

October 1989

American Horticulturist

Ruth Bancroft's Luscious Desert
Collecting Seed
Versatile Viburnums Shape A Career



Courtesy of André Viette

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Stops include the National Museum of Costa Rica; CATIE, the largest tropical research center in Latin America; Guayabo National Monument, a major archaeological site dating back to 800 A.D.; Monteverde Cloud Forest Reserve, where you can see a volcano and rare, exotic birds; and Corcovado National Park.*

April 1-May 6, 1990 Belgium and Holland

Begin in Brussels by visiting its botanical garden, arboretum and the University Herb Garden. Other stops in Belgium include the Floraries of Ghent, a flower festival that occurs every five years, and the Royal Botanical Garden in Bruges. In Holland, spend seven days cruising its canals with stops at Boskoop, the largest nursery in the Netherlands; the world's largest flower auction at Aalsmeer; and the magnificent Keukenhof Gardens. The tour will be led by Richard Hutton of Conard-Pyle/Star Roses.

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September 12-23, 1990 Castles and Gardens of Scotland

In the Western Highlands of Argyll, see Culzen Park Castle and Crarae Woodland Gardens. Spend two days at the Isle of Skye's Clan Donald Center, forty acres of woodland gardens and nature trails on the grounds of Armadale Castle. Visit the highland gardens at Inverewe before traveling on to Inverness and Edinburgh. You'll be welcomed by the castles' owners and guided by Everitt Miller, former director of Longwood Gardens and past AHS president.

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American Horticulturist

Volume 68, Number 10

October 1989

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A Mouth-Watering Dry Garden

by *Joan Hockaday* 17
Ruth Bancroft's desert landscape skillfully blends texture, color, and dramatic flashes of bloom.

The Fun Art of Seed Gathering

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The rewards are many, and it's not as hard as you might think.

Donald Egolf's Viburnums

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OCTOBER'S COVER

Photographed by Mick Hales

A giant *Agave ferox* and the colorful blossoms of an *Aloe* Gibson hybrid typify the exciting contrasts in the garden of Californian Ruth Bancroft, where a wide variety of Australian, African, and Mexican natives are artfully combined to produce a striking display of textures, shapes, and sizes. For more than two decades, Bancroft collected plants from around the world to create what is now one of the most spectacular American displays of dry-environment plants.

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Commentary

I am in the middle of redoing our own perennial border, and decided to go through all my notes from numerous lectures, publications, and catalogs to see what new plants would be appropriate. I have great respect for Fred McGourty's knowledge of plants and his tasteful use of them in his clients' gardens all over the world, so I decided to check his latest book about plants to see what to add. I am now absolutely overwhelmed with ideas, but the cold thought surfaced—where will I find them and if I find them, who will tell me how to keep them happy in our garden here in Rochester, New York?

My husband reminded me that when he wanted to grow eucalyptus from seed on Tortola in the British Virgin Islands, he contacted the Gardener's Helpline of the American Horticultural Society. They gave him all the information he needed for the rest of his life about eucalyptus, and many sources for seed. He then reminded me that, since I am *also* a member, this is one of the great free services available to all members across the country, and that now we even have a toll-free number (1-800-777-7931) available at our fingertips!

When I realized I had not even thought of this, I quickly recalled my deep concerns that members of the Society did not know the great benefits of membership. When I meet members on trips and at meetings, we invariably discuss gardening and sources for help. They generally have not used the Gardener's Helpline and are thrilled to know how easy and accessible it is for all members, no matter where one lives. From East to West, from North to South—no one is far away from help!

Well, I am a bit chagrined, but joyful to be reminded how easy it is to let the experts do all the work. The bright minds at River Farm, our headquarters, eagerly await all our concerns. They are so comforting, even about the most mundane questions. I am not ashamed to ask about anything that is preventing me from being a better gardener.

I hope that this true story will jog the memories of each and every one of you who has forgotten or never realized that this toll-free service is available. If you are in the Washington, D.C. area, do visit River Farm. You will have a treat meeting the dedicated staff that is employed to serve members like you and me. How to get there? Look on the reverse side of your membership card or call 1-800-777-7931 for easy directions. I do hope that I'll be there when you come!

Carolyn Marsh Lindsay

Carolyn Marsh Lindsay
President, American Horticultural Society



Rick Buettner

American Horticultural Society

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Jens Jensen's Beloved Midwestern Vistas



LEFT: Front entrance, Lincoln Park. The massing of small native trees such as dogwood and redbud was a common Jensen design characteristic. ABOVE: The park's cypress grove.

As I write this in my studio, I am surrounded by my library of garden books. One of them—now out of print—is *Siftings*, the only book written by Jens Jensen, one of America's most prominent late-nineteenth and early twentieth-century landscape architects. Technically not a garden book, it is more about the philosophies of a lifetime devoted to gardens and plants, but one with such insights that it should be looked into when the world is too much with us, late and soon.

Jensen was a giant of his time. Nowhere is that more evident than in reading *Siftings*. Of the American city, he wrote: "... with its prison-like homes, where the view is from wall to wall or down a straight, monotonous street walled in by stone and brick with nothing to feed the imagination or to inspire the emotions, where sunlight is at a premium and dark corners encourage vice and dishonesty, where mob psychology rules and men are led to copy others ... I do not say that men and women of

ability have not grown out of this barren pile of stone and mortar [and] seeing the destructive influences of their environment they have tried to better them, but their success in combating the devastating influences these large centers produce has still to be proved."

And of the American open road, he offered the following: "Scattered trees planted promiscuously along the highway, as one sees them in the forest, are more in keeping with our landscape and with the American mind than the stately avenues of monarchies. It is rather lanes that we want, or 'pikes,' as they are called in the South, where trees seem to enjoy the roadside and each other's company."

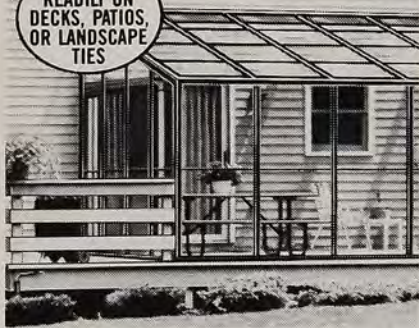
The natural landscape of the Midwest, with its native plants and horizontal planes, was beloved by Jensen; his numerous public and private landscapes did not destroy but enriched the uniqueness of each site. Nature itself was his inspiration.

Jens Jensen was born in 1860 and emigrated from Denmark in 1884. After trav-

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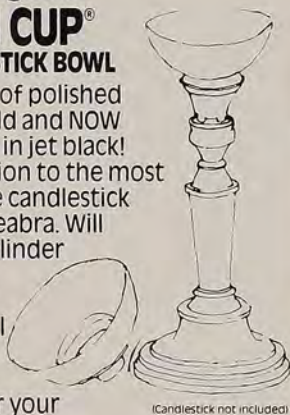
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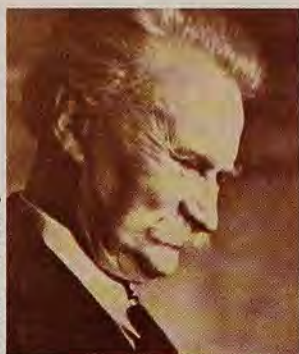
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HISTORY



Courtesy of The Clearing

"First grow cabbages. After that, plant a flower. When you have successfully grown a flower, then you can start to think about growing a tree. After watching a tree grow for several years, observing how its character develops from year to year, then you can begin to think of a composition of living plants—a composition of life itself. Then you will know what landscape architecture is."

Jens Jensen on his art

eling around the country—he worked for a short time on a Southern celery farm and did odd farm jobs in Iowa—he and his wife settled in Chicago in 1886. There he found a job working for the Chicago Park System performing menial tasks that included path-sweeping and cleanup work in a potting shed.

Jo Ann Nathan, who owns a garden in Chicago that was designed by Jensen in 1930, is a Jensen scholar.

"During his early years," she said, "he and his wife took weekend trips on the trolley, rode to the end of the line, and from that point simply walked out into the open and unpopulated fields. There they would walk for miles and collect wildflowers. Rumor has it that the trolley conductors invariably gave them a hard time when they boarded for the return trip to the city, because they always looked so disheveled and unkempt."

Jensen's love for both the prairie and its flowers led him to design a wildflower garden on an unused spot of ground in Chicago's Union Park. Since this area was in a prosperous part of town, word spread among the local gardeners and Jensen's popularity soon reached the point where he became a rising member of the department of parks.

Then in 1900—with several children to support—he was fired from his position as superintendent of Humboldt Park. Workers in the park system were often rewarded according to how many votes they could deliver to the Chicago machine. Jensen refused to hire these inefficient gatherers of political plums.

He then turned to designing gardens, and in 1905 a new commissioner hired him as the general superintendent and land-



A golden autumn moment in Lincoln Park.

scape architect for the entire West Parks system. One of these was Columbus Park, where in addition to the trees and grounds there were athletic fields, tennis courts, swimming and wading pools, and a "council ring," as Jensen called it, of limestone similar to those used by Native Americans. A council ring with a center fireplace used for seating in his landscapes was a device he used more than once in his career.

Land values in Chicago continued to rise. Since many people were forced to live in the most congested parts of the city, away from any hint of grass and trees, Jensen turned to clearing a dozen smaller parks, so that the city could offer "a free spot of nature within the reach of every person."

When The Friends of the Parks listed the ten "Treasures in Chicago Parks," they included four by Jensen: the Garfield Park



The warm colors of October foliage and the crunch of fallen leaves greet visitors at the entrance of Lincoln Park.

Conservatory Fern House, the Douglas Park Garden Hall and Lily Pool, the Humboldt Park Rose Garden, and the headwaters of the Prairie River in Columbus Park.

As a designer of gardens, he had an unerring eye. When planning the rose garden for Humboldt—one of the few truly formal designs Jensen ever attempted—he set the roses two feet below grade so that the straight beds would not interfere with the overall natural look of the park.

In 1925 Jensen proposed a club of nature lovers called the Friends of Our Native Landscape, soon to be followed by the Prairie Club. A direct result of these organizations was the eventual protection of the dunelands of Indiana as Dunes Park.

His reputation continued to grow.

"Most people don't realize," said Nathan, "that Jensen was extremely well-known during his time. He collaborated with Frank Lloyd Wright, Louis Sullivan, and many other architects who belonged to the 'prairie school' of architecture. He even wrote for *The Architectural Review*, *Landscape Architecture*, and the *American Landscape Architect*.

"Unfortunately, many of his views, while socially perceptive, went against the grain of those wedded to increased development and not inclined to pay the price for social responsibility."

In 1935—he was 75 at the time—Jensen moved to Ellison Bay, Wisconsin, where

he founded a school called The Clearing to train would-be landscape architects. The Clearing still exists, but today it is an adult retreat where a variety of classes are offered. Those who attend are exposed to Jensen's perceptions of the commonalities he found in all living things.

In 1939 he published *Siftings*. He died in 1951.

Jensen loved the native prairie and all the plants that grew upon it and hated it when people would remark that "native plants are coarse."

"How humiliating," he wrote, "to hear an American speak so of plants with which the Great Master has decorated the land! To me no plant is more refined than that which belongs. There is no comparison between native plants and those imported from foreign shores which are, and shall always remain so, novelties. If, however, as is said, our native landscape is coarse, then as time goes by we, the American people, shall also become coarse because we shall be molded into our environments."

Jensen was no stranger to American institutions. In a piece on gardens for *The Architectural Review*, he wrote: "The garden is a shrine amongst its surroundings, not a gaudy show place that must constantly change color and form like the ever-changing attractions of Coney Island. For the purpose of the garden is to be charm-

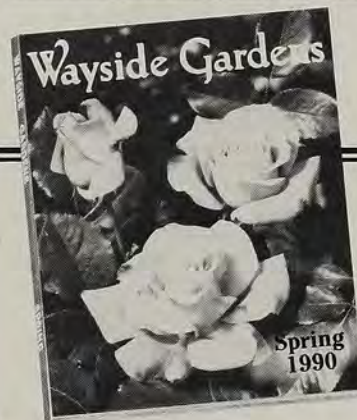
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HISTORY

"I have received many honors both here and abroad, but to be asked to design a garden that will be a living memorial to Abraham Lincoln, I consider the greatest honor of them all. I will give my best and there will be no fee."

ing, restful, soul-inspiring, not attractive, as this has no connection with art."

For a garden designed for a Michigan estate, Jensen wrote: "The site . . . consisted of a broken surface not unlike a wind-blown topography with its hills and lowlands, its ridges and blow-outs [a dune-country term for a depression in the hills]. The maximum difference in elevation ranged from zero to thirty feet. The lowland offered an opportunity for water-scapes or lowland landscapes, and the hills or rides that of the average prairie landscape as it is found on the bluffs or higher elevations bordering the streams, or in the glacial lake landscape, of the Middle West.

"No changes were made in the topography except the deepening of the lowest depressions for a water feature. All the vegetation used in forming these views and landscapes were native to the region, with the exception of some of the herbaceous perennials in the lane. The garden was to be made a part of the surrounding landscape, as much as possible fitting into it, as it were, as an unassuming attempt of gardening from the creative artist's standpoint. The purpose was to try to do the best with the plants native to the region—not by any means all the plants, but those that appealed to the artists as fitting into the composition of a garden harmonious to its environment."

Jensen filled the blow-out with irises. But he also considered the late autumn, when the borders would glow with the red berries of winterberry (*Ilex verticillata*) and the vermilion leaves of the sumac, plus maples, viburnums, and dogwoods.

He then designed a path that leads directly through a mass of wild goldenrod and proceeds to a thicket of black cherries, choke cherries, and sumac.

"He championed native plants," said Nathan, "particularly the plants that echoed the horizontal lines of the prairies. His favorites included native hawthorn trees (*Crataegus* spp.), redbuds (*Cercis canadensis*), and flowering crabs (*Malus* spp.). And underneath he planted ground covers and native plants of all descriptions. Everywhere you look in a Jensen design

there are curves, for straight lines, according to his philosophy, do not belong in the landscape."

Among his later works was the design of the Lincoln Memorial Garden in Springfield, Illinois.

The garden began through the efforts of Harriet Quigley Knudson, the wife of a Springfield doctor, who wanted to honor the memory of Abraham Lincoln. She wrote for help to Jensen and to her complete surprise, received the following answer:

"I have received many honors both here and abroad, but to be asked to design a garden that will be a living memorial to

A Dream Becomes The Clearing

Jens Jensen dreamed of a wilderness where young landscape architects could observe nature, discover its qualities, and be able to use these discoveries in their work and personal life as he had done in his earlier years. He purchased 128 acres in the early 1900s, designed the main house, and taught classes in landscaping, horticulture, and art. Today, the classes have expanded into many interest areas, but the essence remains: man and nature together.

Visitors check in on Sunday afternoon and attend class for a week until Saturday morning. There are no grades or obligations. Two classes a week are held from May through October and enrollment is limited to about fifteen students a class. Teachers come from all walks of life: self-taught, accomplished artists, professors, and well-known authors. For more information and a schedule of classes, contact the resident managers, Donald and Louis Buchholz at P.O. Box 65, Ellison Bay, WI 54210, (414) 854-4088.

Abraham Lincoln, I consider the greatest honor of them all. I will give my best and there will be no fee."

And he did his best, taking a barren tract and not only imagining how it would look after planting, but how it would look fifty years in the future.

"It was a hilly piece of land," said Jim Matheis, the present administrator of the park. "Bean fields and corn fields, tired and overworked with, at most, twelve trees. Jensen worked closely with Mrs. Knudson. I believe that they had a lot of give and take between them. He made over a dozen visits to the site. She would direct some of the plantings and he would direct others."

There is no highway system in the park; the roads go only along the perimeter, but there are four miles of trails or intertwining lanes, each bordered by a particular tree or shrub.

There is a lake on one border with small inlets that were part of his overall plan, but unfortunately over the years, siltation has taken a toll. One inlet was planted with white birch around it, then surrounded by cypress with an understory of red-osier dogwood (*Cornus stolonifera*), all to be reflected in the water. But the garden is too far south for white birch, and those have perished.

"Trees were planted," said Matheis, "including white oaks started from acorns brought back from the great boundary oak, growing next to the Lincoln birthplace near Hodgenville, Kentucky. There are thousands of trees in the park and hundreds of wildflowers, and except for the proverbial weeds, all are native to Kentucky, Indiana, and Illinois."

"[This garden] is not an arboretum," wrote Jensen, "nor a collection of plants, but a pure symphony of living beauty and eternal youth."

And he added that the white oaks of the Lincoln Memorial Garden "will tell the story of this garden when all the statuary and monuments have crumbled into dust—even Gutzon Borglum's great faces on the mountainside [Mount Rushmore] will have scattered their dust over the plains."

