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CULTURAL LANDSCAPE REPORT
GLENMONT

AUGUST 18, 1987

BY: LEAH BRODBECK BURT

Draft

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August 19, 1987

Edison National Historic Site

ADMINISTRATIVE DATA

Comp. 1882-

Glenmont, Building No. 10, and the surrounding grounds were the home of Thomas Alva Edison from January 20, 1886, when he purchased the property until his death on October 18, 1931. After that it continued to be occupied by his widow, Mina Miller Edison, until her death on August 24, 1947. On December 6, 1955 the house, grounds, and related structures were designated the Edison Home National Historic Site, in non-Federal ownership, by then Secretary of the Interior Douglas McKay. The property remained in that status, operated and maintained for quasi-public use under ownership of Thomas Alva Edison, Inc., and its successor the McGraw-Edison Company, until August 3, 1959, when real property title was transferred to the United States by deed of gift. A major portion of the Edison Home and other historical estate furnishings were also subsequently transferred to the United States by donations from the Edison Family and the McGraw-Edison Company.

The entire property so constituted was combined, under Act of Congress approved September 5, 1962, with the Edison Laboratory National Monument previously established in 1956, under collective designation as the Edison National Historic Site. Glenmont was first opened to the public on May 16, 1961, under the administration of the National Park Service.

Appendix

DOCUMENTARY DATA

Documentary evidence on the Glenmont grounds landscaping exists as hand-drawn architectural landscape plans, photographs, and as vouchers and contracts for seeds, plants, supplies, and equipment. All of the documentary data is in the collection of Edison National Historic Site.

The vouchers and contracts cover the years 1886-1915. Purchases for seeds and plants are clearly itemized and quantities specified. Vegetables are listed for the vegetable garden, annuals and perennials for the flower beds, tender, tropical plants for the conservatory and greenhouse, trees and shrubs for the general planting scheme. Specific cultivars and variety names are also given. All of this data has been entered into a computerized program, using dBase III+ software.

The hand-drawn landscape plans begin with the hand-colored drawing of the Henry C. Pedder landscape plan of 1882 and continue through the blueprint drawings of 1929. A complete listing of these plans is as follows:

(1) Hand-colored architectural landscape drawing of Glenmont grounds for Henry C. Pedder dated 1882. Drawing labelled Map, Residence & Grounds belonging to Henry C. Pedder, Esq., Llewellyn Park, Orange, N. J., 1882, Mead & Taylor, Engineers. Scale 40 feet to the inch. The drawing shows the outline of the house, well, cisterns, drain lines, bell line, gas line, walkways, driveways, croquet lawn, lower lawn, cesspools, chicken yard, cow stables, grapery, and barn.

(2) Hand-colored architectural landscape drawing of Glenmont grounds for Thomas A. Edison dated 1907. Drawing labelled Estate of Thomas A. Edison, Llewellyn Park, Orange, N. J., Design for Grounds, Ernest W. Bowditch, Landscape Gardener, Boston, Mass., Nov. 8, 1907, Plan No. 2418-2. Scale 50 feet to the inch. The drawing shows the outline of the house, walkways, driveways, flower beds, vegetable garden, service and laundry yards, grapery, garage, stable, tool house, and greenhouse.

(3) Hand-colored landscape design of flower garden adjoining house on southwest exposure dated 1909. Drawing labelled Garden Design for Mrs. Thomas A. Edison, Orange, N. J., Ernest Bowditch, Landscape Gardener, Boston, Mass., Oct., 1909, Plan No. 2418-4. Scale 10 feet to the inch. The drawing shows elevation for pergola and exedra, plan for pergola, sketch for bird bath and seat, landscape design for proposed formal flower garden.

(4) Blueprint drawing of garden design adjoining entire southwest exposure of house dated 1909. Drawing labelled Garden for Mrs. Thomas A. Edison, Orange, N. J., Ernest W. Bowditch, Landscape Gardener, Boston, Mass., Oct. 29, 1909, Plan No. 2418-8. Scale 10 feet to the inch. The drawing shows landscape design for proposed formal flower garden adjoining entire southwest exposure of house.

(5) Hand-colored landscape design of garden adjoining house on southwest exposure dated 1910. Drawing labelled Thomas A. Edison, Sketch for Garden, Ernest W. Bowditch, Landscape Gardener, Boston, Mass., Jan. 28, 1910, Plan No. 2418-11. Scale 10 feet to the inch. The drawing shows proposed location of walkways, flower beds, turf alongside southwest exposure.

(6) Hand-colored landscape design of garden adjoining house on southwest exposure dated 1910. Drawing labelled Thomas A. Edison, Sketch for Garden, Ernest W. Bowditch, Landscape Gardener, Boston, Mass., Jan. 28, 1910, Plan No. 2418-12. Scale 10 feet to the inch. The drawing shows proposed location of walkways, flowers, shrubs, and turf alongside southwest exposure.

(7) Hand-colored landscape design of garden adjoining house on southwest exposure dated 1910. Drawing labelled Thomas A. Edison, Sketch for Garden, Ernest W. Bowditch, Landscape Gardener, Boston, Mass., Jan. 28, 1910, Plan No. 2418-10. Scale 10 feet to the inch. The drawing shows proposed location of walkways, formal flower garden alongside southwest exposure.

(8) Blueprint drawing of perennial flower bed dated 1914. Drawing labelled Bed A. No scale given. The drawing shows the planting layout for an extensive perennial flower bed.

(9) Blueprint drawing of perennial flower bed. Drawing labelled Bed B. Scale 1 foot to the 3/8 inch. The drawing shows the planting layout for an extensive L-shaped perennial flower bed. The drawing is the companion drawing to (8).

