
Millicent Harvey

Can the Los Angeles We Know Survive the Death of Its Trees?

L.A.'s 6 million trees keep us healthy—and they are all in jeopardy

By **Brandon R. Reynolds** - November 6, 2018

It is late in the day and still very hot—approaching and possible reaching 100 degrees—and, besides that, it's a Wednesday, so I think there's no way anyone's going to be out looking at trees. But I have underestimated the human ability to disregard nature when trying to commune with it. There are people everywhere. In our golf cart we dodge around them, standing still on the paths and enduring the heat to spend time with trees that are standing still off the paths and enduring the heat. "We're all in this together," I think as Kathy Musial drives us around the Huntington Library, Art Collections, and Botanical Gardens in San Marino. We're also looking at trees and, specifically, at how they're adapting to an ecosystem that's getting away from all of us.

Musial, the Huntington's collections manager, takes us past the sprawling desert garden with its otherworldly cacti and succulents, one vision for a definitively more arid Los Angeles. The art gallery, once the founder's home, opens onto a great lawn. At the far end, beyond a fountain, we see a view of the San Gabriel Mountains that Musial says simply didn't exist when she started working here because the smog was so bad. We weave through the 12 gardens representing this region's historical ability to support just about anything that wanted to take root.

A research institute, a library of art and rare books, and a science museum, this is the kind of place where I overhear one person say to another, "I do know a snail wrangler." But the Huntington is also a horticultural laboratory, testing for more than a century the limits of what the environment can sustain. Giant figs and hundred-foot bamboo in the jungle garden; young Pasadena and cork oak in the California garden; camellias and roses, herbs and lilies, and 200 species of palm in one of the oldest gardens. "We're always trying new things," Musial says, animated and lithe as a reed. "I'm not a big believer that we should just be choosing plants from

similar climates." We pass through cooler microclimates created by the gardens. The bridges and houses of the Chinese and Japanese gardens sparkle in the heat like paradise, or at least a good enough rendition of paradise that NBC's *The Good Place* uses the gardens for its afterlife scenes. Most of the plants we pass on our drive seem so happy it's hard to imagine that they weren't always here.

In the Australia garden, Musial points out bright red leaves on a brush cherry tree. "That's been sunburned," she says. Look closer and you'll see trees ailing, because what's happening in here is happening out there.

What's happening out there you know about: heat waves, wildfires, a massive die-off of trees in California caused by a multiyear drought and parasitic insects and disease and high temperatures. That's not just in forests: Urban trees, too, are dying, in part because the ecosystem, particularly in Los Angeles, is hitting a bunch of limits—social, economic, ecological—at once. What to do? It would be nice if all our standing around looking at trees would yield some answers. But right now all the trees are showing us is how we, too, might die in uncomfortably large numbers if we don't figure something out. This is exactly the sort of thing we tend to disregard.

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By just about any metric, trees are good. You should see the research. Here's just a sampling: air purification, noise reduction, "traffic calming," attracting shoppers. Wildlife habitat, carbon storage, city cooling, energy-use reduction. Trees cut crime and improve feelings of community. Just standing among them reduces stress, confusion, depression. They make children more active. Walking a kid with ADHD through a park does the work of peak-effect meds. Read the reports. Trees are ace at stormwater capture, each potentially storing thousands of gallons in its root system. Tree canopy can offset the heat-island effect that makes cities 10 degrees hotter than surrounding environments. Trees can block UV rays; trees can keep you out of the hospital. Trees can put a dent in the $22 billion in annual health-care costs from air pollution in the South Coast Basin, can reduce the more than 2,000 premature deaths a year from vehicle air pollution in Greater Los Angeles, can cut pollution in the city by 2,000 tons every year.