Some would say that such a statement is just a bit bombastic and perhaps it is, but who remembers words uttered without passion? And decades later, many of Jensen's creations still thrive with the beauty he envisioned.

Peter Loewer's latest book is A Year of Flowers.



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Inspiration to Installation of a Winning Exhibit



TOP: Inspiration and creativity are the beginnings of any winning plan. ABOVE: The front of Elizabeth's Garden is dotted with yellow tulips in a tribute to bulb enthusiast Elizabeth Lawrence.

Like an Indian sand painting or a picture chalked on an inner-city sidewalk, the garden built for a flower show is for the moment, to be enjoyed briefly, and then savored in memory for a long, long time. Its planning and execution, though, are as thorough as for a permanent landscape. Preparations begin slowly, then seem to snowball towards the installation, which occurs at lightning speed and proves to be both exhilarating and exhausting.

Experienced flower show participants like Charlie and Chuck Gale, who exhibit at the Philadelphia Flower and Garden Show, have perfected their art over the years. Expert record keeping, lessons learned from successes and failures, and

just being keen gardeners have kept Gale's Nursery in the winners' circle.

But first-timers also can be winners, as was the case with The Connoisseur's Garden, which received the award for best-in-show at the 1988 Atlanta Flower Show. This show, after a long hiatus, was revived so successfully last year that it was granted major show status by the Garden Club of America and was thrust into the national spotlight. At this year's Atlanta show The Connoisseur's Garden garnered three awards, one citing its display for presenting "the best form and quality of plant material."

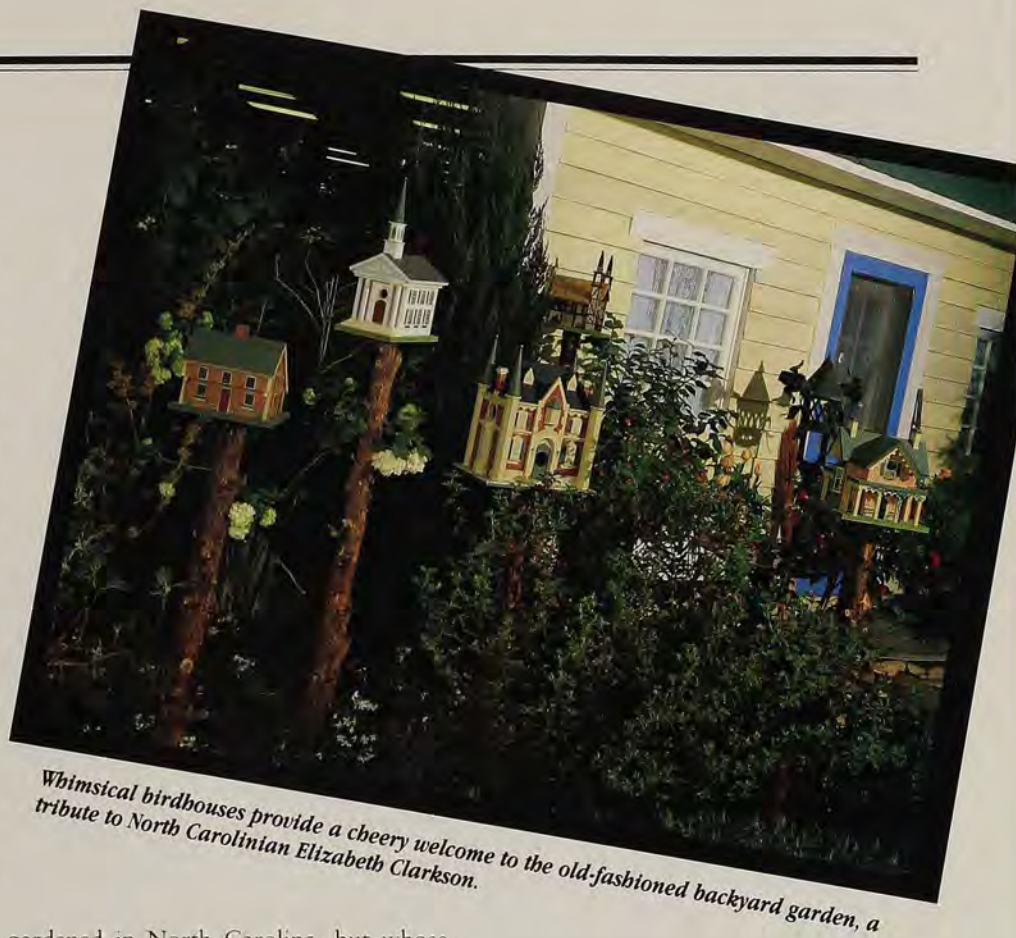
Atlanta's is only one of the many flower shows held across the country each year, some long established, some newly organized. All endeavor to make their show memorable by including distinctive gardens that will attract and inspire the gardening public. Classes, lectures, and even the tradesmen's areas all contribute to the kaleidoscopic excitement of a show, but for me it is the gardens—creative and seductive—that attract the most attention.

The process by which a good garden is exhibited is a straightforward one, if at times tiring and tedious. From an inspired idea comes the development of a plan for which plants are selected and forced, appropriate garden accessories are gathered, and everything is put in place. "Elizabeth's Garden," a Southern garden in the middle of spring, designed by Ryan Gainey, co-owner of The Connoisseur's Garden, illustrates how it all comes together. (See Ryan Gainey's design for a white garden in August's *American Horticulturist*.)

Inspiration

When does it really begin, the creative process that leads to a beautiful garden? Probably much earlier than you think. The creative mind continually accumulates images, both through visual contact and stimulating conversations. An exciting idea, like a flash of lightning, may seem to come suddenly, but the stage for it is set over a long period of time. After the flash, the idea is developed, the focus narrowed (or expanded), and the particulars formulated. The style of garden is decided upon, and the process of interpreting that idea begins. The Atlanta Flower Show is billed as "A Prelude to Spring" and within that general idea each show focuses on a particular theme. This year it was "A Southern View."

Elizabeth's Garden was a loving tribute to two dear Southern women who both



gardened in North Carolina, but whose influence was felt throughout the South and, indeed, the nation.

Elizabeth Clarkson, with her husband Edwin, created, over a period of sixty years, Wing Haven, a three-acre garden and bird sanctuary now open to the public in Charlotte, North Carolina. A garden first built for beauty and privacy, it actually became more intimate as it grew in size, with vines, thickets, food plants for birds, and deadwood left for nesting sites. Over 100 species of birds have been sighted within the garden, and Dorothy Doughty created her first pair of porcelain birds as a result of her visit to this special place.

Elizabeth Lawrence, who was born in Marietta, Georgia, but spent most of her life in North Carolina where she built gardens in Raleigh and Charlotte, gardened with her hands, her head, and her heart. To the great benefit and delight of those who now clamor for her books, she kept meticulous records and wrote in a clear, erudite, and entertaining manner about a host of plants and their performance in her garden. Her books, including *A Southern Garden*, *Gardens in Winter*, and *The Little Bulbs*, have become garden classics, and her works are delightful, invaluable resources for the Southern gardener.

The following notes were given to visitors at the flower show: "Sadly, both these women are now dead, but they leave us a legacy of grace and sensitivity. Elizabeth's

Garden reflects the romantic qualities found in both, but there was also a bit of formality associated with each. Walk round the garden with us; notice the small details; savor the color and fragrance. Imagine Miss Lawrence kneeling and inspecting a small bulb or flower, or Mrs. Clarkson taking notes on the birds that come to her call. Imagine what it would be like to have such a garden. And then take heart in the knowledge that this is not an imagined garden but a real one."

The Plan

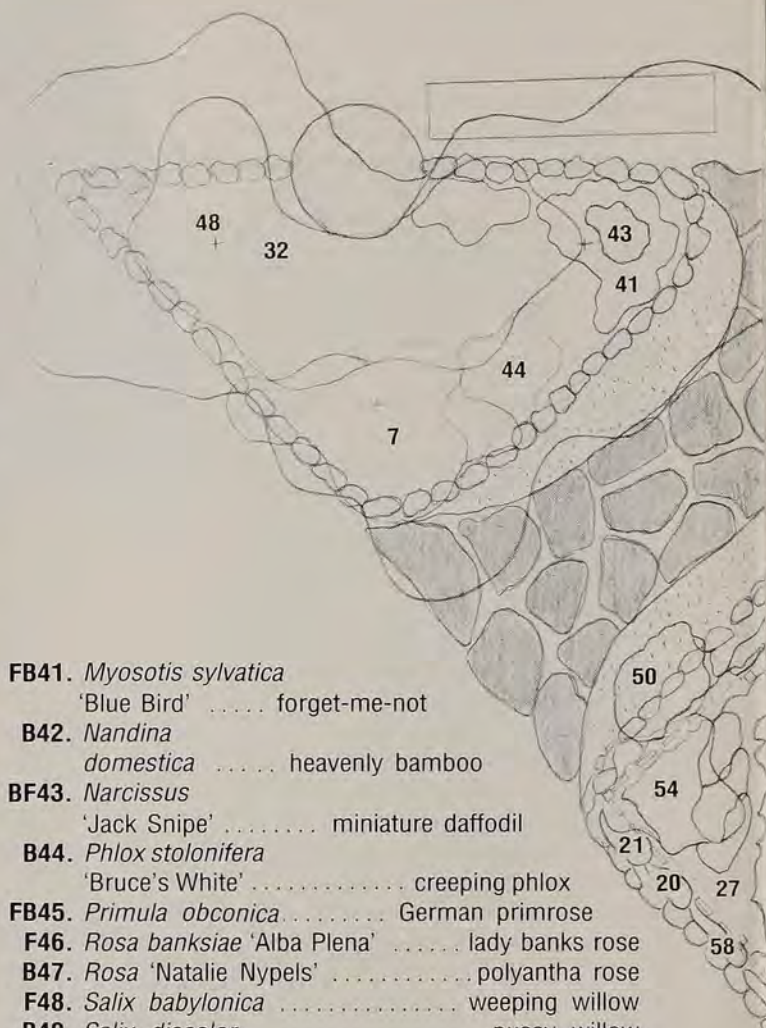
One of the first tasks is putting the visualized garden on paper. The practical parameters of shape and size are set by the assigned exhibit space. For Elizabeth's Garden, drawings included a plot plan for the 1,340 square feet in the space, a front elevation, and a rear elevation. These last two were of particular importance since a cottage facade nineteen feet wide, eleven feet high and only thirteen inches thick was constructed with a simple, yet formal front with a covered stoop, and an informal rear.

Correct detailing on the cottage was important. Two sets of windows were inserted into the facade with lace panels and cotton curtains layered between each for continuity between front and back. The same door served for front and back, and an old screen door painted blue was added

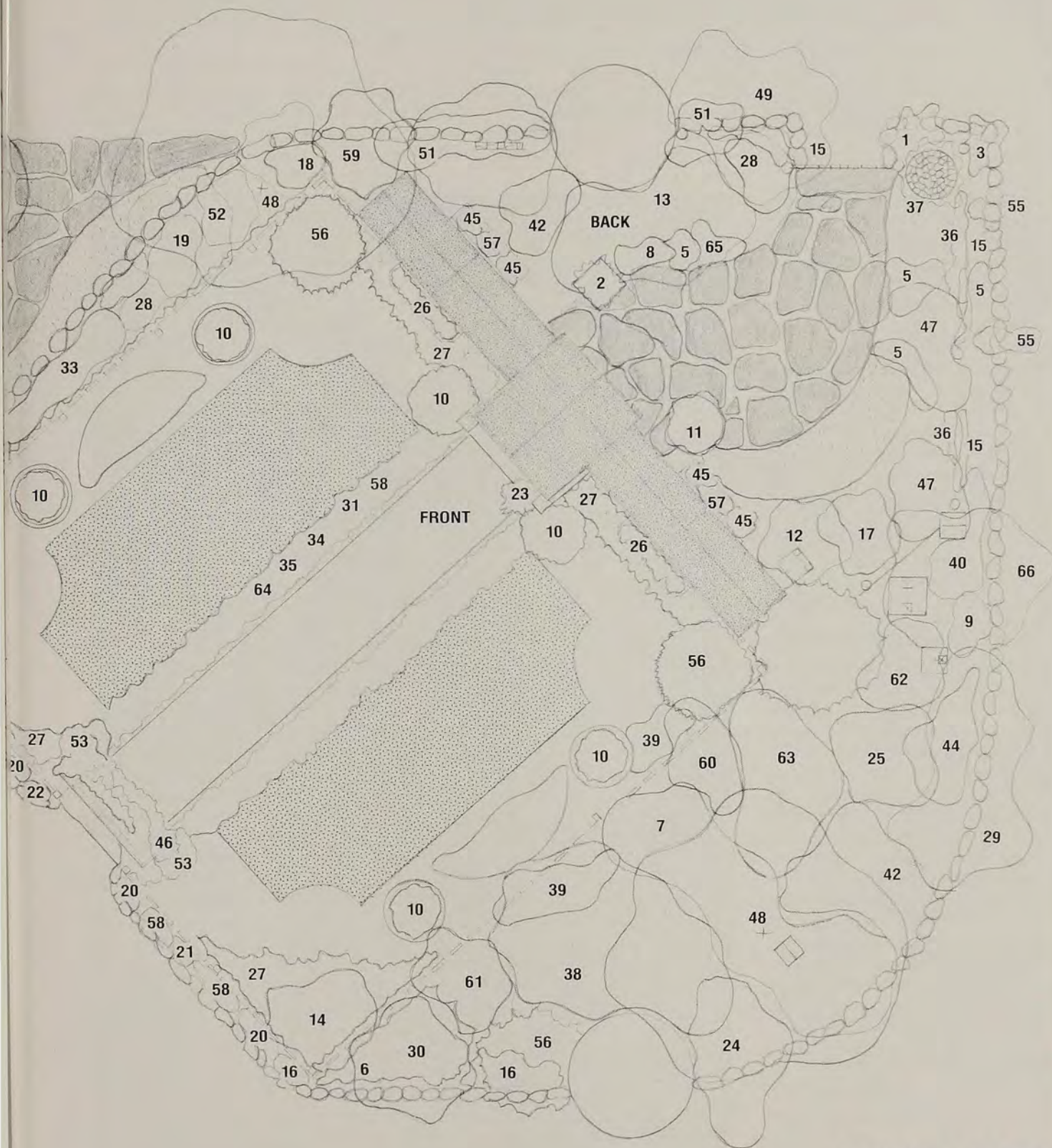
What's In The Garden?

Elizabeth's Garden has a formal front with a straight sand walkway and two narrow strips of grass. The rear has an informal stone patio. Plants are noted with an F for a site in front of the house and a B for the back of the house.

- B1. *Adenophora liliifolia* ladybells
 B2. *Adiantum raddianum* maidenhair fern
 B3. *Aethionema grandiflorum*
 'Worley's Rose' stone cress
 F4. *Antirrhinum majus* snapdragon
 B5. *Aquilegia vulgaris* columbine
 F6. *Astilbe* × *arendsii* 'Avalanche' astilbe
 F7. Azalea (*Rhododendron*) 'Mrs. G.G.
 Gerbing' southern Indian azalea
 B8. *Bellis perennis* English daisy
 B9. *Bletilla striata* hyacinth orchid
 F10. *Buxus sempervirens* common boxwood
 B11. *Camellia japonica* 'Dr. Tinsley' camellia
 B12. *Camellia japonica* 'Sieur de Dienville' camellia
 B13. *Cedrus deodara* deodar cedar
 F14. *Chaenomeles speciosa* Japanese quince
 B15. *Clematis* 'Nelly Moser' pink clematis
 F16. *Convallaria majalis* lily-of-the-valley
 F17. *Cyrtomium falcatum* holly fern
 F18. *Doronicum cordatum* leopard's-bane
 F19. *Edgeworthia papyrifera* paperbush
 F20. *Euphorbia corollata* flowering spurge
 F21. *Euphorbia cyparissias* cypress spurge
 F22. *Euphorbia myrsinites* spurge
 F23. *Felicia amelloides* blue daisy
 B24. *Forsythia* yellowbells
 B25. *Hamamelis mollis* Chinese witch hazel
 F26. *Hedera canariensis*
 'Variegata' variegated Algerian ivy
 F27. *Hedera helix* 'Manda's
 Crested' Manda's English ivy
 B28. *Helleborus orientalis* lenten rose
 B29. *Hydrangea quercifolia* oakleaf hydrangea
 F30. *Hydrangea macrophylla*
 'Variegated Mariessii' lace cape hydrangea
 F31. *Iberis sempervirens* candytuft
 F32. *Illicium floridanum* purple anise
 F33. *Kerria japonica* 'Argenteo-
 variegata' Japanese rose
 F34. *Lamium maculatum* 'Aureum' dead nettle
 F35. *Lamium maculatum*
 'Beacon Silver' dead nettle
 B36. *Lathyrus odoratus*
 'Ascot Series' sweet pea
 B37. *Lonicera sempervirens*
 'Sulphurea' yellow trumpet honeysuckle
 B38. *Magnolia grandiflora* southern magnolia
 F39. *Mahonia aquifolium* Oregon grape holly
 B40. *Muscari armeniacum* grape hyacinth



- FB41. *Myosotis sylvatica*
 'Blue Bird' forget-me-not
 B42. *Nandina*
 domestica heavenly bamboo
 BF43. *Narcissus*
 'Jack Snipe' miniature daffodil
 B44. *Phlox stolonifera*
 'Bruce's White' creeping phlox
 FB45. *Primula obconica* German primrose
 F46. *Rosa banksiae* 'Alba Plena' lady banks rose
 B47. *Rosa* 'Natalie Nypels' polyantha rose
 F48. *Salix babylonica* weeping willow
 B49. *Salix discolor* pussy willow
 F50. *Salix discolor* 'Nana' dwarf pussy willow
 B51. *Skimmia japonica* skimmia (male form)
 F52. *Spiraea* × *bumalda* 'Gold
 Flame' gold flame spirea
 F53. *Spiraea* × *bumalda* 'Lime
 Mound' lime mound spirea
 F54. *Spiraea cantoniensis* Reeve's spirea
 B55. *Tropaeolum minus* dwarf nasturtium
 F56. *Tsuga canadensis* Canadian hemlock
 B57. *Tulipa* 'Apricot Beauty' triumph tulip
 F58. *Tulipa* spp. hybrid tulips
 F59. *Viburnum* × *burkwoodii* Burkwood's viburnum
 F60. *Viburnum* × *carlcephalum* fragrant viburnum
 F61. *Viburnum*
 macrocephalum Chinese snowball viburnum
 B62. *Viburnum opulus* 'Sterile' snowball bush
 B63. *Viburnum plicatum* forma
 tomentosum double file viburnum
 F64. *Viola* × *wittrockiana* 'Universal White' pansy
 B65. *Viola odorata* 'Baby Lucia' viola
 B66. *Weigela florida* weigela



ELIZABETH'S GARDEN

Illustration by Brooks Garcia

to the rear, complete with two wads of cotton tucked into small holes in the screen (a common practice in the South for keeping flies away). The tin roof was painted tea-leaf green and the house pale yellow with white trim.

