



NATIONAL ENDOWMENT FOR THE  
**Humanities**

DIVISION OF PUBLIC PROGRAMS

## **Narrative Section of a Successful Application**

The attached document contains the grant narrative of a previously funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the Public Programs application guidelines at <http://www.neh.gov/grants/public/museums-libraries-and-cultural-organizations-implementation-grants> for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Public Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Darwin's Garden: An Evolutionary Adventure

Institution: New York Botanical Garden

Project Director: Susan Fraser

Grant Program: Museums, Libraries, and Cultural Organizations

## Attachment 3: Narrative

### ***THE REQUEST***

In celebration of Charles Darwin's incalculable contributions to natural history, scientific inquiry, and humanity's fundamental conception of Nature and its place in the world, The New York Botanical Garden will bring the untold story of Darwin's lifelong fascination and work with plants to light in a multi-element exhibition entitled ***Darwin's Garden: An Evolutionary Adventure***.

Opening on April 18, 2008, this singular exhibition anticipates the bicentenary of Darwin's birth on February 12, 1809, and the 150th anniversary of the publication of his seminal work, *On the Origin of Species* on November 24, 1859. An undisputed classic of scientific literature, the *Origin* was written by Darwin in a manner that makes his theory fully comprehensible to a lay audience. Similarly, ***Darwin's Garden will be broadly accessible to general audiences*** that will include gardening and science enthusiasts, children, and their families.

Only in his botanical work did Darwin draw upon the full complement of his skills as an observer, original thinker, and experimentalist, and his work with plants provided credible and enduring evidence in support of his theory of evolution through natural selection. Darwin's exquisite studies on the fertilization of orchids, insectivorous plants, climbing plants, and the movements of plants, were each a precise example of how evolution could solve the traditional mysteries of natural history. It laid the foundation of modern botany as an evolutionary discipline, that is, even today, firmly in place.

Visitors will move through three main exhibition sites across the Botanical Garden's 250-acre National Historic Site, including:

- **A scholarly exhibition 65 invaluable objects in the 950 square foot Rondina Gallery of the LuEsther T. Mertz Library**, the world's largest botanical and horticultural library, which will reveal Darwin's lifelong engagement with plants through the coupling of visually stunning botanical prints with Darwin's original writings, field notebooks, and plant collections (*April 18–July 18, 2008*);
- **A complementary living plant display across 11,833 square feet of the Enid A. Haupt Conservatory**, the nation's largest Victorian glasshouse, evoking Darwin's Down House gardens, greenhouses, and experimental beds where he conducted botanical research (*April 18–June 15, 2008*);
- **A special children's exhibition, signage and display gardens, and how-to learning activities** in the Everett Children's Adventure Garden, a 12-acre indoor/outdoor science museum, and the 1.5 acre Ruth Rea Howell Family Garden (*April 18–July 18, 2008*).

**Complementary public programming will convey the historical and cultural context in which Darwin undertook his pioneering work, as well as his enduring influence on science, society, and the arts.** Activities will include expert-led tours and conversations; family workshops; and docent-facilitated experiments. A film series, poetry readings, and musical performances of works composed in Darwin's lifetime will round out the schedule. Biologist, two-time Pulitzer Prize winner, and Distinguished Counselor to the Board of The New York Botanical Garden, **Edward O. Wilson has agreed to moderate a symposium featuring lectures and panel discussions by leading biologists, social scientists, and humanists. The participants are all distinguished by their prominent place in scientific and public debates surrounding Darwinian thought and its implications for the 21<sup>st</sup> century.** Combining plant and animal expertise, the two-day event will be split between the Garden's Bronx campus and the American Museum of Natural History's Manhattan facilities.

**The Botanical Garden requests an implementation grant in the amount of \$400,000 from the National Endowment for the Humanities toward the \$1.4 million cost of this exhibition,** including curatorial expenses; exhibition design, fabrication, and installation; presentation of public and educational programs; interpretive materials including the catalog, signage, and acoustiguide; and publicity expenses.