A study by the USDA Forest Service used a satellite imagery program called i-Tree to quantify some of the math—the dollar value of sequestered carbon, or the effects of tree canopy on water quality—for L.A. Every square kilometer of tree cover is worth $142 per person a year in health-care savings from air pollution, water runoff, and energy costs, and a total annual savings of $2 billion in air pollution, $40 million in water savings, and $1 billion in carbon storage. You may not think about all this, but stand in the deep shade and you'll feel it; you can't help it, you've got 50 million years of primate evolution to thank. Trees are nature that protects us from other nature. But to work with them for mutual benefit flies in the face of 150 years of development in which trees were used to adorn unchecked growth.

Los Angeles is a big experiment in tolerances. Its early hypothesis could be described as, roughly, "What the hell can we get away with?" It's an attitude embodied by the Huntington's founder, Henry E. Huntington, who helped grow the fledgling Los Angeles into a metropolis in the late 19th and early 20th centuries with stiff doses of imported water, public transit, and real-estate speculation. In pictures, he's sporting a mustache, alternately trimmed neat or full walrus. Caught in the posed act of removing a book from a shelf, he has a look that we, a century later, instinctively associate with civilization-shaping wealth. He inherited a railroad from his uncle. He inherited the man's widow, too. Both he and his wife loved art, books, and trees.

Huntington believed something the modern mind would find ludicrous: that all of this was limitless and eternal. You get the sense he built these gardens just to see if he could. They reflected and informed what would grow elsewhere. Consequently the Huntington's botany is now a microcosm of Southern California, where people and trees and buildings and streets are all, in one way or another, having to adapt or die.

The Japanese Garden at Huntington Botanical Gardens

The Huntington has lost 250 trees since 2016. “Many conifers are suffering,” Musial says. “The heat just cooked them. Redwoods, pines, junipers.” Other trees are infested by a beetle called the polyphagous shot hole borer. The insect spreads a fungal disease called fusarium dieback, which, along with the drought, has killed 129 million trees statewide and could kill 27 million in the Southland alone. (That’s about 38 percent of the trees in the region.) The shot hole borer, plus other species of borers and pests like the glassy-winged sharpshooter—not to mention long-standing ailments like sudden oak death—collectively threaten more than a hundred species of trees in urban and rural forests. That includes natives like coast live oak and sycamore, popular immigrants like avocado, sweet gum, and olive, and drought-resistant species like palo verde that we may come to rely on as the climate changes to what we now shorthand as “hotter hots, drier dries, and wetter wets.”

As of this writing, California is on track to see a record number of acres burned by wildfire in 2018—more than 1.5 million. That includes the Mendocino Complex, the largest fire in recorded state history, that burned 459,000 acres over more than a month. Before that, the Carr fire killed eight and burned more than 1,000 homes. Fourteen-thousand firefighters worked across the state against blazes that seemed to engage in an escalating arms race, introducing the public to tornadoes made of flames that not only pursue but inhale. Nationwide more than seven million acres have burned.

Mostly, it’s hot. NASA and the National Oceanic and Atmospheric Administration report that 17 of the last 18 years have been the hottest on record. There have been record temperatures in Europe, readings of 122 degrees in Pakistan, people in Japan watching outdoor movies in baby pools. Mortality rates are so high for the old, young, and poor that the CDC ranks heat as a severe health threat. Downtown L.A. hit a record high of 108 degrees in July. With extremes of weather and temperature, climate change is warping existing patterns to civilization-stressing levels. How to describe it? We’re entering an era of extraordinary climate variability.

The heat kills trees, too, by destroying their ability to move water from stem to leaves and through “carbon starvation,” wherein the photosynthetic process shuts down. Heat-stressed trees are more susceptible to insects and disease. Since a dead tree can’t cool the environment through evapotranspiration, it contributes to climate change, which in turn contributes to hotter

temperatures, and so on. In forests, a dead tree also becomes kindling for ever-bigger fires, perpetrator and victim both.

