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FOREST ARCHITECTURE.
IN SEARCH OF THE
(POST) MODERN WILDERNESS

EDITED BY STAMATINA KOUSIDI

SILVA

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Mimesis

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This volume aims to expand on the discourse around the forest as an aesthetic-perceptual, conceptual-symbolic, and operative subject matter theme, as utopia and modernist notion alike, across a broad range of scales and contexts, exploring its contemporary relevance for the design project.

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STAMATINA KOUSIDI

> On Sundays we often gathered at the summit of the highest mountain. Peaks and gently sloping banks; pastures, herds of large animals, infinite horizons, flights of crows. We prepared for the future.
> Le Corbusier, *L'art décoratif d'aujourd'hui*, 1925.

INTERMEDIACY

In his essay *The Forest Edge* (1982), Robert Geddes draws attention to how the clearing has represented in architectural theory both a mythical notion and man's first and ideal habitat, offering, to the same extent as the primitive hut, a place appropriate for human habitation [1]. The edge of the forest and its inherent spatiality, standing for both shelter and openness, due to the porous connection it establishes between inside and outside, points to specific spatial situations that are met with in the design project. As the latter fervently searches today for efficient ways to mediate between built and natural environments through intricate compositional operations, the notion of architecture as *in-between* comes to the fore. Threshold spaces are informed by forms and shapes found in the forest context: porous spaces such as "arcades and colonnades, loggias and porches, thresholds, cloisters, courtyards and peristyles – all of which resemble clearings at the edge of the forest"[2].

The notion of an intermediate space resonates with contemporary design explorations into new alliances between humans and nature which re-conceptualize the *in-between* as a place in its own right. In these explorations, intermediate spaces increasingly represent multifaceted environments: witnesses of the constantly changing natural phenomena as well as "spaces at risk, paradoxical and contradictory, fragile and essential [which] celebrate the in-between, as they teach us the value of thresholds"[3].

In addition, liminal, interstitial, marginal spaces, filter zones and skins, spaces of passage and circulation areas, envelopes and porticoes register the transitions from forest to city, from the sylvan to the urban, and from the natural to the man-made.

For instance, the intention to reproduce conditions of intermediacy through "areas of filtered light [compared to the ones found] under the canopy of large trees" [9], has been, for instance, a recurrent theme in contemporary design. Projects such as Kazuyo Sejima and Ryue Nishizawa's (SANAA) proposal for the extension of the Instituto Valenciano de Arte Moderno (Valencia, 2002, unbuilt), Nieto Sobejano's San Telmo Museum (San Sebastian, 2005-11) and Junya Ishigami's Japanese Pavilion at the 11th Venice Architecture Biennale (2008) provide different conceptualizations of the idea of the *in-between*. The former by means of an additional envelope – a metallic skin surface which surrounds the existing building – envisioned to introduce an artificial forest environment: a semi-outdoor, shaded space punctured by a dense network of randomly placed stilts. Besides the formal analogy to trees in a forest [10], the "careful study of the skin geometry and reutilizing excess conditioned air" reflected the aim of the project "to create microclimates within this space so that it can be used through extended times of the year" [11].Whereas the latter consisted of four greenhouse units, different in size, perforated with openings and covered in a vegetated canopy of Japanese plants, in a way that "a constellation of relations [was generated] in which the traditional boundaries between work and landscape, nature and artifice, gradually fades until a new status emerges" [12]. In both projects, spaces that organize sequences, transitions, and continuities between inside and outside emerge as relevant design subjects and suggest new possible relationships between architecture

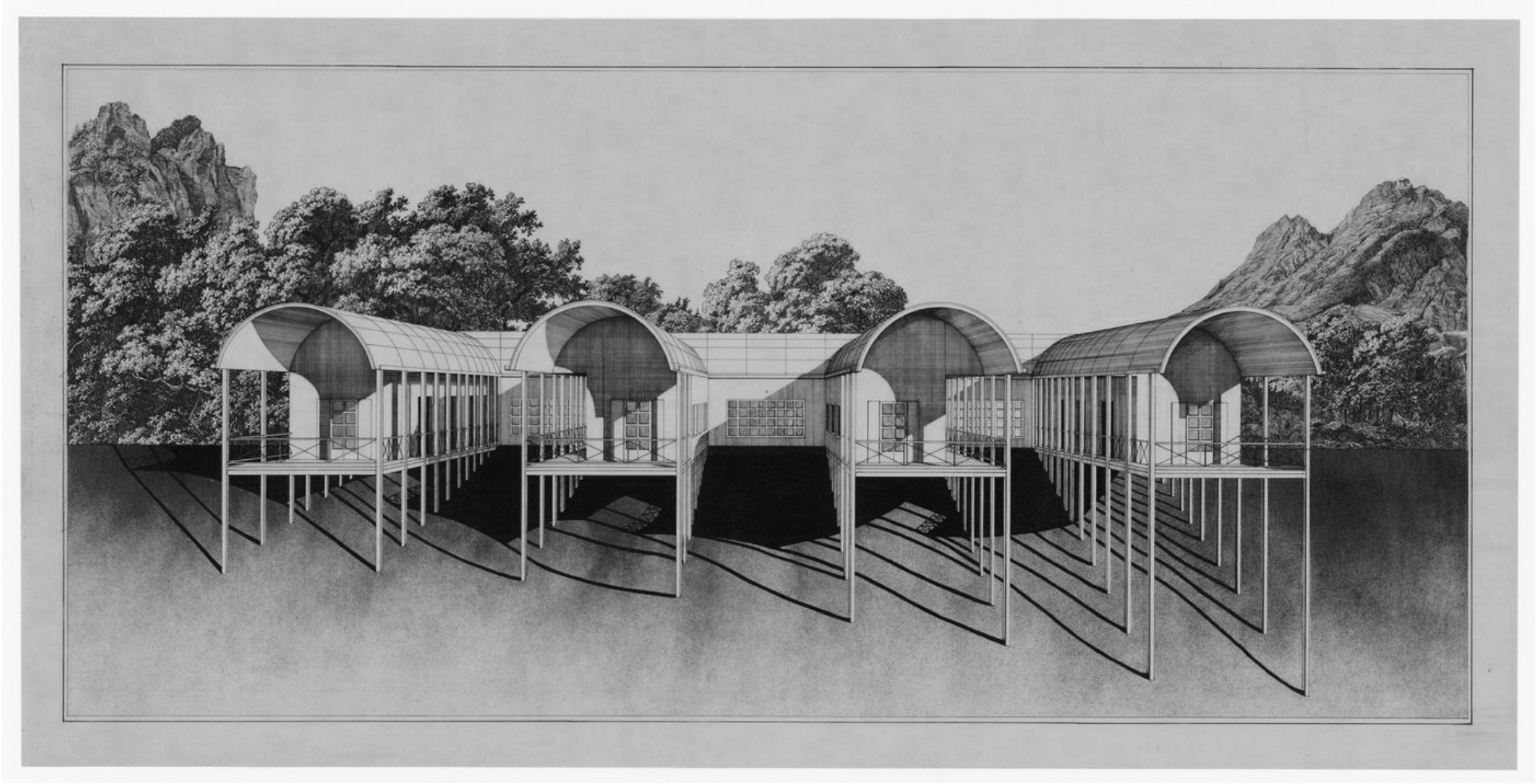
and nature.

Contemporary design explores the character of intermediate spaces as new interfaces between built and natural environments, the forest and the city. It engages with the definition of spaces of cohabitation where the notion of the *in-between* emerges as a powerful conceptual and design tool for enhancing biodiversity and environmental sustainability. Recent research undertakings have demonstrated how the forest and the various processes, elements, and dynamics associated with it can serve as a model for the design project. For instance, in Jana VanderGoot's book *Architecture and the Forest Aesthetic*, the forest emerges as "a prominent consideration in the language of design, thus recognizing [the former] as essential rather than just incidental to human well-being" [13]. In so doing, it draws attention to how the "forest aesthetic opens designers to the forest as a model for an urban architecture of permeable floors, protective canopies, connected food chains, beneficial decomposition, and resilient ecologies" [14].

Representing an architectural stance characterized by the set of relations it establishes with its surrounding context, particularly valuable in today's context of climate change and environmental crisis, it casts a fresh look on the relationship between the forest notion and the design project.

In this context, attention shifts towards the processes inherent to design – mediatory, adaptive, intensifying –, as "faced with any ideological and technocratic simplification, architectural culture has the duty to keep questions open and continue to question the rules and fundamental choices of the project" [15]. The sylvan is entrenched with the spaces of the city: it is interwoven with its networks, infrastructure, and substructure [16]. The limits between the urban and sylvan are folding in attributing a new character to marginal spaces. The city

Aldo Rossi, Perspective for Casa Bay, Borgo Ticino, Italy, 1971-1980.
AP142.S1.D25.P3.4. © Aldo Rossi Fonds. Canadian Centre of Architecture.



margins articulate the fragile relation between the built artifact and nature.

Through the various contaminations between the natural and the artificial, "[even] the garden ('garden of passage', 'vertical garden', 'promenade plantée')," as Francesco Repishti observes, "has been called on opportunistically to fill or to create a place, finding a manner consistent with the architecture, especially in the urban cases around or on the edges of infrastructures or buildings of large size, or to create a 'threshold' between the architecture and the contemporary city"[12]. Such phenomena of cross-pollination between the built artifact and nature – in projects such as the High Line in New York (Diller, Scofidio + Renfro, James Corner, Piet Oudolf, 2000-14), the Zollverein park in Essen (Agence Ter, 2005-06) and the garden of the Third Landscape for the roof of the submarine base in Saint Nazaire (Gilles Clément, Coloco, Jakob + MacFarlane, 2009-11) – are telling of "the desire expressed by the architectural object to absorb the larger whole that surrounds it through the attempt to hybridize and mix up the spaces, revealing the propensity of architecture to become highly 'inclusive' and characterized by the simultaneous presence of many elements and repeated inclusions of the variety of the world"[13]. The need to define filter spaces, thresholds, and areas of passage as transitions between the individual and the community, the sylvan and the artificial, architecture and the environment thus comes to the fore, suggesting new conceptual and operative approaches to the design project.

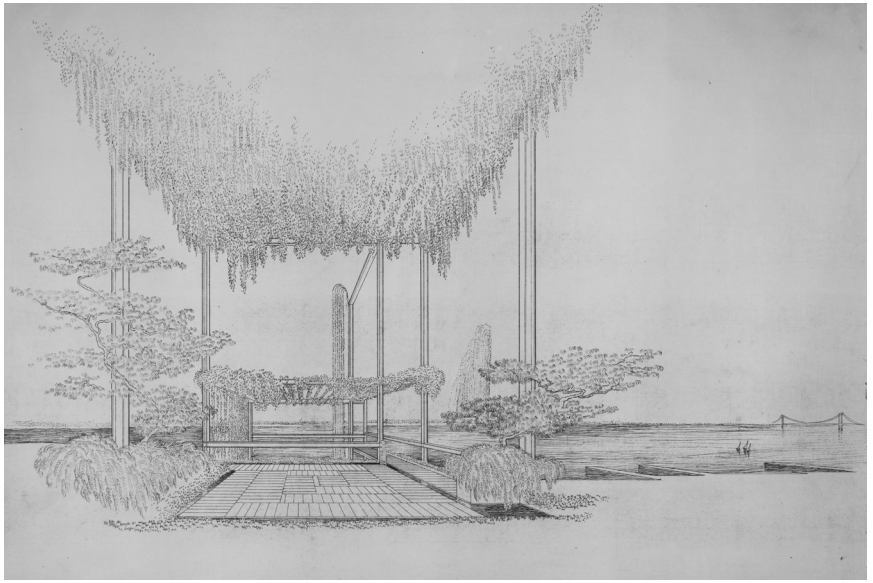
DOMESTICITY

The minimum living cell immersed in the woods is a powerful archetype that still manifests itself in the

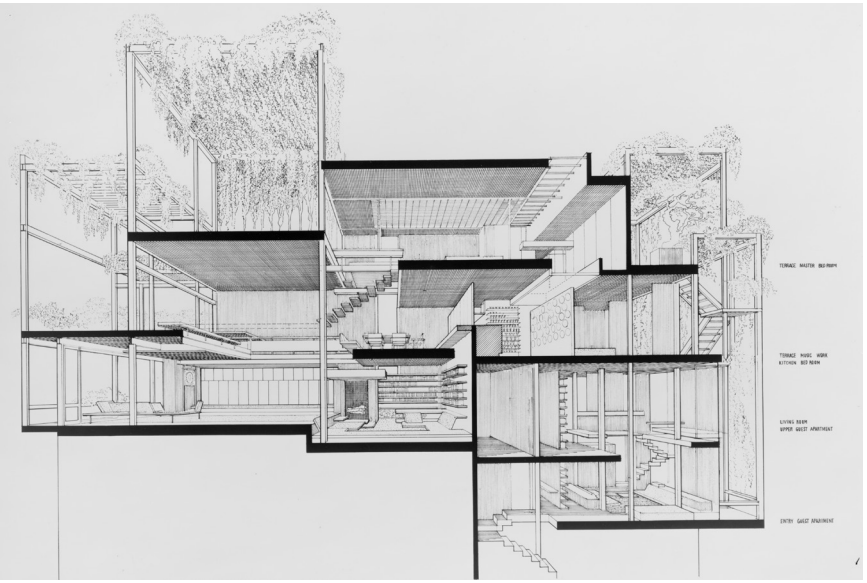
architectural imagination. Robert Pogue Harrison, in his book *Forests: The Shadows of Civilization,* notably argues that "a house is an architectonic of exteriority defined not so much by its walls but by its windows, its doors, its porch, its porous openness to the earth"[14]. Across the twentieth century, manifold projects have envisioned the house as an artifact determined by feelings of openness, uncovering, and intermediacy. Aldo Rossi and Gianni Braghieri's Villa borgo in Ticino (1971-80), for instance, expresses a seamless merge with the surrounding sylvan context. Divided into two parts, the building is envisioned to "grow on the sloping ground [by means of] an independent horizontal line," adhesing to the ground by means of pillars of different heights: "this suspension or aerial construction allows the house to live in the woods, precisely where the woods are most secret or unreachable, that is, among the branches of the plants"[15]. It articulates the fantasy of connecting the human habitat to natural ecosystems in which dwelling is synonymous to an exposure to the elements, to "paradise where spring breezes blow, zephyrs carrying the fragrant vapors of the fields and groves, granting their sweet harmony to the slight quivering of the foliage"[16].

Several contemporary works continue to center on the understanding of 'floors as grounds', in an attempt to activate "strategies of the essential"[17]. These build on and advance the glass pavilion typology, providing different ways of interpreting and engaging with the surrounding natural context. Two residential projects by architects Anne Lacaton and Jean-Philippe Vassal – based on the construction of an artificial soil superimposed to the one consisting of flora and fauna – are indicative of this approach. The small house at Cap Ferret (1998) is raised off from the ground by means of a system of stilts which mimics the forms found in the surrounding forest. The

Paul Rudolph, Penthouse apartment, 23 Beekman Place, New York City, 1977-95. Cross section. Photograph. LC-USZ62-123771. © Paul Rudolph Collection, Library of Congress, Prints & Photographs Division.



Paul Rudolph, Penthouse apartment, 23 Beekman Place, New York City, 1977-95. Terrace. Perspective, after 1956. Photograph. LC-DIG-ppmsca-03526. © Paul Rudolph Collection, Library of Congress, Prints & Photographs Division.



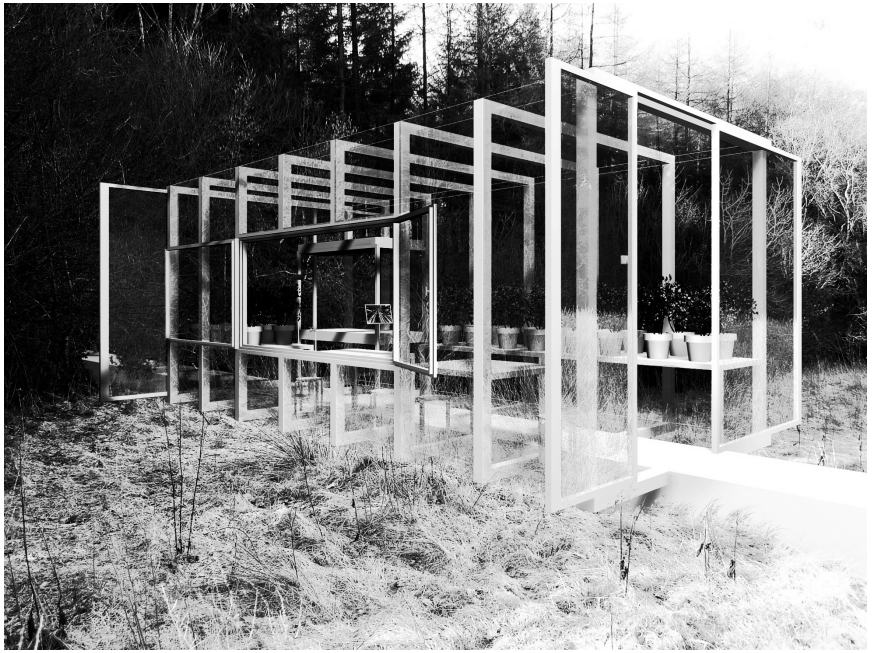
house echoes, reinterprets, and articulates preexisting naturalistic patterns and objects: its structure is notoriously penetrated by the existing trees, preserving them as integral part of the domestic space. The apartment buildings of the ecological neighborhood La Vecquerie in Saint-Nazaire (2009), in the homonymous competition project of Lacaton & Vassal situated at the edge of a wooded area, were similarly raised above the tree canopies. The project aimed at the preservation of the natural assets of the site (greenery, landscape, topography) and at "the maintenance and stimulation of the evolution of existing plant life, the minimisation of impermeable surfaces and finally reduction of the built footprint"[11]. The interference with the natural habitat was aimed to be kept at a minimum; the property were to be left unfenced so as to allow for the growth of the vegetation inherent to the site, the passage of people and animals. As the project collages suggest, the façades were stratified, directing the gaze from the inside out and enabling the merging between architecture and nature. In both projects, the architects sought to define an alternative dimension of dwelling: the house does not oppose itself to the wilderness but organizes itself around it, it develops in parallel to the flows, rhythms, and processed of the existing ecosystems.

The notion of the house as "an architectonic of exteriority" manifests itself in further visionary projects, centered on a seamless relation between inside and outside. In the House Dilation project in Ambleside (2006, unbuilt), Philippe Rahm speculates on the idea of separating the rooms of the house and dispersing them in the forest. Three different climatic settings, including a meadow, the boundary between field and forest and the forest itself, inform the arrangement of the rooms in the space and provide the basis for the design intervention. "Through this dilation, architecture's outer skin or

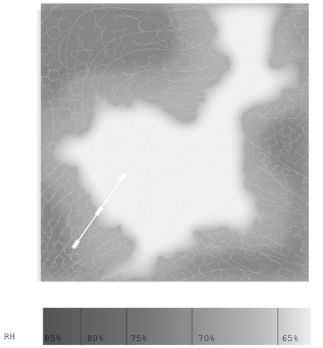
jacket is removed, and the environment takes over tis protective role, becoming the last skin, filtering the light, containing or repelling moisture, heating or cooling"[14], Rahm specifies and goes on by mentioning that "activity in each dilation, will relate to the particular and required climate: the heat of the night forest, the warmth of the field in the winter during the day, the freshness of the forest edge in the spring"[15]. A new idea of domestic space is thereby introduced as the design of the house as a whole is guided by the thermal comfort conditions and requirements of each single room. The project seeks to highlight how the living spaces of the house are influenced by, and co-shaped with, their natural surroundings: they result in environments in perpetual change, in tune with the forest context[16]. It points to a shift of attention from the physical to the physiological qualities of space, from issues linked to built form to issues of experience, immersion, and comfort.

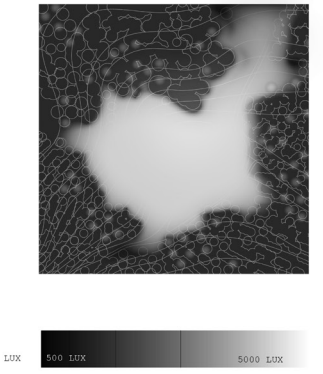
In the weekend house project in Matarraña (2012-17), Kersten Geers and David Van Severen, on the other hand, transform the liminal condition of the pristine forest site into built volume. The building materialises into a space-containing, inhabitable, fragmented ring, provoking an ambiguous impression regarding what lies within and without the house. "We felt a bit lost in this gigantic plateau overlooking at the edge," the architects recount of their initial site visit, describing how "bothered by the emptiness in the middle, this walk became the house"[17]. The forest stands here for the mythical idea of dwelling, provoking a constant transgression of the limits between indoors and outdoors, nature and artifice. The only fixed elements of the house are the kitchen and bathroom appliances, while a network of steel columns designates, within the fixed building perimeter, the different rooms. In this way, the central court becomes the main living

Philippe Rahm architectes, House Dilation, Ambleside Cumbria, 2006.
External view. © Philippe Rahm architectes.



Philippe Rahm architectes, House Dilation, Ambleside Cumbria, 2006.
Temperature and light analysis. © Philippe Rahm architectes.





area, virtually open on all sides towards the landscape so that one can feel "autonomous in wilderness"[22].

VISIONS OF WILDERNESS AND THE MODERN HOUSE

In Le Corbusier's *Précisions sur un état présent de l'architecture et l'urbanisme*, the forest holds a central position in the discussion of modern techniques to address the problem of urban planning. "Here is the real view to the intense, the ardent modern city: a symphony of greenery, of leaves, branches, and lawns, and flashes of diamond through woods. A symphony!"[23], the caption of an urban view of the Ville Radieuse project writes. The forest envelops architecture: it is depicted as a dense, thick, abundant woodland punctuated by glass-clad buildings raised off from the ground. The project is telling of a modernist stream which expressed interest in the notion of wilderness. On the one hand, this stream addressed a return to a natural state of living in the light of industrialised societies, standing for a reconciliation of man with nature. On the other hand, it conceived of the forest as a catalyst for new forms of living in the city: as both a *poetic* and a *biological* element[21]. It aligned with the early twentieth century architectural premise according to which "nature became no longer adequately representable as image or shape in the guise of motives adopted from the realm of plants and animals or as an evocation of the [natural] forces"[24]. Despite the fact that avant-garde architects "would not so much cultivate nature as they would cradle their buildings within it"[25], a particular stream within modernism would strongly envision the integration of buildings with the sylvan landscape.

At the building scale, several design instances would anticipate the contemporary dialectic relationship between architecture and the woods[26], integrating

internal gardens, patios, roof gardens, verandas and planted loggias. These projects remind us that prior to "the invention of the Palm House, no garden was more wonderful and expensive than a hanging one"[27]. They built on earlier architectural models and on the premise that "the roof garden was a surrogate garden" in the context of the nineteenth-century hostile and inhospitable urban environment where impressions of picturesqueness and eeriness co-existed:

> People look down from their small roof garden or from their window with a flower box onto the "Underworld" of the milling crowds of the large city with the same shudder as previously when looking into the Tartarus of the emotional garden.[28]

If "trees have been deliberately incorporated into modern houses since the moment they were granted status as a prominent part of spatial and environmental design"[29], images and ideas of wilderness were a less frequent subject of modern residential projects. Although Modern Movement architecture did not put forward any new set of relationships to nature that are meaningful to itself, notions of wilderness, savage nature, the uncanny and the sylvan, nevertheless, underpinned specific modernist experimentations into the spaces of dwelling.

Le Corbusier's project for a villa for Madame Meyer (1925, unbuilt) featured a roof garden which, covered in lush greenery, represented "a small wilderness where, thanks to the woods of Parc St-James, one can imagine oneself far away from Paris"[30]. Carl Koch's Cole house in Concord (1946) – exceptionally captured in the photographs of Ezra Stoller – stands for the abolition of the "boundaries between the building and the wilderness"[31], expressing one possible integration of an unkempt landscape into the domestic environment.

Bernard Rudofsky's patio houses (1943, unbuilt) encaptured at their core a patch of dense tangled vegetation and trees growing on a grass-covered surface; to reinforce a feeling of domesticity, "[in] the middle of that wild patio, he drew a pair of chairs and a small table, as though it were a tearoom". Whereas, Paul Rudolph's apartment extension in 23 Beekman Place, New York (1977-95) included the insertion, at rooftop level, of a metallic exoskeleton covered in abundant climbing vegetation: "a screened superstructure whose hanging vines made it into a literal 'living' room".

These projects, representing different yet intersecting understandings of the blending of urban and sylvan qualities, nurtured the fantasy of co-habitation between man and nature, house and forest in an explicit manner. They have anticipated contemporary projects that see unkempt green areas as an integral part of the domestic environment. The vision of immersive spaces that incorporate exotic, lush, dense vegetation lives on to the present day through projects that build on the modernist idea of assimilating the building in the sylvan environment, seeking a direct confrontation between nature and artifice so as to enhance the experience of architecture. The forest nowadays "represents a metaphor drawn from real dynamics, which in turn, as in a circle with no exit, is an image constructed and projected into concrete environments, into interiors designed and prearranged to expel it". The line between man-made and natural elements becomes blurred as design seeks a seamless relationship between architecture and the natural, touching upon notions of cross-pollination, contamination, and hybridization. Today, the diverse intersections between the urban and the sylvan give rise to the shaping of spaces, atmospheres, and landscapes, in which the boundary between

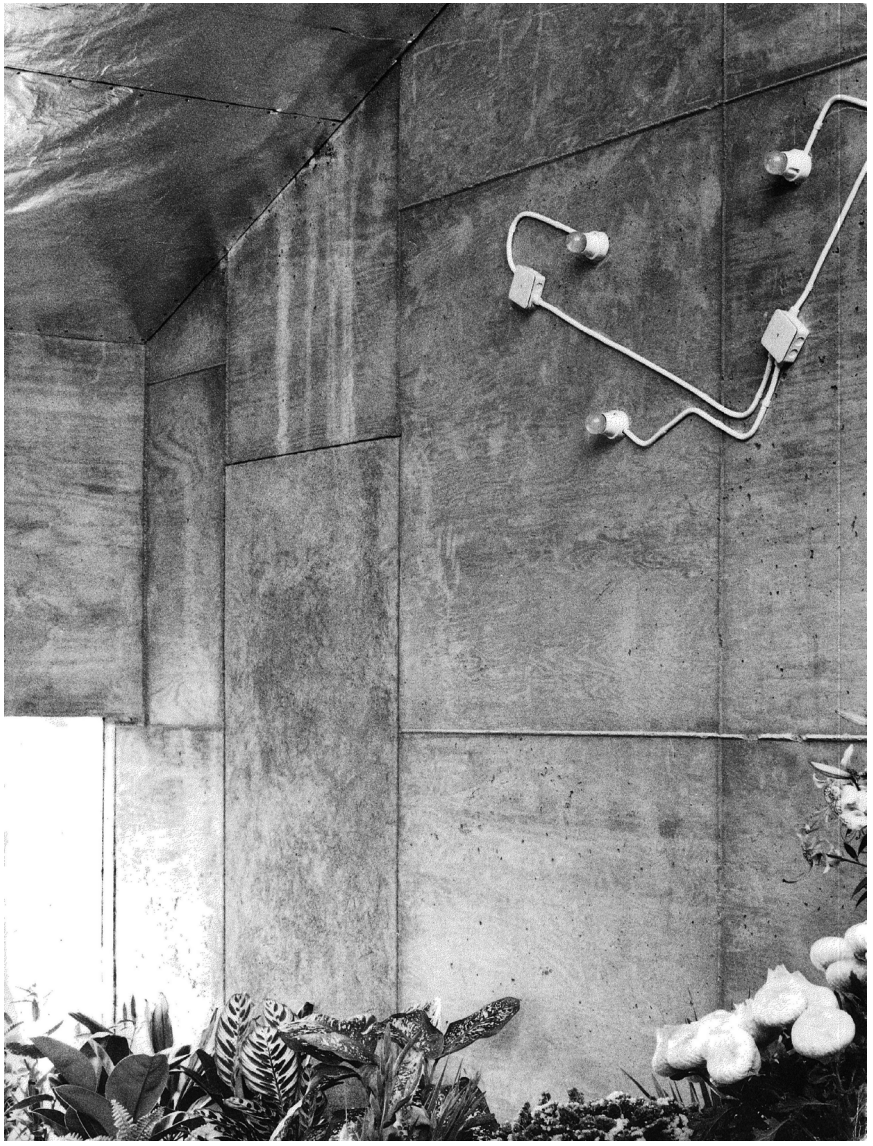
the artificial and the natural appears thin. As Philip Ursprung reminds us, two principal understandings of nature have guided modern architectural thinking and practice: the first notion refers to the borrowing – the "framing, imitating or transforming" – of forms and forces found in nature on the grounds of the design project, while the second one recognizes the inseparable relationship between architecture and nature, embracing the "proposition that the concepts of nature and architecture are not separable but interlaced inextricably". Through this prism, Ursprung argues:

> nature is just as designed as design is natural; life is planned in the same way that the plan is something alive. The assumption that nature and architecture cannot be separated calls for the question regarding their relationship to be argued anew. In such a context, architecture is not solely to be understood as the theory and practice of a singular building or the spatial design of our environment, but extends to encompass design, planning and visualisation of politics, economy, environment, future and human life in general.

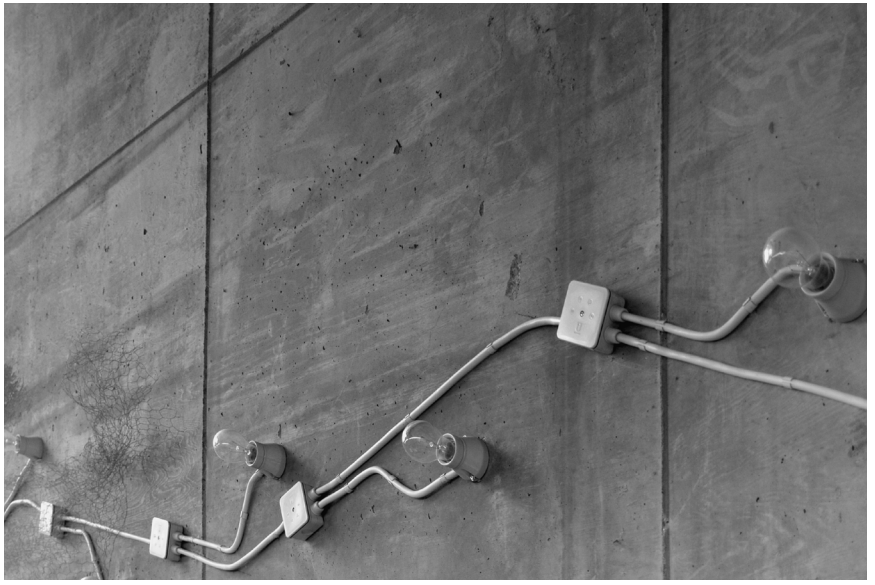
PERFORMANCE

In his book The Ecological Context (1970), John McHale compares Henry David Thoreau's hut in Walden Pond, Massachusetts to Buckminster Fuller's Dymaxion House. The basic, cost-efficient, minimum dwelling structure, in the example of Walden's hut, was reinterpreted as a model for ecological design; it aligned with the concept of ephemeralization, the process of progressively achieving more result with less resource consumption and means: a process, in brief, which "could be likened to a process of abstraction in which the spirit gains a better and better hold over

Sigurd Lewerentz, Flower kiosk interior space detail. Malmö Eastern Cemetery, Malmo, Sweden, 1969. © Photo by Karl-Erik Olsson-Snogeröd. Courtesy of ArkDes Collections.



Sigurd Lewerentz, Flower kiosk, 1969.
© Photo by Seier + Seier. CC BY-NC 2.0 DEED.



matter”[17]. Walden’s hut was seen as a precursor to Fuller’s “grain-bin-inspired deployment units – a transposition of the balloon frame to the generic steel structure”[18]. “For McHale, Fuller was representative of a radical ‘change in the climate of ideas, not only in design’”[19], as he saw architecture functioning as something more than the provision of shelter and as a complex system instead able to efficiently mediate between natural and man-made environments. The concerns about efficiency in the late twentieth century gave rise to a renewed attention to the natural world. Architecture sought to define tools for “better living,” drawing upon meanings, ideas and metaphors from elements and processes inherent to nature.

“These new homes,” Fuller wrote in 1928, “are structured after the natural system of humans and trees with a central stem or backbone, from which all else is independently hung, utilizing gravity instead of opposing it”[20]. Despite the fact that Fuller’s architecture “does not adopt any natural shapes […], his concepts all refer to systematic entities, power relations, as well as the relation between humans and their environment”[21]. Fuller’s housing prototypes drew upon these analogies so as to highlight architecture’s performance potential as opposed to its image, its ability to craft a new relationship to the natural environment.

Suspended from a single central mast, the Wichita House, part of the Dymaxion Dwelling Machines project, featured a hexagonally-shaped plan; it was intended to be mass-produced facing the housing shortage of the postwar period. The environmental performance of the house was of central importance to the project: the building had “a streamlined profile to reduce wind resistance and heat loss” while “a rotating roof vent resembling a big weathervane controlled the interior air flow”[22]. A drawing of the Wichita House

(1945) depicts its different possible variations according to certain climatic contexts (tropics/arctic), revealing a particular attention to the circulation of air, naturally or supported by mechanical means[23]. The house becomes equated to a perspirating, living, regulating machine, adapted to its natural surroundings. In Fuller’s projects, “the building envelope was both a climatic filter as well as a climatic generator,” as he envisioned a combination of passive and mechanical means to regulate the interior environment in terms of thermal comfort provision. Crossing between the architectural and the planetary scales, his experiments on dome structures “are conceived of as being infinitely locatable, operating anywhere on Earth, bypassing the question of contextual specificity [offering] comfort in the most adversarial climates”[24].

Fuller’s project formed part of twentieth century theories that adopted a biocentric approach to design, influenced by technological advances rooted to the theory that “the prototypes of human technologies are to be found in nature”[25], as proposed by botanist and philosopher Raoul Francé. Among these theories, the theorization of space as membrane put forward by architect Siegfried Ebeling similarly drew upon the analogy of the tree and its inherent processes. For Ebeling,

> architecture’s whole potential, its whole remit, does not go beyond the principle of the tree-bark or, framed in terms of the cell nucleus, the principle of the membrane. This envelope, however, means more for man than the bark does for the tree, since it must also perform the functions of the tree’s leaves and roots. To make these functions as complete and integrated as possible, we must recognise that optimum functionality and simplicity are both corollaries of beauty.[26]

Interweaving concepts of nature with the built artifact, Ebeling drew attention to an expanded role of architecture that went beyond issues of aesthetic perception and form and intersected with notions of environmental performance. Priority here shifts from the visual perception of the built environment to the sensorial one, from envelope to void and from the tangible to the intangible traits of space. The conceptualization of space as an active field of forces and metabolic energies was rare at the time yet visionary as it resonates with contemporary debates on setting a new design agenda for sustainability, circular design, and materiality.

Architectural design increasingly drew upon natural operations, copying biological and natural processes as precise analogues for the functioning of man-made systems" as "the laws of nature and metabolism were displaced from the domain of wilderness to the domain of cities and buildings"[17]. Instead of biomimicry, which would eventually lead designers "toward formal solutions that resembled nature," the attention was on practices which increasingly explored "(the coining of) technical processes that worked like nature"[18]. Beginning in the late twentieth century, the vision that buildings can mimic the biological processes of breath, growth, and photo-synthesis was put forward, mixing together "things that work biologically as ingredients of the biosphere and those that belong to the technosphere"[19]. Attention was drawn to issues of agency in architecture, to how a building functions in connection to nature, to its inherent processes and actions, rather than to the symbols and expressions attached to it.

Contemporary design practices tend to encompass the 'natural' dimension of architecture through interventions that are founded on natural, biogenerative,

organic materials and allude to natural processes[10]. They nurture a cultural understanding of nature by rehearsing its affinity to the design project. They call attention to the notion of architecture as an ecological assemblage, an amalgalm of organic and inorganic elements, the human and the non-human. Architecture envisions to construct a system which performs like a natural object rather than merely mimicking its form and structural principle. The emergence of "an intermediate space, which is neither inside nor outside"[11] can be therefore observed, representing an interface between the organic and inorganic, building and nature, the city and the biosphere. "This project is both theoretical and practical," sociologist Saskia Sassen points out, "it is predicated on the importance and necessity of using the multiscalar and socioecological properties of cities and recognizing the need to recode these properties as potentials that can be made to work positively"[12]. The limits between artificial and natural, inside and outside, organic and inorganic are increasingly folding in.

DECAY

In the Modern Movement, the embracing of plants as ornaments distanced itself from a romantic expression linked to an 'unspoilt' nature. In projects such as Mies van der Rohe's Gericke house (1930, unbuilt), which emanated "a romantic sense of pleasing decay" as it featured brick walls covered with ivy, in contrast to the "fossilized vegetation that [appeared] as real or virtual images in the marble and plate-glass walls,"[13] and Sigurd Lewerentz's Flower Kiosk at the Malmö Eastern Cemetery (1969), which alluded to a process of "[celebrating] the weather and the seasons, the story of its construction and decay"[14], this distance becomes

manifest. Further modernist projects cast attention on processes of weathering, through which "nature reforms the 'finished' art work"[17], and the aesthetic connotations attached to them. They revealed the communicative role of patina, understood as the incursion of nature which "softens the artificiality of new surfaces through plant growth and other natural alterations, enlivening them and linking surfaces with one another, as well as with the surroundings, through unifying influences"[18]. The envelope becomes a mediatory element between the forest and the building, natural and artificial objects, registering the effects of environmental phenomena and the passage of time. The materic surface recounts the dynamic relationship between the building and the sylvan context.