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After closing on July 12, 2008, all three elements of *Darwin's Garden will travel to the Huntington Library, Art Collections, and Botanical Gardens in Pasadena, California*, where they will be refitted for an exhibition beginning October 4, 2008 and running through January 4, 2009. From August to October 2009, the Botanical Garden anticipates the first two elements will travel to Cambridge University's Botanic Garden and the Fitzwilliam Museum, thereby returning Darwin to his youthful origins. Negotiations are currently underway.

#### INTRODUCTION

Darwin's theory of evolution netted together all living beings through their common ancestry, issuing a significant challenge to traditional 19<sup>th</sup>-century conceptions of humanity's place of honor at the center of the natural world. This achievement—broad as the tree of life itself—would stretch scientific thought beyond all previous bounds, reverberate across the humanities and popular culture—in literature and art no less than in philosophy and religion—and influence ever widening fields of research and intellectual pursuit in our species' search to comprehend its origins and place in nature.

Through scientific explorations of botanical sex and sensitivity, Darwin projected a dynamic conception of Nature that would substantially enrich humanistic pursuits. For instance, he revealed that flowering plants—perennial inspiration of philosopher, painter, and poet and long cultivated for their beauty—attained their form and cross-fertilizing function to sustain genetic variability. And Darwin contended that plants—no less than animals—are sensitive creatures in possession of behaviors that permit them to respond to the basic elements of their environment, such as sunlight, touch, and gravity. Plants clamber over neighbors, track the movement of the sun, capture and digest insects, and respond to the 'touch from a child's hair.' Darwin delighted in discovering these adaptations, all of which provide an evolutionary approach to plant physiology.

Darwin began his scientific career as a true child of the Romantic age (Kohn 1989, Richards 2004). With *Paradise Lost* as his constant companion, Darwin embarked on the H.M.S. *Beagle* inspired by Alexander von Humboldt, whose ambitions for a grand synthesis of natural history were informed by the aesthetics of landscape painting (Novak 1980, Gruber 1978). In the years after the *Beagle's* return, when Darwin came to formulate evolution by natural selection, he achieved Humboldt's quest for a unifying theory. The plant experiments he began in the summer of 1860 at his Down House estate would lead him down a 20-year path of botanical research that resulted in six books that forever recast the field of botany and provide solid evidence for Darwin's theories of evolutionary adaptation.<sup>1</sup> For no other branch of biology did Darwin so clearly demonstrate how to craft his evolutionary insight into a mature science, paving the way for transforming botany—more decisively than any other subject he touched—into an evolutionary discipline.

Located in the broader context of Victorian culture, Darwin's botany reflected much of that society's preoccupations and processes. For example, Darwin used his own children and schoolgirls trained by Professor Henslow to collect plants for his experiments. What is at work here is the understanding that botany provides moral training suitable for children and serves as a vehicle for popular instruction in science (Daston & Vidal 2004). Similarly, botany was prominent among the sciences as an area where women were beginning to contest a position at the edges of the scientific establishment (Shteir 1997, Secord 2002). Notable is Darwin's correspondence with Mary Treat, the New Jersey activist and botanist-entymologist, who engages him in a serious exploration of the biology of insectivorous plants. Further, Darwin's botany is a vital part of an imperial web of knowledge (Drayton 2000). Through his deep

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<sup>1</sup> *Fertilisation of Orchids* (1862), *Climbing Plants* (1865), *Insectivorous Plants* (1875), *Forms of Flowers* (1877), *The Effects of Cross and Self Fertilisation in the Vegetable Kingdom* (1876), and *The Power of Movement in Plants* (1880).

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friendship with Joseph Hooker, himself at the center of Britain's botanical empire, and through his own extensive international correspondence, Darwin gathers information as well as plants from across the globe, which feeds the scope of his work in Botany.