“Unfortunately, the way Los Angeles and almost every city in this country was built was not understanding the role that the trees have” —Andy Lipkis

None of this is news to Andy Lipkis, who is Los Angeles’s professional Lorax. He runs a nonprofit called TreePeople that he started in 1972 when he was a 15-year-old kid who just liked trees, like Huntington, and over time he has seen where Huntington’s endless city may end. TreePeople teaches people about trees, it plants trees in poor neighborhoods, it studies how to capture rainwater and runoff so we don’t have to spend billions importing it. TreePeople’s roots are so intertwined with the city’s now that it acts as the idealistic, tree-loving conscience of L.A.

For Lipkis, the tree is central to the conversation about what Los Angeles will become. Trees, he tells me, are “a tentpole of the ecosystem, and as we pull that apart, disintegrate it, remove the trees, it triggers a collapse—a breakdown of services we rely on and that urban humans have not had to think about as long as they could afford it, as long as they could pay for the energy, they could pay for the flood-control system, they could pay for the insurance of having vulnerable houses.” In cities like Los Angeles, the death of trees does the opposite of terraforming: It turns the Earth into Mars.

So this is kind of a science-fiction story: Los Angeles has become its own hostile planet, and it has to figure out how to become habitable long-term. One answer is to plant more trees. The urban canopy protects us, after all, from the “urban.” But it’s not so easy. Plant- ing trees does tend to interfere with some of the fundamentals of society, like streets and sidewalks and real estate. Historically humans would rather have streets and houses even though these contribute to the environmental effects that kill trees.

“Unfortunately, the way Los Angeles and almost every city in this country was built was not understanding the role that the trees have,” Lipkis tells me. “[They] are vitally needed now to moderate the climate—to make it possible for us to continue living in a healthy, safe way, [protected] from heat, from air pollution, from water pollution, from all these things.” Unfortunately, somebody’s got to water the things.

The modern guide to urban tree planting would start like this: “Step 1: Dig a hole. Step 2: Uproot dominant economic and governmental paradigms. Step 3: Replace with….” And then it would descend into a fevered argument with itself about hundreds of years of social philosophy and eventually retire to a cabin in the woods to write a manifesto.

Point being: The most delicate part of a tree in Los Angeles County is the 4,700 square miles of people, houses, and infrastructure that surround it. For trees, there is a terrifying verticality of bureaucracy: three local, three state, and two federal agencies. The L.A. Department of Public Works and Department of Recreation and Parks handle most of the urban trees on nonresidential property. City Planning oversees private trees. Sanitation gets in there, too, when it comes to water issues.

There are now about 6 million trees in the city. Of those, 700,000 are street trees. Historically L.A. has not prioritized the urban forest when compared to human-centric needs like sidewalks. Budget cuts hit tree-watering trucks or trimmed the urban forestry staff. But money is being shifted toward the forestry division again. The Department of Public Works, responsible for the street trees, was budgeted $18,695,000 for tree maintenance: planting, watering, trimming, and removal. Its five crews can trim 38,000 trees a year. With 700,000 trees, that means each one gets a trim every 18 years. This is, perhaps, why the default has been the flattop, or the "psych-ward" buzz cut, that leaves the tree stressed and prone to growing weirdly.

Tim Tyson is the chief forester of the city's Urban Forestry Division. He says the department waters new trees for three to five years to get them established. "Once they're older trees, they've found their own watering source," he says. There's no guarantee there, though. "As water tables drop there's less water for them to get, and they start showing signs of decline," he says. Even if they do become established, trees have to then grow up in, you know, a city. Street trees become the responsibility of the homeowner, whether he likes it or not, and that homeowner may already have his hands full completely ignoring the needs of the trees on his own property.

It isn't just the L.A. infrastructure that sidelines trees; it's the citizens themselves. Or to put it another way, inside is more valuable than outside. At USC, Travis Longcore studies satellite imagery of tree cover and rages calmly against square footage. Longcore, tall with an unpruned thatch of brown hair and a salt-and-pepper beard concealing a boyish face, looks at the mansionization effect—how homes are getting bigger even as the plots they're built on stay the same size. Who loses out? Trees.

