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For centuries, Asian artists have combined principles of visual beauty with the illusion of scale and the science of cultivating plants gathered from mountainsides. Some families maintain these classic scenes for generations. This tray by an anonymous artist was a floating display on a pool at the San Francisco Conservatory of Flowers. Just two plant species soften the sculpted stones and white sandy 'sea', elegantly telling the story of the mountain island. See Chapter 18 "Low-down groundcovers" and Chapter 19 "Micro-miniature trees and shrubs" for more on these plants.

Introduction

More than 200 miniature gardens, mostly in private garden railways in North America, were researched for this book. In Part 1, a gallery of gardens from a range of geographical locations shows how gardeners designed little green landscapes to fit their native habitat. Every one of them has a story to tell; each displays a distinctly different setting and each designer is unique. Space doesn't permit sharing every railway garden with their fascinating ideas and delightful details, but this book tells you how to find them.

In gardens that were small or large, with four plant species or 40, I looked for examples to tell the story of miniature gardens. I wanted to know how to grow them, where plants would grow, which miniature plants were working best, who these miniature-garden people are, and why they do it.

Why do happy, sane, mature adults (and some kids) cram hundreds of tiny plants into a garden when 10 or 12 large plants will cover the ground? Then they join clubs and visit other scaled down gardens every month. Some seem to enjoy passing on their skills to other club members and opening their yard to the public after spending weeks to get ready. Sometimes these gardeners band together with others of their ilk and they build garden railway layouts at public places. A long list of these public gardens is in the appendix.

Nostalgia for an era gone by is one reason for modeling little villages and extinct railroads. As they get older, seniors want less space to maintain. They move to smaller places, and then find they still have the urge to garden. Miniature gardens afford more design and cultivation time without lifting heavy trees and digging 3' holes for plants. Some families unite to entertain beloved grandchildren and create Disneyesque worlds, just for fun!

Many traditional indoor modelers transitioned into this hobby by expanding their garage or basement model train display into the great outdoors and had no idea what to do with plants. At first they wanted realism in scenery, like the murals painted on their basement walls. With experimentation, they discovered the plants are alive! And grow! Or don't! Part 2 will introduce new gardeners to basic landscape design for miniature scenes, how to care for them and how to keep them small. Many of these former indoor model railroaders surprise themselves to find they enjoy the miniature plant world as much or more than the railroad.

Techies, who like to make things move with electricity, water, and engines, want to dress up their railroads to integrate them into their backyard. On the other extreme is a group of railroad gardeners who love to be engineers—more civil engineers than train



The "growing" art of garden railways involves civil engineering skills to maintain mountainside hardscapes and to run trains on a suitable grade for engines. The combination of dwarf shrubs pruned into trees to shade low groundcovers creates the living scenery that helps to make the buildings and figures come alive. This railway empire represents an early Japanese artists' community visited by tourists via the Osaka & Orient Express. The garden was designed and built by the author for Jim Dittmer, who wanted a garden and theme to display his collection of aged bonsai trees, like the blue atlas cedar, coral bark maple and stone pine on the right. The author trimmed a row of five Seiju dwarf elms for the park at top and a riverside blooming dwarf tea tree on the left.

engineers—and spend months incorporating fancy land masses, bridges and finally exquisite dwarf plants from specialty nurseries, some of which you'll find in the appendix.

What is it about these miniature and dwarf plants that attract so many people? Research shows that these gardeners want to be the rulers of their tiny empires. The ability to create a little living landscape is a compelling reason to stay home and develop amusing scenery, replete with moving trains and water, little figures and scale buildings. Railway emperors and empresses design their little worlds, as they want them, with help from the plant kingdom.

Garden Railways magazine has been leading folks into this hobby and keeping them busy building manageable and modest layouts or elaborately complex scale countrysides since 1984. I've heard it called "the bible." Links to online *GR* articles in the appendix will help you get acquainted with railway gardening, lead you to garden railroad clubs you can join, and get you started on your own projects. Pertinent articles

from my column in *GR* ("Greening your railway") are included in this book along with the contributions of regional gardening reporters, who broaden the scope of the material. It was also through the dedicated folks who host the National Garden Railway Conventions (see links in appendix) that I was able to photograph these gardeners' creations enabling me to share their gardening practices with you.

From all over the world, friends and *GR* readers have sent me photos of their mini-plant projects. They invited me into their gardens and helped me compile the data in the plant charts within Part 3. This hands-on section shows you how to choose very small plants to take on jobs like preventing erosion from ruining trackwork, repelling or inviting the animal kingdom, surviving drought, and creating scale landscapes for structures. I appreciate the expertise of all the gardeners who were thrilled to share their view of this pioneering hobby. With their gracious help we have a window into our wonderful world of miniature gardening.