Another powerful intersection of Darwin's core evolutionary ideas, the humanities, and botany is exemplified in the way he fashioned his dissections of orchid flowers into a metaphysical argument—an argument, that is, against the absolute perfection many in the nineteenth century expected of a Creator who actively participates in the design of Nature's every detail. On the one hand, *Fertilisation of Orchids* (1862), Darwin's first publication in the wake of the *Origin's* controversial reception, catalogues nothing more than the anatomical details of pollen transfer throughout the very large orchid family. His dissections reveal how an orchid's flowers are 'contrived' or adapted, often with great precision, to match the anatomy of the specific insect that carries its pollen from flower to flower. They were his first full demonstration that evolution by natural selection could produce endless forms of adaptive structures. Yet for all this precision, an orchid is not really perfect in an absolute sense. Dissecting species upon species, Darwin proved crucial structures in one orchid species were more or less flotsam in another. Thus, he used the orchids as a double-edged sword, substantially reinforcing his claim that '*Natural selection tends only to make each organism as perfect as, or slightly more perfect than, the other inhabitants of the same country, with which it has to struggle for existence*' (Darwin 1859: 201). Darwin used the orchids to demonstrate—and thus answer his severest religious critics—the profoundly modern paradox that nature creates adaptation and diversity not through absolute, but through relative perfection (Ghiselin 1969).

### ***PROJECT DESCRIPTION***

#### ***The LuEsther T. Mertz Library Exhibition***

The Mertz Library Exhibition Program is the primary vehicle for displaying and interpreting the many remarkable holdings of rare books, historic artifacts, archival documents, and artworks housed in the collections of the LuEsther T. Mertz Library. The New York Botanical Garden is the vanguard of botanical and horticultural institutions presenting humanities-based exhibitions on a broad array of topics. In fact, of the three great botanical gardens in the world—Kew, Missouri, and The New York Botanical Garden—only The New York Botanical Garden has a museum-quality gallery presenting two regularly scheduled exhibitions each year. Other than the Huntington, no other public garden in the United States has the appropriate environmental and security controls to permit the historical documents to travel to other venues, making it difficult to find collaborating institutions with which to partner.

The Mertz Library portion of *Darwin's Garden* will explore Darwin's lifelong engagement with plants through biographic and thematic approaches. Illustrated books, manuscripts and other published materials from the Mertz Library's extensive collection of *Darwiniana* will form the greater part of the exhibit, with additional materials on loan from the collections of private individuals and institutions such as the Cambridge Herbarium, Cambridge University Library, Down House, Harvard's Gray Herbarium Library, the Royal Kew Botanical Garden, and the Metropolitan Museum of Art's Watson Library.

#### ***To the Garden Born: Darwin's Botanical Heritage***

Botany played a pivotal—and often unappreciated—role in every phase of Darwin's life. His fascination with voyaging and the nature, variability, and geography of species, as well as his later preoccupations with plant sexuality and sensitivity, arose from the deep personal relationship to plants that took root in childhood. His own flowering as a botanist and naturalist was in no small measure influenced by family history and early upbringing. Consider that the earliest portrait of Darwin depicts the future scientist on bended-knee at his sister's feet, embracing a potted plant in full flower. His paternal grandfather Erasmus, physician, botanist, and poet, penned *The Botanic Garden* (1789, 1791), a wide-ranging poem discoursing on science, technology, and the fertilization of plants; its humor, sensitivity, and skillful use of heroic couplets were said to influence the works of Coleridge, Wordsworth, Keats, and Shelley. Darwin's

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maternal uncle John Wedgwood, son of famed potter Josiah, conceived and founded the Royal Horticultural Society. New research by Guest Curator David Kohn and Cambridge University's John Parker, head of the *Darwin's Garden* Advisory Committee, suggests Darwin's exposure to key ideas of 18th- and early 19th-century botany during his undergraduate education at Edinburgh and Cambridge had a profound impact on his evolutionary thinking (Kohn, Murrell, Parker & Whitehouse 2005).

#### *Darwin and the Foundations of Evolutionary Biology*

Responding deeply to the balance of life and death in the entangled vegetation of tropical Brazil and Tierra del Fuego during the five-year circumnavigation of the HMS *Beagle*, Darwin spent much of the journey collecting plants along with fossil bones and bird skins. In the Galapagos, he was struck by the unique island species, and his collection of 'all plants in flower' established the first *flora* of that archipelago. The *Beagle* voyage blessed Darwin with an expanded view of natural processes, launching him on a decades-long journey of the mind that led to the writing of the *Origin*, where he first published his ideas on evolution.