(10) Blueprint drawing of skating pond dated 1925. Drawing labelled Plan of Skating Pond, Property of Mrs. Thomas A. Edison, Orange, N. J., Pentecost & Martin, Inc., New York, November, 1925. Scale 1 foot to the 1/8 inch. The drawing shows the landscape design of the skating pond with the adjoining driveway, shelter house, and garage.

(11) Blueprint drawing of skating pond dated 1926. Drawing labelled Construction Details for Skating Pond, the Estate of Mrs. Thomas A. Edison, Llewellyn Park, New Jersey, October 24, 1926, Ellen Shipman, New York. Scale 1 foot to the 1/8 inch. The drawing shows the actual construction details for the skating pond.

(12) Blueprint drawing of skating pond dated 1926. Drawing labelled Construction Details for Skating Pond, the Estate of Mrs. Thomas A. Edison, Llewellyn Park, New Jersey, October 14, 1926, Ellen Shipman, New York. Scale not given. The drawing shows the actual construction details for the skating pond.

(13) Blueprint drawing of skating pond dated 1926. Drawing labelled Construction Details for Skating Pond, the Estate of Mrs. Thomas A. Edison, Llewellyn Park, New Jersey, October 29, 1926, Ellen Shipman, New York. Scale 1 foot to the 1/8 inch. The drawing shows the actual construction details for the skating pond.

(14) Hand-colored drawing of skating pond dated 1926. Drawing labelled Suggested Treatment for Skating Pond, the Estate of Mrs. Thomas A. Edison, Llewellyn Park, N. J., September, 1926, Ellen Shipman, Landscape Architect, New York. Scale 1 foot to the 1/8 inch. The drawing shows the landscape plan surrounding the skating pond.

(15) Drawing of formal garden located near greenhouse dated 1929. Drawing labelled Sketch Plan for Rearrangement, the Garden of Mrs. Thomas A. Edison, Llewellyn Park, West Orange, N. J., November 26, 1929, Ellen Shipman, Landscape Architect, New York and Cornish, New Hampshire, File 190, Plan 3. Scale 8 feet to the inch. The drawing shows the layout for the formal perennial borders, roses, and annuals on the southwest side of the greenhouse.

(16) Blueprint drawing of the rose garden adjoing the house. No date. Drawing labelled Proposed Planting Plan for the Rose Garden of Mrs. Thomas A. Edison, East Orange, N. J., Lewis & Valentine, Landscape Contractors, Roslyn, Long Island, New York. Scale 5 feet to the inch. The drawing shows the layout for the formal shrub, rose, and perennial garden situated near the house.

There are two oral history interviews of the gardener, Mr. Halstrom, one done in October and November, 1965, and the other done on September 23, 1969. The former interview was accomplished through the auspices of the Columbia University Oral History Program and will not be used in this report, since the information gleaned is not substantive with relation to the landscape plan.

The latter oral history interview done by Loretta Schmidt in 1969 is extremely valuable as a resource tool. The interview is very well done, with questions directed to the interviewee in a most comprehensive manner. Consequently it will be used as prime source material for this landscape report.

Appendix

FIELD SURVEY DATA

A field survey was conducted in 1963 by Harold J. Hamilton Associates, Consulting Engineers and Land Surveyors, 93 South Livingston Avenue, Livingston, New Jersey. (See Appendix.) It is a topographic survey of the Glenmont property with existing buildings, driveways, walkways, and drain systems clearly designated.

The existing trees were numbered by attaching a metal disc to the trunk of the tree with the identifying number incised into the metal. A key to the numbered trees was outlined alongside the topographic drawings. The exact date on the drawings is November 1, 1963.

Some shrubbery on the drawings was also identified, though by family only. Flower bed and vegetable garden outlines are shown, with only vague references as to the 1963 plantings within same.

During the month of August, 1987 a verification survey was made by this Curator. Branchlets of questionable trees were taken over to the Frelinghuysen Arboretum in Morristown, New Jersey, where Quentin Schlieder, Horticulturist and Director of the Arboretum, aided in the identification. Changes in plant material were duly noted. In general, where an original tree had reached the end of its lifespan, it was replaced by a young grafted scion or juvenile specimen of the same species.

The whole of the tree inventory has been entered into a computerized listing, using dBase III+ software. It is reassuring to note that most of the trees are in excellent condition, with only minor losses over the years.

Thirty-five trees present on the 1963 topographic map could not be located in 1987, probably due to attrition, storm damage, or loss due to end of life expectancy.

The following tabulation indicates the kinds of trees no longer on the Glenmont grounds:

Genus	Species	Common Name	Number Missing
Acer	platanoides	Norway Maple	1
Aesculus	glabra	Buckeye Chestnut	1
Castanea	mellissima	Chinese Chestnut	1
Celtis	occidentalis	Hackberry	1
Fagus	atropunicea	Copper Beech	1
Magnolia	acuminata	Cucumber Magnolia	1
Prunus		Common Cherry	1
Tilia	americana	American Linden	1
Cornus	florida	Common Dogwood	2
Picea	abies	Norway Spruce	2
Quercus	alba	White Oak	2
Quercus	borealis	Red Oak	2
Robinia	pseudoacacia	Black Locust	2
Tsuga	canadensis	Canadian Hemlock	2
Acer	saccharum	Sugar Maple	3
Carya		Hickory	3
Sassafras	variifolium	Sassafras	3
Acer	palmatum	Japanese Maple	5

By 1987 the formal rose garden at the rear of the house had been removed. Walkways through the rhododendron area near the intersection of Park Way and Elm Court Way are obscured by grass. The old swimming pool has been filled in with dirt and compost. Flower beds near the greenhouse have lost their definition, although remnants of their original outline can be seen. Perpetual, sometimes even dense, shade from the American Linden trees along Honeysuckle Road is largely responsible for the non-flowering state of the peonies and iris in the long beds near the same road.