Window boxes, custom shutters, a stoop, a straight sand walkway, a white picket fence, an entrance arbor, and two cast iron laurel settees completed the front detailing, which served as a backdrop for the plants and flowers in the front, which was Elizabeth Lawrence's section of the garden. In the rear, free-standing window boxes, stone steps, a stone patio, an old wire fence, and seven birdhouses painted in the most intricate detail by Atlanta artist Patrick Mizelle set the stage for the plantings that honored Elizabeth Clarkson.

Important in working in small spaces is the use of forced perspective. The whole garden was built up about twelve inches from the floor of the exhibit hall. It also sloped up toward the center or focal point of the garden—the cottage facade. The straight-edged sand walkway was wider at its beginning under the arbor and narrowed as it moved towards the stoop. The front garden, outlined by the picket fence, moved the same way toward the cottage. Through this illusion the garden seemed larger and well-proportioned.

Plant selection and placement separate the gifted from the guided in the world of garden design. In Elizabeth's Garden, trees, shrubs, lesser shrubs, perennials, and bulbs were all placed in growing positions that were at once natural and stimulating. It is the philosophy of The Connoisseur's Garden to be intellectually honest about the plants displayed. Not everything would be in bloom at the same time; therefore, when viburnums were beginning to flower, oak-leaf hydrangeas were just leafing out.

A color scheme featuring chartreuse, silver, and golden foliage set against rich evergreens with cream, white, and pale yellow flowers predominated. In the more informal rear garden, however, a variety of soft colors were chosen to give the feeling of an old-fashioned, backdoor plot.

Plant Collection and Forcing

Arguably, one of the most enjoyable facets of the project is finding the plants. A good network of suppliers is essential as is a quick mind to recall who has what. Searching specialty nurseries or small, out-of-the-way nurseries for just the right size and shape plant is critical and time-consuming

for a project as complicated in its plant composition as Elizabeth's Garden.

For beginners, perhaps the greatest challenge is forcing plants to be at their peak for those several days the show encompasses. Plant knowledge is essential—what, if any, cold treatments are required, where flowers appear on a particular plant, and the succession of budding during the season to be portrayed—are just some of the concerns.

Even armed with this horticultural wisdom, things can be complicated. In the South we have balmy, springlike days in the midst of winter; in other areas, prolonged dull wintry days of poor light hold plants back. For Elizabeth's Garden, countless hours were spent dragging plants in and out of greenhouses, either to avoid or to take advantage of the vagaries of weather. The process became particularly tiring as the show approached. The help of growers with greenhouse ranges is invaluable for forced bulbs and perennials.

Installation

The installation of the display proceeded as follows:

Wednesday a.m.:

- Empty exhibit hall starts to fill with bags of soil conditioner placed at each garden site

Wednesday p.m.:

- Facade of cottage forklifted into place
- General lines of garden demarcated

Thursday a.m.:

- Picket fence, doors, windows installed
- Trees and major shrubs placed by forklift
- Stones brought in and retaining walls started
- Garden level attained with soil conditioner (using both bagged and loose soil)

Thursday p.m.:

- Stonework continued
- Wire fence put into place
- All flowering and leafing shrubs brought in and placed
- Electrical work accomplished

Friday a.m.:

- Shrub placement continued
- Benches placed in front garden
- Painted bird houses put into place
- Plantings placed along fences and around house

Friday p.m.:

- Flowering bulbs and perennials added
- Grass laid
- Grooming, grooming and grooming

As you can see, the entire setup took place over two days—a lightning-fast and breathtaking experience.

Marketing

A great deal of the impetus for creating a garden is the sheer joy it brings. But secondarily, because the cost of doing such a project represents a sizeable portion, if not all, of the annual advertising budget for many of the participants, the more publicity one can generate, the better. Elizabeth's Garden was a great backdrop for photographs that appeared not only before and during the show, but several months later as a full-color, full-page photograph (with model) introducing the spring gardening section of a local paper. Credit, sometimes overlooked, was in this case properly given to The Connoisseur's Garden.

Having a representative of The Connoisseur's Garden at Elizabeth's Garden throughout the show to answer questions, make contacts and conversation, and to point out notable plants or design elements to interested attendees helped the gardening public relate the name of the business with a strong image of expertise and professionalism. A handout, elegant in its visual imagery and prose, was proffered for further reinforcement.

Being creative in other ways can also garner publicity. Both owners and eight friends and co-workers dressed for the preview party of the Atlanta Flower Show as "plant ambassadors," resplendent in white sashes with titles such as Lord Alyssum across the front and the appropriate common name ("basket of gold") on the back. It was the source of much conversation during a party attended by guests who can afford expert gardening help, and it resulted in both a photograph and comments in the social column of the *Atlanta Constitution*. For the upscale consumer, such reinforcement that he or she is dealing with the best is extremely important.

The one word that best describes every aspect of a successful flower show and, indeed, a successful garden, is quality. From the degree of horticultural sophistication to the attitudes of participants, the presence of quality signifies achievement and its lack augurs disappointment.

Tom Woodham, lecturer and gardening voice for Southern Accents magazine, is co-owner of The Connoisseur's Garden.

A Mouth-Watering DRY GARDEN

by Joan Hockaday

California holds a fascination because of its fine gardening tradition, its wealth of flowering native plants, and its broad range of seaside, mountain, and desert possibilities, all within the confines of a single state. The interior's rainless summers and the coastal fogs dictate plant selection from like climates of the Mediterranean, Australia, South Africa, and South America.

In a sheltered valley twenty miles east of Pacific Ocean breezes and the city of San Francisco Ruth Bancroft has amassed, in the past two decades, an impressive collection of plants suitable to the dry Walnut Creek summers—and to parched environs worldwide. On four acres of soil once planted with walnut trees, trees from Australia and Africa, shrubs from Mexico and California, and exotics from Chile and Baja mature side by side. Some send up plumes of flowers only in old age, others open their flowers only in the dark of night.



Mick Hales

Ruth Bancroft's early architectural training is evident everywhere in the scale and detail of this dry garden.



In April and May, when the flowers make their brief show (a day or two at most), garden clubs and horticultural societies flock to the Bancroft garden to see this year's exotica. And each year more giant specimens come into bloom, while other plants—agaves, particularly—fail immediately after flowering, adding to the drama. Some plants bloom all at once while others send up one bloom each day, the entire show for many plants lasting only a week or two.

Ruth Bancroft was a student of architecture during the 1920s at the University of California-Berkeley (where the Bancroft Library of Western history attracts scholars year-round), and that early architectural training is everywhere evident in the scale and detail of this dry garden. Her tiny succulents edge areas filled with sword-shaped plants, with columnar forms, or with rosette-filled beds. The blues and grays play against the pale greens of plants and buildings on this sun-drenched site. Even the trees are light and airy and carefully sited to define the two dozen beds.

Smaller plants fill the beds closest to the main house. Just beyond the handsome oleander hedge separating the family quarters from the display garden, mounds of columnar and barrel-shaped cacti, mixed with smaller artichokelike blue agaves and relatives of the prickly pear cactus, create a diversity and setting rarely seen in specialty gardens. Farther from the main house, the trees are taller and statelier and the dasyliirions and puyas take on enormous forms in the bigger planting beds, which

were designed for future growth and girth.

Halfway between the smaller and larger beds, two screened-in shade houses—aptly named West Shade and East Shade—provide a focal point from almost every vantage in the garden. A picturesque octagonal pavilion, freshly painted gray-green to match the shade houses and main house, connects the two wings, where lemonade is served in summer and tender plants are protected in winter. Architect Ken Householder designed the connecting pavilion after the late plantsman Lester Hawkins laid out the shade houses and planting beds in the early 1970s.

From his and Marshall Albrich's famous Western Hills nursery farther up the coast, Hawkins brought with him many unusual plants and proceeded to lay them side by side, with enthusiasm that matched his plant knowledge. Mrs. Bancroft, however, filled in most of the planting beds with her particular favorites, gathered from her own travels or by writing to far-flung sources.

A specially-made, forty-foot glasshouse behind the East Shade House holds one of the Bay Area's most extensive cacti and succulent reserves—duplicates of those in the garden, or single plants too tender for the out-of-doors. Geographical distribution is the theme, with a North American native group, and with South American and South African collections grouped together. The long row of tiny white and woolly mammillarias puts on a brilliant show in spring, alongside spectacular aloes and other genera when their bright flowers emerge from their winter warmth.

The architectural elements, indoors and

out, the carefully laid-out curved pathways and hidden enticements supply the setting for the exotic plants and are a major reason why this garden is so successful, deserving of a pilgrimage each year. The plant collection itself is enough to draw the curious, but the underlying design gives the garden its human scale, despite the oversize specimens dominating the landscape.

Patience and old farm equipment are needed in equal supply to make this garden work. Mrs. Bancroft waited almost twenty years to see her first bloom on the giant *Yucca carnerosana*, with its eight-foot-high white inflorescence that begins twenty-five feet off the ground. And when six-foot spreading, spikey agaves finish their once-a-decade bloom, the main plant needs lifting—by a crane on a truck bed, in most cases. This process opens up the plant and makes room for offsets or bulbils to start the bloom cycle once again. Ordinary garden gloves and delicate pruning shears are not the tools needed in this world of giant plants.

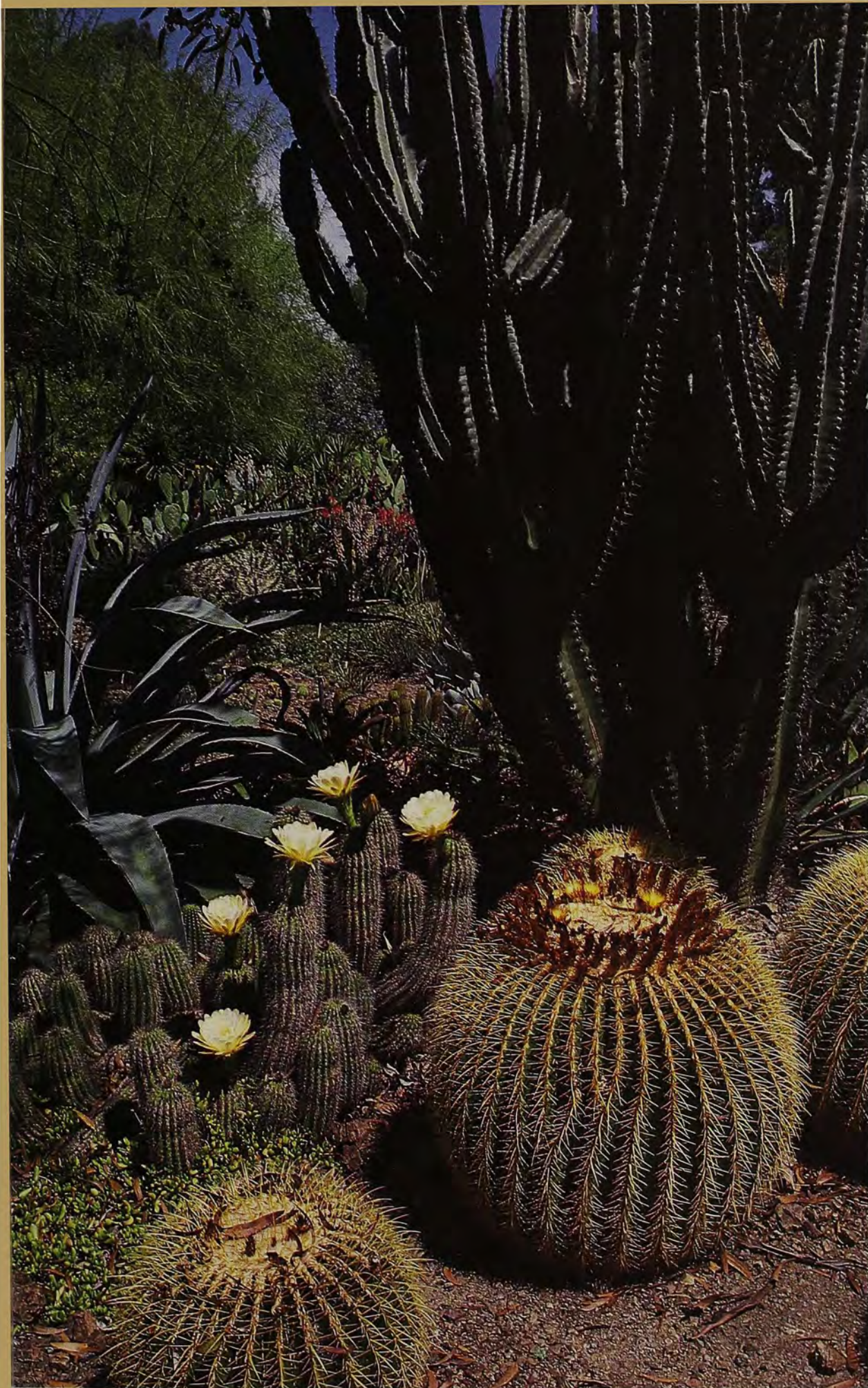
While the cacti and succulents grab all the attention, the trees, carefully selected and sited, give this garden its character.

At first glance, familiar West Coast trees like eucalyptus and acacia—imported from abroad a century ago—appear to dominate the Bancroft skyline, until the visitor soon realizes that the individual trees are unusual forms of these more familiar landmarks. *Acacia cavenia*, for example, is rarely seen with a mass of yellow blossoms as it is in the Bancroft garden, and *Acacia karroo*, from South Africa, is making a brave attempt to fight the winter cold here in the valley, with success to date. *Acacia pendula* adds its fern-like presence over an interior bed nearby; only one specimen of this species survived a recent oak-root fungus outbreak.

Handsome specimens of aging eucalyptus line the roadway and give away the garden's existence behind a long wooden fence. *Eucalyptus nicholii* is a particular favorite of Mrs. Bancroft's, with its wide, willowlike form and red-tinted bark. In contrast nearby, the white-barked *Eucalyptus mannifera* subsp. *maculosa* adds a solid presence, with its girth, height, and unusual color. Surrounded by suburbia, sidewalks, and concrete sound barriers, the lush trees on the Bancroft property give age and character to this historic farming country.

PAGE 17: A jungle of sharp textures, blades, and spines intrigues yet cautions visitors to this dry garden.

OPPOSITE: Ruth Bancroft is dwarfed by giant cactus pads.
LEFT: Rotund golden barrels balance the strong vertical lines of agaves and columnar cacti.



Mick Hales

Mrs. Bancroft feels that towering pines are inappropriate and are sun-stealers in this garden so needing of summer sun.



