Tree Gardens: Book Review

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Tree Gardens: Architecture and the Forest, Gina Crandell, Princeton Architectural Press, 2013; ISBN 978–1–61689–121–3 (paperback).

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In *Tree Gardens: Architecture and the Forest*, Gina Crandell explores the potential of massed tree plantings, or 'tree gardens' in her parlance, to exert a dynamic presence and to provide human scale and a powerful connection with nature in the urban environment. She defines tree gardens as 'the commingling of architecture – understood here as structures that are the product of human expression – and forest, consisting of close-growing trees that are thinned (naturally or purposefully)' (p 11). This excellent book features 15 case studies of landscape designs inspired by the visual, spatial and ecological qualities of forests from around the world, each representative of the art of landscape design.

Presented chronologically, the book opens with the Wooded Circle of Lucca (1544) and closes with the 9/11 Memorial Forest at the Ground Zero site in New York City, which was planted in 2004 and opened to the public in 2011. All the projects included are located in the northern hemisphere: most (eight) are in continental Europe, five in the United States of America, and one each in England and China. Some are well-known examples from landscape architecture history: Boboli Garden, Versailles, the Central Park Mall. Others from the Modernist canon were widely published in their time, such as Dan Kiley's Gateway Memorial Park in St Louis and Sasaki Associates' Linden Quincunx[1] in the Christian Science Plaza in Boston, but may be less familiar outside the cities in which they are located. Eight of the case studies comprise contemporary work of the past 20 years.

Each project demonstrates how massed tree plantings can be read as architectonic elements in the landscape: their trunks appearing as regularly spaced columns, with branches and foliage creating walls and canopies, all contributing to spatial definition. Such groupings authenticate geographic and historic context, as well as a site's particular relationship with its city. Crandell draws on archival documentation of the projects – etchings, maps, paintings, colour and black-and-white photographs, and detailed plan drawings – to illustrate the design goals and challenges for each project and its setting. She offers critical insights on how designers decide which species to use and how to space them relative to design intentions for the future visual and experiential qualities of the gardens. Dan Kiley is quoted, for example, describing the challenge of spacing decisions at the St Louis Gateway Memorial Park: '… this is very important, whether they're ten feet, twelve feet, fifteen feet, or eighteen feet

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on center. Just like the windows in the Palazzo Farnese. Those things are what make it wonderful or not, the spatial proportion' (p 55).

Trees are, of course, dynamic structuring elements in the streetscapes and green spaces of cities; growing and changing, maturing and ultimately dying. The architectural qualities of an urban forest, or tree garden, are not simply retained as immutable static elements once planted. As these qualities transform, trees' requirements for light, water, air and healthy and uncompacted soil also change, presenting challenges to management. These issues are brought to light in Crandell's detailed discussions, illuminating not only the project's original design rationale and subsequent evolution, but also the approaches to ongoing regimes for upkeep and repair.

In some instances, management of a tree garden must be destructive to achieve the optimum overall effect and improve conditions for human comfort, as well as to potentially extend the longevity of the trees. For example, at the Christian Science Plaza in downtown Boston, we learn that the Littleleaf Linden Quincunx has, as envisioned by Sasaki Associates, 'become a collective structure but the space underneath the canopy was very confined and darkly shaded', thus requiring a process of selective thinning to produce 'a looser outline of each tree that emphasizes the collective mass' (p 70). In this and other examples throughout the book, we are presented with an impressive commitment to true arboriculture – that is, intentional urban tree management as a nuanced and skilled undertaking.

On occasion, nature's destructive forces initiate the restructuring of a tree garden. In 1999, following a major winter storm, Versailles lost 10,000 of the garden's 350,000 trees. This event generated the garden's most recent rebuilding programme and 'scrupulous restoration' of the site. But in this case, is it really being restored to its original condition? As Crandell asks, 'How can one comprehend this work of landscape art as historical when it is composed of a material that must be replaced every century, renews itself every spring (if not every day), and grows to mask the horizon if not checked?' (p 37).

Along with spacing and geometry of tree arrangements, the author extensively discusses the species chosen in the design of each project. The opening page of every case study includes a useful listing of the trees. Species selection is generally guided by local knowledge and experience of trees and plants that perform well in the given soil types and microclimatic conditions and with the level of water available. Desired aesthetic effects, of course, also greatly influence design decision-making: deciduous or evergreen, seasonal colour in blooms and/or foliage, dense canopy to create a deeply shaded ground plane or one that is light and open for more dappled light? At the 9/11 Memorial Forest in New York City, a site of intense emotional drama and memory, swamp white oaks were selected for their pest resistance and hardiness in urban conditions, characteristics that contribute to their relatively long life span. Crandell suggests the symbolic significance of this choice: 'the trees planted here are likely to outlive anyone who remembers the day of 9/11, and possibly their children' (p 151).

Originally from the northern hemisphere, and now living in Australia, I experience a great sense of familiarity with and delight in many of the projects presented in *Tree Gardens*. I am also reminded of another book I frequently consulted during my university studies and later in practice: Henry Arnold's

Trees in Urban Design (1975). Arnold, a former associate of Dan Kiley's, advocated for urban tree planting in geometric arrangements and presented page after page of variations.

Massed tree planting in formal, geometric arrangements has not been a widely deployed design strategy in Australia. One reason it has been avoided may be the irregular and generally unpredictable growth habit and open canopy of the native species, particularly eucalypts, that typify large-scale installations. The decided preference is for an informal, 'natural' planting approach that simulates the spacing and mix of species found in the Australian bush. This trend started in the 1960s with the assertion of a unique Australian landscape design ethos, and a widespread rejection of European, formal and geometric configurations of trees in public domain projects. Consequently, it is rare to find Australian examples of a formal planting design using a single tree species in contemporary projects.

With growing awareness of the need to increase tree canopy cover in urban environments, especially in response to climate change, many cities are implementing urban forest strategies and managing trees in the city as valued assets. The concept of tree gardens offers an attractive means of achieving more 'green cover', along with a range of other environmental services. Although Crandell does not specifically discuss climate change, the urban heat island effect, sustainable design or carbon sequestration, her book should stimulate a broad discussion about landscape architectural design approaches to trees in urban environments. The tree garden concept generates designs of high aesthetic quality that can match the formal, structured character of the city's built environment, while instilling some of the essence and experiential qualities of the forest.

Gina Crandell is a well-known and highly regarded landscape architecture educator and practitioner. She has taught over many years at Harvard Graduate School of Design, Rhode Island School of Design and Iowa State University. She was a Farrand Visiting Professor in Landscape Architecture at the University of California Berkeley, and in the 1990s played a central editorial role at the Spacemaker Press, guiding publication of a series of monographs and the limited editions of *LandForum*.

Tree Gardens is eloquently written and beautifully illustrated, with a balance of history and design theory alongside commentary on landscape construction and management. Crandell's succinct text is illustrated with carefully selected photographs (many of them her own), along with plans and sections of the site designs. As she notes in the introduction, all the projects profiled in the book still exist as places to visit and experience, and all of them 'acknowledge the impossibility of completion and the certainty of change that differentiates landscape architecture from building architecture' (p 11).

NOTE

1 A 'quincunx' is an arrangement of five trees set out in a square or rectangle, with one tree at each of the four corners and one in the middle.

REFERENCE

Arnold, H (1975) *Trees in Urban Design*. New York: Van Nostrand Reinhold Company.