The lawn is bumpy in large areas of the front lawn. The grass is generally lush and thick, requiring much mowing and maintenance. Scilla sibirica, erythronium dens-canis, and convallaria majalis carpet the area under the trees on the main loop near Honeysuckle Road. Every other year or so the scilla sibirica blooms so profusely that the area looks like a blue lake of flowers.

The gravesite area proper is now in dense shade, and therefore, vegetation is sparse or non-existent. A few scraggles of English ivy appear here and there, valiantly trying to make a show.

In the laundry yard spiraea and mountain laurel provide the under-growth beneath Canadian hemlocks and Norway spruce.

The skating pond of the late 1920's is still clearly visible near the present garage as a large depressed overgrown vegetative area. Nearby the underground vault of the 1880 gas-lighting system can be found, although it is filled with tree roots and dirt.

Around the house the flowering tamarisk shrubs make a show in late summer. Variegated hosta is crammed too closely together as a border on most beds. In the spring wisteria and epimedium give some color to the front of the house. Scraggly barberry here and there around the foundation add little to the overall effect, while Japanese convex-leaf holly and Japanese andromeda provide welcome shrubbery relief.

ANALYSIS

Brief History of American Gardening, 1850-1930.

The Victorian garden arose out of rebellion against the eighteenth-century landscape park. Lancelot 'Capability' Brown, the outstanding landscape architect of the 18th century, liked grand sweeps of grass to an unconscionable extent, bringing it to the walls of houses and destroying some charming old gardens in the process. He cared little or nothing for flowers. Because he was a figure of tremendous influence on 18th century gardens and all gardens that came later, Brown is looked upon by those who study gardening as one who presented the landscape as nature dressed and caressed though not formalized and flowered.

For three generations, the magic word 'Nature' had been invoked as the ideal which the gardener was to follow, but by the beginning of the nineteenth century, the ideal was starting to sound a little hollow. The all-pervasive theme was that gardens should be works of art rather than of nature. Thus, gardening would no longer reflect the natural landscape, but would be a masterful expression of the landscape creator, whether he be the property owner or the head gardener. The garden landscape would then be not only immensely creative, but also truly imaginative and thoroughly original.

Labor-saving devices for the garden began to come in during the nineteenth century. The first lawn mower was invented in 1830 by Edwin Budding. With lawns losing their popularity during the 1840s and being looked upon as merely settings for the grand decoration of the bedding system, the lawn mower must be looked upon as a technical innovation to accomplish the prevailing garden scheme. Dusting machines, fumigators, pruning shears, transplanting machines, and sun shades must also be added to the list of innovative garden tools developed during the 19th century. Of course, the greatest impact on gardening was due to the emergence of the railroad. Building materials, stones, exotic plants, and horticultural wonders could all be shipped to their destination in record time. Transatlantic steamships which made the Boston to Liverpool run in only fourteen days brought back English nursery stock to American growers.

New materials for use in the garden were being developed during the 19th century also: Portland and Roman cement, wrought iron, encaustic tiles, and sheet glass. Sheet glass was to have the greatest impact, for it meant that conservatories and greenhouses now could be fabricated using the new larger panes, instead of the myriad of small panes of the early years of the century. Numerous greenhouses were subsequently refurbished using the new glass. Early

flued walls gave way to steam heating, then to hot-water, and then to gas.

The development of the Wardian case by Dr. Nathaniel Ward in mid-century insured that there was now a means for the transporting of rare plant discoveries from far-off parts of the world to the continent and to the United States. Charles Darwin eagerly enclosed his rare plant specimens, gathered in unknown parts of the globe, in Wardian cases for the lengthy voyage back to England. As gardeners began experimenting with growing these exotic plants in their own greenhouses and conservatories, their horticultural expertise grew in such a way as the world had not known before.

John Claudius Loudon (1783-1843), a renowned British horticulturist, tried to restrict the word 'conservatory' to a glasshouse where the plants were arranged in beds rather than in containers. As the century wore on, it became increasingly evident that Loudon's definition of conservatory was not going to be adopted. Conservatories generally consisted of artfully arranged pots and tubs within a glasshouse atmosphere. The conservatory gave the lady of the house, especially during the winter months, a chance to dabble at gardening without sullying her decorum or fashionable and voluminous attire. The palms, dracaenas, latanias, crotons, ferns, cinerarias, and calceolarias did not demand that one was either a passionate plant collector or an expert horticulturist.

Outstanding among 19th century writers on landscaping was Andrew Jackson Downing, who published first in 1841, and then later, his Treatise on the Theory and Practice of Landscape Gardening. Adapted to North America. The book went through many editions and was very widely read by people of different economical circumstances.

Seedsman Peter Henderson published several books on gardening, the first being Gardening for Profit in 1866. His Practical Floriculture, Gardening for Pleasure and Handbook of Plants were read avidly by all who took gardening seriously. His books revolutionized American gardening with advice on gardening on a large scale.

Garden design was consciously led away from the use of the primitive past, in other words, ruins, as focal points. Here again 18th century naturalism was being condemned to the fullest. Instead, features in gardens became the rudimentary present in the form of rustic architectural buildings and rustic garden furnishings. These garden embellishments were admired for their crudeness and 'picturesque' quality, their artfulness.

It was not unusual to find the emphasis on rusticity going as far as the building of summerhouses thatched with moss. Varied colored mosses could be arranged artistically in geometric patterns across the roofline.