After his return, Darwin transformed the gardens and countryside surrounding his Down House suburban villa into a botanical field station. Botany proved to be crucial to the creation of the *Origin*, given many of its critical arguments were tested by botanical experiments, as well as upon a deep familiarity with botanical literature he acquired over the ensuing two decades. While Darwin kept his theory largely a private, almost secret, preoccupation during this period, he did form strong collegial friendships with two leading botanists: Joseph Dalton Hooker, Director of the Royal Botanic Gardens at Kew, and Asa Gray at Harvard University. Sustained by the intellectual and material support of these friends, Darwin was ready, within months of the *Origin*'s publication in 1859, to apply evolution to the specifically botanical phenomena he had first encountered as a young student. His explanation of how evolution produces biodiversity—the Principle of Divergence, heredity and variation, and his ideas on the origin and function of sex—springs from his scholarship, his botanical experimentation, and intellectual exchange with friends, all of which the Library Exhibition will illustrate and explore. ([For a complete exhibition walk-through, please see Attachment 4](#)).

#### ***Enid A. Haupt Conservatory Exhibition***

During the spring and summer of 1860—the first growing season after the publication of the *Origin*—as Britain and the scientific world reacted to this ground-breaking publication, Darwin retreated to Down House, where he engrossed himself with natural history walks through the surrounding woodlands and meadows. Preoccupied with buttressing his argument for evolution, Darwin made one critical observation after another. Decades of botanical interest collided in a succession of three brilliant revelations.

##### 1) The Discovery of Heterostyly in *Primula*

Every May, the fields and banks near Down House were dotted with yellow cowslips and primroses, both members of the genus *Primula*. These flowers were reported to have the unusual ability to “jump” between species, i.e., primrose seeds were able to produce cowslips. To disprove these reports, Darwin transplanted these flowers to his garden and greenhouse, where the primroses yielded only primroses and the cowslips only cowslips. However, he made an unexpected observation. Half the cowslips had a long pistil and short anthers whereas the other half had long anthers and a short pistil. This led him to the discovery of “heterostyly,” where two stable forms of the same plant exist. Insects are only able to successfully transfer pollen from a flower with short stamens and a long style to a flower with a short style and long stamens, and *vice versa*. This adaptation guarantees cross-fertilization to maintain genetic diversity. The humble cowslip proved to be Darwin's first and most original contribution to botany.

##### 2) Darwin's Orchids: Like a “touch from a child's hair”

Thanks to decades of interest in orchids, Darwin moved from mere dabbler to botanical expert in June 1860 when he worked out the floral anatomy of virtually every British species of orchids, revealing that

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the orchids were not self-fertilizing, as widely believed. Darwin demonstrated that the key to orchid pollination was an insect's proboscis, which, upon entering the flower, releases the spring-loaded pollen mass as if at "a touch from a child's hair." This breakthrough enabled Darwin to structure a convincing argument for adaptation by natural selection.

#### **3) Insectivorous Plants**

In July, near the acid bogs of Ashdown Forest, while searching for the rare Bog Orchid, Darwin stumbled upon the insectivorous Sundew, which inspired his thinking about convergent evolution. Like the orchids, these plants also depend upon insects, but as prey rather than pollinators. Living in nitrogen poor bogs and heaths, they detect, trap, and digest insects to supply the nitrogen their soils lack. Instead of sticky glands at the bottom end of club-shaped pollen masses, now he saw sticky glands brimming with digestive secretions on top of club-shaped hairs. Out of this connection between orchids and insectivorous plants was born the systematic study of plant sensitivity.

The Haupt Conservatory exhibition will give these living plants which so animated Darwin's life and theory the same thematic treatment as the historical materials in the Mertz Library. The first house will be devoted to carnivorous plants, the second house will transport visitors to the architecture and formal gardens of Down House, and the final house will evoke the orchards and meadows of the surrounding landscape. Elements will replicate Darwin's experimental apparatus and cover his work with orchids, climbing vines and his investigations into pollination and the power of movement in plants. (For a complete exhibition walk-through, please see Attachment 4).

Audio-tours and illustrated rail signs with quotes from Darwin will convey the central role plants played in the development of his theory of evolution. While the pitcher plants, primroses, and pear trees will not be physically transported, the Botanical Garden will share the exhibition's intellectual content with both the Huntington and Cambridge. While the physical facilities of these venues will limit the extent to which they will be able to replicate the living elements of the Botanical Garden's exhibition, the plants lists, design layout, and exhibition hardscape will be made available for their usage and adaptation, as will text from both the catalogue and collateral brochure. Approximately 60% of the interpretive signage will be non-site specific so that it can be re-used.