More unusual shapes distinguish the remaining trees in the Bancroft garden. Three lacy Mexican palo verde trees (*Parkinsonia aculeata*) give light color and cover near the cactus beds, and another palo verde filters the sun nearer the main road. The desert willow (*Chilopsis linearis*) anchors the first of the smaller beds nearer the house, while the picturesque salmon gum (*Eucalyptus salmonophloia*) arches over a path alongside an area dubbed Yucca Flat.

Pines and their look-alikes are sparingly represented here because Mrs. Bancroft feels that towering pines are inappropriate and are sun-stealers in this garden so needing of summer sun. An open, pinelike *Casuarina stricta*, the valuable timber tree from Australia, creates a thick, dry carpet at the far end of the garden, away from the main house. Surrounding the lily pond across from the shade houses, three compact, small piñon pines (*Pinus edulis*) add height to the pond plantings, yet cast far less shade than more familiar pines (*Pinus radiata*, for example) found in many San Francisco Bay area gardens.

Palms, surprisingly, are less prominent than one would expect in a garden designed for dry climates. Mrs. Bancroft has chosen to highlight only a few palms, her favorites. The pale blue-gray of the Mexican blue palm (*Brahea armata*) occupies the whole of the bed opposite the pond and another anchors a bed across the garden. The ubiquitous *Washingtonia filifera*, the native California palm found in many southern landscapes, is included here because this palm is native only to this state. A grove of these native California palms,

planted out from one-gallon cans years ago, now dominates the bed by the West Shade House.

But along the original drive, the grand avenue of Canary Island date palms (*Phoenix canariensis*) hints at a past where palms played a greater role. Dating to the 1880s when historian Hubert Howe Bancroft first sighted and settled in this fertile valley, the palms are a vivid reminder of the plantings that then filled the area and of the pioneer who shaped this landscape and the formal history of California.

Here was the farm of the man who wrote the earliest, and most extensive, history of the Western United States, the man who was the impetus behind the esteemed Bancroft Library on the University of California campus at Berkeley. The library houses a magnificent Western history archive, amassed by Mr. Bancroft during his lifetime and preserved along with successive additions. On the West Coast, the Bancroft name is synonymous with scholarship and pioneer perseverance.

Early on, Mr. Bancroft sought shelter for his family from San Francisco's bracing summer fogs:

Many times before this (mid-1880s), I had temporarily sought shelter for myself and family from the cold winds and fogs of San Francisco, often in the Napa Country . . . and elsewhere. Ever since 1856 I had been gazing on the high hills back of Berkeley, wondering what was on the other side, and one day . . . I mounted a horse, and wound round by San Pablo and through the hills until I came to Walnut Creek and beyond . . . to . . . the base





Photos by Mick Hales

OPPOSITE: An opulent display of flowers appears on opuntias and yuccas (background).
ABOVE, LEFT: One of Mrs. Bancroft's favorite palms, the Mexican blue palm, shades a variety of euphorbias. **ABOVE, RIGHT:** A handsome, eight-foot inflorescence of a *Yucca carnerosana*.
LEFT: Bright coral blossoms of *Aloe striata* add hot color to the garden. **RIGHT:** Delicate, daisylike cactus flowers glow bright enough to attract pollinators during the night.

The planting today provides a living archive of desert and dry climate plants, some disappearing from native habitats.



cool southwest wind comes over the high Oakland hills fresh from the ocean . . .

Here, Mr. Bancroft set about planting his orchards and agonized over removing the old oaks. "It went against the grain to grub up the venerable oaks, and Bartlett pears are better than acorns, so all were cleared away, except a group left for building sites and shelter of stock."

Two original valley oaks (*Quercus lobata*) remain. Where walnuts once fell to the ground, Ruth Bancroft today harvests scented dates from the *Butia capitata*, the South American palm planted near the West Shade House. Where peaches and pears were once carefully picked, vicious spines and woolly hairs mask deep red fruits of more exotic plants, those well suited to dry, hot summers.

Mrs. Bancroft has skillfully blended the soft and woolly with the spiny and sharp, wispy and willowy. Missing from this garden are elements often found in some institutional gardens—rows upon rows of sameness, beds with one genus or species, or corners of natives from one narrow locale. The Bancroft garden is a homemade mix of far-flung and California natives, artfully matched by sight rather than textbook.

The planting today, by a third-generation Bancroft, provides a living archive of desert and dry climate plants, some rapidly disappearing from native habitats. The plants are not as familiar—puyas and agaves, acacias and aloes, mammillarias, opuntias, and yuccas—and are rarely cultivated in private gardens on such a massive scale.

Ruth Bancroft has amassed her own extensive library—a collection of rare and hard-to-find reference books on dry-climate gardening. Her new book collection shares a wing of the house with Hubert Howe Bancroft's own leather-bound history books from long ago.

As the twenty-first century approaches, these specimens in the Bancroft garden may well be some of the finest survivors in cultivation. If preservation and perseverance are combined as effectively in the new century as in the past, another rare Bancroft collection will be saved for future generations.

Joan Hockaday is the author of The Gardens of San Francisco.

of Monte (sic) Diablo, where I bought land and planted it in trees and vines.

The weather and the setting were ideal for this ranch so near San Francisco, where Mr. Bancroft's publishing business thrived. In his 1890 memoirs, he focused on the ideal siting afforded the earliest California pioneers:

For the most part, it was a perfect climate, the heat of summer seldom being enervating, and but little frost in winter . . . it was a broad and beautiful patch of earth, flat as possible and covered with large scattering oaks, looking like many other parts of primeval California, only that the trees were larger, indicating unusual depth and strength of soil. The sun rises over the Devil's mountain, and the

The Garden Conservancy

Frank and Anne Cabot, whose gardens in New York and Canada are themselves frequent destinations for sophisticated garden visitors, spend a large proportion of their own free time seeking out extraordinary gardens and their creators. The Cabots visited Ruth Bancroft in 1988 at the suggestion of English garden writer Penelope Hobhouse, who considers Mrs. Bancroft's garden one of the very best in North America.

Overwhelmed by the unusual beauty and character of the Bancroft garden, the Cabots asked if there were plans in place to preserve it. The answer was no. The need for an agent organization to assist Ruth Bancroft and gardeners like her in this task became clear—and the Garden Conservancy was born.

The Garden Conservancy was founded in early 1989 as a national organization to preserve exceptional American gardens. The Ruth Bancroft garden is the conservancy's first sponsored garden. With the help of local professionals and supporters, a plan is being developed to ensure the Bancroft garden's existence and enjoyment by the public for years to come.


The Garden Conservancy aims to preserve the nation's finest gardens and make them accessible to everyone. In addition to sponsoring individual gardens, the conservancy plans to create an information "clearinghouse" and to be an advocate on the national level for the preservation of the American garden heritage.

For more information about the Garden Conservancy's programs, call or write: The Garden Conservancy, Box 219, Cold Spring, NY 10516, (914) 265-2029.

OPPOSITE: Standing underneath the Mexican blue palm, one can see the octagonal pavilion that was built to connect the shade houses and provide a cool retreat in the summer. LEFT: Giraffelike agave blooms add life to the garden, but signify the end of the plant's own cycle.

Photos by Mick Hales





The Fun Art of Seed Gathering

You feel more a part of the growing process and save money, too.

Text by Elisabeth Sheldon
Illustrations by Tom Tilton

Do you ever gather your own seed? We know that most hybrids and cultivars will not come true from their own seed and must be propagated vegetatively: that is, by means of division, layering, stem cuttings, or by the use of seed that has been produced by hand pollination under controlled conditions. Vegetative propagation must also be used to propagate plants that don't set viable seed—plants such as lemon verbena and French tarragon—and those with sterile flowers.

However, there are many plants that will reproduce themselves perfectly from home-gathered seed. No need to buy seed year after year for these plants when your own would do just as well. The satisfaction that comes from using seed from one's own garden is not merely the joy of saving money or having fresher seed—it also makes one feel more a part of the growing process.

N

evertheless, one doesn't go to the trouble of gathering seed and sowing it if the plants can be multiplied more quickly and easily by some other method. Some perennials are easily divided (some of them, such as chrysanthemums and asters, even *require* frequent division), so it would be foolish for a gardener to try to propagate them by any other means. One stout yarrow will, when wiggled apart, yield fifteen to twenty plants. Veronicas, although they may have to be separated by cutting rather than persuasion, actually benefit from the operation and the gardener acquires several plants from one. But there are many perennials that resent disturbance, primarily those with long taproots. Examples of these include the balloon flower (*Platycodon*), flax (*Linum*), columbine (*Aquilegia*), Missouri primrose (*Oenothera missouriensis*), and most dianthus plants. Delphiniums, while they don't form a taproot, never seem to thrive after division, at least not in my garden. New plants from seed do much better.

Other plants from which seed might be gathered are those that you might not want to lift and divide, or cannot do so because of their location. There may be an enormous *Clematis integrifolia* in the border that will go on thriving without division and which looks too splendid to touch. You may want to keep it just the size it is. In that case, gathering some seed is the preferred way to have more. Or there may be a *Campanula elatines* var. *garganica* in a dry wall that not only is looking lovely spread all over the rocks, but could not be dug out alive even if one had the heart to try. In these cases, you can gather the seed and have blooming plants by the second year.

Biennials are another group of plants from which it is advisable to gather seed. They don't flower until the second year and then they die—less than satisfactory for the gardener who wants flowering plants every year. If you plant seed of digitalis, clary sage, or Canterbury bells for two successive years, thus having one- and two-year-old plants, and make sure that the seed from flowering plants is sown each year, you will have blooming plants every year instead of every other year. Some digitalis and salvias that are listed as perennials *behave* like biennials, so it is a good idea to gather their seed too—the dusty pink *Digitalis* × *mertonensis*, yellow *D. grandiflora*, *Salvia pratensis*, and *S. argentea*.

Some perennials seed themselves generously—columbines, malvas, feverfew.

Usually there is no need to gather seed of these. Other perennials—flax, delphinium, certain *Dianthus*, *Aruncus*, *Baptisia*, *Lobelia*, *Sidalcea* species—will seed themselves occasionally, especially after a summer of adequate moisture. But if you want to be sure of having an ample number of new plants the following year, you should gather seed of even these enterprising individuals, for you cannot really depend on their contributing on their own. Of course, some perennials never seed themselves at all.

There are a few things to learn about gathering seed, the first of which is to get it when it's ripe but before it has scattered. I usually keep a list on my refrigerator: CHECK SEED OF . . . then I name the plants that are about to produce. The rule of thumb is to wait until the pods are dry and are beginning to open, then it's time to swoop in with your scissors or pruning shears and a paper bag. Cut off the stems that hold the seed pods or heads, then invert them into your paper bag. Leave the bag open and put it where the contents will dry out thoroughly. *Do not fail to label the bag.* You may say to yourself, "Oh I'll recognize that—no need to write it down." But several weeks later you may be completely baffled as to its identity, especially if you have many bags of seed. It's not much fun to plant a flat whose label reads "?".

By the end of August my back porch is full of bags ready to be dealt with. I spread newspapers on the kitchen table and work with one bag of seed at a time.

Some of the seeds are easy to handle, others are more difficult. Easy ones, for instance, are the interesting pods of the Missouri primrose (*Oenothera missouriensis*), whose flat wings pull open like the ends of a Ziploc bag to reveal ribs packed with smooth, easily identifiable seeds. Other plants have a more complicated system; cranesbill, for instance, has an arrangement that enables long split segments of the crane's bill—the central column—to curl up, then shoot the seeds out from the little compartments, or carpels, at the base of the column. Puzzle: Find the seed. I usually have a magnifying glass handy for this work.

Goatsbeard (*Aruncus dioicus*) bears large panicles of creamy white flowers that form two different kinds of dried "seeds." Some of the panicles are delicate, with tiny grains along the curled stems, and some panicles make heavy, broomlike sprays of large grains. For several years I was gathering and planting the little grains that contained no seed at all. With a magnifying glass I

Wait until the pods are dry and are beginning to open; then it's time to swoop in with your scissors or pruning shears and a paper bag.

finally discovered that the larger grains were actually small seed pods and could be opened to reveal their contents. I, in my ignorance, hadn't known that *Aruncus* is dioecious and this is its way of handling the male-female system.

Flax seeds are contained in tiny round balls that look like coriander. When they are ripe, the balls can be pressed or rubbed open to reveal the shiny, flat seeds packed neatly in their globe-shaped container.

Dianthus holds its seeds upright in elongated, urn-shaped pods formed from its tubular calyces. These will open at the top when the seeds are ripe and can, as a rule, simply be shaken out. This seems to be true of mat-forming dianthus especially. The taller *Dianthus plumarius* often makes you work harder, tearing the pods apart to search for the seed.

Amsonia seeds are amusing—they are packed into long, pointed needles and look like miniature, cinnamon-colored logs of wood, several of them end-to-end in each needle.

You must catch red valerian seed before it floats off on its bit of fluff. That's true also of the seed of anemones, such as *Anemone sylvestris*, *A. magellanica*, and *A. pulsatilla*; of *Asclepias*, which is a kind of milkweed; and that of the non-climbing *Clematis*—all are designed to be airborne.

When the pink flowers of Persian stone cress (*Aethionema grandiflorum*) have disappeared, the racemes that remain produce lots of flat, scalelike seed containers, each with one seed inside. *Draba*, another rock garden plant, has the same arrangement. These seeds are easy to deal with, but there are others, such as lavender seeds, that are troublesome to try to separate from the fluff and debris that result from rubbing them free.

I take a fresh sheet of newspaper and shake all of the material through a sieve. If I'm lucky, the seed comes through first and most of the trash stays in the sieve. One hopes to get completely clean seed, especially in the case of lavender, which

shouldn't have any organic matter around it when it's germinating, due to its susceptibility to damping off.

The seed should be put in labeled packets and kept in the refrigerator until needed. Be sure all moisture is kept out by putting the packets in either plastic bags or jars.

Some annual seeds need not be stored, but can be sprinkled about the garden when ripe. Thousands of seeds can be shaken out of the big capsules of the tall, glaucous, broad-leaved annual poppies such as *Papaver* 'Danebrog'. The capsules are just like pepper shakers with little holes around the top. These seeds you can toss around the garden in the fall to have masses of poppies in the spring, or in the spring, to have masses of poppies in the fall.

Last autumn I took some dried-up plants of *Cynoglossum* 'Dwarf Firmament' from a friend's garden, rubbed out the seed, and scattered it through the front areas of my perennial border. All this summer it has kept producing plants that have covered themselves with tiny, dazzling blue flowers—free flowers, it seemed to me. I wondered, though, why they didn't all come up at the same time, bloom at the same time, and finish at the same time? As they stopped blooming I pulled them up, happy to see others just emerging or getting ready to flower. Seeds of such annuals are easy to use—no work at all, actually.

However, seed that is to be started indoors should be planted in early spring in a sterile, moist but not soggy sowing mixture, in clean flats or pots. The sowing mixture should be a quarter to a half an inch from the top of the container as, for some reason, seed germinates better when it is not set down low in its receptacle. Very fine seed, such as that of the *Campanula*, should be sprinkled on top of the soil, pressed firmly down (I use the back of a soup spoon), and left uncovered. Larger seeds should be barely covered (with some of the sowing mix or a combination of milled sphagnum and vermiculite) and also pressed down.



clematis

E

everyone has his own pet system and not everyone would agree with mine, but I use a fine spray from a rubber spray-bulb before and after the seeds germinate and then later, when the seedlings begin to grow and send down long roots, I soak the flat from the bottom. One must use restraint with both processes, not spraying too heavily and long, and not soaking the flat too often. Also, it should be drained well after the soaking. Seedlings always seem hell-bent on suicide through damping off, so if your seedlings start to look pale and droopy, chances are you're watering them too much. The agonizing question is always what is too much and what is not enough? You have to work it out through trial and error.

Books often say "Cover the flat with glass or plastic and put it in a warm, dark place." When I obey them, the flat mildews forthwith. I do put in plastic bags the flats containing seeds of rock garden and some recalcitrant border plants—aquilegia, delphinium, lavender, for example—but those I plant in November and winter in a shady spot outdoors. The freezing and thawing helps to break the seeds' dormancy. When I bring them in in April, I remove the bags immediately and put them on heating coils under grow lights. Other seeds that don't necessarily benefit from the cold treatment—veronica, gypsophila, dianthus, for example—I plant in March or April and put, uncovered, over the coils and under lights. The heating coils are supposed to make up for the temperature of my cold, drafty room. If the room stayed at 65° to 75° F I wouldn't need heating coils for the perennials. Annuals, most of which are from tropical or semi-tropical countries, need additional heat in order to germinate.

