site LINES

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Letter from the Editor

Of all forms of vegetation, it is the tree that has engaged the human imagination the most in terms of cosmic significance and symbolism. The Tree of Life has played an important role in philosophy, religion, and myth. It is an emblematic pillar of many of the world's faiths, including Hinduism, Buddhism, Islam, and Christianity, to name some of the more prominent. Both it and its twin, the Tree of the Knowledge of Good and Evil, encapsulate the Genesis creation story and therefore figure prominently in the iconography of Judeo-Christian art and literature. The Tree of Life also becomes a diagrammatic portrayal of Charles Darwin's phylogenetic discoveries. For historical genealogists the Tree of Life provides a common means of depicting ancestral descent.

As classicist Avi Sharon writes in this issue of *Site/Lines*, in pantheistic Greek culture, certain tree species are associated symbolically with particular gods. His focus here is upon the olive tree, given by Athena to her namesake city, and on the pilgrimage shrine at Dodona, where the prophecies of a famous oracle emanate from a venerable Valonia oak tree.

In pragmatic terms trees are commodities – firewood, timber, construction material, furniture, and other useful products. Moreover, the removal of large swaths of ancient forest was deemed a prerequisite of agriculture as European settlers appropriated wholesale the resources of the American continent. All such transformation of the landscape has inevitably had severe environmental consequences.

In this issue of *Site/Lines* Joe McBride chronicles the stages of deforestation in the northeastern United States and explains how it prompted the rise of conservation. John Elder expands the subject with his essay on the life and observation-based theories of George Perkins Marsh, the nineteenth-century diplomat and author of *Man and Nature*, whose environmental insights were as important as those offered by Rachel Carson a hundred years later.

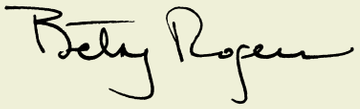
Ken Chaya, who has created a map depicting every individual tree in Central Park, brings to his essay the perspective of an ardent naturalist. His writing offers more than a taxonomic description of various species. Going beyond simple identification by leaf shape and bark texture, he shares his deep knowledge of the lives of trees and their seasonal habits as he takes the reader on an imaginary walk with him in the park. Like Elder, Chaya encourages us to see trees as friends, living beings who reciprocate the care of those who cherish and nurture them.

Tom Slayton, who lives in Vermont, writes about sugaring – the harvesting of the sap of maple trees – as an act of husbandry as much as a commercial operation. Today maples are threatened by climate change. Only if we care for our trees carefully and wisely on the global as well as the local scale will the stands of maple that define New England survive.

Trees are naturally the province of landscape architects such as Laurie Olin. His essay provides a fascinating history of the design of the J. Paul Getty Center in Los Angeles. He makes the point that, while mid-twentieth-century modernists in the field veered toward hardscapes, they nevertheless understood how trees could be used in architectural ways to shape and modulate space for sculptural effects. In particular, he speaks of how Dan Kiley, as the preliminary designer of the landscape at the Getty, created a forest of native live oaks, which Olin characterizes as "a truly brilliant design gesture with historic and environmental logic on his side." Not surprisingly, the Getty project was fraught with institutional politics and competing design intentions. Ultimately Olin himself was commissioned to bring the landscape design to completion in 1997, a process that encouraged him to explore the horticultural requirements and aesthetic possibilities of the West Coast region.

As always, and particularly now when the celebration and protection of place is more important than ever, the Foundation for Landscape Studies needs your support. We will continue to honor your faith in this organization with our ongoing publication of *Site/Lines* in its current paper format; the awarding of grants and book prizes to promote the growth of our field of study; and the highlighting on our website of those who are furthering our mission "to promote an active understanding of the meaning of place in human life." Please join this effort by sending us your contribution today.

With good green wishes,



Elizabeth Barlow Rogers
President

On the Cover:
Cluster of willows on the shoreline of the Lake in Central Park. Acrylic painting, copyright © 2018 Ken Chaya.

Landscapes of Trees: Symbolic Totems, Design Features, and Commercial Commodities

The Oak and the Olive: Oracle and Covenant

Trees may stand quietly, often unremarkable in their landscapes, but they have a defining influence on our understanding of place. In the United States, the redwood and sequoia evoke the northern California coast as much as the tall cereus cactus signals the American southwest or the palm south Florida. They are a kind of shorthand for the place itself.

Then there are particular trees that serve as loci for civic or commercial gatherings. One example is Boston's Liberty Tree, a broad elm (*Ulmus americana*) under which early patriots congregated to protest the Stamp Act in 1765. Others take on the role of an *axis mundi* – a human link to the divine – like the sacred fig, *Ficus religiosa*, under which Siddhartha Gautama became the enlightened Buddha. Ancient Greece, where rough bark gave way to fluted marble, offers fertile ground for a discussion of such natural temples.

In northwest Greece, amid a spring-filled valley, stands Dodona, the oldest of the Greek oracles. The sanctuary, one of the most important in Greece, dates to at least the middle bronze age – roughly four thousand years ago – and functioned well into the third century CE. But long before any buildings graced the spot (including a theater comparable in size and grandeur to that of Epidauros), its defining feature was the source of the oracle itself – a single Valonia oak (oak is "drus" in Greek, cognate with "dryad," and "druid"), sacred to the presiding deity.

Hesiod calls Dodona "the seat of the Pelasgians," the earliest known inhabitants of Greece, indigenous ancestors to the first Hellenes. Aristotle in his *Meteorology* declares it one of Greece's ancient places, the site of the Hellenic flood tale, where Deucalion, the Greek Noah, survived the deluge and restarted the human race. A tribal people called Selloi lived there, priests of the oracular oak. They slept on the ground and never washed their feet, so as to retain a more direct connection to the earth. Folks have been trying to unpack the etymology of the word Pelasgian for thousands of years; I like the notion that it suggests a people near (*pelas*) to the earth (*gaia*).

Indeed, it is thought that Dodona was originally the site of a chthonian cult, overseen by a Great Mother goddess, who through Mycenaean migrations was overtaken in time by father Zeus. At some point this female deity was rechristened Dione, becoming a Titan and the consort of the Olympian sky god. Meanwhile the son of Cronus was himself revered at Dodona as Naios, or the Zeus who "dwells" there. The divine couple appeared side by side on local coinage and were appealed to jointly in questions submitted on tablets of bronze by those importuning the oracle. One of these, according to Homer, was Odysseus: he requested to know whether, on his return to Ithaca, he should appear openly or in disguise.

The divine oak at Dodona in its walled precinct, where dove-priestesses interpret the voice of Zeus.

But the tree is the thing, planted sixteen hundred feet above sea level on the eastern flanks of Mount Tomaros, overlooking the valley. The oak was the oracle's source, but its message had to be translated by the resident priestesses, three in number, known as *peleiades* (doves). Their job, as they perched beneath the tree, was to interpret and render the divine response coded in its rustling leaves and in the circle of vibrating copper cauldrons set on tripods around its perimeter. Together these created a sacred enclosure of reverberating sound emanating from the "many-tongued" oak.

Why the oak? The king of trees was a natural enough link to the king of the gods. Among the longest-lived species, it is tall enough to receive the touch of Zeus's lightning bolt – and strong enough to survive it. Its hard wood, and the heat that could be generated from it, were also key attributes. Only "deeply rooted" oak would suffice for Heracles' funeral pyre on Mount Oeta, in Sophocles' play *The Women of Trachis*. The dying hero required that it burn hotter than the centaur's poison raging in his blood and that it match in its white heat the welcome lightning from his presumed father above.

But there's another tree even more characteristic of Greece – the olive, *Olea europaea*, which the goddess Athena bequeathed to her namesake city, besting Poseidon's spring of salty sea water. According to tradition, the primeval olive was seeded in the cleft made by Athena's spear on the Acropolis. From it grew the primordial tree and first "share" (*moria* in Greek) of the divine gift. Any trees propagated from this archetype (the offshoots were referred to as *memoriamenai*) shared its sacred status; in the sixth century BCE the Athenian legislator Solon made any damage done to them punishable by law.

The olive was emblematic of the city: imprinted on its coinage, used as wreaths on the heads of Panathenaic victors, and exported, in its liquid form, via ceramic *pithoi*, or jars, throughout the Mediterranean and beyond. From the original tree, twelve famous moria were planted in the sanctuary of Akademeia near the Cephissus River, a site sacred to Athena just outside the city walls. This area, in the deme or neighborhood of Colonus, was considered the woodiest of Athens's groves until 86 BCE, when the Roman General Sulla ravaged the Akademeia and leveled the city.

The grove figures prominently in the chorus of *Oedipus at Colonus*, Sophocles' final play. Not far from the Academy pre-

cinct (in the deme where Sophocles himself lived), the blind and outcast Oedipus, led by his daughter Antigone, sits on a stone near a grove sacred to the Furies. The Chorus waves the pair off from "the gods' inviolate bower," and concludes with a paean to the olive grove within:

> *One bloom I know is hers, which hath no peer*
> *In Asian lands nor Pelops' Dorian isle.*
> *A thing self-born, a dread to the hostile spear,*
> *Fearless of force or guile,*
> *Whose root most richly in this soil hath sprung,*
> *The gray-leaved Olive, nurse of all things young;*
> *Which nor the craft of age nor youth's wild will*
> *With ravishing hand shall conquer; orbed on high*
> *Zeus of the Olive guards her still, and still*
> *Flashes Athena's eye.*[1]

Apollo had foretold that Oedipus will die in such a grove and that his resting place will prove a blessing for the kingdom that buries him. At the play's end, Sophocles has Theseus, king of Athens, lead the desolate Oedipus, who has become a kind of oracular priest, to a mysterious burial spot in the wooded precinct, where he will achieve cult status and become patron of Athens.

The story echoes the final play of the Oresteia trilogy of Aeschylus, in which the Furies, chthonic deities of vengeance, pursue Orestes for the murder of his mother. But Athena defends (and exonerates) the matricide in the first-ever courtroom drama, and the Furies transform into Eumenides, the city's gracious benefactors. They go on to dwell under the Areopagus hill in Athens.

The archetypal olive, planted in the rocky Acropolis, near Poseidon's Erectheion.

Outside of these tragic high points, shrubs and trees did not really catch the eye of most ancient Greek poets until Theophrastus, who later gave birth to the whole science of horticulture. Could the poets have agreed with Socrates, in Plato's *Phaedrus*? In that dialogue Socrates is lured away from his beloved city and into the countryside around Athens. Sitting on a soft patch of grass in the shade of a plane tree (*platanos*, a play on Plato's own name), the dogged conversationalist complains that trees "will not teach us anything."

Homer is the exception, demonstrated by the many similes in the *Iliad* in which the human and natural worlds beautifully and often ironically collide. Then, in the *Odyssey*, root and branch move from simile into foreground. Returning to Ithaca after twenty years away, Odysseus announces himself to his father, Laertes, in book 24, but he is only recognized as the man's true son after identifying by name the plants in the old man's orchard: "I will tell you all the trees that grow . . . you named them all and promised them to me." In the previous book, Odysseus can only persuade his skeptical wife, Penelope, of his authenticity by identifying the olive tree, "sturdy as a pillar," around which he built their bedroom and whose trunk he used as its bedpost. Odysseus' home is literally defined by its trees, and only intimate knowledge of them enables and confirms the long-awaited return or *nostos* of the hero.

With the Greeks one has the sense that, even if the physical landscape is not often made the focus of written description, their natural surroundings were keenly felt, alive with meaning and potential divinity. For them ivy and grape quietly trembled with the numen of Dionysus; wheat and barley contained the generative beneficence of Demeter. The story of Dodona's oak and Athena's olive are just two examples of what these trees could teach.
– Avi Sharon

[1] Sophocles *Oedipus at Colonus* 685–711 (trans. Gilbert Murray).

George Perkins Marsh's Family Trees

Old trees are our parents, and our parents' parents, perchance.
– Henry David Thoreau, *Journal*, July 23, 1855

Appointed by Abraham Lincoln as Minister Plenipotentiary to the Unified Kingdom of Italy in 1861, George Perkins Marsh ended up holding that position until his death in 1882, at the age of 81. His decision to serve in such a capacity for almost twenty years – longer than any American ambassador before or since – reflected Marsh's preference not to return to the United States during the corrupt Gilded Age. But it also testified to the many warm connections he had formed with leading politicians, scientists, and conservationists after arriving in Italy during the heady movement of national renewal known as the Risorgimento.

In his final summer, as we learn in David Lowenthal's indispensable biography, Marsh and his family decamped to the wooded heights of Vallombrosa outside of Florence. In part the motivation for this seasonal move was to escape the heat, but Marsh was also eager to visit the national forestry school and to see his old friend Adolfo Di Bérenger. Through his long associations and collaborations with such reformers, Marsh had exercised a decisive influence on the conservation of forests and parks not only in Italy but across Europe, just as he had in the United States through both his published writing and his voluminous correspondence with politicians and scientists.

Given these strong bonds with his adoptive country, it is intriguing to note that Marsh's long-anticipated excursion into the Tuscan mountains immediately recalled to his mind the trees of his New England childhood. When his party first arrived in Vallombrosa, the surrounding, heavily forested slopes of pines, spruce, and firs struck him as "very like Vermont." Admittedly, these conifers belonged to different species – as well as being far grander in girth and height than their second-growth cousins around Marsh's boyhood home. Still, the family resemblance in the firs' flattened needles, with those softly rounded tips and the characteristic white lines on their undersides, was unmistakable. As an early and enthusiastic advocate of Darwin's theory of natural selection, Marsh understood the logic of such geographical variation, determined by the mandates of climate, soil, water, and competition, within an underlying continuity.

Marsh couldn't help noticing as well, however, that among the magnificent Italian conifers, chestnuts, and beeches,

there were few of the native hardwoods he remembered from that earlier landscape. In a letter of July 20 to Charles Sprague Sargent, Harvard's forester, he wrote of being "disappointed at not seeing a single *compatriot* among the forest growths." He followed up by asking Sargent to send seeds of "the *sugar-maple*, the American *ash & elm*, the *butternut*, the *black walnut* . . . and the *black birch*."

Hon. George Perkins Marsh of Vermont. Collection, the Library of Congress.