It isn't just the L.A. infrastructure that sidelines trees; it's the citizens themselves.

Across Los Angeles County, tree cover on the lots of single-family homes declined 14 to 55 percent as house sizes doubled and tripled. "Real estate is the place where excess capital goes," he says. "The trees ultimately have no value in that."

Early on, the value of the land was the coin of the realm. The trees upon it were always a distant second. This holds true across neighborhoods, races, and classes. Middle- and upper-class areas like Tarzana and Encino get McMansioned, while homeowners in lower- income Baldwin Hills and Compton add legal and illegal conversions to create second dwellings while replacing trees with cheaper-to-maintain hardscape.

To combat the McMansionizers, there's a city "in-lieu" tree program: a fee ($2,000-plus for developers, $267 for homeowners) paid when trees are pulled up during construction projects. Longcore thinks that's an insignificant fee if you really want to deter canopy loss, even if the money is used to plant more trees. He and others point out that it takes years for a young tree to grow enough to provide "ecosystem services" like canopy cover.

When Public Works has to remove a street tree, the policy is to replace it with two others if it's not a "protected" native tree, and four trees if it is. Which is great, but the trees are still going into small wells in narrow strips between homes and businesses on one side and roads on the other.

“All these trees that are being planted in the parkways are being planted in very unfavorable environments,” says Tyson. “What we’ve asked them to do is quite amazing, but there’s a certain time when a tree has outgrown the environment in which it was planted or it declines before that, and we lose it.”

Even the city knows it isn’t the ideal setting for trees. Homeowners, meanwhile, may not know they’re responsible for trees in their parkway or may be actively trying to shirk that duty if they do. “There’s a disincentive to pay for trees,” Longcore says. Trees aren’t cheap; chuck them and save money. But, he points out, without trees you have less cooling, and energy costs go up.

“Trees really are our front-line adaptation to a warming climate,” he says. “To adapt, that means having tree canopy, having shade, having the ability to mitigate the effects of a warming city.” That few people in Los Angeles think this way now is because we worked hard as a city to bring a lot of trees here so we could totally misunderstand them.

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It's important to remind ourselves that this whole situation is one big seat-of-the-pants engineering project. The impulse is to think that this is a story of humans once again screwing up nature. And it is, certainly. But Los Angeles is an Eden we created in the first place. Though we're seeing a loss of greenery in urban spaces, in fact, the diversity and abundance of plant and animal life here is a result of human tinkering.

Way before Europeans showed up, there were 16 native trees in what is now L.A. County. Coast live oak clustered among the low chaparral in savannas, California sycamore lined waterways, California Bay poked up from rocks in the hills. Settlers brought European trees and Midwestern trees and big lusty East Coast trees, a migration of trees westward that paralleled human expansion. The majority of what you see in California's urban spaces came from overseas: most from Australia and East Asia, China, and Japan, as well as Europe and the rest of the Americas. Only six percent of the state's urban trees now hail from California. I am told that though there are 400 native species of trees in North America, in L.A. County, there are 569 species (obviously many non-native). We exceed what contains us.

Unique for its semiarid Mediterranean climate, California lured us to its golden bosom. Everyone saw land they could shape. What we didn't know was that our view was too small. We hadn't seen the rings from thousand-year-old trees showing that the formative years of Southern California—from about the mid-1800s to the mid-1900s—were uncommonly wet, that droughts lasting hundreds of years were common, that we were building upon a fluke.

In a November 1905 interview in the *Los Angeles Herald*, a reporter asked Huntington: "Why is Los Angeles?" Huntington answered "climate" and then repeated it eight times, chanting like a hypnotist or someone selling something. In the climate he saw the ability to plant anything, or build anything, and extend outward forever. To do so, he sang the praises of business opportunities and affordable lots for homes and his trolleys to connect them all up.