A rococo revival surfaced in the artistic shapings of flower beds. Beginning with non-matching parts, one would also find flower beds in the shape of volutes, braces, half-moons, S-curves, shells,

and huge acanthus leaves. A landscape plan for rococo revival bedding in The Ladies' Assistant in the Formation of Their Flower Garden clearly illustrates this artistic endeavour.

'Picturesque' also meant the use of rocks of geological accuracy in the landscape plan. The alpine or rock garden was born. Whole vistas of supposed glacial origin were contrived to create a mountainscape.

At mid-century the idea of filling flower beds with masses of color was rapidly increasing, and exotic, new bedding plants from the warmer climes brought in the Wardian cases meant gaudy, emphatic colors for the garden scheme. This development was a complete divergence from the use of herbaceous perennials as had been done previously. Not to be forgotten was the over-riding use of plant material in an artistic, rather than natural, scheme.

John Caie, head gardener to the Duke of Bedford at Bedford Lodge, Kensington, is credited with the origin of the bedding-out system. Botanical specimens from warmer climates meant the landscape gardener now had at his disposal tender plants which could be placed in the bedding-out scheme as many as four times a year during the warmer months. The number of times that a bedding-out scheme could be changed during the growing season became a status symbol, for it meant that the property owner had the wherewithal to accomplish the feat. Conifers often would not withstand pollution in an urban area, so bedding-out was a good alternative. Bedding-out, because of the very nature of the system, obviously exhibited plants only at the prime of life.

Caie would talk for hours on the proper relationship of green to gray, of light to shade, the contrasts and harmonies of color, of gravel to grass, of cold colors to warm colors. He was adamant in that colors should be clean, simple, and intelligible, presented in solid masses, not mixed together, and last, but not least, colors should be arranged primarily for contrast. Examples of contrast were orange and purple, blue and yellow, blue and white, red and blue, and so on. As the 19th century wore on, Victorian color schemes dictated the use of one primary color with secondary and tertiary colors, rather than the primary colors with primary colors.

Carpet-bedding, or the use of continuous bands of color in a bed, was also a Victorian innovation. Carpet-bedding could materialize as a ribbon border, in other words, a line of blue plants, a line of yellow, and then white or scarlet. Or it could emerge as a grander scheme in waves of color. Ribbon borders could be planted symmetrically parallel to either side of a walk, and thus were designated 'promenade style'. The 'wheel style' naturally became concentric bandings of color around a central mound. Shadings in colored carpet-bedding were very similar to the 19th century needlework called Berlin work.

It became equally artful to distribute exotic trees over the margins of native woods, and so gradually to give the woods a highly

enriched and botanical character. The placing of a few exotics of unusual color and form as specimen trees within the lawn area was also recommended. These trees were to be 'staring trees', trees to be noticed and commented upon.

William Robinson, British landscape architect and widely-read garden writer, promoted the naturalizing of bulbs and wildflowers in the lawn. As a result, great drifts of flowering annuals and bulbs colonized the otherwise vacant places.

If the afore-mentioned garden ideas were not enough, a gardener could create his own stumpery or rootery, an area studded with the stems of old trees inserted, roots upward, in the ground, to be draped with ivy and other trailing plants. The stumpery, if large enough, could form rustic arches, under which a path meandered in utter seclusion.

Ferneries were developed, both for their horticultural and for the botanical interest. Professionals and amateurs alike sought these plants with resplendent foliage. Ladies were encouraged to collect and paint botanical likenesses of ferns, in preference to spending most of their leisure time on Berlin work. Ferns, because of their tolerance for shade, were particularly adaptable to the new Wardian cases, which became very popular as conversation pieces in drawing rooms and parlors.

Topiary, as known in the 18th century, did not make a come-back in the 19th century. Instead, the effect of topiary was generally sought after through the use of fastigiate trees. Similar to topiary, standard shrubs, such as rose standards, lantana standards, wisteria standards, pyramidal pelargoniums, and floral pyramids, were much sought after.

A further refinement of the pyramidal style was the 'pincushion' style, so named because anything could be stuck into them. The beds were most often entirely circular, arranged symmetrically along walkways.

In the choice of color for carpet bedding, the Purkinje effect was well-known and often taken into consideration. The Purkinje effect involves red as seen as an advancing color in broad daylight, but in declining light it is the blue end of the spectrum that advances. Rubens in his masterpieces used the effect of flicker to spice his ground colors, in other words, the use of primary colors to spark the more neutral ground. At times the use of zonal gernaiums, or scarlet and yellow in combination, was termed gaudy glitter and savagery, the ultimate in garishness. Elite Victorians suggested that it must be primitive barbarism asserting itself in all of us who use such strident color combinations.

The use of variegated plants instead of primary colors was offered as a solution to barbaric tendencies. Rhubarb, flowering kales--pink, white, and purple, asparagus, red beets, cannas, caladiums, diffenbachias, bananas, solanums, and philodendrons were

offered as alternatives. Beds using variegated plants as their mainstay were often said to resemble 'shot silk'. Conifers might also be rejected in favor of deciduous trees, or trees with high autumnal foliage colors--another approach to the use of variegated foliage.

The obsession with the colors exhibited by variegated foliage, the mustard yellows, the sage-greens, willow-greens, greens that look like curry, greens that resemble lichen-colored walls or lush marshy vegetation, prompted Oscar Wilde to write:

> "A Japanese young man,
> A blue and white young man,
> Francesca di Rimini, miminy piminy,
> Je-ne-sais-quoi young man!
>
> A pallid and thin young man,
> A haggard and lank young man,
> A greenery-yallery, Grosvenor Gallery,
> Foot-in-the-grave young man!"

--a clear embodiment of the aesthetic movement. By 1911 complaints against the 'greenery-yallery' arose to such heights that it was no longer fashionable to use the variegated cultivar in the landscape plan.