Sargent apparently fulfilled his commission, to judge by a tree growing today in the Vallombrosa arboretum that is catalogued as "*Acer saccharum* Marsh." My wife Rita and I, who operate a sugaring operation in Vermont with the families of our sons, sought it out when we visited the forestry school almost 130 years after Marsh's letter was sent. Certainly not as large as one would expect of a specimen of that age, and leaning quite noticeably to one side in quest of sufficient daylight amid the massive firs towering around it, the sugar maple was nonetheless a reminder of Vermont. Its leaves, as large as hands and with U-shaped notches between their lobes recalling the divisions between fingers, waved at us in a familiar way. Marsh's letter made it plain that he, too, would have welcomed such a greeting from home.

Marsh's longing to see the native hardwoods of Vermont, whose names he had learned while riding through the Green Mountains in his father's carriage over seventy-five years earlier, complements the passion with which he fought against the evils of deforestation, both in the United States and abroad. As a boy he had observed the erosion and siltation that accompanied heedless cutting around his family's home in Woodstock. As an American diplomat, first in Turkey and then in Italy, he had explored many sites where deforestation had continued for centuries, eventually clogging harbors, destroying the soil's fertility, altering the climate, and ultimately bringing down mighty empires.

In his masterpiece, *Man and Nature* (1864), Marsh focused relentlessly on deforestation as perhaps the most serious of ecological disasters. Because of such wastefulness and selfishness, "the earth [was] fast becoming an unfit home for its noblest inhabitant," he warned. "Another era of equal human crime and human improvidence, and of like duration . . . would reduce it to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the depravation, barbarism, and perhaps even extinction of the species."

Lewis Mumford famously described *Man and Nature* as "the fountainhead of the conservation movement," while more recently William Cronon has classed it with Carson's *Silent Spring* and Leopold's *A Sand County Almanac* as one of the three works most responsible for America's environmental movement. Thundering condemnations like the one quoted just above constituted, in the words of Wallace Stegner, "the rudest kick in the face" ever received by those who rapaciously and heedlessly exploited America's natural resources.

Marsh's assertion that human actions could shatter nature's balance, and even endanger the continued existence of humanity, was at once shocking to his readers and hard to contradict, given the comprehensive documentation he provided throughout the book. His attack on the evils of deforestation inspired conservationists to launch ambitious projects to protect entire landscapes in the Adirondacks and the mountainous West. The establishment of federally protected wilderness areas in 1964 and 1975 were among the most important outgrowths of these initiatives.

In addition to amplifying the dangers of loss and destruction, Marsh emphasized a corrective vision: the possibility of social and ethical reform that would lead us away from such catastrophic behavior. In another powerful passage from *Man and Nature*, he wrote of the need for humanity to "become a co-worker with nature in the reconstruction of the damaged fabric which the negligence or the wantonness of former lodgers has rendered untenantable." This would require "reclothing the mountain slopes with forests and vegetable mould, thereby restoring the fountains which she provided to water them . . . , checking the devastating fury of torrents, and bringing back the surface drainage to its primitive narrow channels."

The dilemma for Marsh, as for conservationists today, lies in the question of how individuals and societies may be *motivated* to engage in such vast, multigenerational projects of restoration and stewardship. What will convince people to sacrifice their immediate wealth and ease for the sake of long-term ecological balance or intergenerational justice? Near the end of his central chapter "The Woods," he concedes, "The growth of arboreal vegetation is so slow that, though he who buries an acorn may hope to see it shoot up to a miniature resemblance of the majestic tree which shall shade his remote descendants, yet the longest life hardly embraces the seed-time and the harvest of a forest." That is why those who plant trees must be motivated by something other than "direct pecuniary gain." Marsh continues, "But when we consider the immense collateral advantages" derived from the presence of such woods and "the terrible evils" necessarily resulting from their destruction, both preserving what we have and replenishing what we have lost "are among the most obvious of the duties which this age owes to those that are to come after."

Although this ethical argument is a powerful and necessary one, it is finally not sufficient. Much more compelling, I believe, than "our duties" to ages that "are to come after" would be for us to cultivate a loving regard for individual trees, learning to think of them as if they were members of our own families. Inverting the proverb about not seeing the forest for the trees, I would propose that only through a love for trees that includes personal feelings of delight and commitment can the future of the forest as a whole become a motivating concern. Thoreau's speculation in his journal that "old trees are our parents" led Richard Higgins, in his book *Thoreau and the Language of Trees*, to reflect that "being related to trees carried obligations."

Such a sense of familial identification with trees accords with recent efforts to reframe the environmental perspective in terms of "a sense of place." This language, growing out of the writing of Kirkpatrick Sale and the bioregional movement, emphasizes the continuities between human

communities and the wildlife, ecological networks, economy, and culture in a given region. It tries in this way to escape the dichotomy between wilderness and culture that has sometimes dogged discussions of conservation. But the language of environmentalism can sag from overuse.

A less abstract way of thinking about the deep connectedness between forests and human communities in a given landscape might be conveyed by the term "affiliation." It comes from the Latin verb *affiliare* (from ad or "to" and *filius* or *filia* – "son" or "daughter"), meaning "to adopt." Affiliation thus both speaks to the sense of connection with one's beloved home terrain and relates it to a deeply familial experience of commitment.

In addition to the sugar maple planted in the Tuscan arboretum, there is another, much older, tree growing near the forestry school that dramatically illuminates how a sense of personal affiliation with individual trees may inspire a sense of ethical obligation. The monastery at Vallombrosa was founded in the early eleventh century by Giovanni Gualberto, a Benedictine monk who had fled the wrath of a corrupt Florentine bishop whom he'd criticized a bit too boldly. Some years later, after the surrounding forests were presented as a gift to the monastery, he coordinated sustainable-forestry efforts with the furniture-making and other value-adding ventures of woodworkers in nearby villages. Today, San Giovanni Gualberto is regarded in Italy as the patron saint of forests.

How did this affiliation originate? When the monk first arrived in these mountains, with no protectors, food, or shelter, he had been shielded from the elements by a beech tree that interlaced its branches over his head like a roof. Today a chapel celebrates San Giovanni's miraculous salvation by this tree. The monks at Vallombrosa consider the massive beech beside the chapel to be the latest in a lineage of three trees descending from the original Faggio Santo – a name that could be construed as "Holy Beech" but was translated in a little English-language brochure we were handed simply as "Saint Beech." Leonardo, the uniformed forester who walked us over to visit it, remarked, "It's the same every year. This beech gets its new leaves before any other trees in the forest."

Saint Beech reminded Rita and me of an event we heard about once when attending a conference in Chiang Mai, Thailand. An ancient and enormously valuable teak grove in that region was about to be cut down for its wood. But local Buddhist monks went out the night before and tied orange monastic robes around a number of the trees facing the road. When the loggers arrived to find these tree-monks standing at the edge of the woods, they shut down their chainsaws and drove away. Saint Beech also recalls one of the traditional Abenaki stories told by Joseph Bruchac in his collection *The Faithful Hunter*. When the Creator Gluskabe shot an arrow into certain ash trees, like the ones standing so tall and straight in our own family's sugarbush, they stepped forward to become the ancestors of the Abenaki people. These narratives reinforce Thoreau's instinct that "old trees are our parents," and Marsh's sense of ashes and sugar maples as his compatriots.

There is an important distinction here, though. Bruchac's story addresses trees indigenous to the Abenakis' home ground, and Thoreau's journal entry focuses on a first-growth grove of white oaks in Boxborough, near Concord – the town where he was born and spent most of his life. Marsh, by contrast, spent most of his final two decades far from his native mountains and their people and trees. The desire to plant trees from his Vermont boyhood in his adopted Tuscany expressed an impulse to graft together the two landscapes of his life. Such a forest would embody both Marsh's scientific and historical perspectives on conservation and the personal and emotional experiences that underpinned it.

There's another image that may speak to such arboreal modification even better than grafting, though. Foresters speak of "adventitious" trunks, in cases where a tree has mostly or entirely collapsed and a branch on its upper side assumes the function of the original trunk – rising, thickening, putting out branches, and eventually forming its own version of a canopy. "Adventitious," the literal meaning of which is "coming to," implies adaptability to accidents and chance. It indicates that something is a new arrival as well, rather than a native or a product of careful design. Marsh's comprehensive and timely vision of our environmental calamity was adventitious in three senses. It arose from his direct experience of deforestation and ecological collapse in Vermont at the start of the nineteenth century; it flourished from the evidence of such long-continued destruction in impoverished landscapes around the Mediterranean; and it expressed itself in the new directions his life took in its final Tuscan chapter.

One personal form of adventitiousness was the prominence during the later years of Marsh's life of young relatives in his home. Numerous nieces and nephews came for extended visits, and there were two individuals who became in effect adopted children for Marsh and his second wife, Caroline. He and his first wife had two sons, but one died in early childhood and the other was raised by Marsh's mother after the death of his wife left him prostrate from grief. Marsh and his surviving son never reestablished a strong connection, but toward the end of his life both his orphaned niece, Carrie, and Carlo Rände, a Swedish orphan who came into the family in Italy, were essential to the Marsh household, bringing the elderly Marshes much excitement and pleasure. They were human expressions of the ecological impulse of affiliation and commitment.

Three days after Marsh wrote to Sargent from Vallombrosa requesting his seeds, he abruptly died. David Lowenthal evokes the reverence that many Italians had come to feel for this American diplomat who had also, in a profound sense, become one of their own. On July 23, 1882, the doctor who had been called to the inn where the Marshes had been staying in order to officially certify the death declared memorably, "Ecco la morte del giusto." ("Behold the death of the just man.")

The biography goes on to relate the ways in which Marsh's achievements were commemorated by his grateful Italian colleagues: "Before dawn two days later, Marsh's body was taken from the great hall of the old convent, wrapped in an American flag, put on a catafalque with wreaths of yellow immortelle, and carried down the mountain by forestry students. They thus honored the scholar whose work had awakened so many to the significance of their calling. Winding down through the dark woods, the cortege was met at sunrise by town officials at Pontassieve, and at the railway station in Rome by the Italian cabinet and the diplomatic corps."

As Marsh's coffin was borne down from Vallombrosa on the shoulders of Italian foresters, it passed under majestic firs overhanging the road and wound past the arboretum of the national forestry school where a sugar maple would soon take root. The procession mapped the grand continuities of evolution, ecology, and forest succession that were fundamental to Marsh's compelling narrative of conservation. It passed among the trees that made him who he was, from first to last, and that gave him the language and motivation to call for wide reforms in our human relationships with the world's forests. Trees that were his parents, his compatriots, and his inheritors. – John Elder

Trees and the Getty

What the trees try

To tell us we are:
That their merely being there
Means something.
– John Ashbery, "Some Trees" [1]

Landscape is a word used to describe the combination of things that make up the human environment. It includes topography and buildings, vegetation and infrastructure, rivers and roads – not to mention all the objects and furnishings that go along with them. Landscape architects shape and give character to the landscape, endeavoring to bring not only order and beauty but also utility, safety, and health to what are often complex combinations of these elements: a garden next to a parking lot, say, or a museum above a highway. And one of the most powerful means they have of transforming and giving character to landscape is by planting, shaping, and removing trees.

Humans, having evolved surrounded by nature, are highly responsive to trees and their particular properties, which are often seen as having moderating influences on urban environments. Trees have form, color, texture, and movement. When full grown, many reach four or five stories in height. They can provide shade and protection from wind as well as habitat for birds, beneficial insects, and small mammals. And they are excellent for shaping the nature of spaces.

Sometimes landscape architects find themselves exerting a moderating influence also – functioning, as trees do, as intermediaries between contending forces (in this case, architects, engineers, builders, and clients), often in the midst of competing political and economic pressures. The story of the J. Paul Getty Center's vexed beginnings, which unfolded in the Brentwood section of Los Angeles more than twenty years ago, includes a succession of such interventions – by both landscape architects and trees.

J. Paul Getty's first museum in Malibu had been created in 1954 to accommodate his substantial collection of ancient classical art. Its architecture was based upon the design of a villa in Pompeii, with a garden derived from archaeological knowledge of first-century precedents. The museum garden and its surrounding landscape – a buffer of trees, most of which were native to the region or from countries around the Mediterranean – had been designed by Emmett Wemple, a highly regarded Los Angeles landscape architect. After Getty's death in 1976, however, the J. Paul Getty Foundation's board of trustees decided to consolidate the organization's disparate enterprises in one location: an integrated campus on a mountainous, 700-acre site above a freeway on the west side of Los Angeles.

When architect Richard Meier won the commission in 1984, he turned to Dan Kiley, who by then was one of the most respected landscape architects in the nation, to assist with the site design. The selection was no surprise; Kiley had been the go-to landscape architect for a number of modernist architects for decades, including Eero Saarinen, Gordon Bunshaft, Nat Owings, and Ed Barnes, as well as, more recently, Meier himself.

The board of trustees wanted to ensure that everyone directly involved shared its vision of the new center. Therefore, to kick off the project, Meier, members of the Getty's team, and several of the Getty's administrators journeyed to the Mediterranean to visit historic precedents of the highest aesthetic level, ranging from Italian hill towns and villas to ancient sites in Greece and Jerusalem. Upon their return, Meier began developing plans for the immense task at hand. The new Getty was to include a museum with permanent and temporary galleries; conservation facilities; a library and archives; a study center for visiting scholars; foundation headquarters; offices for grant and program administration; an auditorium and theater suitable for conferences, lectures, and performance; shipping, receiving, and storage facilities; and a café and restaurant. At the same time, Kiley began to develop a strategy for the overall site.

The Getty and its lawyers, attempting to placate privileged and cantankerous neighbors who opposed the project, had already agreed to restrict architectural development to 100 acres of the property on a single hilltop. This both reinforced the acropolis or citadel nature of the building scheme and placed considerable restraints on the landscape design, since it guaranteed a vast peripheral buffer of steeply sloping hillsides and canyons. Kiley was already well known for his bold schemes deploying trees. On a number of occasions he had expressed a deep interest in the work of André Le Nôtre, especially his use of geometry and his fondness for trees in plantations, bosques, and allées. Still, everyone was surprised when he proposed to establish a grid of trees planted at fifteen-foot intervals over the entire terrain – a geometric forest over an arid and wildly uneven landscape. The tree he selected was the California coast live oak, *Quercus agrifolia*.

