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Only Mother Nature herself knows plants better than Patrick Blanc, inventor of the vertical garden.



STEP INTO PATRICK BLANC'S HOUSE IN SUBURBAN PARIS, and it's not just the city

you've left behind. You are suddenly in some undefinable foreign land, where tiny tropical fish swim underfoot, pudgy little white-eyed birds from East Africa flutter overhead, leaf-green lizards peek out from between the books of a well-stocked library, and plants from around the globe sprout from a wall two stories high. Then there's Blanc himself, an otherworldly figure with his green hair and matching tie-dyed T-shirt, wearing shorts and flip-flops, summer and winter alike.

Blanc, 58, is the inventor of the *mur végétal*, or vertical garden, where plants grow horizontally, without soil, indoors or out, on surfaces of any size. His works of art (he calls them "green paintings") bring a burst of nature to urban settings from the Quai Branly museum in Paris to a luxury apartment building in Sydney. This spring he is the guest of honor at the New York Botanical Garden, planting an original creation for the 10th annual Orchid Show, which runs through April 22. Most people discover Blanc when they see one of his walls, so they tend to think of him as an artist or designer working in the plant world. Those who have the opportunity to meet him, however, are awed by the depth of his scientific expertise. This unusual combination of knowledge and artistic talent has put him in a class by himself, alone at the top of his field more than three decades after creating his first vertical garden and despite a growing number of imitators.

Todd Forrest, vice president for horticulture at the New York Botanical Garden, calls the Frenchman a "world-class botanist" with an incredible understanding of plant morphology and ecological attributes. "Every time Patrick comes to visit us, he's looking out of the corner of his eye, identifying unusual plants tucked into the recesses of the conservatory," he says. "It's remarkable. In all the years we've been doing this show we've rarely had a designer who can tell the difference between two palms, let alone identify a rare tropical plant by sight. And not in flower, just by foliage."

Blanc is the Indiana Jones of the botany world, a researcher at the prestigious Centre national de la recherche scientifique (CNRS) who spends at least half of every year trekking to the most remote reaches of the Earth to study what grows there, from the *Everardia montana* he spotted while dangling from a rope on a cliff face in Venezuela to the *Trochodendron aralioides*, or wheel tree, he found emerging from the trunk of a 2,500-year-old cypress in northeastern Taiwan. He has heard a tiger growl in Cambodia ("when the guide is the first person to run away, you start to wonder"), seen countless poisonous snakes ("anybody who tells you they flee when humans approach is wrong") and caught nearly every tropical disease in the book.

In the spring of 2009 he was exploring plant life on Palawan Island in the Philippines with his longtime partner, Pascal Héni (a singer known as Pascal of Bollywood for his renditions of Hindi movie songs), when he came upon a begonia with intriguing, spatula-shaped leaves. A previously unknown species, it has since been named for him: *Begonia blancii*. The pair returned to the site with a tropical botanist from the Royal Botanic Garden Edinburgh, and a YouTube video from that trip shows Blanc baptizing his plant with a sprinkle of Veuve Clicquot. "One drop, one leaf, *voilà*," he laughs.

When we meet, he has just come back from a research expedition to Laos. The group was using a *radeau des cimes*, a weblike contraption composed of pontoons and netting that is transported by dirigible and placed directly on the tree canopy, permitting scientists to study its rich biodiversity. His traveling companions included Gilles Ebersolt, the architect who created this Jules Verne-like invention. Ebersolt also designed Blanc and Héni's new home, a

two-story structure with an inner courtyard and wrought iron railings shaped like ivy. Flora and fauna now flourish in every room, and Blanc's open-plan office is like a jungle, with a magnificent wall of plants from around the world and a floor that is actually the glass top of a 20 x 23-foot aquarium that harbors aquatic plants and 2,000 tiny tropical fish in more than 5,000 gallons of water.