The moisture and frost accumulation, due to rainwater runoff, in the side facade of Herzog & de Meuron's Ricola Production and Storage Building in Mulhouse (1992-93), the traces of dry climbing plants in winter on the outer surface of Renzo Piano's Fondation Beyeler in Riehen (1991-97) and the overgrowth vegetation interlaced with the honeycomb structure of Berrel Berrel Kräutler's Water reservoir in Basel (2006-08) are telling of this process. In the latter, the building envelope consists of two skins in a way that "the outer façade consists of prefabricated concrete elements with a perforated appearance inspired by grass pavers. The gap between the façade and the inner core is filled with plant substrate. As time passes, as on dry walls, wild flowers will grow out of the stone, allowing the new building to merge with the park at an increasing degree over the years"[19].

As David Gissen observes, in his book *Subnature: Architecture's Other Environments*, these are not polished, groomed, embellished representations of nature: they are connected with notions of time, growth, and decay.

They make reference to "another possible form of nature in which we can be something more or less than is currently possible within our conceptions of nature"[20]. In the past, such concepts were mainly associated with the close relationship between natural and built components to highlight a symbiotic decay which intensified the process of a perpetual transformation of the artistic object. Nowadays, processes of hybridization and contamination between the natural and the artificial are expressive of the fragile state of our relationship to our natural surroundings.

The project for a house by R&S(I)E titled I'm lost in Paris (2009) is a telling example. It has aimed to "[exude] the mystique of a house in an enchanted forest;" the built artifact is enveloped in a dense green seath composed of hydroponically-maintained ferns "nourished by a mixture of bacteria, nutrients and rainwater, which can be adjusted in response to climate and light"[21]. A cultivated, seemingly uncontrolled and savage vegetation, surrounds the building, nearly taking over its volume with the passage of time. The perception of the project has been twofold: following François Roche, "the neighbourhood is attracted by the green aspect yet repulsed by the processes of fermentation"[22]. Such an aspect confronts us "with the complexity of the negotiations, the 'natural' conflicts and adaptations, while helping to identify the many niches in which to cultivate new design research"[23].

An additional reading of concepts of decay and corrosion associated with natural elements may then be deduced. In returning to the Ricola Production and Storage Building in Mulhouse by Herzog & de Meuron, we are reminded how the vegetal patterns – in this case a leaf pattern by photographer Thomas Ruff embossed on the surface of its main traslucent façade, – extend on long-established romanticised

Berrel Berrel Kräutler Architekten, Water Reservoir,
Bruderholz, Basel, 2006-08. Detail view during the construction phase.
© Photo by Eik Frenzel.

symbolisms of nature. Beyond its allegoric function, in alluding to the products of the company hosted in the building, the pictorial representation of the repeated leaf pattern emerges as a symbol of the contemporary environmental and ecological fragility, of the "incursions of industrial society into the natural world"[10].
In this context, "the green aura of the plant motif in Ruff's photograph suggests an uncanny source of radiation, like those 'toxic substances, hostile to life', that Herzog sees in the waste produced by Western consumer society"[11].
Anthropologist Tim Ingold puts forward the hypothesis that the "conical lodge of northern forest-dwellers, fashioned from wooden poles covered with the hides of reindeer or caribou" alludes to a boat which "[floats] in the earth like "a boat in water, under the same, overarching sky"[12]. The building is conceived of as in tune with and shaped by "the aerial fluxes of wind and weather" and the "formal integrity of the building have continually to be won against the forces of the elements"[13]. The building is under constant change, not only does its perception differ, according to the specifics of the day, the season, the weather, but also its structure is subject to transformation, to erosion, crack, leak, moisture, decay. If, one the one hand, this points to degeneration, on the other hand, it suggests a co-transformation of the building with nature.
"Weather," Ingold reminds us, "is also weathering," and this "is a process of not only deterioration but also renewal, a 'continuous metamorphosis' that lends the building an ever-changing finish"[14].

FROM *OIKOS* TO NEW ECOLOGIES

Today, the design project addresses and encompasses the notion of the forest but the declinations of the

latter are significantly different to, and more broad from, nineteenth century romanticised notions of wilderness. The negotiation between man-made and natural, artificial and sylvan qualities continues to register on multiple levels within the contemporary city. Abandoned buildings, structures, and sites in the urban margins become overgrowth with trees and shrub vegetation, forming new multi-species habitats. In turn, sylvan elements enter the vast territories of the city, claiming its parks, lots, buildings, settlements, and infrastructure, fostering new definitions of convergence between forests and cities. Following Antoine Picon, marginal urban areas increasingly grow into "a landscape saturated by man's technological endeavors, a landscape where wild grass exists only between strips of asphalt, where abandoned warehouses and rusty carcasses replace Poussinesque ruins"[10]. Accordingly, uncultivated, vacant, untended buildings, landscapes, and urban infrastructure unfold as experimental grounds for the design project, as the quest for setting a new agenda for sustainability, calls for new relationships between the sylvan and the urban.

The assets of the natural environment being at stake, the consequences of the Anthropocene era[11], climate change and environmental crisis are among the reasons that the design project is called to reinterpret, conceptually and practically, the relationship between the city and the forest. The need to build on and redefine architecture's relationship to the various manifestations of nature sustains and lives on in the context of the contemporary city. In the words of David Gissen, "the ambitions of postnaturalism are to present a true crisis of nature not by using cultural practices to reconnect buildings into new ecologies or to remake nature in some pure form, but by lifting the veil on our understanding of nature as a category

Berrel Berrel Kräutler Architekten, Water Reservoir, Bruderholz, Basel, 2006-08. External view during the construction phase. © Photo by Eik Frenzel.

Herzog & de Meuron, Ricola Production and Storage Building, Mulhouse, 1992-93, photo 1994. 3560-B. Architekturzentrum Wien, Collection.

Herzog & de Meuron, Ricola Production and Storage Building, Mulhouse, 1992-93. © CC BY-NC-ND 2.0 DEED.

outside social determination”[22]. Our relationship with nature calls for new definitions, operational approaches, tempos and modes of symbiosis: we need to make room for new concepts of nature, the forest and wilderness, the savage and the eerie expanding our current anthropocentric perspective towards architecture’s relational dimension[23].

From the urban to the architectural scale, numerous contemporary design interventions are founded on notions of the forest. The definition of inhabitable space is identified with the shade cast by a tree, as the climatic qualities of the latter “precede[d] the public function”[24] of open spaces; “the lime tree was there before the court, it is the shade of the tree that transforms a place into an attractive public space. The social and political bond originates from a meeting of men and women who came to protect themselves from the sun in the shade of a lime tree, an elm or a plane tree”[25].

At the scale of the city, projects such as Dominique Perrault’s National Library of France in Paris (1989-95), Michel Desvigne’s urban forest projects in Paris (Square des bouleaux, 1989-92) and Tokyo (Otemachi, 2009-13)[26] and Klaus K. Loenhart’s Austrian pavilion “Breathe” in the 2015 World Expo in Milan recognize and draw upon this genealogy. More precisely, the latter created an interface between “seemingly irreconcilable elements – technology and natural diversity”[27]: it introduced a temporary ecosystem in the city, sustained by species typical to the ecotypes of the Austrian forest, designed to promote a specific climatic effect and thereby a shared, cognitive-sensory experience. Immersed in the tree grove, pavilion visitors were exposed to a collective experience of noise and scent, rhythms of movement, a heightened oxygen level and concentration of cool air – of invisible, yet perceptible,

media[19] – which highlighted the importance of environmental quality through a "conceptual interplay between technology and natural living environments"[20].

At the scale of the building, contemporary design interventions similarly recognize in the theme of the forest an opportunity for new confluences between sylvan elements, program, and building. They explore issues of environmental performance and functioning, effect and delight, behaviour and ecological well-being. From Lacaton & Vassal's Management Sciences University in Bordeaux (2008) to Baukunst and Bruther's project for the ZHAW campus in Winterthur (2018), from Bruther's Super-L – 160 Housing Units in Eysines (2013, not completed) to Atelier Kempe Thill's winter garden housing project in Amberes (2015), recent design projects see the integration of the building envelope with greenery, in a way that the latter engages with human activity.

Through such an integration, these projects propose a connection between architecture and context that deviates from critical phenomena linked to the ongoing proliferation of vertical forests which engender considerable criticism. With reference to the latter typology, Daniel Barber and Erin Putalik highlight that

> [the] vertical forests indicate hopeful aspirations for living differently relative to environmental patterns and environmental knowledge, but their realizations remain largely superficial. The architectural challenge – the global cultural challenge is to imagine living with a forest that somehow exceeds both nostalgia and instrumentality. It is a difficult goal, one requiring a new orientation to architecture and its relations.[21]

The integration of buildings with nature has recently intersected with architectural discourses on

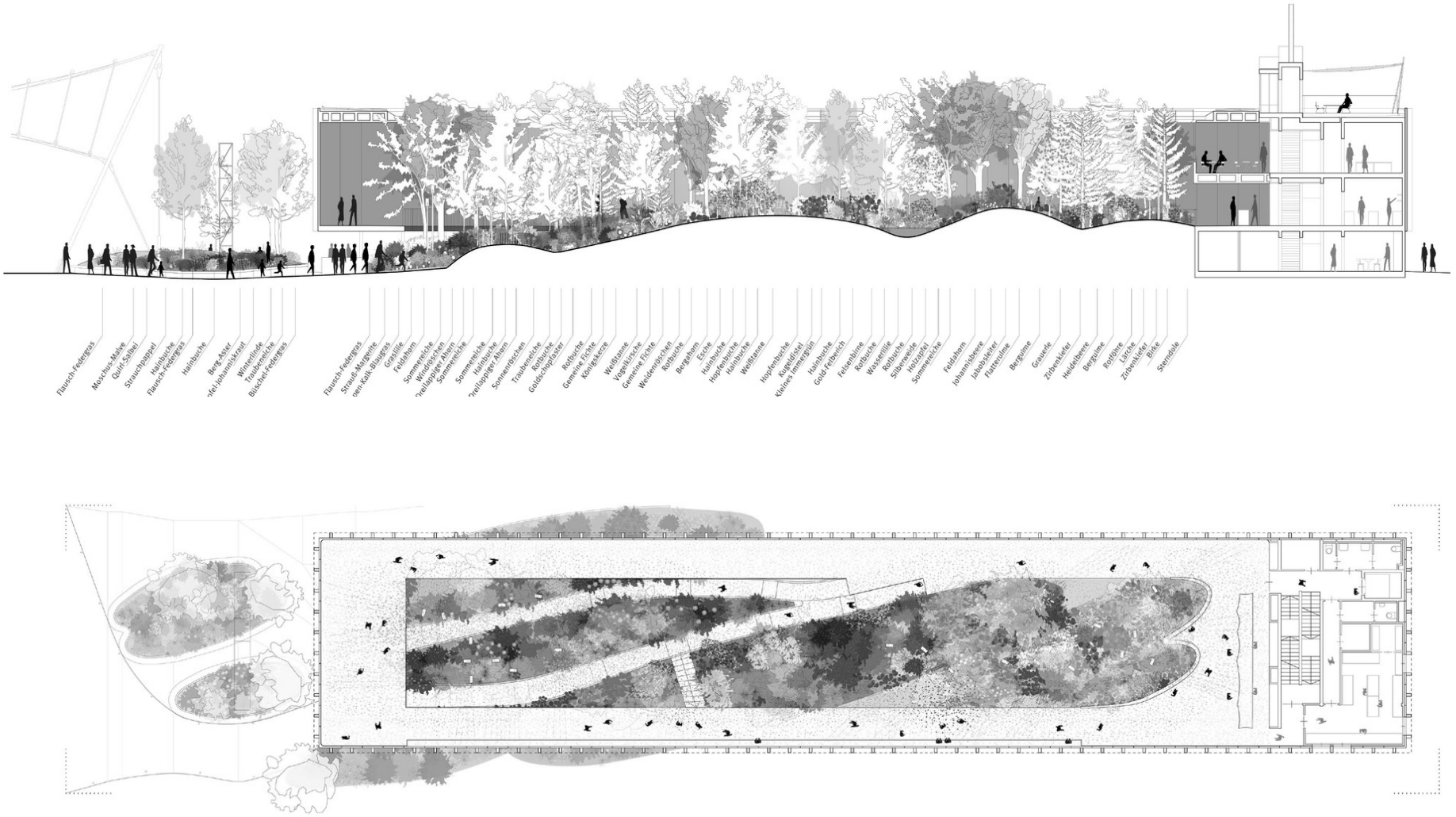
ecology, performance, and aesthetics. The relationship between form and sustainability requirements has been central to these discourses, calling for its further redefinition[22]. "If in the past," Penelope Dean argues, "green (through landscape and nature) served as a medium for larger ideas and scenarios, the question to ask today, perhaps, is whether the pervasiveness of an updated green design culture inversely offers the means through which to smuggle bigger, conceptual ambitions back into architecture and urbanism"[23].

In approaching the design project today, it becomes essential to think of the human habitat as part of an interconnected network of natural systems – the human and the non-human, the tangible and the intangible, the proximal and the distant –bridging the gap between the technologies of *oikos* and notions of ecology. As James Corner has pointed out, "ecology, creativity, and landscape architecture, must be considered in terms other or greater than those of visual appearance, resource value, habitat structure, or instrumentality", exceeding their mere metaphoric or ideological potential to foster, through the design project, new "alternative forms of relationship between people, place, and cosmos"[24]. In particular, Corner reminds us that

> The word ecology carries with it the union of oikos with which allows it to be loosely translated as the "relations of home". […] This relation – or network of relations – is something that people make; it is an excess (of which landscape architecture is a part) within which a culture dwells. As such, human dwelling is always an estranged construction, one that can be as destructive and parasitic as it can be reciprocal and symbiotic.[25]

A holistic, responsible, and systemic approach to these systems in and through the design project is all the

Team.breathe.austria, BREATHE.AUSTRIA Pavillon, EXPO 2015, Milan.
Section and floor plan. © Team.breathe.austria.



more crucial today, in shaping the character of our relationship to the natural world at large.

FOREST–ARCHITECTURE. IN SEARCH OF THE (POST)MODERN WILDERNESS

The focus of the present volume is to consider the relationship of architecture to the sylvan notion, element, and context. In paraphrasing the title of Kenneth Frampton's essay "In Search of the Modern Landscape" (1991), published in the seminar transcripts *Denatured Visions. Landscape and Culture in the Twentieth Century* (MoMA, 1988), the volume aims to scrutinize the manifold ways in which the forest, understood as an image and as a reality, has been conceptualized, represented, spatialized, and hybridized in the architectural project. "To write of the modern landscape as though it were nothing more than a cultural discourse would be to trivialize values that are essential to our survival," Frampton points out, setting out to explore the spectrum of modern landscape design beyond the limits of its cultural discourse. He goes on to underline that "to write of the modern is to entertain the hope of the postmodern; to evoke that which is not yet built, transformed, laid waste, or irrevocably ruined; and to conjure up that ineffable 'other' world that lies beyond our present proliferation of useless objects"[1]. As the issues of limited global resources and rapid urbanization become all the more pressing and as architectural attention shifts from objects to processes, from artifacts to systems, casting a fresh gaze on cities, this statement rings even more crucial today.

The essays comprising this volume seek to expand on the discourse around the forest as an aesthetic-perceptual, conceptual-symbolic, and operative subject matter theme, as utopia and modernist notion alike, across a broad range of scales and contexts in order to

explore its contemporary relevance for the design project. The image of the forest, the woods, the woodland has been an eloquent reference for architecture and its wide range of connotations. The forest as ancestral and spiritual site, as wilderness, as natural resource, as ecological condition, as community, as biodiversity, as microclimate, as tactility, as sonority, represent conceptual notions that have intersected with the architectural project and imaginary, articulating the search of new approaches towards the relation between the natural and the man-made.

Architects, urban designers, and artists have been increasingly concerned with the 'sylvan' dimension of architecture: they have extended past the realm of metaphor to investigate and to re-imagine analogies, intersections, hybridizations between architecture and the forest: oscillating between allegory and function, "the building finds itself taking on a role, acting a part that is not its own [...] as much a metaphorical as a practical performance"[2].

How can wilderness, the forest, the sylvan be reimagined and conceptualized in architectural design? How could these notions engage with new aesthetic, functional, cultural, and social meanings? In which ways different notions of the forest and the sylvan are being articulated, embodied and presented in, with, or through the architectural project? In which ways do new alliances and confluences between architecture and the forest lead to new typological models? Which architectural stance is required for the different manifestations of the sylvan in the contemporary context?

In conjunction with the ongoing research project "SYLVA – Rethink the Sylvan. Towards a New Alliance Between Biology and Artificiality, Nature and Society, Wilderness and Humanity" (PRIN – Progetti di Ricerca di Rilevante Interesse Nazionale 2017), and in

Bruther architectes (Stéphanie Bru, Alexandre Theriot), 160 Housing Units and One Parking, (Super-L), Eysines, France, 2013.
BRUTHER © Photo by ArtaFactory Lab.

Bruther architectes (Stéphanie Bru, Alexandre Theriot), 160 Housing Units and One Parking, (Super-L), Eysines, France, 2013.
BRUTHER © Photo by ArtaFactory Lab.

response to a call for papers within the research unit of the Politecnico di Milano, the essays in this volume set out to address these questions and, in so doing, attest to the manifold intersections of the forest – in its expanded definition which embraces the woods, the sylvan elements and landscape, the wilderness, the savage, the primitive, the unkempt and the eerie – with the architectural project and imagination. They look at the histories and futures of thinking architecture in relation to the forest, revealing ways in which such thinking has been blended with notions of modernity and may inform forthcoming contributions to the promotion of new human-sylvan alliances. In their entirety, the essays that follow call for a reflection on how a more thorough conception of the sylvan may allow for a renewed understanding of architectural agency in the context of establishing a new agenda for environmental sustainability in close connection with the social and ecological milieux.

R. Geddes, *The Forest Edge*, in "AD. Architectural Design Profile," 1982, pp. 2-23.

Ibid.. See also: R. Geddes, *The nature of the built environment*, in "Progressive Architecture," June 1974, pp. 72-81.

C. Hailey, *The Porch: Meditations on the Edge of Nature*, Chicago University Press, Chicago 2021, p. 105.

K. Sejima, R. Nishizawa, *Kazuyo Sejima + Ryue Nishizawa: SANAA works 1995-2003*, TOTO, Tokyo 2003, n.p.

In contemporary projects, the irregular disposition of structural elements has been compared to the organicity of trees in a forest: from Toyo Ito's Médiathèque project in Sendai (2001), where the design process aimed at the "production of an artificial nature rather than architecture" to Junya Ishigami's Kanagawa Institute of Technology (2019), where "the columns are arranged within the architecture as trees placed on a landscape."

K. Sejima, R. Nishizawa, *op. cit.*, n.p.

N. Navone, *Gli spazi ambigui di Junya Ishigami / The ambiguous spaces of Junya Ishigami*, in Id. (ed.), *BSI Swiss Architectural Award 2016*, Mendrisio Academy Press; Silvana Editoriale, Mendrisio; Milano 2016, pp. 17-47.

See J. VanderGoot, *Architecture and the Forest Aesthetic. A New Look at Design and Resilient Urbanism*, Routledge, Oxon 2018, p. 11.

Ibid..

A. Rocca, *L'ambiente dell'architettura*, in Id., A. Rogora, L. Spinelli (eds.), *Architettura ambientale. Progetti, tecniche, paesaggi*, Wolters Kluwer Italia, Milano 2012, p. 145.

A. Picon, *Nature, Infrastructures, and the Urban Condition*, in M. Mostafavi, G. Doherty (eds.), *Ecological Urbanism*, Lars Müller Publishers, Zürich 2016, pp. 534-535; A. Picon, *Nature, Infrastructures and Cities*, in P.S. Cohen, E. Naginski (eds.), *The Return of Nature: Sustaining Architecture in the Face of Sustainability*, Routledge, London-New York 2014, pp. 172-180.

F. Repishti, *Green Architecture. Oltre la metafora | Green Architecture. Beyond the Metaphor*, in "Lotus," 135, 2018, pp. 34-41, here p. 40.

Ivi, p. 40.

R. Pogue Harrison, *Forests. The Shadow of Civilization*, The University of Chicago Press, Chicago; London 1992, p. 234.

Progetto di Villa e Padiglione, Borgo Ticino 1973. Fondazione Aldo Rossi.

P. Rahm, *Histoire naturelle de l'architecture. Comment le climat, les épidémies et l'énergie ont façonné la ville et les bâtiments*, Pavillon de l'Arsenal, Paris 2021, p. 65 – my translation.

A. Lacaton, J.-P. Vassal, Lecture at Columbia University Graduate School of Architecture Planning & Preservation, Wood Auditorium, Avery Hall, September 14, 2017, https://www.youtube.com/watch?v=Twiz-dw9-e4&t=742s, accessed 06 January 2023.

Lacaton & Vassal, Lecture at Columbia GSAPP, 2017.

P. Rahm, *Form and Function Follow Climate*, in "AA Files," 55, Summer 2007, pp. 2-11.

Philippe Rahm architectes.

Contemporary design stances advance the interplay between nature and artifice through the lens of environmental criteria. Along with issues connected to structure, space and form, these stances draw attention to the non-spatial aspects of architecture: to the effect of temperature, humidity, air movement and solar radiation, the definition of atmospheres, the creation of microclimates.

K. Geers, D. Van Severen, Lecture at Columbia University, Graduate School of Architecture Planning & Preservation, Wood Auditorium, Avery Hall, September 14, 2015, https://www.youtube.com/watch?v=Ndr4CytL7dw, accessed 26 January 2023. See also: El Croquis, *OFFICE Kersten Geers David Van Severen (2003-2016)*, 185, 2016, pp. 218-219.

Ibid..

Le Corbusier, *Precisions on the present state of architecture and city planning (1930)*, Park Books, Zürich 2015, or. ed. The MIT Press 1991, p. 157.

"It is evident that the modern city will be covered with trees. It is a necessity for the lungs, it is balm to our hearts, it is the very spice of the great geometric aesthetic introduced into contemporary architecture by steel and reinforced concrete." Le Corbusier, *La Ville Radieuse: éléments d'une doctrine d'urbanisme pour l'équipment de la civilisation machiniste*, Éditions de L'architecture d'aujourd'hui, Boulogne 1933.

P. Ursprung, *Nature and Architecture*, in J.L. Mateo (ed.), *Natural Metaphor. An Anthology of Essays on Architecture and Nature*, ETH; Actar Publishers, Zurich; Barcelona 2007, pp. 10-21, here p. 15.

"While Le Corbusier displayed little interest in the niceties of garden design he was nonetheless deeply susceptible to the evocative power of landscape." K. Frampton, *In Search of the Modern Landscape*, in S. Wrede, W.H. Adams (eds.), *Denatured Visions, Landscape and Culture in the Twentieth Century*, The Museum of Modern Art, New York 1991, pp. 42-61. See also C. Girot, A. Kirchengast (eds.), *Nature Modern. The Place of Landscape in the Modern Movement*, Jovis, Berlin 2018; R. Devesa, *Outdoor Domesticity: On the Relationships between Trees, Architecture and Inhabitants*, Actar, New York-Barcelona 2022.

"The Villas propose a new formula for urban dwelling. Each apartment is really a small house with a garden, located at any height above

the street. But the street itself is modified; it spaces the buildings, trees now invade the city; the density of the residential quarters remains the same as today, but the buildings are higher, opening enlarged perspectives." Fondation Le Corbusier.

C.A. Wimmer, M. Niedermeier, *Hanging gardens, eerie grottoes*, in "Anthos," 31, 1, 1992, pp. 32-39, here p. 32.

Ivi, p. 39.

R. Devesa, *op. cit.*, p. 15.

"Ville Meyer, Paris 1925 (1er projet): Madame, […] Nous pensons que l'unité est plus forte que les parties. Et ne croyez pas que ce lisse soit l'effet de la paresse; il est au contraire le résultat de plans longuement mûris. […] Ce jardin n'est point à la française mais est un bocage sauvage où l'on peut grâce aux futaies du Parc St-James se croire loin de Paris… Les services reçoivent le plein soleil, tant mieux. Par les fenêtres, haut placées, sous le plafond, on voit du ciel et des arbres… Tant mieux. (Lettre de Le Corbusier à Mme. Meyer, avec croquis)." Le Corbusier, P. Jeanneret, *Œuvre Complète, Volume 1: 1910-1929*, Editions Girsberger, Zürich 1935, p. 89.

R. Geddes, *The Forest Edge*, p. 10.

B. Rudofsky, *The Conditioned Outdoor Room*, in Id., *Behind the Picture Window*, Oxford University Press, Oxford 1955. "Notes on Patios" and "Three Patio Houses" New Pencil Points.

R. Devesa, *op. cit.*, p. 69.

Casa Rudolph, *New York 1977-1997*, in "Casabella," 63, no 673-674, pp. 138-149, pp. 171-172, here p. 144.

S. Marini, *Il ritorno della selv*a, in Id., V. Moschetti (eds.), *Sylva. Città, nature, avamposti*, Mimesis, Milano 2019, p. 20 – my translation.

P. Ursprung, *op. cit.,* p. 15.

Ibid..

A. Picon, M. Robbins, *Fuller's Promised Land*, in "Any Architecture New York," 17, 1997, pp. 28-30, here p. 29.

A. Vidler, *Whatever happened to ecology? John McHale and the Bucky Fuller Revival*, in "Log," 13/14, Fall 2008, pp. 139-146, here p. 144.

"This change employs, on the one hand, the Occam's razor of concept economy, and, on the other, the idea that any formulation is acceptable which serves this economy, or identifies a situation in which action is possible,' and he cites Fuller's maxim: 'A problem adequately stated is a problem solved. McHale traced the origins of this philosophy to Fuller's inherited transcendentalism." Vidler, *op. cit.,* p. 143.

Buckminster Fuller cited in S. Yelavich, *Safety nests*, in P. Antonelli (ed.), *Safe: Design Takes on Risk*, Museum of Modern Art, New York 2006, pp. 17-25, here p. 18.

P. Ursprung, *op. cit.*, p. 19.

C. Davies, *Key Houses of the Twen tieth Century: Plans, Sections and Elevations*, W.W. Norton & Company, New York 2006, p. 104.

"The domes were intended to be the sole source of nurture for their residents – self-sufficient, with no connection to municipal utilities. […] The rhetoric around Fuller's domes – that they were dust-free, sealed with silent pneumatic doors, designed with a self-contained waste-management system – could easily be construed as science fiction." Yelavich, *op. cit.*, p. 18.

L. Moffitt, *Architecture's Model Environments*, UCL Press, London 2023, pp. 137-138.

R.H. Francé, *Die Pflanze als Erfinder* [Plants as inventors], Albert and Charles Boni, New York 1923.

These projects build on the tradition of earlier visions that saw architecture functioning as something more than the provision of shelter and as complex systems able to intervene in the relationship/ to efficiently mitigate between natural and manmade environments. S. Ebeling, W. Scheiffele, S. Papapetros (eds.), *Space as Membrane*, trans. Pamela Johnston, Architectural Association, London 2010, p. 8.

L. Kalipolliti, *No More Schisms*, in "AD – Ecoredux," 208, November/December 2010, pp. 14-23, here p. 19.

R. Ingersoll, *The Ecology Question and Architecture*, in C. Greig, Crysler, S. Cairns, H. Heynen (eds.), *The SAGE Handbook of Architectural Theory*, SAGE, Newcastle upon Tyne 2011, pp. 575-591, here p. 587.

Ivi, pp. 587-588.

"The success of a certain infrastructural approach to architecture in recent years suggests a similar process of multinaturalization of the human environment. The treatment of large-scale roofs as a new natural ground seems to have become a default solution for buildings today as green credentials and 'organic' features have become a favorite with both politicians and urban activists." A. Zaera-Polo, *The Politics of the Envelope, Part II*, in "Log," 16, Spring/ Summer 2009, pp. 97-132, here p. 101.

S. Sassen, *A Third Space: Neither Fully Urban nor Fully of the Biosphere*, in J. Graham (ed.), *Climates: Architecture and the Planetary Imaginary*, Lars Müller Publishers, Zürich 2016, pp. 172-80, here p. 172.

Ibid..

"This play between fossilization, reflection, and transparency is key to the aesthetic of Mies's Tugendhat House (193) in Brno, where the winter garden seems to serve as a third term, mediating between the fossilized form of the onyx plane in the center of the living room and the natural verdure lying beyond." Frampton, *op. cit.*, here pp. 45-46.

J. Hill, *Weather Architecture*, Routledge, Oxon 2012.

D. Leatherbarrow, M. Mostafavi, *On Weathering. The Life of Buildings in Time*, The MIT Press, Cambridge, Mass. 1993, p. 64.

A. Janson, F. Tigges, *Fundamental Concepts of Architecture: The Vocabulary of Spatial Situations*, Birkhäuser, Basel 2014, p. 218.

H. Adam, H. Wirz (eds.), *Berrel Berrel Kraütler*, De Aedibus, Quart Verlag, Lucerne 2015, p. 35.

D. Gissen, *Subnature. Architecture's Other Environments*, Princeton Architectural Press, New York 2009, p. 023. "Aspects of what I term *subnature* have been partially labeled by recent historians and theorists. They are found in what Antoine Picon refers to as *anxious landscapes* and what the landscape architect Gilles Clément terms the *third landscape*. Both terms often describe postindustrial spaces at the peripheries of cities, where rusting buildings, weeds, and industrial debris coalesce. It may be identified in what architect François Roche terms *corrupted biotopes* to describe, among other things, the polluted water and air that produces hermaphroditic fish and polar bears," p. 22.

C. Slessor, "I'm lost in Paris' House by R&Sie(n), Paris, France," The Architectural Review, October 1, 2009. Available at: https://www.architectural-review.com/today/im-lost-in-paris-house-by-rsien-paris-france. Accessed June 25, 2023.

Ibid..

G. Corbellini, *Bioreroot: the architecture of R&Sie(n)*, Princeton Architectural Press, New York 2009, p. 159.

P. Ursprung, *Herzog & de Meuron: Natural History*, Montreal; Zurich, Canadian Centre of Architecture; Lars Müller Publishers, p. 307.

P. Ursprung, *Herzog & de Meuron*, p. 307.

T. Ingold, *Imagining for Real. Essays on Creation, Attention and Correspondence*, Routledge, Oxon 2022, p. 149.

Ivi, p. 150.

See D. Leatherbarrow, M. Mostafavi, *On Weathering. The Life of Buildings in Time*, 1993.

A. Picon, *Anxious Landscapes: From the Ruin to Rust*, in "Grey Room," 1, September 2000, pp. 64-83, here p. 65.

See E. Turpin (ed.), *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*, 2014.

D. Gissen, *Nature's Historical Crises*, in "Journal of Architectural Education," 69, no. 1, March 2015, pp. 5-7, here p. 6. "Those of us interested in a project that rejects naturalism, but that still utilizes nature as a referent, have examined the disciplinary tensions that produce concepts of nature and architecture simultaneously." "labeled with terms such as postnaturalism, posthumanism, or subnatural architecture […], has offered an approach to engage or entangle architecture and nature outside of green, sustainable, or other environmentalisms that view nature as a category outside culture itself," p. 5.

Recent exhibitions and symposia addressing the topic include: *Genders of the Forests*, Institute Art Gender Nature, Basel Academy of Art and Design FHNW, 24–25.05.2023, *Siamo Forest. We Are Forest*, 22.06.2023 – 29.10.2023 Fondation Cartier Paris, Triennale Milano; *Garden Futures: Designing with Nature*, 25.03.2023 – 03.10.2023, Vitra Design Museum Weil-am-Rhein.

P. Rahm, *Histoire naturelle de l'architecture. Comment le climat, les épidémies et l'énergie ont façonné la ville et les bâtiments*, Pavillon de l'Arsenal, Paris 2021, p. 65 – my translation.

Ibid..

"I like poplar groves, orchards, artificially planted forests. I like to perceive these spaces whose conventional order is forgotten so that they are only densities, variations on density. Neither full nor empty, these squared spaces are sieves of a sort, where paradoxically life moves in – traps for an intermediate future." M. Basdevant (ed.), *Intermediate Natures: The Landscapes of Michel Desvigne*, Birkhäuser, Basel, 2009, p. 13.

Ibid..

The vegetation featured 50 trees, each up to 12 meters high, more than 15,000 shrubs perennials, and 120 m2 of moss, thus producing 62.5 kilograms of fresh air each hour, meeting the needs of 1,800 exhibition visitors. *Ibid.*.

Ibid..

D. Barber, E. Putalik, *Forest, Tower, City: Rethinking the Green Machine Aesthetic*, in "Harvard Design Magazine," 45, 2018, pp. 234-243, here p. 243.

On this topic see: P.S. Cohen, E. Naginski (eds.), *The Return of Nature: Sustaining Architecture in the Face of Sustainability*, Routledge, London 2014. S. Lee (ed.), *Aesthetics of Sustainable Architecture*, 010 Publishers, Rotterdam, 2011.

P. Dean, *Under Cover of Green*, in D. Cuff, R. Sherman (eds.), *Fast–Forward Urbanism. Rethinking Architecture's Engagement with the City*, Princeton Architectural Press, New York 2011, pp. 62-74, here p. 69.

J. Corner, A. Hirsch (eds.), *The Landscape Imagination: Collected Essays of James Corner 1990-2010*, Princeton Architectural Press, Princeton NJ 2014, p. 258.

Ivi, p. 270.

K. Frampton, *op. cit.*, p. 61.

"In its workings the building is what it was

designed to be, but it acts as if it were part of a world that was never designed. This is how architecture creates the "atmosphere" of a situation, through its enactments, operations, or performances." D. Leatherbarrow, *Architecture Oriented Otherwise*, Princeton Architecture Press, New York 2009, p. 39.

J. Corner, A. Hirsch (eds.), *The Landscape Imagination: Collected Essays of James Corner 1990-2010*, Princeton Architectural Press, Princeton NJ 2014, p. 258.

Ivi, p. 270.

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FOREST, DESIGN, OPERATIVE

I

DOMINATION AND SYMBIOSIS IN THE AMAZON RAINFOREST

ALESSANDRO ROCCA

In the center of Piazza Navona, in Rome, in place of the trough for the horses of the Pamphilj family, there is now, since 1651, the fountain made by Gian Lorenzo Bernini in travertine, marble, granite, and bronze which represents the four major rivers of the continents then known: the Danube for Europe, the Ganges for Asia, the Nile for Africa and the Rio de la Plata for the Americas. The statues representing the rivers are the work of other artists, Antonio Ercole Raggi, Claude Poussin, Giacomo Antonio Fancelli, and Francesco Baratta, but Bernini's heroic conception fixes the point of origin of the four rivers and, therefore, we could say of the world itself or at least of the vital principle, of the natural and primal force that makes life on earth possible. *Erosão. Sorimáo u Ipirungáua* (*Erosion – The Origin of the Amazon River*, 1952), by Brazilian musician Heitor Villa Lobos, is a grandiose sonata full of dissonances, as I believe is typical of modernist music, animated by impressionistic touches and refers to a universe that, on that date, could well be said to be unknown. In about fifteen minutes the composition takes us to a series of sound spaces and thunder and a whisper alternate, a fresh chirping followed by a sudden aggravation of the notes.

There is Amazonian architecture made up of many and different versions that represent specific histories, cultures, and different peoples. In the film *Fitzcarraldo* (Werner Herzog, 1982), the protagonist embarks on a long journey to listen to Enrico Caruso singing in *Ernani*. Despite heroic efforts, Fitzcarraldo, who is the protagonist, arrives late, just in time to see the public evacuate from the Manaus Opera House. It is the Amazonas theater, built in the last decade of the nineteenth century, and an emblem of the conquest, colonization, and civilization of the region. Seven hundred seats, inaugurated in 1896 with La Gioconda by Amilcare Ponchielli, the theater is a singular stylistic hybrid, with an Italian-designed neo-Renaissance architectural base, surmounted by a gigantic dome decorated with ceramic tiles assembled according to the colors of the Brazilian national flag and it is also the sign of the triumph of economic globalism at the end of the century when raw materials, in this case, rubber, became vectors of migration, investments, and connections, which could easily cross the oceans and penetrate the most distant forests. At the center of the city of Manaus is the "Bosque da Ciencia," the scientific forest that presents, relocated to the urban context, the fauna, and flora of the Amazon. Inaugurated in 1995, with an extension of thirteen hectares, it gathers some memorable attractions such as the largest leaf in the world belonging to the Coccoloba genus (Polygonaceae) and the manatees that swim in the tank together with other typical species of the forest.

Brazil, 2009.
© Sebastião Salgado/Amazonas Images/Contrasto.

Marubo Natives, Amazonas States, Brazil, 1998.
© Sebastião Salgado/Contrasto.