Meier embraced the scheme, which entailed the purchase and planting of what eventually amounted to ten thousand trees. After a period of delays, construction began in 1989. The slopes had to be benched to provide a series of narrow terraces where the trees would be planted and irrigated, to prevent erosion of the steep terrain. Because Kiley lived in Vermont and had a small office, he and Richard Meier decided to engage Emmett Wemple's office to document and supervise the operation.

Several dozen old and large handsome live oaks – remnants of an ancient forest that had once covered the Santa Monica Mountains – were already scattered throughout the 110-acre site selected for the complex. In clearing the scrub and chaparral for

The terrace planting of California live oaks on the east flank of the J. Paul Getty Center above the 405 Freeway. Photograph by Robert Bedell, OLIN.

[1] *Some Trees* (1956). I heard Ashbery read the title poem from his first book at the YMHA in New York in 1966. Several friends and I had gone to hear him because of our interest in his recent book, *The Tennis Court Oath* (1962), which contained the most radically modern, difficult, and abstract verse he would ever write.

construction, these oaks were carefully dug up and removed to a holding area north of the construction site, where they were recorded and numbered. Several years later they were replanted in the final scheme, often in distinctive locations within the larger, hillside oak plantation. Additionally, a number of Lebanon and deodar cedars – majestic trees associated with historic landscapes in both the Mediterranean and Southern California – were distributed in clumps and drifts in several spots within the oak matrix; these evergreens provided a harmonious vertical counterpoint to the somewhat uniform height of the live oaks. By 1999 what had been an unstable mountainside of highly flammable chaparral had been transformed. In part due to topographic variance and the exigencies of terracing the natural terrain, there are numerous gaps in Kiley's tree grid, and a few oaks have died. Still, the general effect is of a continuous blanket of trees covering the mountain with the buildings floating above.

In a number of ways Kiley's forest of live oaks was a truly brilliant design gesture with both historic and environmental logic on its side. Perhaps unbeknownst to recent denizens of Hollywood and Beverly Hills, this venerable indigenous tree had provided food for wildlife and the native inhabitants of the area for millennia, and had remained an icon of the place. Once found in vast forests all the way from southern to northern California, the coast live oak had largely been replaced by towns and cultivated land since the arrival of early Spanish expeditions.

Donald Culross Peattie, writing in his unsurpassed *Natural History of North American Trees*, notes that Padre Junipero Serra's first missions were associated with this tree. In fact, he planted a cross beneath one after anchoring in 1770 in Monterey Bay, and that oak became a venerated tree for the next century. It was also one of the first two plants collected and identified by the Malaspina scientific expedition of the Spanish government in 1791. Unlike the highly explosive and flammable coastal sage scrub and chaparral plant communities or the windbreaks of eucalyptus that replaced them, these oaks, once established in a solid stand, are difficult to set ablaze. Kiley's oak scheme was a brilliant strategy for protecting the Getty from the recurrent wildfires that plague the region today.

All of this was irrelevant, however, to some important members of the Getty Foundation, who were dumbfounded by the whole idea and considered Kiley something of a lunatic. His feisty personality, the enormous expense of the plan, and the fact that it was contrary to both conventional ideas of naturalism and any tradition in California estate gardening led to conflict. Within a year of the commencement of construction, Harold Williams, the president of the Getty Foundation, fired Kiley against Meier's wishes, but the contract for the planting of the forest of oaks was under way. Subsequent landscape architects defended the scheme, and it survived Kiley's dismissal.

Following Kiley's departure Emmett Wemple was asked to take over the landscape and work with Meier on design of the gardens. Besides being the landscape designer of the gardens and grounds of the original Getty Museum in Malibu, Wemple was a beloved figure in the profession of landscape architecture who had taught several generations of students at USC.

For the new Getty, this highly esteemed Southern California landscape architect produced a report that proposed a palette of plants and formal strategies derived from the traditions of the Mediterranean – especially Spain, Italy, and the Middle East – and that incorporated a rich mix of colorful vines and shrubs, citrus, and evergreens, as well as a variety of water features, to animate the evolving series of courts and outdoor spaces of the campus. It was responsive to the client and the place.

Unfortunately, the strong personalities of a number of the architects and project managers, combined with the continuously evolving set of buildings, budgets, clients, and demands, were not a good match for Wemple's personality or method of working. His office would draw something, and the architects would change or delete it, so that little headway in designing the outdoor spaces was being made. Repeatedly left out of meetings or pushed aside, he became frustrated, while the senior leadership of the Getty Foundation became increasingly disturbed by the lack of a strong landscape presence.

As the years went by and the Getty's board and management team were besieged by criticism for letting Meier design all the structures, the need for a suitable foil to the architecture became increasingly pressing. Having fired Kiley and concluded that the most prominent local landscape architect was not equal to the task, the Getty approached a number of other California artists who had recently created large outdoor works of art; site-specific land art was, at that moment, a worldwide phenomenon. But this gambit proved equally problematic. James Turrell and Dan Flavin proposed sunken rooms with light effects, another asked to work inside of a building rather than outdoors, and another, Robert Irwin, seized the largest open space on the site – a sloping area between two groups of buildings – and almost immediately got into a dramatic, multiyear, public fight with Meier over the design of what is now a totally anomalous garden within the context of the rest of the ground plan. As for solving the problems of the many other spaces and integrating the whole, the Getty's director and trustees were pretty much back where they had been when Kiley departed.

At this point, with the project eight years behind schedule, Richard Meier asked me to come to Los Angeles to meet with the vice president of the Getty Foundation and consider taking over the landscape design.

On the one hand, I had serious trepidations about entering the scene, given the situation. A lot of controversy surrounded the project already. Meier was under siege and so was the board. Kiley had been fired, Wemple treated poorly. And the artist Robert Irwin had been given a prime portion of the site. My partners and I were also reluctant to open an office in California, and clearly this job would require a local base.

On the other hand, I knew and admired Richard Meier and his work, and on examining the project site and model, I decided that most of the criticism and backbiting was a result of envy or ignorance. The Getty Center was in fact a good project and had a chance to turn into something quite special. At the same time, the architect and client really needed help. I'd taken on worthy yet controversial projects in New York and London and brought them to a successful resolution – why not the Getty? Plus, we'd worked in Los Angeles previously and enjoyed it. I decided to take the job; we prepared a proposal that included a local landscape architect, Allan Fong and Associates, and the Getty accepted it.

Gardeners and horticulturalists occasionally remark that landscape architects don't know much about plants. Conversely, landscape architects have been heard to say that gardeners and horticulturalists by and large don't know much about design. Like many clichés, there is something behind both remarks. For the first half of the last century, most landscape architects learned horticulture in undergraduate curricula in colleges that had originated as agricultural schools, and they tended to know their plants well: a number of leading twentieth-century designers, such as Kiley, Lawrence Halprin, Hideo Sasaki, and Garrett Eckbo were in this group. After the Korean War, however, many leading landscape programs migrated to graduate schools with archi-

tecture and planning programs. This resulted in a shift to curricula that downplayed plants, biology, and horticulture, while emphasizing spatial composition, social use, construction, and materials.

Still, even the landscape architects in my generation knew something about trees, simply because trees could be used in architectural ways to shape and modulate space. In the case of the Getty, it was clear from the start that while our design for the center and its gardens would include a diverse palette of colorful shrubs, vines, and herbaceous and perennial plants, trees would be the essential and central element – both to provide relief from the ubiquitous, marble-clad architecture and to act as a foil for it.

Although I had been steeped in modernist art rather than in horticulture while at university and had only drifted into my present field after exploring both civil engineering and architecture, I was confident about my own understanding of trees. I had grown up in the wilderness of Alaska, and the first watercolor I ever made, at age twelve, was of a landscape with trees. Later, in high school, I painted a luminous birch standing in the snow of our front yard. Like early paintings of trees by Mondrian or those used in films by Ingmar Bergman, this tree filled the entire page as well as my mind. And when I began to contemplate dropping out of civil engineering, I found myself painting nearby spruce trees in the winter ice fog. Although I never studied the botany of trees, I always paid attention to them. The associations that particular species conjure up can be quite powerful; the delicate birches and skinny black spruces that manage to survive in Alaska, for example, have a special meaning for me, even though they are rarely of any use in my work. My journey from such beginnings in the far north through the rest of America and its cities and into Europe and Asia has been filled with an extraordinary diversity of trees.

My education in California's trees, however, had been much more recent. Since 1986 some members of my office and I had been working in Los Angeles and learning our way around downtown and the west side of the city. During a project in Hancock Park on one of the earlier versions of the Los Angeles County Museum of Art, I had asked the landscape architect Joe Linesch to assist us with plant procurement and contractors, and he had introduced us to the extraordinary horticulturalist and landscape designer Bill Morgan Evans. Evans's family had owned the historic Evans and Reeves Nursery on Wilshire Boulevard, which had imported plants from all over the world prior to World War II, and Morgan and his brother had planted the now-famous South African coral trees, *Erythrina caffra*, on San Vincente Boulevard with cuttings from their nursery during the war. Later Evans had been hired by Walt Disney – first to help with Disney's own garden and its miniature train, and then with the planting of Disneyland.

While we were working on Hancock Park, Evans took me and two of my partners – Dennis McGlade and Bob Bedell – under his wing. A large, rangy man in cowboy boots and a big Cadillac, he began driving us around the city, teaching us about its trees. Evans had supplied horticultural specimens to landscape architects, agencies, and institutions throughout Los Angeles, in both posh and marginal neighborhoods, and he showed us particular specimens and handsome stands of all sorts of trees, from those in private gardens to others on the UCLA campus in Westwood – parts of which Wemple, along with Hazlitt, Bridgers, and Troller, an early-modern landscape firm in the city, had made into a kind of arboretum. As we went, Evans explained, drilled, and quizzed us. This education, combined with the fact that Dennis had been working with me in Los Angeles for a number of years and had a strong horticultural background, contributed to my belief that we could collaborate with architect Richard Meier. When I returned to Philadelphia after agreeing to do the project, my partners, staff, and I dove right in.

Designers often talk about their projects as if they are pure products of invention, but so much is fueled by powerful memories of one sort or another. Design is often analogous to recombinant DNA, assembling bits and pieces of various elements and experiences. I had spent years in the Mediterranean, storing up memories of plants, materials, light, particular situations and elements – especially of trees and architecture, gardens, historic sites, and agricultural landscapes. I had spent days and weeks drawing outdoors in Italy, Greece, Spain, and southern France – often sketching many of the very sites that the Getty trustees and Meier were intent upon recalling and emulating. I had also considered the particular plants essential to life in ancient times that recur throughout the classical environment, such as olives, figs, pines, cedars, cypress, oaks, laurel, pomegranates, sycamores, and plane trees. In addition to being mesmerized by the remarkable spatial attributes of these ancient sites, I had scrutinized the elements that shape one's sense of movement through them: paths and stones, basins, water, hills, even the sky. As it happened, I had also first met Meier in Italy, when we were both at the American Academy in Rome. As we began work together on the Getty, a flood of useful memories inevitably came to mind.

The project seemed somewhat chaotic at the point my firm came on board. Some areas of the site had rough grading and foundations in construction; some were in the final stages of design; some had barely been designed at all. The challenge, which felt very daunting, was to develop a landscape scheme that might integrate the site into a unified plan. We studied Meier's models and drawings, noting the numerous levels, shapes, and the orientation of the spaces; many of these, adjacent to the museum, research library, and other facilities, were intended to be outdoor rooms for staff and visitors. It would have been better to be involved earlier; nevertheless, we developed a number of ideas for how to move forward. Agreeing with Wemple's preference for Mediterranean precedents when considering the planting palette and potential uses of water, we developed a plan to provide a simple series of formal responses to the architecture.

In addition to the familiar question of how to help an imposing ensemble of architecture seem at home rather than alien and imposed on the site, there were basically two choices possible for each space: attempting harmony or generating contrast. I was particularly interested in whether we could play with the concept of a gradient in the design from wilder to more cultivated and sophisticated planting. Borrowing Cicero's notion of "second nature" (*altera natura*), which referred to agriculture and its infrastructure as opposed to "wild" nature, and incorporating the notion of pleasure gardens as a "third nature" (as was understood and expressed by Jacopo Bonfadio and others in sixteenth-century Italy), we proceeded with our design.

After several weeks of drawing, we headed back to Los Angeles with such an extensive set of plans, cross sections, and perspective sketches that they completely covered the walls of Meier's conference room. Due to the complexity of the scheme, I was concerned about how best to illuminate our proposal's underlying concept and principles for Meier and the Getty Foundation's project leadership. On the plane out to California, I had asked a flight attendant for a glass of water in order to make a monochromatic wash drawing in a sketchbook of two cross sections, one above the other. The upper drawing was of the Villa Gamberaia in the hills outside Florence, Italy, and was based upon a rendered cross section

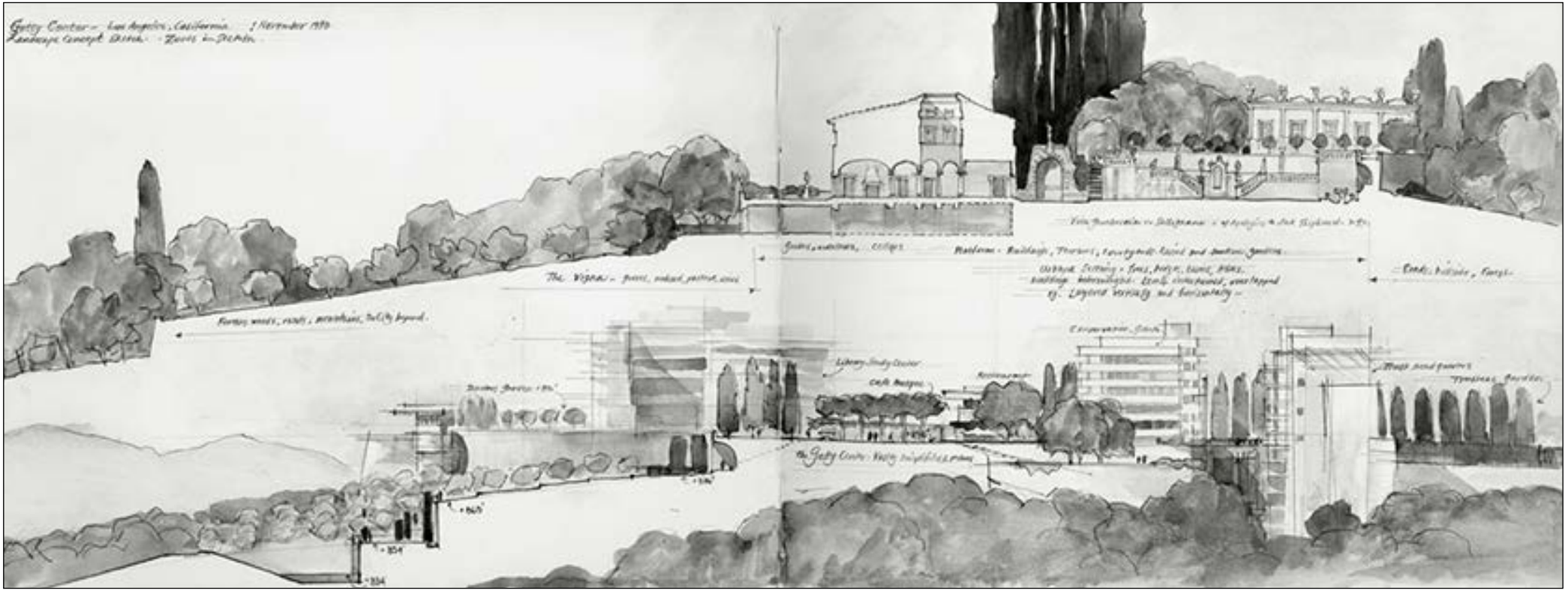
in Shepherd and Jellico's *Italian Gardens of the Renaissance*, a facsimile of which I had brought along. The lower sketch presented a summary from memory of our proposal for the Getty Center, depicting it as analogous to such a villa – in particular, with regards to the scale and the devices of planting above, between, and below the structure. Implied in both sketches was a gradient of increasing artifice – from nature to culture as one approached the buildings themselves. At the initial presentation the following day, being able to pass the sketchbook around to those in attendance proved enormously helpful.