Some perennials have seed that doesn't retain its viability for long and is best sown as soon as it ripens, even if that leaves you with a bunch of babies to get through the winter. Among these I would include *Armeria juniperifolia*, *Anemone sylvestris*, *A. pulsatilla*, *A. palmata* and other anemones in their group, *Clematis integrifolia*, and *C. recta*. I have always waited to plant seed of *Clematis integrifolia* until it was thoroughly dry on the plant, but last summer I read that it was liveliest right at the point when you could, by tugging a bit, detach it from its mop-head cluster. I planted a flat of seed I'd gathered at that stage, and over a period of weeks nearly every seed germinated—a much better score than I'd ever had before.

If you wish, these short-lived seeds do not have to be planted right away but can

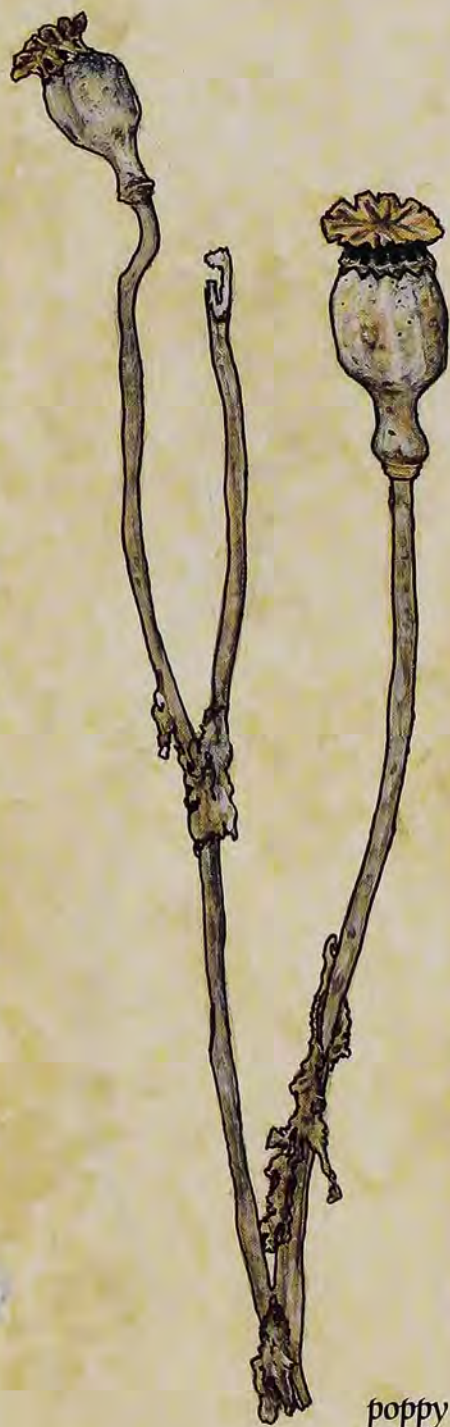
be kept dry in the refrigerator until March. The germination score will be somewhat less in this case.

Delphinium seed loses viability too, so I always gather and plant some 'Bellamosa' seed early in July and have new plants that are big enough to stay in the cold frame all winter. I save enough seed to plant more flats indoors in March.

Obstinacy in germination of certain seeds can be dealt with, as I have indicated, by subjecting them to changes of temperature (sometimes called stratifying), either by using the refrigerator or by planting them in flats that are kept outside all winter. You can also sow seeds directly in a cold frame or in a raised, prepared seed bed outside.

For real obstinacy I would cite *Trollius*, *Astrantia*, *Dictamnus*, and *Acanthus*. I believe I've been really successful with *Trollius* seed only once. Otherwise I've had very, very spotty results or no results at all. *Astrantia*, like *Acanthus*, prefers to seed itself and does not often accept human interference—at least not this human's. After coddling, begging, and wheedling *Astrantia* seed for several years, usually in vain, I now have self-seeded plants coming up all over the place. I'll be weeding them out next. I can't say the *Acanthus spinosissimus* is that prodigal with its progeny, but it has tossed a few babies out of the nest (into awkward places such as the middle of a heather plant). But after extricating the seeds from their thorny coverings year after year, carefully planting them in yummy mixtures, freezing and thawing them and keeping them moist, I have never caused a single seed to germinate. With *Dictamnus* I had one triumphant season—about twenty little gasplants popped up in the coldframe one May. Since then my record has been zero. You live, but you don't necessarily learn.

In collecting seed the question is always whether or not it will "come true"—that is, produce plants that will be exactly like the plant from which it was taken. If you gather and plant seed of such species as wild lupine, creeping gypsophila, *Veronica gentianoides*, or London pride (*Saxifraga umbrosa*), you know that your babies will turn out to be replicas of their parents. But some plants are notorious for their promiscuity, aquilegia being a prime example. If you want to keep the seed of *Aquilegia canadensis* pure, don't plant it near *Aquilegia* 'McKana Hybrids' or *A. caerulea* or any other aquilegia for they will all happily interbreed. You will get some beautiful plants, but they will not be a pure strain.



poppy

With *Dictamnus* I had one triumphant season.... Since then my record has been zero. You live but you don't necessarily learn.

Dianthus has the same happy-go-lucky approach, which I didn't realize until I had sold some plants I had raised from garden seed and had labeled "*D. gratianopolitanus*—pale pink." When some of them that I hadn't sold bloomed, they were of a dark pink, having crossed with some Thompson & Morgan hybrids I'd had in the garden. The hybrid is called 'Elfin's Hat' and is a medium-height dianthus of a dazzlingly brilliant pink. It had corrupted my demure little cheddar pinks, and, while I was sorry I had sold them under the wrong name, I couldn't help thinking they were prettier than the pure species.

I find that when I sow seeds of the single *Delphinium* 'Bellamosa' and *D.* 'Belladonna' most of the plants come out in the dark blue of *D.* 'Bellamosa'. All of them are beautiful, but to be sure of getting the single, pale, sky blue you would have to buy commercial seed labeled *D.* 'Belladonna'.

When I planted garden seed of the balloon flower (*Platycodon grandiflorus*) from pink, white, and blue plants, they did not come true. Although I had marked the young plants according to the color of their parents, they made their own decisions about what color they were going to be, from which I deduce that the bees mixed them up in the flower border.

Primulas, too, mingle to a degree. The tall oxlips (*Primula elatior*) mingle with the low *P. vulgaris*, but not *P. sieboldii* with *P. vulgaris* or *veris* or *elatior*. And not *P. japonica* with *P. denticulata* or *P. denticulata* with *P. pulverulenta*—they know where to draw the line.

The campanula species keep to themselves, except for the rare digression, so if you gather and sow seeds of any of the species—*carpatica*, *garganica*, *poscharskyana*, *portenschlagiana*, *persicifolia*, *raddeana*, and others, you will be sure of the offspring's being true to its forbears. This would, of course, not apply to their hybrids such as 'Wedgewood Blue', 'China Doll', and others. The *Veronica*, *Poten-*

tilla, and *Digitalis* species give no trouble either.

Here is a list of the plants in my garden from which I usually gather seed. For the practicality of it, but even more for the satisfaction received, you may want to try it yourself.

Achillea (rock garden species)
Aethionema coridifolium
Amsonia
Anemone magellanica
Anemone palmata
Anemone pulsatilla
Anemone sylvestris
Aquilegia
Asclepias
Campanula spp.
Centranthus ruber
Clematis integrifolia
Clematis recta
Delphinium
Dianthus
Digitalis
Draba
Erigeron
Erodium
Gaura
Geranium
Gypsophila repens
Hibiscus palustris
Lavandula
Linum
Lupinus spp.
Oenothera missouriensis
Potentilla megalantha
Potentilla nepalensis 'Miss Willmott'
Primula
Salvia argentea
Salvia pratensis
Salvia sclarea
Saxifraga
Scabiosa
Veronica gentianoides

Elisabeth Sheldon manages a small perennial nursery in Lansing, New York, and frequently writes for American Horticulturist.



columbine



Donald Egolf's VIBURNUMS

First smitten as an undergraduate, this U.S. National Arboretum breeder has never lost his fascination for this versatile shrub.

by Kathleen Fisher

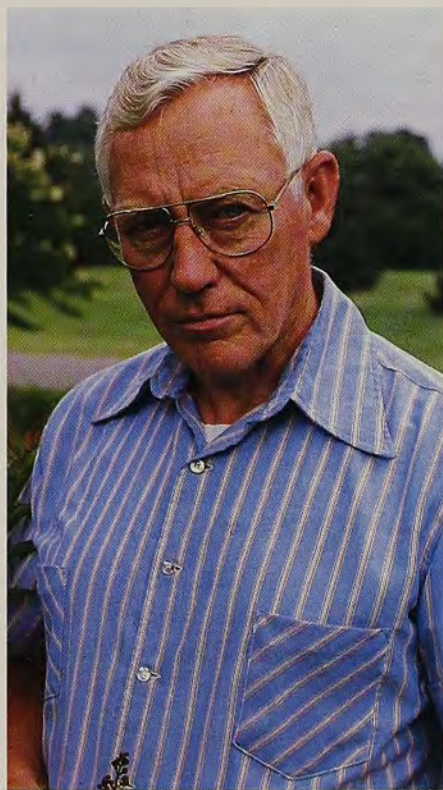
In the movie "The Graduate," college grad Ben Braddock was given a one-word key to a wealthy future. The word was "plastics" and Ben turned tail and ran.

As a graduate student, Donald Egolf was offered a suggestion that could make horticulture richer. The key word was "viburnums," and fortunately, he ran with it.

Some thirty years after a Cornell professor proposed that he consider viburnums as the subject of his master's thesis, Egolf is the international registrar for viburnums, and has released eighteen cultivars of his own. One major wholesaler calls him "one of the best, if not the best, plant breeders in the United States."

It's easy to see why the genus has intrigued him. In spring, there are the waxy blooms that blush in bud and open to snowy white, with a fragrance as heady as gardenia. But it is in autumn, when the flowers of most other shrubs are a hazy memory, that the viburnum truly comes into its glory with brilliant vermillion berries that fade to ebony, and leaves that rival a sugar maple's. Its heavy textured foliage is unscathed by diseases that plague other shrubs.

"The viburnum is probably the most significant of flowering shrubs for temperate climates because of its tremendous variety," says Egolf, leader of the shrub breeding program at the U.S. National Arboretum.



Rick Buettner

OPPOSITE: A parent of many of Egolf's cultivars, *Viburnum plicatum* forma *tomentosum* is known for its showy double file flowers in the spring and red berries in the fall. **ABOVE:** Dr. Donald Egolf, leader of the shrub breeding program at the U.S. National Arboretum.



Pamela Harper

Within this variety lies both the promise and problem of viburnums; the problem with the above description is that no one species offers the best of any of these characteristics, and each tends to have a characteristic flaw. *Viburnum carlesii* has stunning fragrance and flowers, but is extremely vulnerable to bacterial leaf spot. *V. dilatatum* has spectacular fruit, but its flowers don't last very long and aren't particularly showy. *V. plicatum* forma *tomentosum* has a striking shape and heavy bloom, but the birds always eat its fruit before it can be admired.

This incredible variety could have been simply an opportunity, rather than a dilemma, for a breeder. But unfortunately, the genus has nine taxonomic sections that can't be crossed with each other. Worse yet, viburnum seed has to be alternately stratified, from warm to cold and back to warm again, and takes a year to as long as three years to germinate.

Egolf will never succeed in finding the "perfect" viburnum: variety is the spice of this genus. But most of the eighteen cultivars he has introduced tend to be more disease-resistant and offer better bloom and more persistent fruit than their parents. Many of them are also smaller and of a more compact habit ideal for today's urban and suburban gardens. Some attain magnificent spreads of twice their height or more.

And Egolf—who can be somewhat objective about viburnums' virtues because he has also developed thirty-six cultivars of four other shrub genera—can exult that viburnums are finally coming into their own after years of neglect by the trade. Viburnums registered by Egolf in 1966 are at last in major production, and Egolf's renown is growing with his seedlings.

"I don't think he's been given all the credit he deserves," said Don Shadow, owner of Shadow Nursery in Winchester, Tennessee, a wholesale nursery that specializes in small flowering trees and shrubs. "He has an uncanny ability to select superior plants. He seems to have a system for selecting out the best plants, from among thousands and thousands, at an early stage. He is one of the best, if not the best, plant breeders in the United States."

Egolf has selected viburnums for the entire nation, not just Washington, D.C.,

Shadow observed: 'Susquehanna' and 'Onondaga' are good shrubs for the North, while 'Chippewa' and 'Huron' are outstanding performers in Dixie.

Shadow, who has known Egolf for many years, described him as a workaholic and meticulous notetaker who shows up at the arboretum greenhouse—rather than his administrative office—before seven o'clock each morning.

Donald Egolf's work has not gone unrecognized. Among the organizations that have honored him for his shrub breeding are the Chicago Botanic Garden, the Arnold Arboretum, the Pennsylvania Horticultural Society, the Association of American Nurserymen, and the American Horticultural Society.

Egolf never had any doubt that his adult life would center around plants. His father was a farmer in Osterburg in western Pennsylvania, and his mother was a schoolteacher and avid ornamental gardener who filled their yard with colorful annuals and perennials. Egolf tended his own plot from an early age.

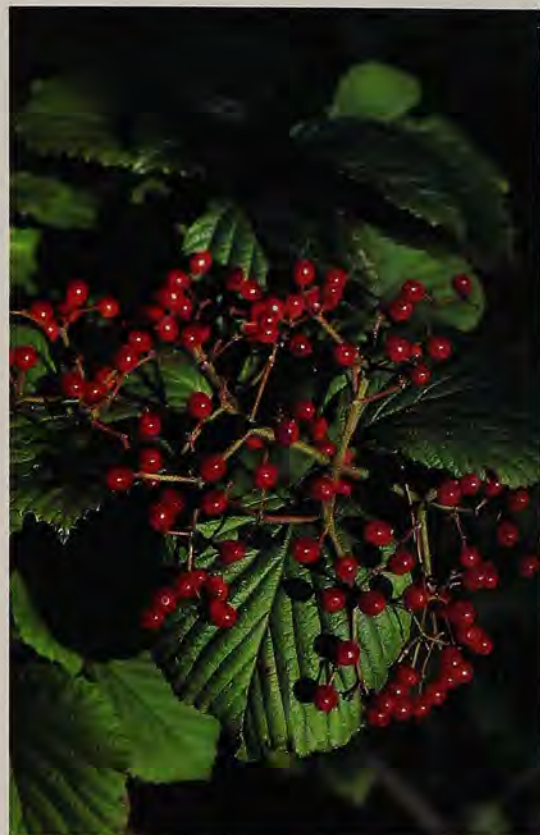
"I had the distinction of being born in a log house and going to a one-room schoolhouse all of the years of grade school," he said. In high school, he won numerous prizes for his Future Farmers of America projects; his earnings from raising chickens later enabled him to attend college.

Egolf enrolled in horticulture at Pennsylvania State University, studying the nursery aspects of ornamental floriculture. At Cornell, he quickly became intrigued with the possibilities that lay in recombining the various characteristics of viburnum. He studied plant breeding, floriculture, and cytology, familiarizing himself with the chromosomes of each viburnum species, and initiated his breeding efforts.

To solve the dilemma posed by the genus's nine separate sections, he turned to embryo culture. When such "wide crosses" are attempted, the result is often a seed with an embryo that is doomed because it has no endosperm to nourish it. But by "rescuing" the embryo at an early enough stage and placing it in a sterile medium, the embryo can be maintained and will produce a plant.

Several of his first cultivars—notably 'Cayuga' and 'Mohawk'—were products of embryo culture. Egolf said he has found the process less useful for wide crosses than for reducing the breeding time by at least a year.

After writing his dissertation—again on



Top row: Pamela Harper. All others courtesy of the National Arboretum.



ABOVE, LEFT: 'Erie' in autumn
 ABOVE, RIGHT: 'Erie' in spring
 LEFT: 'Shasta' MIDDLE:
 'Chippewa' RIGHT: 'Allegheny'
 LOWER, LEFT: 'Mohican'
 LOWER, RIGHT: 'Mohawk'

viburnums—he was awarded a Fulbright scholarship to the University of London, and continued his research on the shrubs in England for two years, studying at the John Innes Horticultural Institute and the Edinburgh Botanical Garden and visiting the major gardens of the area.

When he returned from England and was offered a job as a research horticulturist at the arboretum in 1958, he brought a large portion of the Cornell collection, as well as many hybrid seedlings, to the arboretum with him. In 1966, Egolf released ten cultivars, many of which had had their origin in his Cornell work. He has named and released eight since then, the last in 1988.

All of the cultivars have American Indian names, beginning with 'Cayuga', the lake on which Cornell is located, and ending with 'Conoy', which was a major settlement of Indians on the Eastern Shore. His crape myrtle, crab apple, and pyracantha cultivars also have Indian names; the only exceptions are his hibiscus cultivars, which are named after Greek goddesses.

Egolf wanted names that would immediately be recognized as American and would connect the series with the arboretum. He toyed with the names of mountains, rivers, and historical sites before deciding that Indian names had "the greatest latitude and potential" and best carried out the American theme.