Manaus was born as an outpost in the jungle, a commercial and logistic center serving the export of rubber, and its symbols, therefore, represent the eruption, in the center of the Amazon, of European and cosmopolitan culture, largely still based on rules colonial, of the Belle Époque. Around and beyond the city extends the endless expanse of the rainforest with the tangle of thousands of rivers that feed the Amazon River, which in Manaus receives its major tributary, the Rio Negro, and the network of roads, of various dimensions and quality, which connect centers separated by immense distances and cross the borders with Venezuela, Peru, and Bolivia.

About seventy years after Vila Lobos another musician, Jean-Michel Jarre, tries his hand at the theme by releasing the album *Amazônia* where the rhythmic and melodic fabric welcomes a continuous buzz of voices, sounds, songs, percussion, and noises; a symmetrical sound carpet to the green and blue carpet that covers the forest. Jarre explains: "I wanted to avoid the ethnomusicological approach or creating background music. So, I conceived a sort of toolbox containing musical elements – orchestral and electronic – intended to recreate or evoke the timbre of natural sounds, to which I added sounds from the environment, and finally ethnic sources (voices, songs, and instruments) from the sound archives of the Ethnography Museum of Geneva (MEG)". And then he adds: "I approached the Amazon with respect, in a poetic and impressionistic way"[1]. The fifty-two minutes of the composition are the soundtrack that accompanies Sebastião Salgado's two hundred photos collected in an exhibition, *Amazônia*, which offers special observation points to enter and get lost in the forest, among its inhabitants and its landscapes. The photographs are collected in aerial views, organized by forests, rivers, storms, mountains, islands, and close-up portraits of members of ten different Amazonian populations. In the repeated shades of Salgado's deep black and white, *tout se tient*: aerial views, storms, rivers, and the bodies of the natives, with the clear intention of demonstrating the symbiotic profile of an immense and differentiated world but also unitary and unique; a universe in which, according to Salgado's story in images, everything belongs to the same nature. In Salgado's photos, architecture appears very little, his lens lingers to emphasize the interpenetration between people and the natural environment, a fascinating and unknown relationship, for a European eye, but which overlooks the fact that together with the environment the built environment also exists in the Amazon, which includes a series of different types but all based on the use of wood and foliage, especially in the innermost regions, while the use of masonry,

in raw earth or bricks, it is more frequent in the conditions where the European influence was strongest, such as in the *Quilombo*, in the Bandeirista Houses and the metropolitan slums.

Kamayurá houses are vast rooms covered by a single wooden structure which is wall and roof, entirely covered with straw; the entrance takes place through a single small opening in the center of a completely blind wall: "A well-known indigenous residential typology, the *Oca* (in Tupi) or *Oga* (in Guarani) is one of the forming units of villages. Usually built with straw and timber, without interior separations, it is a collective living space and is also used for daily activities such as cooking and making artisanal objects. Another example of indigenous living spaces is the *Maloca*, mainly found in the Brazilian and Colombian Amazon. They are also known as 'big houses' and are larger than the *Oca*, besides having interior partings in which different family groups live. Each tribe bestows specific features to the architecture and space organization"[2].

The relationship between native populations and contemporary architectural culture reflects the complexity of the processes of colonization, integration, and conflict that run through the history of the Amazon. The most significant architectural story, able to interpret the colonial dimension in a dialectical way, is due to Severiano Porto who, in 1966, settled in Manaus and remained there for thirty-six years, tracing the coordinates of an architecture strictly connected to local conditions: "architecture for rural areas starts to opt for local materials, low-impact construction techniques, traditional typologies and passive strategies for solar protection and ventilation. The Minas Gerais architect Severiano Porto, trained at the Federal University of Rio de Janeiro (UFRJ), was one of the first Brazilian architects to systematically concern himself with the preservation of the Amazon environment"[3].

Using techniques and materials typical of the Ribeirinhos and Caboclos populations, Porto creates an architecture that can well be defined as Amazonian. In the house built for himself, in 1971, and in the Residência Robert Schuster (1978), both in Manaus, he widely uses wood as the main building material and arranges plans, sections, orientations, roofing, and facade treatments to adopt all bioclimatic strategies, with natural shading and cooling techniques. The most innovative aspect of Porto's architecture, compared to the local context, is the systematic introduction of wood as the main material: "timber was cheap, easily available and well known to local builders"; a pragmatic choice but also of strong ideological and political value, in an era in which, in the Brazilian Amazon, "the idea of adapting a building

to local conditions was almost non-existent"[17]. In Manaus, Porto builds other significant residences, such as the Balbina Center for Environmental Protection (1983-88, with Mario Emilio Ribeiro) which represents the most accomplished manifesto of modernist architecture founded on the reworking of Amazonian cultural elements, with its soft landscape of pitched roofs covered by local tiles called *Cavaco*, made of wood splinters: "The roof is a continuous and unique surface that covers the entire complex, varying in form, height, and width, providing good protection from solar radiation and rain"[18].

The legacy of Severiano Porto remains an important alternative, in Brazil, to the modernist formalism of Oscar Niemeyer and the brutalism of the Paulista school, and numerous projects nourish a position characterized by the recognition of non-European cultures, attention to ecological impact, the systematic use of bioclimatic solutions. In the heroic modernism of Niemeyer, Alfonso Eduardo Reidy, and Lucio Costa, in Rio, and João Batista Vilanova Artigas, Lina Bo Bardi, and Paulo Mendes da Rocha in São Paulo, the modernist Brazilian architecture is born from the grafting of European models and industrial materials in the vibrant body of the Brazilian metropolis, elaborating an impressive local version of international culture.

Compared to the masters of metropolitan Brazil, the forest, provincial architecture of Severiano Porto is radically different; it belongs to the culture of the time but also in a different current of thought, which is, in many respects, alternative. Porto's antecedents and fellow travelers are found in various international models of vernacular architecture, such as the San Francisco Bay Style, proposed by William Wurster (1895-1973) and presented at the San Francisco Museum of Art in 1949, with the *Domestic Architecture of the San Francisco Bay Region* exhibition[19]. In the refinement and awareness of Porto's cultural design, the famous exhibition Architecture without Architects (MoMA, 1965) could also have played a role, a manifesto of new attention to non-modern, local, vernacular architecture, and a sensational expression of a rejection of the codes disseminated by Modernism and International Style[20]. Bernard Rudofsky's research, although strongly oriented towards an international one, does not however report any mention of the Amazon.

The strong modernist imprint of Brazilian architecture still seems dominant today with its message of optimism and confidence in the possibility of making an important contribution to the country's problems. Of note is the initiative of *NAMA – Nucleus Modern Architecture in Amazonia*, which on the website defines itself as "a thematic nucleus of the Federal

University of Amazonas – UFAM and gathering of artists, architects and research groups from the universities, which seeks the recognition, documentation, preservation, and dissemination of Amazonian modernity. It started its activities in 2016 by organizing the I SAMA – Seminar on Modern Architecture in the Amazonia in Manaus. From then on, it organizes annual and itinerant seminars: the II SAMA in Palmas, 2017, the III SAMA in Belém, 2018, and the IV SAMA in Boa Vista, 2019"[21].

As Marcos Cereto (professor at the Faculdade de Tecnologia at Universidade Federal do Amazonas – UFAM) noted in the Nama MIT Conversation, "Shabonos and Malakas are part of contemporary architecture in the Amazon. Severiano Porto learned from Yanomani's *Amaku* coverage"[22]. Cereto recognizes a concept that, differently, is clearly expressed in Salgado's photographs: we all live at the same time but, also, each culture lives in its own time, and that communication, cultural and technological exchange, economic relations between the clear world of the global network and the Amazon rainforest is a project with an important, albeit recent, history and a future yet to be written.

THE AMAZONIAN LEGACY OF SEVERIANO PORTO

The legacy of Severiano's experience is an important memory for Brazilian architecture, a lesson in humility and attention to the environment that was also appreciated by strongly urban architects rooted in the Paulist modernist line, such as Angelo Bucci[23]. The lesson of Porto can be found, for example, in the Rio Bonito House (2005, built in Lumiar) by Carla Juaçaba[24] and in other projects that, in recent years, again resume the theme of architecture strongly linked to local conditions. The Experimental Floresta Ativa Center (2014-17) is built by Cristina Xavier in Arapiuns using two traditional techniques, the wooden structure and the thatched roof from local palm trees[25]. The Centro de Pesquisas Cangucu (1998-99), by Luis Hildebrando Ferreira Paz, also belongs to this approach. The Xingu Indigenous Park (2019), built in the Kisêdjê Settlement, in São Félix do Araguaia, is a community and cultural center designed by Estúdio Gustavo Utrabo and is a project that interprets the characteristics of Xingu architecture, based on the construction of voluminous canopies in wood and straw, and returns a rationalized and industrialized version, with an elementary volume with a concrete base, a wooden structure, brick walls, and a tin roof[26].

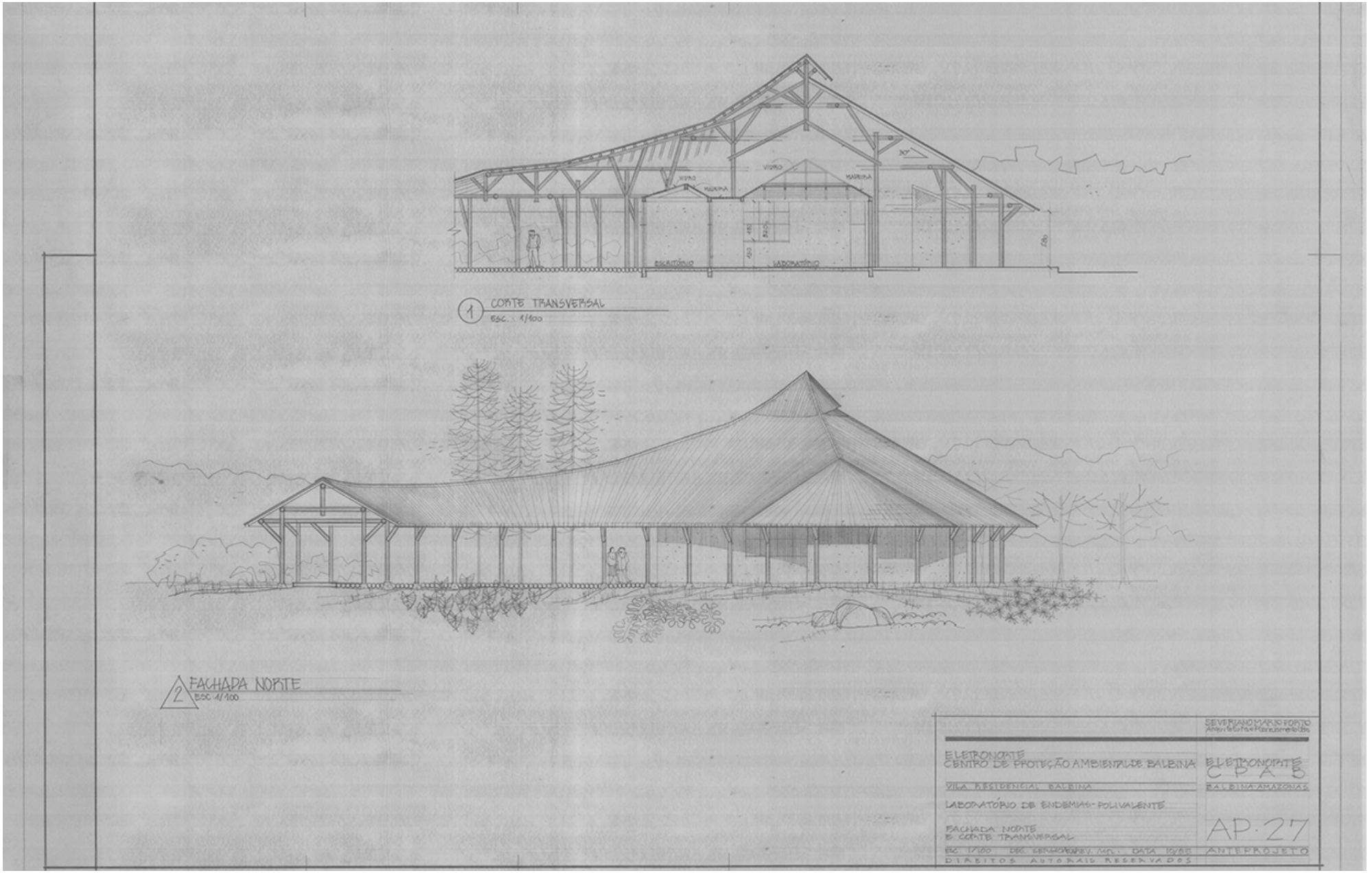
Among the works proposing an interesting contemporary vernacular, evolved and stripped of picturesque elements, is the Children Village, built in Formoso do Araguaia by Aleph Zero

(Gustavo Utrabo & Pedro Duschenes) and Rosenbaum (Marcelo Rosenbaum & Adriana Benguela) and awarded with the RIBA Award for International Excellence 2018. In this college building, the link between local traditions and knowledge is brought together through specific participatory know-how[14]. As Camillo Magni writes, "Marcelo Rosenbaum, owner of the studio, is known in Brazil for his design methodology called 'people transforms' with which he investigates the possibilities of combining an authorial activity such as a project with a participatory approach. Addressing mainly the indigenous communities of deeper Brazil, he immerses himself, travels, and lives firsthand in the contexts where he works, absorbing the culture of the place and conveying it within the architectural project. With great sensitivity, he draws on the most ancient knowledge linked to ancient traditions and opens cultural bridges between the present and the past"[15]. The technology is based on the layout of buildings in raw earth blocks and imposing wooden structures in the courtyard. It is the large continuous canopy, supported by 288 lamellar wood pillars, which seems to evoke, reformulated in a rationalist key, the continuous roof of the Balbina Center for Environmental Protection by Severiano Porto. The college represents, as Magni notes, a peculiar meeting point between the two traditions, the modernist one prevailing in São Paulo, and the vernacular one ascribable to Porto: "It is interesting to highlight how the typical rigor of Paulist architecture is recognizable in the inflexible geometry of the steps structural and in the muscular structure that becomes the main figure of the architectural composition. At the same time, the use of materials such as wood and raw earth as well as the articulated variation of non-load bearing elements (terraces and recreational spaces) constitute a different way of interpreting the project and connecting it to the local context"[16]. Technologies are explicitly commensurate with local conditions, "the decision to use glued laminated eucalyptus wood came from the abundance of the material in Brazilian territory, the absence of the use of wood in larger-scale buildings and all the benefits that a light and slender structure could provide to the project"[17].

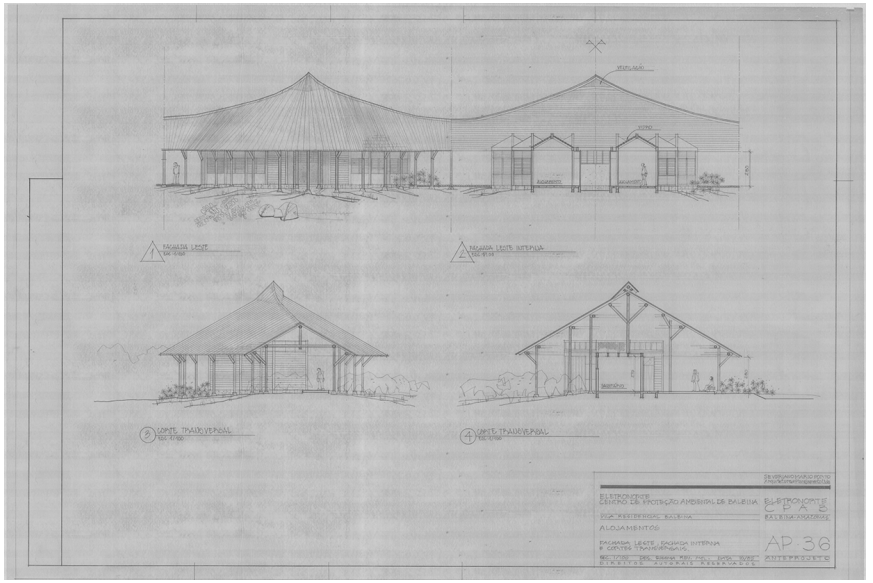
In the Amazonian and Brazilian scenario, the renewed interest in environmentally sensitive, sustainable architecture, commensurate with local resources, is combined with the constant tension of a territory that remains frontier; a laboratory where the destinies of the planet, which are also linked to massive deforestation, overlap with the issues of cultural, and sometimes even material, survival of native populations. In the XVII Venice Biennale of Architecture (2021) the collective Somatic

Collaborative presented a project, "Manaus: A New Contractual Agreement between City and Forest in Urban Amazonia – 2020"[18] which, in an experimental approach, hypothesizes a new alliance between the world of the rainforest and a potential new urban development: "[the project] examines the urban and territorial transformation of the Mindu River, a small inner city stream that connects the Amazon and Black Rivers with the Reserva Florestal Adolpho Ducke. Through the careful examination of five spatial conditions – the tower, the island, the urban edge, the anchor, and the bridge – the project proposes an urban imaginary that transforms the Mindu and advocates for a co-existence of ecological conservation and urban development, tempering the harsh divide between city and forest in the Amazonian region"[19]. The discussion is open: the tension between the imitation of tradition and new ideas of order and progress can be the common thread that, between the contradictions of the recent past and the anxieties that populate the future, can give life to new and original experiments for Amazonian architecture[20].

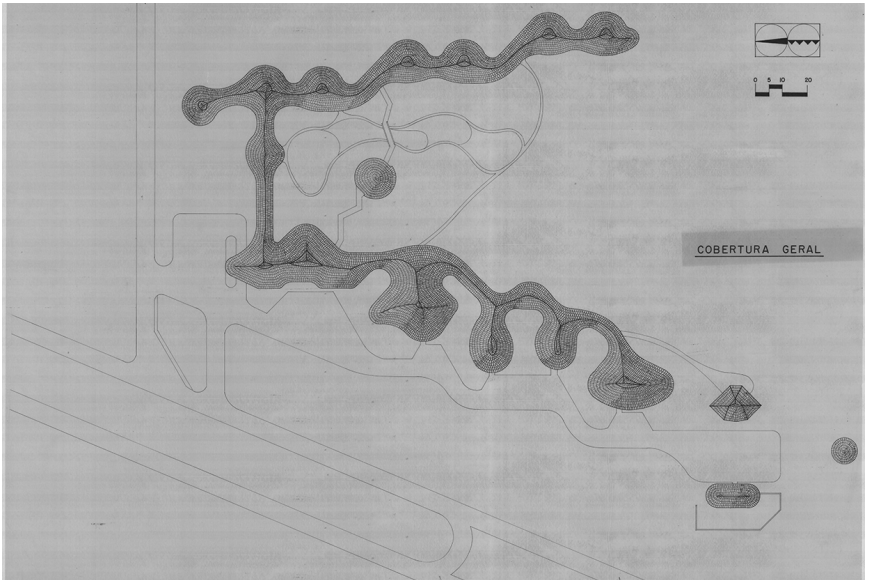
Balbina Environmental Protection Centre, cross section and north elevation.
Limnology laboratory.



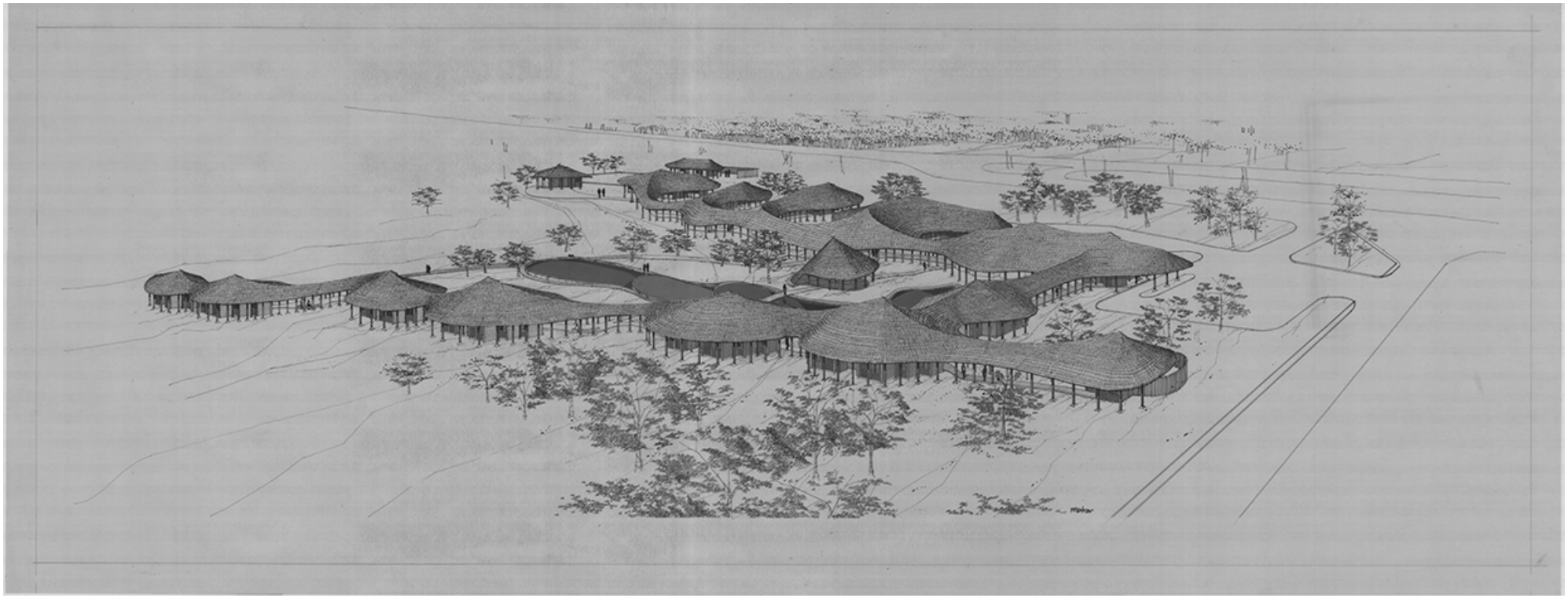
Balbina Environmental Protection Centre, east and internal elevations and cross section. Accommodation.



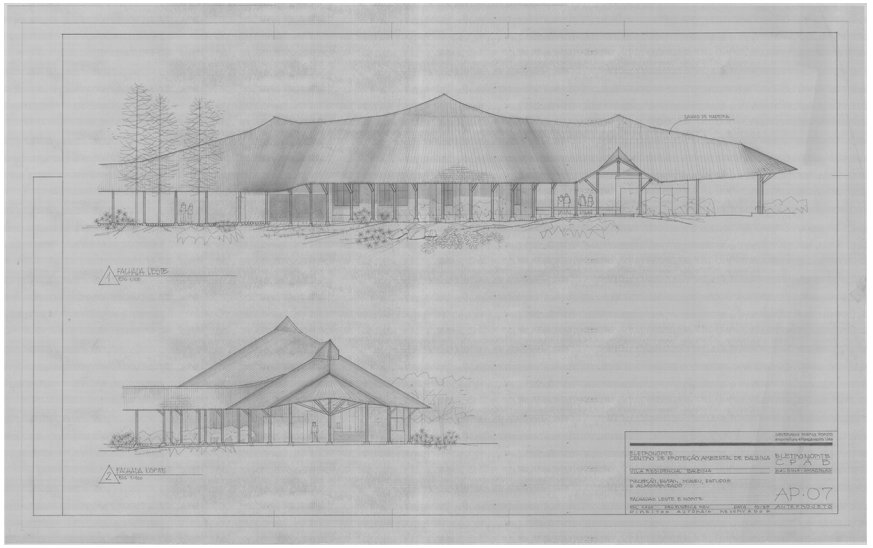
Balbina Environmental Protection Centre, roof plan. Publication design.



Balbina Environmental Protection Centre, general perspective.
Publication design.



Balbina Environmental Protection Center, east and north elevations.
Reception, living room, museum, study rooms and warehouse.



https://jeanmicheljarre.com/amazonia, accessed 19 June 2022.

J. Daudén, *Brazilian Houses: 9 Examples of Residential Vernacular Architecture*, https://www.archdaily.com/909366/brazilian-houses-9-examples-of-residential-vernacular-architecture, accessed 19 June 2022.

"A arquitetura para áreas rurais passa a optar por materiais locais, técnicas construtivas de baixo impacto, tipologias tradicionais e estratégias passivas de proteção solar e de ventilação. O arquiteto mineiro Severiano Porto, formado na Universidade Federal do Rio de Janeiro (UFRJ), foi um dos primeiros arquitetos brasileiros a se preocupar, de forma sistemática, com a preservação do meio ambiente amazônico." A. Guerra, *Arquitetura brasileira: tradição e utopia*, in "Revista do Instituto de Estudos Brasileiros," 76, 2020, pp. 158-200, here p. 172.

L. Neves, *The New Vernacular of Severiano Porto in the Amazon*, in W. Weber, S. Yannas (eds.), *Lessons from Vernacular Architecture*, Routledge, Oxon 2014, p. 166.

Ivi, p. 173.

San Francisco Museum of Art, *Domestic Architecture of the San Francisco Bay Region: A Catalog of an Exhibition Held at the San Francisco Museum of Art*, Sept. 16, Oct. 30, 1949; E.K. Thompson, *The Early Domestic Architecture of the San Francisco Bay Region*, in "Journal of the Society of Architectural Historians," 10(3), 1951, pp. 15-21.

B. Rudofsky, *Architecture without Architects: A Short Introduction to Non-Pedigreed Architecture*, The Museum of Modern Art / Doubleday, New York 1964. It should be noted that Rudofsky's research, although strongly oriented towards an international vision, does not report any mention of Amazonian architecture.

NAMA and the architecture of the Amazon. MIT Architecture | Spring 2021 Lecture Series. A Research Studio conversation with Marcos Cereto, Angelo Bucci, and Xhulio Binjaku, moderated by Cristina Parreño; https://www.youtube.com/watch?v=o5VipN-X3bQ, accessed 19 June 2022.

https://nucleoama.weebly.com/about.html, accessed 19 June 2022.

https://architecture.mit.edu/events/nama-and-architecture-amazon, accessed 19 June 2022.

https://www.archdaily.com/457077/rio-bonito-house-carla-juacaba, accessed 19 June 2022.

"Nos diversos edifícios, a arquiteta Cristina Xavier optou por fundação de concreto estanque à umidade, estrutura em madeira de baixo interesse comercial e coberturas com telhas cerâmicas ou em palha provenientes de palmeiras nativas muito usada na região, alternativas adequadas ao alto índice pluviométrico e calor intenso do local. Equipes de profissionais e consultores de centros urbanos maiores treinaram equipes locais para o uso de técnicas construtivas locais e modernas;" A. Guerra, *op. cit.*, p. 174.

El Croquis, *Estudio Gustavo Utrabo (2015-2020). Ojo cerrado para verte mejor – Eyes shut to see you better*, 207, 9/3/2021; https://www.archdaily.com/978232/xingu-canopies-estudio-gustavo-utrabo, accessed 19 June 2022.

https://agentetransforma.org.br, accessed 19 June 2022.

C. Magni, *Collegio Fondazione Bradesco – Fazenda Canuanã*, in "Casabella," 877, 9/2017, pp. 27-36, here p. 27; A. Guerra, *op. cit.*, p. 173.

C. Magni, *op. cit.*, p. 30.

From the project report, https://www.instagram.com/p/CZ-SllVlUZQ, accessed 19 June 2022.

A. Acciavatti et al., "How will we live together? Biennale architettura 2021," Venezia 2021, vol. 1, pp. 274-275.

https://www.somatic-collaborative.com/projects/manaus-a-new-contract, accessed 19 June 2022.

All drawings by Severiano Porto courtesy of Nucleo de Pesquisae Documentação, Departamento de Projecto de Arquitetura, Faculdade de Arquitetura e Urbanismo, Universidade Federal do Rio de Janeiro.

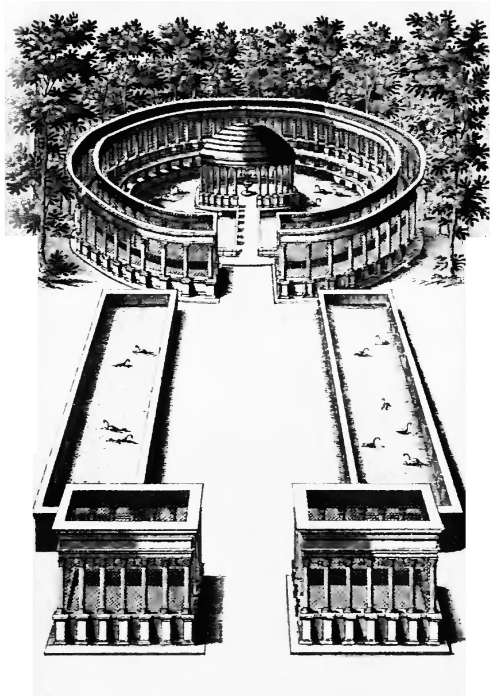
CEDRIC'S SENSE FOR WILDERNESS: THE ROLE OF FORESTS IN PRICE'S SEARCH FOR COEXISTENCE

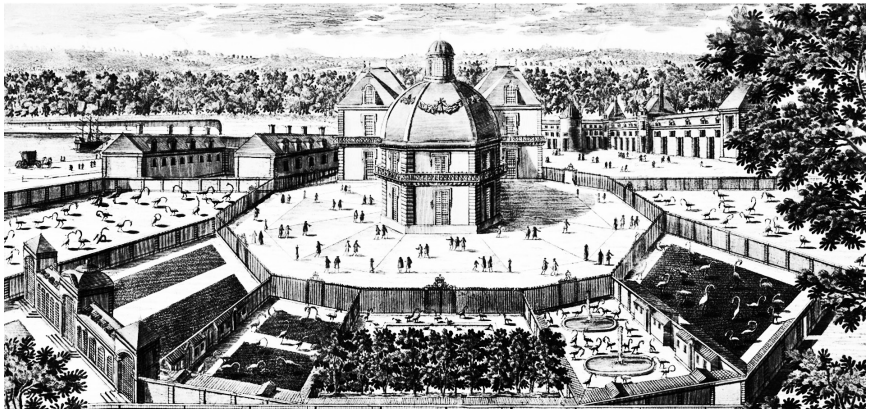
JACOPO LEVERATTO

In the beginning, before the city, the village, and the architecture itself, there was a forest, no mystery in this regard. As it is no mystery that at the beginning of human civilization, immediately after and out of the forest, there was a garden. Not only because it was in a garden that the earliest narratives of creation placed the first humans, but also because, according to anthropologists, it was through gardening that humankind definitively became sedentary and started its millenary process of modification of the natural world. And not by clearing it, as one may think, but by distilling its very essence within the physical boundaries of an enclosed system. Historically, in fact, despite changes in terms of size, composition, and characterization, gardens have always represented places in which a selection of the natural environment has been grown, accumulated, and guarded. At first for alimentary reasons, as they were meant to store and protect the livelihoods of a community, and then, over the centuries, according to the different ways in which different cultures have interpreted their relationship with nature. All of this with the only invariable feature of being a walled area, as also testified by the etymology of the term, and the sole constant principle of recalling as much as possible a sort of "paradise." The same word that Greeks borrowed from Persians to indicate the closed "special parks, planted with palm trees, vines and flowers" in which they used to keep wild animals in captivity, and which therefore served to indicate a first possible form of domesticated coexistence among different species.

From an architectural point of view, the story of this form of coexistence is the story of a particular spatial typology, which in the second half of the seventeenth century took the name of "menagerie", although its origins go back long before that date. During the second millennium before Christ, for example, Queen Hatshepsut of Egypt founded in Thebes the first known zoological garden. But even Alexander the Great, Kublai Khan, and Emperor Wen Wang of the Chou Dynasty in China were all founders of similar parks, without mentioning, with regards to the Middle Ages, Charlemagne, Frederick II, or Henry III of England. It was only, however, after 1662, when Louis XIV of France created a garden for exotic animals at Versailles, that the term began to be commonly used, in its strictly domestic reference. As it was further evidence of the form of possession that characterized the relationship with the natural world, which was already materialized by the distinctive features of all the royal menageries, from the architectural shape of the cages to the panoptical plan of the compounds. And solely in 1828, with the opening in London Regent's Park of the first scientific zoo in the world,

Models of panoptic gardens, from Varro's aviary to Versailles' menagerie, from G. Loisel, *Histoire des Mènageries. De l'antiquité à nos jours*, Doin et Fils, Paris 1912.





the perspective in this regard began to change, both because of its urban location, which was opened to the public in 1847, and for its layout, which tried to recall a natural environment. Therefore, it was probably not a coincidence that the first attempt to create a form of architecture for animals that could be molded on their behavior was realized exactly in this venue. And precisely by the man who, according to Rem Koolhaas, more than anyone "changed architecture [...] with fewer means"[4].

Everything began more than a century after the opening to the public of Regent's Park zoo, when the Royal Zoological Society, in 1960, informed the Duke of Edinburgh of their intention of building a new "birdcage" for the zoo, and he suggested to contact his brother-in-law, Anthony Armstrong-Jones, who studied architecture for a while, before failing his second-year exams[5]. And the latter, in turn, went for help to his old friend and contemporary at Cambridge, Cedric Price, who had just started his practice after a period at Erno Goldfinger's. Here, and previously at the Architectural Association, Price had already begun to develop an original and personal approach to architecture, which he saw more as a process than as a form[6]. And whereas his contemporary fellows, like Alison and Peter Smithson or the members of Archigram, had still shown "their own distinctive interests and individual tastes", he had manifested, by contrast, a strong "preference for dismantling architecture, and making it disappear into unconventional systems" of construction[7]. For this reason, in accordance with Lord Snowdon, he immediately dismissed the idea of designing a traditional birdcage, fashioned on the interpretation of domestic spatial typologies and classical architectural elements, to work on something completely new. Thus, calling in the equally young engineer Frank Newby from Group Seven, the two began to work on a high-tech walk-through aviary, which could be made "for" and "by" the movements of its winged inhabitants.

In this regard, it must be said that, even though Snowdon Aviary was the first walk-through structure to be built in the United Kingdom, the idea was not totally new for that age, as in 1904 the Smithsonian Institute had already built an accessible flying cage for St. Louis World's Fair[8]. The true novelty, on the contrary, was bringing animals to the center of the formalization process, which made Price's project stand out from an architectural point of view, also from its most refined predecessors. Like the circular gorilla house, for example, designed in 1933 by Berthold Lubetkin for the same zoo, which gave the animals a sterile and harmoniously proportioned setting, through the balanced arrangement of curved and intersecting volumes. Or the

The Snowdon Aviary designed by Cedric Price.

The Snowdon Aviary designed by Cedric Price.
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spiraling shape of his renowned penguin pool, which served to showcase birds in a sort of grand choreography organized for the visitors. Because each of them was based on the ethological principles formulated by the Swiss zoologist Heini Hediger, for whom animals' biological functions related to territoriality were not compromised in captivity, as long as the cage could guarantee a certain distance among its occupants[14]. But also on the common belief that the duty of artists was that of replacing the real world, spoiled by natural cycles of decay, with their own creations. For this reason, even in the best cases, the protagonists of this kind of design had always been the visitors, whereas animals had only been used to activate architecture by contrast, as they were actors on a stage.

Conversely, Price and Snowdon's idea on the contrary could not be more distant[15]. After having chosen a rectangular lot on a steeply sloping canal bank of Regent's Park, they in fact began to sketch ideas for a sort of natural habitat covered by a curving tensile structure, the shape of which was meant "to accommodate the natural arcing flight patterns of birds"[16]. Then, once satisfied with their basic concept, they asked Newby, who was studying Richard Buckminster Fuller's discontinuous compression systems, to design the technological solution that could guarantee the maximum volume for free flying, by providing a fifty-meter cleared space, stretching some thirty meters high, with multi-level perches at both ends[17]. Obviously, while contemporarily ensuring adequate transparency and permeability, which could both make the animals feel free and allow their view also from the outside. The solution was thus a diaphanous and netted enclosure made of a welded aluminum mesh, which had to be fixed to pre-tensioned steel cables, and draped across a composition of aluminum tubes, arranged into four different tetrahedral compression structures at the corners, all equipped with roosts[18]. And these would in turn have been anchored, by means of metallic legs, both on the ground near the canal and to a high retaining wall backward, which, despite having been designed to simply reinforce the cliff, ultimately turned out to be the real spine of the project.

By crossing the whole site longitudinally and rectifying its topography, the wall would in fact have inevitably cut the space into two different levels. For this reason, Price decided to use it to separate the flows of people and water from that of birds, while still following the same direction, as defined by the position of the perches. On the one hand, by placing on top of its ridge a pedestrian path for visitors, which spanned the two opposing entrances with the broken line of a zigzagging cantilevered

walkway. And on the other, by excavating at its base the bed of a stretched artificial lake, which had to be fed by two converging streams of water. The first springing from an indent of the cliff in the form of a continuous vertical cascade, and the other, slower and gentler, pouring from a small rectangular pool near one of the entries and dropping through a series of shallow square platforms emerging from the wall like gigantic steps. All this while trying to keep the rest of the space as natural as possible, by simply integrating the existing vegetation with irregular patches of trees and bushes, in a layout that was substantially indifferent to the upper structure or the system of flows. As if he were simply not interested in achieving any sort of formal synthesis between the different elements of the whole, which ultimately took the shape of a strange, hybrid forest.