I proposed that the first task was to complete the work begun by Kiley and Wemple, the terracing and planting of the hills, which was to continue for several years. Another fundamental idea was to have the color of foliage and blossoms move from cooler in the lower and northern portions of the site to warmer and hotter on the upper, southern, and western portions. The next idea was to create two ribbons of trees, one from the north and one from the south, to tie the building complex to the greater site. One of the ribbons would be a row of umbrella pines (*Pinus pinea*), extending all the way up the access drive on the north, parallel to the train that brings people from the entry and parking garage near the highway to an arrival plaza at the top of the hill.

This skyline tree, which has been employed to line lanes and roads throughout Italy for centuries, needs pruning periodically to encourage upward growth. In the Mediterranean it has in this way served as a renewable source of wood for thousands of years while simultaneously producing stately trees evocative of classical porticos and temples. Thus began the practice at the Getty Center of patiently removing a whorl of branches from each tree on this entire plantation every few years. This row of trees concludes with a bouquet of four enormous umbrella pines in the arrival plaza – the dot at the end of an exclamation point. (Unbeknownst to visitors, these trees, which were found and purchased from the Irvine Ranch south of Los Angeles, are planted in a giant planter that sits above a loading dock and service entry to storerooms below.)

An equal and opposite gesture occurs to the southwest, where I had decided early on to bring a row of native California sycamores, *Platanus racemosa*, up the valley of the central garden, accompanying a watercourse. These trees are among the most characteristic of native California trees and are normally associated with the rivers, creeks, and arroyos of the region's coastal hills. In the midst of a deepening conflict between Meier and Irwin over this garden, I made a trip to San Diego to try to bring the two sides together. Irwin had engaged another landscape architectural firm, Spurlock Poirier, to assist him. Fortunately Marty Poirier had been a student at Harvard when I was the chairman of the department there, and we had a mutual regard for each other. Our shared idea of sycamores and a stream survived the various pressures and schemes that led to the final version of the central garden. This gesture culminates in a tall group of sycamores on the uppermost terrace at the museum entry.

Pencil and wash cross-sectional drawings comparing the landscape concept of the Villa Gamberaia in Fiesole, above, with that of the J. Paul Getty Center, below. Drawings by Laurie Olin.



Charcoal drawing of stone pines (*Pinus pinea*) at the Villa Doria Pamphili, Rome.

Nearby, at the café entry, we planted London plane trees, P*latanus x acerifolia*. Seen all across Europe lining city streets, rivers, canals, and country roads, this tree happens to be a natural cross between the eastern American sycamore, *Platanus occidentalis*, and the Asian sycamore, *Platanus orientalis*, which occurred in London in the seventeenth century. At the Getty we planted them in a regular bosque, pollarded to form a terrace canopy above the tables and chairs set out by the restaurant. Such pruning is traditional throughout the Mediterranean and Middle East. These pollarded trees were prepared under the direction of McGlade and Rolla Wilhite at Berylwood Tree Farm – carefully thinned and pruned, with selected branches bent horizontally and weighted – for several years prior to coming to the site.

Plane trees and sycamores produce a generous and much appreciated shade; their leaves are not glossy or shiny, which would be hard on the eyes in the often overly bright Southern California sun, and their dappled bark is a source of endless visual stimulus. The native species is wild and rangy, leaning, bending, often branching and twiggy in picturesque ways, while the European hybrid is graceful, tall, and more open. Thus the California native sycamore (*racemosa* means "wild thing") is planted along the stream in the valley in Irwin's garden as I'd proposed, and ascends the stair to the uppermost terrace, where the cultivated London plane tree appears in its tall natural form (representing second nature) at the museum entry and in a pollarded form on the café entry terrace (embodying third nature).

Another area that called for shade in the form of a tree canopy was a series of terraces intended for the use of the Getty staff, administrators, and guests. These terraces extend north, stepping down to a circular lawn that serves as an emergency helicopter landing spot; beneath it is a large water reservoir, maintained for the purpose of fighting forest fires in the area. I chose umbrella pines for the task, partly because they were adjacent to the pines that we had planted along the entry road, and partly for their association with hilltop terraces, parks, and cafes in Rome and elsewhere.

In contrast to such generalized memories of the Mediterranean, memories of American, and specifically Los Angeles, gardens also played a part. The Getty's management team had been concerned about a narrow, multistory space resulting from Meier's arrangement of two of the buildings used for housing the foundation's executive and management offices and several of the grant program offices. It was a tall, awkward canyon that could leave employees in each building staring uncomfortably at one another across the narrow space. What to do? Recalling one of my outings with Morgan Evans, I realized that here was an opportunity for surprise and delight. Several years earlier, Evans had taken Dennis and me to the Virginia Robinson Garden in nearby Beverly Hills, which Evans had restored. There we had seen a shady stand of king palms growing in a steep, narrow canyon, an unusual and unforgettable sight. By planting palm trees between the two Getty buildings, we could create a similar effect.

Although palm trees are not native, they are strongly associated with Los Angeles and Southern California – so much so, in fact, that they were being shunned by designers and clients because they were deemed a common and banal cliché. But here they would be tucked into in a deep and tight architectural space – away from the skyline, which is their normal situation visually. We decided to use feathery, tall, California fan palms, *Washingtonia robusta*, for our screen between the two buildings. The palm also worked well with Meier's architecture, which clearly evokes the sun-blanched, Art Deco work of an earlier era that continues to be featured prominently in books and films set among the palms in L.A.

This was a case of going *with* the architecture in terms of ethos and mood: the palms' elongated multiple trunks rising from the dim light below, and the color and texture of their spiky, shaggy heads in the light above.

Another device we decided to use to help unify the disparate parts of the complex was the repetition of white crepe myrtles, *Lagerstroemia* spp., which had been part of the horticultural palette suggested earlier by Wemple – first alongside the lower train platform and then again above, on a walkway linking the auditorium and foundation offices to the museum and library/research center. In both cases they are planted in a line and pruned into an aerial hedge: an ancient trope. Here they reinforce the forms of the architecture. Their stretched rectangular mass of foliage and the rows of mottled trunks repeat and support the linearity, direction, and order of the buildings and walkways rather than play against them as do some of the other plantings.

There is a great deal of vegetation other than trees at the Getty: bougainvillea, wisteria, lavender, rosemary, even masses of bird of paradise (the official flower of Los Angeles), euphorbias and cacti, various ground covers, and flowers and herbs in pots. And yet it is the trees that interact most with the buildings, that modulate and give particular character to each space. A good example is that of the museum courtyard, where there are two quite different rows of trees: Montezuma cypress, *Taxodium mucronatum*, and sweet gums, *Liquidambar styraciflua*. Both

Pollarded plane trees (*Platanus acerifolia*) on the terrace outside the restaurant. Photograph by Laurie Olin.

are trees associated with water. The cypresses reinforce the direction of the space and align with the buildings that frame it. The sweet gums, however, are placed at a slight angle opposing the space at one end, so that they align with a different aspect of the composition across the central garden and with the scholars' study center beyond. These rows of trees are planted adjacent to tall travertine walls, partially screening them; the trees' color, form, and texture are especially vivid against the white stone. The sweet gums and cypresses also exhibit strong color in the fall – the former a dark scarlet, the latter a warm terra-cotta – maintaining harmony despite the difference in hue. One can climb or descend an exterior stairway beside the shorter row of sweet gums, which accents and points to a circular fountain. The tall, graceful line of cypresses accompanies a narrow, rectangular basin of water that stretches the length of the court.

Morgan Evans had first introduced us to *Taxodium* years before, in a ravine near UCLA. They were standing along a seasonal wash behind a school designed by Richard Neutra, which hid them from view. I found them majestic. A year or two later, I saw some larger ones along the Riverwalk in San Antonio, and then even older ones by a lake in Chapultepec Park in Mexico City. I thought that the Montezuma cypress had more presence than the more familiar bald cypress, *Taxodium distichum*, from our Gulf states. When we were developing the museum courtyard basin with Meier – with its thin, arching jets, reminiscent of those in the palace gardens of Spain – I recalled how such basins were originally derived from irrigation ditches, the *esequias* brought to California by Spanish missionaries. As with the case of canals and aqueducts everywhere, especially in arid climates, these were often bordered with trees. This particular planting of *Taxodium* derives some of its potency from such an association.

Another tree that I became fond of while working in L.A. is the Peruvian peppertree, *Schinus molle*. When I first saw it, I was enchanted. Here was a medium-sized tree, as graceful as a weeping willow, birch, or cherry, that one could have in an arid climate. I first used it for a garden in Brentwood and then again in a residential development near Playa del Rey. Fast growing, drought tolerant, it has a lovely weeping habit, providing not only good shade but also myriad pink peppercorns. At the Getty I first introduced them as a curtain at the train station at the bottom of the hill, in order to block the view of the highway and urban sprawl south of the platform. They also appear as a sculptural element on the uppermost level outside the library and again on a terrace below.

A group of stone pines (*Pinus pinea*) in the arrival plaza. Photograph by Laurie Olin.

The first sketches I made for the project show olives in the central garden, drifting downhill in a meadow that I'd hoped people could wander and picnic in. The loss of this area to Irwin's garden-as-conceptual-artwork ended such a possibility, but a vestigial grove of olives was eventually installed in the area on the far side of his pond. One other missing item from the initial project is the Mexican paloverde tree, *Parkinsonia aculeata*, which we had originally intended to plant along a stairway and beyond to encircle a terrace at the southern end of the architectural axis that extends through the museum court to the northern terraces with their pines. This terrace was hot and almost always in the sun. On a clear day, from here one can see to the Channel Islands and Santa Catalina, glittering on the brilliant surface of the ocean. These lovely desert trees would have been ideal for the difficult microclimatic conditions of this area, but were vetoed by both the client and the architect, who couldn't imagine trees atop this terrace, which they had envisioned as completely open to the view. Switching gears, we turned it into the cactus terrace – a "look, don't touch" sort of place – and substituted large euphorbias, Peruvian cactus, and tree aloes, *Aloe barbarae*, that have grown into striking Medusa-like presences.

Another tree type characteristic of California agricultural landscapes and cities alike is represented by members of the genus *Eucalyptus*. Although there are at least seven hundred varieties in nature in Australia and Southeast Asia, a particular handful introduced in the nineteenth century have become common from the Baja Peninsula to the San Francisco Bay. Originally used primarily for windbreaks in agricultural areas, today they are often considered hazardous, invasive, and an ecological problem because, under certain circumstances, they can suck large amounts of water out of the ground. They were planted in vast quantities at the Presidio in San Francisco by an early commandant, at Stanford in an arboretum begun by Olmsted, and throughout Los Angeles and San Diego in parks and on streets. Tall and graceful, with various forms and bark patterns, they are seen accompanying Mission Revival buildings in many dreamy, regional, Impressionist-style paintings from the end of the nineteenth century.

Morgan Evans had taught my partners and me to identify several of the more attractive ones on our drives about the region. Among them were puffy-topped *Eucalyptus camaldulensis*; *Corymbia maculata*, with its giraffelike bark patterns; and lemon-scented *Eucalyptus citriodora*. While puzzling over what to do in a space adjacent to a reference room in the study center that was contained by a very high curving wall, I realized that planting an array of eucalyptus in front of it would provide patterns and shadows against the wall without filling up the space and making it dark and oppressive. Like the narrow canyon where we located the fan palms, this was an instance of employing a skyline tree in a completely different context that would be as interesting as it was practical. Because of the isolated, mountaintop location, one could enjoy the virtues of its visual attractiveness with none of the conventional worries about flammability or threat to the water table.

There were also occasions where we used only one or two trees as sculptural objects to inhabit or enliven a defined and often more intimate space, such as a specimen strawberry tree, *Arbutus unedo,* set in a small garden adjacent to an office in the foundation grants building, and a pink trumpet tree, *Tapebuia rosea,* in a lower sunken garden where the tree's flowers are at eye level for people passing on an upper walkway nearby. For two spaces at different levels adjacent to the library and archive, it occurred to us that – given the inspiration underlying the original classical collection – it would be nice to have edible plants that have been associated with the Mediterranean since biblical times. And so today the library and archive look out on olive and citrus trees.

But while such singular gestures can give character or spice to particular spaces, overall it is the larger groupings and ensemble planting, the extended lines and ranks of trees, that provide the coherence and continuity of the Getty landscape.

From its conception through the lengthy period of design and construction, the J. Paul Getty Center was wrapped in controversy. Local critics pronounced that it would be inaccessible and inhospitable – a botched artistic extravagance. As soon as it opened, however, people flocked to it, and they have continued to do so in droves – so many more than were anticipated, in fact, that services for them – toilets, bookstore, café, places to sit – had to be expanded almost immediately.