"The Europeans are fascinated by the Indian names," says Egolf, who added that European nursery professionals have told him that they consider his 1986 'Eskimo' "the best cultivar introduced in the last decade." Ironically, this all-American, highly desirable viburnum is only now beginning to appear in the U.S. market.

"The Europeans are keener plantsmen, for one thing," says Egolf. "They're always looking for something new, and then they really push nursery production." His 1970 *Pyracantha* 'Mohave' wasn't available in the United States until it had appeared on the cover of two major European nursery catalogs and received certificates of merit at Royal Horticultural Society shows.

In the past, he says, "American growers have been a little reluctant to take on a new introduction." But recently there has been, perhaps not a revolution, but at least an evolution within the trade. "I think the industry is aware that the arboretum is producing superior plants that can expand their market."

Two years is the minimum time between naming of a plant and seeing it appear in home gardens; five years is more common. A botanical description must be published, the name registered, a release signed by the secretary of agriculture, the cultivar evaluated by cooperating researchers around the country, and stock built up by whole-

sale growers before plants appear in retail markets.

Egolf observes that while the evaluation stage could be cut short, "if you make a misjudgement and put out an inferior plant, it can counter all your good introductions." That period also allows time to raise public awareness of the new plant.

And the public is definitely underaware of viburnums, Egolf believes. They may be familiar with the native plants, of which there are many: arrowwood (*Viburnum dentatum*), American cranberry bush (*V. trilobum*), maple-leaf viburnum (*V. acerifolium*), black haw (*V. prunifolium*), and withe-rod (*V. cassinoides*) are among the

Other Egolf viburnum cultivars and their parent species:

The linden viburnum (*V. dilatatum*), a deciduous, upright, spreading shrub native to eastern Asia, grows to about seven feet high and eight feet wide. It has bright red fruit that remains on the shrub throughout the winter because birds usually do not eat it. However, the showy white flowers have an unpleasant odor, so it is not recommended for planting close to a house.

From *V. dilatatum*, Egolf has developed three cultivars, more than one of which need to be planted for the cross-pollination that assures prolific berry production.

'Iroquois' (1966), a dense, rounded, fast-growing shrub, is usually wider than it is tall. In mid-May it is covered with abundant inflorescences of creamy white flowers. The leaves are large and thick, and turn orange-red to maroon in fall. The red fruits are larger and in more massive bunches than in most *dilatatum* shrubs.

'Catskill' (1966), a compact selection, is also wider than it is high but grows more slowly than 'Iroquois'. The creamy white flowers, in abundant inflorescences, appear in May. By mid-August its fruit ripens to a dark red that persists until mid-winter. The leaves are smaller and rounder than those of *dilatatum* and the foliage turns a pleasing combination of yellow, orange, and red in the fall.

'Erie' (1970) also has a spreading habit and creamy white flowers in mid-May. Its medium green leaves turn red, orange, and yellow before falling in autumn. In late August its fruit ripens to red on top and orange beneath. With the first frost, it turns a colorful coral pink.

'Oneida' (1966) is a *dilatatum* hybrid selected for its abundant May flowers that reappear sporadically throughout the summer. Its glossy, cardinal red fruit ripens in August and persists until late winter. It has an upright growth habit with wide spreading branches. Its leaves, which are not as thick as most viburnums', turn pale yellow and orange-red in fall.

The leatherleaf viburnum (*V. rhytidophyllum*), a native of central and western China that was introduced for cultivation in 1900, attains a height of ten feet. It has strap-shaped, wrinkled, evergreen to semi-evergreen leaves up to eight inches long. Its creamy white flowers appear from April to June and its fruit turns from red to black. It needs good soil and a sheltered location away from wind and drought. Its foliage doesn't hold up well in Northern zones.

Europe's wayfaring tree, the *Viburnum lantana*, is often used for massing, in the shrub border, and for hedges and screens, but it is coarse in the winter. Its berries are red in summer, but shrivel and darken in autumn.

From *V. lantana* seed he received from Poland, Egolf selected 'Mohican' (1966), a medium-sized shrub with a dense, rounded form. Its very dark green, leathery leaves are deciduous to semi-evergreen and provide an effective background for its May inflorescences of yellow-white. The fruit, borne in large clusters, ripens in September or October to a brilliant red that persists for several weeks before turning black. It is hardy as far north as Minnesota and its foliage is resistant to bacterial leaf spot.

Egolf crossed 'Mohican' with *V. rhytidophyllum* for:

'Allegheny' (1966), a medium-sized shrub with dark green, leathery leaves that are deciduous to semi-evergreen and like its parent cultivar, form an excellent background for its creamy May flowers. It is considered superior to its parents because of its dense, rounded form. Its long-lasting fruits are showy red in September and October.

V. sieboldii is the tallest viburnum, averaging eighteen feet tall and fourteen feet wide. Its leaves are outstanding for their leathery texture and evergreen color, but the berries are quickly eaten by birds, leaving only the colorful red pedicels for an autumn display.

Egolf has improved on *V. sieboldii* with:

'Seneca' (1966), whose fruit is less attractive to birds because it stays firm even when ripe. The creamy white flowers are produced in panicles borne on stout, spreading branches. It can grow up to thirty feet tall and wide, and normally has a treelike habit, but by allowing it to develop several branches at its base, can also be trained as a large, spreading shrub.

V. sargentii or Sargent cranberry bush came to this country before the turn of the century from northeast Asia. A medium-sized shrub that can be upright or rounded, it is one of the viburnums that may have yellow berries.

From *V. sargentii*, Egolf has introduced:

'Onondaga' (1966), a rounded shrub six feet high and wide that is distinguished by fine-textured, velvety new foliage of dark maroon that retains a maroon tinge when the leaves mature. Pruning produces an even denser foliage display. As in the species, the flowers are followed by sparsely produced red fruits that are effective August through September.

'Susquehanna' (1966) is distinguished by a heavily branched, corky trunk, and dark green foliage. It has abundant, large, creamy white flowers in late May, and its large fruit clusters mature to a dark, glossy red in September and remain on the shrub well into the winter. It is one of the largest viburnums.

better known. The natives are widely distributed in the wild, are quite hardy, and make valuable additions to bird gardens. But like most other native plants they are rarely available in the trade, nor are they as ornamental as the Asiatic species; their berries are usually blue, while the Asian species are red or, less frequently, yellow.

Interestingly, despite the Indian names, Egolf's hybrids are largely crosses between Asiatic species, or between an Asiatic and a European species. Most native viburnums belong to a section that will not hybridize with the Asiatic species' sections.

Most of the crosses are the result of species brought back from Japan and Korea by such early plant explorers as E.H. Wilson and George Forrest. More recently, arboretum-sponsored exploration of China has extended breeding potential. One find in China's wilderness about nine years ago holds particular excitement for Egolf. *V. macrocephalum* forma *keteleeri* was brought to England and crossed with *carlesii* to produce *V. × carlcephalum* in 1932. The Asian parent species disappeared from England during the war, and its offspring is a rather coarse plant that is fairly unexciting in the landscape because of its sparse flowering.

The parent, on the other hand, Egolf calls "an exciting plant: like double file, but its inflorescences are larger and its sterile marginal florets are heavy and waxy. But until recently, I never had it available for breeding work." The first crosses made with *V. macrocephalum* forma *keteleeri* have yet to germinate.

Among his viburnum introductions, Egolf admitted to having a few favorites.

Two of them are descendants of the double file viburnum, *V. plicatum* forma *tomentosum*, which is extremely showy because of its horizontal branching and the way its flat inflorescences march down the branches two by two.

'Shasta' (1978) is probably the most showy of the double file viburnums, he said. While the outer, sterile florets of the parents tend toward yellow, those of 'Shasta' are almost pure white, and the inflorescences are a third larger. It produces a heavy fruit set, and grows to six feet high and twice as wide, with dark green leaves that turn dull purplish-red in autumn.

'Shasta's' self-pollinating seedling, 'Shoshoni' (1986), has even heavier fruit than its parent. It was the first of the double files to have a very compact growth

Most of Egolf's crosses are the result of species brought back from Japan and Korea by such early plant explorers as E. H. Wilson and George Forrest.

habit. It is only four feet tall, but can spread to six or eight feet across, and blooms and fruits profusely.

Still a winner after all these years is 'Mohawk', which Egolf selected in 1953 and released in 1966. A selection of *V. × burkwoodii*, which is a cross between *carlesii* and the evergreen species *utile*, 'Mohawk' was singled out for its compact growth habit and abundant inflorescences of dark red flower buds that open to white petals with red blotches. 'Mohawk' has a strong spicy clove fragrance and glossy dark green foliage that turns brilliant orange-red in fall. It is resistant to both bacterial leaf spot and powdery mildew.

Two other favorites both resulted from a cross between his early 'Cayuga'—which in turn was a cross between *V. × carlcephalum* and *V. carlesii*—and the evergreen *V. utile*.

'Chesapeake' (1980) is a "very significant" introduction, he said, although it is hardy only to Zone 7. It is outstanding for its dense, dwarf growth habit; glossy, dark-green leaves; and berries that are red-orange or dull red, then black. Its pink buds open to pure white.

On the other hand, 'Eskimo', the 1980 *carlesii* hybrid that is such a favorite among Europeans, is quite cold hardy. It is a compact, four-foot evergreen shrub with glossy, dark-green leaves. It is the first three-species hybrid that combines the tubular *V. carlesii*-type flower in a snowball inflorescence.

Egolf believes that 'Conoy' (1988) may be the most outstanding viburnum cultivar to date. It is entirely evergreen in the Washington, D.C. area, becoming semi-evergreen to deciduous farther north. "It's taken a lot more cold than we originally anticipated," he said. Also of the *carlesii* type, it has a dense, dwarf growth habit and heavy flowers and fruit. But while most viburnum fruit ripens from red to black in

only a few weeks, 'Conoy' remains red for six to eight weeks.

'Chippewa' and 'Huron' are companions introduced in 1987. They are similar in appearance with rounded shapes; dense branching; heavy-textured, lush, dark green foliage; massive, lacy cream-white flowers; and brilliant red autumn foliage. Planting them together ensures an abundance of persistent, glossy, dark-red fruit.

Two years ago, Egolf's crape myrtle (*Lagerstroemia*) introductions overtook his viburnums. He released five in 1986, nine in 1987, and ten previously, for a total so far of twenty-four, and has three more waiting in the wings this year. Several seedling selections are only a foot high, and have potential as a potted plant for the florists' market. "There are other dwarfs in trade, but they aren't mildew resistant," he said. The new cultivar also promises to have dwarf reliance, meaning that it won't eventually revert to a larger form. Such compact plants can be used in the landscape in the same way as azaleas, for foundation plantings, low hedges, or bedding plants that are cut to the ground each season.

Using *Lagerstroemia fauriei*, a species obtained from Yakushima, Japan, Egolf has bred disease resistance into his crape myrtle cultivars. Many of these hybrids are equally outstanding for their flowers and their bark, which ranges from white to dark brown; several have multi-colored exfoliating bark. Holding promise for the future is a Chinese species, *Lagerstroemia limii*, which, while it produces what Egolf calls "the ugliest flower I've ever seen on a crape myrtle," has stunning orange-red foliage.

Egolf is also understandably proud of his hibiscus introductions. His four *Hibiscus syriacus* are all sterile, triploid cultivars, making them an exciting alternative for gardeners who love the hibiscus's bloom and habit but loathe its messy self-seeding. So far, only the pure white 'Diana' (1970) and 'Helene' (1980), which is white with a red eye, are widely available. 'Minerva' (1986) is lavender; and 'Aphrodite' (1988)—Don Shadow's favorite—is pink.

His crab apples are 'Naragansett' (1986) and 'Adirondack' (1987). The first of his six *Pyracantha* cultivars, 'Shawnee' was released in 1966; the last two, 'Pueblo' and 'Apache' were released in 1987.

Kathleen Fisher is Editor of American Horticulturist.

Pronunciations

Acacia cavenia

ah-CASE-ee-uh ca-VEEN-ee-uh

A. karroo A. CARE-roo

A. pendula A. PEN-dew-lah

Acanthus spinosissimus

ah-CAN-thus speen-o-SIS-ee-mus

Achillea a-KILL-ee-ah

Adenophora liliifolia

ad-en-OF-er-ah lee-lee-ih-FOLE-ee-uh

Adiantum raddianum

ah-dee-ANT-um ray-dee-AIN-um

Aethionema coridifolium

ee-thee-OWN-ee-mah ko-RID-ee-fol-ee-um

A. grandiflorum A. grand-ih-FLOR-um

Amsonia am-SONE-ee-uh

Anemone magellanica

a-NEEM-o-nee madge-el-LAN-i-kah

A. palmata A. pal-MATE-a

A. pulsatilla A. pul-sah-TIL-ah

A. sylvestris A. sil-VEST-ris

Antirrhinum majus

an-tih-RINE-um MAJE-us

Aquilegia caerulea

ak-kwi-LEEJ-ee-uh see-REW-lee-ah

A. canadensis A. can-ah-DEN-sis

A. vulgaris A. vul-GARE-us

Armeria juniperifolia

are-MARE-ee-uh jun-ip-per-ree-FOL-ee-uh

Aruncus dioicus ah-TIL-ah RUN-kus dy-o-EEK-us

Asclepias as-KLEEP-ee-us

Astilbe × *arendsii*

a-STIL-be × ah-REND-see-eye

Astrantia ah-STRANT-ee-uh

Baptisia bap-TIS-ee-uh

Bellis perennis BEL-is per-EN-is

Bletilla striata ble-TIL-ah stry-ATE-ah

Brahea armata bray-HE-ah are-MATE-a

Butia capitata BOOT-ee-uh cap-i-TAT-a

Buxus sempervirens

BUCKS-us sem-per-VIRE-enz

Camellia japonica

kah-MEAL-ee-uh jah-PON-ih-kah

Campanula carpatica

kam-PAN-yew-la car-PAT-ih-kah

C. elatines var. *garganica*

C. e-LATE-ines var. gar-GAN-i-ka

C. persicifolia C. per-sis-ih-FOL-ee-uh

C. portenschlagiana

C. por-ten-schlag-ee-AIN-ah

C. poscharskyana C. po-shar-ske-AIN-ah

C. raddeana C. ra-de-AIN-ah

Casuarina stricta

kas-yew-air-REEN-a STRICT-ah

Cedrus deodara SEED-rus de-o-DOR-ah

Centranthus ruber sen-TRAN-thus

ROO-bur

Cercis canadensis SIR-sus can-ah-DEN-sis

Chaenomeles speciosa

kee-NOM-el-ez spee-see-OH-sah

Chilopsis linearis

kil-OP-sis lin-ee-AIR-is



Hydrangea macrophylla 'Variegated Mariesii'

Clematis integrifolia

klem-ATE-us in-teg-ri-FOL-ee-uh

C. recta C. RECT-ah

Convallaria majalis

con-va-LARE-ee-uh ma-JALE-is

Cornus stolonifera

KOR-nus stow-lon-IF-er-ah

Crataegus cra-TEEG-us

Cynoglossum sin-o-GLOS-um

Cyrtomium falcatum

sir-TOME-ee-um fal-KATE-um

Delphinium del-FIN-ee-um

Dianthus gratianopolitanus die-AN-thus

grah-tee-ah-no-pol-ih-TANE-us

D. plumarius D. ploo-MARE-ee-us

Dictamnus dick-TAME-us

Digitalis grandiflora

dih-jih-TALE-is grand-ih-FLOR-ah

D. × mertonensis D. × mert-o-NEN-sis

Doronicum cordatum

dor-ON-i-cum cor-DATE-um

Draba DRABE-ah

Edgeworthia papyrifera

ej-WORTH-ee-uh pa-pee-RIF-er-a

Erigeron er-RIDGE-er-on

Erodium ee-RODE-ee-um

Eucalyptus mannifera subsp. *maculosa*

yew-ka-LIPT-us man-IF-er-ah subsp.