#### ***Everett Children's Adventure Garden Exhibition***

Inside the Discovery Center and the Bendheim Global Greenhouse, Charles Darwin will come to life through child-friendly exhibitry and hands-on scientific experiments that recall aspects of his work. A full schedule of educational programming will be offered for school groups and families, and exhibits will include a timeline highlighting significant events in Darwin's life; a child-size replica of the HMS *Beagle*; and a recreation of his laboratory. Special plantings will be added to the outdoor galleries, which will receive both permanent and temporary signage specific to Darwin and his accomplishments.

Encouraged to use all of their senses and scientific methods such as observation, hypotheses and analyses, schoolgroups will investigate the 12-acre Adventure Garden site using the same basic tools as Darwin. Kindergartners and first graders will explore the diverse morphology of leaves, flowers, fruits, and seeds, while second and third graders will investigate how flowers transform into fruit and seeds. Fourth and fifth graders will learn how living things are connected as they investigate links and relationships in the food webs of the Adventure Garden's varied habitats. A one-and-a-half hour classroom workshop for students grades 3-5 will explore the classification and adaptations of plants, which will be followed by an exploration of the Down House replica in the Conservatory. Every student will leave with a take-home project for further observation, such as a germinating seed or a potted plant.

On weekday afternoons and weekends, families will enjoy and learn about Darwin through the following activities:

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- Creating a **field notebook** to record observations and discoveries
- **Drawing a botanical illustration**
- **Making an herbarium specimen** the same way Darwin preserved his collections
- Create unique plants using **Plant Part Puzzle** pieces, touching on Darwin’s theory of natural selection
- **Seed Sorting** based on similarities in physical traits
- Crafting an **Oak Tree of Life Cladogram** to show simple relationships among oak species
- Observing **phototropism** in different plant species
- Investigating the **Food Web** to discover how plants and animals are related and depend on one another for a balanced ecosystem

### AUDIENCE

The Botanical Garden is well-equipped to bring this important three-part exhibition of scientific and humanistic discovery to an audience of science and gardening enthusiasts, children and their families, and school groups from across the greater New York area. Functioning as a living museum of plants and garden design, as well as one of the world’s great plant research and education centers, the Garden works to share its living and non-living collections with a highly diverse and expanding audience. Through enthusiastic, imaginative, and stimulating interpretation, the Garden conveys its multifaceted work in horticulture, science, and education to its visitors, encouraging them to delve more deeply into the natural world. Last year, more than 700,000 visitors came to the Bronx to take in all that is on offer. Attendance in the current fiscal year is expected to rise to 800,000.

This past summer’s site-wide exhibition, *Chihuly at The New York Botanical Garden: Gardens and Glass*, broke all previous attendance records for a single exhibition. Similarly, *Chihuly* encompassed the galleries of the Haupt Conservatory and the Everett Children’s Adventure Garden. Over the four-month run of the show, visitation continued to build to a total of nearly 360,000 visitors, including more than 300 group tours and 85,000 member visits. The exhibit garnered unprecedented media coverage in local, regional, national, international, and niche markets, generating more than 600 media hits and 79 feature stories. Based upon this experience and thanks to a membership base which has swelled to a record 27,000, the Garden anticipates *Darwin’s Gardens* will bring its important story of scientific and humanistic discovery to a diverse audience of more than 200,000 over its three-month run. The Huntington and Cambridge anticipate similar attendance.

The Botanical Garden conducted a random survey of 758 visitors on the grounds of the Botanical Garden during *Chihuly* (August–October 2006). Asked whether they would attend an exhibition on Darwin and his plants in 2008, the majority stated they would “definitely” visit.