At the same time, the Getty Center's panoply of trees, threaded through disparate spaces and levels, between and around the campus's numerous buildings, have continued to grow, many to handsome maturity. And in doing so, they have accomplished what the president and trustees were looking for two decades earlier, when there was so much *Sturm und Drang* over the landscape design: they have established a sense of calm and harmony, even though each of the spaces between and around the buildings has its own size, shape, and character. The ubiquitous presence of mature trees flowing around and through the campus has, in fact, knit it together, giving the whole a sense of unity and balance, of having settled comfortably into place. For the citizens of Los Angeles, the Getty Center is now part of the larger fabric of the city, and its outdoor spaces are treated as parks and squares, de facto extensions of the public realm.

In October of 2017 the OLIN firm received the American Society of Landscape Architects Landmark Award, which is given to built works of landscape architecture between fifteen and fifty years old that have kept their design integrity and contributed to the cultural or civic realm. In the case of the Getty, however, one could argue that the landscape truly found its integrity only over time, as the trees grew up and filled in, and the rough edges in a vast compound designed by multiple and often competing professionals were smoothed or knit together. *Landscape Architecture Magazine* quoted one of the jurors as saying, "I don't think we could do better than recognizing the Getty as a special, special place." A significant aspect of its perceived special nature is the array, selection, and disposition of its trees. – Laurie Olin

Aerial view looking north at the mountaintop ensemble of buildings, with train and emergency/service access road in foreground, surrounded by the terraced live oak plantation. Photograph by Richard Meier and Partners.

Sweet Labor: Maple-Syrup Making in Vermont

It's late October and Craig Line and I are climbing through his sugar bush, the 27-acre, hillside stand of maple woods where, come spring, he gathers sap. Though it's past the peak of fall foliage here in central Vermont, the woods are still gorgeous, with splashes of late-fall color – reds, yellows, and oranges – here and there. The weather is chilly, but the sun is out, and there's no wind. The golden fall light sharply etches the revealed forest structure, and a few ferns that have somehow escaped the recent frosts glow a bright yellow-green. We're walking this tract of woods to check out the web of tubing that collects sap and conveys it downhill to a large holding tank next to the road. Craig wants to see what damage may have been done to his tubing over the summer.

Any forest is a dynamic ecosystem. Trees grow, age, and die, and inevitably trees and branches fall and tear down lengths of tubing. As we climb uphill, away from the road, Craig notes that a good-sized yellow birch has fallen and taken down a section of his main line near the holding tank. It's too big a tree for us to pull out of the way, so he will have to come back with his chain saw before the snow flies. "It's a lot better to fix this now than when you've got to dig it out from under three feet of snow," he says.

The climax of the sugaring season comes in early spring, when the ground begins to thaw and sap rises in sugar maple trees. In March and April, steam can be seen rising from sugarhouses across the hills of the northeast. In thousands of sugarhouses sap is being boiled down to make syrup.

Most of the syrup made by serious producers these days is from sap collected by plastic tubing. Some producers still do it the classic way, collecting sap from individual metal buckets hung on metal spouts and dumping the sap into a tank drawn from tree to tree by a team of horses or oxen, or by a tractor. But not many. Commercial operations may hang a few buckets on trees near the sugarhouse for the benefit of tourists. But for most producers these days, tubing rules.

Even so, collecting sap still takes plenty of work. Part of that work is what Craig and I are doing now – checking sap lines. He has about seven hundred taps on this hillside near the central Vermont hamlet of Adamant, plus another four hundred closer to his home, five miles up the road in Kent's Corner. Not a large operation by Vermont standards – some maple producers have fifty or sixty thousand taps. But it's not small, either. And it keeps him busy throughout the year, especially in spring.

The web of tubing we are inspecting covers most of this 27-acre, hillside lot. There are one to three taps in every mature maple tree on the property. From each tap a blue plastic dropline descends to a fairly taut strand of blue tubing, connecting to similar strands which feed into a larger, white, plastic main line. The main line follows the natural contours of the land, so that the sap, assisted by gravity, will flow briskly downhill to the 750-gallon holding tank by the road.

Some people think that a web of tubing in a maple woods gives the forest an unpleasantly industrial appearance, but I am impressed by the ingenuity of it all – how Craig has plotted out his web so carefully that gravity can do its work. It seems to me to be an expression of mind in the woods, and I'm quite fascinated by it.

Craig is a photographer by trade; he considers that his day job. He's bearded, affable, and, fortunately, energetic. At sixty-two he looks ten years younger, though his once-dark hair and his neatly trimmed beard are now white. He admits that it takes an immense amount of physical labor to extract maple sap from trees and turn it into syrup, but he enjoys it. "I just love being out in the woods," he says.

Maple syrup is a valuable product of the hardwood forests of the northeast, but they offer many subtler benefits as well. In summer, they cover the hills and mountainsides of the region with a murmuring green canopy of leaves that offers sun-dappled shade and serves as a habitat for a multitude of birds and animals. If properly safeguarded, they constitute a complex ecological system that is both self-sustaining and beautiful.

These forests also benefit humans by retaining and filtering the water we drink and purifying the air we breathe. Forests sequester carbon in the soil, even as they return oxygen to the atmosphere through their leaves. And of course the fall foliage – enhanced by the spectacular reds and oranges of the sugar maples – is both beautiful to see and an important part of New England's tourist economy.

This bit of hillside forest is a pleasant place to work on a brisk fall day, but it is not Eden. Some of the younger maples are mysteriously dying. They've never been tapped, but are barren of leaves, drying out and losing their branches. Craig has no clue why. The local forester's theory is that these particular trees may be rooted in a thin layer of soil above rock ledge; a snowless winter with subzero temperatures a few years back might have killed their shallow root systems. But no one really knows. Also, several of the beech trees scattered through the woods are dying of beech scale-nectria complex, a widespread disease that destroys the inner bark layer through which nutrients pass.

One of these beeches has fallen across a section of tubing, but Craig takes the positive view: he estimates he'll get four or five cords of firewood from that beech, which he will saw into four-foot lengths, drag out of the woods, and truck back to his sugarhouse for fuel. Another full day's work.

Once the system of taps, tubing, and main line have smoothly delivered the precious maple sap to the holding tank at the bottom of the hill, gravity will be put to work once again. Craig will open a valve in the holding tank and send hundreds of gallons of sap through a 1.5-inch-diameter pipe, which he has attached to the tanks waiting in his truck on the road below. He adds with a smile: "And while the tanks in the truck fill, I can sit on the tailgate and have a beer."

Craig Line regularly inspects the web of tubing that runs through his stand of maple trees.

There are an estimated three thousand or more sugaring operations like Craig's spread across the hills of Vermont, and many are substantially larger than his. Across the rest of the northeast there are thousands more. Vermont produces more maple syrup than any other state: nearly two million gallons annually, or about 40 percent of the total United States crop. Maine and New York are the next largest producers, and they're not even close. Vermont's production alone translates into about $40 million to $50 million in gross annual sales.

Why does Vermont dominate US maple production? According to Mark Isselhardt, maple specialist for the Extension Service of the University of Vermont (UVM), one reason is because the state has a lot of maple trees to tap. In the nineteenth century farmers cut down most of the ancient forests for pastureland, until the state was four-fifths bare of trees. But those same farmers kept many of their maples for firewood and maple sugar, which was the only kind of sugar many of them could afford. Those surviving maples regenerated the maple-rich forest of today. Furthermore, maples like sweet (calcium-rich) soil, and much of Vermont's forest land is rich in calcium. As a result, about one in every four trees in Vermont forests is a maple.

Vermont also shares with the rest of the northeast long winters and reluctant springs, when thawing weather during the day alternates with freezing nights – a weather pattern that causes sap to flow vigorously.

Finally, Vermont has a strong rural culture; its farmers have been making maple syrup and sugar for literally generations. "This happens to be the sweet spot for maple," says Tim Perkins, director of UVM's Proctor Maple Research Center.

Due to some key technological improvements since the 1950s, syrup production has increased steadily in recent years. Perhaps the most important of those improvements are the growing sophistication of tubing systems and two related innovations: vacuum suction and reverse osmosis. Vacuum suction pumps, or "sapsuckers," literally suck the sap out of the tree and through tubing to the sugarhouse. (Scientists

believe that this does not harm the tree.) Reverse osmosis machines remove water from the maple sap without heat by forcing it through a high-pressure system of filters.

Sugar makers normally have to boil down about forty gallons of sap to make one gallon of maple syrup. But if they can remove most of the water from their sap before boiling by reverse osmosis, they can make a gallon of syrup from ten gallons of sap, or even fewer. This enables them to use less fuel to boil the sap – and to process more sap and make more syrup.

All of these innovations allow sugar makers to tap more trees and further increase production. Hence the recent growth of huge sugaring operations with tens of thousands of taps. One of Vermont's largest maple processor-handlers is Butternut Mountain Farm in Morrisville, about thirty miles north of Craig Line's much smaller operation in Kent's Corner. "This is not my grandfather's sugaring operation," says founder Dave Marvin.

Craig Line working on a section of tubing.

That might be the understatement of the year. Butternut Mountain controls roughly half of the annual Vermont maple crop, and handles over a million gallons of syrup per year. It employs one hundred people year-round. Marvin built the business up from next to nothing: a mountainside sugar bush and a knack for buying and selling syrup that emerged one year in the 1980s when he didn't have enough of his own syrup to meet demand. Today, he has some twenty thousand taps spread across three sides of Butternut Mountain, connected with miles and miles of tubing. In 2017 he made seven thousand gallons of syrup.

I ride up through this large sugar bush with Fran Sladyk, Marvin's consulting forester, in a red ATV that looks like a beefed-up golf cart. We proceed along rugged switchbacks up and up the 2,600-foot-tall mountain until we can see the main range of the Green Mountains through the bare maples and beeches.

Miles of blue tubing are webbed through the woods, with pumping stations visible here and there. A large suction machine at the bottom of the hill draws the sap out of the trees and down to the sugarhouse, where two passes of reverse osmosis bring the maple sap to a density of about 5 percent sugar content. This means that Butternut Mountain has to boil off only five gallons of water to make a gallon of syrup.

Inside the sugarhouse are huge, stainless-steel holding tanks. Each tank holds about three thousand gallons of liquid, and a short person standing in one of them would not be able to see over the edge. Another huge tank in an adjacent building can hold eight thousand gallons of raw sap.

However, the production of maple syrup from Dave Marvin's own trees is only one part of his sugaring empire – iconic and enjoyable, but a relatively small part. He also buys maple syrup from three to four hundred other producers throughout the northeast and processes it into dozens of different containers and forms.

Butternut Mountain Farm's sprawling, 100,000-square-foot Morrisville plant takes about a half hour to walk through and hums with near-constant activity every day. Fifty-five-gallon drums of maple syrup are stacked in long rows more than fifteen feet high. From storage the syrup is pumped onto processing lines, where plastic containers ranging from 1-ounce restaurant "sips" to 250-gallon totes are filled, sealed, and packaged for delivery. The syrup is sold to retailers like Whole Foods, Amazon, Walmart, Williams-Sonoma, and many others. The company also sells bulk syrup and maple sugar to food processors who want to add maple flavoring to cookies, granola, sausage, ice cream, and yogurt.

Marvin is reluctant to reveal the exact amount of his gross annual revenues, but when I ask if it's safe to describe his business as a multimillion-dollar operation, he says that would be fair. As we walk through the plant together, there's a constant bang-bang-bang in nearly every room. "What's that banging?" I ask.

"That," says Marvin, "is the sound of money!" The repetitive banging is actually the sound of maple syrup being forced from storage tanks through pipes in the ceiling to each of the plant's many workstations.

Our final stop is in a brightly lit room where women wearing hairnets (as do all the plant workers) are pouring thick syrup into sheets of rubber molds. It quickly solidifies into the familiar, maple-leaf-shaped candies that Marvin sells in his retail store in downtown Johnson. "I always like to come through here," he says, smiling as he pops a couple of the candies out of their molds and hands me one. It is still slightly warm, sweet and delicious.

Marvin was educated as a forester before he fell in love with sugaring, and his concern and care for the forest he personally oversees is evident. He points out that roughly two-thirds of the 900 acres he owns on Butternut Mountain is conserved, and the solar panels on the roof and grounds of his Morrisville plant supply about half of the electricity used by his facility.

Like foresters elsewhere, Marvin knows that continued vigorous maple syrup production depends upon sustaining the health of the entire forest. He and his staff carefully thin dense stands of young sapling maples to encourage growth in the remaining trees. They also work to maintain the forest's species diversity – because other companion species produce substances and soil conditions that benefit the maples. As we part, Marvin says, "It's good to know that there are a lot of ways to make the land productive and still maintain values."

Unfortunately, the maple industry depends on sustainability on a global as well as a local scale. The reality of climate change is a threat that deeply concerns maple producers. This is because the gradual warming of the earth's temperature

will eventually alter the composition of the northern hardwood forest. "In the very long term, climate change will affect the proportion of maple in the forest," Tim Perkins says. "Elm is already out, ash is headed out." Climate change is also altering the springtime weather patterns that produce maple sap in abundance: sugar makers across the region are tapping trees two or three weeks earlier than they used to. The season also often ends earlier, and has become more unpredictable as well.

Perkins says the health of the northern hardwood forest today, including its maple trees, is generally good. One of the less healthy areas is in the Adirondack Mountains of upstate New York, "primarily because there's more acid deposition there, which affects the nutrition of the maples." Maples need calcium, which acid rain leaches from the soil. Insects such as forest tent caterpillars, which periodically defoliate stands of maples, are also a concern. Usually, the trees can recover. But if insects attack a maple stand that is under stress from other factors – drought, acid rain, storm damage – the trees may die prematurely. "Trees, like us, age and die," Perkins says. "But when you have multiple interacting stresses, forest dieback increases."

If, however, these stresses and climate change force sugar maples gradually north into Canada, the economic loss to Vermont and other maple-producing states would be catastrophic. And the thought of an autumn without the brilliant stands of maple adding their color to the hillsides of the northeast is grim indeed. As a farm wife once told regional photographer Richard Brown, "I don't mind dying. But I'm sure going to miss sugaring."