When, in 1965, it was finally completed, the Aviary was thus unlike any other building that one could have seen. Nevertheless, its structure was almost immediately praised both by visitors, who could eventually enjoy an immersive view of forty-five different species of birds in a natural habitat, and by Price's colleagues, who appreciated his particular solution. If compared to the façadism of the Mappin Terraces or to the International Style of Lubetkin's pool, his project in fact represented a remarkable conceptual leap for that age[19]. And even though his friend Reyner Banham wrote about it as a "belated contribution to the Arcadian tradition" belonging to the unorthodox stream that dated back to Joseph Paxton[20], Price's approach was so evidently alien to any arbitrary formal allegiances and technological determinism that the Aviary soon proved to challenge any possible form of traditional categorization[21].

And by contrast, as Charles Jencks wrote, it ended up representing the first declaration of independence from all the previous concepts of "enclosure, monumentality, stasis and even imagery," by which Price "put forward an idea of 'servicing' instead of architecture" that reflected his sense of "absolute freedom"[22]. And along with that, of course, one of the most original architectural interpretations of the garden meant as a system of relationships among different species.

This is because, despite being a zoological garden, and therefore little more than a cage, all the Aviary's distinctive features seem to be designed to contradict the fundamental principle of this spatial typology, which is its inherent anthropocentrism. Its distributive layout, for example, in a reversal of objects and subjects of the project, makes people look confined instead of animals. On the one hand, through the articulation of flows in section and not in a plan, which physically separates the path for

visitors from the rest of the space and its actual inhabitants. And on the other, because of the material conformation of this element, which immediately denounces its estrangement from both the stereotomic character of the landform and the light tectonic of Newby's canopy. Stretching from only two points of support, with a series of abrupt alternate right and left turns, the concrete ribbon of the walkway in fact crosses the volume of the building almost without touching its forest of trees and tubes, to not interfere with its life. An intention further underlined not only by its structure, which is independent from the upper one, but also by its formal matrix, which does not find confirmation in any other element of the building, as well as its width, which is not dissimilar from that of a corridor. As though it were meant to make people cross the Aviary, instead of staying there, in a sort of separate and suspended dimension that does not really belong to the whole space.

This is also because, unlike most of the gardens before it, the layout of the Aviary does not depend on the form of its enclosure, but it precedes it. Traditionally, in fact, the interior composition of enclosed gardens was based on a geometric process of partition that derived its logic from the formal configuration of the outer wall. And the division of the whole area in smaller fields, as well as the definition of paths, followed the same principle in a sequential progression that went from the outside inward, both in terms of formal and temporal priority. In Price's project, on the contrary, the enclosure does not work as an ordering element, but it rather reflects the life inside its boundaries, in a process of formalization that followed the opposite direction, from the ideal movements of its inhabitants to the shape of their shelter. First, through its general conformation, which, recalling a veil spread over a flock, looks like being molded by the same birds while taking off. Then, for its consistency, which, besides providing transparency to this sort of crystalline cloud, gives the idea of a breathing layer capable of a quick change and response. And finally, because of its very structure, which, by following Buckminster Fuller's tensegrity principles, borrows from the natural world an adaptable mechanism for developing a lightweight frame that could in principle be dismantled and reassembled according to changing needs. All this, in a symbolic more than a substantial way of prioritizing animals over humans, which Price pursued by using architecture as a figurative means to manifest the intention of enabling their possibilities rather than determining their expected behavior, through the image of a forest.

In other words, as he later did by imagining a new kind of

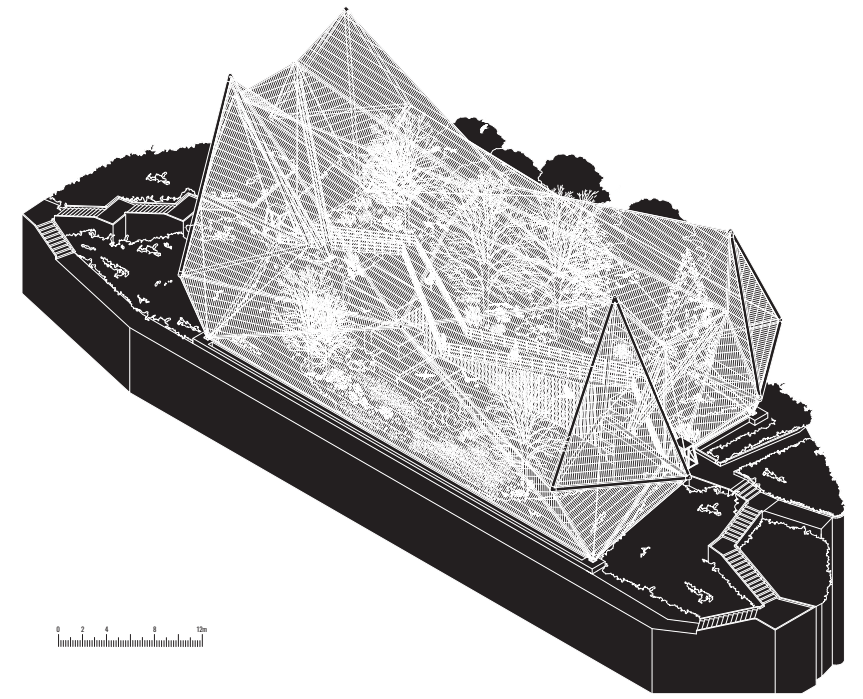
theater and a new type of university with his projects for the Fun Palace and Potteries Thinkbelt, through the Aviary, Price realized the idea of a garden that was totally innovative for that age. And exactly as the former projects sprang from a new way of seeing the processes of learning and being educated, his first major project emerged from a novel way of interpreting the human relationship with nature, and not from the manipulation of traditional architectural typologies. Whereas, however, in all these following projects design developed in a programmatic dimension that was largely indifferent to formative characteristics, in the Aviary his poetic of indeterminacy still unfolded through a masterly work on the traditional constitutive elements of garden architecture, like the conformation of the "wall" and the composition of the layout, which immediately opened the way for further concrete realizations, following the same direction. To such an extent that, when two years after its completion, Buckminster Fuller was entrusted with the design of the United States pavilion for the Montreal Expo, he looked back to his admirer's example and his design principles. While Price, in contrast on the contrary, kept questioning and developing the role of design when dealing with nature, in a vision that repeatedly recurred in his practice, through a sort of symbiotic form, across different landscape projects. At least until 1989, when, for the regeneration of the Hamburg Docklands, he started devising the first conscious, although unrealized, architectural project of "restitution" ever imagined, which he referred to as a particular form of "relief from development".

The story is well known also in this case. At that time, in fact, the city of Hamburg was seeking new opportunities for its redundant historical harbor, and for this reason, urban authorities organized an architectural masterclass with sixteen design teams invited, among which the one led by Price. Instead of defining a masterplan for redevelopment, however, his team listed a series of questions for citizens and authorities to ask what growth exactly meant for them. And after two years of work, they presented to the public a project, called "Ducklands Experiment," that instead of repurposing the docklands through housing, offices, and other tertiary functions, it proposed the creation of a river marshland in the center of Hamburg, to become a resting place for migratory birds. At first by demolishing the existing buildings and structures, with the exception of key railway links and some listed constructions, and later by leaving the site to be gradually submerged by the Elbe River. All this by making use of adjustable gantries that would have served, initially, to remove soil from the riverbed, then for planting and husband-

ry, and finally as adaptable walkways for visitors who, as in his Snowdon Aviary, would have remained only occasional spectators of an environmental setting, or a "third landscape"⇊♅, "constructed" exclusively for birds, with nothing but water, sand, and plants. And through both a final principle and a modal strategy that in the following years would have often been replicated, though never fully realized.

What Price did in both projects, in other words, was not to change the essence of this space, which he still meant as an enclosed system to grow and protect a selection of nature. What he modified, by contrast, was the human role in this picture, which was symbolically removed from the center of the project and substituted with the end result of this selection, both as the subject and object of a design agency. And he did all this by essentially working on the material conformation of the garden, which he transformed from a confining to a defining device. A responsive rather than an ordering element that had necessarily to emerge from a projective process of definition generated by the actions, the interactions, and the mechanisms of growth and exchange of its inhabitants. For this reason, from an architectural standpoint, these projects had little to do with the subsequent typological development of zoological gardens, which progressively tended towards a closer imitation of natural environments. Because, despite a deeper concern for animals' well-being, the great majority of zoos has been revolving around the visitors' experience as the main parameter. Whereas Price's projects, by contrast, represented an evolved and hybrid form of "forest" in which he sought to experiment new modalities of coexistence⇊♌. Within an artificially mediated continuum between nature and culture that finally extended the range of design beyond the limits of predetermination.

Axonometry of the Snowdon Aviary, drawing by Jacopo Leveratto.



The story of Eden, for instance, as depicted in the second chapter of the *Book of Genesis*, recalls also a previous Mesopotamian myth about a primordial man who was placed in a divine garden to guard the Tree of Life. In this regard, see R. Davidson, *Genesis 1-11. Commentary by R. Davidson*, Cambridge University Press, Cambridge 1973.

J.R. Harlan, *Crops and Man*, American Society of Agronomy, Crop Science Society of America, Madison 1975.

G. Clément, *Une brève histoire du jardin*, Éditions du 81, Paris 2011.

The terms garden, paradise and enclosure are strictly interrelated. Garden, for instance, stemmed from the German *Garten*, which meant enclosure. And paradise, which comes from the Greek *paradeisos*, directly referred to the Persian *pairidaeza* that meant enclosure too. *Ibid.*

G. Loisel, *Histoire des Ménageries. De l'antiquité à nos jours*, Doin et Fils, Paris 1912, p. 45.

E. Baratay, E. Hardouin-Fugier, *Zoo. A History of Zoological Gardens in the West*, Reaktion Books, London 2002, pp. 41-42.

W.N. Mann, *Wild Animals in and out of the Zoos*, Smithsonian Institution, Washington DC 1930.

The term menagerie in fact derived from the French *ménage*, which was used to refer to housekeeping.

R. Koolhaas, *Introduction*, in H.U. Obrist (ed.), Re: CP, Birkhäuser, Basel 2003, p. 6.

S. Mullin, *Cedric Price*. 1934-2003, in "Arq," vol. 7, 2, 2003, pp. 113-118.

S. Mathews, *From Agit-Prop to Free Space. The Architecture of Cedric Price*, Black Dog Publishing, London 2007, pp. 30-34.

A. Isozaki, *Erasing Architecture into the System*, in H.U. Obrist (ed.), *op. cit.*, p. 45.

National Zoological Park, *Records. 1887-1966*, Smithsonian Institution Archives, Washington DC 1966.

H. Hediger, *Wild Animals in Captivity*, Butterworth, London 1950.

Referring to another project, Price in fact significantly stated that the "acceptance of the appropriateness of a finite container for the business of living [...] was a symptom of a particular half-century of artifactual history, during which there appeared to be a recognizable equation between the compatibility of the dimensions of inventions [...] and the kinesthetic sensibilities displayed by their inventors." Quoted in S. Mathews, *op. cit.*, p. 38.

Ivi, p. 35. Flight patterns were studied with the contribution of the eminent conservationist and ornithologist Peter Scott.

For background, see *Aviary at the London Zoo. Designed by the Earl of Snowdon and Cedric Price*, in "Architectural Review," 127, 1961, pp. 417-418; *Northern Aviary, London Zoo. Designed by: Lord Snowdon, C. Price & F. Newby*, in "Architectural Design," 9, 1965, pp. 451-459; and S. Hardingham, *Cedric Price Works 1952-2013. A Forward-Minded Retrospective*, AA Publications, London 2016, pp. 87-103. The structure was probably inspired by the extraordinary tensile aviary in steel and nylon, built by Vittoriano Viganò in 1954 for Milan's X Triennale. See A. Stocchi, *Vittoriano Viganò. Etica brutalista*, Testo & Immagine, Turin 1999, pp. 22-23.

R. Landau, *Engineers and Architects: Newby + Price*, in "AA Files," 27, 1994, pp. 25-32.

H.A. Steiner, *For the Birds*, in "Grey Room," 13, 2003, pp. 5-31.

R. Banham, *Aviary, London Zoological Gardens*, in "Architectural Review," 138, 1965, p. 186.

"In Price's work, the connection between the complexities and potential of the question, and the physical (or nonphysical) end product, is very close, and because [...] his work is consciously problem-solving [...], the importance of seeing each product as a problem-understanding and question-asking process [...] is necessary if it is to be understood." R. Landau, *New Directions in British Architecture*, Studio Vista, London 1968, p. 76.

C. Jencks, *Modern Movements in Architecture*, Penguin, London 1985, p. 285.

For an extensive view of the history of this spatial typology, see R. Aben, S. de Wit, *The Enclosed Garden. History and Development of the Hortus Conclusus and its Reintroduction into the Present-day Urban Landscape*, 010 Publishers, Rotterdam 1999.

R. Buckminster Fuller, *Tensegrity*, in "Portfolio and Art News Annual," 4, 1961.

An approach that Price, some years later, called "anticipatory architecture," to indicate a way of designing that is "concerned with reactions, not merely initial appetites." C. Price, "Building Design," 1071, January 11, 1991, p. 19.

For an extensive view of these two projects, see S. Mathews, *op. cit.*

In summary, Fuller's idea for the World Fair was building a symbolic replica of what he liked to call "spaceship earth." For this reason, to represent the whole biosphere, he designed a sort of planetary garden, which was enclosed by the double layer of a huge geodesic dome. And he fashioned its structure, to emulate the homeostatic mechanisms of a natural system, as a permeable and intelligent skin operated by light sensors. In this way, by adapting to changing sun conditions, the structure would have maintained a constant temperature, like a real living organism. J. Massey, *Buckminster Fuller's Reflexive Modernism*, in "Design and Culture," vol. 4, 3, 2012, pp. 325-344.

Such as Mills, Serre II, and IFPRI. In this regard, see R. Middleton, *To Earth*, in S. Hardingham (ed.), *Cedric Price Opera*, Wiley, London 2003, pp. 28-29.

Cedric Price Architects, memorandum 13th July 1990, Canadian Centre for Architecture, File 153: Duck Land, folder DR2004:0876.

C. Price, "Building Design," 1071, January 11, 1991, pp. 18-21. Through his friend, the ornithologist Peter Scott, whom he met while working on the Snowdon aviary, Price knew that this was a stopping route for migrating birds. In a talk at the Architectural Association in 1990, he had already claimed: "Have Ducklands, never mind Docklands! Ducklands. In the middle of Hamburg. You know. A wonderful new link, a new lung! What a wonderful generosity of the city – hasn't cost a thing! Saved us a fortune!" In S. Hardingham, *Cedric Price Works... cit.*, p. 432.

G. Clément, *Manifeste du Tiers paysage*, Éditions Sujet/Objet, Paris 2003.

J. Leveratto, *Posthuman Architectures. A Catalogue of Archetypes*, ORO Editions, Novato CA 2021, pp. 66-87.

THE FOREST AS A ROOM. THREE JAPANESE HOUSES

BEATRICE BALDUCCI

> A fuzzy boundary resembles, in a way, a forest. […] A forest is not made by planting trees or erecting buildings imitating trees or a forest. It is made by creating a space in which transparency and opacity, the infinite graduation of shades between black and white, and the feelings of being connected and separated are constantly and dynamically shifting back and forth.

To date, forest areas cover 67% of Japan's total land, of which 19% is classified as primary forest, the most biodiverse form of wild nature. This significant presence played an essential role in the development of Japanese culture, which is strongly characterized by an entangled relationship with wild and uncontrolled nature. Forests have been historically seen as an ancestral and spiritual site, especially due to the influence of Shintoism, a religion that puts a particular emphasis on nature because any mineral or plant, any natural element can house a divine entity. Ginko, Hinoki, and Cedar forests used to surround Shinto shrines as protective rooms, the passage through which is part of the spiritual experience. The immense forest area prompted the development of a wooden architecture that, grafting an extremely unstable land characterized by intertwined cycles of earthquakes, typhoons, floods, and fires, is based on yield rather than on strength and hardness, typical of western constructive cultures. An architecture with natural characteristics, such as an extraordinary tendency to change and modification, that roots in theories of impermanence, voids, the transient, the contingent, and the precarious.

The binomial architecture and forest, house and nature, therefore, consistently connotated traditional Japanese architecture, which has been renewed several times over centuries, encountering different experiments and evolutions. Even from a linguistic point of view, the word "home" is made of two *kanji*: "house" and "garden." The blurriness between inside and outside, between designed and not designed, between anthropic and natural, characterizes the Japanese conception of space. Instead of a clear division between these two conditions, a series of intervals, voids, disposals generate a porous, fuzzy and soft border. More than an imposition of a clear form, space results from the design of the relationships between the parts. In 1930, Bruno Taut wrote: "European architects remain in a world of forms, even as they advocate modernism. They remain in a violent world called form. On the other hand, Japanese architects have lived for centuries in a world of relationships". In the Kyokai, the traditional Japanese technique for articulating the space, many are the disposals that explore the multiple borders between domestic

space and nature. The *engawa*, for example, the Japanese veranda literally meaning "edge side," features a non-tatami mat flooring made of wood or bamboo connects the rooms of the house to the garden. Here, shoes do not have to be worn. Though it is an exterior space, it possesses the comfort of an interior space, while the interior possesses the openness of the exterior. This quality of "between-ness" is not a third kind of space but rather a continuum between exterior and interior where the qualities of these two zones merge and gradually transition from one to the other.

Architecture is thus traditionally seen not as an individual object, a shelter that would separate it from the environment, but as part of it, resulting from the relationships between heterogenous and precise elements, designed and not designed, interior and exterior rooms. In this blurriness, experiments in which domesticity results from the coexistence between anthropic and natural have developed over time through different interpretations, challenging both the sylvan dimension of architecture and the domestic character of nature.

PILLARS

Three hours by car from Tokyo, Pilotis in a Forest by Go Hasegawa (2014) blends with the tree trunks of the densely vegetated forest of Kita-Karuizawa. "The project called for a compact indoor space and a terrace to enjoy barbecues and other events. Doing my best to leave the trees undisturbed, I decided to create a group of *pilotis* in the forest. By making them tall enough so that even when you are in the bottom section of the house, you can see the trunks of the tall trees, I used the forest as the building's walls". A timber structure aerial space, clad in corrugated galvanized sheeting, stands on nine steel *pilotis* of 10x10 cm and forms a platform in the forest canopy at the height of 6.5 meters: the right one for framing the distant view over Mount Asama; the right one for exploiting the shade from the canopy leaves in summer and letting the light pass under in winter. A few years after House in Nagano (2006), Hasegawa further investigates the interaction with the forest, conceiving it as an integral part of the domestic space. The site is located in a particularly humid and rainy area: building on pillars and raising the house from the ground to prevent floods is a common language. Go Hasegawa decided, therefore, to stress this typology, test it through different proportions, and explore the possibilities of designing the space underneath as a hybrid dimension between architecture and nature.

The house is divided into two sections connected by light-

Go Hasegawa, Pilotis in a Forest, Kanagawa, Japan, 2014.
Photo by Go Hasegawa & Associates.

weight stairs echoing Kiyonori Kikutake's Sky House (1958): an open room in the ground and a closed one in the air. Underneath, thin pillars and tree trunks frame a "slightly outdoor space"[12]: a concrete soil open room defined by changeable borders, as in a clearing. Above, nested between the canopies, a compact, low loft-like volume – 1.8 meters from floor to beams at the lowest point – accommodates a bedroom, bathroom, dining, and guest room, with large openings that frame the forest in every direction. The house does not establish a mimetic relationship with the forest but explores a profound dialogic dynamic with it instead through the drawing of careful proportions. Pilotis in a Forest can be read as a sequence of rooms, vertically arranged in a delicate crescendo of controlled boundaries: from the "in-betweenness" of the ground floor room enclosed by tree trunks, passing through the open oak deck, which filters interior and outdoor spaces, to the compact and geometrical volume that opens to the surrounding through framed and precise views.

ROOF

On the hillside of Atami, in the Shizuoka prefecture, Momoyama House by Erika Nakagawa (2016) grafts an articulated topography, where rocks and trees define the plot. The area is located in front of a hairpin curve, which was once part of the mountain. Due to the height difference, a retaining wall encloses the site, punctuated by several rocks and trees. "Even if nothing was built on the plot, it was surrounded by existing things, so we treat them as the outer wall of a house that accepts whatever elements [between] inside and outside to come in. […] It seemed a sufficient intervention to make just a roof"[13]. The house, in fact, is developed through a simple gesture: the definition of a roof and columns, some of which support the slab, some come out merging with the surrounding, generating an ambiguity between under and outer the covering, between interior and exterior spaces. The ceiling height of the large irregular and concrete roof, supported by 14 pillars, is 4.5 meters. Underneath, a body-scale living space, partitioned by glass and furniture, is conceived to define a fuzzy border to welcome the environment inside. Erika Nakagawa wanted to design a house made of an amalgamation of interiors, surroundings, and distant mountain views.

The site, with its spontaneous vegetation and anthropic traces, is here considered as an *object trouvè*, a kind of *ready-made* context that can participate in the definition of the domestic space. During the process, in fact, the team approaches the project through four categories in order to better balance a simple

and sensitive intervention: *existing materials* (spontaneous vegetation, rocks, retaining walls); *materials necessary for daily life* (furniture and miscellaneous walls); *boundary materials* (roof and columns); *environmental materials* (textures and materialities).

Momoyama House presents a scattered plan, where trees, ground, rocks, and retaining walls merge with the furniture, bedroom, bathroom, tatami, and living spaces. Here, the natural and spontaneous context defines unplanned rooms codified by the simple roof intervention, concurring in the intentional ambiguity of boundaries that allow future development of the house and its evolution with natural and uncontrolled times.

PERIMETER

In the Chino forest in Nagano Prefecture, Villa in the Forest by Kazuyo Sejima (1992-1994) clearly defines a curved perimeter inside a wild and apparently isotropic context. Two hours north of Tokyo by car, the forest expands in all directions: trees block the sun, the land's topography is concealed, and direction becomes irrelevant[14]. The Villa is geometrically defined by two non-concentric and pure circumferences intersected by five rectangular volumes. "Given that the natural space is so uniform, the geometry of the circle responded effectively to this condition, where the directionality and context (the variation in each orientation) are irrelevant"[15]. Sejima designed a house with gallery for an artist friend who wanted to have his remote refuge where to host people eventually.

The Villa comprises two parts: the living space and the gallery. Between the exterior and interior circles – 13.9 meters and 7.5 meters respectively for a 30-centimeter thickness – the living area is divided into two floors, and the space freely flows without fixed partitions. The interior circumference, eccentrically moved from the center of the outer circle, hosts the painter's gallery, conceived as a covered patio on the ground floor. Five functional volumes – the entrances, the laundry and the bathroom – intersect the purity of the perimeter, stretching out in all directions. Both circles are punctured with square or rectangular openings at different heights, which provide glimpses of the forest or the house's spaces. The interiors are finished in wood, while everything else is white. The forest is here seen as an a-directional and continuous room, inside which it is impossible to define a front and back. Sejima, therefore, chose a circular shape, not for its formal perfection or its ideality of clearness but for its supreme isotropic form.

In contrast to Pilotis in a Forest and Momoyama House,

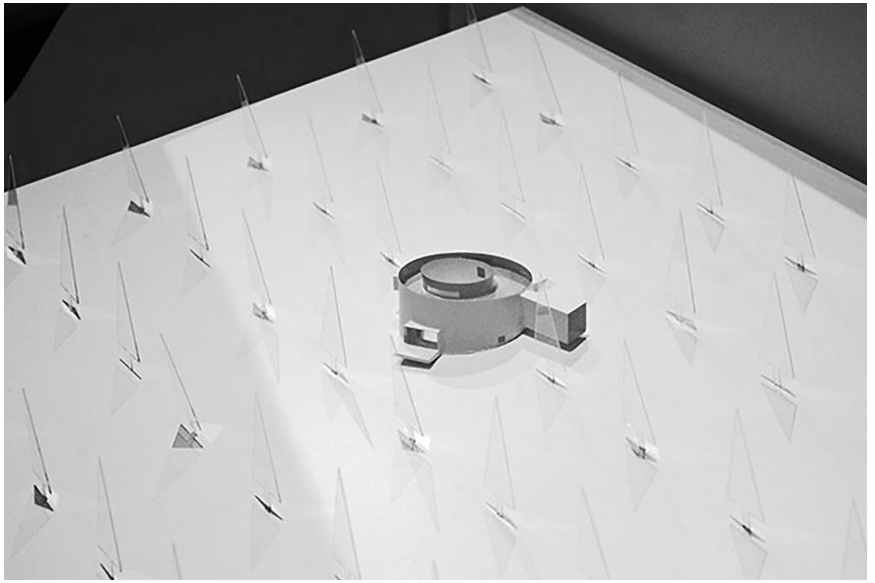
Erica Nakagawa, Momoyama House, Shizuoka, Japan, 2016.
Photo by Erika Nakagawa Office.

Erica Nakagawa, Momoyama House, plan, Shizuoka, Japan, 2016.
Drawing by Erika Nakagawa Office.

Villa in the Forest does not blur inside and outside. Conversely, it clearly states a thick and precise boundary. The forest becomes part of the project not literally but as an ordering and compositional principle. While, on the one hand, the house grafts into it in a sort of opposition, with its alien, white, pure shape, on the other hand, it intercepts, on a conceptual and then formal level, an extremely sylvan character: the continuity, the impossibility of reading a rational hierarchy. In the maquette, part of the MoMa collection since 1996, this idea is perfectly expressed through the decision to represent the building as a small and round volume, with a white exterior wall, in an endless forest made of triangular, identical, and lined up trees. In the model, the forest occupies much more space than the house itself, which appears remote and the only curve that intersects the continuous flows of the woods.

Pilotis in a Forest, Momoyama House, and Villa in the Forest question the sylvan dimension of architecture and the domestic character of the forest through three fundamental and foundational elements: pillars, roof, perimeter. Exploring the binomial house and nature and interrogating both the physical and conceptual intersection of architecture and forest, they challenge the design as an act of defining a certain boundary. By hybridizing it, as for Pilotis in a Forest; by blurring it, as for Momoyama House; by strengthening it, as for Villa in the Forest. Exploring the coexistence between designed and not designed, anthropic and natural, these Japanese houses dialogue with the forest as an operative and compositional dimension. A spontaneous and mutable room, a ready-made space to graft, an a-dimensional context to intersect.

Kazuyo Sejima, Villa in the Forest, Nagano, Japan, 1994.
Photo by A. Blair.



Kazuyo Sejima, Villa in the Forest, Nagano, Japan, 1994.
Photo by Shinkenchiku-sha.

S. Fujimoto, *A Few Brief Words About Boundaries*, in K. Kuma (ed.), *Kyokai: A Japanese Technique for Articulating the Space*, Tankosha Publishing, Tokyo 2010, p. 133.

According to the World Bank data regarding the forest area percentage in Japan. Accessible at: https://data.worldbank.org/indicator/AG.LND.FRST.ZS?locations=JP, accessed 30 September 2022.

The Japanese word *mori* means the sacred forest in the precinct of a Shinto shrine which has been conserved for centuries. See S. Honda, *Towards Understanding Shintoism in Japan* [in Japanese], Nippon Bungei, Tokyo 2002.

See G. Paba (ed.), *La città e il limite. I confini della città*, GEF; La Casa Usher, Firenze 1990; A. Branzi, A. Rocca, *Lo specchio dell'anima. Andrea Branzi e Alessandro Rocca, conversazione sul Giappone*, in "Lotus Navigator," 3, 2001, pp. 64-85.

"There are differences between western and Asian cities. I think western cities can be artificial, but in Asia it is different. Here, natural things and artificial things live together and there is a kind of mixture… I think we can encourage a more open lifestyle by using gardens as well as the buildings." *Ryue Nishizawa in a Conversation with Kazuyo Sejima and Ryue Nishizawa*, in "El Croquis," 139, 2008, p. 10.

Kanji are the logographic Chinese characters used in the writing of Japanese, along with the syllabic scripts of *hiragana* and *katakana.*

See K. Kuma, *Towards a Japanese-Style Architecture of Relationships*, in Id. (ed.), *Kyokai: A Japanese Technique for Articulating the Space*, Tankosha Publishing, Tokyo 2010, pp. 6-18.

B. Taut, *Nihonbi no saihakken (Rediscovery of Japanese Beauty).*

Fujimoto, *op. cit.*, pp. 128-133.

"Rendering the role of architecture equivalent to changes in the environment. If we view buildings as shelter, inevitably they become immovable barriers separating us from the environment, but if we think of buildings as new environments, perhaps we can find alternative ways for them to endure." J. Ishigami, *Another Scale of Architecture*, LIXIL Publishing, Tokyo 2019, p. 47.

G. Hasegawa, *Go Hasegawa Works*, Toto Publishing, Tokyo 2012, p. 90.

As Go Hasegawa defines the *pilotis* space in presenting the project; see, for instance, his lecture at the Architectural Association in London "Amplitude in the Experience of Space," July 2017, www.youtube.com/watch?v=FZCDb-KCccz4, accessed 30 September 2022.

Erika Nakagawa, http://erikanakagawa.com/enweb.workpage7en.html and in the interview "Garden-like and exterior-like things. Thinking from frame windows, first roof, and Momoyama House," in "10+1," https://www.10plus1.jp/monthly/2017/11/issue-02.php, accessed 30 September 2022.

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THE CALL OF THE WILD. INHABITING THE FOREST IN THE WORKS OF KAZUYO SEJIMA AND SANAA

GIULIA SETTI

Exploring and interpreting the relationship between forest and architecture is a process of revelation, unveiling, and, in part, overcoming the mystery, the unknown. The forest is part of the design imagination, today more than ever, facing uncertain and extreme climatic conditions that force us to think about how we will inhabit the world in the future. The call of the wild[1], the title of this essay, is metaphorically intended with a double meaning; on the one hand, thinking about architecture through the forest, that is, negotiating new relationships and alliances with nature; on the other, identifying the forest as a design element and, therefore, finding strategies and forms with which the forest becomes a project. The forest could be broken, crossed, observed, and protected by architecture, and it is in the reciprocal position between the parts that new balances are defined.

This essay tries to trace and explain the design connections between forest and architecture present in some significant works by Kazuyo Sejima and SANAA, starting from an emblematic work, the Inujima Art Project, which saw Sejima confront, for more than a decade, on the relationship between art, landscape, and architecture on the small island of Inujima in the Seto inland sea. But it also traces other important pieces intending to understand how the work of Sejima, and SANAA, deals with the forest, and the wild and how, often, it manages to establish visual relationships, intangible but profound, between the different parts at stake. The call of the wild is the attraction to the forest and, at the same time, the fear of the unknown, of the darkness; in Sejima's work – where transparency and lightness reign supreme – this dichotomy appears decisive and of great interest in contemporary design.

INUJIMA: THE DISCOVERY OF THE LANDSCAPE

When Kazuyo Sejima begins to discover and work on the island of Inujima, in 2008, she decides to develop a series of small architectures to host artistic activities of different nature that could preserve and protect the atmosphere of the island and, above all, its landscape and its vegetation. The island of Inujima is surrounded by wild nature, made up of forests and clearings; a nature that is partially uncontaminated and partially returned to the island after the abandonment of some quarries; where the nature grows also inside the ruins of an abandoned copper refinery, never demolished. The island encloses and guards a small community of inhabitants, about thirty, who preserve its traditions and memories; it is a precious alchemy that requires care and attention for any form of intervention.

The immersion in the landscape is the strategy that Sejima chooses to continue when she begins to visit and, later, to work in Inujima. She immediately perceives a different condition on the island, just as she feels the need to save the small village, and its inhabitants and, additionally, to preserve the relationship with the environment and the landscape[8].

The island is characterized by a privileged, wild, and ancestral natural environment, and it is in this background that the Inujima Art House Project comes to life: a series of pavilions, exhibition spaces, and installations immersed in the landscape are scattered and contaminate the rural context. The idea is that, through art, the village can be transformed into a museum inspiring the local community to experience the landscape in different ways, and that the architecture and art exhibited here merge with the housing, the landscape, the sky, and the sea. The project promotes the creation of a platform for art that ensures and preserves the future of the island and its inhabitants, in a sort of new alliance between nature and architecture. Each pavilion defines a specific relationship with nature, the forest, and the sea, according to the various perspectives that are emphasized. Over the years, Inujima has become a field of design and didactic experimentation for Kazuyo Sejima who in the program of her course, held at the Politecnico di Milano, suggests that "the island as a whole is a place where architecture ultimately becomes the environment"[9].

The sequence of projects imagined by Sejima animates the island thanks to prolific relationships with various artists who exhibit their works in the various galleries; three have opened in 2010, the F-Art House, the S-Art House, and the I-Art House displaying special artworks, two new galleries are inaugurated in 2013 – the A-Art House and the C-Art House – exhibiting the works of five artists. Each pavilion establishes a unique relationship with the site that is chosen to emphasize particular landscape criteria such as altitude, sea view, or relationship with the village. Through a small journey in the architecture designed for Inujima by Kazuyo Sejima, together with the artistic director Yūko Hasegawa, we will see how the pavilions decline the relationship with nature and with the surrounding buildings in very different forms.

Some pavilions, indeed, are the result of renovation projects of traditional wooden buildings, while others are new structures that create an interesting contrast with the surrounding environment. However, it should be remembered that all the architecture built as part of the project respect the scale of the existing constructions, thus preserving the rural character of the island and,

Kazuo Sejima, Inujima Art Project: F-Art House.
© Ottavio Pedretti.

at the same time, defining new horizons and interesting material and volumetric contrasts.

The F-Art House, one of the first galleries created by Kazuyo Sejima on the island, is the result of an interesting restoration of a traditional Japanese house. The spaces of the house, made of wood, are open and become exhibition rooms that overlook the surrounding landscape and the visitors. The addition of a new courtyard, with the design of an organic shape, represents an open-air room that accompanies the visitor in the discovery of the building. In welcoming the works of different artists, the pavilions created by Sejima, together with the artistic direction of Yūko Hasegawa, describe each time new spatiality.

In 2016, before the start of the Setouchi Triennale, Olafur Eliasson presented his Self-Loop artwork created for the I-Art House in Inujima. The pavilion consists of a front and rear room with a square opening in the middle; this framed window looks like a mirror opening into the surrounding nature. For this reason, Eliasson conceives, inside the pavilion, an installation of three mirrors, arranged apparently in a casual way, but on the contrary able to build an infinite tunnel of perspectives. The pavilion is surrounded by a "soft garden, a landscape that mixes culturally and naturally organized elements. It's not a formal garden, it's a bit romantic"[11]. The system of mirrors allows you to see yourself while looking at the garden, then to see your perspective from the outside, as if immersed in the nature surrounding the building.

A later addition, compared to the described pavilions, is the A-Art House completed in 2013, which represents a different strategy; the new pavilion is transparent with pink, red, and yellow floral motifs covering the outer skin. The pavilion's structure is made up of slightly fluted walls that swell outwards and recall the shape of a flower. A single rectangular opening allows access to the internal courtyard, where a pair of silver stools offer seating for visitors who can, thus, observe the landscape and nature that filters through the transparent membrane. The shape of the pavilion invites you to contemplate the landscape and the forest, not too tame, present on the island; the two walls, the floor, and the roof of the structure help to visually frame the surrounding landscape, blending art, architecture, and nature.

In 2016, to complete the delicate balance between new projects and the recovery of existing structures, Sejima decided to create the Inujima Life Garden by reusing a long-abandoned glass greenhouse; the project was developed together with Akrui Heya who took care of the landscape design part. The garden is not a conventional botanical garden. Still, it is designed as a place where residents and visitors to the island can experience

Kazuyo Sejima, Inujima Art Project: A-Art House.
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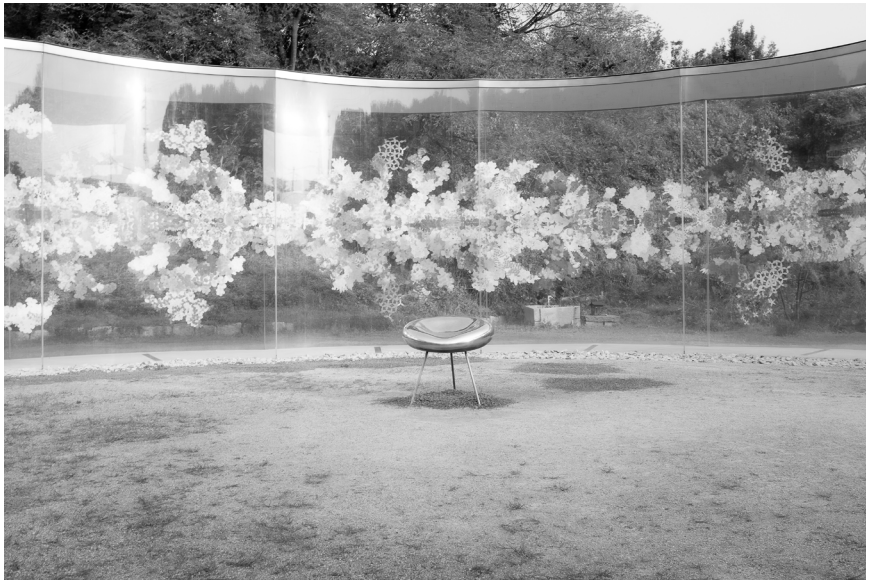

Kazuyo Sejima, Inujima Art Project: Inujima Life Garden.
© Ottavio Pedretti.

the cycles of nature and enjoy the vegetation that grows in the garden. Thanks to laboratories and various didactic activities, it allows the interaction with plants, with what they can offer, from food to fragrances, to recreation. A community place where visitors and the island's inhabitants can learn from each other and think about new future lifestyles.