	Will Definitely Attend	Will Probably Attend	Total Positive Response
<b>Members (28%)</b>	79%	15.5%	94.5%
<b>Nonmembers (78%)</b>	56%	26.5%	82.5%
<b>Both Groups (100%)</b>	61%	24%	85%

Because *Darwin’s Garden* will be ticketed as a three-part experience, the exhibit in the Mertz Library Gallery is poised to attract its largest audience ever. The Library Exhibition Program has made a significant impact on the Botanical Garden’s ability to share its extensive humanities collections with the public. Annual use of the Mertz Library’s resources has more than doubled since the program’s inception in 2002, and over the course of 10 consecutive exhibitions, a loyal following has quietly but steadily

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developed, topping 12,500 over the three-month run of the most recently completed exhibit, *Dutch Watercolors: The Great Age of the Leiden Botanical Garden*.

To ensure robust attendance, the Communications Department will market the exhibition to a variety of media, with radio spots and advertisements in newspapers and general readership magazines, as well as on bus sides. Public relations staff will send press releases to a broad spectrum of over 600 media sources, and will work with writers and producers to develop long-lead articles, and radio and television spots for release at the time of the exhibition's run. Online advertising will be used to reach highly targeted audiences of science and gardening enthusiasts and teachers. Particular emphasis will be placed on attracting Bronx audiences.

### ***PROJECT TEAM***

*Darwin's Garden* is curated by renowned Darwin expert David Kohn, General Editor of the Darwin Digital Library at the American Museum of Natural History, Senior Research Fellow of the Charles Darwin Trust, and Oxnam Professor Emeritus of Science and Society at Drew University. John Parker, Professor of Plant Cyto genetics at Cambridge University and Director of the Cambridge University Botanic Garden, serves as advisor. An Advisory Committee of distinguished Darwin scholars selected for their knowledge about the life and work of Charles Darwin, will contribute a wide range of intellectual perspectives to the humanities aspect of the exhibition. Generously, these scholars are making their services available to the project on a pro-bono basis, demonstrating their commitment to furthering understanding of the extraordinary accomplishments of this remarkable naturalist. The guidance of the Advisory Committee is invaluable to the planning and organization of this exhibition. Senior Botanical Garden staff round out exhibition leadership. (Please see Attachments 6 and 7 for a complete set of resumes and letters of commitment from outside consultants).

#### *Outside Consultants*

**Dr. David Kohn** brings a special blend of scholarship and innovative curatorial expertise to his role as Guest Curator. He has devoted his life to studying Darwin's original notebooks, manuscripts, and other writings and to making their content available and accessible to scholars and the public. He has replicated Darwin's botanical experiments at Down House, and served as a major historical consultant to the award-winning American Museum of Natural History's Darwin exhibition (November 2005—August 2006). His work has led to new insights into the foundations of evolutionary thinking, making him uniquely qualified to enable the Garden to reach the objectives of the Darwin exhibition. Dr. Kohn is General Editor of the Darwin Digital Library at the American Museum of Natural History, Senior Research Fellow of the Charles Darwin Trust, and Oxnam Professor Emeritus of Science and Society at Drew University.

**Stephen Saitas Designs** will develop the design for the exhibition and oversee the installations in the William A. Rondina and Giovanni LoFaro Exhibition Gallery in the LuEsther T. Mertz Library, and the Enid A. Haupt Conservatory. Stephen Saitas Designs has completed over 90 permanent installations and temporary exhibitions in museums, galleries, historic houses, and libraries since being established in 1982. Stephen Saitas Designs has the extensive exhibition design experience needed to artistically present the complexity of Darwin—the man and his work—to a broad audience that will encompass academics, researchers, students, and the general public.

**Philip Baloun**, of Philip Baloun Studio Designs, combines floristry, interior design, and theater to create memorable and appropriate settings for exhibitions and events. Working with a talented team of planners, florists, electricians and carpenters, he has created exhibitions for The New York Botanical Garden, The New York Public Library, the National Academy of Design, and the Winter Antique Show in the Park Avenue Armory. Mr. Baloun is highly qualified to guide the recreation of Darwin's Down House and its lovely garden in the Enid A. Haupt Conservatory from conception to execution.

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#### Advisory Committee

**John Parker**, Director of the Cambridge University Botanic Garden and Professor of Plant Cytogenetics, heads the Advisory Committee. He is also Curator of the University's Herbarium, which contains the best record of the development of British Flora over 300 years and includes Darwin's plant collections. New research by Professor Parker and colleagues suggests that Darwin's evolutionary thinking may have had its foundations in the teaching he received during his undergraduate years (1829–1831). His in-depth understanding of the work and intellectual development of Darwin brings a thoughtful and challenging perspective to the planning process.