MACK-yew-loz-ah

E. nicholii E. ni-KOL-ee-eye

E. salmonophloia E. sah-MEN-o-flo-eye-a

Euphorbia corollata

yew-FORB-ee-uh cor-o-LATE-ah

E. cyparissias E. kew-pah-RIS-ee-as

E. myrsinites E. mir-SIN-ee-tees

Felicia amelloides

fel-IS-ee-uh a-mel-o-EYE-deez

Forsythia for-SITH-ee-uh

Gaura GAUR-ah

Geranium jer-RANE-ee-um

Gypsophila repens jip-SOF-il-ah REP-enz

Hamamelis mollis

ham-ah-MEAL-is MOLL-is

Hedera canariensis

HEAD-er-ah can-air-ee-EN-sis

H. helix H. HE-licks

Helleborus orientalis

hell-eh-BORE-us or-ee-en-TALE-is

Hibiscus palustris

high-BISK-us pah-LUST-ris

H. syriacus H. SEER-ee-ah-kus

Hydrangea quercifolia

high-DRANE-ge-ah quer-sih-FOL-ee-uh

H. macrophylla H. mack-ro-FIL-ah

Iberis sempervirens

eye-BEER-us sem-per-VIRE-enz

Ilex verticillata EYE-lex ver-tis-see-LATE-a

Illicium floridanum

il-LIS-ee-um flor-i-DANE-um

Kerria japonica

CARE-ee-uh jah-PON-ih-kah

Lagerstroemia fauriei

lag-er-STREAM-ee-uh FAW-ree-eye

L. limii

L. LIM-ee-eye

Lamium maculatum

LAME-ee-um mack-yew-LATE-um

Lathyrus odoratus

lah-THIGH-rus oh-do-RATE-us

Lavandula lah-VAN-doo-lah

Linum LYN-um

Lobelia low-BEEL-ee-uh

Lonicera sempervirens

lon-NIS-er-ah sem-per-VIRE-enz

Lupinus lew-PINE-us

Magnolia grandiflora

mag-NOL-ee-uh grand-ih-FLOR-ah

Mahonia aquifolium

mah-HONE-ee-uh ak-i-FOLE-ee-um

Malus MALE-us

Muscari armeniacum

mus-KAH-ree are-MIN-ee-a-cum

Myosotis sylvatica

my-oh-SOTE-is sil-VAT-ih-kah

Nandina domestica

nahn-DEEN-ah do-MEST-i-ka

Narcissus nar-SIS-us

Oenothera missourensis

ee-no-THARE-ah mis-or-EN-sis

Papaver PAH-pav-er

Parkinsonia aculeata

park-in-SONE-ee-uh ah-cul-ee-ATE-ah

Phlox stolonifera flox sto-lon-NIF-er-ah

Phoenix canariensis

FEEN-icks can-air-ee-EN-sis

Pinus edulis PINE-us ED-yew-lis

P. radiata P. ray-de-ATE-ah

Platycodon grandiflorus

plat-ih-KODE-on grand-ih-FLOR-is

Potentilla nepalensis

po-ten-TIL-ah neh-pal-EN-sis

P. megalantha P. meg-ah-LANTH-ah

Primula denticulata

PRIM-yew-la den-tick-yew-LATE-ah

P. elatior P. ay-LATE-ee-or

P. japonica P. jah-PON-ih-kah

P. obconica P. ob-CON-i-ka

P. pulverulenta P. pul-var-yew-LENT-ah

P. sieboldii P. see-BOLD-ee-eye

P. veris P. VER-is

P. vulgaris P. vul-GARE-is

Pyracantha py-ra-KAN-tha

Quercus lobata QUER-kus low-BAHT-ah

Rhododendron ro-do-DEN-dron

Rosa banksiae ROHZ-uh BANKS-ee-eye

Salix babylonica

SALE-icks bab-i-LON-ih-ka

S. discolor S. DIS-kol-er

Salvia argentea SALV-ee-uh are-JENT-ee-ah

S. pratensis S. pray-TEN-sis

S. sclarea S. SKLAIR-ee-ah

Saxifraga umbrosa

sacks-ih-FRAG-ah um-BROSE-ah

Scabiosa skay-bee-OHZ-ah

Sidalcea sih-DAL-see-ah

Skimmia japonica

SKIM-ee-uh jah-PON-ih-kah

Spiraea × bumalda

spy-REE-ah × bum-ALD-ah

S. cantoniensis S. can-TON-ee-en-sis

Trollius TROL-eye-us

Tropaeolum minus

TRO-pee-o-lum MINE-us

Tsuga canadensis SOOG-ah can-a-DEN-sis

Tulipa TOO-lip-ah

Veronica gentianoides

ve-RON-ee-ka gen-tee-an-oh-IDE-ezs

Viburnum acerifolium

vie-BURN-um a-ser-ee-FOL-ee-um

V. × burkwoodii V. × burk-WOOD-ee-eye

V. × carlcephalum V. × carl-see-FALE-um

V. carlesii V. kar-LEEZ-ee-eye

V. cassinoides V. kas-in-oh-IDE-ezs

V. dentatum V. den-TATE-um

V. dilatatum V. di-lay-TATE-um

V. lantana V. lan-TAN-a

V. macrocephalum forma *keteleeri*

V. mack-ro-see-FALE-um forma

kee-teh-LEAR-ah

V. opulus V. OP-yew-lus

V. plicatum forma *tomentosum*

V. pli-KATE-um forma to-men-TOSE-um

V. prunifolium V. prune-i-FOL-ee-um

V. rhytidophyllum V. ri-ti-do-FIL-um

V. sargentii V. sar-GENT-ee-eye

V. sieboldii V. see-BOLD-ee-eye

V. trilobum V. try-LOBE-um

V. utile V. yew-TIL-ee

Viola × wittrockiana

VYE-o-lah × wit-rock-ee-ANE-ah

V. odorata V. o-do-RATE-ah

Washingtonia filifera

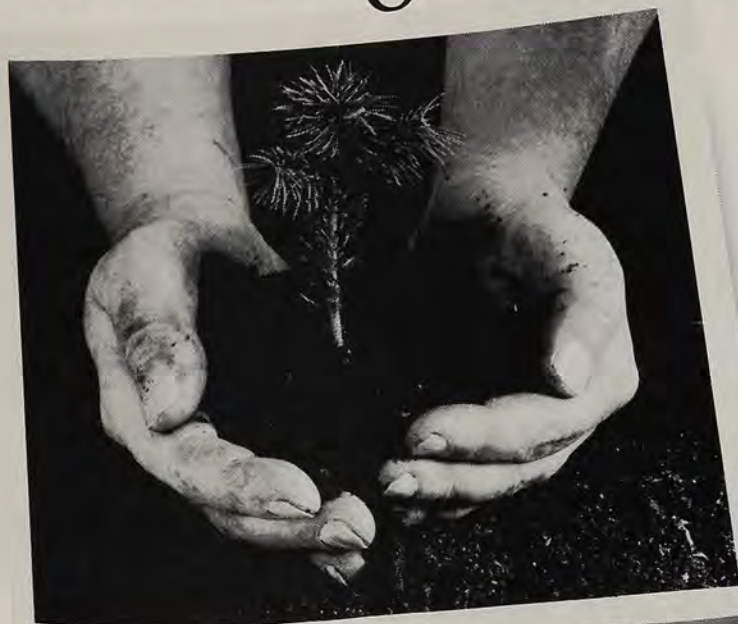
wash-ing-TONE-ee-uh fil-IF-er-ah

Weigela florida wy-GEAL-ah FLOR-ih-da

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YUCK-ah carn-er-rose-AIN-ah

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Award An AHS Medal At Your Next Plant Show



The American Horticultural Society offers the Bole Memorial Medals, designed by Victor Schreckengost, a nationally known sculptor and industrial designer. These medals are awarded to individuals for horticultural excellence at regional shows put on by plant societies who are members of AHS. The gold medal requires 15 species or cultivars of blue ribbon quality; the silver medal 8 species or cultivars. These need not be all of the same species. The medal measures one and a half inches across with a ring attached so it can be worn on a chain or ribbon. The date and the recipient's name can be engraved on the back.

Requests for applications, which must be made three months in advance of the event, can be obtained from Mrs. Benjamin P. Bole, Jr., Chairman, 1 Bratenahl Place, Cleveland, OH 44108.

Book Reviews

Clematis

Barry Fretwell. Color photos, drawings, and woodcuts. Capability Books, Deer Park, Wisconsin, 1989. 160 pages. Publisher's price: hardcover, \$24.95. AHS member price: \$14.95.

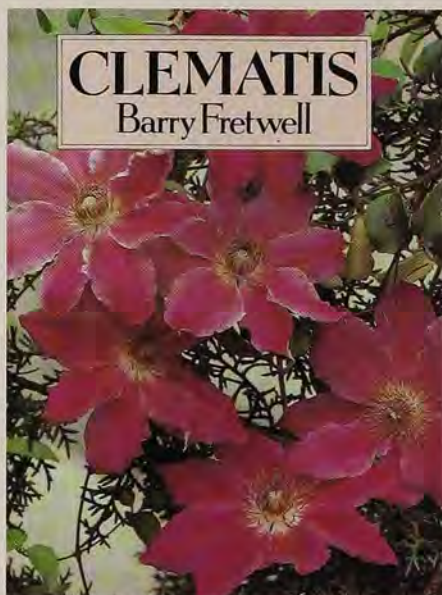
Anyone who loves flowers, and in particular clematis, and appreciates beautiful photography that is well produced, will love this book on sight. As both gardener and photographer I am awed by its excellence, from the frontispiece of 'Lady Betty Balfour' and the opening spread of autumn-flowering, single white 'John Huxtable' to the last photo, a full-page portrait of *C. viticella* 'Venosa Violacea'.

If anything is missing, it is longer shots showing clematis in the landscape. However, Fretwell makes excellent landscape suggestions in his text, so I will go along with his explanation for this apparent lapse: "A main feature of clematis is the stunning effect of multiple flowers but, for ease of identification, most of the photographs portray even the small-flowering varieties and species as a single flower or as a small group. Careful note should be taken, therefore, of the size of flower given in the text."

The book jacket tells us that Barry Fretwell has specialized in clematis as a nurseryman for thirty years. "In England" might be added, but I hope this will not deter a single devotee of the genus anywhere in the world. Somewhere along the way Fretwell became an excellent writer and photographer. The text is refreshingly free of ego and generous in sharing honest experience and a highly educated opinion.

After a brief history of clematis, and some advice on choosing from among them, Fretwell gets right into cultivation and before we know it he has us pruning, or not, as the clematis may be. All the nearly 200 clematis individually described are indicated as belonging to pruning Group A, Group B, or Group C. The author gets my respect when he admits that some in Group C "... sit uncomfortably astride the B and C fence," but, not to worry, "in the individual descriptions they are indicated as 'B/C', and examples include 'Mrs. Chomondley', 'Hagley Hybrid', 'Niobe', and, in fact, all the red large-flowered hybrids."

U.S. mail order sources for clematis are listed on the inside back flap of the jacket.



What is missing is any discussion about tolerance of extreme temperatures, summer or winter, or any indication in the individual descriptions about hardiness.

Vegetative propagation is covered well. I was hoping for more specifics on growing from seed, but at least Fretwell does not discourage. Finally, he addresses diseases and pests. About wilt, the good news is: "I have even known plants to come back to life after three years—so do not dig it out; clematis are notorious survivors."

—Elvin McDonald

Fletcher Steele, Landscape Architect: An Account of the Gardenmaker's Life, 1885-1971

Robin Karson. Color and black and white photos and drawings. Sagapress, Inc., New York, 1989. 344 pages. Publisher's price: hardcover, \$49.95. AHS member price: \$34.95.

Robin Karson has allowed Fletcher Steele's own words to tell much of his life story as one of the preeminent American landscape architects of the first half of the century. Included in this critical biography are excerpts from his two books, countless articles and lectures, travel journals, letters to clients and family members that reveal the wit, charm, and character of the man as well as his philosophy of landscape architecture and garden design.

Steele, who admired charm in people and places, imbued with charm the 500

estate gardens he designed between 1914 and 1968. Karson has selected nearly fifty of them, which she presents in highly readable installments arranged chronologically. Plans, details, evocative sketches, and construction drawings illustrate the text. Black and white photographs include those taken by Steele, permitting the reader a view of the gardens through the designer's own lens and often showing work in progress. He commissioned many of the photos taken after the gardens were completed. The more recent color plates show how his gardens have matured.

To Steele, the garden was a place to dream. "Dreaming enables us to withdraw into ourselves for brief moments and rests us. It is good and if the garden makes it easier and pleasant to dream, then it is a good garden." He cautioned against gardens that are "merely pretty." His were bold, inventive, sometimes whimsical, and nearly always eclectic. He synthesized design traditions of France, Italy, England, Japan, and especially those of Spain and China into gardens that were uniquely American. Historical precedent and the Beaux Arts formalism in which he was trained sometimes gave way to influences of cubism, modernism, and Art Deco; such experimentation has influenced later generations of landscape architects.

In 1947, Steele wrote of "the gardener's eternal triangle—namely, the pull of the land itself and plants and climate at one corner, the pull of the client and owner and what he wants at another corner, and the pull of the designer and his sense of fine art at the third corner trying to pull everything together." He found kindred spirits among his most enduring, and wealthiest, clients: Charlotte Whitney Allen of Rochester, New York; Standish Backus of Gross Pointe Shores, Michigan; and Mabel Choate, owner of Naumkeag in Stockbridge, Massachusetts.

The garden he designed for Allen (see

The AHS-sponsored traveling exhibit, "The Gardens of Fletcher Steele," will open at the Paine-Webber galleries in New York City January 18, with a related day-long design symposium January 19.

American Horticulturist, October 1988), which he described as "little bigger than a postage stamp," provides some of his best lessons in space composition, his greatest interest. His use of forced perspective and color to enlarge the appearance of garden areas can be applied to gardens of more modest scale as can his ideas on the placement of sculpture and the design of garden steps.

He may have designed for millionaires, but Steele wrote for middle-class homeowners. "American lawns rarely invite one to linger. They are usually indeterminate areas covered with grass, into which house, drives, and gardens are dropped down like a few fishballs on a large platter . . . A good lawn must be enclosed by buildings, walls, or planting, as a general thing."

Steele chose plants for their abstract qualities, especially color, and contrast of form with their neighbors. He frequently used *Aralia spinosa* (devil's walking stick), *Petasites* (Japanese butterbur), and 'Fiery Red' coralbells. *Betula papyrifera* (white birch) gives vertical syncopation to several of his designs, most notably the Blue Steps at Naumkeag. Horticultural information for each garden is found within the text, supplemented in a few instances by planting plans and plant lists in an appendix.

This book is not riddled with design jargon, and any term unfamiliar to the reader is likely to be succinctly defined in the glossary. An extensive bibliography is also included. If the book has any shortcoming it is that a number of photographs, including some printed from Steele's "highly variable negatives" that were probably not intended for publication, are darkly printed and lack crisp detail.

Still, this biography will provide hours of inspiring reading for anyone searching for beauty in gardens, and is a must for those who agree with Steele that landscape architecture is a fine art.

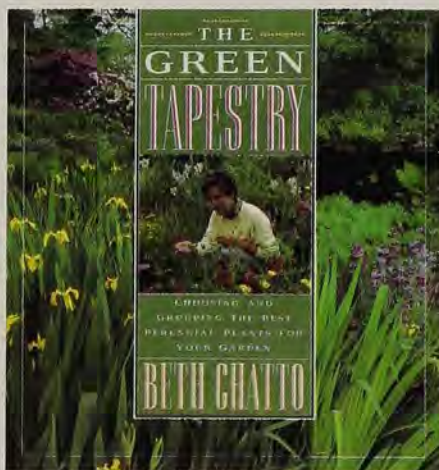
—Kathryn McCutchen

The Green Tapestry

Beth Chatto. Color photos and illustrations. Simon and Schuster, New York, 1989. 192 pages.

Publisher's price: hardcover, \$24.95. AHS price: \$14.95.

Most gardeners love to tour other gardens where we can find solutions to our gardening problems. Reading this book is like a private tour with Beth Chatto through her own marvelous garden. Our tour is not just to see the exquisite plantings, pri-



marily of perennials, that are photographed so well. Chatto states that her purpose in writing this book is "... to encourage you to look afresh at your garden and its particular, often difficult, conditions, like shade or very dry soil or boggy damp places, and then try to turn them to advantage by growing just those plants that are adapted by nature to thrive in such situations." As we go through the six main garden areas, Chatto shares with us what she has done with each garden area's unique situation.

Before our tour begins, Chatto gives us some background information. She also tells us a little bit about her unusual plant nursery, which supplies plants for her gardens and vice versa. In the "Principles of Planting" chapter, she covers topics that range from soil to garden design.

Our tour begins in the entrance garden. It then continues through the water gar-

den, the open walks, and the shade garden, and ends in the reservoir garden.

Information on garden design is given throughout the book. Chatto states that "the way you group plants together is the whole essence of gardening." She goes on to say that "... it is one thing to choose appropriate plants for the conditions and quite another to arrange them in a pleasing way. I cannot emphasize enough that the form and shape of the plant, and texture and color of its leaves are as important as the color of its flowers." Her plant combinations are very pleasing and her designs have won ten gold medals in succession at the Chelsea Flower Show.

The last chapter contains a plant list and a U.S. hardiness chart. The climate in her area is drier than much of England; therefore, her recommendations are more applicable to the United States than those in many English books. Unfortunately, many of the recommended plants are not available in this country. Nevertheless, *The Green Tapestry* is both refreshing to read and a good reference book to have on hand.