The infinite variations of the relationship with nature appear in the projects for Inujima and describe the sensitivity with which Sejima studies and intervenes on the island; the forest is preserved, as are the various landscapes present, including abandoned quarries and fragments of industrial ruins, which become the protagonists of the small architectures that dot the village.

Even more interesting is the relationship between art and nature that has been developed transforming the island into a precious open-air museum, where the forest shows itself and where it can be observed and touched. The island becomes a catalog of design positions, ephemeral but precise, which tell about the purity of architecture and its ability to build, with small-scale interventions, a new landscape in nature.

Kazuyo Sejima's interest in Inujima's small-scale architectures is so deep that it pushes her to continue studying the island through various didactic experiments conducted as part of the Advanced Architectural Design Studio held, since 2016, at Politecnico di Milano. In Kazuyo Sejima's teaching experience, Inujima becomes a laboratory to test projects, options, and various possibilities to transform the island through the new and attentive gaze of dozens of students who, in the last seven years, have observed for the first time, and with a certain distance, these places. Observing the models produced within the course is, in itself, an educational experience and a journey into Sejima's way of thinking about architecture: "the model represents a work tool that moves between abstraction and reality" [1] and, in particular for Inujima, it describes the topography, vegetation, and landscapes of such an intimate and delicate place. It is a necessary tool to study the program, the volumetric composition, and, finally, the material details. Thus, each design step is tested on a model with numerous options until the right balance between architecture, environment, and materials is reached.

THE ABSTRACTION OF THE FOREST AND IMMERSION IN NATURE

Kazuyo Sejima's research and interest in nature do not start from Inujima, but start, many years earlier, with the project of the Villa in the Forest, built in 1994 in Nagano, Japan, where Sejima reflects on the timeless relationship, or conflict, between

architecture and forest; here, the forest envelops and protects the house, a small round building with a white exterior wall.

To understand the nature of this project, it is interesting to study the physical model of the house which, since 1996, has been kept in the MoMA collection; the building, small and round, lies between a grid of triangular, stylized, and transparent acrylic trees, measuring approximately 75x75 centimeters, placed on a slight slope entirely white. The forest, a significant fact, occupies much more space in the model than the house, with a diameter of fewer than 12 centimeters [4].

As we have already seen, the use of the model represents a fixed presence in Kazuyo Sejima's, and later, in SANAA's professional practice, it is the object from which each project takes shape and finds its conclusion; the model is used, however, to find new options, rethink and change a design, it is not a finite object, but it is part of the design process [5]. Or, as in the case of the Villa in the Forest, it is a way to abstract an element – the forest – which becomes paradigmatic for interpreting the design choices in the construction of the small house, almost hidden by the forest.

Sejima, indeed, changes the usual representation of the forest, which is presented, in the physical model, as rigorous and orderly, in illusory opposition to the real perception of the forest. The only element capable of interrupting the obsessive geometry of the forest is the house, a circular shape broken by rectangular volumes and protrusions. The house is composed of two concentric circles that define the domestic space; the ring between the two circles is devoted to the living area, while the central space is the artist's studio. The circles are cut by square or rectangular openings of different dimensions that offer direct glimpses of the forest; ultimately, a rectangular volume comes out of the circle and creates a room, the bathroom, from which one can observe the forest.

The domesticity of the house – a central theme in Kazuyo Sejima's design research – is represented by the fluidity of the spaces that are continuous and blend into each other. "Each room flows into the next one without any compartmentalization. The curvature of the walls defines a perceptive horizon, depending on the observer's position as he or she moves through the space" [6]. The experience inside the house is intimately linked to the perception of the forest outside, from those small and discontinuous openings that allow you to see nature and the wooded mass.

This small house contains many interesting design topics that Sejima will later develop, together with the fundamental contribution of Ryue Nishizawa, with the firm SANAA. Fifteen

years after the experience of the Villa in the Forest, in 2009, the opportunity to create the Serpentine Gallery Pavilion, commissioned by the Serpentine Gallery and located in Kensington Gardens, London, represents an important return to a reflection on the relationship between architecture and nature. In defining the idea for the pavilion, SANAA seeks perfect mimesis between the park and the architecture. The pavilion's structure is made up of a corrugated aluminum plate resting on slender metal columns which gives the sensation that the pavilion is floating, almost suspended, among the trees and reflecting the colors of the sky and the park on its surface.

The organic shape of the pavilion, inspired by that of an amoeba, extends in several directions, with sinuous movements that generate a series of open rooms that develop at the same height as the base of the treetops and guarantee complete accessibility from all parts.

The relationship with nature – here decidedly less wild and more urban than in the previous cases – is total and engaging; the pavilion is completely permeable to the surrounding environment and becomes an extension of the park itself. Nature is enveloped by the sinuous shapes of the light structure. The thin roof, only 26 millimeters thick, is made of birch wood panels resting on a mesh of metal pillars of 50 millimeters in diameter, that appears casual but which, in reality, follows and accompanies the sinuous curves of the structure; the roof is clad on both sides with mirrored aluminum panels while the floor is in concrete, with light gray color, that integrates with the nuances and reflections of the pavilion.

The roof delimits shaded areas that accommodate the various functions provided, a cafeteria, a space for music, a break area, and a small area for special events that represents the only protected area of the pavilion. The temporary structure, which remained open for three months, guarantees outdoor activities and, due to the shape of its spaces, invites you to linger, to enjoy the shade and the spectacle of nature that is reflected on the roof, metaphorically and visually connected with visitors.

Unlike the Villa in the Forest, in the Serpentine Pavilion SANAA offers a different interpretation of nature that is welcomed within the architecture; its perception is amplified by the reflection of the trees on the roof expanding the size and power of nature. If in the Villa in the Forest, Sejima chooses to observe the forest with a certain detachment, abstracting it and establishing specific visual contacts always through the small and different openings scattered along the curved surfaces of the house; in the Serpentine Pavilion, the immersion with nature is absolute and without any barriers.

SANAA, Serpentine Gallery Pavilion, London.
© Iwan Baan.

The different positions concerning the role and impact of the forest on the architectural design so far addressed in this essay, clearly describe a partial and, in part, subjective story, but allow us to overturn the point of view with which we usually study architecture. The starting point is not the building but what surrounds it, in this case, the forest, the wood, or a more urban vegetation. The last piece of this short story – which could grow and expand – is represented by an emblematic and recent project by SANAA, Grace Farms, built in New Canaan, Connecticut in 2015.

In the middle of a dense forest, SANAA conceives an architecture that becomes part of the landscape thanks to the choice of organic forms and a certain dematerialization of the surfaces that become almost ethereal[1]. Through a sequence of glazed volumes, connected by a single silvery and sinuous roof, Grace Farms fits into the agricultural and wild landscape of this natural reserve in New Canaan, recalling the fluidity of a watercourse, where the nickname The River comes from. The building is inserted in the forest and seeks space, opening passages in the vegetation, winds along a gentle slope, drawing a sequence of soft loops that host different environments and spaces dedicated to the community (auditorium, gym, reading rooms).

The construction of the multifunctional building of Grace Farms does not prevent the homonymous Foundation from maintaining approximately 77 of the 80 acres of the property in perpetuity as open meadows, woods, wetlands, and ponds, thus preserving the landscape and favoring a delicate integration between the new building and nature. The forest and the landscape are the undisputed protagonists of this place; SANAA proposes a building that becomes part of the landscape and that even disappears – dematerializing – with the aim that the visitors of the property can freely enjoy the beauty of the environment, of colors in the changing seasons through the transparency of the building. Similarly, to the pavilion for the Serpentine Gallery, the project starts from the definition of the roof that seems to float, suspended on the ground, and supported by slender white steel columns with a diameter of only 13 cm. All the lightness, transparency, and delicacy of Grace Farms come from the relationship between the roof, pillars, and curved windows that embrace the visitor and, simultaneously, allow one to look through the architecture to admire nature. The roof's surface is covered with anodized aluminum panels that shine like the surface of the water touched by the sun, recalling, once again, the relationship between the building and the course of a river.

The idea to build a single long and sinuous roof, which

moves above the surface of the ground, folds, and turns across the landscape represents a courageous and daring choice that pushes the structural capabilities of the material and which strength, even more, what we have already seen in the project for the Serpentine. The forest is welcomed, almost domesticated, within the project, thanks to the large windows and the folds of the roof that allow, each time, to frame different views. The transparency of the glass volumes allows us to interact, observe, and admire the surrounding wild nature. "The building will come in the way between a person and nature, so we thought of ways one could be in touch with the landscape through the architecture"[17] says Kazuyo Sejima.

The sensitive work conducted at Grace Farms describes a significant evolution in the way in which Kazuyo Sejima, and SANAA, approach and study the landscape; if at the beginning, with the emblematic Villa in the Forest, the forest has been kept at a distance and observed through precise points of view, then nature becomes an object of ever stronger interest. In Inujima, the small architectures set on the island fit into the landscape and almost touches it; in contrast, in the projects for the Serpentine Gallery and Grace Farms – the latter of a larger scale – the architecture is immersed in wild or urban nature, trying ideally to disappear, to leave the visitor the possibility of complete involvement in the landscape.

In the opening of Eve Blau's essay, which establishes the reasons for the awarding of the Pritzker Prize to Kazuyo Sejima and Ryue Nishizawa in 2010, some of the main peculiarities present in their works are highlighted and, in particular, the reference that it is made to the relationship between nature, architecture, and transparency. "The glass outer walls are both reflective and transparent depending on the time of day, angle of the sun, and weather. […] At other times they become reflective, bouncing back refracted images of trees, houses, and bodies moving among them; their glass surfaces layering glimpses of nature with self-reflection as they project images of the mind's eye through the spaces of the building and into the imagination"[18].

The mirrored images of trees and pieces of nature on the transparent walls of SANAA's architecture reflect the imagination of wild and extensive nature and allow visitors to immerse in another, different world that tries to build new atmospheres and environments.

Evolving the relationship with nature, and with the forest, Sejima and SANAA declare a growing attention to the impact of their buildings on the landscape and, above all, to their ability to mimic and to immerse themselves in nature. An important

SANAA, Grace Farms, New Canaan, United States.
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SANAA, Grace Farms, New Canaan, United States.
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approach, never taken for granted, develops in small-scale architecture, pavilions, and houses, which are the subject of Sejima's design research, especially at the beginning of her career. And that continues with innovative results when the projects increase in scale and, therefore, risk being more impactful. It is visible both in Grace Farms and in the Serpentine Gallery the ability to shape the materials and the light allowing SANAA's architecture to blend into the landscape and hide within it. The search for the immaterial pushes innovative experimentation, still ongoing in Kazuyo Sejima's practice and research, where nature becomes the protagonist and merges with an architecture that seems ethereal but which is, in reality, the result of a capillary study of materials and structural elements, still full of opportunities to be explored. Probably the essence of Kazuyo Sejima and Ryue Nishizawa's works, both as the collective SANAA and as individuals, lies in a very simple aspect, which is the core of each project: "This is perhaps also the way that architecture approaches them – initially as a schema, a sketch, invariably drawn not only so thinly as to be barely visible in relation to a specific location. And yet for SANAA, relations are critical. To explore these topics, they use drawings not only to examine the connections to a particular site but also as a means of articulating the clarity of internal relations; though it is the interrelations between the inside and the outside that make many of their projects so beguiling and relevant for contemporary practice"[18].

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FOREST, AESTHETIC, PERCEPTUAL

II

FOREST *AND* ARCHITECTURE. CONTEMPORARY DESIGN APPROACHES FOR PUBLIC SPACES

CHIARA GEROLDI, ANNARITA LAPENNA

In various declinations, the forest is increasingly present in the designed public spaces of urban environments. Indeed, the field of design is progressively incorporating the forest both as a concept and as a field of action. There is a growing attention to "urban forests" in architecture and urbanism. The recent "forest aesthetic" idea represents both a way of integrating the forest into the urban environment and a model for architecture. In relation to environmental concerns and climate change, the forest is also very present in the public discourse and in strategies at European, national and local level (e.g. protect existing forests and/or tree planting: EU Green Deal, Italian PNRR, Milan's *Forestami* programme), as well as in global forums (e.g. COP 26, FAO World Forum on Urban Forest). In this chapter, we analyse examples of the forest as a subject in public spaces that enters into a relationship with architecture. While public *space* (singular) refers to the political sphere of society and to a form of democratic communication, public *spaces* (plural) include all usable areas where uses and practices express ways of collectively living in the city, regardless of their legal status (whether public or private). In this plurality of public spaces, the forest is becoming an increasingly present component. The forest in public spaces can offer new experiences to the users, new opportunities for design, and can contribute to the environment and biodiversity. At the large scale, the forest is no longer a defenceless subject, a mere source of materials to be exploited, but an active subject with its own *agency*. In this context, it is relevant to look at the ways in which the forest and architecture relate to each other in public spaces. This brings to mind Garrett Ekbo, who stated that the aim of landscape architecture is to integrate landscape and architecture. As he pointed out, "we judge architecture and we judge landscape, but we seldom judge their interaction". Although this is not the only way to understand landscape architecture, it is a useful lens of observation for our proposed subject. The forest "carries deep cultural significance" and the definitions of urban forest vary between disciplines: from a collection of isolated trees, to the aggregation of wooded groves, to urban forests as an ecosystem. In this chapter, we use the term "forest" to refer broadly to the reproduction or representation of a forest or a small wood, the placement of a substantial number of trees (in a grid or freely arranged), and the actual forest. How the forest is incorporated into buildings, such as vertical forests, or architecture that emulates woods/trees is not addressed here. This chapter has an explorative character and analyses different design examples by landscape architects, architects, or artists grouped under the following categories: *1) forests in relation to architecture; 2) temporary*

forests in dialogue with the urban environment; 3) existing forests intersected by architecture. Reflections and critiques will be elaborated for individual cases in a transversal way. The criteria of investigation are scale, form, time, process, the relationship between the built environment and the "natural" elements, the interaction with people, the contribution to environmental awareness, and the new definitions and names used for describing public spaces.

FORESTS IN RELATION TO ARCHITECTURE

A growing number of contemporary projects for public spaces experiment with the theme of the forest, which interacts with architecture in various ways. The temporal dimension of this interaction is an aspect of interest that will be dealth with the following case studies.

Schiphol Airport. The master plan of Schiphol Airport by West 8 became well-known in the context of *landscape urbanism* literature as an example of a non-compositional, process-based approach. As Charles Waldheim notes in his influential text "Landscape as Urbanism," "by avoiding intricate compositional designs and precise planting arrangements, [...] the project [is able] to respond to future programmatic and political changes in Schiphol's planning" . This project can be read as part of a trend that emphasised processes and that was brought to the forefront by *landscape urbanism*. It included early examples, such as Bernard Tschumi and OMA's entries for the La Villette competition (1982), West 8's projects of the 1990s, and the entries for the Downsview and Fresh Kills parks competitions (2000, 2001) . The performative qualities of landscape design interventions were highly discussed, much more than their spatial qualities . One of the main innovative features of Schiphol Airport project was to envision the planting of trees over time in the unused spaces of the airport, an infrastructural landscape. The project also represents the "conception of the operational airfield as a landscape in its own right" and was a pioneer in this sense. It can also be interpreted as a "forest" that occupied the available spaces provided by the "architecture," the airport. West 8 started collaborating with Schiphol Airport in 1993. Interestingly, only a recent article (2014) written by the principal of the studio, Adrian Geuze, and the senior project manager, Maarten Buijs, contextualises it in the framework of the urban forest debate, in an issue of Scenario Journal entitled "Building the Urban Forest" . The project considered the airport to be a public space, and proposed a strategy, a "menu," rather than a final design , an approach focused on process in line with other influential landscape architecture projects of the time. West 8 proposed to get rid of vacant, underused, or dirt plots within the large airport site and to plant them with low-maintenance trees, the soft birch, *Betula pubescens* . As West 8 points out, "the project's ecological focus is a way of environmental compensation for the construction process of Schiphol, with the strategic guideline document offering a menu of solutions for whatever work (construction, demolition or rezoning) required" . The soft birches were chosen because they can be easily removed and replaced, they are low-maintenance trees, they resist high wind, and, foremost, they do not attract bird populations that would have been a problem for the airport . Hundreds of thousands were planted. Extensive use of clover to bring nutrients to soil was implemented, and beehives were placed along the roads . The master plan was represented in an early well-known drawing, showing trees expanding from the airport without a precise border. More detailed drawings of the project show four layers, representing four strategies: 1) runway verges, with well-maintained grass along the planes runways; 2) a green route [constitutes a border, partially contrasting with the freer attitude of the infill strategy]; 3) infill planting; and 4) visual access, open visual corridor . The collages developed by West 8 were particularly fresh and communicative of the non-compositional infill approach. The infill strategy worked well with the ongoing works at the airport and was implemented by airport operators , a choice by the designers to maintain only loose authorship , with little control over the final shape. A recent proposal and drawing had been developed by the office to connect the airport to the well-known Amsterdam Bos Park, creating a continuous recreational zone, and thus recognizing the airport's role in providing a critical mass of vegetation .

The infill strategy proposed by West 8 attempts to infiltrate the architecture and the infrastructures of the airport. This approach is the opposite of that adopted by Michel Desvigne Paysagiste (MDP) with Christine Dalnoky for *Place des Bouleaux* in Paris (1989-1992), or by Peter Walker (PWP), in Sky Forest Plaza in Japan (2000), where it is the architecture that *contains* the "forest," acting as a closed boundary for it . These approaches bring to mind the drawings of a strong authorial project, Stop City by Dogma, where the architecture framed a forest and set clear boundaries, an architecture that was both expanding and limiting at the same time .

The freely deployed infill strategy by West 8 provided valuable results also at the spatial level. A similar strategy of using trees to occupy underused lots over time was implemented in Michel Desvigne Paysagiste's *Parc aux Angéliques* in Bordeaux, which

Non-compositional planting of birches infiltrating the architecture and infrastructure of Schiphol Airport, The Netherlands, designed by West 8. Courtesy of West 8.

Landscape strategy for the Schiphol Airport, The Netherlands, by West 8.
Courtesy of West 8.

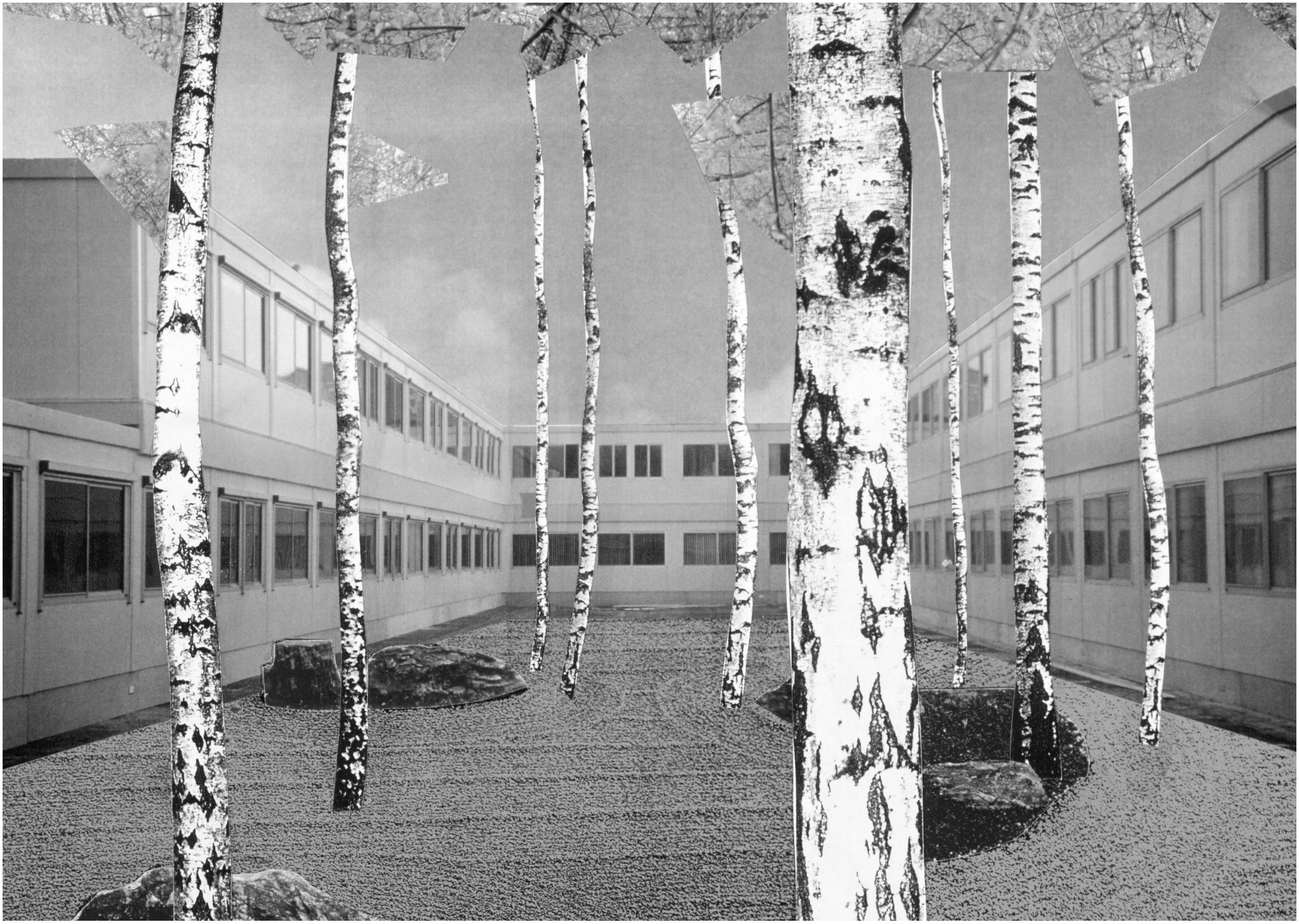
adopted a more compositional attitude, planting rows of trees.

Forêt Demain. Process also plays a central role in the project to regenerate the former Busso industrial area in the heart of Le Pré Saint-Gervais, a city north-east of Paris. The entire area will accommodate a housing development in an already dense neighbourhood lacking in green space. Designed by a multidisciplinary group, which includes the landscape studio Coloco, the project consists of residential buildings with roof gardens on the southern side of the block and the "Forêt Demain," a small forest on the northern side. According to the local municipality, the project will keep 67% of the site surface free (about 5000 square meters) to create an urban forest. The project proposes this forest as an element that will have a beneficial effect on the neighbourhood in environmental terms (soil permeabilization, counteracting the urban heat island effect) and in terms of social interactions. Indeed, the designers proposed a project co-designed with the inhabitants of the neighbourhood. In this sense, the forest will host different uses from the collaborative process. Despite this approach, the former Busso industrial area is currently occupied by local associations that strongly oppose the transformation of the site; nevertheless, the project "Forêt Demain" continues to be discussed with the citizens. The project envisions a process structured in several phases: opening the construction site, launching a call to involve the inhabitants in the asphalt demolition and the preparation and fertilizing of the soil, the creation of a wetland to diversify the ecosystems, and collective tree planting using the *Miyawaki* method. Eventually the forest will become a precious public space protected and cared for by citizens. It will work at the local scale and in connection with the *Parc des Hauteurs*, enriching the regional park system.

The forest is meant to play a relevant role in the whole regeneration process of this former industrial site. Indeed, there is a very close relationship with the forest/landscape project and the new buildings. In resonance with the forest, the raw concrete finish of the buildings recalls the natural elements. The definition of the external spaces such as the landings of buildings contribute to the thermic system allowing the air cooled by the vegetation to circulate.

Time Landscape. In 1969, Alan Sonfist conceived an installation in lower Manhattan, which he envisioned as a reconquest of nature in the urban environment. The project is situated in Greenwich Village and it is a forest he planted in 1977, on a property of the Department of Transportation. It aims to recreate wild nature as it would have been observed during the colonization of Manhattan, originally a forest. Gradually, as the city evolved,

Collage of the infill approach. Courtesy of West 8.



natural streams and trees were obliterated and substituted by imported trees and plants. Thus, according to Sonfist, the city lost touch with its natural origins. The "Time Landscape" project is a bridge to this heritage. This environmental public "sculpture" is called "Time Landscape" because it shows simultaneously the different stages in time of a forest, which will constantly recycle itself under the contemporary environmental conditions. He explains that he transplanted living tree species such as beech, oak and maple and over 200 different plant species native to New York. Besides experiencing the indigenous trees of New York City, "Time Landscape" allowed Sonfist to interact with foxes, deer, snakes, eagles. The site is unkempt because it aims to be wild. As Sonfist explains, for him the natural environment is not the container-scenario of a work, but is the very theme of the investigation. Despite the originality of the piece, the work is problematic because it implies the existence of a virgin and "innocent" nature before colonization without considering the alterations by the Native Americans to the precolonial forest. In addition, this installation understands Nature as an element extraneous to Culture; in fact, it is entirely limited by a fence that prevents it from being accessed.

TEMPORARY FORESTS IN DIALOGUE WITH THE URBAN ENVIRONMENT

Another possible way to engage with forest and public space is through temporary projects and installations, where a reproduction of the forest becomes the main subject. Putting a forest in the heart of a city for a limited time means changing a consolidated landscape and giving users new experiences that may also result in fostering their awareness of environmental issues.

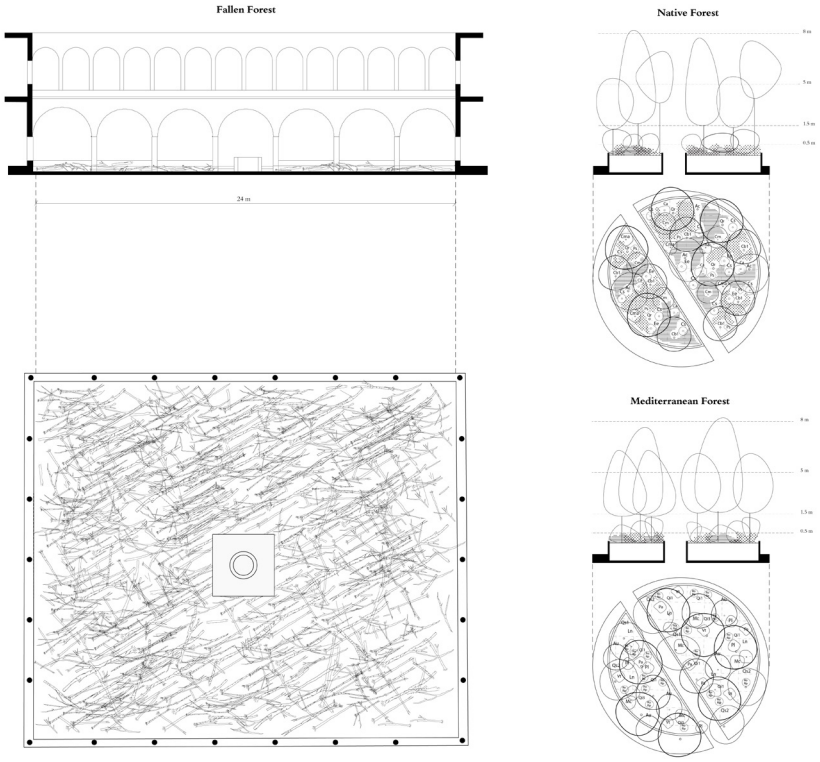
Into the Forest. An interesting example of this kind of project is "Into the forest" developed by Openfabric on the occasion of the first FAO World Forum on Urban Forestry held from 28 November to 1 December, 2018 (WFUF 2018). This project consists of three temporary installations implemented in the city centre of Mantua, which together with Sabbioneta is listed as a UNESCO World Heritage site. The installations occupied two of the main historical squares of the city and a cloister. The project consisted of two circular installations, two identical pieces of designed urban "furniture" hosting different species, entitled "Mediterranean Forest" and "Native Forest," and a third installation, "Fallen Forest," in the cloister. The "Native Forest" was located in front of the Basilica of S. Andrea by Leon Battista Alberti, thus in dialogue with an architectural masterpiece. This installation sought to reproduce the forest that was

once present in the Po River Valley, likely dominated by Quercus spp. and Carpinus betulus. The designers did not intend this as an argument in favour of native species nor did they aim to recall with nostalgia a lost environment, they simply aspired to referring to contextual elements, such as the Bosco Fontana nature reserve in Mantua, and to heritage. The "Mediterranean Forest" was located in Piazza delle Erbe, a few hundred meters from the other installation. It hosted both trees and shrubs present in the Mediterranean evergreen oak woodland. These installations had a round shape which allowed them to occupy the space of the squares with an abstract gesture. The round shape aims to refer to the context; particularly interesting is the reference to the Rotonda di San Lorenzo, a round church located in that square. These installations allow people to sit or lie down, turning their backs to the "forests" and looking at the square and architecture. It was possible to cross the installation, thus observing the "forests" from inside, and to "appreciate the vertical extension of the forest," observing the soil level while walking. Once dismantled, the trees were planted in Mantua.

Finally, the third installation directly addressed climate change and recalled the Vaia storm that destroyed large afforested areas in the north-east of Italy. It was created by filling the cloister with trunks leftover from paper production, recalling the images known broadly to the Italian public of the millions of trees destroyed by the Vaia storm. As Openfabric explains, the project aimed to engage both with the academic and the broad public, aiming to stimulate awareness of the importance of nature in the urban environment and climate change. Having installations in highly visible public spaces of the city parallel to the well-publicized event dedicated to urban forests certainly helped to stimulate reflections by the public. They were unexpected environments, creating new relationships with the context and among themselves and providing new enjoyable places for the public. Given the proximity to historic buildings, the fact that the installations were temporary rather than permanent offered more freedom to the designers.

Forest for Change. Another recent temporary forest in an urban environment is artist Es Devlin's "Forest for Change," an installation for the London Design Biennale 2021 that provided an unusual complementary scenario to the neoclassical facade of Somerset House. Es Devlin's project was inspired by the existing restrictions on the introduction of trees in the historic courtyards of London. As a provocation, she proposed a dense and wild reproduction of a forest comprising 400 trees in a regular square shape occupying the whole historical courtyard.

Drawings of the three temporary installations designed
by Openfabric in Mantua, Italy. Courtesy of Openfabric.



"Native Forest" in Piazza del Mantegna, in front of
L. B. Alberti's S. Andrea Church in Mantua. Design by Openfabric.
Photograph by Jacopo Gennari Feslikenian. Courtesy of Openfabric.

Created in collaboration with landscape designer Philip Jaffa and Scotscape, the "temporary forest" comprised 27 nursery-grown species with differing canopies, sizes, and shapes, including varieties such as Scots Pine, Silver Birch, and Hazel. They were selected to foster diversity and durability within the city's vegetation after replanting.

In the centre of the forest, the artist put seventeen colourful mirrored pillars that symbolized and aimed to raise awareness of the UN's Global Goals, which are an urgent call for action by all countries in a global partnership. To make the experience even more evocative, the artist created an interactive installation with a special soundtrack composed by Brain Ino: a collection of birdsongs that play throughout the forest. Visitors to the "Forest for Change" were invited to record their own short message about what change they would want to see to help fulfil a Global Goal. The message was added to a music installation that plays in the clearing. The design, sourcing, construction, and dismantling processes for the pavilion were structured to ensure carbon positivity.

Floating Forest and Floating Island. "Floating Forest," a temporary forest at the Darsena in Milan, was created on the occasion of the Milan Design Week from 7 to 12 June, 2022. The installation, designed by Stefano Boeri Interiors and financed by the brand Timberland, is a "green graft" in the historical dock of Milan at the intersection of the canals the *Naviglio Grande* and the *Naviglio Pavese*. The structure is a floating platform with a reproduction of a forest composed of different plant species and crossed by a wooden path. This forest was open to the public and it created a space for sociality, reproducing a "natural" context and offering new views of the dock. In addition, "Floating forest" can be virtually visited via the website . The materials that compose the installation are dry assembled. This technique allows flexibility during the assembly and reassembly phases, as well as the reuse of individual elements once the installation is dismantled. According to the same recycling principle, the plants of the floating forest were donated to the Parco della Vettabbia, a park in the south of Milan.

The case calls to mind the "Floating island" project dating back to 1970 by Robert Smithson, which imagined a moving forest in the Hudson and East Rivers travelling around Manhattan island. The few drawings illustrating this project show a tugboat dragging a barge containing a forest composed of local plants (as well as a weeping willow, not native but very present in Central Park), a rock, and a path. This temporary forest was meant as a displacement of Central Park, a man-made creation from its natural habitat. Never implemented during the artist Robert Smithson's lifetime, "Floating Island" was produced from September 17 to 25, 2005 by Minetta Brook in collaboration with the Whitney Museum of American Art and was designed by Balmori Associates and others.

EXISTING FORESTS INTERSECTED BY ARCHITECTURE

Not only are forests deployed in urban environments, they can also be the sites of and be intersected by architecture. In these cases, the architecture needs to relate to the large scale: that of the forest. The design project can offer the possibility of experiencing nature in new ways, by providing, for instance, unusual points of observation or ways of crossing, as in the project "Cycling through the Trees".

Cycling through the Trees. This project consists of a cycle route designed by BuroLandschap in the Pijnven nature reserve in the city of Hechtel-Eksel, Belgium. This nature reserve is part of Bosland, the largest adventure forest in Flanders, which aims to preserve the quality of the landscape but also to open it to the general public. The Pijnven woods largely consist of coniferous trees, planted at the beginning of the last century to produce wood for the mining industry. As the mines were closed, the trees were never felled. The protection of this forest is important also to the local institutions that are trying to make it healthier and more balanced by adding small, medium-sized, and tall trees. They are using a tailor-made woodland management plan in which smaller indigenous trees at the lower levels of the forest are given more space and light to help them grow. In this context, the "Cycling through the Trees" project was designed to allow the public to get to know a very recent forest and to learn how to protect it. The project is by Visit Limburg, a provincial department that deals with local tourism strategies that aims to enrich the diffused cycling network of this territory and allow users to experience nature in a different way and from a new perspective. Indeed, the cycling path allows users to experience the forest at different heights by a circular structure of approximately 700 meters long through and between the trees and it rises up to about 10 meters above the ground with a maximum gradient of 4%. The cycle path dialogues with the forest through the materials used and its circular form. The Corten steel pillars holding the elevated cycle path replicate the straight trunks of the forest, attempting to achieve a dialogue with the environment. Despite the attention paid to the place, some trees were cut during the implementation of the project. They were used to construct rest areas and information spots along the trail.

The circular cycling path in the forest designed by BuroLandschap in Bosland, Belgium. © Visit Limburg/L. Daelemans.

CONCLUSIONS

This chapter has identified three categories of possible relationships between the forest and architecture in public spaces. They are based on an empirical observation of several contemporary design cases involving the forest. The first category, *Forests in relation to architecture*, has resonance within the discourse of *landscape urbanism* and the more recent *forest urbanism*. Yet these two concepts tend to focus on processual aspects rather than formal implications, and tend to consider the larger scale of the urban environment rather than the medium scale of buildings. The other two categories, *Temporary forests in dialogue with the urban environment* and *Forests intersected by architecture*, are based on direct observation of existing design trends and could benefit from further investigation from a theoretical perspective. The categories also have connections with the field of Land Art, or environmental art which, generally speaking, intersects with the field of landscape architecture.

Forests in relation to architecture and *Temporary forests*, have proven particularly fertile as lenses of observation. Indeed, many contemporary projects fit into these categories and also reveal a growing trend of design interventions engaging with the forest. The case studies analysed have identified possible design approaches and could be expanded upon with further research. The cases of *Forests in relation to architecture* showed the possibility of using a strategy of tree planting over time, where process has a central role. In the case of Schiphol, planting was left to the operators, who were thus able to develop the project by themselves, based on the strategic document, according to changing needs. By contrast, in the "Forêt Demain" the planting of the forest over time was proposed as a key strategy to stimulate a collaborative process among the citizens in order to create a new and shared public space (yet the overall development project is currently an object of conflict). In the case of "Time Landscape," the artist let the forest grow in its own time. In terms of formal possibilities, the cases showed forest both infiltrating the architecture and being contained by the architecture. Public forest spaces were both physically enjoyed by the people and only to be seen from without.

In particular, the *Temporary forests* discussed in this chapter are installations that permit the users to have new experiences in the urban space. Some were meant to stimulate environmental awareness with or without direct didactical devices, often organized during specific events. The temporary character of these installations allowed the space to be changed in a freer and more impactful way in historic centres under strict constraints,

The Corten steel pillars of the cycle path inspired by the trees of the forest.
© Visit Limburg/L. Daelemans.

and which are not easy to modify in a permanent way, including installations intended as a provocation regarding the prohibition to plant trees (i.e. "Forest for change"). Another aspect is that temporary installations offer a different perception of the public space or the environment, as in the "Floating Island" envisioned by Robert Smithson, which sought to offer a view of the Manhattan skyline from a piece of Central Park, or vice versa. In most cases, considerable attention has been dedicated to the choice of species as symbols of certain principles and to linking installations to the territory, its flora and history. The life cycle of the *Temporary forests* requires a proposal for the relocation of the trees once the installation is over.