4

Mass planting to frame a focal point

1. The frame and matting gently guide our view inward and cause our eyes to pause to assimilate the story within. Likewise, the meadow of inch-tall star creeper (*Pratia pedunculata* 'County Park', Zone 5-9) gives us an uninterrupted view, funneling us into the farmyard. The split-rail fence and five, lined-up apple trees (*Cotoneaster microphyllus* 'Emerald Spray', Zone 5-8) help frame the yard where Bubba is tending the horses.

The design principle of massed plantings in home landscaping is a relatively new concept but textural, green drifts and colorful swaths are now standard practice along highways to mimic the countryside growth along roads. Simply put, massing is a group of like elements—more than three or four. Massing is impressive because of sheer numbers or weight, like a long freight train that makes us stop to count the cars or marvel at the pulling power of the engine. Then, curiosity draws us in to notice the components—in this case, the cars.

Continuity

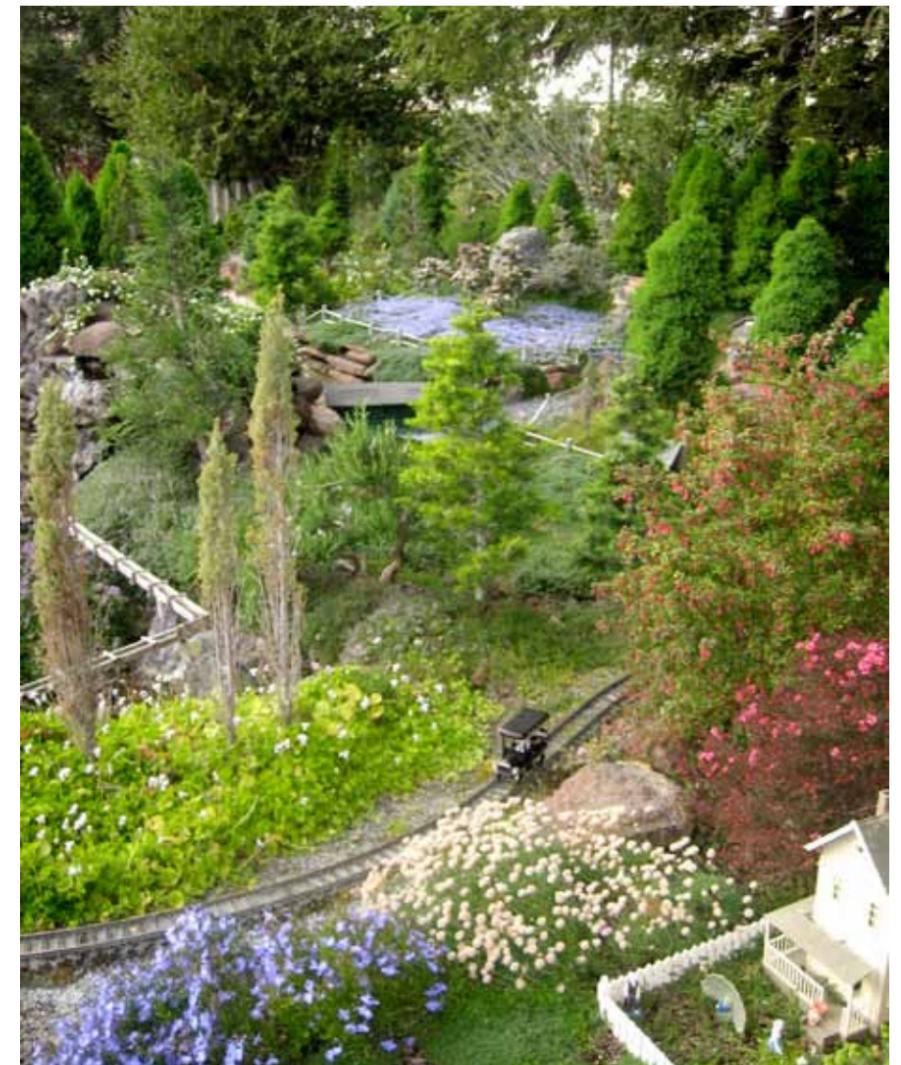
Grouping elements, like groundcover, trees, rocks, or structures, serves several purposes in railway design. Aesthetically, masses can frame focal points (photos 1 and 2), separate themes, or provide visual balance. Physically, massing groundcover or stones allows access into the garden. For practicality, covering the ground reduces maintenance by inhibiting weeds. Psychologically, the most compelling reason for bulk plantings is that their bold, dramatic statements create a sense of order and an awareness of space. Many an amateur has discovered the difficulty in merging a wide range of dissimilar plants into a pleasing palette for comfortable viewing over a long period of time. "Keep it simple" is the rule of the day.

Preventing a hodgepodge and limiting the type of plants used is hard for us horticulturists. I want to experience them all, so I've created a little nursery of potted, railway wannabes. Now I watch my "hopefuls" for clues as to how to landscape them in. Some will be specimens (focal points) in stand-alone places of importance.