Not to be overlooked was the use of colored gravels in the carpet-bedding plan. Gravels offered a pristine effect, ease of maintenance, and contrast with the color of the grass. Brick dust, mineral coal, copper ore, various kinds of shells, chalk, colored marbles, quartz--all could be used in the colored gravel scheme. Care had to be exercised in the employment of lead-base gravels, however, for the lead salts leached out and were poisonous to delicate bedding plants. Gravels made for much more intricate traceries within the landscape structure.

British landscape gardener Edward Kemp argued that "in the immediate neighborhood of the house, it is particularly desirable that trees and shrubs should not abound. Independently of darkening windows, they communicate great dampness to the walls, and prevent that action of the wind upon the building which alone can keep it dry, comfortable, and consequently healthy." In addition, planting close to the foundation "prevents the true proportions, outlines, and details of a building from being properly seen and rightly appreciated." Frank Jesup Scott, an American, underlined Kemp's philosophy regarding plantings near the house and added "American physicians attribute much of the consumption so fatal in New England families, to the want of sun, the damp air, and the tree and shrub-embowered and shutter-closed houses peculiar to its villages and farms."

Proficiency in the arts and crafts was a vital accessory to a Victorian lady's social standing. Young ladies were encouraged to take up botanizing as a social, as well as a healthy pursuit, rather than spend their idle time with novels and gossip, crochet and Berlin

work. Creation of albums of flower-pressings became very popular, along with flower painting.

At the turn of the century the Edwardian fashion was to design one-color gardens, such as the White Garden at Sissinghurst. Blue gardens, gardens with only the warm shades of the yellow family, all could be had, if the property owner so desired.

William Robinson added his voice to the landscape plan by advocating the principle of naturalizing or making wild and semi-wild places the rougher parts of pleasure grounds. He said that the colored gravel, terrace wall, water-squirt patterned properties have nearly served their turn.

Gertrude Jekyll, trained first in art, came to gardening late in the 19th century. Jekyll, the most ardent advocate of the herbaceous border, used her artistic training to augment her choices of plants within a given scheme. Up to 1900 the traditional mode of planting a border was in uniform lines, rigidly placed for ease in maintenance. Jekyll's plan was to plant borders in herbaceous groups, forming masses of color, large enough to have a certain dignity. The masses of color were to be planted in drifts, rather than regimented, stylized figures. So, by 1900, informal drift planting came to dominate the herbaceous border.

The colored amassed plants were to be arranged in graded sequence with thought given to the effect of foreshortening when seen from one end of the border.

> 'Warm colours are not difficult to place; scarlet, crimson, pink, orange, yellow, and warm white are easily arranged so as to pass agreeably from one to the other...
>
> A progression of colour to be recommended in a mixed border might begin with strong blues, light and dark, grouped with white and pale yellow, passing on to pink. Then rose colour, crimson, and strongest scarlet, leading to orange and bright yellow. A paler yellow followed by white would instantly connect the warm colours with the lilacs and purples, and a colder white would combine them pleasantly with low-growing plants with cool-coloured leaves.'[1]

Contrasting colors were ineffective at a distance, or when interspersed and therefore were to be 'used sparingly rather than as trustworthy principles.'[2] As can be ascertained from the foregoing landscape schemes, the gardener or property owner must develop some knowledge of plant materials, of colors, such as warm whites, cool whites, and become organized as to appropriate planting times. As a

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[1]Jekyll, Gertrude, "Colour in the Flower Garden", Garden XXII (1882), p. 177.

[2]Jekyll, Gertrude, Colour in the Flower Garden, 1908.

proponent of the old-fashioned herbaceous border, Jekyll saw the bedding-out system and the carpet bedding scheme as a complete rejection of traditional herbaceous plant material. Overriding all her reactions to bedding-out and carpet bedding was the artful use of color within a planting scheme. It was this planned approach to color design that permeated all her garden books and schemes.

As the dawn of the new century approached, the relationship of the garden to the house became more important than that of the garden to the landscape. Often house and garden outbuildings shared the same building materials. These outbuildings often repeated the same architectural features, whether they be merely architectural embellishments or structural roofline. The use of pergolas, arbors, or covered walkways extended the original house design into the garden proper. The early 20th century garden now took its rightful place in garden history.

Historical Trends in the Glenmont Garden Scheme.

Beginning with the 1882 Mead & Taylor delineation of the Glenmont grounds configuration, it can be seen that the walkways and driveways are in the same location as they are at the present time. The single greatest departure from today's garden plan is in the location of the vegetable garden. On the 1882 drawing the vegetable garden is in the area bordered on two sides by Glen Avenue and Honeysuckle Road. This location continued to be the vegetable garden until only recently, in the 1960's, according to Theodore Edison.[3] On the 1882 drawing the large expanse behind the house is termed the Croquet Lawn.

The two photographs taken by W. K. L. Dickson in the early 1890's, when the Edisons were the occupants of Glenmont, clearly show the bedding-out system in the teardrop, quadrilateral, and arabesque-shaped beds on the south and western exposures of the house. The artistic outline of the beds closely copies those beds illustrated in Peter Henderson's Practical Floriculture, 1887.[4] Coincidentally Peter Henderson & Co., Seedsmen & Florists, 35 & 37 Cortlandt St., New York provided many of the seeds and plants for the Edison estate. Rococo revival flower bed outlines are also illustrated in The Ladies' Assistant in the Formation of their Flower Gardens, by Joshua Major, 1861, and in Victorian Cottage Residences, by Andrew Jackson Downing, 1873.[5]

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[3]Interview with Theodore and Ann Edison, March 14, 1987.