Trees, and especially palms, have always been linked to transit, sprawl, and the civic and profit motives connected to each. In the late 1800s, railroads and civic boosters cast Los Angeles as a "semitropical" paradise and miracle of wellness, guest-starring oases of palms like the native California fan. People flooded in. At the time, other trees were more popular: eucalyptus and acacias were, as now, favorites. But in another early iteration of L.A., South American pepper trees, not palms, were the iconic vegetation. They ran along Sunset Boulevard in Hollywood in 1900, when the street was dirt. Peppers were among the first victims of L.A.'s ambitions. They carried black scale, which threatened the immensely valuable citrus population. And they were in the way when roads needed widening as cars became essential. So out they went. As L.A. grew alongside and because of the technology that enslaved it, any tree that wasn't convenient to orderly, human-first growth was removed.

In his book *Trees in Paradise*, Jared Farmer writes about how a confluence of adaptive pressures introduced L.A.'s most iconic tree, *Washingtonia robusta*, the Southland sky- duster—the Mexican fan palm. In the 1920s the birth of the city grid, the popularity of automobiles, a forthcoming Olympics, and, later, a Depression-era works project meant the city needed neat, attractive, easy-to-maintain trees that would know their place. When streetcars, and then automobiles, came on the scene, the road became a central piece of infrastructure, and palms—first the native California fan palm, then the Canary Island date palm and others—became "municipal trees," the city's choice for urban furniture. Hollywood started filming them in column-lined avenues that looked like open-air palaces, and they became, as Farmer writes, "a metasymbol for the desirable city itself." No symbol was more enduring.

Over the years cars multiplied and roads expanded under palms that grew tall, grew famous, and grew old. Some are nearing a hundred feet and a hundred years. From that height, anyone can see the choice the city made. L.A.'s 6,500 miles of streets are 28 per- cent of its total developed land. Compare that to the 20 percent that is tree canopy. To look at L.A., with its tree coverage, its clear preference for impermeable pavement that gets so hot it basically throbs, you'd think nobody understood the effect of that choice. The city understands. The need for change was symbolized by a 2006 policy that very gently suggested that the city replace Mexican fan palms as they die with something that casts shade and offsets the heat-island effect. Controversy ensued.

"Is Los Angeles over?" the media asked; such was the connection between tree and town. Certainly one long-running version of Los Angeles—the impermeable one, the internally combusting one—is nearing an end of one sort or another.

ello!! Let me introduce myself.... Botanists call me *Kigelia africana*, but you can refer to me as the African sausage tree. You may have overlooked my presence in the past, but I am here to

H inform you of what a unique, interesting, and fascinating tree I am."

One of the most charming things the City of Los Angeles does is these trifold flyers detailing some of L.A.'s heritage trees. What's so adorable is that they are written from the perspective of the tree. We learn that all trees are childlike, fond of multiple exclamation points, and occasionally braggy. Still, the city is to be commended for tackling a basically ancient question, which is: How do we relate to nature? One clue. In bold all-caps at the top of each brochure: PLEASE PROTECT ME.

This plea might be bitterly received by the 18 *Ficus microcarpa* that the city is going to yank out along North Cherokee Avenue in Hollywood. You know ficus? Aka figs? Good shade, bad roots. There are a couple of different species in the city, and they were popular trees for streets and parks. (Ficus are the bathroom walls of the urban canopy: Carved initials or "I Heart whoever" show up dark against the trees' pale skin.) The shade they create is deep black. You don't so much drive through it as plunge into it. All of which will vanish, along with its attendant benefits, when the City of L.A. pulls these trees out to replace the sidewalks, buckled by obstreperous roots in too-small wells. The city has to. There was a lawsuit, plus Americans with Disabilities Act violations, and $1.4 billion to repair the walkways around town. It's a controversial move.