The botanist gives his visitor an enthusiastic tour of the premises, smiling when the birds awaken all at once and emerge like magic from the greenery of the wall. He sprinkles fish food into the aquarium, lovingly caresses the leaves of a Taiwanese plant and shows off the open-air shower on the upstairs patio that he uses every day, no matter what the weather. Friends and acquaintances speak fondly of Blanc; designer Olivia Putman calls him the most poetic person she knows.

A glass of rosé in hand, he makes himself comfortable on a couch covered with multicolored throw pillows, beneath a poster of 1930s Swedish singer Zarah Leander. Behind him the underwater spotlights of the aquarium floor glow softly and the chirping of birds blends into the murmur of his wall's watering system, like a trickling waterfall. This is his oldest existing wall, planted 30 years ago at his former home and transplanted to the new house in segments, to which he is continually adding. It is different from the walls he designs for his clients, with more unplanted patches where mosses can grow. "There are many plants here that are not spectacular," he says. "I like that. Clients always want plants that look like something special, but in the forest most of them don't look like much."

HE HAS BEEN FASCINATED WITH THE NATURAL WORLD since he was a boy growing up in an apartment west of Paris. As he recalls, "I always liked small tropical fish and plants, heat and humidity. Was it something about my mother's womb? I don't know." In any case, he was fortunate to have a wonderfully indulgent mother who allowed him to set up a tropical aquarium and use his bedroom as a laboratory, took him to any museum exhibit featuring plants and birds, and didn't bat an eye when he grew his fingernails long at age 12, in homage to Edith Piaf (they are still impressive). His father, an inspector with the labor ministry, would fill containers with fountain water on his way home from work so that Patrick could top up his aquarium.

At around age 15, after reading in a German scientific journal that plant roots could purify aquarium water, Blanc took a cutting from his mother's philodendron and attached it to the filter. Within weeks, the plant was sending new roots into the water—and Blanc's career path took root along with it. He placed the aquarium on the floor, added more plants, attached them to a bamboo trellis and created a waterfall. Only occasionally did it flood the downstairs neighbors' apartment.

At 19, Blanc took a trip to Thailand and had an epiphany in the tropical forest of the Khao Yai National Park, where he saw vegetation growing from tree trunks, behind waterfalls, on rocks and in the understory. He realized that plants could live almost anywhere, low or high, in light or shadow, with or without soil.

Back home he continued experimenting, attaching plants to a wooden plank with staples, trying different mosses and irrigation systems, hoping to re-create what he had seen in Thailand within the confines of an apartment. He ran into a few snags, such as decomposing moss and excess acidity in the water, but after a few years of trial and error, he at last hit upon the formula that he still uses today. He covers a rigid, waterproof board, generally PVC,

with synthetic, non-biodegradable felt (which acts like a thin layer of algae or moss) and affixes plants with rustproof staples until the roots take hold. A pump regulated by a clock keeps the felt moist. The vertical gardens require minimal upkeep; weeds don't grow, and because of the variety of species, the walls resist any diseases that might decimate a monoculture.

After earning a PhD in botany at the renowned Université Pierre et Marie Curie, Blanc showed his first vertical garden publicly in 1986, at the Cité des Sciences et de l'Industrie at La Villette. It received very little attention, but he was too absorbed in his research to be disappointed. In 1991, he planted his first outdoor vertical garden, on a concrete wall near his home, and three years later he was invited to create a green wall for the International Garden Festival at Chaumont-sur-Loire. This time it garnered enormous interest, as architects and designers suddenly saw the potential for integrating vertical gardens into their plans.

One of them was Jean Nouvel, who asked Blanc to collaborate on plans for the French Embassy in Berlin. That project was never realized, but the two men have worked together several times since. "A new element has been added to the architectural lexicon," writes Nouvel in his preface to Blanc's book, *The Vertical Garden*. Their most renowned achievement to date is the Musée du Quai Branly in Paris, which brought Blanc international acclaim when it opened in 2006.