The third category, *Forest intersected by architecture*, shows a sensitivity to the issue of protecting existing woodlands. The case addressed "Cycling through the Trees" represents architecture as a tool for stimulating knowledge of an existing forest and fostering an interest in taking care of it.

The scales of the projects in the three categories proposed by this chapter are different, with the installations being small, Schiphol being medium-large, and forest crossing being at the regional scale. The disciplines involved are also changing and include landscape architecture, art, architecture, urban design, and ecology.

The "forest aesthetic" in public spaces is establishing a new repertoire of design solutions, names and toponyms that include the term "forest" or similar ones, as in the addressed examples: *Forêt Domain; Sky Forest Plaza; Place des Bouleaux (Square of the Birches); Into the Forest; Forest for Change; Floating Forest; Cycling through the Trees.* This investigation of recent and contemporary public spaces that belong to a growing trend of design that engages with the forest opens up the possibility of alliances between architecture and the forest, and among different disciplines and species, which have the potential to move beyond mere quantitative or greenwashing approaches.

The two authors have jointly conceived this chapter. Chiara Geroldi authored the sections: "Schiphol Airport" and "Into the forest" while Annarita Lapenna authored the sections: "Forêt Demain," "Forest for Change," "Time Landscape," "Floating Forest and Floating Island," and "Cycling through the trees." The introduction and the conclusion were co-written by both.

See also the conference "Urban Forests, Forest Urbanisms & Global Warming" (June 27-29, 2022) at KuLeuven and the concept of *Forest Urbanism.*

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S. Carlisle, N. Pevzner, M. Piana, *Introduction: Building the Urban Forest*, in "Scenario Journal," 4, 2014.

Such as the library in Bejing by Snøhetta. These can be interpreted as a specific category of "landform buildings". For Landform building see: S. Allen, M. McQuade (eds.) *Landform building: architecture's new terrain*, Lars Müller Publishers; Princeton University School of Architecture, Zurich; Princeton 2011.

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Ibid.

Ibid.

West 8, Pers. Comm., October 2022.

A. Geuze, M. Bujis, *West 8 Airport landscape: Schipol*, in "Scenario Journal", 4, 2014.

Ibid.

Ibid.

Ibid.

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A. Geuze, M. Bujis, *West 8 Airport landscape: Schipol*, in "Scenario Journal", 4, 2014.

See: P. Reed, *Groundswell: constructing the contemporary landscape*, Museum of Modern Art, New York (NY) 2005. The book shows a variety of innovative and contemporary public space designs, including the Sky forest project by Sasaky.

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CAVITY. WILDERNESS ACTS BY COLONIZING

LAURA ZAMPIERI

From the initial 'cavity', the garden of Gilles Clément's paternal home, with its bed continually thrown up and redesigned by the activity of moles, emerged the first documented exploratory territory of 'wilderness', encompassing both plants and animals, which was made available for the explorations of the young Gilles Clément.

Authors. Following the evolution of the notion of garden towards a professed adherence to the 'wilderness' recorded in Gilles Clément's early writings, some strands of research which have accompanied and intersected its evolution are recalled here. Clément's work is contextualized within a broad critical reflection that emerged during the same period, around the role and the need to evolve towards an articulated understanding of the relationship between 'wilderness', nature, biodiversity, and urban dimension.

Studies and research. The research conducted in France by Atelier parisien d'urbanisme (Apur) under the direction of Jean-Baptiste Vaquin, and published in the volume *Atlas de la nature à Paris*, defines the framework of an articulated scenario to which Clément himself contributed with his essay *Du tiers paysage, accueillir la diversité à Paris*, included in the section *À la découverte de la nature à Paris* edited by Jean-Pierre Le Dantec. Alongside this section, the other three – *À la découverte des écosystèmes de Paris*, edited by Jaques Moret; *Inventaires détaillés par espèces*, edited by Olivier Escuder for the flora section and by Patrick Affner and Xavier Japiot for the fauna section – present a vision of the city as a container of 'wilderness' and natural biodiversity which emerge through the pockets and cavities of urban space. Among the pioneers of this research type, the figure of Paul Jovet stands out. Beginning in the 1940s, his inexhaustible passion as a naturalist and his curiosity for the biodiversity of different forms of life define the uniqueness of his scientific research which developed a focus on the study of urban biodiversity `and had a significant influence on the research conducted by Apur. As Henrik Ernstson and Sverker Sörlin recalled, Paul Jovet can be considered the pioneer of urban ecology, anticipating its subsequent evolutions. Beginning in the 1930s, and throughout the following decade, the botanist explored the interim spaces of Paris, attributing to the urban wild vegetation, mapped between pavement crevices and micro-cavities of the buildings, the distinctive character of a 'global' mixture.

At the end of the 1970s, 'wild' spaces colonised the European urban scene, through the mobilisation of numerous associations often backed by the technical offices of city councils, with the

goal of disseminating knowledge of spontaneous urban flora and fauna, safeguarding them from unwitting destruction. As John Celecia points out [E], urban ecology was introduced after the end of the Cold War. Establishing itself as a pioneering research initiative within the United Nations international programme, it defined the paradigmatic components of urban ecosystems, ranging from quantifiable variables to intangible psychosocial aspects. European cities thus became the places of interdisciplinary ecological research aimed at collecting data on urban contexts and their interrelationships with wilderness. These social appropriations of the "urban naturalist knowledge" urging the presence of wild nature in public spaces, to such extent that the city of Berlin activates planning for the conservation of urban wilderness responding to the pressure by its citizens. With reference to these contexts, Celecia emphasises how ecology functions as a global approach to the urban environment rather than as a scientific discipline, unable to escape the political pressure of the 1970s. Wilderness alienation here obtains social status, whereby the ecological mixture of wild urban nature appears more desirable than its segregation, a notion that is widely acknowledged by the urban population. Going back to Clément, in his book *The Planetary Garden* he reminds us that:

> the planetary garden is a principle, its gardener the whole of humanity. The proposal is to consider diversity as a guarantee of a future for humanity. It has to be recognized, documented and protected. […] The important question posed by "The Planetary Garden" can be expressed in this way: is it possible to exploit diversity – having thoroughly recorded and understood it – without destroying it? To go further: can the recording, the understanding of the mechanisms connecting these living beings with one another, but also the exploitation of all or part of these components, be considered as a means of saving diversity? [*]

Project and Designers. Paul Jovet paved the way for subsequent studies, and in the 1980s a series of authors and designers in France began to explore the potential of contemporary landscape design, intended as the recovery and reworking of existing urban structures towards a reconversion that takes into account the 'wild dimension', reinterpreted in the interstitial spaces of disused urban structures. Cases in point are projects like Le Jardin Savage (Paris, 2012) by Atelier Le Balto, where the cavities resulting from the vertical compression between buildings act as urban refuges where wilderness can reemerge with outcomes deliberately left unchecked.

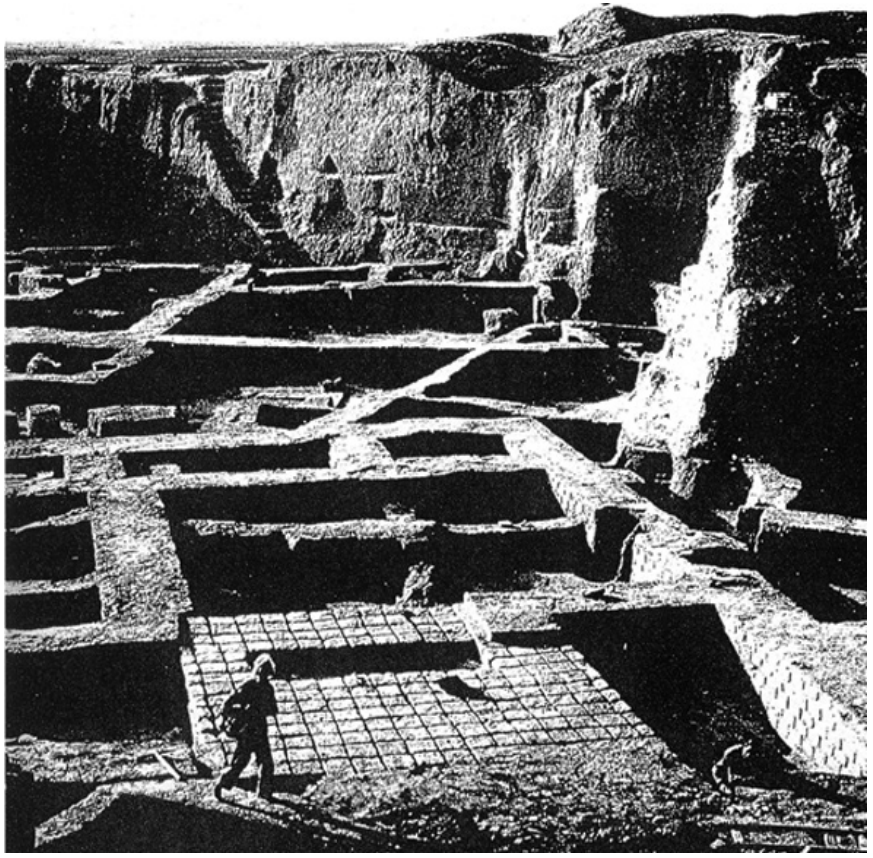
Other cavities, produced by exposing the cement structures of a disused factory, served as the exploratory terrain for Michel Desvigne in the recovery of the landscape on the former site of the Renault factory on the Île Seguin (Paris, 2000). Aimed at temporarily colonizing the empty spaces resulting from the plant's decommissioning, with a part of the urban renewal project entrusted to Jean Nouvel, the Seguin Island Gardens occupy the inert cavities of the future site of the park, acting as testers for the consolidation of the urban park that will take their place. Conversely, the unrealised Parisian project for the public spaces of the T1-Seine Rive Gauche district, designed by Michel Desvigne and Christine Dalnoky (Paris, 1995), appears on paper as a systemof cavities, built whith vegetal volumes of topiary art hedges. Supported by an articulate topography, these define sequences of cavities at different levels that are reminiscent of an archaeological excavation site, apt for subsequent colonisation by wild vegetation similar to that of the garden of Villa Aldobrandini in Frascati (IT).

On the other hand, along the riverbanks of Lyon Confluence (FR, 2000-05), the design timing of the planned and extensive urban transformation, has been accompanied by the development of an 'intermediate wilderness' temporarily established on the original quay, which was transformed into a sport platform for the citiziens. It thus functions during the intervening periods of the scheduled urban transformation, after the principles of the ecological transition, strengthened by the presence of therealized Cultural Centre consolidated around the Musée des Confluences (Lyon, FR 2014). The public area is currently set as the site for the new urban forest, expected to be completed by 2030 with the planting of two thousand new trees.

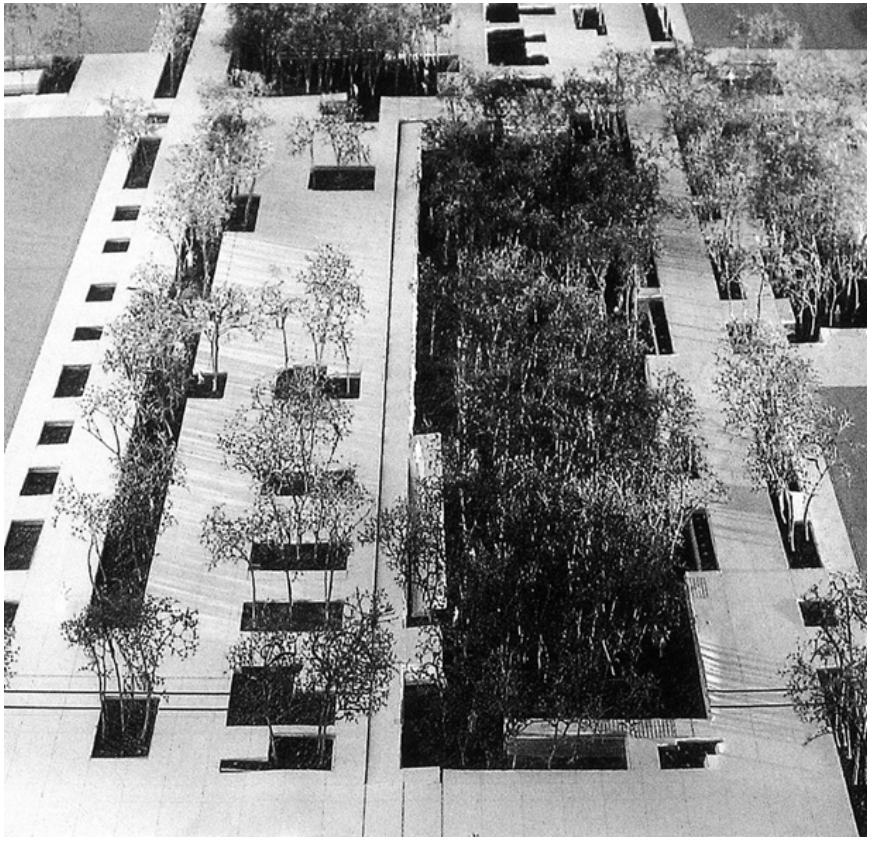
Finally, further ways of interpreting the relationship between 'cavities and wild nature' emerge from the most recent experiments and design achievements by landscape architects Mathieu Gontier and François Vadepied, founders of the Parisian studio Wagon Landscaping (FR, 2010). In his article *Sol et porosité de la ville* [‖], Gontier clarifies the studio's methodological approach as deliberately free from the dogmatization of the discipline, placing instead the 'role of the hand', which draws and builds at the same time as a designer and a gardener, at the centre of the landscape-architects' work.

Underpinned by this philosophy, as the author points out, Wagon Landscaping's projects often emerge from the marginal places of the city, among hibernated interstitial spaces. It is here that the authors find the essentiality of the elements necessary to feed their projects, based on residual space, wild nature, hidden uses, and creative freedom. As they are maintained without

Michel Desvigne, Christine Dalnoky, Archaeological vestiges reference image for the hedge by topiary main element of the garden.



Michel Desvigne, Cavities inside Seguin island, Boulogne Billancourt, France, 2000-2007.



any claim to absolute truth, but on the basis of tried and tested hands-on experience, cities need to preserve and strengthen a form of porosity even in their densification dynamics, in order to offer the void 'spaces where to breathe'. Following this perspective, the authors themselves have adjusted their observation angle and design practice to propose research, techniques, and experiments in the field as a basis for a renewed and necessary porosity of urban soil underpinning the transformation of the constituted city. The two elements, soil and porosity, appear to the authors as the cornerstones of a more conscious renovation of urban landscapes.

Finally, as Mathieu Gontier states, since 2009 Wagon Landscaping, has developed an interest in 'working with tarmac', a slate that, neglected and corroded, retains between its cracks and micro-cavities dry and well-draining soil suitable for the colonisation of pioneer and 'wandering' plants. The designers, emphasizing the potentialities of poor soils hollowed out by their own dryness, explore their coarse and drained richness to understand, through plants, the possible frugality of the landscape. On the basis that connects porosities and cavities, Gontier posits experiences and points of view that allow us to 'hypothesize networks' of urban spaces, of a natural character, reestablishing the centrality of the relationship with animals, whose presence constitutes an effective 'bioindicator'. They create a new dimension of evolution, which encourages them to work more effectively in the network and in the 'reservation' of spaces within the urban environment.

GERMANY

The pioneering research conducted in France paved the way for the necessarily different but systematic studies carried out by Herbert Sukopp[1] and his research group at the University of Berlin[2] a decade later. The research conducted by Sukopp and his collaborators after WWII was aimed at investigating the influences and alterations induced on spontaneous vegetation within the Berlin urban system, which at the time was anthropically and biologically closed. In this context, Sukopp and his team were able to delve into the changing aspects of an 'altered' wild nature due to the impact of WWII on natural systems. These studies allowed him to investigate the dynamics underlying the adaptation and different evolution of new plant species in the territories polluted as a result of bombings outside the urban agglomerations of the divided city of Berlin, which significantly altered the landscape and the physical and mechanical structure of the soil.

Authors. As Sukopp writes in his article *L'ambiente urbano* in *Frontiere della vita* (1999)[3]:

> man-made environments include a wide variety of habitats, organisms and communities. The alteration of soil, climate and water conditions affects the distribution of animal and plant species in urban areas. These are heterogeneous areas, characterised by different structures of settlement, land use and habitats which, taken together, generate specific ecological conditions. Generally, the intensity of the anthropogenic impact increases from the periphery to the centre. Historically, the species introduced by humans either directly or indirectly have begun to spread in urban areas, where they are found more frequently. With the increase in the size of urban centres, trade and traffic in and out of the city also increased and, consequently, so did the number of exotic plant species. Urban areas often comprise a much greater variety of species than suburban areas. The close relationship between the urban environment and the presence of certain species allows the latter to be used as bioindicators of specific environmental factors.[4]

Studies and research. Marcus Owens[5] pointed out in his thesis how some determining factors, such as the work of the Berlin School of Urban Ecology directed by Herbert Sukopp, the start of the West-Tangent Ostpolitik, and the process of normalisation of relations with East Germany associated with the control of nuclear production, fostered a renewed environmentalism supported by Willy Brandt in the electoral campaign of 1969 and lead to the signing of the 1971 formal recognition agreement whereby the DDR and the FRG recognized each other as sovereign states. Temporarily freezing the construction of the Berlin Wall, the agreement also enabled the start of trade negotiations in the still divided city, allowing projects for the construction of mobility infrastructures and urban planning, provided for in the New General Plan of West Berlin, to proceed. The operation of transposing motorway mobility inside the city, crossing the dense working-class districts of Schöneberg, was the fuse that triggered the city's environmental activism in defense of natural spaces and of the participation of local communities in decision-making processes. If in the early stages of this campaign protest actions supported by the situationist influence of Berlin's counterculture prevailed, as Owens recalls, the ecological orientation of conservationist groups, as well as the reorganisation of the university system were decisive in energizing the movements supporting 'urban reappropriation' of the natural spaces in the city. Starting in the mid-1950s, ecological

observation areas were established in the city of Berlin, where professors of the Technical University, like Sukopp, began to talk about plant communities, understood as 'urban biotopes', rather than as individual plant species[14]. An approach that led Sukopp and Kohler to criticise, in 1964, the destruction of unique communities of vegetation, proposing the limitation of recreational access to the Havel River, which crosses the western portion of the city of Berlin and flows into Havelberg in Saxony. It is here that, in 1969, Sukopp tested the research programme on the value of wilderness in the urban dimension which he had launched at the Department of Agriculture of the TU-Berlin in 1968. As the city eventually became the focus in the study of the wilderness, Sukopp investigated the variations in the biosphere in the metropolis for twenty years. When the Department was dissolved in 1970, it was finally stripped of its 'heretical wild and ecological components', replaced by the normalised disciplines of landscape and environmental planning. However, the change did not affect the urban ecology laboratory directed by Sukopp, who carried on teaching 'on the field' in Berlin and providing students with the keys to mobilise ecological knowledge within urban policy. Finally, in 1973, the Institute of Ecology was created at the TU-Berlin, in which institutions and departments coordinated field research. Belonging to the Department of Landscape Development, the institute gathered many of Sukopp's students, whose academic background was in planning rather than ecological studies. Launched in 1974, in the course of the decade, the Institute for Urban and Regional Planning provided technical expertise for the public sector, focusing on urban environmental issues.

The attention to wilderness and the permutations of its nature found a further and interesting geographical reflection in the perhaps little known German experience. As Henrik Ernstson, researcher at the University of Manchester, recalls, in *Urban Plants and Colonial Durabilities*:

> The now taken-for-granted version of this history, is one where modern urban ecology emerged in West Berlin in the 1950s around Herbert Sukopp, or possibly before with Paul Jovet in the 1930s Paris. It then exploded and expanded rapidly in the late 1990s in the big cities of USA and Europe, where it became couched in the widely ambitious but quite amorphous "complex systems" body of theory, to then strive to consolidate as that global, even planetary knowledge project for urban sustainability that urban ecology represents today.[15]
>
> Ernstson underlines the "lack of knowledge of how colonial

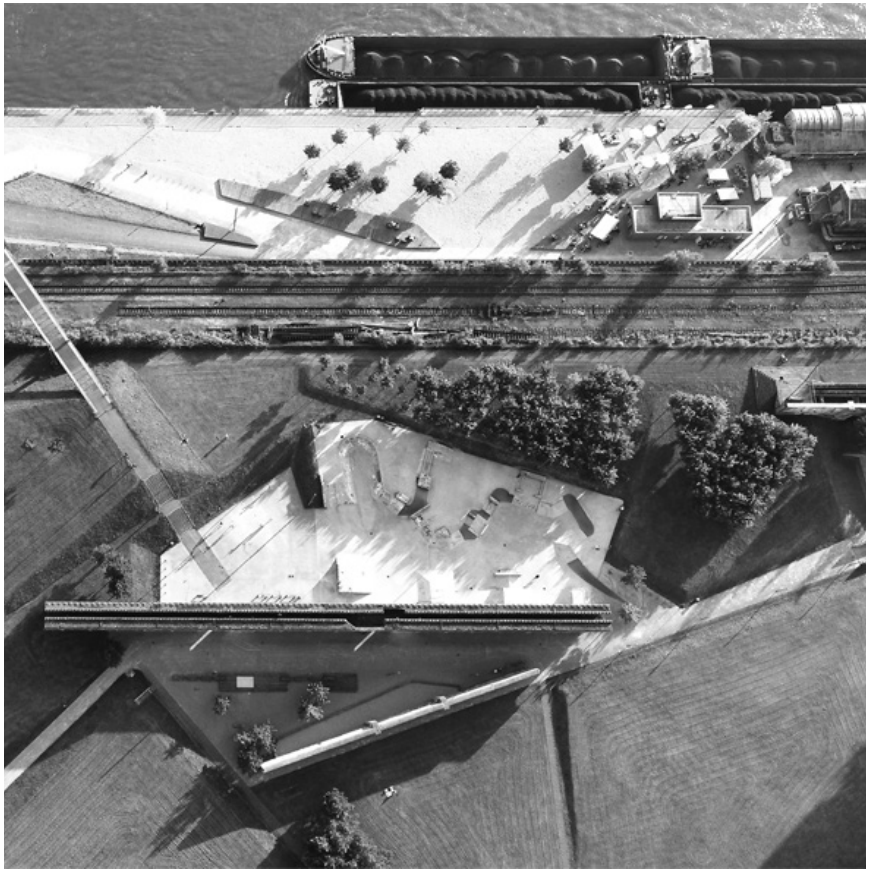
and imperial forms of science influenced urban botany through how it became constituted within the expanding European powers, settler colonial societies, and racial capitalism"[16], in some ways undermining the current elusiveness and indomiable nature of wilderness.

Projects and designers. In this context, the figure and work of Peter Latz are essential, admirably traced by Marc Treib and Karl Ganser[17] in their introduction – titled An Industrial Sublime – to Latz's monograph RUST RED: Landscape Park Duisburg-Nord in Germany. Carl Ganser emphasizes how the author had written this book on 'his park', 25 years after the completion of the project. Latz waited so long in order to ascertain the impact that his strategy of building a public park on industrial ruins would have. In this publication, the author and landscape architect present an interesting review of the design of the park, created in Duisburg in 1999 and recently reinterpreted through the introduction of a contemporary wildness[18]. Wild vegetation now envelops a large part of the original meal structures, skirting the edges of the park towards a structured urban form of the city, where an unprecedented buffer zone-like area has been established: cavities created by broken and piled up cement rubble filled with spontaneous plants, old tracks partially transformed into pathways, dips in the land that have become wetlands coexist with it, establishing a 'wild and urban dimension'. In many ways, similar to the experiments conducted by Herbert Sukopp in Berlin during the Cold War years, it pursues, holds back, and colonises the remnants of the monumental infrastructures standing on its path; infrastructures which often become the supports for the colonization of wild spontaneous vegetation. On these notes, Marc Treib[19] finally underlines how the winning project of Latz + Partner was radical in its idea of transforming, through conservation, the remaining material, as well as of preserving the traces of its industrial use, thus retaining its layout. Latz's idea "did not entail changing these characteristics, but the context, incorporating it into a new phase of the park." Landscape Park Duisburg-Nord is not a beautiful park in the common sense of the term, with no concessions to the image of public space: it is a deliberately harsh landscape that lacks the customary urban layout, a vast wasteland dotted with the concrete ruins of the former factories proudly emerging from the vegetation. Indeed, the park did not accept the tending of gardeners for long, and would evolve, as Treib hypothesised, into further abandonment which shares with the previous one the progressive colonisation of wilderness. Explicit in wanting to declare its current freedom from the 'moral yoke' of industrial pollution of land and water, in

Peter Latz, Rust Red, Emsher Park Duisburg, Germany, 1990-2002.

Peter Latz, Rust Red, Emsher Park Duisburg, Germany, 1990-2002.

OMA/Rem Koolhaas, Zollverein Industrial park, Duisburg, Germany, 2010.



AgenceTer/Henri Bava, Zollverein Industrial park, Duisburg, Germany, 2003.

reunified Germany wild nature can now recover its spaces. The material, social, and ecological complexity of this project, and its ability to reorganise itself over time, have therefore built the interpretative and operational conditions for similar and further operations launched in Germany and subsequently in Europe, accepting that they, too, transformed in public parks, follow its direction, clearly traced between authorship and wildness, and, in the long run, its consumption. Finally, as underlined by Marc Treib and Karl Ganser in their introduction, the pioneering project by Latz + Partners for the conversion of the site occupied by a former Thyssen factory into a public park has become, since its completion in 1999, an essential model for operations in similar contexts. It was the starting point of a series of industrial reconversions that have taken their cue from this emblematic case. Among them the project for the recovery of the site of the Zollverein Coal Mine Industrial Complex in Essen, Germany, now a UNESCO World Heritage Site, with the masterplan to devise a contemporary use for the decommissioned site and the war artifacts of Zollverein entrusted respectively to the OMA/Rem Koolhaas (NL, 2002) and AgenceTer/Henri Bava (DE, 2003) studios.

These projects, which often share similar patterns resulting from the impact of the 20th-century wars, are built on soils, traces and 'contaminated wild natures' that have been reclaimed, and inevitably carry with them structures and layers in the metal filigree of which, often made of dismissed railway tracks, lies the memory of the Second World War. On these plots, thick, wild vegetation, no longer originating in the 20th century, marks its presence. These intersecting steel traces – tracks no longer – form cavities where the wilderness still lurks, and which are highlighted in the Landscape Park am Gleisdreick project by LOIDL studio in Berlin (DE, 2013). In their project, the authors often desert the vestiges of the old 20th-century tracks to venture into contemporary arboreal and shrub forests. As Laura Veronese remarks, here:

> not only emerges the ambitious attempt to make one of the last extensive areas of open waste ground in the heart of the city permeable and crossable, but also to preserve and include the wild nature that has developed within it over years of neglect". In this sense, the conversion of this area into a park plays a key role in the system of open spaces in Berlin: to all purposes, its construction marks the completion of the north-south ecological corridor. The *Bahnbrache*, that is, the vast abandoned infrastructural areas that have strongly characterised Berlin's landscape, helping to define the identifying images of the city itself, acting as a prerequisite on which to base reflections to produce public open spaces for the contemporary city.

Finally, for the vast cavity produced by the Allied bombings on the site of the former Gestapo headquarters in Berlin, the competition project Topography of Terror by Prominsky and Woelk (DE, 2005-6), which has reached the second phase, does not set any purposes but responds to the exploded topography as it is, in the impossibility of repair. In this place, according to the authors, maintenance remains the key to its interpretation. Unusually, to the monument of terror it opposes a maintenance programme, reacting through a succession of seasonal actions over time, which consist of tilling and sowing the soil to bring it closer to its luxuriant stage. Aimed at encouraging reflection on the effectiveness of the role of the landscape, the project, albeit complex, is pure and direct, producing a poetic landscape experience without manipulating emotions.

NEW YORK

Shifting our focus to wild urban nature experiences overseas, in the 1970s in New York, the Critical Gardening movement mainly acted against urban decay in the Manhattan peninsula. Inspired by the charismatic figure of Liz Christy, who founded the Guerrillas Gardens groups in 1973, the movement's philosophy is not far from the contemporary Berlin culture, between situationism and wilderness. Beginning in 1974, Christy involved groups of citizens in the clearing and planting of vacant lots in central Manhattan which were thereby transformed into urban and vegetable gardens. The first recognized community garden created by the group was renamed after her death to *Liz Christy Bowery Houston Garden* and was awarded the first Urban Forestry prize of the American Forestry Association.

Authors. As Michela Pasquali points out in the introduction of the book I giardini di Manhattan, *storia di guerrilla gardens*:

> There are gardens as large as entire blocks, or as small as a flowerbed, which are created thanks to the initiative of groups or individual citizens, driven by the desire and the need to revive derelict areas of the metropolis that are neglected by current interests and left in a state of disrepair. In a small neighbourhood of Manhattan called Loisaida, these spontaneous gardens are numerous and stand out for their typological variety, multiple inventive solutions, and expressive complexity. An extraordinary example of hidden and new urban greenery, they could be described as either indigenous or local, ethnic, exotic, but above all

> precarious, marginal, anonymous, vernacular. Precarious because of their uncertain duration, they change and evolve over time, the product of 'bricoleurs' who acts by improvising and without the adequate means and knowledge. Alien to mainstream culture, they create gardens by colonising intermediate or interstitial urban spaces, terrains vagues or vacant lots, appropriating no-man's lands, similarly to squatters occupying empty buildings or the homeless building their shacks.[22]

Studies and research. Matthew Gandy, in his article *Marginalia: Aesthetics, Ecology and Urban Wasteland* (2013), quoting *City of Weeds* by Richard Mabey on the spontaneous exuberance of urban wilderness, inspired by the memory of the landscapes of the deindustrialization of London in the early 1970s, underlines that "it is not the parks but the tracks of the railway sidings that are thick with flowers"[23]. As he writes, "[w]astelands are a characteristic feature of many urban and industrial landscapes. Although the term wasteland has become widely subsumed within various utilitarian discourses concerning the redevelopment of ostensibly empty or unproductive spaces, the idea encompasses a multiplicity of meanings, material origins, and ecological characteristics"[24], avoiding, at the same time, a narrow scientific approach, or a neo-romantic attachment to wild nature, where the distinctive aspect of urban ecological dynamics is characterised by transient site disturbances, which traditionally have formed the focus of cultural and scientific exploration of urban space. These marginal spaces are in fact characterised by the presence of 'pioneer species', instrumental to the colonisation of new substrates, capable of generating sudden changes in the appearance of urban landscapes. In this sense, the city includes a network of cavities that vary in substrate, appearance, time, and other factors. Linear spaces such as roadsides or railway embankments can form 'eco-ducts', capable of connecting populations of vulnerable species, which play the role of dispersers of new species, in order to spread the seeds within the radial geography of the city[25]. Finally, returning to the questions posed by the 'new' wild urban soils, these can be considered as radically perturbative, Gandy argues, because they upset the 'familiar' terrain of cultural landscapes, designed spaces, and the organisational logic of modernity.

Projects and designers. Finally, two projects carried out in New York interpret the theme of the urban cavity from opposite perspectives, differing widely in terms of theoretical and social assumptions. The first emerged spontaneously in the *Loisaida* neighbourhood in Manhattan, where the resident multi-ethnic

community organized, among the amazing vertical walls of skyscrapers crossed by colonies of urban ruderal vegetation, its own cavities. Assumed as 'neighborhood cavities' and social spaces, left to their natural evolution over time in the tangle of different identities and wild natures, it is here that the community of the *Loisaida* neighborhood has built its own informal ethnic universe.

On the opposite end of the spectrum is the prestigious New York High Line project by Diller Scofidio + Renfro, and James Corner, involving the conversion of a disused rail line. The High Line, a new elevated urban park along the disused section of the West Side Line, occupies the western side of Manhattan. Here, listening to the numerous protests of citizens, the interpretative key of the transformation, as Gandy writes, consists in the admirable reinterpretation of the project of wild nature, created by the landscape architect Piet Oudolf. Heeding the many dissenting voices, he was able to interpret the transition of the High Line from an abandoned transport infrastructure, where spontaneous vegetation had dominated over time, to an urban space, rereading through the project – a rearrangement of wild nature, nestled between the railway sleepers that have become a public route – the continuity of a place that can no longer be interpreted as an autonomous ecological device.

> The presence of a *wasteland aesthetic* shows that spaces that may appear superficially similar, even in biotic terms, might nonetheless owe their existence to markedly different processes. The newly opened High Line […] has re-created […] a distinctive kind of ecological simulacrum of what occurred on the derelict structure before its extensive landscaping.[26]

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TABULA SILVA. REPRESENTATION AND PROJECT FOR THE FLEMISH FOREST-METROPOLIS

FEDERICO GOBBATO LIVA, ANDREA MIGOTTO

In this article, we discuss the tentative notion of *Tabula Silva*: an approach to rethink the urbanized territory of Flanders that champions the forest as a settlement principle able to integrate nature and man-made artifacts. To begin with, the term *Tabula* invites us to look at the territory as a wholly available ground to be mapped and designed: a field where the existing logic of ownership titles, uses, functional occupation and resource extraction are intended as cultural grooves to be questioned and potentially reassembled. *Silva*, on the other hand, stands for the centrality of forest environment for new models of ecological and social welfare to be tested. This terminology and the connected approach are a personal position and forming attitude in our work to the study and design of the contemporary territory. It develops at the intersection between urban theories and debates on the diffuse city as they have progressed since the 1990s, on the one hand, and the urge for innovative urban design attitudes triggered by recent Flemish afforestation policies, on the other.

In the context of the regional forest program launched by the Flemish Government, *Meer bos voor Vlaanderen*, we were recently entrusted with the assignment to represent 12 types of forest environments (*Verbeelden van bostypes*, 2022) that the local authorities plan to realise in the coming future. The elaboration of this graphic material is intended to support the dialogue between the different stakeholders involved in the program, such as designers, citizens and public administrations, and to stimulate the conception and realization of new forests on the ground. The array of perspective environments we were asked to represent inevitably triggers a reflection on the future of prototypical urban and sub-urban conditions of the Flemish territory. It raises questions regarding the capacity of existing often-criticized features to enable sustainable living practices, the suitability of tree species to thrive in an environment deeply colonized by men and the institutions and modes of management that could realize and care for new forests.

In the article, we first approach the context, challenges and ambitions of the program *Meer bos voor Vlaanderen*. We then situate the policy within the key steps of recent theory and research in urbanism discourse, moving away from the idea of Nebular City (1995) towards the framework of Forest Urbanism (2019). Finally, we discuss our ongoing work on the graphic representation of the forest identified by the program as the starting point to concretely define the components of a Tabula Silva as an operational guide for the realization of new forested landscapes.

THE PROGRAM 'MEER BOS VOOR VLAANDEREN' AND ITS CONTEXT

In May 2020, the Flemish Government launched a forest expansion program called *Meer bos voor Vlaanderen* [More forest in Flanders]. Through this new policy, the regional administration pursued a twofold goal: firstly, to reinforce and protect natural assets already present in the heavily urbanized landscape of Flanders; secondly, to create new wooded areas in response to the booming need for both social (welfare, production, reproduction) and ecological (environmental sustainability, climate adaptation, energy recovery, sustainable materials) services in the region. If completed, 4,000ha of new forested areas would be realised in the region by 2024, with a possible increase to 10,000ha by 2030.

In recent years, with the evolution of studies in urban forestry, the creation of wooded environments has gained a key position in political agendas, to enhance the living quality of human beings and the resiliency of the built environment to climate change. It is curious to notice that, while in the past centuries environmental and social welfare were mostly addressed from within the metropolis, inventing unprecedented infrastructures and urban collective environments for improving health and social relations, such as urban gardens, tree-lined avenues and metropolitan parks, since the second half of the 20th century this balance has increasingly been pursued at a larger territorial dimension. At this scale, the improvement of human conditions is confronted with broader systemic challenges of environmental reproduction and valorisation. The program *More forest in Flanders* follows on this path, embracing the larger territorial scale as an unavoidable challenge, yet questioning conventional urban planning formats and practices, such as abstract zoning laws and profit-oriented masterplan techniques. To better understand its relevance and future potential, we must therefore assess the context addressed by the policy, Flanders, and how the program reacts to the layered and problematic urban configuration of this territory.

In contrast to Flanders, if one wanders through Wallonia, the southern federal region of Belgium, he will soon discover that forested areas occupy a relevant portion of the territory thanks to a well-established culture of protection and valorisation of this environment. As scholars explained: "[…] since the beginning of the second half of the 19th century, the forest is considered as an invaluable element of the national heritage that the public authorities have the duty to preserve, to restore and even to enlarge". If, on the contrary, we consider the natural territory of Flanders, the northern and wealthier region, it is not hard to notice that the forms of human development took here

a different path, resulting in extreme land subdivision and widespread real estate developments. Many of the forests present in Flanders, not unlike the rest of Europe, have been cut through the centuries to feed up the various modes of capital accumulation, to guarantee economic growth and the maximization of profits. The historical motivations for the destruction of these natural environments are multiple. In the first phase, until the 18th century, wooded areas were chopped to make space for agricultural fields, essential to sustain the mostly rural population in pre-industrialization time. Later, in the 19th century, forests were used to provide essential raw materials to support the rapid industrialization of the country. The largest forest patches we find in the region, like the pine forests in the Campine Plateau, are the result of large-scale afforestation programs initiated at the turn of the 19th and 20th centuries for the production of wood, to supply the booming construction and the coal industries. Ultimately, since the second half of the 20th century, forested zones have been under the threat of endlessly expanding urbanization for both residential and productive uses, especially on the urban fringes.