Replication

Another technique for pulling the railway together is repetition of the same species or type of plant in various locations. In photo 2, we grouped similar, needle-leaf evergreens in a forest. While we appreciate their differences, they do lose some of their uniqueness in exchange for acting as a unit. The slight differences and sizes make the forest more believable. A meadow of several same-size groundcovers has a similar naturalizing effect. The nice thing is you won't have to try to get this effect, as weeds and other groundcover seeds blow in—just like in the wild.

Repeating a color shows you where to look, as your eyes naturally bounce from one color to a similar hue. The house and rocks in photo 1 match the wooden frame to bind the look harmoniously. In photo 3, the stacked rocks match the color of the boulders, thus carrying the color to create a more dramatic mass of a cliff. Yes, there is variation but the rust tells the story of minerals exposed when the railroad company cut away the mountain. In photo 4, orange is bounced between the engine and the standard tree rose; and the 11 micro-miniature, light-pink roses (*Rosa* sp.



2. Stepping back 12 feet from Bubba's ranch on Don and Marilyn Pickett's Danville, Alamo & Little Creek Railroad, the bigger picture shows the actual frame—a mass of evergreen trees, mostly dwarf Alberta spruce (*Picea glauca* 'Conica', Zone 3-8) and dwarf false cypress (*Chamaecyparis thyoides* 'Little Jamie', Zone 3-8). These tall trees frame the ranch by hiding the neighbor's fence beyond and separating the ranch from other scenes. The bushy tree at right is a flowering "specimen" (*Fuchsia thymifolia*, Zone 8-11).



3. In Ken and Pat Martin's Somerset-Pacific Railroad, massed gray rocks of two types—bouquet-canyon flagstone and natural, volcanic, feather-rock boulders—create a steep retaining wall. Ken is modeling Pardee Point, a famous cutaway on the East Tennessee & Western North Carolina Railroad.