—Bill Funkhouser

Elvin McDonald, director of special projects at the Brooklyn Botanic Garden, writes a syndicated newspaper column on plants in the home, and is a newly elected member of the American Horticultural Society's Board of Directors.

Kathryn McCutchen, an art historian, is pursuing a master's degree in landscape architecture and preservation at the University of Virginia.

Bill Funkhouser owns a retail nursery in Dahlonega, Georgia, which specializes in perennials, wildflowers, and herbs.

Book Order Form

Please send me the following books at the specially discounted AHS member prices.

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CAP 658
- ☐ Fletcher Steele, Landscape Architect\$34.95
TIM 655
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SIM 657

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Please add \$2.50 per book for postage and handling. Virginia residents, also add 4½% sales tax. Please allow six weeks for delivery. Prices are subject to change without notice.

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You Can Conquer Without Stoop

Do you have a successful garden, but sometimes wish for an elevator to lift up the garden bed so you can pick the squash and snare the squash bugs without bending your stiff, aching back? Would you like to be eyeball-to-eyeball with insects, veggies, and weeds with no strain on your back, and sit down while you slay bugs, uproot weeds, and harvest succulent vegetables?

An enclosed-sided, raised bed will let you garden in comfort, and will produce more in less space and in a fraction of the time required to maintain the traditional garden. It's the combination of intensive gardening and raised beds that gives you a garden within your reach. In fifteen to thirty minutes a day or two to three hours on a weekend, you can grow an abundance of vegetables, even if your space, time, or energy is severely limited.

A few years ago arthritis and age seriously impaired my ability and mobility. My choice: either give up my beloved garden, or find an easier way. What I found is such an improvement over my old garden that I wonder why I hadn't discovered it sooner. Now I don't have to spend hours bending and stooping to plant, fertilize, weed, and harvest a garden twenty-five by thirty-five feet; instead I spend minutes, comfortably seated, tending two four-by-ten-foot beds. An umbrella that automatically follows me and a cold drink dispenser would complete this Utopia, but actually, I spend so little time working that I really don't need any more "comforts." When I combined raised beds with intensive gardening, I found a blue-ribbon winner.

These beds are actually oversized planter boxes without bottoms that can be made of bricks, concrete blocks, planks, landscaping timbers, railroad ties, or sawmill slabs. For the surface of the walkways around the beds, you can use concrete, gravel, or flagstones, but be sure to make the walkways wide enough for a garden cart. Mine are too narrow, often an ag-



Photos by Thelma E. Honey

gravation. Just one of several mistakes.

My two beds are constructed with railroad ties stacked three high. This height (about twenty-four inches) is ideal for sitting. The first two ties are fastened together with foot-long bolts, the top one bolted to the middle tie. Moisture and soil are prevented from escaping between ties by a corrugated metal barrier inside. This also keeps the creosote from leaching into the soil. (Before the beds were finished, I knew I should have used untreated ties.)

To insure drainage, a four-inch layer of sand was put in the bottom of each bed. Compost and steer manure were liberally mixed with dirt to finish the fill. Compost is added again between the harvest of one crop and the planting of another; manure is dug in as soon as the last crop is harvested. A two-inch-thick layer of manure under eight inches of hay covers the bed in winter. Any unrotted hay is removed in the spring, leaving loose soil that is easily turned with a hand trowel. Its fertility is attested to by continuous cropping from February until November.

Outdoor carpet scraps are tacked on top of the ties to cover the rough surface and keep the creosote from staining my clothes. I can plant, thin, and harvest in sinful comfort. Since there is little room for weeds, only the most tenacious find a roothold. With fewer weeds, it is easy to pull them before they make seeds. Although I have no proof, it appears that fewer weed seeds find their way up to the elevated beds, even though many weed seeds are blown in from nearby yards and usually sprout in the pathways.

Over the beds, one-inch-diameter PVC pipes form modified A-frames. The frame supports plastic to keep tender plants warm in early spring or fall. I use wire-reinforced plastic, which is semi-rigid and durable for several seasons. These temporary greenhouses extend the growing season about two months—one in early spring and one in late fall. Plants, such as peas, that require pollination, must be uncovered when they start to bloom. Last February I planted garden peas along with lettuce and radishes in one bed and put the plastic in place.



A couple of weeks later the peas were putting up green shoots despite the snow in the surrounding area. This unreachable green stuff, by the way, created a frustrated frenzy among the birds.

In the meantime, cool-weather plant seedlings were growing in the greenhouse to be transplanted into the other bed in mid-March. I buy seedlings early while they are still fresh at nurseries and garden supply stores, and transplant them into individual pots to give them more root space. I put the potted seedlings out on mild days for a few hours, first in the shelter of the patio, but after a week I gradually expose them to the sun and other elements. By the time I transplant them to the beds, they are tough enough to stand up to the rigors of early spring weather.

I planted lettuce, radish, baby carrot, and turnip seeds between the transplants.

The plants thrived in the cool spring temperatures, but needed protection later as the sun became hotter. At first, I tried split-bamboo fencing on the A-frame, but our winds ripped it apart. Then I found that shade cloth is easier to handle; it also has a longer life.

Insects are easy to see and thus easy to destroy in my raised beds, because they are in my line of vision, not hidden on the ground at my feet. Row covers such as Reemay or Agronet protect crops from insects as well as from frost, wind, and pelting rain. These offer almost complete protection from leaf miners, cabbage worms, flea beetles, root maggots, and vine borers. For crops that require pollination, the cover must of course be removed when flowering begins. In addition to hand-picking and row covers, I spray Tanglefoot on plastic garden ornaments. These ornaments have

OPPOSITE: Carrots and lemon cucumbers are harvested before tilling the raised bed and setting out fall-crop transplants. **ABOVE:** A modified A-frame protects tender plants in the fall and spring.

TECHNIQUE

a brown center with yellow, daisy like petals, and they turn in the wind like windmills. Whiteflies and other small flying insects land on these and stick to the Tanglefoot, never to fly again. At the end of the season, I discard these inexpensive "daisies" and start with new ones the next year. But occasionally I get an infestation that defies my best efforts, as well as those of the ladybugs and praying mantises. Then

beans, peppers, and various herbs snuggled together to produce record harvests. All this from two, four-by-ten-foot, no-stoop, sit-down beds!

In mid-August, I planted spinach, lettuce, and turnips for greens. The plastic was installed when a hard freeze was predicted.

Rich soil is the key to successful intensive gardening. Because of the small area,

that can be harvested as the main crop spreads out. Meanwhile, the soil is shaded, moisture is conserved, and weeds are inhibited.

Through the years I have tried several varieties of peas and found that 'Burpeeana Early' are best for my needs and growing conditions. Some of the edible-podded peas are delicious when picked at their prime, but their prime and mine are not always the same. It seems as if they are always ready to pick when it is impossible for me, because of pain or higher priority activities. The 'Burpeeana Early' are less demanding as to picking time—and are delicious from tender-pod size to fully developed peas. Also, they mature quickly, which is essential due to the abrupt changes in our weather—temperatures may go from nighttime freezing to 75° or 80° F the next day. Planting for a fall harvest has been disappointing even with 'Snowbird' peas, recommended for fall crops. I planted for fall three years in a row, and each year our temperatures stayed in the nineties well into early October. By then the struggling pea vines had given up their will to live.

'Bloomsdale Long-Standing' spinach, 'Ruby' and 'Black Seeded Simpson' lettuce, 'Purple Top White Globe' turnips, 'Lucullus' Swiss chard, and 'Florida Broad Leaf' and 'India' mustard produce good spring and fall crops.

'Danvers Half Long' and 'Nantes Half Long' carrots, 'Pink Beauty' and 'Sparkler' radishes, 'Paris White Cos' romaine, 'Premium Crop Hybrid' broccoli, 'Lemon' cucumbers, 'Ace' tomatoes, 'Slenderette' bush beans, 'California Wonder' and 'Golden Calwonder' peppers, and 'Early Pimento' are my favorites. I have stopped planting brussels sprouts and cauliflower because of insect control problems, Chinese and regular cabbage because of lack of space, and 'Icicle' and other long radishes because of poor performance.

The bounty from the beds is supplemented by other vegetables tucked in odd spots and along fences. Fruit trees and berry bushes add to the freezer stuffing.

If you think gardening is synonymous with spading, raking, stooping, weeding, and other exhausting chores, then intensive gardening in a raised bed will surprise you.

Thelma E. Honey, a free-lance writer who lives in Albuquerque, New Mexico, serves on the board of directors of the American Horticultural Therapy Association.



Over pipe frames, the author fits wire-enforced plastic, carefully overlapping the ends.

I bring out the diatomaceous earth, *Bacillus thuringiensis*, and/or insecticidal soap.

The beds are watered by a ten-foot length of PVC pipe in which small holes are drilled in two rows along the top of the pipe at intervals of one foot (staggered so there is a hole every six inches). One pipe laid lengthwise waters each bed. A short length of hose is attached to each pipe and the two are connected by a Y-fitting with valve controls so both beds or only one can be watered. Hose remnants, about ten feet long with fittings, are inexpensive and available at discount stores. These and quick-disconnect fittings make it easy to attach the main hose.

Last year, successive plantings furnished fresh vegetables all summer and stuffed my freezer to overflowing. I shared the harvest with neighbors and friends. Lettuce, radishes, turnips, broccoli, chard, romaine, peas, carrots, spinach, cucumbers, snap

beans, peppers, and various herbs snuggled together to produce record harvests. You should add compost, organic matter, and fertilizer on a regular basis. Compost can be made in one area of the yard by mixing dirt, manure, and organic matter such as leaves, hay, grass clippings, and kitchen scraps (no meat, bones, or grease). After it has decomposed sufficiently, scoop it onto the soil around the plants and work it in or till it in the soil in the fall. Keep feeding the soil. You will be rewarded with tasty, nutritious vegetables for your table.

Consult seed catalogs and packages for proper spacing between plants, but ignore the distance between rows. Instead leave the same distance as the spacing between plants. I plant carrots three inches apart each way, sixteen per square foot, and bush beans every two inches. Most cole plants need a foot of space. While they are small, use the space for quick-growing vegetables

Sources

A Mouth-Watering Dry Garden

Cactus Gem Nursery, 10092 Mann Dr., Cupertino, CA 95014, catalog \$1.
Forestfarm, 990 Tetherow Rd., Williams, OR 97544, catalog \$2.
Grigsby Cactus Gardens, 2354 Bella Vista Dr., Vista, CA 92084, catalog \$2.
J.L. Hudson Seedsman, P.O. Box 1058, Redwood City, CA 94064, catalog \$1.
Mesa Garden, P.O. Box 72, Belen, NM 87002, catalog free.
Southwestern Native Seeds, P.O. Box 50503, Tucson, AZ 85703, catalog \$2.

You Can Conquer Without Stooping

Archias', P.O. Box 109, Sedalia, MO 65301, catalog free.
W. Atlee Burpee & Co., 300 Park Ave., Warminster, PA 18991, catalog free.
Comstock, Ferre & Co., 263 Main St., Wethersfield, CT 06109, catalog free.
Johnny's Selected Seeds, Foss Hill Rd., Albion, ME 04910, catalog free.
Jung Seeds & Nursery, 335 S. High St., Randolph, WI 53957, catalog free.
Seeds Blum, Idaho City Stage, Boise, ID 83706, catalog \$2.
Sunrise Enterprises, P.O. Box 10058, Elmwood, CT 06110, catalog \$1.

Donald Egolf's Viburnums

Appalachian Gardens, Box 82, Waynesboro, PA 17268, catalog free.
Beaver Creek Nursery, 7526 Pelleaux Rd., Knoxville, TN 37938, catalog free.
Carroll Gardens, 444 E. Main St., Westminster, MD 21157, catalog \$2.
Colvos Creek Nursery, 1931 Second Ave., #215, Seattle, WA 98101, catalog \$2.
Forestfarm, 990 Tetherow Rd., Williams, OR 97544, catalog \$2.
Girard Nurseries, P.O. Box 428, Geneva, OH 44041, catalog free.
Greer Gardens, 1280 Goodpasture Island Rd., Eugene, OR 97401, catalog \$2.
Wayside Gardens, One Garden Lane, Hodges, SC 29695, catalog free.

A Winning Exhibit

W. Atlee Burpee & Co., 300 Park Ave., Warminster, PA 18991, catalog free.
Crownsville Nursery, P.O. Box 797, Crownsville, MD 21032, catalog \$2.
Park Seed Co., Cokesbury Rd., Greenwood, SC 29647, catalog free.
John Scheepers, Inc., R.D. 6, Philipsburg Rd., Middletown, NY 10940, catalog free.
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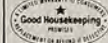
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Two Arts Meet in Needlepoint Cushions



Photos by Rick Buettner

In 1974, Betty Corning became concerned about the need to transform the ballroom of the American Horticultural Society's River Farm headquarters into a public meeting area. That year, Corning had served as chairman of the AHS House Committee, as secretary and then as second vice president to the society, so she knew well that there was no budget for furniture. And given the room's primary use for meetings and symposia, the elaborate furniture that had graced the room when River Farm was privately owned was no longer appropriate.

Still, something should be done to give the room some warmth, Corning felt, and to symbolize the society's role as an umbrella organization representing the diverse interests of American gardeners.

Corning turned to needlepoint, an art form whose history has some parallels to gardening itself. Its origins are unknown,

although samples have been found in an Egyptian tomb and the Chinese were doing exquisitely detailed work 800 years ago. But it was the British who for a long time defined the art as it would be practiced in the United States. According to Rose Wilder Lane, writing in *The Woman's Day Book of American Needlework*, "Queen Elizabeth preferred it to all other embroidery. She and her ladies worked it on bed curtains, bellpulls and waistcoats; covered chairs, benches and stools with it; and stitched pictures of it, until nothing more could be done with English needlepoint."

There was no colonial American needlepoint. The materials cost too much for most settlers. The canvas backing had to be imported and the blunt needles were useless for anything else. And such purely decorative handiwork was not at home with patchwork quilts, braided rugs, and homespun coverlets. But appropriately enough, given that River Farm was once

owned by George Washington, one of the nation's first enthusiastic needlepointers was Martha Washington, who stitched eleven dining room chair seats for Mount Vernon. However, her design was an English shell motif, and the British style continued to dictate how American needlepoint looked for many more decades.

But today, there are many American needlepoint artists, and Corning called on one of them then living near her in the New York area, Mona Spoor, to help shape her ambitious vision: needlepoint cushions for each of the ballroom's nine window seats, with a design that would represent all of the plant societies affiliated with AHS.

Before a stitch could be taken, Spoor had to pull together symbols for such diverse groups as the American Bonsai Society, the Cactus and Succulent Society of America, the American Fuchsia Society, the American Ivy Society, plus the North American Fruit Explorers and the North-



African violets, daylilies, daffodils, fuchsias, lilacs, ferns, cacti, and orchids are among more than forty plants "blooming" together in AHS's needlepoint garden.

ern Nut Growers—more than forty in all—without creating a look of utter chaos. "Some societies had logos that we wanted to use and we had to get their permission," said Corning. "But we didn't usually adopt the official logos because they wouldn't work for this purpose."

Corning also knew just where to turn to see that Spoor's design became reality: her compatriots in the Garden Club of America, many of whom she had seen working on exquisite needlepoint projects.

Ten women from eight different states were tapped for the project: Mrs. John Maury of the District of Columbia; Mrs. William Jennings of Connecticut; Mrs. Clifford Fifield of New Hampshire; Mrs. Francis Almirall of Ohio; Mrs. Roger Wilson Brett of California; Mrs. Richard Harwood of Tennessee; Mrs. Joseph Wheelock and Mrs. George P. Bissell Jr., both of Delaware; Mrs. John A. Becker and Mrs. Corning of New York.

All nine seat cushions were complete by 1975, when the group held a luncheon to celebrate their accomplishment. "Some of us worked faster than others," said Maury, now a member of the AHS Board of Directors, "but it was about a year before we were all finished."

In the center of the design are the initials "AHS"; above it is the society's logo; on each side of it are dogwood blossoms to symbolize the headquarter's Virginia location. Giving the needlepoint design extra life are a number of butterflies, a lady bug, a dragonfly, and assorted beetles, presumably of species not prone to munching tapestry flowers.

But the needlepoint bug had bitten the garden club members, who came up with an additional project. Spoor copied the central design and borders from Limoges boxes picturing old garden roses, designed for AHS by Charles Raymond in 1977, onto canvas for four small pillows that can now be seen in River Farm's parlor. They were completed in the fall of 1977 by Corning, Maury, Mrs. William Seipp and Mrs. Malcolm Matheson Jr., both of Virginia.

Now fourteen years old, the vibrant colors of the seat cushions have not dimmed. They are priceless because of their unique design, but even more because of what they represent: the home of all American horticulture, and the dedication of its members.

Kathleen Fisher is Editor of *American Horticulturist*.

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