

A R

B O

R E

trees
as
architecture

T U M

arc en rêve centre d'architecture bordeaux

**arboretum
trees as architecture**

exhibition curatorship
arc en rêve centre d'architecture

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Stones and bricks are precise. They have exact dimensions and their size can be determined on demand. Trees and shrubs, on the other hand, are messy and unpredictable. Their branches grow wherever they want. Their roots creep underground. Their leaves and fallen fruits are troublesome to clean up. A storm can make them crash onto your roof.

For a very long time architects have appeared to prefer stones and bricks to trees, unless the latter are dead and cut into beams or sliced into planks. So one could say that architecture and trees have never exactly been the best of friends.

arboretum, trees as Architecture intends to demonstrate that this assumption might be too simplistic and that in fact, for centuries, architects have considered trees as fundamental elements in their designs. Whether already present on site or imagined as future plantations, trees have been cared for and treated as being instrumental to achieving certain effects: providing shade, adding their foliage to a view from a window, introducing a sense of monumentality, creating landscape in urban settings, or becoming symbols.

This exhibition is a tiny fragment, from different eras and geographical areas, of an infinite and exhilarating collection of examples: many trees do not appear here. It is an abstract forest of finite cases—sometimes built, but at other times just dreamed of. There is one tree... but there are also seven thousand trees: visitors are invited to wander through this wood, getting lost and discovering what is possible if we think of trees as architecture and architecture as trees.

Fabrizio Gallanti, director, arc en rêve centre d'architecture

with the contributions of

Archivio Architetto Cesare Leonardi, Archives Bordeaux Métropole, Atelier Tsuyoshi Tane Architects, Baukuh + Johnston Marklee + YellowOffice, Susanne Bürner, Ludmilla Cervený, Michel Desvigne, Drawing Matter Collection, FRAC Centre Val-de-Loire, Harvard University Graduate School of Design, Ron Henderson + Furnac FPS, Hessischer Rundfunk, Carsten Krohn, LCLA office (Luis Callejas & Charlotte Hansson) and Maximilian Schob, Duncan Lewis / Scape Architecture, Bas Princen + OFFICE KGDVS, Office for Political Innovation - Andrés Jaque, Giovanna Silva, SITE / James Wines, Álvaro Siza, Spazio, Suzuko Yamada architects

The book *The Architecture of Trees* by architects **Cesare Leonardi** and **Franca Stagi** was a major source of inspiration for the **arboretum** exhibition concept.

The result of 20 years of work, the book contains **550 plates representing 212 species of trees as well as studies on the projected shadows, the seasonal chromatic variations, the leaves, the flowers and the fruits of different species.** This extract is taken from the essay *The City, Green Space and the Architecture of Trees*, written by **Franca Stagi** as a preface to the first edition of the book, published in 1983.

So, in order to design parks, one must know trees. By that I mean getting to know them one by one and also acknowledging that the design of a park is a design of the future. It is a proposed mechanism for transformation, growth, life, and death. Creating a park means creating a process that will last for decades or even centuries. During that time, as the seasons change, trees will produce and then lose leaves and flowers, each on its own schedule and at its own pace. The differing life spans of trees must be considered, so that the trees do not all mature fully at the same time and so that there is variety in size. Keep in mind that when the less long-lived species die off, there should still be other trees that are not yet fully grown. Inserting trees into a city enriches all of our lives; by observing trees we can perceive the passage of time and the changing seasons. It gives us the opportunity to see not just the colors of the city that fade in the sun and the walls of the city that crumble over time but also colors that are renewed and transformed in an endless cycle—beings that are not worn away by time but instead continue to grow and develop.

We often think of trees as things, as objects. We perhaps see them as providers of shade, but mostly we think of them as things we can use, shape, and force into restricted spaces and bend to our anthropocentric view of the world. Trees are victims of their own immobility—they are anchored in place. We forget that they live with us on this planet and that the planet, indeed, was theirs for tens of thousands of years before it was ours. They grab on to the planet, as Anthony Huxley put it, unshakeable and strong and able to regenerate, to begin again from the beginning, leaf after leaf, in the face of the cruelest types of devastation. We forget that they breathe every day, leaf by leaf. We forget about their unique and extraordinary ability to draw food and energy from light. We overlook their constant and vital contribution to the life of the planet as they produce oxygen and supply it to all other creatures. The fact that trees provide oxygen is such an acknowledged and accepted fact that it loses all meaning. It's an obvious notion—something we learned in school as kids—so we forget it. Knowing trees means rediscovering this.