[4]Henderson, Peter, Practical Floriculture: A Guide to the Successful Cultivation of Florists' Plants, for the Amateur and Professional Florist. O. Judd Co., New York, 1887, p. 27.

[5]Downing, Andrew Jackson, Victorian Cottage Residences. Reprint of 1873 edition by Dover Publications, Inc., New York, 1981, pages 63, 118, 234, 239.

The beds are filled with tender annuals, such as begonia semperflorens, succulents, sweet alyssum, and mignonette. The interstices between the varied colored plants are filled with gravel of a very light color, thereby accentuating the carefully wrought design. The beds are slightly mounded towards the center, with the exception of the quadrilateral bed, which is near the conservatory. This bed is heaped towards a point to an angle of 60 degrees, forming an equilateral triangle on each side. Ridges on the pyramid are outlined in gravel and in a different-colored tender annual from the main body of the triangular side.

Corroborating the quadrilateral bed near the conservatory is another photograph taken during this early period. The photograph shows five young people riding on a hay rick on the west lawn of Glenmont. Behind the rick and beyond a slender tree the quadrilateral pyramidal bed is clearly visible. Dimly visible are the rococo revival beds nearby, with a standard of flowering plants nearby. The weeping beech is majestic in its proportions.

Variegated foliage is evidenced by the agave specimens in huge containers near the Glenmont porte-cochere. Further variegated plantings are witnessed through the portico in the free-standing bed beyond. A variegated grass shows up against the southeast foundation of the conservatory.

Carpet-bedding, in its strictest sense, continuous bands of color, is not as visible in the Dickson photos as is bedding-out. There are contrasting colored borders on the rococo-revival beds, but not band after band of flamboyant color combinations.

Another photograph by W. K. L. Dickson published in his book, The Life and Inventions of Edison, shows Mina Edison and a governess with Charles and Madeleine in a horse-drawn wicker cart in front of Glenmont.[6] It is the eastern corner of the house that is visible, and the foundations are completely devoid of vegetation. A vine crawls up the wall of the laundry room. Cast iron grillework covers the basement windows. The absence of plantings near the foundation follows the philosophy of Edward Kemp and Frank Scott, both of whom stressed the unhealthfulness of tree and shrub-enclosed houses, as a sure cause of consumption and other similar sicknesses.

In the two exterior photographs of Glenmont by Dickson hanging plants and tropical palms abound in the window-less, screen-less conservatory. Profuse vines do exist near the base of the conservatory and on the west corner of the drawing room. Light-colored gravel decorates the ground area in front. Vines grow up the pillars of the portico, and cast iron standing plant holders punctuate the lawn area, along with cast iron garden furniture.

The 1907 landscape design by Ernest W. Bowditch again shows the vegetable garden in the area before the garage bordered by Glen Avenue and Honeysuckle Road. The lower curve of the main drive has been eliminated. Gates are now at every entrance to the Edison estate. Both the vegetable garden and the flower garden have formal layouts. The laundry yard sports a manicured look. From all indications, this delineation by Bowditch remained only a proposal, rather than an

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[6]Dickson, W. K. L. and Antonia, The Life and Inventions of Edison. Thomas Y. Crowell & Sons, New York and Boston, 1894, page 346.

actual change from the earlier landscape design.

The two companion blueprint drawings of perennial flower beds dated 1914 show an abundant use of peonies, chrysanthemum, asters, lilies, helianthus, rudbeckia, iris, phlox, digitalis, hollyhocks, and campanula. Exact location of the two perennial beds cannot be determined, as there are no identifying registers. The plans were put into use, however, for there are dated notes showing changes in plant material during the course of the growing season.

A photograph taken of Thomas Alva Edison seated on the front lawn of his home is dated June 30, 1917. It shows him seated in a rustic armchair made of cedar with a huge Norway maple in the background. An unidentifiable mature shrub is to his right. Vines are visible over the portico and along the balustrade of the front porch.

The 1929 drawing by Ellen Shipman of the flower garden adjoining the greenhouse closely follows the existing topography. The privet hedge bordering the driveway remains today, but not in the length shown. The rustic rose arbors are in place, along with the walkway. There are perennial beds in approximately the same area, but the shapes do not seem to be as formal. Connecting walkways and pools are non-existent. This drawing may have remained a proposal, but it gives some insight into what may have been in the greenhouse flower garden area.

The 1969 oral history interview with the head gardener, Tom Hallstrom, confirms the fact that the vegetable garden was indeed in front of the garage bordered by Glen Avenue and Honeysuckle Road. Tom Hallstrom mentions that the vegetable garden was laid out in six squares on the side, along the edges were blackberries and raspberries. One section was planted with asparagus, part of another section contained rhubarb, and in the center of the garden was a peach tree which had to be replaced every once in a while. All kinds of vegetables were grown: cabbage, beets, carrots, celery, spinach, peas, beans, escarole.

Hallstrom mentions that there were quite a few fruit trees in the orchard section west of the garage, including pears and apples. The rustic fencing nearby supported old-fashioned roses.

The bird feeders on the west lawn were used all winter long. There was also a bird bath, heated with electricity, with the on-off switch in Mrs. Edison's bedroom.

Flower beds on either side of the front porch were kept filled with flowering annuals. Pansies were used in the early spring, but were replaced as summer drew near with geraniums, petunias, begonia semperflorens, and the like. The wisteria on the right-hand side of the portico was white, while the one on the left-hand side was purple.

The stone urns near the front door were filled with ferns or tropical plants during the growing season. At Christmastime these urns were filled with evergreens, to look as if they were growing there.

Hallstrom mentions the wild garden, following along the lines of William Robinson, in the area bordered by Honeysuckle Road, the garage, and the circular drive. Bulbs, including tulips, were planted in great drifts all the way from the back entrance to the house to the wild garden.