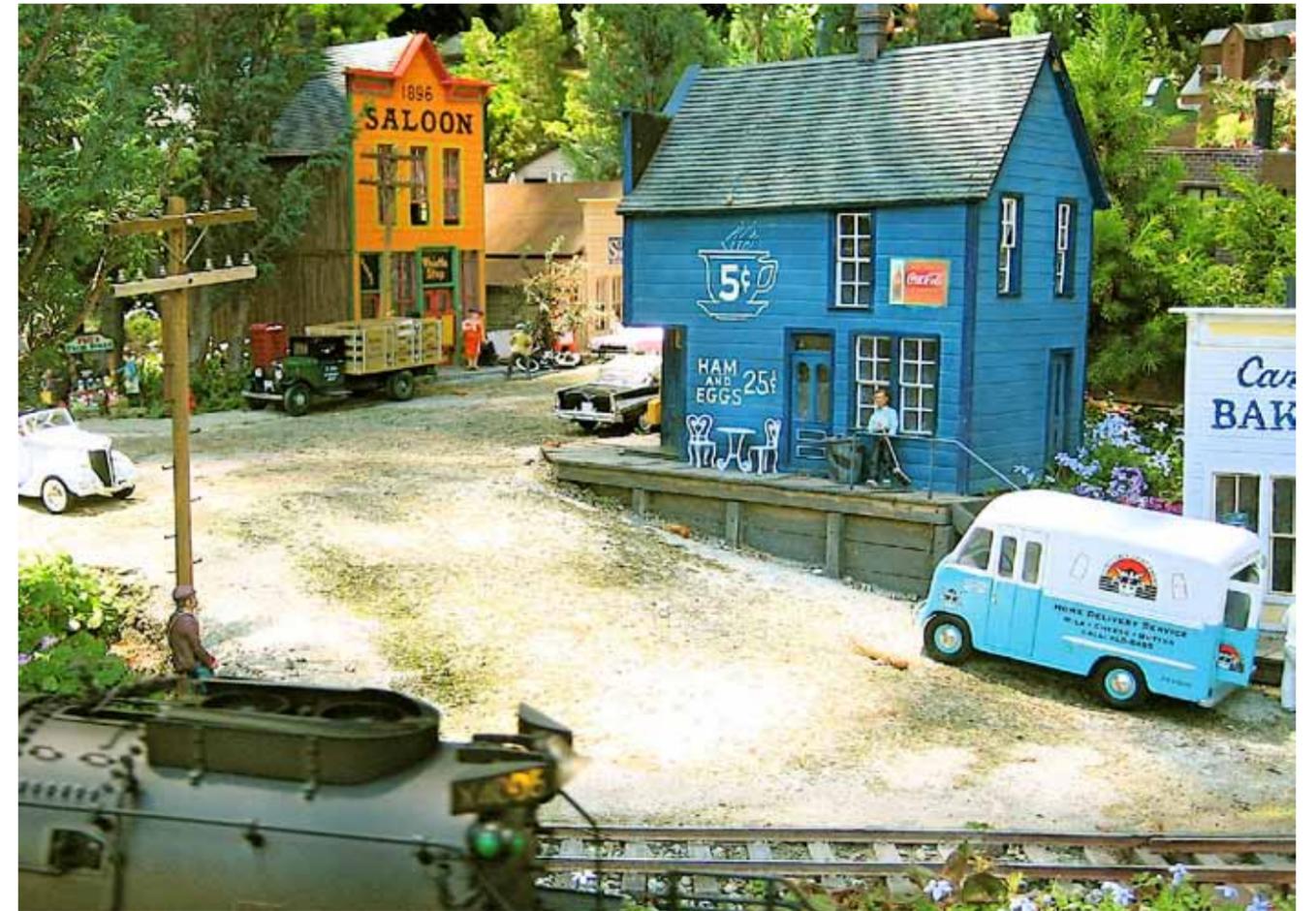


5

Color me content

1. All built from recycled materials, this color-coordinated area of the Golden Gate Express Garden Railway models (left to right) Coit Tower, Ghirardelli Square, California Academy of Science's rooftop garden, the Japanese Tea Garden's pagoda, Golden Gate Bridge, and the glass-walled Conservatory of Flowers.

I recently took a turn manning our club's amazing garden railway at San Francisco's Conservatory of Flowers. Unsuspecting visitors dropped their jaws at first sight of the miniature trees and flowers among the traveling trains. The small-world, indoor version of the conservatory shines in Golden Gate Park's monochromatic (all one hue) red and white garden. Intense red azaleas, poinsettias, and cyclamens are contrasted by the diffuse silver/blue foliage of santolinas, cedars, cyclamens, and lamiums (photo 1).



2. The dominant, saturated, blue and orange buildings attract each other and us. Adjacent similar colors integrate the items, drawing us into the town's story. Note the blue star creeper (*Pratia pedunculata*, 'County Park', Zone 5-10) between the tracks and behind the café. Detail-oriented Rich and Ed Abate use the Coca-Cola sign to repeat the saloon's color, visually tying it all together on their Rooster Creek Railway.



3. A scheme of bright secondary colors, purple verbena (*Verbena 'Tapien Blue Violet'*, Zone 8-11) and the orange flowers of dwarf pomegranate (*Punica granatum 'Nana Emperor'*, Zone 7-11), is somewhat softened by the bushy yellow breath of heaven (*Coleonema pulchellum 'Sunset Gold'*, Zone 9-11) on the left and the chartreuse mountain groundcover, Scotch moss (*Sagina subulata 'Aurea'*, Zone 4-9). Even the neutral wood of the fence, bridge, and similar rock color blend in harmony around Mike and Holly Crane's Crooked Creek.



9

Annuals for color and contrast

1. Parrot's beak lotus pours on the steam all summer producing bright orange-red blooms, contrasted with blue green feathery foliage. Draped over an exquisite travertine-tile portal this annual ensures that we'll notice the details on Richard and Melinda Murray's Green Hills Railroad long after the trains go away.

Annuals sometimes have trouble getting respect among "serious" garden railroaders because of their showy blooms and look-at-me flair. But we can use their showmanship to advantage. Because annuals are plants that live only one year, they are genetically designed to produce seeds for offspring, so we can count on them to bloom all summer, or at least until they do their job of producing seed. Deadhead them and feed them if they stop blooming. Place these attention getters where they will highlight a nice feature as above in photo 1, and they'll do the pointing for us, keeping us slyly humble.



2. Lee and Joan Sampson have allowed the seeds of sweet alyssum to "self sow" all over their garden railway. Even on this rainy day, it's a happy sight.



3. David and Judy Drake's Chickadee Western relies on the help of bright impatiens flowers to keep foot traffic off the railroad tracks.



4. Brian and Shirley Wenn positioned a grouping of moss rose next to a footbridge lit by a landscape light. Notice individual moss rose plants scattered throughout the garden, which integrate the scene.

It's quite obvious at the bottom of photo 2 that not all annuals are too showy or too large. The tiny flowers of sweet alyssum create a groundcover to rival any thyme. Where larger blooms exceed your standards for shrubbery next to buildings and little figures,

place them at your feet. Showstoppers, like impatiens in photo 3, tell us it's time to stop and watch the train go by. Although it's low, this is a psychological barrier and obviously not a foot-path. On a similar mission in photo 4, a clump of moss rose plants in every

color calls attention to the walkway it flanks. Small patches of moss rose carry the colorful theme into the railway where bright boxcars vie for attention.

Annuals come in hard-working foliage plants, too. Alternanthera (photo 5) loves full sun, and coleus (photo 6)