Early spring in Vermont is not a beautiful time. The snow is mostly gone, but the emerging, winter-battered landscape is a grim study in browns and grays, with bare trees and patches of grimy snow tucked into shady corners around barns and houses. Vermonters refer to this time as "mud season" more often than "sugar season." The terms are interchangeable.

The five miles of muddy road between the maple woods Craig taps in Adamant and his sugarhouse are tough going this time of year, especially with a truck laden with a ton or more of surging, sloshing maple sap. After several springs and innumerable back-and-forth trips to bring sap in, Craig's older truck, a lightweight import, gave up the ghost a year ago. He now has a bigger, sturdier truck with four-wheel drive that negotiates mud season more smoothly.

Yet despite the wrenching change of seasons, this is a hopeful, even buoyant time for sugar makers. The sap is flowing! It's time for some backwoods alchemy.

By late afternoon, on a good day, every tank Craig owns is full to overflowing with sap. He's got a fire started in the "arch" – the big firebox underneath the stainless-steel evaporator pan – and he and his friend Tony are chunking four-foot splits of wood into it. Soon the sap is boiling vigorously, foaming and jumping, and steam is rising from the pan and issuing from the vented cupola in the roof. The sugarhouse that was chilly an hour ago is now warm and moist, filled with sweet-smelling maple vapor.

As the sap boils down and approaches syrup, Craig watches the fire very carefully, stoking it with slabs and sticks instead of big logs. He's got to keep the sap boiling without letting it boil over or boiling the pan dry. Too much fire combined with too little sap and he could ruin his evaporator.

He measures the syrup's viscosity and sugar content with a hydrometer – a thermometer-like gauge that floats in the sap in a tall, thin, metal cup. To prove that the sap has become syrup, a red line on the hydrometer has to float right on the surface of the liquid; only then can it be drawn off, bottled, and sold.

One year, Craig boiled and boiled, burning up lots of wood without getting to the syrup stage. What was wrong? First he went to the telephone; then to the hydrometer. Eventually he learned that the dozen sugar makers within a ten-mile radius of Kent's Corner were all having the same problem. Instead of boiling off forty gallons of water to get a gallon of syrup, they had to boil off close to one hundred gallons of water. But no one could figure out why everyone who tapped maple trees around Adamant that year got one percent sap. "That's when you get into the mysteries of maple trees," Craig said when he told me about that odd season. "Which is great. I just love it that there's some mystery to it."

Finally, everything is ready. Opening a valve, Craig draws off a bucket of cloudy, steaming syrup that he tests and then pours into a tank where the syrup drains through a folded length of white Orlon felt, leaving behind a patch of mud-brown sediment known as niter. Then he turns a little tap and out flows new maple syrup – warm, fragrant, amber, and sweet.

The sun is slipping behind the bare trees on the hill and long shadows are creeping across the old snow outside as we lift tiny bottles of the fresh, warm syrup to our lips. It's the first crop of the year. It's also ambrosia – the first taste of spring. – Thomas K. Slayton

The Eastern Forest: From Commerce to Conservation

Prior to European colonization, trees covered a vast portion of the eastern United States, from the pine-dominated forests of the southeast to the balsam fir-hemlock-spruce forests of northern Maine. Between Maine and Florida there were also beech-birch-maple and oak-hickory forests, and forests adjacent to the Great Lakes that supported pine species that differed from those in the pine forests of the southeast. The visual experience of these forests would have varied widely. For example, the pine forests of the southeast allowed sunlight to filter down to the forest floor, whereas fir-hemlock-spruce forests blocked more light, resulting in a darker interior. Considered as a whole, the forests east of the Mississippi presented at once an unfathomable storehouse of timber and an unanticipated barrier to the European colonizers who hoped to profit from the space and bounty the territory represented. The forests' worth to these settlers would be a significant factor in their eventual utilization and conservation.

European explorers first described the forests of eastern North America in the sixteenth and early seventeenth centuries in terms of the dangers they represented or the profits they might yield. In 1615 the French explorer Champlain wrote of northwestern New York, near the lake that would eventually bear his name, "I found myself lost in the woods, going now on this side now on that, without being able to recognize my position." In contrast, the English Captain John Smith characterized pine forests in Virginia during this same period in terms of their economic potential: "Many trees so tall and straight, and they will be two feet and a half square of good timber for 20 yards long." The obstacles to capitalizing on this timber remained considerable, however: starvation, exposure, sporadic attacks by local Native American tribes.

The first Europeans to form a colony in what is now the United States were from Spain. They established a settlement at St. Augustine in 1565, which consisted of a fort and several houses built with longleaf pine, cut from the nearby forest; additional land was cleared of trees to provide space for gardens and pastures. A similar pattern of clearing the forest for stockades, houses, and space for crops and grazing followed at Jamestown (1607) and Plymouth (1620).

As colonization of the eastern coast proceeded, more specialized utilization of the forests became possible. In addition to harvesting trees for timber, the colonists sold a wide variety of specialized forest products: white pine trees for ship

masts, oak trees for ship's hulls, resin for naval stores, logs for the construction of cord roads, wood pulp for paper making, maple sap for maple syrup, forest plants for herbal remedies, and large quantities of firewood.

Forests were cleared not only for lumber but also to provide acreage for planting and grazing. When land was needed for agricultural purposes, trees were often girdled in order to kill them rather than cut down. Once dead, they would be burned to clear the land. Some farmers would then burn the stumps and pull their remains from the ground; others left them in place, which is how the term "stump farm" entered the American lexicon.

By the eighteenth century England had already exhausted its supplies of trees suitable for ship's masts and hulls, which made the forests of the British colonies of particular value to its navy. The importance of eastern white pine trees for masts led to the "broad arrow" policy, under which suitable trees were marked with an axe to indicate they were the property of the King of England. Many colonists ignored the marking, however, cutting down the trees and selling them to Spanish and French buyers. In fact, the arrests and punishment of several colonists for violating the broad arrow policy is considered a contributing factor to the American Revolution.

American colonists drew on technologies for felling trees, moving logs, and milling lumber that had been developed in Europe. Trees were felled with axes; logs were hauled through the woods, suspended from axles between large wheels or floated on rivers to sawmills downstream. One small but crucial innovation developed in the British colonies was the American felling axe, distinguished by the addition of a strip of steel behind the eye of the axe to increase its weight. This gave the axe more momentum as it swung toward its target.

After the American Revolution, the British Parliament established a committee to determine why the American logger was so much more productive than his British counterpart, and the American felling axe turned out to be the answer. William Vickers, who headed Parliament's commission to investigate the high level of timber production in the United States, wrote that it was "the most mechanically perfect and the best constructed little instrument I know. A man can fell three trees to one, compared with those, which are ordinarily made in England."

The enthusiastic harvesting of forest products and the conversion of forests to agricultural land began to take a toll on the landscape of eastern North America even before the American Revolution. And yet the first attempts at regulation had more to do with how to profit from the forests in the short term than with protecting and replenishing them for the future. As early as 1626 the selling or transportation of logs and lumber was prohibited without the approval of the governor and council. In 1668 the Massachusetts Bay Colony forbade the burning of any ground prior to March 1 in order to prevent damage to young trees. William Penn, however, the leader of the Pennsylvania colony, decreed that for every 5 acres of forest cleared, 1 acre should be kept in trees.

Forests reserves for shipbuilding were a particular concern, both before and after the Revolution. In 1705 the British Parliament placed a penalty on injuring pitch pines through cutting or burning to protect these trees as potential naval stores. Later in the century the Congress of the United States was quick to pass limited legislation protecting the new nation's pine and oak forests in order to safeguard products that could be used for shipbuilding. In 1799 Congress established naval reserves on two islands off the coast of Georgia to protect the pine forest as a future supplier of resins for tar production. Then in 1827 it authorized the president to take measures to reserve public lands from sale if they supported live oak or other trees valuable for shipbuilding. The following year Congress appropriated ten thousand dollars for the purchase of lands to provide live oak and other timber for the navy. With these funds the 1,400-acre Santa Rosa Reserve was established in Florida. Forests which had no direct benefit for shipbuilding, however, received no such protection.

By the time of the American Revolution, the population of the British colonies had reached 2.5 million. This growth resulted in an ever-increasing demand for forest products, food, and land for settlement. In the winter of 1826–1827 the city of Philadelphia burned 141,150 cords of firewood and 33,200 tons of charcoal, for example, and this consumption of trees for heating and cooking was comparable in other large cities like Boston and New York. The landscape of the eastern seaboard, once considered an inexhaustible source of resources, had been radically transformed and depleted, and Americans were pushing westward. By 1850 1.8 million acres of forests in Connecticut, which represented 51 percent of the state's original tree cover, had been converted to agriculture. In Ohio, 9.8 million acres (34 percent of the original tree cover) of forestland were now farmland.

As the once-threatening and seemingly immortal eastern forests disappeared, their role in American life began to be reconsidered – not only materially, but culturally and philosophically as well. James Fennimore Cooper and the transcendentalists, for example, represented the forests as having intrinsic values that extended beyond their firewood and timber. Cooper's hero in the Leatherstocking Tales, Natty Bumppo, was at home in the forest as a young man in *The Deerslayer* and *The Last of the Mohicans*, and in *The Pioneers* he regretted its destruction as an older man guiding settlers moving west. Ralph Waldo Emerson saw in the forest a place of learning, where man could find his truths without the intervention of religious authorities: "In the woods, we return to reason and faith." Henry David Thoreau, who famously retired to the woods to write *Walden*, argued: "We need the tonic of wildness. . . . At the same time that we are earnest to

Thomas Cole, *Kaaterskill Falls*, oil on canvas, 1826, collection Wadsworth Atheneum.

Asher Brown Durand, *Kindred Spirits*, oil on canvas, 1849, collection Crystal Bridges Museum of American Art. *Kindred Spirits* was commissioned by the merchant-collector Jonathan Sturges as a gift for William Cullen Bryant in gratitude for the nature poet's eulogy to Thomas Cole, who had died suddenly in 1848.

explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be indefinitely wild, unsurveyed and unfathomed by us because unfathomable. We can never have enough of nature."

Concurrently with the transcendentalists, the artists of the Hudson River School glorified what remained of the eastern forests by seeking out wooded landscapes that were largely free of evidence of human impact, ignoring the vast areas of the region that had been harvested and converted to fields and pastures. Artists like Thomas Cole often staffed their landscapes with Native Americans (*Falls of the Kaaterskill*, 1826) or American tourists enjoying the beauty of the forest landscape (*A View of the Two Lakes and Mountain House, Catskill Mountains, Morning*, 1844). Asher B. Durand placed Thomas Cole and William Cullen Bryant in a forest in his painting titled *Kindred Spirits* (1849). The paintings by these and other Hudson River School artists were displayed in the larger cities along the East Coast and were fundamental in promulgating the newly fashionable view that the forests of the eastern United States had precious attributes that extended beyond their economic value.

A few voices during this period began to express concern over the demise of the eastern forest for its practical and environmental value as well. Caleb Atwater, a member of the Ohio Legislature, pointed out in 1838 that wood was only a renewable resource if you made a concerted effort to renew it: "Most of the timber trees, will soon be gone, and there are no means yet to restore the forests which we are destroying. We do not regret the disappearance of the native forest, because by that means, more human beings can be supported in the state, but in older parts of Ohio, means should even now begin to be used to restore trees enough for fences, fuel and timber, for the house builder and the joiner."

George Perkins Marsh, who published a book on the impact of man on the environment entitled *Man and Nature: Or, Physical Geography as Modified by Human Action* (1864), had a far more sophisticated understanding of the economic value of forests, which extended beyond the trees themselves to the health of the landscape and atmosphere surrounding them. In reference to the clearing of the forests in the Middle East, he warned: "The felling of the woods has been attended with momentous consequences to the drainage of the soil, to the external configuration of its surface, and probably, also, to local climate." Marsh awakened his American readers to the fact that the eastern United States could face a similar threat if uncontrolled forest destruction was allowed to continue.

By the end of the Civil War, many of the original forests of the eastern United States had been converted to agricultural land or harvested for timber without appropriate efforts to manage the cutover land for future timber crops. Concern over this situation led several eastern states to enact legislation encouraging tree planting and protecting forestland. In 1875 a physician named John Aston Warder and the horticulturist Robert Douglas cofounded the American Forestry Association. Their intent was to disseminate useful information on the American forest and promote better tree-planting and management practices. Douglas and Warder helped to organize the first American Forest Congress, which was held in Cincinnati, Ohio, in 1882. In attendance were politicians, university professors, clergymen, government employees, and private citizens concerned with the deteriorating state of forests in the United States. All but three of the eighty-seven attendees were from the eastern United States and adjacent areas of Canada. Annual meetings of the American Forest Congress in the 1880s not only influenced the development of forest conservation in the United States but also the founding of the National Forest System and the U.S. Forest Service.

Another important contribution to the development of forest conservation in the eastern United States was the launching of the first academic programs in forestry. In 1898 Bernard Fernow established an academic program at Cornell in New Jersey; Carl Schneck started a technical school of forestry on the Biltmore estate in North Carolina that same year. In 1900 Gifford Pinchot and his father, James, funded a new graduate program in forestry at Yale. The Pinchot family had made a significant fortune in lumbering, and then regretted the havoc it had wrought on the land. These early forestry programs used the deterioration of the eastern forests as a negative example to teach general principles about the need for forest conservation and better management methods. Early graduates went on to assume leadership positions in both industrial and government forestry throughout the country; Gifford Pinchot, although not a graduate of these early forestry schools, became the first chief forester of the U.S. Forest Service at its foundation in 1905.

By the early twentieth century, politicians, academics, and business leaders in the East were finally becoming aware of the destructive consequences of unbridled deforestation practiced on this side of the continent since the foundation of St. Augustine, 350 years earlier. It was no accident that this recognition began on the East Coast. It is unlikely that the birth of American forest conversation would have occurred in the West, where early settlement was strictly controlled by the Spanish government and immigration from other European countries and the United States was severely limited. Ample agricultural land was still available in the grasslands in the mid-nineteenth century, and the forests were for the most part in mountainous terrain – relatively inaccessible for most of the population until the twentieth century. These factors meant that the people in the West following the Civil War had not seen their forests radically altered, whereas that experience had become a fundamental part of the psyche of easterners by the second half of the nineteenth century.

