emeritus at the early age of thirty-seven years. The site of the new Garden, consisting of 250 acres in the northern part of Bronx Park, was approved by the Park Commissioners in July, 1895, and more than 140 acres were added to this in 1915, making the total area of the Garden nearly 400 acres. By agreement with the City certain restrictions were imposed upon making changes in the "Hemlock Grove" bordering the Bronx River. The development and planting of the remaining area occupied the attention of Director Britton and his assistants for the next thirty-three years. The training in engineering received by him while a student in the School of Mines was often put to practical use in laying out the grounds. But the physical plant of The New York Botanical Garden was never more than a means to an end with Director Britton. His first thought was always for scientific research and the publication of its results. In the autumn of 1900 he spent seven weeks abroad, attending the International Congress of Botanists held in conjunction with the Paris Exposition, and visiting some of the larger botanical gardens and herbaria of France, Switzerland, Germany, and England, arranging exchanges of herbarium specimens, books, seeds, and living plants and studying methods of culture and display of plants. One of the general conclusions drawn from this European visit was the following:

"As to the general features of the foreign institutions as compared with our own, I would report that the botanical gardens and museums of Berlin, London, and Paris are naturally far in advance of us at present, in the number of species in cultivation and in the size of their herbaria, libraries, and museum collections, and in the development of the grounds. But as regards site, soil, natural topography and buildings, none of them compare with Bronx Park at all favorably."

Botanical exploration of the West Indian region, which was to become such an important feature of the Garden's activities during

its first third of a century, was begun by an expedition to Porto Rico by Mr. and Mrs. A. A. Heller in 1898, financed by Cornelius Vanderbilt. Dr. Britton's first personal participation in this West Indian exploration was in 1901, when, in company with Dr. John F. Cowell, Director of the Buffalo Botanic Garden, he spent a few weeks on St. Kitt's (St. Christopher's) of the Leeward Islands group. A paragraph in his report foreshadows the general policy of the Garden in its field work during many succeeding years:

"The personal reconnaissance of the West Indian flora, taken together with other considerations, has convinced me that our exploration work for a series of years had best be mainly done in the West Indies and Central America. It is certain that this course would bring to light a very large number of species new to science, and the specimens illustrating them, as well as other species of rarity, would greatly enrich our collections in all departments. It would render more complete our work on the systematic botany of North America, and would tend to make the plants of tropical America more accurately known, and thus have an important bearing upon the increasing commercial relations of the United States with the countries to the south of our present domain. I hope to present, in the near future, a plan for this proposed system of exploration."

Dr. Britton himself participated personally in no less than thirty botanical visits to the West Indies, mostly at his own expense.

In 1901, a plan for the publication of the "North American Flora" was adopted and its preparation referred to Professors L. M. Underwood and N. L. Britton. The work was to be complete in thirty volumes (afterwards extended to thirty-four) and "North America" was to be interpreted liberally, to include Greenland to the north and the Republic of Panama and the West Indies on the south. The coöperation of prominent botanists outside of the Garden staff was assured, but the magnitude of the task and other activities of the leading contributors have operated to slow down publication to a greater degree than was anticipated by the original promoters of the ambitious enterprise. At the present time, twenty-nine years after the appearance of the first part, seventy-four parts have been published and only one volume of the proposed thirty-four is complete. It is hoped that ways may be found to bring this great undertaking to a reasonably early completion.

Dr. Britton was one of the prime movers in the framing of the so-called "Rochester" and "American" codes of botanical nomenclature, which emphasized the priority principle in the selection of the valid Latin names for genera and species of plants. The adoption of these principles by Britton in the "Illustrated Flora," the "Manual," etc.; by Small in his "Flora of the Southeastern United States"; by Rydberg in his "Flora of the Rocky Mountains"; and by various other contributors to the literature of systematic botany, led to a wide use of names that, in many cases, were different from those that had been made familiar by the earlier American manuals. Attempts to have the "American Code" adopted in its essential entirety by all of the botanical world have failed, yet many of its distinctive features are recognizable in the latest revision of the "International Rules of Botanical Nomenclature." Much of the diversity in nomenclature that still persists is due to differing ideas as to generic and specific limits. Genera and species being essentially subjective concepts rather than objective realities, their material content does not seem to be subject to successful legislation by botanical congresses.