It also means acknowledging that leaves come in an infinite variety of shapes and have surprising abilities. (Nature never tires of providing varied answers to the same question.) Leaves may be fringed, segmented, or composed of tiny leaflets to defend themselves from wind. Leaves can curl around themselves or protect themselves from the sun's fierce rays by growing parallel to them or turning their white, fuzzy sides toward the sun to defend themselves. They twist, they turn, they rearrange themselves one by one as they seek the light and let it filter down to lower, more hidden spots. They fend off the cold by dying in winter or shriveling

into needles or coating themselves in wax. Succulent leaves can survive in the desert, stubbornly self-sufficient with their water reserves. Getting to know trees means understanding their geometrically perfect growth, spiral after spiral, the way their branches are angled in the same way in relation to their trunks. They follow a design, species by species. Some have perfectly straight trunks; others have multiple trunks. Some tree trunks are virtually obese.

Is it bizarre or provocative, then, to suggest that we ought to design parks not to the measure of man, but to the measure of trees? We created the drawings and descriptions of trees in this book for this purpose: to learn and teach the elements of the architecture of green spaces, meaning parks. That knowledge can begin with the study or description of a tree's various parts: leaves, flowers, fruits, bark, and other details that are less visible, more subtle or hidden. But it can also begin by considering the tree as a whole and creating an unmistakable drawing of its structure: the size and shape of the trunk and the arrangement of the limbs and their angle in relation to the trunk, as well as how many there are and how large they are. We can consider the structure and intersection of the limbs, or the way the leaves—with smooth or jagged edges, bright or dark, tiny or large—combine to create a crown that may be compact or sparse, dark, bright, round, or irregular in shape.

Our minutely detailed drawings suggest a reading of the whole: again, consider the tree as architecture. The lines used for each drawing, different for every tree, are meant to capture and summarize the elements of the overall structure: naked branches or branches covered with and hidden by leaves or revealed by their clusters, the light or sparseness or density or transparency of the crown, and even the shape and size of the leaves.

[...] Tree by tree, species by species, these drawings provide real examples and not abstract prototypes. They show the adult plants as they are when they grow in typical conditions. [...] Along with the drawings of the trees there are drawings—also to scale—of details of the various species (leaves and sometimes flowers and fruits) and brief informational sections that provide ideas and information on families, genera, and species. These detail drawings and descriptions provide additional documentation for understanding the design of trees—the core purpose of this book.

[...] The path to learning about trees is straightforward, paved with images, drawings, and words. Once you have gotten to know them, you will never be able to (nor should you) forget them or ignore their silent breathing and the fact that they live with us and we with them.

Franca Stagi (1937-2008), architect,
Studio Leonardi Stagi

In LEONARDI (Cesare), STAGI (Franca), *L'architettura degli alberi*, Milan, Lazy Dog Press, 2018;
English edition: LEONARDI (Cesare), STAGI (Franca), *The Architecture of Trees*, New York, Princeton Architectural Press, 2019;
published for the exhibition *Trees*, Fondation Cartier pour l'art contemporain, Paris, 2019.

associated events

talk
arbre à palabres

Philippe Rahm architect
Emanuele Coccia philosopher

As a prelude to the exhibition **arboretum, trees as architecture** and in the framework of the *season culturelle de la ville de Bordeaux 2021 Ressources*

→ 13 July 2021, 6.30 pm

meeting
la migration des arbres

Philippe Richard
director of the Botanical Garden of Bordeaux

→ 30 September 2021, 6.30 pm

citizens' forum
politique de l'arbre

with **Bordeaux Métropole** and **Mairie de Bordeaux** in the framework of **Woodrise**

→ 5 October 2021, 5.30 pm
& 8 October 2021, 6.30 pm

urban itinerary
meeting the city trees

in the framework of **Journées nationales de l'Architecture**

→ 16 & 17 October 2021

talk
Transforming Landscapes
Michel Desvigne landscape designer
Françoise Fromonot architecture critic
→ 8 December 2021, 6.30 pm

talk
construire avec les arbres
Duncan Lewis architect
Claude Figureau botanist
→ January 2022

conference
Architecture Arboretum
Sylvia Lavin architecture historian
→ January 2022

exhibition 23 09 2021 → 23 01 2022

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Since 1981 arc en rêve centre d'architecture has elaborated a cultural awareness-building strategy focusing on contemporary architecture and extending into city planning, landscape design, aimed at broadening perceptions of a changing world. Its internationally recognised programme features exhibitions, lectures, public discussions, publications, workshops for children, seminars for adults, visits to buildings, city tours, and planning experiments.