**Dame Gillian Beer**, Professor of English at Cambridge University, explores the relations between the cultures of science and literature. Dame Beer's landmark book *Darwin's Plots* demonstrates how Darwin overturned fundamental cultural assumptions by revising stories inherited from writers as diverse as Lucretius, Shakespeare, and Wordsworth. She also reveals how major English novelists such as George Eliot and Thomas Hardy pursued and resisted the implications of Darwin's narratives, and how the stories he produced about natural selection and the struggle for life now underpin our culture.

**Niles Eldredge** is a paleontologist on the curatorial staff of the American Museum of Natural History since 1969. His specialty is the evolution of trilobites and his primary professional passion is evolution. Dr. Eldredge developed the theory of "*punctuated equilibria*" with Stephen Jay Gould in 1972. In his book *The Pattern of Evolution*, Dr. Eldredge developed a comprehensive theory (the "*sloshing bucket*") that specifies in detail how environmental change governs the evolutionary process. He was Curator-in-Chief of the American Museum's Hall of Biodiversity and Curator of the Museum's recent exhibit on Darwin. Dr. Eldredge is the author of *Darwin: Discovering the Tree of Life*.

**Amy Meyers**, Director of the Yale Center for British Art, was former curator of American Art at the Henry E. Huntington Library, Art Collections and Botanical Gardens in San Marino, California. She is known for her expertise in the relation of art and natural science. Dr. Meyers has taught at colleges and universities and worked at the Corcoran Gallery of Art and the National Gallery of Art. She is a leading expert on naturalist illustrators. Dr. Meyers is currently organizing an exhibit on Darwin and art to be shown at the Yale Center for British Art in 2008 and the Fitzwilliam Museum in Cambridge in 2009.

**Vassiliki Betty Smocovitis**, History of Science Professor at the University of Florida, Gainesville, studies the history, philosophy and social study of the 20<sup>th</sup>-century biological sciences, especially evolutionary biology, systematics, ecology and genetics. Dr. Smocovitis has published extensively on the history of evolutionary biology and is the author of *Unifying Biology: The Evolutionary Synthesis and Evolutionary Biology* and *The 1959 Darwin Centennial Celebration in America*, published in volume 14 of *Osiris*, a journal published by the University of Chicago devoted to science history and its cultural influences.

#### The New York Botanical Garden Staff

**Gregory Long**, *President and Chief Executive Officer*, has spent 35 years in the management of New York City cultural institutions. After seven years with The New York Public Library, he was appointed president of The New York Botanical Garden in 1989. His administration has presided over a period of unprecedented growth and development at the Garden, during which more than half a billion dollars has been raised to restore and improve its buildings and landscapes, programs, and endowment. Mr. Long defines the overall vision for all projects undertaken at the Garden, ensuring they further its mission. He remains actively involved in all phases of project planning and implementation, as well as fundraising.

**Kim E. Tripp, Ph.D.**, *Director of the Botanical Garden*, came to the Garden in 1999. She oversees all program areas, including Horticulture and Living Collections, Botanical Science, the LuEsther T. Mertz Library, and Education. Dr. Tripp oversees the Garden's staff of educators, scientists, curators, gardeners,

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and horticultural specialists. She serves as the direct supervisor of the project and is involved in all aspects including setting its objectives, guiding the planning, running all meetings, and the development of educational materials.

**J.V. Cossaboom**, *Chief Operating Officer*, came to the Garden in 1999. Prior to his tenure, he served as C.F.O. of the Central Park Conservancy for five years. He oversees finance and planning, administration, capital projects, site operations, government and community relations, and legal services. From 1989 to 1994, Mr. Cossaboom provided management services to not-for-profit organizations both as a Manager in KPMG Peat Marwick's not-for-profit practice and as an independent consultant. Mr. Cossaboom assumes fiscal responsibility for the project, including budgetary planning and financial reporting.