In his limitation of species, Doctor Britton was, on the whole, rather "conservative," but in defining genera his tendency to "split" rather than to "lump" is perhaps especially notable in the handsome Britton and Rose four-volume work on "The Cactaceae" published by the Carnegie Institution of Washington in 1919-23. Britton and Rose recognize 124 genera and about 1,237 species. A third of a century earlier, Dr. K. Schumann, in his treatment of the Cactaceae in Engler and Prantl, "Die natürlichen Pflanzenfamilien" recognized 20 genera and about 775 species. While the increase of genera from 20 to 124 was largely of the "splitting" or "segregating" type, in conformity with the general trend of biological practice, it is an indisputable fact that Britton and Rose had at their disposal vastly more material than was available to any of their predecessors, and the increase in the number of recognized species from 775 to 1,237 represented a notable advance in actual knowledge of the living forms exhibited by the Cactus Family. This elaborate monograph doubtless represents the climax of Doctor Britton's contributions to scientific literature. It has established a new datum line from which future investigations of the Cactaceae must proceed. In a letter received at The New

York Botanical Garden since the death of Doctor Britton, a well-known Japanese botanical author has written :

"It is my ardent intention to translate this masterpiece into Japanese and to publish it in the near future for the many botanists, gardeners, Britton devotees, and others to be found among my fellow-countrymen, who would consider the work a boon."

Especially noteworthy among Doctor Britton's later publications are the "Flora of Bermuda" (1918), "The Bahama Flora" (1920, with C. F. Millspaugh), and the "Botany of Porto Rico and the Virgin Islands (Spermatophyta)" (two volumes, 1923-1930, with Percy Wilson), all representing great advances over any previous works in the same field.

Doctor Britton was always recognized as the moving spirit in organizing the "Scientific Survey of Porto Rico and the Virgin Islands" under the direction of a committee of the New York Academy of Sciences, with the coöperation of The American Museum of Natural History, The New York Botanical Garden, and some of the scientific departments of Columbia University and other institutions. The Government of Porto Rico has assisted the enterprise by substantial appropriations of money and the two agricultural experiment stations, one at Mayagüez and the other at Rio Piedras, have coöperated. Up to the present date, five of the projected eighteen volumes of the reports of this Scientific Survey, together with eighteen parts of other volumes, have been published. While the members of this Survey committee will feel that they have sustained an almost crushing loss in the passing of their constructive leader, it seems probable that the momentum already given to the project by him will suffice to carry it through to essential completion. Nothing comparable has ever been published for any other West Indian islands. Doctor and Mrs. Britton had spent many winters in Porto Rico, and they were held in high esteem there. Several messages of sympathy were sent from the island to Director Merrill, when the news of Doctor Britton's death was received. Besides radiograms from Acting Governor Horton and others, J. A. B. Nolla, Acting Commissioner of Agriculture and Commerce, radioed :

"News of death of beloved Dr. Britton a shock to his host of Porto Rican friends. Please convey to his associates and relatives condolences Department of Agriculture Porto Rico and my own."

The Committee on Mineral Resources sent the following:

"Porto Rico loses a great friend in the death of Doctor Britton, President. Please convey heartfelt regret to his family and the staff of the Garden."

According to a list compiled by Mr. Percy Wilson, five genera of plants and one of animals have been named in honor of Doctor Britton and one of mosses in honor of Mrs. Britton. These are:

BRITTONAMRA Kuntze, of the Pea Family, with 1 species, a native of tropical America.

BRITTONASTRUM Briquet, of the Mint Family, with 15 species, natives of Mexico and the western United States.

BRITTONELLA Rusby, of the Malpighia Family, 1 species, native of Bolivia.

BRITTONELLA Fisher, a genus of beetles, 1 species, native of Porto Rico.

In naming this genus, Dr. Fisher remarked:

"I take great pleasure in dedicating this genus to Dr. N. L. Britton, director for more than three decades of The New York Botanical Garden, chairman of the Porto Rico Committee of the New York Academy of Sciences, to whose able and indefatigable services is due in large part the success of the Natural History Survey of Porto Rico."

BRITTONROSEA Spegazzini, of the Cactus Family, 21 species, natives of South America.