arc en rêve centre d'architecture bordeaux

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London Smallpox Hospital, Georges Coke, 1796
© Drawing Matter Collection



BEST Forest Building, SITE, James Wines, architect, Richmond, 1979
© SITE New York



Edificio Los Eucaliptos, Juan Kurchan and Jorge Ferrari Hardoy, architect, Buenos Aires, 1944 © Ferrari Hardoy Archive



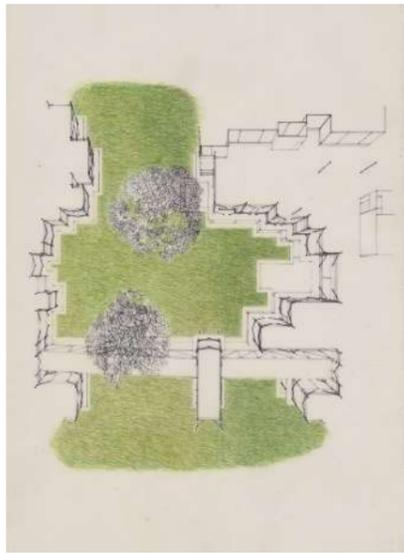
Crown Hall, Mies Van der Rohe and Alfred Caldwell, architects, Chicago, 1956
© Ron Henderson + Furnace FPS



Moving a giant magnolia to the Botanical Garden of Bordeaux, Jules Philippe, 1857
in L'illustration, Journal Universel du 16 05 1857



Brasilia Palace Hotel, Oscar Niemeyer, architect, Brasilia, 1957
© Carsten Krohn



Lucas Headquarters, perspective drawing, Shirley, United Kingdom, 1973-74, Alison & Peter Smithson, architects
© Alison and Peter Smithson Archive



L'Arbre de la liberté, Paris, 1848
© Bibliothèque nationale de France



Hameau de gîtes ruraux, Jupilles, 1996
Édouard François and Duncan Lewis, architects
© Duncan Lewis



Robinia Pseudoacacia L., Cesare Leonardi, Franca Stagi, Modena, 1982
© Archivio Architetto Cesare Leonardi



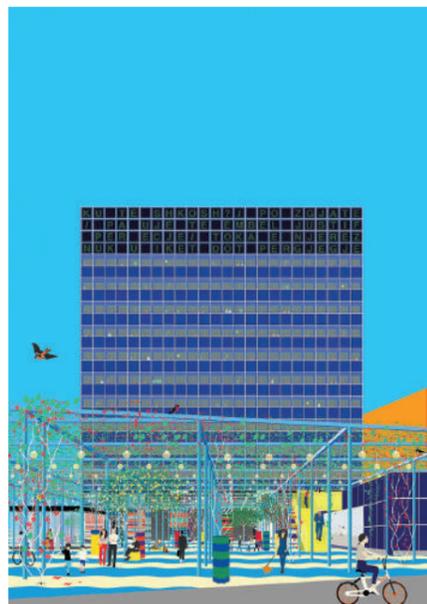
Kandalama Hotel, Geoffrey Bawa, architect, Dambulla, Sri Lanka, 1996
© Giovanna Silva



Daita2019 House, Suzuko Yamada architects, Tokyo, 2019 © Yurika Kono



Cidade Velha, Cap Vert, Álvaro Siza, 1998
© Álvaro Siza



Tirana New City Hall, Tirana, Albania, competition 2020
Baukuh + Johnston Marklee + YellowOffice, architects © Baukuh



The forest clearing as archetype, LCLA office (Luis Callejas & Charlotte Hansson) and Maximilian Schob, architects, 2020 © LCLA office



Oasis, Sharjah, OFFICE KGDVS, 2013
© Bas Princen



New National Stadium of Japan, Atelier Tsuyoshi Tane Architects + Dorell.Ghotmeh.Tane/Architects, Tokyo, competition 2012
© Dorell.Ghotmeh.Tane/Architects



«l'arbre-animal» (Sequoia giganteum Pendulum), Yves Brunier, landscape designer, 1986-1991 © Yves Brunier