He describes a formal garden of annuals before the greenhouse. There were ovals, triangles and round beds from the greenhouse to Honeysuckle ~~Lane~~ Road. Encircled by the grape arbor was the cutting garden. Dahlias in profusion, gladiolus, all kinds of cut flowers, with special late ones for the fall were in evidence throughout the season. Peas and strawberries were grown in the earlier period where the peonies, iris and phlox are at the present time farther down Honeysuckle Road, for then the trees were small, and there was more sun filtering through.

From the field survey it can be learned that specimen trees located in the wide expanse of the south or west lawns were meant to be 'staring trees'. Some are of the fastigiate profile, the Victorian and Edwardian answer to topiary specimens. Others are pendulous or of unusual characteristics. The Nordmann's fir, the chamaecyparis pisifera plumosa cv., the copper beech, the weeping beech, the weeping cherry, the weeping spruce, the pawlownia, and the Sargent weeping hemlock are all examples. The Sargent weeping hemlock, in particular, presents an interesting case, for all the Sargent hemlocks in existence today are descended from only four specimens discovered in 1865 in New York State in the Fishkill Mountains.[7] The pawlownia has its origins in China, where the seed hulls were used as packing material around the Chinese export porcelain shipped to the New World as ballast in the holds of the Dutch East India ships.[8]

Trees with high autumnal foliage color were distributed around the perimeter of the Glenmont garden landscape. These were the sassafras, the sourwood, the Japanese maples, the sugar maples, and the dogwoods.

Great drifts of flowering scilla, lily-of-the-valley, and the yellow trout lily grow just north of the old skating pond area. It is a 'wild area' filled with wildlings and bulbs. Indian pipes (Monotropa uniflora) can be seen in the early summer in all their stark nakedness. Ferns abound in the damper, wooded sections.

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[7] Allen, Oliver E., Gardening with the New Small Plants. Houghton Mifflin Company, Boston. 1987.

[8] Winterthur Museum Educational Program, Spring, 1960.

From the Glenmont vouchers it can be determined which seedsmen and nurseries supplied the Glenmont greenhouse and grounds with trees, plants, seeds, and the like:

Peter Henderson & Co., Seedsmen and Florists, 35 & 37 Cortlandt Street, New York.
Bobbink & Atkins, Nurserymen, Florists & Importers, Rutherford, N. J.
Weeber & Don, Seed Merchants & Growers, 114 Chambers Street, New York.
James Veitch & Sons, Nursery and Seedsmen, Royal Exotic Nursery, King's Road, Chelsea, England.
S. M. Japanese Nursery Co., Importers and Dealers in Rare Japanese Plants, Bulbs, and Seeds, 191 Valley Road near Park Avenue, West Orange, N. J.
F. W. Massmann, Seeds, Flowering and Decorative Plants, 557 Main Street, Brick Church, N. J.
George Smith, Successor to F. W. Massmann, 557 Main Street, East Orange, N. J.
W. E. Marshall & Co., Seeds, Plants, Bulbs, 166 West 23rd Street, New York.
Wm. F. Bassett, Nurseries, Hammonton, N. J.
J. H. Troy, Mount Hissarlik Nursery, New Rochelle, N. Y.
New Jersey & Long Island Nurseries, Jersey City, N. J.
United States Nurseries, Pitcher & Manda, Nursermen, Seedsmen and Florists, Short Hills, N. J.
Joseph A. Manda, Orchid Expert, Seedsman and Florist, 191 Valley Road, West Orange, N. J. W. A. Manda, Livington, N. J. is the present day successor.
John N. May, Rose Grower, Etc., Summit, Union County, N. J.
Robert McArthur, Florist, Cut Flowers, Bouquets, Baskets, Etc., 186 Main Street, Opp. Cleveland Street, Orange, N. J.
Henry A. Dreer, Seedsmen and Florists, 714 Chestnut Street, Philadelphia, Pa.
Wholesale Nurserymen's Special Agency, Hartford Building, Jersey City, N. J.
Charlton Nursery Company, Importers, Growers, Landscape Gardeners, University Ave., Rochester, N. Y.
Fred'k W. Kelsey, Fine Nursery Stock, 150 Broadway, New York.
F. R. Pierson Co., Importers, Growers and Dealers, in Choice Seeds, Bulbs, and Plants, Tarrytown-on-Hudson, New York.
Richard Purdue, Seedsman and Florist, 373 Main Street, near Arlington Avenue, East Orange, N. J.
George Purdue, Successor to Richard Purdue, Seedsman and Florist, 373 Main Street, near Arlington Avenue, East Orange, N. J.
Chester Jay Hunt, Holland Spring-Flowering Bulbs, Montclair, New Jersey.

From the above list the prominent firm of James Veitch & Sons in England should be noted. Outstanding seed companies are Peter Henderson & Co., Weeber & Don, and Bobbink & Atkins. It is also interesting to see that there was a Japanese Nursery of exotics almost at the entrance to Llewellyn Park in the early twentieth century.

Nursery stock and seeds for Glenmont came from the best of sources.

Rather than comment at this point on the plant material contained in the Glenmont vouchers, a complete listing can be found in the appendix of this landscape report.

RECOMMENDATIONS

Recommendations for the Glenmont gardening and landscape plan will be approached from three standpoints: the lawn area, the conservatory and greenhouse facilities, and the bedding and vegetable garden.

Lawn Area.

Many of the original exotic trees planted throughout the Glenmont grounds are still in existence. As mentioned in the Analysis section, these trees were meant to be 'staring' trees to be viewed and admired from across the large expanse of the lawn.