Digging deeper into the causes of forests reduction, we are confronted with the obduracy of a local culture grounded on extensive privatization, subdivision and financial speculation of the land; a process that has heavily impacted on the use and protection of wooded areas. Unlike what is often believed, the root of this tendency is not to be found in the massive wave of residential suburbanization that followed the 1948 De Taeye Act – the law supported by the Catholic party which granted state subsidies and funds for the post-War middle class to acquire land and build single-family homes in rural areas.

On the contrary, as the agriculture historian Eric Vanhaute contended, already since the mid-19th century Flemish landowners embraced the idea of making easy money and reproducing their social status through the fragmentation of cultivated parcels. Rather than promoting technological and social improvement, indeed, owners increased the rent price of cultivable land at the detriment of peasants' living conditions. The practices of privatization, parcelling and speculation continue to hamper foreseen reforms in planning practices nowadays. While creating that cacophonic and rich landscape which has long interested urban scholars for interweaving residential, productive and reproductive functions, the dispersed urbanization of the region is still largely derivative of a Modern culture in contrast with the current needs for social development and environment valorisation. Consequently, the endless process of urban expansion unfolds at the detriment of natural areas and forest specifically.

Confronted with the described long-standing forgetfulness of forest valorisation in favour of land fragmentation and development for private speculative interests, the *More forest in Flanders* plan marks, hypothetically and perhaps ideally, a radical alternative. The diversity of the approach envisioned by the policy can be summarized in four core principles.

1. The idea of 'multifunctional potentiality' of the landscape and a new cultural understanding of forests. As stated by Hubert Wiggering, Klaus Müller, Armin Werner and Katharina Helming: "[…] today the sustainable land transition starts from the identification that one type of landscape can perform multiple environmental, social and economic functions at the same time"[14]. The diversification of large mono-functional districts lacking welfare services, productive activities as well as ecologically relevant qualities (biodiversity, for example), which is a *trope* of the Flemish dispersed urbanization, is possible through a strategic reconceptualization of the role and use of wooded areas. It follows that forests are portrayed not simply as generic natural entities for relaxation, contemplation or leisure. Rather, they work both as a stimulating notion and a tangible hybrid (natural-social) environment where to test new interdependencies between land uses, socio-technical functions, management organization, welfare, and ecology[16]. It is not a coincidence that the policy mainly insists on the coupling of two aspects: on the one hand, ecological services provided by forests, notably fostering biological and animal diversity, lowering carbon impact, and mitigation of droughts and floods. On the other, social services, such as accommodating contemporary forms of reproduction, developing new environments for leisure, production and cultural development and exchange. This is, arguably, a relevant cultural step to demystify the forest as a purely natural environment, idyllic and opposed to the socially driven conflicts of the urban. As a new conceptual framework, the forest emerges not as the backyard of the city[18]. Rather, it drafts an alternative model of inhabitation which could alter, as a new layer, the existing palimpsest we find in territorial settlements principles[19].

2. Grasping and managing the complexity of the relation between means and actors that must cooperate for the realization of new forests is central to the program. Indeed, unlike the case of modern public spaces, such as urban parks of the past centuries, which were mainly in the hands of public institutions, the realization and upkeep of new forests can't be fully left to the responsibility of regional or municipal administrations: financial

limitations, together with the diffuse lack of personnel and even of knowledge, come in the way nowadays. Conversely, a multitude of actors, stakeholders and relations is nowadays necessary for the realization, maintenance and management of forests. In the current scenario, strongly derivative of the culture of the market economy, these subjects operate in a fragmented manner and follow their individual interests or duties. They shall on the contrary be recognized as co-authors and empowered as such in the transformation process[17]. The 2022 program pursues the idea of coalition and empowerment of certain pivotal actors, both public and private. Since 2020, under the umbrella of the Forest Alliance[15], the agencies related to the Flemish government have joined forces with local authorities, landowners, forest groups and nature-protection organizations. The Flemish Department of Environment plays the coordinating role in the process in pursuing models of structured cooperation, such as the involvement of associations and groups of citizens-volunteers for a distributed model of realization and management of forest.

3. To foster the expansion of the forested landscape, the policy advances a rather new juridical definition of forest and sets up related financial aids for both private and public subjects. The former aspect is perhaps one of the most debatable aspects of the operation. While in previous legislation, the definition of forest [*bos*] indicated a minimum lot size of 0.5he and a 20% crown cover, the new definition of forest associated to the subsidies of the program, indicates a canopy cover of at least 50%, within a minimum plot area between 0.1-0.01 he[20]. This procedural, rather than substantial definition of what a forest is may raise criticism. The risk is, for example, to identify every small patch of planted land with a forest, or to facilitate landscape fragmentation as opposed to ecological corridors[20]. However, contextualization is once again crucial. In Flemish suburban areas, where single-family homes with private gardens are the rule, and the land is fully privatized, the realization of large woods is unimaginable. Taking onboard the idea that a collaborative network of actors is unavoidable to meet the plan expectations, the procedural definition of forest is used to allocate economic support (tax deduction and subsidies) to households who decide to de-pave their properties and plant new trees in their backyard. Despite appearances, this definition is an elementary tool to pragmatically address the Flemish reality: one suggesting that a forest can also grow from the collaboration and the private advantages of individuals. Yet, for it to become a structural move, a clear image of what types of forests can be realized and what their advantages are, is unavoidable.

4. Drawing upon the financial and legal definition, *More forest in Flanders* ultimately proposes a qualitative and design-oriented roadmap for the realization of new forested environments. It does so by utilizing a marked typological approach: 12 different types of forests to be realized are identified and described according to their size, the context of implementation, tree and spatial qualities and, most importantly, the social and iconological qualities/services they are supposed to enhance or to provide. The typological approach is just one, perhaps a questionable one, amongst many others, to be used to preliminarily approach forest design. However, while the point of view of defining a quasi-programmatic way of each forest type is critical, for the forest is much more than the sum of the use opportunities it provides, it also allows a very specific approach to synthesise and communicate the policy. These forest typologies, if considered less as a conventional design brief and more as a 'meta-project' to be communicated for changing well-established cultural tenets, provide a stimulating intellectual tool to the practice of landscape urbanism.

TRACING A THEORETICAL AND DESIGN LINEAGE FOR THE MEER BOS PROGRAM. FROM THE NEBULAR CITY TO THE EMERGENCE OF FOREST URBANISM

The planning scenario envisioned in *More forest in Flanders* addresses a peculiar geographical and political context, yet it draws upon a relevant and broader intellectual one. At a closer inspection, the leading themes of the afforestation program can be read keeping in mind a thickening corpus of theoretical and design knowledge, and civic consciousness, which has built up a considerable tradition in the field of urbanism in the last decades. Indeed, while the recent environmental crisis has placed the increase of tree-covered areas on top of the agenda, architectural and urban reflections on the theme date back a long time. How have architecture and planning disciplines approached the theme of the forest and the relation with the man-made environment in the Flemish territory? We can identify three crucial directions in the past decades.

A first approach can be traced back to the book *After-Sprawl: research on the contemporary city*, where Xaveer De Geyter Architects and Lieven de Cauter suggested a landscape-oriented approach for questioning the contemporary urban patterns of European territories. Observing the settlement structure of Belgium, Holland, the Ruhr region (Germany), Switzerland and the Veneto region (Italy), the category of sprawl is recognized to be the dominant territorial condition of the late 20th century, where the

difference between urban and rural is no-longer evident, as both patterns are present simultaneously. This notion of "hybrid urbanity" helps to imagine the *after sprawl* future, which is presented in the book using some design scenarios. In these speculative proposals, the authors conceived the forest as a territorial counter-figure to overhaul the fragmentary, ownership-based and normative logic typical of 20th-century urbanism. More specifically, in the section devoted to the *Flemish diamond* (the urbanized area between the cities of Antwerp, Leuven, Ghent, and Brussels), forest and large-scale landscape forms emerge as a new provocative figure: the spatial and conceptual apparatus to define a project for the "after-City".

Diverging from an urban proposal operating through large-scale recognizable forms, the approach developed by Paola Vigano employs fine-grained landscape structures as the starting point for a project that integrates the socio-environmental values of contemporary society. Emerging from a long research presented over the last two decades, the notion of the *Horizontal Metropolis* is proposed to research and project "a specific spatial condition characterized by a horizontality of infrastructure, urbanity, relationships, and by closely interlinked, co-penetrating rural/urban realms, communication, transport and economic systems". In Vigano's perspective, nature constitutes the pre-condition of a project rather than a tool to counter the fragmentation of the contemporary city through super-imposition of landscape forms. Departing from qualities such as isotropy, porosity, and permeability, the territory is conceived as a continuous garden: where cities and landscapes are merged with a bio-political proposition. Within the framework of the *Horizontal Metropolis* research, Wim Wambecq discusses the forest as a field of action capable to mediate between individual needs and the collective. Wambecq proposes a transition toward urbanisms entangled with "hidden" natural capital. Through a cartographic comparison between the recent forest land cover of Flanders and the forested areas identified in the Ferraris map (1770-78), Wambecq identifies multiple unbuilt areas where, albeit older forests have by now disappeared, their form is yet visible in the parceling of the agricultural land. These figures, remnants of hidden or past forests, are identified as sites of resistance against the urbanization wave of the last century. They reveal the forest as a latent landscape of the dispersed city: a potential that can be activated and around which novel urbanisms could emerge.

In these works, we notice that the *sylva* is progressively embraced as the legitimate counter-figure to the city, acquiring

a fruitful autonomy from the more generic definition of "landscape." It is revealed as a domain of potential and exception and the subject for a cultural and methodological shift in urbanism. From these premises, the definition of Forest Urbanism has emerged. It calls for a cultural practice of urbanism "that relies on the forest as a structuring device across scales and dimensions," and where the forest builds up an agenda for re-opening the discourse and for re-defining the practices of the "urban"[8]. The hands-on application of the Forest Urbanism approach is further elaborated by Wambecq in his PhD dissertation, entitled *Forest Urbanism in the Dispersed Flemish Territory*[9]. Discussing seven forest cases in Flanders, Wambecq builds a critical understanding of the relationship between territory and forest which serves as a basis for exploring the intensification of the interfaces between wooded landscapes and Flemish urbanization. The work suggests a desirable cultural shift in the discipline of urbanism that can be realized by incorporating the theoretical and practical methods typical of forestry. These are, for instance, the logic and timing of forest planting, or management and seasonal cycles of trees, which become the funding principles for a territorial project. Wambecq's proposal moves away from the 'planning approach'. It is not a coincidence that he extensively uses the territorial section to study forest types concerning soil composition, hydro-geological qualities, presence of infrastructure and existing settlement patterns. By acknowledging that different forest types take on specific configurations depending on hydro-geological context, he builds up a potential taxonomy of responses to major ecological, social and urban transition agendas[10].

A brief summary of some of the most radical approaches to landscape and forest urbanism shows, at first glance, the cohabitation of different, even opposite, positions and methodologies on the topic. It can be noticed, nonetheless, a tendential shift from projects based on more conventional planning rationales – masterplan, forms – to a finer-grained integration of extra-disciplinary forms of knowledge in the design process. Where to situate a research approach in the context of the studies and propositions developed in recent years, while departing from the categories and qualities of the forest recognized by the Flemish afforestation policy? Arguably, our proposal operates at the intersection of these approaches. Indeed, the typologies described by the policy document suggest a marked spatial approach to speculate on the concrete characteristics of these forests. Yet, the request to show the social and environmental advantages of the forests also requires integration of new knowledge, such as botanical knowledge to relate tree species to different environmental conditions. Moreover, following the points highlighted above, other crucial yet often underestimated issues must be faced, such as timing, property, tenure, management and ecological conditions. Ultimately, the representation task discloses the possibility for reconnecting formal, procedural and more technical aspects: not a generic third way, but the test of how different approaches can foster cross-hybridization.

TOWARDS *TABULA SILVA*. REPRESENTING 12 FOREST TYPES AS A GRAPHIC ROADMAP

The concept of *Tabula Silva* is imagined as an operational apparatus, a proposal of hypothesis and tools for a subsequent urbanism of Flanders. On one hand, this approach sits in continuity with the discussed lineage of urban theories that have embraced the forest as a crucial territorial structure able to challenge modern strict separations such as urban and sub-urban, productive and reproductive, city and nature. On the other hand, it responds to the urge of a visual base for the policy, supporting a shared forest agenda between citizens, politicians, social and environmental actors. In this context, we developed a series of drawings whose scope is to render these abstract, often technocratic or legal perspectives, tangible and communicated. From each individual drawing and the narratives of the 5 spatial typologies, the *tabula silva* takes form as a meta-project: a reflection on the project before field implementation, and a roadmap for the promotion of the Flemish forest agenda. Four different types of artworks build up the core of the *Tabula Silva*:

Axonometry. We utilize an axonometric drawing at the scale of a meaningful territorial sample in order to portray the relationship between natural qualities, spatial context, social uses and environmental services of each forest typology. This drawing builds upon a low threshold representation of vegetation, building typologies, open space and human practices, translating the more technical questions into a narrative accessible by a broad audience. This representation aims to sharply communicate the environmental qualities of each forest type, focusing on spatial configurations and on their capacity to accommodate the specific programs, uses and environmental services of the brief. The axonometric drawings all describe forest areas of the same size to make them comparable in terms of scale, natural and programmatic density, tree size etc. After a careful reading of the tender document and of the previous researcher, we propose the axonometry to represent an area of 1 ha ca. The axonometric representation is a means to portray the spatiality of the urban forest and to easily communicate how the organization of tree and bush species, the qualities of the ter-

Axonometry. The image illustrates two possible scenarios for a residential forest-neighbourhood (Boswijk). On the left side of the image, we depict punctual afforestation strategies to transform existing suburban neighbourhoods characterised by single-family homes and private gardens. On the right side of the image, we propose a scenario for a newly built forest neighbourhood with collective services and denser dwelling typologies that are fully integrated within a newly planted wood.

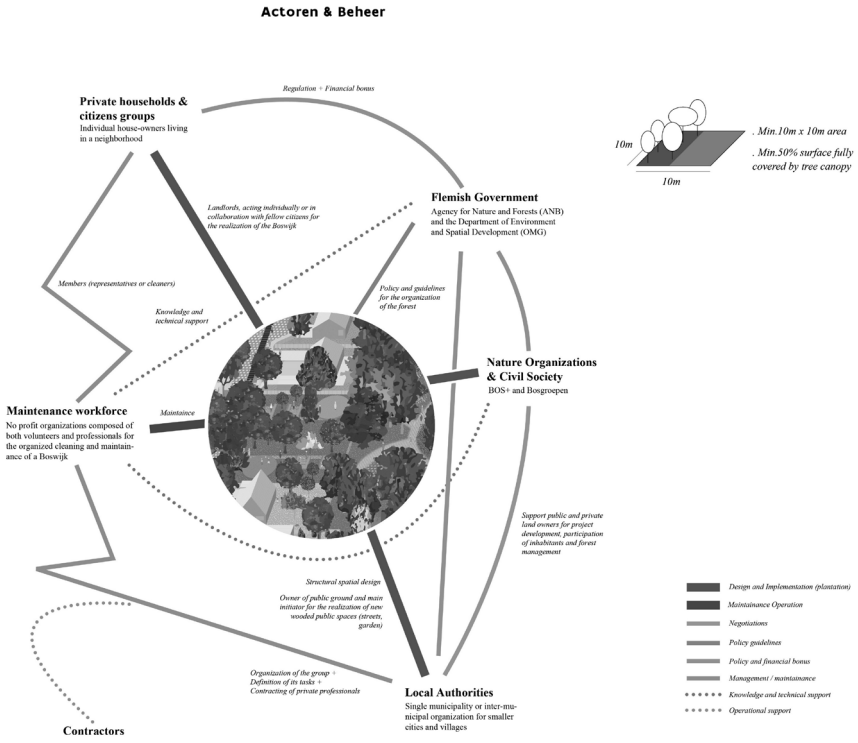
rain and the presence of social infrastructures could build up the socio/environmental quality of the *Tabula Silva.*

Tree Abacus. A detailed representation of the suitable tree species which are present in a specific forest type. The drawings come together to compose a graphic inventory of all the trees that is used to describe the various forest types proposed by the brief. This approach recognizes the tree as the fundamental element of a forest and, although the environment is always more than the mere sum of its individual parts, that the natural and physical characteristics of each arboreal species bear direct impact on the human and natural affordances of the sylva environment. The inventory is accompanied with a series of diagrams that add further information on each specific tree and facilitate the reader to compare the characteristics and seasonal variations of the different species such as flowering arches for pollinators. These diagrams expand on the information illustrated in the axonometry, showing the features proper to each single tree with a direct correlation to hydrogeological features of the territory and the potential social uses stimulated by fruiting period and the provision of shade.

Governance Scheme. Each forest type includes a series of diagrams that illustrate the gradients of management and maintenance practices of forest, such as facilities, infrastructure, under-bush, and clearings. It illustrates the actors involved in the development of each forest type and their role in the process, supporting the setting of bottom-up, open and participating projects. We show the potential modifications of the urban condition such as change in property and the transitions from private to shared and collective spaces. We also refer to the urban planning tools that enable specific transformations such as the transfer of development rights for un-built parcels, street contracts for cul-de-sacs, in addition to subsidies schemes for de-paving and plantation. In forest types which hold important functions at multiple scales such as management of seasonal flood risk and recreation, we show the structure of governance and the public accessibility at different scenarios.

Images. One of the main challenges posed by the brief is to develop graphic means for low-threshold communication of the main qualities and the added values of the 12 forest types. Diagrams and charts of any kind offer a greater accuracy on facts and are the main working tool of specialists or people with a sound knowledge background. However, they might be confusing, misleading or obscure for the non-specialist audience, such as institutions and administrations, but also local inhabitants and associations, referred to in the call. Therefore, to render the

Governance scheme. The forest is implemented on the ground thanks to a coalitions of different actors (individual and groups) including citizens, associations, local authorities and the Flemish government. The organization of management and maintenance tasks of the resulting landscape is performed, in the case of residential forest-neighbourhood, by citizens volunteers and community associations that operate at the local scale.



added spatial value of the 12 forest types, we produce a diorama-like image that boldly illustrates the most relevant actions and happenings in each of them. By directly showing new or yet-unimagined uses happening in the forest, or how new forest types intelligently answer to urgent ecological needs such as water retention or wood and food production, images are powerful means to trigger people's imagination. They underpin the imagination of how forests could look like and perform, and speculations on how their life could improve in the new environment.

Lastly, images are the main tool to portray time as a foundational aspect of spatial transitions and forest implementation in the territory. Different steps of transformation are portrayed for the archetypical spaces of the tabula, while presenting the growing silva as a field of action. Projects where human communities become engaged in shaping a bio-political territory.

Image of forest implementation stages. The images show three stages of de-sealing and afforestation strategies conceived for a cul-de-sac road in a residential neighbourhood. The issue of time is an unavoidable aspect to represent and communicate the different stages of an afforestation strategy, making public actors and the local community aware of how the forest will be implemented and ultimately evolve.

The 12 forest types described in the assignment of the Flemish government, Department of Spatial Planning and Environment, are: Water buffer forest; Natural forest; Exercise forest; Play forest; Burial forest; Wood production forest; Food forest; Residential forest; Urban edge forest; Industrial estate forest; Neighborhood forest. The preliminary selection of these, reflected the objective of the afforestation program to enhance specific cultural, supporting, regulating and provisioning ecosystem services in the region. The types are not conceived as a mere 'functional' or performative addition to the landscape. Rather they are part of a broader cultural project, proposing a forest backbone of social and collective welfare in the territory.
During the elaboration of the assignment, the 12 individual types were collected into 5 more rich spatial typologies. Each typology is intended as a collection of fortest strategies to intervene in specific spatial conditions in Flanders.
Neighborhood Forest (Boswijk) addresses the transformation of existing neighborhoods built with single family dwelling and illustrate future scenarios for developing denser dwelling typologies while providing more open and green space; Health Care Forest (Zorgbos) illustrates the afforestation of existing healthcare facilities but also defines visual scenarios for new models of "aging-in-place" in the context of sub-urban and rural villages.
Water Buffer forest (Waterbufferos) illustrates the potential of new forest for flood management in river valleys, water retention in landscapes, but also for improving quality and accessibility of public sources of drinking water; Urban Edge Forest tackles the transformation of the XX century urban belts around cities, presenting the transformation of drosscapes and fringes into forest providing cultural and environmental welfare; Productive Forest illustrates potential intersections between the regional afforestation program, productive spaces, labor and the circular economy.

For a thorough description of the policy and the operative tools in place, see Omgeving Department Vlaanderen, Meer Bos Voor Vlaanderen, 2022, https://docs.vlaamsparlement.be/pfile?id=1562951 and https://bosteller.be.

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A DIVE IN THE NORDIC GREEN. *FORESTURBIA:* A MANUAL FOR A LANDSCAPED CITY

LUDOVICO CENTIS, ANGELA GIGLIOTTI, FABIO GIGONE

Foresturbia is the outcome of a practice-based research, an unsolicited project developed in 2015 within the architectural practices of Ludovico Centis – The Empire – and Angela Gigliotti and Fabio Gigone – OFFICE U67 ApS[1].

It was initiated responding to a specific urban challenge of Oslo municipality towards 2030 and aimed to be a precious support, a tool for encouraging and spreading collective shared knowledge about sustainable living.

As the name itself suggests, *Foresturbia* is an overt homage to *Surfurbia* and the other ecologies that Reyner Banham individuated in his book *Los Angeles: The Architecture of Four Ecologies* (1971).

The project had the same ambition to bring a fresh look to the Norwegian capital's booming urban development and possibly to other cities of the Nordic Countries, Russia and Canada that experienced and still experience a similar development pattern[2]. The aim was to intertwine a sharp analysis and clear design proposal for a specific built environment – that of the Hovinbyen area of Oslo – with wider reflections on lifestyle and urban process.

This allowed the research and design team to articulate a potentially vague but tremendously timely topic, such as sustainability, into a series of precise investigations and statements that ranged from cutting-edge technological solutions to reflections on the "memory" of the ground, from carbon-neutral mobility solutions to inclusive communication in the frame of city redevelopment.

The project engaged with different scales – from the territorial to room interiors, time frames and urban rhythms.

The design proposal acted in the vast field defined by the two extremes of pragmatism and utopia, with the awareness that "the charting and visualization of deliberate, coordinated action over an extended territory"[3] is the first and most powerful move to transform it.

This imagination was powered by and was grounded on a specific attention towards the territory itself, taking its strength from it. A fresh reading, a careful description, a precise proposal were equally important moves that all together were intended to form a shared, clear and powerful vision for the future of Oslo.

In this text, it will be frame first the research in the Norwegian context will be first framed, then they will be presented the urban strategies behind the applied project related to the Oslo municipality, and lastly it will be illustrated more in depht the outcome of the design proposal.

THE CONTEXT

Norway, with its mostly mountainous landscape, extends its borders along more than 22.9 latitude degrees, from the North Sea to the Svalbard Archipelago. Its coastline faces four seas: the North Sea to the South, the Norwegian Sea to the West and it is the only Scandinavian Country to have access to the Barents Sea and the Arctic Ocean to the North.

This coastline has become over the years a symbol in the collective unconscious and is well known for its fjords and indented appearance that reaches 83.281 km of total length – more than twice the length of the Equator.

This same coastline in the past forty years has witnessed one of the most important economic challenges in Europe, when in 1969 the first oil well was successfully drilled at Ekofisk Field, Southern North Sea. From that moment, the Norwegian Continental Shelf has become more than a hidden coast underwater offset, adquiring the status of a new political field. Here the world economic interests and its related rights have drawn a new geography that raises the coastline from being merely a bank toward the infinite to be the physical interface for an infrastructure of more than 8.000 km of oil pipelines as well as onshore facilities. The coastline turned suddenly from being the West border to the East limit of interest: a vast field of apparently homogeneous matter began to need a new cartography to represent a set of relationships hitherto useless or unknown.

Lastly, the Norwegian coastline is also the meeting of two dimensions, an onshore and an offshore one. The latter has historically been intended as the projection of the ambitions of discovery and adventure of the Scandinavian population, while it has recently become the contemporary place for a new economy. An economy based on energy management and innovation, which performs on a buffer condition where the oil exploitation reminds of the related problem of the definition of a supranational political agreement on the Arctic region; but also, echoes an internal controversy of profiting from the oil trading to other countries⋀ while promoting at home severe policies to lowering carbon emissions.

RESEARCH

Foresturbia, the project described in this essay, has to be considered in the economic and cultural framework that has been described above and specifically in the Norwegian capital city of Oslo, one of the European wealthiest and fastest-growing cities that is attracting the interest of the international community

Norge. Inshore and offshore, 2015.

for its quality of life, public service and policies. The challenge for the Oslo region is to encourage a future sustainable growth, understanding which are the best strategies to improve the quality of life in the city and answer at the same time to the growing speed of development and shift from an oil-based economy.

In 2014, with the introduction of the *Oslo 2030: Plan for the city*, the Municipality of Oslo estimated the growth of the city's population in the next years to 200.000 incomers – one third more of the current population. On the one side, the city plan – centered around three focus areas: smart policies, safe city and green approach – was very promising and in line with the contemporary policies of urban development. On the other, it was greatly challenging, as well as quite vague when coming to the definition of projects in these same areas. Together with the implementation of the plan, the Municipality of Oslo held both an Ideas Competition for the first city site to be transformed – Hovinbyen – and an International Conference on the topics of resilience, development and green sustainable approach, with the goal of learning by prominent European case studies.

The project had the ambition to raise the stakes set by the Municipality's call, aiming both to act as a precise answer to local needs as well as to connect with a wider audience living in the global Northern territories. The outcome of this effort resulted in a practice-based project developed with the collaboration of a wider team of researchers and experts for all citizens.

The main research questions were: How to ensure a better future for the new generations? How to guarantee the actual standards of welfare for all the citizens in the coming years? Is it possible to develop an urban growth scenario that has the ambition to become a model in terms of future sustainable development? Which are the best green strategies to develop cities and keep the pace at the same time with an ever-growing speed and pressure? How will the Oslo region evolve as a competitive and sustainable European region?

A VISION FOR HOVINBYEN

Hovinbyen, as part of the city of Oslo, needs no revolutions, but coordinated modifications. To host 27.000 new flats and 2,5 million sqm of commercial space, as foreseen by Oslo 2030, Hovinbyen should not be turned into a tabula rasa: this complex area, that shows rapid patterns of change in land-occupation, deserves effective interventions that will take into account both regional and local dynamics, while preserving the qualities that turn its diversity into an asset. Modification, in opposition to

erasure, is also a form of care, of belonging, of recognition of the specific topography, climate, and history of Hovinbyen.

In this portion of the city of Oslo there are multiple souls. Bjerke, Sinsen, Loren, Lille Tøyen, Ensjø, Helsfyr, Etterstad, Bryn, Breivoll, Haraldrud, Vollebekk, Risløkka, Refstad, Økern, Hasle, Ulven, Teisen, Valle Hovin: the area of Hovinbyen is made of a multiplicity of neighborhoods, with different degrees of development, different histories and challenges to face. Its location, at the same time close to the historic center and gate towards two airports and main infrastructures, makes it desirable for a variety of potentially clashing programs, such as housing, shopping centers, logistics and large transportation hubs. This condition sets the regeneration of Hovinbyen as a fascinating yet complex goal that deserves careful consideration at the different territorial scales and administrative levels.

A balanced articulation is indeed fundamental for the quality of the urban space in Hovinbyen: public spaces should have a proper degree of qualification, an intrinsic legibility in order to compose a larger scale narrative. A subtle equilibrium should be reached between interaction and separation of urban programs. Contemporary peripheries often suffer from an excess of separation of programs and an excess of concentration that leads to out-of-scale dimensions, either of housing or of leisure districts. These factors should be carefully controlled during the regeneration of Hovinbyen, while guaranteeing and empowering infrastructural and immaterial connections both with the historic center and the wider region of Oslo.

The coexistence of a multitude of different programs in the same area might lead to the formation of internal peripheries, causing a mismatch between needs and desires of the citizens and the offer of private and public services. Potential incongruities between the location of social services and the location of their users should be addressed by precisely locating a series of facilities, both temporary and long-term ones, that will act either as "smoothers", untangling problematic nodes, or as "magnets", creating desired density of activities where needed.

The first crucial move has been defining a project of the ground: while buildings and programs are interested by rapidly changing conditions and plans for smaller or larger transformations that cannot always be easily controlled or foreseen given also the multiplicity of actors involved, ground represents a factor of positive inertia, an anchor in times of hectic development. This is in fact the space, the surface shared by people and vehicles, buildings and infrastructures, that cannot be considered just in terms of rules and standards. It should aspire to

Foresturbia. A new map of understanding: the ground project, 2015.
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(Angela Gigliotti and Fabio Gigone).

become the representation, the embodiment of inclusive social policies, wise lifestyles and "home" to sustainable buildings and leisure facilities.

A PROJECT OF THE GROUND

A site-assessment showed how the infrastructural system of Hovinbyen represents its most problematic condition. It constitutes a physical, psychological, practical and informational barrier. The area is in fact crossed, on the one side, by major roads and railway lines, by strategic facilities as the Brobekk incinerator that generate considerably heavy traffic, and will be further innervated by new bus lines, by a subway Økern – Breivoll station in Haraldrud/Ulven and also by a train station in Breivoll.

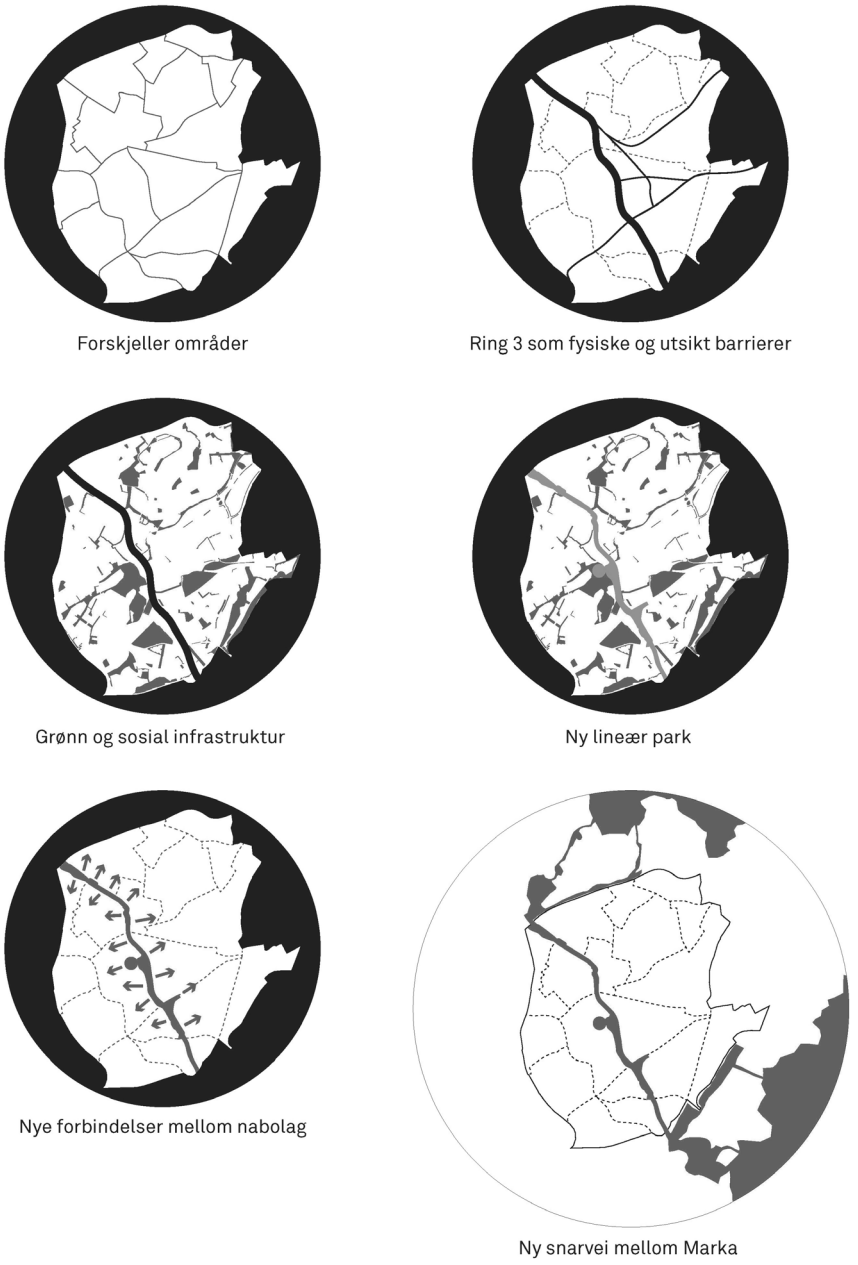
On the other, the low-speed infrastructures (e.g. local roads, bike lanes and pedestrian routes) in the area have been fragmented by its uncontrolled growth. What is left then is a scattered pattern composed by housing blocks, industrial warehouses, townhouses, logistics hubs, shopping malls, the Vålerenga stadium, an ice skating facility, the Økern center, among others. When assessing the land-value of such a pattern, as in many contemporary cities, there are "soft" areas relatively economically accessible and "hard" areas, where the current economic interests are highly concentrated.

The project reclaims a set of actions in several intermediate areas as well as in the gaps of the current urban pattern, aiming to provide a larger frame in which the heterogeneous fragments can successfully coexist. In order to improve the quality of life in the area the system of highways that bisect in two directions Hovinbyen should be rethought.

While the almost west-east axis connecting the city center to the Oslo airport remains relatively untouched, the section of the Ring 3 – since it crosses from north to south Hovinbyen – needs to be remodeled. The proposal connected the section at stake to the Ring 3 tunnel just north of the area, thus extending an already existing infrastructure.

This move could remove the strongest barrier between the western and eastern parts, while liberating a considerable strip of land that would constitute the backbone for the soft (bike and pedestrian) mobility in the area. More than this, it would turn what are today small and disconnected forgotten leftovers of land and the park of Valle Hovin into elements of a responsive linear park[1], crossing from north to south Hovinbyen, connecting the tracks and the forests of the northern and southern hills.

Foresturbia. The new linear park: the connection with the forests, 2015.



A SET OF PRECISE MOVES

This new responsive linear park would become an attractor for urban development, while guaranteeing continuity both in terms of ecological corridors and safety and efficiency of bike and walking paths. The effort in economic terms would be relevant, but the renowned trend and experience developed in Norway in the construction of tunnels, as well the many positive consequences for citizens would make it reasonable in the long run, allowing desirable qualities and opportunities for a life in a landscaped city.

About the responsiveness of the linear park, the intention was to design a continuous system able to adapt to the specific climatic, social and topographic conditions: each section would respond to its context, changing materials and sensorial qualities. The park would start in the northern section immediately south from Muselunden park, planting trees to redefine the spaces between the highway junction. In correspondence with the Sinsen section and its predominant housing pattern, it would become a refined system of circular flowerbeds. The following part would be paved with a harder surface that would let emerge irregular vegetation islands, while the section in relation with the new Økern Centre and the Hovinparken nearby would be strongly urban in character, with outdoor furniture loosely distributed to serve the users. This urban segment would be followed by a savage one, a kind of wild forest among rough warehouses. A dense birch (*Betula pubescens and Betula pendula*) forest providing alternative conditions of size, distance and time. A territory of the unconscious, of escapes and dreams, encouraging the visitor to look at the sky, while making him/her aware of the ground. This would be one of the wild reservoirs of Hovinbyen, breathing sanctuaries for ideas, spaces for physical and intellectual maneuver potentially providing an array of answers for unforeseen questions. In the subsequent Valle Hovin part, the park would expand in order to ideally and physically include the existing leisure area. Here the system of sports playgrounds would be redefined, in connection with the Valhall Arena and the Vålerenga stadium and ice-skating facility. The Hovinkollen, a new and unexpected artificial hill, would further enrich this central part of the linear park, reusing the excavation soils. The following section, in Teisen, just south of the E6 highway, would be dedicated to urban horticulture gardens, cultivated by the residents of the area, while the Bryn part would take the form of a tree-lined boulevard that would represent the counterpart to the planned park in Breivoll. The linear park would then pass over the last infrastructural barrier of the railway tracks in the form of a vegetated bridge, and finally be concluded in the southern end in the same way as it started at the northern one, through a densification of the green mass by planting trees, connecting with the Østensjø park and the trails, lakes and forests just west from it.