It was thanks to an interior designer, Andrée Putman, that Blanc received his first architectural commission. In 2001, Putman was transforming a former American Legion headquarters near Avenue Montaigne into a luxury boutique hotel, the Pershing Hall, and had to mask an unattractive wall in the courtyard. As Olivia Putman, who now runs the agency, recalls, "My mother was the first to give Patrick a chance. She understood that his process, which worked very well for walls a few meters in height, could also work for a project 30 meters [100 feet] high." Blanc planted it with some 200 different species; the hotel with its stupendous vertical garden immediately became one of the hottest addresses in the city.

FIRST DRAWN IN PENCIL THEN TRACED IN MARKER, Blanc's sketches resemble antique maps, a tapestry of small areas labeled with different plant names in his tiny scrawl. One wall can boast hundreds of species in infinite shades of green, with different shapes and patterns. (Blanc is not a huge fan of flowers.) He selects plants to suit each particular environment, from the sunny climate of Australia to the humid darkness of a parking garage. At the top of a wall he places more simply shaped plants that can resist exposure to sun and wind, while shade-loving plants from the forest understory have their place at the bottom.

Blanc estimates that he has created vertical gardens in more than 200 locations over the years, including a shopping mall in Bangkok; a museum in Kanazawa, Japan; the Cartier Foundation for Contemporary Art in Paris; the CaixaForum museum in Madrid, designed by architects Jacques Herzog and Pierre de Meuron; a concrete overpass in Aix-en-Provence; an alley near the Gare de l'Est in Paris (at 16,000 square feet, it is his biggest surface yet); and high-end hotels and restaurants in Hong Kong, London and Miami Beach.

Despite this workload, he maintains the smallest of staffs: one assistant, a former CNRS student named Jean-Luc Le Gouallec, plus a couple of men who travel around the world overseeing the independent local companies that install each wall. Potential clients must contact Blanc through his Web site, and Le Gouallec sifts through the requests. A budget for a Patrick Blanc wall includes the cost of installation, around €50 per square foot (he notes

this is no more expensive than other high-quality surfaces) plus Blanc's fee, which is a percentage of a project's overall cost and can run as high as six figures for large ones. His luckiest friends have received vertical gardens for free; he surprised one of them on her birthday with a wall covered with aromatic plants.

As his reputation has grown he has received commissions for bigger and more complicated projects. In Sydney, he is currently working with Nouvel on One Central Park, a dramatic residential building in the city center with a façade 380 feet high. In Bahrain, Blanc is installing a vertical garden on a building at the entrance to the ancient city of Muharraq, to evoke an oasis. Sandstorms and temperatures that can climb up to 120 degrees are among the myriad challenges here, and he has chosen 200 types of plants in the hope that at least two-thirds will survive the first several months.

In Miami, he is working with Herzog and de Meuron on a new art museum, covering 70 outdoor columns with plants so that the building appears to be suspended above the ground in hanging vines. Some plants will be exposed to sunlight while others are in shade, and they must be hurricane-resistant. Not all of the columns descend to the ground, making water runoff a challenge.

Much has been written about the environmental impact of vertical gardens—insulating effects, carbon sequestration—but Blanc freely admits that's not their greatest advantage. For one thing, they require non-environmentally friendly materials such as PVC to keep from disintegrating. For another, they consume energy and water—though when possible, Blanc recycles rainwater and gray water (all domestic waste water except sewage).

He says the primary role of vertical gardens is to bring greenery to the city at a time when more than half the planet lives in urban settings. "It's a way of saying that all is not lost, man can coexist with nature," he notes. What concerns him more than global warming—as he points out, plants love carbon dioxide anyway—is the widespread leveling of forests. "If you destroy the microforest in northern Palawan to plant sugarcane so you can put ethanol in your car, the *Begonia blancii* will disappear forever, without any chance to adapt."

For a moment, he sounds like the Petit Prince worrying about his beloved rose.

When I ask if there is a spiritual aspect to his work, he takes a long pause before answering: "If there weren't, how could I create this?" He turns to look at the miraculous little world he has planted in his home. "Why else would I spend hours staring at it, looking at each leaf, instead of working?" In the métro going home, I open his book to read the inscription he has just written: "Stay faithful in love, for plants or people, it's the same thing." ▲