**Susan M. Fraser**, *Director, LuEsther T. Mertz Library*, has worked in Library Sciences for 28 years, the last 22 of which have been at the Botanical Garden. She has trained at the Academy of Certified Archivists and at the Rare Book School of Columbia University. Ms. Fraser oversees exhibitions in the Rondina and LoFaro Gallery. In this capacity, she will be involved in all aspects of planning and executing the Darwin exhibition in the Gallery. Ms. Fraser will work closely with the Advisory Committee and the Curator to select works from the Mertz Library's extensive collection of *Darwiniana*.

**Todd Forrest**, *Vice President for Horticulture and Living Collections*, serves as the Botanical Garden's principal horticultural leadership figure. He came to the Garden in 1998 and was promoted to Vice President in 2005. Mr. Forrest oversees the maintenance and upkeep of the Garden's Living Collections as well as the planning and installation of all exhibitions. His horticultural knowledge and expertise will ensure accuracy in the recreation of the gardens that inspired Darwin, as well as of the interpretive signage and materials used throughout the exhibition.

**Dennis Wm. Stevenson, Ph.D.**, *Vice President for Laboratory Research*, is one of the world's leading botanists and a renowned authority on cycads, an ancient plant group with many unique features. He conducts extensive field research with cycads and has served as chair of the Cycad Specialist Group of the International Union for the Conservation of Nature. Dr. Stevenson is a founder of the Plant Genomics Consortium, the only program of its kind in New York State and one of only a few in the world. Dr. Stevenson will organize the two-day symposium to be held at the Botanical Garden and the American Museum of Natural History. Additionally, his botanical knowledge and expertise will ensure accuracy in the recreation of the gardens that inspired Darwin, as well as of the interpretive signage and materials used throughout the exhibition.

**Natalie Andersen**, *Vice President for Education*, oversees the Children's and Continuing Education programs, as well as the School for Professional Horticulture. She will supervise the development of Everett Children's Adventure Garden exhibitions, the development of accompanying educational materials for school children and their families, training for education staff, and a lecture on Darwin to be part of the Botanical Garden's Distinguished Lecturer series. Ms. Andersen's experience with and understanding of participants of all ages in the Garden's Education Programs ensures the creation of engaging and meaningful educational elements for the project.

**Barbara Ifshin**, *Vice President for Marketing and Business Development*, recently came to the Botanical Garden after 12 years with Walt Disney World, where she developed highly successful integrated communications plans and branding for new products. The marketing campaign she created for *Chihuly* was the most comprehensive—and successful—in the Garden's history. Ms. Ifshin is highly qualified to serve as the strategic leader for the marketing and public relations campaign that will make *Darwin's Garden* profitable in terms of audience, visibility, membership development, and revenue generation.

### Attachment 3: Narrative

#### *FUND-RAISING PLAN*

Over the past 15 years, through the creative leadership of its President, dedicated Board and staff, and numerable donors, the Botanical Garden has undergone a comprehensive renaissance in facilities and programs, the result of campaigns that have raised more than \$500,000,000. Widely viewed as one of the great success stories in the annals of New York City's cultural life, the Garden's transformation has been a model in long-range planning, program development, capital construction, and fiscal responsibility. The three venues that will showcase the proposed exhibition are part of the Garden's restored landmark buildings and new facilities.

The Garden's annual operating budget is currently more than \$50,000,000 and has been balanced for 18 consecutive years, often in the face of challenging economic conditions. Restricted endowment has grown from \$17,700,000 in 1990 to \$225,000,000 as of October 31, 2006, and endowment income will contribute 16% to the 2007 operating budget, up from 10% in 2006.

To date, the Garden has secured private funding in support of planning activities from the Pyewacket Fund and The Kurt Berliner Foundation. The Garden has also secured a pledge to support the full costs of the two-day Darwin Symposium from the Lewis B. and Dorothy Cullman Foundation. Additional support for the Library Exhibition Program is currently provided in part by contributions from the LuEsther T. Mertz Charitable Trust, William D. Rondina and The Carlisle Collection, and the Indian Point Foundation. Fundraising staff are approaching an array of current and prospective foundation and individual donors for support of the *Darwin's Garden*. They include a carefully chosen group of individuals, including long-term donors, current board members, and the Library Visiting Committee. Finally, the Garden will dedicate a portion of revenue generated from tours and gate-fees toward the exhibition.