Today, much of the land converted for agriculture in New England and elsewhere in the eastern United States during the first centuries of European settlement has reverted to forestland through natural succession. Second-growth forests once more cover hills and valleys earlier cleared for crops and pastureland; the remains of ancient farmhouses lie forgotten deep in northern woods. And yet without these forests' early destruction, the development of American forest conservation would have followed a delayed and different path.

– Joe R. McBride

Central Park's Trees: Personal Friends and Sentient Beings

Dawn cracks the night sky, and somewhere a sparrow sings. The city buildings begin to glow with a crown of gold, while the streets below await their turn in sullen tones of blue and gray. I hurry along through my monochrome valley on this early spring morning. Cold stings my bare fingers as I attempt to steady the binoculars clunking against my chest. The sidewalk rises to a steep crest on West 106th Street, and my destination comes into view: Central Park. From this vantage, the Great Hill looms like an ancient wall of rock – cold and forbidding, yet beckoning to be explored. I accelerate my pace.

As I climb the seventy-seven stone stairs at the park entrance at West 106th Street, I recall that this very spot marked the northwest corner of Central Park in the original Greensward Plan, created by Frederick Law Olmsted and Calvert Vaux in 1858. How Vaux and Olmsted must have rejoiced upon learning that their great design was to receive a substantial addition of wild forest, rocky outcrops, natural springs, and picturesque ruins from the War of 1812 – the features that now make up the rustic north end of Central Park.

Halfway up "the Great Stairway" (as I choose to refer to it, as it leads to the Great Hill), the genius of Olmsted and Vaux becomes evident. As one climbs this unusual staircase, notched into an immense outcrop of blasted bedrock, it is impossible to see the top due to its twisting design, and this creates an impression of mystery and wonder. It is an inspired entrance to the park – one that closes behind you as you enter it, leaving you to ascend to a hidden summit.

With each step, I rise a little higher above the cacophony of the city. Seventy-four, seventy-five, seventy-six . . . my boots ring out in the chamber of stone as I near the top. Suddenly I find myself in a brilliant sunlit space – a welcoming rise of grass ringed with trees. I have left my gray world and entered a green one. The air seems suddenly fresher. Here I am greeted by the fragrant scent of wildflowers in the spring, the smell of warm wood in summer, the delicious aroma of decomposing leaves in the fall, and the sharp chill of winter, when bare branches sway drunkenly above sweeping views of the city. The circular path that borders the green oval served as a carriage turnaround in the early days of horse-powered travel in the park. On this day it guides me south, where I see a familiar companion. As I have many times before, I stop and lean against the same lamppost to take her photograph. Thus with a graceful bow of her branches in the wind, this mature and beautiful American Elm (*Ulmus americana*) – my fellow earthling – welcomes me back to the Great Hill.

Before I discovered trees, I was a birder. I began bird watching in Central Park in the 1980s, and I soon met an eclectic assortment of interesting people who seemed to know all about ornithology, seasonal migration, and where to spot what. I became good friends with two of them, Eric and Dave. They could tell the species of a bird by its call or song. From somewhere high in the canopy above us we would hear "ticka-ticka-ticka-sweet-sweet-sweet-chew-chew-chew-chew" and Eric would say, "Tennessee Warbler." Dave would reply, "Right. Let's go find it." And within minutes they would have located this incredibly small, beautiful, migrant songbird with an olive green back, white breast, and silvery gray head, hopping from branch to branch and singing cheerfully. After observing it with my binoculars, I'd pull out my copy of *Peterson's Field Guide to Eastern Birds* and lo and behold, it would indeed be a Tennessee Warbler! How did my companions know that? How long had it taken them to learn such things? And how had I managed to miss this incredible event – the mass migration of birds into our city's parks – for so many years? Once I began studying birds and learning their names and songs, I never looked back.

I had been birding for about two decades when my friend Edward Sibley Barnard called me one afternoon. Ned, as his friends call him, had recently written *New York City Trees*, an outstanding guidebook of our local tree species. He explained that he was working on his next book, about the trees and magnificent landscapes of Central Park, and he wanted to know if I, as a graphic designer, might be interested in creating a selection of illustrated maps for the book. After years of birding, I was very familiar with the park's topography, waterways, trails, and woodlands – not to mention which restrooms remain open in the winter months. What I didn't know very much about were its trees. Ned changed all of that.

I vividly recall the afternoon I accompanied him into the park at East 72nd Street. As we walked past the Conservatory Water, through the Glade, over Cedar Hill, and into the Ramble, Ned spoke nonstop about the various trees that we were passing: towering Red Oaks; unbelievably fragrant Lindens (so that was what I had been smelling every June for the past twenty years!); Black Cherries, lush with fruit; a monstrous multi-trunked Tupelo; a nasty beast of thorns called a Devil's Walking Stick; European Beeches displaying their smooth gray bark; and London Plane trees, easily recognized by the camouflage-like pattern of their trunks. There were trees with needles for leaves, trees with compound leaves, and even trees with *red leaves*. Ned called them "cultivars" and explained what they were and where they came from. How was it, I wondered, that I had been birding for twenty years in this very park and somehow managed not to notice a tree with red leaves? Suddenly these objects that before had been either supporting birds

One of Olmsted's greatest tree landscapes and most visited areas in Central Park is the Mall. When the trees have gone dormant and shed their leaves for the season, one can appreciate the many sculptural forms represented by the spectacular rows of mature elms that dominate the famous walkway. Photographs copyright © 2018 Ken Chaya.

or blocking my view of birds were living species in their own right. Once again Central Park became an entirely new and exciting place, as it had with my earlier discovery of birding. It was as if I were seeing new colors and textures for the first time in a landscape that I thought I knew well.

I began paying more attention to trees and learning their common and scientific names. Ned was my mentor, and together we walked many miles in the park, investigating every acre and making notes and taking photographs. Ned taught me to study the form and canopy when identifying a tree and showed me patterns and structures in bark and leaves that I had never noticed before. He also taught me to look down as well as up, where I discovered a world of identification in the form of fallen leaves, fruits, acorn caps, and flowers, and he quizzed me on what we were observing. Eventually, the notion of creating a separate project, an *entire* Central Park tree map, struck us as something that we could do together. We were off and running from tree to tree, like two happy dogs in that great green landscape in the middle of Manhattan.

This was my introduction to the trees of Central Park. From a single walk in the park with Ned was born the inspiration for "Central Park Entire," a detailed map of the park and twenty thousand of its trees, as well as a poster, an interactive app, and of course Ned's book, *Central Park Trees and Landscapes*. Later I partnered with the Central Park Conservancy to create a series of self-guided tree walks that prompted the installation of hundreds of tree identification plaques throughout Central Park.

Over the years, I have developed a deep affection for some of my favorite park trees, and the American Elm on the Great Hill is one of them. This mature elm is doing what most elms will do when given plenty of space, light, clean air, and water to grow. It exemplifies the classic, vase-shaped habit of *Ulmus americana*, with a heavily grooved, tall, straight trunk exploding into a wide mass of swirling limbs, reaching upward in all directions and then descending gracefully toward the ground. They seem to form a protective skirt – a living leafy border around the trunk. The American Elm is one of our most beautiful native trees, and although there are other larger and more spectacular specimens in the park, this one is special to me. I inspect its branches for healthy bud production. I scrutinize its trunk for any signs of injury or stress. Today, all signs look good. After a long winter of dormancy, it is alive now with clusters of small flowers and the wafer-shaped fruits known as samaras. Thousands upon thousands of leaf buds are poised to open and begin their production of chlorophyll.

Suddenly a small, yellow missile darts through the upper canopy and comes to a stop on a swaying branch. It is an early spring migrant, a Pine Warbler, searching the limbs and branches for spiders, caterpillars, or any other tasty invertebrates that can be found. It still amuses me to realize that I birded the park for years without the faintest idea of what tree this warbler was perching in. Today, a constant refrain that I hear during migration season is, "It's in that tree over there!" Now, as a frequent leader of birding walks, I always encourage those in my group to learn to identify trees in order to enhance their experience of their park – and to help provide better directions for other birders.

I head south from the Great Hill. I still have more friends to visit. In the Ramble, I stop by a small meadow where there is a Red Maple (*Acer rubrum*) that has captivated me for many seasons. In the spring it is clothed in the most brilliant flowers. The male (staminate) flowers attract a variety of insect pollinators with rich pollen. The female (ovulate) flowers extend a sticky, forked tongue of a stigma to catch the pollen. Some maples produce only male flowers; others produce only females. Being polygamodioecious, certain maples can feature both sexes of flowers. That is the case here. Now in full bloom, this maple flaunts not only a colorful, kinky display of red and yellow male flowers but a profusion of deep scarlet female flowers as well. I often try to assess the "sex" of a dioecious tree by looking for its flowers – are they male or female? Or for the telltale sign of a female: fruit. Such clues do not apply to this unusual Red Maple, however.

Staminate (male) flowers of a Red Maple in the Ramble.

As I gaze into the canopy, I am aware of another presence beside me: a birder, one whom I do not recognize. Judging from his intense expression, he is painfully eager to add another check to his life list of Central Park birds this morning.

"Whatcha got?" he practically demands as he fumbles a bit with his binoculars and camera. (The straps seem to be tangled behind his collar.) Since I now find viewing of our local floral phenological events to be just as rewarding as observing a dramatic landscape or a beautiful spring warbler, I carefully consider his question before responding.

"The most amazing thing!" I exclaim. "Here we have ovulate flowers displaying their forked stigmas. Did you know that in addition to being sticky they also attract pollen grains with a very slight electrical charge? And over here you have the staminate flowers in all their male glory, exhibiting a full crop of pollen-coated anthers! How about that? Male and female flowers in full bloom on the same tree! A polygamodioecious Red Maple if I ever did see one! And look, just above us leaves are unfurling like origami from tightly packed buds. They are still red of course, because chlorophyll production hasn't begun yet. Look at the emergence of tiny red samaras right over here on this female flower! Amazing, isn't it?" Only when he smiles uneasily and is about to move away do I add, "Oh, and up at the top of the canopy at about eleven o'clock is a male Blackburnian Warbler."

Not far from the Red Maple is another favorite tree, a magnificent Black Tupelo (*Nyssa sylvatica*). It is the largest tupelo in the park and likely dates back to Olmsted and Vaux's time. It sits in a small meadow surrounded by a low fence for protection. Autumn tupelos radiate with color, and in October, this one is a showstopper. Today the branches are still bare, offering an impressive view of the massive limbs and the woody skeleton that will soon be covered in green.

I count six squirrel nests in its canopy. As I stare up into the maze of twisting branches and limbs, I find myself drawn to the tree in a deeply primitive way. I want to climb it. Perhaps that is why there is a fence around it.

In another part of the park stands another tree that I visit regularly. I will not disclose its location or species. Just as some birders are reluctant (with good reason) to reveal locations of nests or owl roosts, I feel the same way about certain trees. In particular, trees that are ailing or struggling to survive, or ones that may be considered unusual and susceptible to human interference. This tree has been ailing and hemorrhaging an abundance of sap for some time. Seeing it is like visiting a sick friend. I feel the feverish heat of its bark and tell myself it is only the sun's warmth on the wood. The sweet sap oozing from its trunk can attract an amazing assortment of insects, including hornets, flies, bees, butterflies, and moths. Over time the sugary sap begins to ferment, and the olfactory sensation of visiting the tree is similar to walking into a brewery. Indeed I have witnessed some very unusual behavior of insects – apparently under the influence – after partaking of too much fermented sap. On occasion I have seen Bald-faced Hornets brawling viciously, and butterflies flying a bit unsteadily around the base of this tree.

Trees are much more than a name, or a landscape component, or a symbol on a map. They are unique living beings. They cool our planet and provide oxygen. They filter pollutants from the air, soil, and water. They stabilize environments by absorbing storm water and retaining soil from runoff. They offer nourishment and shelter. They make their own food. They are nature's own perfect factories. They give so much and ask so little.

I have been referred to as a tree lover, but I prefer to use the term "naturalist," as I am interested in the many wonderful connections between trees and other taxa, and how those points of contact operate within a living habitat. Even after trees die, they continue to serve as an important source of food and nutrients to an endless number of animals, plants, insects, and fungi. Nevertheless, I cannot help but view every natural loss or deliberate removal of a tree from Central Park with keen regret. But I return to the park from season to season to celebrate the trees that remain, along with every new planting or spontaneous sapling – for their tranquil beauty, their ecological value, and their enduring mystery.
– Ken Chaya

Book Review

A Rift in the Earth: Art, Memory and the Fight for a Vietnam War Memorial
By James Reston Jr.
New York: Arcade Publishing, 2017

Memorials enshrine values. They can unite us by creating a sense of identity and national purpose. They can heal by assuaging grief and other past traumas. The superior ones can challenge us to reexamine our history and remind us to avoid past tragedies and atrocities. As J. B. Jackson, a leading scholar of the American cultural landscape, reminds us, a successful memorial should inspire us in the present to act on the values and obligations it symbolizes. However, the creation, preservation, and destruction of memorials can also be explosive, creating violent divisions. My city of Charlottesville, Virginia, recently experienced the sinister side of memorials when white supremacists, neo-Nazis, and Confederate apologists poured into the city from across the nation to protest the city council's decision to remove statues of Robert E. Lee and Stonewall Jackson from two of the city's most important civic spaces. Using the statues as proxies to spread their messages of hate in the national media, they fomented riots that resulted in three deaths and numerous injuries – a grim reminder of the potential of memorials to channel aggression into civic chaos.

Fortunately, James Reston Jr.'s recent chronicle of the history of the Vietnam Veterans Memorial on the National Mall in Washington, DC, narrates a more hopeful story. A multitude of studies of the Vietnam Veterans Memorial already exist. (The global library catalogue World Cat lists 1,033 items, including no fewer than 415 books.) Do we need yet another? Reston makes a convincing case. He has produced one of the most critically acute and carefully documented studies of the memorial, describing not only its origin and creation but also the resolution of the enormous political and aesthetic controversy it generated. Although best known for his work as a journalist, Reston is a literary polymath – novelist, playwright, biographer, memoirist – and here his narrative gifts are on full display. He renders what could have been a boring slog through aesthetic controversy (abstract versus figurative art) and political infighting (pro-memorial veterans against anti-memorial veterans, or anti-memorial veterans against Maya Lin, the memorial's young designer) into a story that it is hard to put down.