Sifting through the field survey made in 1963, it can be determined that there are only 35 trees that are no longer standing. These missing trees should be replaced, beginning with those that were most likely used as the staring trees, such as the Japanese maples, the common dogwood, the cucumber magnolia, the copper beech, the Chinese chestnut and the buckeye chestnut. Most of these trees show high autumn color, thus punctuating the landscape with color when little other plant color is available.

The Japanese maples (Acer palmatum dissectum) can be purchased through Wayside Gardens, Hodges, South Carolina, Siskiyou Rare Plant Nursery, Beaver, Oregon, or Princeton Nurseries, Princeton, New Jersey. So also, the dogwood (Cornus florida), copper beech (Fagus atropunicea), buckeye chestnut (Aesculus glabra), and Chinese chestnut (Castanea mellissima). The cucumber magnolia (Magnolia acuminata) is somewhat more difficult to find, since it is not available through most nurseries. Arboretums that might have seedlings, juvenile trees, or sports from the base of a mature specimen would be the most likely source.

Conservatory and Greenhouse Facilities.

A January, 1913 Glenmont voucher describes "three square tubs, 24" top, height 21" with iron bands and feet, painted green". These tubs were used in the conservatory for large standing plants, such as palms. Three such tubs should be made and painted green.

Plants used in the conservatory throughout the year were palms, dracaenas, latanias, crotons, and asparagus fern. These can be supplemented throughout the year with plants in their prime from the greenhouse. Supplemental plants during the winter months would be winter-flowering roses, winter-flowering stocks, Christmas-flowering sweet peas, Christmas poinsettias, cineraria, calceolaria, gloxinias, Easter lilies, forced bulbs, orchids, caladiums, hellebore, gardenia, mignonette, and cyclamen. At other times of the year Asparagus Sprengeri, Asparagus Plumosus Nanus, Asparagus Plumosus robustus, lily of the valley, primroses, heather, maidenhair fern, and sarracenia can provide spots of color and botanical interest.

In the summer months the conservatory palms will have to be moved

out onto the front lawn near the portico. The W. K. L. Dickson photographs of the exterior of Glenmont show tropical exotics in this location. At the present time, the conservatory windows cannot be removed, so that screening can be put up. The conservatory windows are stationary, with the resultant effect that the conservatory is too hot for most plant material during the summer months when the sun is streaming in. Ventilation is non-existent.

The greenhouse was used during the winter months to bring on flowering plants with their cut blossoms being used in arrangements within the house proper. Since it is not advisable to use live flower arrangements within an historic house museum, there is no need to grow these flowering greenhouse plants. These flowering plants include florist snapdragons and florist carnations.

The greenhouse should be used for providing a continuous supply of accent plants for the conservatory, instead. As a means to this end, the greenhouse should be scrubbed thoroughly before the winter-growing season, walls, benches, floor, fumigated, and new staging gravel and soil put into place. Thought and careful planning should go into the layout of the work area of the greenhouse. Any extraneously stored items should be removed permanently.

Bedding and Vegetable Garden.

The 1914 landscape drawings for perennial borders show that the Edisons were very keen on wide and lengthy perennial, biennial, and annual planting schemes. The 1929 Ellen Shipman landscape drawing of the area before the greenhouse gives some indication of the formality of the bedding system in that area. Verifying this 1929 drawing is the 1969 interview with gardener Tom Hallstrom. It is therefore recommended that this area be gradually put back to its former splendor. Since the 1929 plan does not show plant material, the above-mentioned 1914 perennial bedding scheme can be used as a guideline, along with the Glenmont vouchers for perennial and annual plants.

Any perennial or annual flower bed required plenty of sun, so attention must be paid to overhanging branches of mature trees in this area. If there is impending shade created by these branches, they should be trimmed accordingly.

Bedding around the house should be cleared of wildlings and invasive plant material, such as barberry and hosta. Glenmont plant vouchers do not show the purchase of the common barberry or any hosta. The tamarisk shrub behind the drawing room should be pruned where necessary and fronted with appropriate annual flowers, using the Glenmont vouchers for selection of appropriate plant material.

The epimedium, rhododendron, and Japanese andromeda in front of the laundry room and servants' dining room windows should be discreetly pruned and encouraged to flower.

Annual plantings should be put in the cast iron pedestal urns situated in the bedding and in the lawn areas. Again the Glenmont vouchers give an indication of suitable annual plant material. Annuals should again be planted on either side of the portico area, as mentioned by Hallstrom.

The roses cascading over the rustic trellis work near the garage should be replaced with the rose varieties known to have been grown by the Edisons. Plant vouchers will give the correct varieties.

The vegetable garden should be relocated before the garage bordered by Glen Avenue and Honeysuckle Road. Size of the plot can be garnered from the original 1882 landscape drawing. The cruciform layout of the vegetable garden is also apparent. The 1969 Hallstrom interview mentions six square plots on the sides, bordered by raspberries and blackberries, with a peach tree in the central circle. Substantial portions of the vegetable garden were relegated to the perennial plants, horseradish, rhubarb, and asparagus. Some annual herbs were included in the vegetable planting scheme, but not many.

The fruit trees known to have been in the orchard area adjacent to the garage should be replenished. Hallstrom mentions apples and pears.

Extraordinary Plant Purchases.

It should be noted that the Glenmont vouchers contain reference to the purchase of waterlilies, Hardy Nymph variety. This means that there was a small water or pond area on the Glenmont property in which to grow the waterlilies. No existing landscape plan shows its location, however.

The sixteen vines purchased from prominent British nurseryman, James Veitch, in 1890 were very probably clematis. In successive years the clematis supply was replenished from American sources. It was the most popular and exotic vine available.

APPENDIX I.

All Glenmont plant and seed vouchers in chronological form.

APPENDIX II.

Photographs.

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