While trees may not know it, they live at the intersection of many competing priorities. "We're pretty densely populated, and it's only getting more densely populated," says Kevin James, president of L.A.'s Board of Public Works. Add community groups, developers, and state and federal regulations, and "it just gets harder to [create a robust tree canopy] in a more densely populated urban area when you have ADA requirements and road-width requirements and sidewalk requirements and tree-well limitations. You're limited to some trees that we now know don't buckle the sidewalks like trees that may have been planted 50 years ago have done."

Rich neighborhoods have trees and the associated benefits of air quality, cooling, better health, greater biodiversity; poor neighborhoods do not.

I'm standing in the shade with Stephanie Pincetl, an environment and sustainability researcher at UCLA. Short-haired and wry, she shares a quality of awe and cynicism common to the tree researchers I meet, which is probably typical of most scientists whose work takes them near the junction of nature and human imperative. The trees are also here, for now, screwing up the city's best-laid sidewalks. I'm looking for solutions, or at least reassurance that trees are compatible with modern cities. Pincetl's solutions are not modest. She scoffs at the parked cars. Why pull out sidewalks when you could reduce the size of streets? Why do we need so many cars? E-scooters like Birds and Limes are migrating eastward from Santa Monica; we're in a meta-ecological debate about whether they are an invasive species or add to transit biodiversity.

Pincetl and I are here to drive around L.A. You should do this. Drive around and filter the city through the lens of what trees are where, and what's there when there aren't trees. Hollywood, Inglewood, the oil fields, South L.A. You start to see the truth behind the maxim uttered by researchers who study the connection between wealth and canopy cover: "Trees grow on money."

L.A.'s 20 percent urban canopy cover is not evenly spread. Maps of tree canopy superimpose neatly over class divisions. Rich neighborhoods have trees and the associated benefits of air quality, cooling, better health, greater biodiversity; poor neighborhoods do not.

Why? Maintenance costs, for one. Research shows that the affluent have more resources to plant and water and trim trees than lower-income homeowners. (Although as drier climate pushes the

water table lower, “well-monied” trees will suffer, too. Visit well-forested neighborhoods and you’ll start to see thirsty trees.) Meanwhile, landlords of rental properties, where incomes are lower, yank the trees to avoid the cost of upkeep. The spike in the electric bill from running the AC gets passed on to renters. But everyone wants a free ride: Pincetl’s research shows the best tree for boosting property value is one that’s near the property but not on it. All the benefits of a tree with none of the costs.

Pincetl, like others, sees a reckoning ahead for the whole ecosystem, regardless of class. “L.A. was an artifact of wealth, of material abundance. Lots of fossil fuels, cheap; cheap building materials; lots of space; abundant water. Abundance. So what do you do when you have abundance? Well, you’re not very careful with managing scarce resources be- cause they’re not scarce,” she says. “We are entering into a transition period where that abundance no longer exists.” People who pay attention to trees all talk this way, a style of speech I’d call “Reasonable Apocalyptic.” It’s a perspective that suggests, humbly, that maybe it’s time for a new city. One that doesn’t just dole out trees and hope for the best.

In 2006 then-mayor Antonio Villaraigosa launched a program to increase canopy cover by putting free trees in people’s hands. By the official end of the program, 400,000 trees had been planted. Of those, many suffered from lack of general care. What was learned? The city could not support the massive expenditure of resources required to distribute trees, to integrate them into sometimes hostile infrastructure, to correct for social and economic inequality, and then to lavish years of attention needed for them to establish themselves. Nor was it reasonable to expect the average resident to do it, despite the zeal of volunteers.

Pincetl thinks that trees are often used as a token of environmental intention. “Trees cannot be implemented as a one-off policy,” she says as we drive by a long, narrow wetlands park that used to be a Superfund site. “We don’t want to do the hard work. We don’t want to really think about actually changing things. If we plant enough trees, everything will be good.” Instead, recognize that a city is a huge and unwieldy ecosystem. Its many competing priorities should not lead to more treeless patches when everyone agrees we’re trying to build a forest here. We need to accept it: For all its pavement, the city is nature. Or at least nature-adjacent.