Reston has brought to bear on the subject a vast amount of source material: op-ed pieces in major newspapers, print and online articles from the popular press, television interviews with leading figures involved in the controversy, journal articles, books, the *Congressional Record*, press releases, published diaries, the archives of the Vietnam Veterans Memorial Fund, the minutes of the Commission of Fine Arts, and internet articles. However, he does not simply harvest previous information. He adds new material based on his interviews with key figures, such as members of the jury that selected Maya Lin's winning design, the Yale School of Architecture professor who assigned her the Vietnam Memorial Competition as a class project, the architect who assisted her in converting her abstract and ethereal competition drawings into a design that could be constructed, and the widow of sculptor Frederick Hart, whose realistic sculptural group of three soldiers was eventually added to Lin's memorial. Unfortunately, Reston was unable to interview Maya Lin herself, since she did not want to relive a painful and heated controversy in which some antagonists even called her an "eggroll" or a "gook," denigrating her Chinese ancestry. She did, however, provide Reston with correspondence clarifying the details of the memorial's construction.

Reston's prose is succinct and highly visual, providing his account with the feeling of a fast-moving documentary film, and for most of the book he reports on events as they unfold without taking sides. We learn that the memorial was initially conceived of by wounded Vietnam veteran Jan C. Scruggs, who firmly believed that a memorial was needed on the National Mall to honor those who had

died in the war. The veterans' group that was an early champion of the memorial, the Vietnam Veterans Memorial Fund, originally had no intention of holding a national competition and had chosen a design team of sculptor Frederick Hart and landscape architects Joseph E. Brown and Michael Vergason for the project. When the veterans were persuaded to agree to a competition, Hart, Brown, and Vergason had to enter their design against 1,421 others, and lost. (They did win third place.)

Maya Lin first sculpted an early version of her prize-winning memorial in a helping of mashed potatoes in a Yale cafeteria. Eventually that early impulse evolved into her unprecedented and brilliant abstract design: a black marble, highly reflective, chevron-shaped wall – "a rift in the earth" – sited in a serene, parklike setting, upon whose walls were to be inscribed the names of some 58,000 people who died in combat or were missing in action, listed in the chronological order in which they died or were lost. Reston gives us inside information on the deliberations of the eight design professionals who awarded Lin the commission, as well as a detailed explanation of the ways in which architect Kent Cooper assisted her with the technical challenges of getting her design built.

However, the most vivid and finely wrought portion of the story involves the ferocious controversy that Lin's winning design precipitated among some veterans and their supporters. Before long, veterans, congressmen pro and con, wealthy donors, design professionals, and major figures in the Reagan administration were engaged in a polemical tsunami that nearly obliterated any chance of the memorial's ever being built. Many veterans expected a more traditional memorial depicting realistic figures symbolizing heroism and sacrifice. They were disgusted with Lin's abstract design. Some called it a "black hole," "a nihilistic statement," "a black gash of shame and sorrow." One likened it to "a urinal" in a "German beer garden." (A brief biography of Maya Lin lends insight into her aesthetic values and cultural background. It is complemented by one of Frederick Hart that serves the same purpose.)

Eventually a compromise was struck, with the agreement to add Hart's realistic sculpture of three soldiers in full combat dress and a large flagpole to the precinct of the memorial. Reston's interviews with Hart's widow about his working methods on the controversial sculpture provides new information on how he used live models and constantly revised his figures, inspired by fortuitous occurrences in his studio. On one occasion, Hart successfully captured in his full-scale clay mannequin the facial expression he was seeking when his live model reacted negatively to the cigarette smoke of a studio visitor.

Lin called the compromise addition of Hart's sculpture like painting a mustache on the Mona Lisa: a desecration of one artist's work by another. Hart's rejoinder was that Lin's design was a "blank canvas . . . contemptuous of life." The two never reconciled. Reston writes, "It was almost as if the Vietnam War was being fought all over again." Despite the bitter controversy, however, Reston's detailed account of the memorial's dedication ceremony shows that – at least for many veterans and families of the fallen – Maya Lin's memorial had healing power. Many in attendance that day wept, embraced, and left mementoes at the base of the wall, a powerful testimony to its cathartic effect. And these practices have continued to this day.

Despite the extraordinary thoroughness of Reston's documentation, there are a few omissions. Reston's account of architect Kent Cooper's prickly relationship with Maya Lin as he assisted her in turning her ethereal drawings into something that would be actually built adds to our understanding of the design process that made the memorial a reality. However, he does not mention one substantial alteration that resulted. This involved changing the approach to the memorial. Lin's original idea was for the visitor to approach the memorial head on and stand before it reading the names, embraced by the two arms of the chevron. The present approach is quite different, consisting of the two cobbled walks descending parallel to the walls. Lin's original approach was impractical, for it would have created trampled bare ground or a sea of mud in front of the wall from millions of visitors. The way one enters or first encounters a memorial is a critical part of the experience. Did Lin agree to this change at Cooper's suggestion or initiate it herself?

Also, there are a few missing illustrations. The majority of the images are well chosen and an effective component to the text, especially the color plates of some of the more bizarre or hackneyed memorial competition entries that set off the brilliance of Lin's. (A colleague and I entered the competition, and I was greatly relieved that our cliché of columns that could have pleased Mussolini was not documented here.) However, it would have helped Reston's section on the subsequent careers of Lin and Hart if he had provided more illustrations of their later work, such as Lin's Civil Rights Memorial in Montgomery, Alabama, and her Women's Table at Yale commemorating the twentieth anniversary of coeducation at her alma mater, or Hart's *Daughters of Odessa*, commemorating the four daughters of Czar Nicholas II, assassinated in 1918, or his later, pioneering work in clear acrylic resin.

Reston provides an image of Glenna Goodacre's Vietnam Women's Memorial (1993), a later realistic sculptural addition to Hart's figures, but does not mention it in the text beyond identifying it with a caption. Since it has become part of the memorial complex – which the interpretive sign near Goodacre's addition describes as "a circle of healing," defined by the two figural sculptures on one perimeter and Lin's "rift in the earth" on the other – it merits at least some attention.

In the book's final chapter, Reston shifts from objective reporting to autobiography, bearing witness to the powerful impact Lin's design had upon him personally. His experience of seeing his own reflection in the memorial's wall as he gazed upon the name of Ronald E. Ray, a close friend killed in the 1969 Tet offensive, precipitated a personal quest that culminated in a pilgrimage to the exact location of Ray's death in combat and conversations with Vietnamese veterans of the war.

This is a deeply affecting account of the way Reston came to terms with his own grief, his feelings toward the war, and his military service, which allowed him to avoid being sent to Vietnam. In recounting his experience at Lin's wall, Reston eloquently expresses the genius of its design: "That simple juxtaposition, Ron's experience and my own, is at the heart of Maya Lin's artistic concept and power. When I look at Ron's name etched in the black granite of her wall, I see my own face." (He does not offer his own opinion of the aesthetic quality and emotional resonance of the Hart sculptural addition, but points out that without it there would have been no memorial.)

The author concludes that Maya Lin's design

worked "on aesthetic, emotional, and symbolic levels," despite the controversy it initiated. For those who fought in the war it became "a place of pilgrimage." For those who protested the war, it served the same function. "It was therapeutic for some but not comforting for everybody." It offered a "tentative reconciliation," but not a "final one."

Reston makes a convincing case that "the torturous battle" over Lin's monument has profoundly changed its significance. It is no longer simply a commemoration of a specific past war but instead calls upon us to contemplate the meaning of all wars and the issues involved in challenging the authority of our government: "It has risen to the universal." One episode in the debate over the memorial bears especially powerful witness to this. Dr. Steven M. Silver, a psychologist who treated Vietnam veterans with PTSD and is a staunch defender of the memorial, wrote a letter to the Vietnam Veterans Memorial Fund. He proposed a constitutional amendment requiring any president, before committing American forces to combat, and any member of Congress, before voting on a declaration of war, "to read aloud the names on the Vietnam Veterans Memorial." – Reuben M. Rainey

2018 Book and Grant Awards

2018 John Brinckerhoff Jackson Book Prize Winners

Dean Cardasis
James Rose
University of Georgia Press, 2017

Kenneth I. Helphand
Lawrence Halprin
University of Georgia Press, 2017

Alison Isenberg
Designing San Francisco: Art, Land, and Urban Renewal in the City by the Bay
University of Georgia Press, 2017

Robin Karson, Jane Roy Brown, Sarah Allaback (eds.)
Warren H. Manning: Landscape Architect and Environmental Planner
University of Pennsylvania Press, 2017

Brian McCammack
Landscapes of Hope: Nature and the Great Migration in Chicago
Harvard University Press, 2017

Micki McElya
The Politics of Mourning: Death and Honor in Arlington National Cemetery
Harvard University Press, 2016

Alona Nitzan-Shiftan
Seizing Jerusalem: The Architectures of Unilateral Unification
University of Minnesota Press, 2017

Laurie Olin
Be Seated
Applied Research and Design Publishing, an imprint of ORO Editions, 2017

Marc Treib
Landscapes of Modern Architecture: Wright, Mies, Neutra, Aalto, Barragán
Yale University Press, 2017

Diane Waggoner
With Russell Lord and Jennifer Raab
East of the Mississippi: Nineteenth-Century American Landscape Photography
Yale University Press, 2017

2018 David R. Coffin Publication Grant Winners

Ethan Carr
The Greatest Beach: A History of the Cape Cod National Seashore
University of Georgia Press

Sara Cedar Miller
Before Central Park
Columbia University Press

Reuben M. Rainey and J. C. Miller
Robert Royston
University of Georgia Press

Alexander Robinson
The Spoils of Dust: Reinventing the Lake that Made Los Angeles
Applied Research and Design Publishing

Stephen Whiteman
Constructing Kangxi: Landscape, Image and Ideology in Qing China
University of Washington Press

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John Elder taught English and environmental studies at Middlebury College for thirty-seven years. Coeditor of *The Norton Book of Nature Writing*, he is also an author whose most recent books include *Reading the Mountains of Home*, *The Frog Run*, and *Pilgrimage to Vallombrosa*. He and his wife, Rita, live in the Green Mountain village of Bristol, Vermont.

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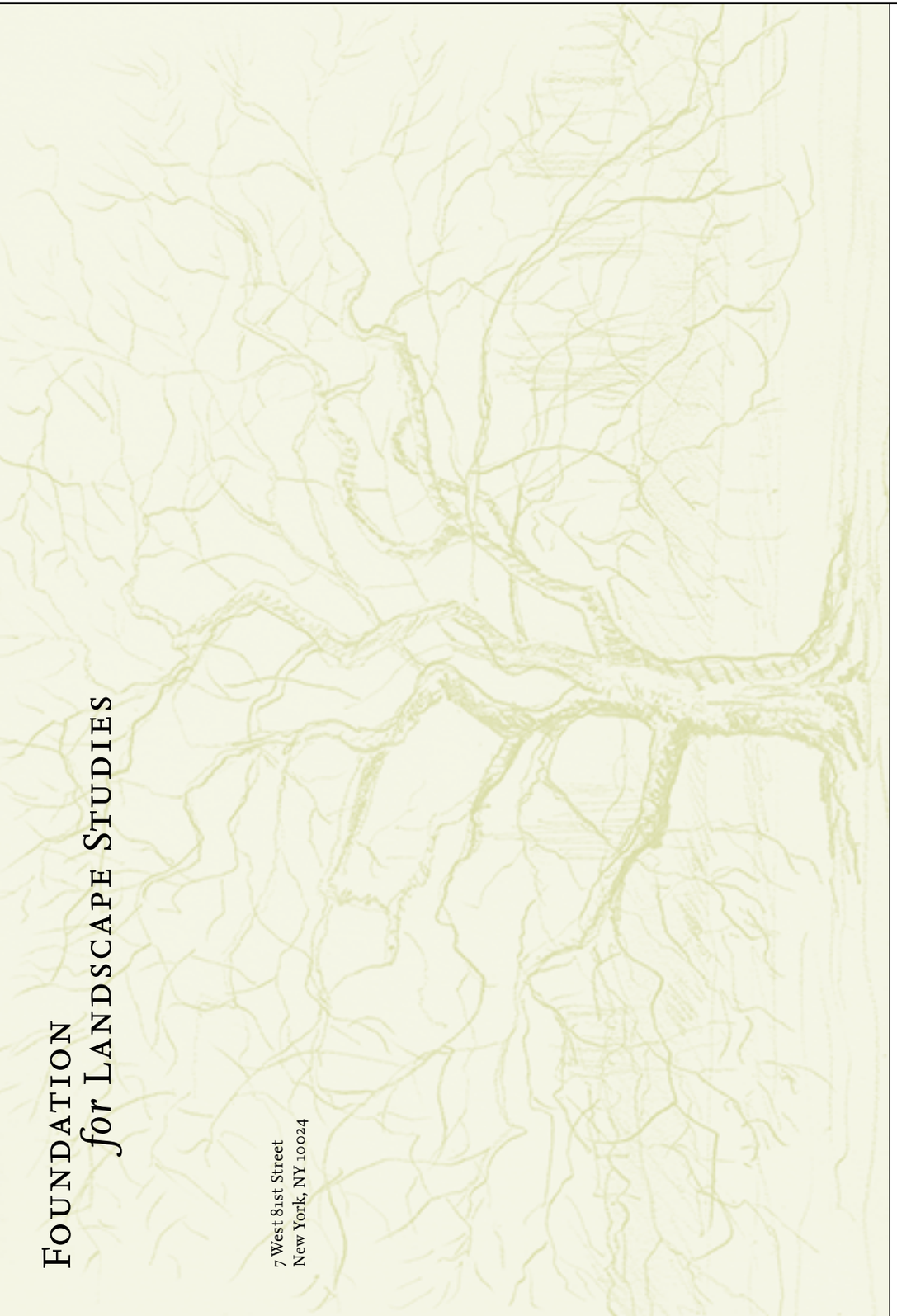
Thomas K. Slayton, journalist and former editor-in-chief of *Vermont Life* magazine is a freelance writer and regular commentator on Vermont Public Radio. His latest book, *Searching for Thoreau: On the Trails and Shores of Wild New England*, won the Independent Publishers Association's 2007 Gold Award for creative nonfiction. Slayton has been awarded honorary doctorates of letters by the University of Vermont, Sterling College, and Southern Vermont College.



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