BRYOBRITTONIA, of the mosses, 1 species, native of Yukon Territory.

NEOBRITTONIA Hochreutiner, of the Mallow Family, 1 species, native of Mexico.

Sixty-nine species and varieties of plants, living and fossil, and three of animals have been dedicated to Doctor Britton, while fifteen species of plants and one of animals have likewise been named for Mrs. Britton. In addition, two species of plants, a palm (*Copernicia Brittonorum* León) and a beard-tongue (*Pentstemon Brittonorum* Pennell) appear to have been named for the two conjointly.

Brittonia, a periodical, issued at irregular intervals and devoted chiefly to papers on systematic botany, was established by The New

York Botanical Garden, at the suggestion of Doctor Britton's successor, Dr. E. D. Merrill, in 1930, the first number appearing in 1931.

Doctor Britton was honored with the presidency of the Botanical Society of America for the year 1897-98, and again, of the larger more democratic Society, for 1921, and he and Mrs. Britton were patrons of this Society. As he advanced in years, he developed a reluctance to traveling (unless on board a steamer headed southward) and also to making public addresses. When the time came for him to deliver an address as retiring President of the Botanical Society of American at Toronto in December, 1921, he sent a substitute, bearing his check for \$1,000 drawn to the order of the Society, in lieu of a formal address!

With his friend Doctor Arthur Hollick, Doctor Britton was active in organizing and developing the Natural Science Association of Staten Island (now the Staten Island Institute of Arts and Sciences) and was its President, 1888-91. He was also actively interested in the Torrey Botanical Club and the New York Academy of Sciences, of which he was President for two years (1906 and 1907). In 1913, he was honored with the presidency of the New York State Forestry Association. Doctor Britton received the honorary degree of Doctor of Science from Columbia University in 1904 and the degree of Doctor of Laws from the University of Pittsburgh in 1924. He was a member of the National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences, a foreign member of the Linnean Society of London, the Czechoslovakian Botanical Society, the National Medical Institute of Mexico, Honorary President of the International Desert Conservation League, the Cactus and Succulent Society of America, etc.

Doctor Britton was of slight and apparently frail physique. Many of his friends marveled that he could hold out and keep active until several months after the seventy-fifth anniversary of his birth. He retired from the directorship of the Botanical Garden on August 1, 1929, when in his seventy-first year. Many men would have been content then to rest upon their achievements, especially if their achievements had been as notable as his, but an indomitable urge and ingrained habit kept him busy with his studies of the Cyperaceae and of the flora of his beloved Porto Rico until within

a few months of the end. Doctor Britton was a man of simple habits of life and of modest demeanor. He was of a usually placid and cheerful temperament, which was notably manifest during the long weeks of suffering that preceded his death. He left a sister and a brother, Harriet Louise Britton and Richard H. Britton, both of Great Kills, Staten Island. Doctor and Mrs. Britton had no children. In a way that was very real to them, The New York Botanical Garden was their child.

During his directorship of thirty-three years—a short space of time as the world goes—Doctor Britton had seen The New York Botanical Garden develop from little more than an idea to a well-developed tract of nearly 400 acres, with handsome buildings, an herbarium of more than 1,700,000 specimens, and a library of 43,500 bound volumes. As many have remarked, The New York Botanical Garden is a living monument to Nathaniel Lord Britton. It is a noble monument—a monument worthy of the man!

MARSHALL A. HOWE.

DO CYCADS BRANCH?

In many text-books of botany and in floras one may find statements like, "Tropical plants, with an unbranched cylindrical trunk, increasing like palms by a single terminal bud; —." Such phrases occur in descriptions of cycads. It is true that cycads, at least those with aerial erect stems, as we usually see them in cultivation, are simple-stemmed. Those with underground stems in cultivation we cannot vouch for one way or another.

Florida can boast of four species of the cycad *Zamia*, the commercial name for which is Florida-arrowroot. The popular names are coontie, conti, comptie, comfort-root, and wild sago.

Two paragraphs of information, the first from Commodore Ralph Munroe of Miami and the other from the late Mrs. Mary A. Noble of Inverness, are inserted here.

"As to cultivation of Coontie, think I am safe in stating that it never has been successfully done. It was about the first southern Florida production that I attempted to commercialize, but from all sources available at that time—1882—up to the present, have never