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Changes are afoot. The city favors drought-resistant trees and in a wide variety of ages and species so that a street's worth of trees doesn't all die at the same time. By the time you read this, L.A. will have voted on a measure to charge property owners a fee based on their impermeable square footage. The proceeds, estimated at $300 million, will fund a system to prevent stormwater from becoming runoff to the ocean and be used to plant trees and create bioswales—those foliated trenches you see in parking lots. (Critics call it a rain tax, proving that no element can go unpoliticized.) To reduce the heat-island effect, the city is already deploying "cool pavement," a light-colored asphalt coating.

Meanwhile, importing water and controlling runoff are major concerns. The City and County of Los Angeles spend billions trying to figure it out. TreePeople's Andy Lipkis tells me about a study the organization conducted that found that 1.2 million of the county's single-family homes could support a rainwater-capture system. That would make up for some 10 percent of residential demand, reduce polluted runoff, and create emergency supplies. Add trees into that equation, and it becomes more sustainable still. City and county departments are wise to these findings and are working, in fits and starts, to in- corporate them into planning. "The mindset that we were a desert was only amplified by our actions," says Lipkis. "We were making it a desert by throwing that water away."

Lipkis and others see Santa Monica as a good model for L.A.'s future urban forest. It is perhaps obnoxious for L.A. to be compared to its rich neighbor. Still, Santa Monica has responsibility for representing the finish line for everyone heading west. On a map, Santa Monica is a seaside cube of wealth, the gold tooth in L.A. County's westward grin, visible from Asia. What the West is, what California is, what Los Angeles means, culminates and terminates here: ocean, beach, houses, cliffs, and palm trees.

Matthew Wells is Santa Monica's head of Urban Forestry. He, too, migrated west. Before Santa Monica, he was in New York, and before that, London. Tall and long-limbed, he is a able, precise, and winningly English. His parents were pharmacists and spare-time horticulturalists who raised Wells in a town called Nailsworth in Gloucestershire. Gardening was approximately the number

two pastime there. “The only thing we’re really famous for is cheese-rolling,” he says. “There’s nothing else to do there but chase cheese down a hill.”

In maintaining the urban forest, Wells also tends to the identity of Santa Monica—and, by extension, the whole region, since outsiders don’t distinguish “L.A.” as a collection of 88 cities so much as a great breathing organism, the Gaia hypothesis with the top down and Ray-Bans glinting in forever sun. Replacing old and sick palms at Palisades Park with tidy, xeriscaped succulents isn’t an option for city fathers, residents, or tourists. So he proposes replacing them with other palms, an elegant sleight of palm, which, like magic, isn’t really magic but gives the eye what it thinks it wants.

Wells does it with data. Every current and planned tree plotted on maps, classified by Wells and his team for once and future size, longevity, water needs, variety. Each species broken down by gallons of stormwater retained, kilowatt hours of electricity saved, pounds of atmospheric carbon removed, cost of environmental benefits. This is relatively novel for city planning (and city budgets focused on the fiscal Now) to think in terms of how the urban is an extension of, and an interaction with, the natural world.

What the data show is that some trees don’t comport with the new climate. Magnolias, for example. Early arborists brought in the Southern favorite for its beauty, size, and the biggest and most uncomfortably lush flowers of all the region’s trees. (According to a 2011 study, it’s Santa Monica’s third-favorite tree, behind the jacaranda and palm.) Magnolias are not a part of Santa Monica’s long term. As they go, they’ll be replaced by, among others, Quercus suber, the good old cork oak. So if you drive through the city and see a magnolia, recognize that you are witnessing the end of a historical moment. Blow it a kiss, or draw your finger slowly across your throat, depending on your sympathies for the overly demanding, underly adaptable genus *Magnolia*.

How do you do it, Santa Monica? A small, rich city with controversial futurist aspirations to restricted development, low carbon production, and single-family homes that produce rather than consume energy. The affluence affords a vision of how a tree-forward city operates: the ability to prune lightly every three years rather than L.A.’s 18; to address buckling sidewalks with minor surgery to tree or infrastructure; to recycle 550 million gallons of water for landscape and irrigation and use trees to capture stormwater before it runs into the Pacific, all toward meeting a 2020 goal of “water self-sufficiency.”

The City and County of Los Angeles are creeping bureaucratically toward similar solutions. “Planting the trees is not the hard part,” says Lipkis. “It’s setting up the system so trees survive and you get the desired set of outcomes.”

It’s a squishy thing, talking about how trees improve mental health and reduce crime and clean the air. How to feel about that, really? Driving around with Kathy Musial and Stephanie Pincetl, I was hoping to learn the secret to loving trees and to share it with you so you’d love them, too, not just for their beauty, but in an evolved way that includes social equality, government efficiency, and futuristic infrastructure. It’s got to do with the value of the data, to be sure. But even Travis Longcore—a high priest of urban forest data collection, a man whom I have seen patiently review blurry satellite images of the city, crown by leafy crown, to determine the carbon savings of trees in a particular area—even he has a moment of public emotional evangelism. In a scholarly paper, he essentially throws his hands up in the air and says, “the public is most strongly motivated to action on biodiversity and environmental action based on personal emotional satisfaction.” He adds, “Surveys of property owners show that by far the top reason for planting trees is their beauty, not direct appreciation for the economic value trees provide or an abstract sense of environmental services. One way that beauty or love motivates landscape choices is through wildlife.”

Where is the beauty in all this? I could tell you that, at the Huntington, experimentation continues. After my visit, Musial sends me an email saying, “I want to say just one word to you. Just one word. (Cue *The Graduate*.) *Brachychiton*,” and then includes a picture of a big, new, leafy tree—very green, very happy in the heat. “Planted in March, the Australian genus were three feet tall. They’ve since quadrupled in height.”

Or I could tell you to forget beauty and instead let fear drive you. For Lipkis, after half a century of doing this, he worries Los Angeles has hit its limits. “There are cities around the world that understand that trees are part of the watershed,” he says. “Now we’re at a tipping point. We have to bring all this into focus because lives are at stake.”

Or I could tell you about being stuck in traffic with Pincetl on the 405, where Western civilization spends a lot of its day staring blankly ahead. Why are we forced to change so much stuff all at once, I ask? It’s a new ecosystem, she says.

“If we want people to live decent lives, which I would hope most people would, we’ve got to conserve those resources so that they can go around more. There’s more for everybody rather than just a whole lot for a very few, which is what we have today, a whole lot for very few. That’s a recipe for revolution, frankly…. I’m not saying that that’s going to happen here, or anywhere, particularly, but it’s just so skewed. Am I—?” She looks over at me. “Do I sound crazy to you?”

She doesn’t. I get off the highway. I’m dropping her off near the Hammer Museum in Westwood, where she’s meeting a colleague. They’re beginning work on an L.A. County sustainability plan. “I’m not saying we shouldn’t be rethinking things or reforming things or having more oversight and scrutiny,” she says. “I’m not saying any of that. I’m just saying that it’s a complicated, dense world out there.”

Across the street, pruners are working on a row of magnolias. It is a rare thing to witness. The workers might as well have been unicorns, with chainsaws and a delicate touch. “They did a nice job on that tree,” she says as she gets out. And they really did. It is a beautiful thing to see, a system of systems all working together. A well-shaped crown, plenty leafy, cut to satisfy the needs of a city for at least a generation, and then turned back over to its wildness.

Brandon R. Reynolds is a contributing writer for Los Angeles. *His article on Noches con Platanito appeared in the July 2018 issue.*

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