A PLURALITY OF RHYTHMS AND ACTIVITIES

Hovinbyen has today a double face: on the one side, a calm residential neighborhood with fragmented green areas, related to a local dimension; on the other, a pervasive system of infrastructures that relate it to a wider context, to which all the warehouses and productive and commercial facilities are connected. These two faces undoubtedly create several problems and tensions, and a choice has already been made in the past years with a number of neighborhood transformations where warehouse districts are going to be replaced by new housing developments and parks. In coherence with this trend, it has been proposed to relocate warehouses profiting from the suggested underground section of the Ring 3. This move could, on the one side, transform the freed surface in a continuous linear park, while, on the other, it could host logistics and storage facilities as underground rooms, connected to the Ring 3 itself. This would allow Hovinbyen to improve the quality of life while not giving away the beneficial economic income coming from the storage activities. A double gain would be reached: keeping the goods in a strategic location close to the city center, while not consuming further land in the outskirts of Oslo to build new warehouses that would substitute the ones located in Hovinbyen today.

A plurality of rhythms: a successful and pleasant urban environment is largely dependent on a multiplicity of choices available in a relatively limited space and time. This is the goal that should be reached with the transformation and densification of Hovinbyen; to allow all the citizens, from children to the elderly people, to find their own comfortable rhythm in the city, related to different forms of mobility, different intensities of activities, various dwelling typologies and interests in leisure time. Several different interventions related to the built and open space should be coordinated and organized as an integrated system, of which the network of existing and planned parks, as the new linear park on the current site of the Ring 3, will constitute the backbone and most powerful element.

Urban tourism should be strongly supported, and there can be no tourism without attractive landmarks, landscapes or activities. The Hovinkollen, a new artificial hill built with the excavation materials coming from the realization of the new

Foresturbia. The new linear park: comparative scheme with the existing city parks, 2015.
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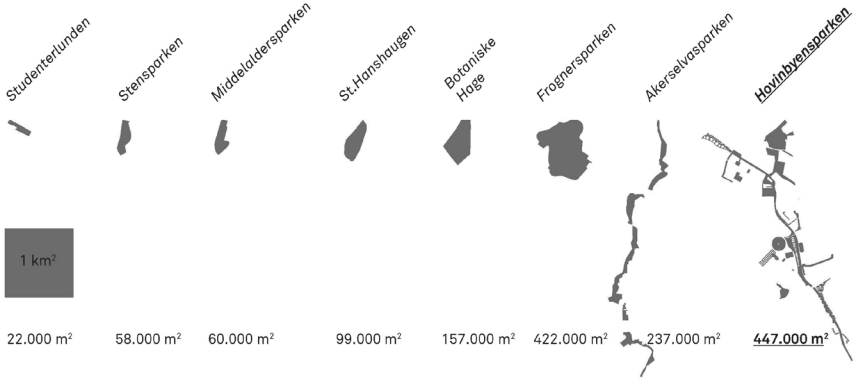

underground section of the Ring 3 in Hovinbyen, would at the same time satisfy all these demands. It would become a powerful landmark in the relatively flat topography of the district, establishing a dialogue with the surrounding landscape of the region, made mainly of vegetated hills innervated by a network of trails. A set of possible activities could be hosted by the Hovinkollen both in the summer and winter seasons, from sunbathing to going sledging, from climbing on foot or on bike on the spiral path to watching the panorama of Oslo and its bay from the top of the hill.

A MANUAL FOR A LANDSCAPED CITY

While the project is focused deliberately on the ground, a more comprehensive strategy has been adopted. In fact, a key outcome of *Foresturbia* is a publication meant as a tool complementary to the design proposal itself. Its form or appearance does not match with the one of an ordinary book, but it is closer in proportions and size to a guide-book, which must be consulted under very different conditions. Each page spread is defined as a cluster of instructions organized in correspondence with a detailed visual layout, in which both words and illustrations work together towards clarifying the complexity of the result. This publication is obviously not the first in its kind. On the contrary, its theoretical and methodological framework echo two other contemporary ones that engaged with a similar approach: *Urban Code: 100 Lessons for Understanding the City* (A. Mikoleit, M. Puerckhauer, 2001) and the *Manual of Decolonization* (Salottobuono, 2010). In particular, *Urban Code* proved to be a useful reference in breaking down intricate spatial behaviors and phenomena in immediately readable "lessons", declined especially through textual means. The *Manual of Decolonization*, on the other side, showed a similar approach towards the deconstruction of complex conditions relying mainly on visual means. The *Foresturbia* publication contains a mixture of the two, with points and strategies explained through titles, short texts and a synthetic drawing.

Contents are split into sections, clustered, introduced one by one, in order to augment their readability and understanding. Drawings are the primary means of communication. In order to privilege the flow of information rather than its simultaneity, single drawings build narrative sequences. They are computable, their measures are properly scaled, while the use of axonometry gives crucial means of representation. Text, drafted both in Norwegian and English, constitutes a complementary layer to the graphic one, a necessary "second language" of the manual,

Foresturbia. Hovinkollen: a new perspective, 2015.
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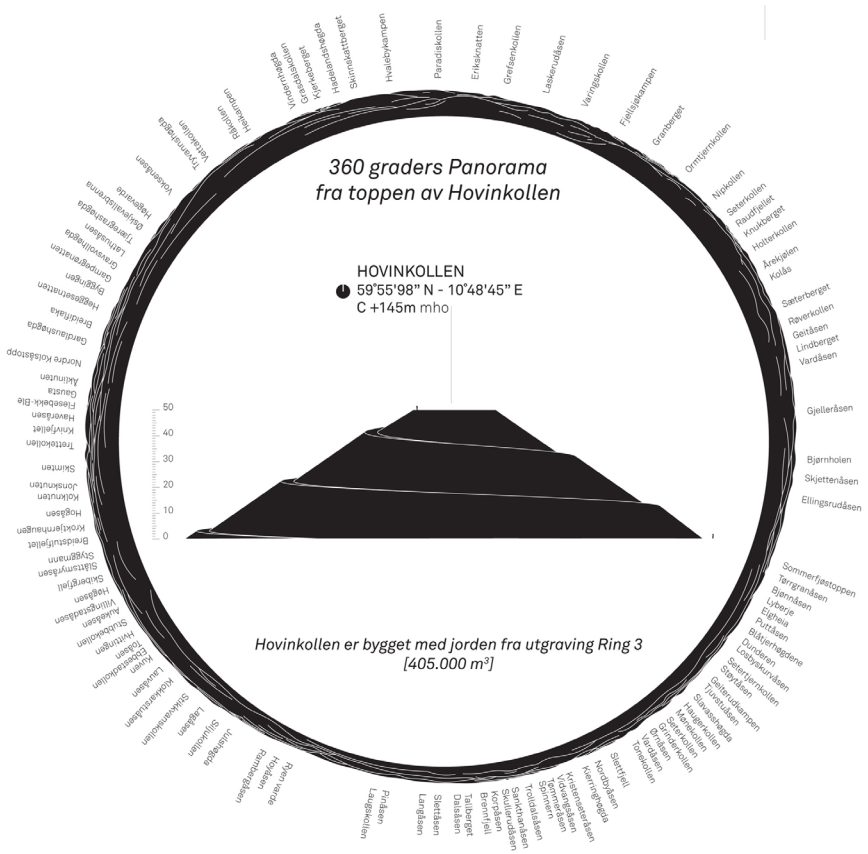

acquiring a wide range of roles. Besides conventional columns, it works as a caption, as a subtitle, as a corollary or as an instrument for further analysis.

The position of the various elements within the page determines the hierarchical organization of the arguments. Regarding the contents, *Foresturbia* engages with the environment, introducing many considerations addressing sustainability through a collection of fifty strategies divided into five scales: territorial (morphology of the specific location); city (relations between neighborhoods); neighborhood (identity seeking, connections, ecologies); community (proximity); domestic (single citizens and private households).

CONCLUSIONS

To conclude, *Foresturbia* borrowed the form of the manual as a tool of knowledge and dissemination from other fields, such as the ones of instructions and engineering. The idea of a manual is in fact commonly related to the notion of standardization, or better to the communication of a certain normative of standard rules. When a set of operations or practices acquires a reliability which causes its repeatability in time under the same terms, it can be codified into a standard. At this stage, the manual appears as the best tool for securing transmissibility and for spreading knowledge about sustainable moves in an urban and landscape setting. It has the aim of enabling the final user to have a complete and fulfilling experience of otherwise very sectoral knowledge. The whole community (i.e. citizens of all ages, private investors, municipalities and professionals) has been addressed, putting it at the center of the foreseen transformation process.

On the one hand, users have been involved in the design phase in order to build up a manual able to support them in what they care more about: their life, the future development led by new generations educated as citizens and part of a specific society. On the other hand, thanks to its easily understandable drawings and captions, the manual could be used in several contexts in order to define a shared knowledge. To be approached and understood, it requires neither customization nor any specific previous training. The drawings and texts make it easy to understand both to young people and adults, allowing several layers of comprehension with the aim of making a more inclusive society. It is thus a precious support, a tool for encouraging and spreading collectively shared knowledge about sustainable living.

As previously mentioned, this is a project born from a collaboration with several researchers and experts where sustaina-

Foresturbia. A multi-scalar approach, 2015.
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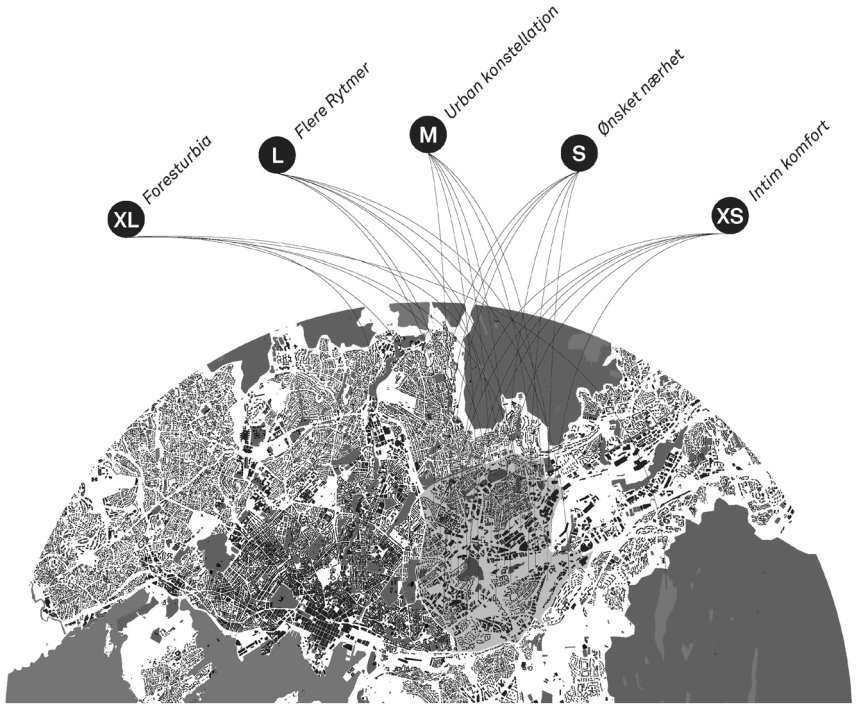

bility is seen from a multidisciplinary point of view. The outcome is not just a design proposal but also a manual that contains a wide array of urban strategies combined with technological solutions that should be considered by all decision makers, designers and citizens that will face the development of Oslo and also of other cities in the Nordic region.

Foresturbia. Concept for the manual, 2015.
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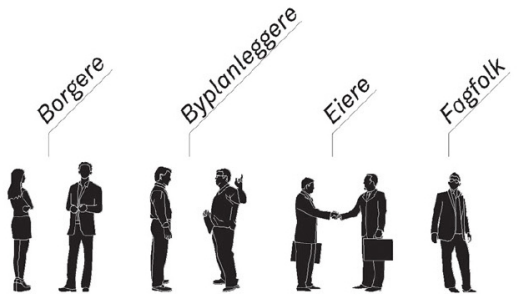
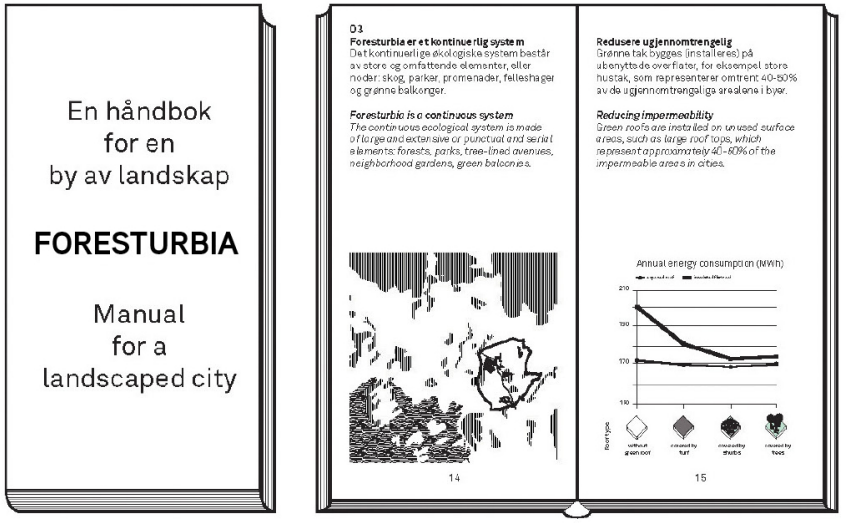




This essay is the result of the collaboration between the authors who share its contents and general approach. Specifically, the paragraphs "Introduction," "A vision for Hovinbyen" and "A plurality of rhythms and activities" were written by Ludovico Centis, based on the research developed in the frame of the PhD in Urbanism he obtained at Università IUAV di Venezia (2013-2017). The paragraphs "The context," "A project of the ground" and "A manual for a landscaped city" by Angela Gigliotti, based on the predoctoral research project grant "OAFs fellow for videreutdanning" (2015-2016) awarded by the Oslo Association of Architects, Norway. The paragraphs "Research," "A set of precise moves" and "Conclusion" by Fabio Gigone, based on the research project developed under his Associate Professorship at Norwegian University of Life Sciences NMBU, Ås, Norway (2015-2018).

See for instance the experiences developed in the last decade in Swedish cities such as Kiruna and Stockholm: A. Malkawi et al. (eds.), *Sustainability in Scandinavia: Architectural Design and Planning,* Edition Axel Menges, Stuttgart; London 2018, pp. 154-173.

B. MacKaye, *The New Exploration: A Philosophy of Regional Planning*, University of Illinois Press, Champaign, Illinois 1962, p. 153.

In 2020, the European Union had an export surplus against Norway of 6 billion euro, but only a year later, in 2021, it was Norway that counted a surplus in export towards the European Union of 18 billion euro. https://oec.world/en/profile/country/nor, accessed December 2022.

We want to acknowledge the contribution of Eng. Ginevra Alessandra Perelli (Energy and Environmental Engineering); Eng. Stefano Bolettieri (Traffic and Transportation Engineering); Arch. Lisa Lavatelli and Dr. William Kempton (Norwegian History, Language and Society); Landscape Arch. Ylenia Arca (Photography); Martina Motta and Dr. Aleksa Korolija (Graphic Design).

An interesting precedent in this regard for the city of Oslo, which also included the area of Hovinbyen, can be found in the study titled "One Hundred Thousand" developed by the Japanese office SANAA in 2000. See SANAA, *Kazuyo Sejima + Ryue Nishizawa/SANAA: Works 1995-2003*, TOTO, Tokyo 2003, pp. 118-135.

V. Gregotti, *Modificazione*, in "Casabella", 498-499, 1984, pp. 2-7.

B. Secchi, *Progetto di suolo*, in "Casabella", 520-521, 1986, pp. 9-23.

The reference is to those linear parks that have dramatically raised the appeal of large metropolitan areas, such as the Highline in New York City, the system of Green Streets in Portland and the Rose Fitzgerald Greenway in Boston.

The manual has already been publicly presented for the *Unge Talenter Award* in Oslo (October 2015) in which the manual was shortlisted; in the R.E.D.S. conference *Flowing Knowledge* in Trento (January 2016); in the *Landscape and Life* conference in Lisbon (May 2017); in the *NAF Annual Conference* in Oslo (June 2017) and lastly at the Oslo Architecture Triennale Degrowth (2019). A more in-depth description of the manual is available in: L. Centis, A. Gigliotti, F. Gigone, Foresturbia: *a Manual for a Landscaped City*, in S. Favargiotti, S. Staniscia (eds.), *Monograph.* RESEARCH. R.E.D.S. *03 Flowing Knowledge*, LIST LAB Internazionale Editoriale, Trento 2017, pp. 241-243.

UPSTATE ROME. A SUBURBAN ARCHIPELAGO

LINA MALFONA

Garden cities, campsites, temporary settlements, suburban communities, kibbutz. Today, suburban living can be seen as a nostalgic myth, a dystopia, or a realistic refuge from wars, climate change, and pandemics. From the rhetoric of the global village to the intrinsic values of neighborhood, suburban living fulfills the desire for a pristine environment in which to experience new alliances between human and sylvan realms. This essay tells about a built project for an archipelago of residences, designed by Malfona Petrini Architecture (MPA) long before the novel coronavirus appeared, when a number of families started to move away from Rome to the countryside of an unpredicted "upstate Rome". Considering the large number of people involved in this process, this voluntary relocation can be viewed as a social and economic phenomenon. Begun in the late 2000s, it was an anti-urban and therefore unexpected phenomenon, which foreshadowed what would have happened in the future, in our present. Over time, this archipelago – of people, pets, plants, homes, and technological gizmos – has become a forest, where it is no longer so possible to clearly distinguish architecture from nature.

Many families prefer to move straight to the countryside bypassing the outskirts of Rome. This leap out of the city is becoming one of the main troubles of the capital city that, no longer capable of taking care of its peripheries, is losing its last urban ring. These families exchange long home-work commutes for a range of advantages, in the suburbs indeed they live a lifestyle that, while comfortable, is also devoted to concentration and a kind of enlightened isolation based on total immersion in the landscape. They can even experience a sylvan life, so to speak, losing themselves into the small, mazelike, and sometimes unpaved roads in Formello, the small town in the countryside north of Rome where this project has been developed. Benefits gained by this relocation are not mere compensations for the distance from the urban center but are viewed, rather, as an antidote to the urban disease.

In the last fifteen years, many families moved full-time to the countryside, where they reinvented their own structure and living space according to new ecological paradigms. Also, due to recent economic instability, ongoing trends of emigration, and a declining birth rate that result in smaller families, the new inhabitants have opened their homes to other guests and experimented with new forms of coexistence. But if isolation from the city is synonymous with a voluntary rejection of an overwhelming urban lifestyle it also reinforces a kind of elitist culture. This two-sided nature of suburban living was the starting point for the design process, which focused around some main topics: *upstate*

Rome; archipelago; ritual places; domestication; *ultra-residential*; ecological paradigms.

Upstate Rome is a state of mind. It is a condition, not just a physical place. It is the Rome of commuters, who accept inconvenient traveling in exchange for a range of benefits, such as a house surrounded by a pleasant landscape, away from the city's pollution. These characteristics cannot but call to mind those commuter towns surrounding other metropolitan areas, especially the North American ones, where many well-off families prefer to make their dream come true in nearby suburbs rather than in the cities themselves. With mild sarcasm, *upstate* Rome is the analogous to the Upstate New York, and shows the sameness of suburban conditions, where isolation is the main issue: "This residential silence – Gianni Celati wrote in his book *Verso la force* – is completely different from that of the open space."

ARCHIPELAGO

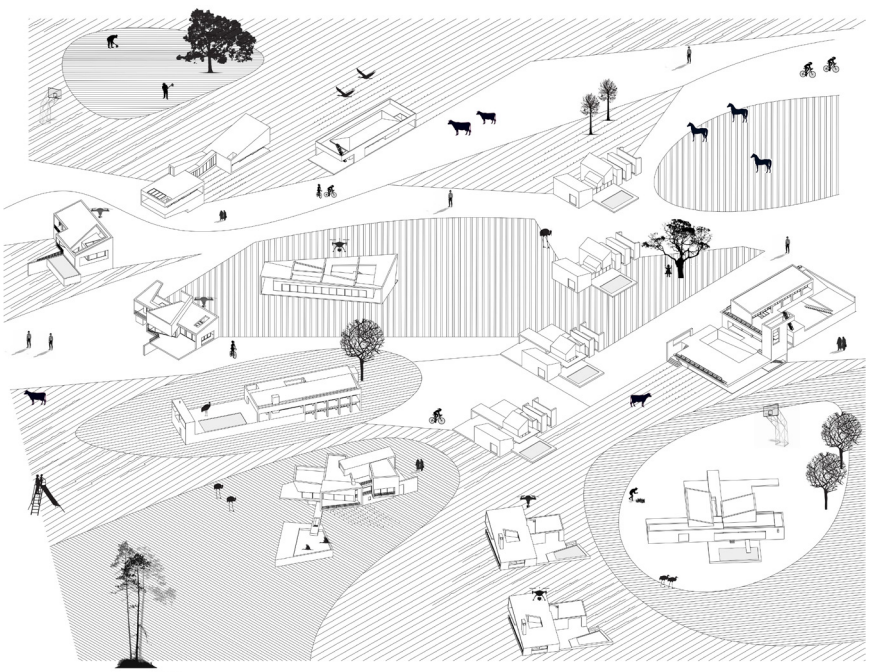
The archipelago adds a landscape attribute to the concept of living and defines an insular mode of settlement. It is made up of finite entities, with a semi-autonomous organization. The archipelago is characterized by an open urban form, which can be found in isolated but connected housing models, in dialogue with nature. Over time this form has been used as an urban metaphor[1], conveying the idyllic vision of a city whose neighborhoods are surrounded by greenery, as in Oswald Mathias Ungers' *The City in the City – Berlin: A Green Archipelago* (1977). The archipelago can be seen as a "system of solitudes" – as Nietzsche wrote about the islands of Venice – but it may also be explained as a collection, a "magic encyclopedia" which continually regenerates itself through the experimentation of new design typologies[2].

The term "collection" introduces an attribute of value, which is related to the piece selection and indirectly to the design process. In the process of building a constellation of houses in Formello, the archipelago emerged as one of the most appropriate design tools in order to overcome the separatist geography of the countryside. Over time, this archipelago has become a romantic and evocative "garden of wandering" for people who relocate fragments of their identity from one place to the other.

RITUAL PLACES

During the design process, historical traits of the Italian countryside have been hybridized with the new families' portable identities, made up of experiences, rituals, and social practic-

Lina Malfona, *Arcipelago*, 2018.



es, caused by migrations and exchanges. In addition, this territory shows a folkloristic vernacular, a sort of "*geometra* style", which refers to the building anarchy of spontaneous and abusive homes. According to the moviemaker Giacomo Gili, the "*geometra* style" shows a *joie de vivre*, expressed by the use of color, liveliness, bricolage as a construction technique, and typically Italian fun. Although architecture culture has not generally been concerned with this whimsical anarchy, it is possible to look at this phenomenon from an anthropological perspective, taking into account the work of Ed Ruscha (*Twentysix Gasoline Stations*, 1963), Hilla and Bernd Becher (*Industriebauten* 1830–1930), and especially Giuseppe Pagano (*Architettura Rurale Italiana*, 1936). These studies on vernacular landscape have shown how the construction of a language can take advantage of the specificity of places, with their distinctive figures, perhaps capturing their spontaneity and liveliness.

DOMESTICATION

In the suburbs home is ubiquitous. Shops and stores are located in buildings formerly designed to be homes. In order to create a domestic atmosphere, even those cafes and restaurants located in recycled warehouses are set up like homes. This "home style" which now prevails in shopping malls and collective facilities promotes the concept of "continuous interiors", which means making anonymous places domestic. Floors covered with false parquet and walls covered with false stone are used to "domesticate" these places, which are frequently completed by artificial plants and the flame from a bioethanol fireplace. The current practice of incorporating one's workplace into the home in addition to social life prompts reflections on the term "domestication", which comes from the Latin *domesticus*, meaning "belonging to the house". But domestication also means making tame what is wild, with a clear reference to the animal and vegetal world. Thus, the process of domestication started from the presumption of species superiority, from humans' willingness to adapt nature to their way of thinking and living, a position that today is rightly under attack.

ULTRA-RESIDENTIAL

In the suburbs the home is the place where people prefer to gather, the privileged place where conversations with neighbors, dinners and Sunday meetings take place. But the residential program alone does not satisfy the aspirations of those families who

recently chose to move to the suburbs. For this reason, each of the houses that MPA built in the countryside hosts associated, connected, incorporated, or complementary programs into the home, in addition to the residential one. Thanks to the double program, this archipelago of homes triggers an environmental transformation process, which reactivates the sleepy suburbs. The result is an open and expanding project, an archipelago of residences that includes a kindergarten, a home studio, and a home restaurant. This typological hybridization still needs to be explored in the countryside, where *ultra-residential* programs could provide further opportunities for mending the existing built fabric and social relationships.

ECOLOGICAL PARADIGMS

Houses in Formello are equipped with passive systems, such as solar greenhouses and ventilation chimneys, as well as technological systems, like underfloor heating, water recovery and purification plants, photovoltaic panels and solar thermal as energy supply. They are also provided by green roofs, a construction technology used to ensure optimal thermic insulation, with the end result that such buildings disappear completely when viewed from above. But living according to new ecological paradigms does not only mean equipping houses with innovative and environmentally sustainable technologies, or creating visual continuity between interior and exterior, solutions that are certainly desirable in any case. It also means creating a landscape inside the house. Some of these homes, for example, have become containers – or better nurseries – for particular species of plants, easily movable because arranged in pots or boxes placed on wheels. One such house, named *La Villa*, has even a plant shower placed right in the middle of the living room. However, this does not mean wanting to domesticate nature or place it inside a museum display case. It means taking care of the Earth and incorporating nature as a living being within one's life. The same can be said for animals, who are often the real recipients of architectural design, as very often the house not only provides a space for them but is rather designed with the integration of human and pet space in mind.

COUNTRYSIDE

The entire territory of Formello was originally agricultural land, parceled out and assigned by the Agency for the Colonization of the Tuscan-Latvian Maremma [Ente per la *Colonizzazione* del-

Malfona Petrini Architettura, *La Villa*.
Photo by Angelo Talia.

la Maremma Tosco-Laziale] to the land workers who submitted requests, as a consequence of the Agrarian Reform in 1950. This reform had profoundly changed the national property structure, extinguishing large estates [*latifondo*] and initiating *appoderation* practices. The epic construction of a series of rural buildings [*poderi*] began on the agricultural lots assigned by the Maremma Authority [Ente Maremma], with the migration of hundreds of workers coming to the capital city and its hinterland. But later on, these buildings came to be irregularly turned into residential buildings and legally remitted, following a long series of amnesties. Around 2000, rural land was converted into building land, so a ravenous race to build hundreds of isolated villas began, visibly altering the perception of the rural landscape, now largely lost. Today these new buildings – originated from speculative operations addressed by rapacious builders – have visibly altered the ancient landscape and the tradition of rural houses and *poderi*.

In order to carry out an updated, dynamic and transversal reading of this particular region of the Roman countryside, its spontaneous and largely abusive past cannot be overlooked.

However, the territory of Formello is also characterized by a large infrastructure project started in the Etruscan Age. This territory is crossed indeed by caves and tunnels, a complex system for the drainage and collection of water, linked to a set of wells for water supply. The Piranesian image of an underground world has been a design inspiration: burrowed through, vertically and horizontally, a land that is in large part made of tufa, and therefore spongy, malleable, and full of water. The wild imagery of the cave merges with that of the forest which the houses are embedded in, and peep out from. Finally, the house itself is thought of as a forest, broken by wells and clearings, where light filters in from above, as from the treetops.

FOREST (AND) ARCHITECTURE

The Roman suburban villa can be seen as both a space to enjoy country life and a place for intellectual pursuits. Pliny the Younger wrote of the villa as a place of quietness and intellectual well-being, extended into the landscape almost by germination, through its long arms, paths, pergolas and cryptoporticoes, somehow anticipating the typology of the house made up of pavilions. Pliny himself owned two suburban villas: the one located in the Apennines, *Villa in Tuscis*, and the other on the Tyrrhenian coast not far from Rome, the *Laurentinum*. Only Pliny's description and a few ruins of this latter villa remain, but many architects, including Karl Friedrich Schinkel, tried

Malfona Petrini Architettura, *Finestre sul fiume*. Model A. | Etruscan well.
Photos by Lina Malfona.

to make reconstruction drawings of this enigmatic residence, influenced by these descriptions.

The architect Léon Krier sketched out a very careful outline of this suburban villa, a residence intended as a "village" made up of a set of private and public buildings:

> This villa [...] is an ensemble of buildings which serve very diverse functions; sometimes strictly private, sometimes very public. [...] Through his text, Pliny encouraged me to conceive his villa as a great number of separate buildings. This village does not have to ward off pirates.[9]

Through these words, Krier highlighted the dual nature of the suburban villa, a protected world but also an open organism, a private and contemporary public residence, a control center as well as a hub to connect sprawling suburbs.

In 1804, Claude-Nicolas Ledoux published the first tome of his treaty, *L'architecture considérée sous le rapport de l'art, des moeurs et de la législation*, in which he included his drawings for the ideal city of Chaux (1773-1806). Around the Royal Saltworks of Chaux, a productive complex built in 1778, Ledoux designed a network of prototype residences and workshops located in the forest. The aim of these "fabriques" was to reform the habits of this region's "rude men", by promoting group living and fostering corporatism.

As Antoine Picon noticed, "in the work of Ledoux, architectural production began to be polarized in terms of services and habitation, with the traditional opposition between the monumental and the vernacular being subsumed within the public/private dyad"[7]. In this project, the home-workshops' aim was to exploit the productive countryside, and the forest in particular, as a geography of energy sources. Thus, these houses can be read contemporarily as private-collective places, countryside control towers, and environmental sentinels. Antoine Picon wrote that Ledoux's architecture "dominated the countryside, and surveyed it, as was borne out by the frequently repeated motif of the belvedere, the observatory or the mirador"[8].

These two *ultra-residential* projects highlight two opposite ways in which architecture relates to the natural landscape. In the first case, the landscape is a familiar, unintimidating environment that can be occupied by residential pavilions; in fact, Pliny's house with its pergolas and porches stretches pleasantly into this landscape, becoming a forest itself. In the second case, the landscape is a dark forest, an ecosystem to be preserved but also to be protected from. In this case, Ledoux's residences become domination devices, which while controlling the landscape also display their otherness.

Abbot Marc-Antoine Laugier, in his book *Essai sur l'Architecture* (1753) developed the theory of the city as a forest, derived not from the organic fluidity of nature but from the relational geometries of Le Nôtre's parks, a model that contrasted sharply with Giovanni Battista Piranesi's city by fragments. More recently, the curator and art critic Nicolas Bourriaud claims that today any artwork is a relational object, not only a product but essentially a process. It is intended as a cooperative system, as the place of negotiations, ties and coexistence with countless interlocutors.

The concept of "relational aesthetics", understood in a social, landscape and urban sense, allowed me to conceive of the house as the place where users can live alone but at the same time feel part of a whole universe, the "residential pavilion" where "collective individuality" is formed. Since 2008, my colleagues and I have been designing and building a forest of homes, located a short distance from each other in Formello, a small town north of Rome. If it is true that the powers-that-be tolerate the presence of art only in the peripheral, marginal areas of the system, since it does not represent a direct threat here, then the peripheral can unexpectedly reveal itself as a privileged condition, one in which it is possible to enjoy a certain autonomy of thought[1].

The current state of this project is a collection of more than twenty architectures, which contribute to defining an adaptive, relational and multifaceted organism, one might say a resilient community without common roots and open to welcoming new components. It is an architectural as well as a social and landscape experiment, a continuous workshop open to students, manufacturers and users, which fosters unusual and creative ties.

Over time, it became clear that the use of a specific architectural language has made these homes similar and that the same style has played a decisive role in developing a feeling of belonging, in addition to simple coexistence.As an author, what appeared as an unexpected but considerable discovery to me was that an individual syntax may be able to shape a collective sense of community. But today authorship is inappropriately considered as authoritarian while, on the contrary, it implies civic responsibility and stimulates the creation of a strong synergy between author and users, a relationship in which the role of the architect cannot be secondary. By authorship I mean the crystallization of the designer's political and social action in architectural form, an effort that allows the author's hand to be glimpsed. The act of planting trees and designing buildings is similar to the act of creating a collection, and analogously to the collector and the curator's eye, the architect's hand needs to be read only in filigree.

The shift of creative tension from the production of objects to the making of communities – read as adaptive and resilient environments – made it possible to better understand how research on architectural form can induce new models of sociality and new forms of coexistence. These first considerations lead to a tentative definition of architecture as the art of creating innovative and useful forms which, on the one hand, create intimacy and on the other stimulate sociality.

ECOLOGY AS FORMATION

In the process of designing and building an archipelago, the concept of form has been absorbed by that of formation, which explains how this constellation of houses has grown over time in symbiosis with the landscape. The concept of formation allows us to understand the creative processes as subjected to continuous variations and evolutions. Therefore, we developed these houses as formations rather than complete forms, generators of space rather than containers. They are samples of a design practice that uses architecture to stimulate new settlement matrices and new forms of life.

Today, a Copernican-like revolution is undermining anthropocentrism, leading humanity to establish new alliances with the nonhuman, and to build new spaces common to different realms. According to philosopher Timothy Morton, there is a need to return to the enchanted world that preceded the disenchantment wrought by Galileo and Newton, and ecological thinking can become the engine of this change. Such thinking, supported by OOO (Object-Oriented Ontology), a kind of renewed animism, brings to the surface the mystery and magic of reality, attributes that the dominant, techno-scientific thinking had long suppressed or ignored. An ecological society is not a society of control but will rather be a society that is "a tad improvised, unhinged, limp, twisted, sardonic"[11], writes Morton, who in one of his recent books criticizes the Anthropocene by quoting Sophocles' Antigone: "many things are terrible but nothing is more terrible than man". For better or for worse, new artistic practices and creative processes are emerging today, animated by an ecological consciousness that induces thinking by phases, across multiple time scales, and elaborating projects with increasingly blurred and unfinished boundaries, in the direction of overcoming the fixity of dogma and prejudice. Ecological thinking and its correlationist vocation induces to overcome finitude and the fracture that divides different realms, in order to attenuate the centrality of the human species.

Malfona Petrini Architettura, *Finestre sul fiume* (foreground), *La casa sul bosco* (background). Photo by Fabio Bascetta.

Malfona Petrini Architettura, *La Villa*, detail.
Photo by Angelo Talia.

Environmental issues formed the backbone of the design for a constellation of houses in the Roman countryside. These suburban houses – sometimes productive houses, more often residential pavilions – have embodied the theme of the forest, equipping their outdoor space with masking vegetation wings or areas inside the property left wild, as they are impossible to maintain, given their extension. Some of these residences developed connections with other conterminous houses, as in the case of the project for the three homes *Finestre sul fiume*, where the hedges that make up the fence have, by design, a zigzag pattern that makes possible secret passages, leading from one house to another; finally, the forest has become a metaphor for the whole process of formation of this archipelago. Designing a suburban house according to an ecological paradigm is not rhetorical, nor redundant, nor fanatical. Rather, it means that sooner or later nature will reclaim its space, that is, the space that was taken away during the excavation and construction of the house. In this sense, the house is understood as a portion of the forest that will be returned over time. As early as ten years after the construction of these houses, the image of the forest visually overlapped with that of the house, which originally was in a dominant position.

CONCLUSIONS

The suburban villa is the most complex form of individual living but also the one that typically is less regulated. After the construction of the first houses and as soon as the idea of an archipelago started to emerge, I found it necessary to combine the practice of taking roots with the experience of moving across, for this reason I have designed buildings that protect but allow you to look far ahead. Initially, houses were characterized by a central core and an envelope; the coexistence of both represents the relationship between intimacy and sociality. Thereafter, it followed a progression in the relationship between typology and topology, between artisan practices and necessary standardization, between local cultures and global expression. Between nature and artifice, this single-family house started to mirror the geography of suburbs: open to the landscape on the one hand, protected and self-sufficient like an island on the other.

If the archipelago is an expression of reciprocal relations, the villa, like the island, reveals a search for autonomy. Each of the villas that make up this suburban constellation, surrounded by a large green area, is inserted in a low-density fabric. These autonomous and self-sufficient slivers are intercalated in a fragmented and dispersed territory, to whom the new islands – which

Malfona Petrini Architettura, *La casa sul bosco*, detail.
Photo by Fabio Bascetta.

are instead rigorously designed – propose an alternative settlement strategy. As evidence to both their design rationale and sensibility, over time they became "pockets of optimal climatic and ecological conditions that allowed their inhabitants enough comfort to co-exist"[18].

To summarize, this constellation of houses, which developed from a series of independent design opportunities, over time became an archipelago of residences. The archipelago as a landscape, territorial, and urban figure has emerged as one of the most appropriate design tools: an open, adaptive strategy to build suburban communities endowed with urban values, which is to say, urbanity without urbanism.

Malfona Petrini Architettura, *La casa sul bosco*.
Photo by Fabio Bascetta.

See M. Cacciari, *L'arcipelago*, Adelphi, Milano 1997; V. Quilici, *Roma capitale senza centro*, Officina Edizioni, Roma 2007.

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FOREST, UTOPIA, MODERNISM

III

ARCHITECTURE AND NATURE. ON THE ORIGIN AND CONVERTIBILITY OF ARCHITECTURE

WERNER OECHSLIN

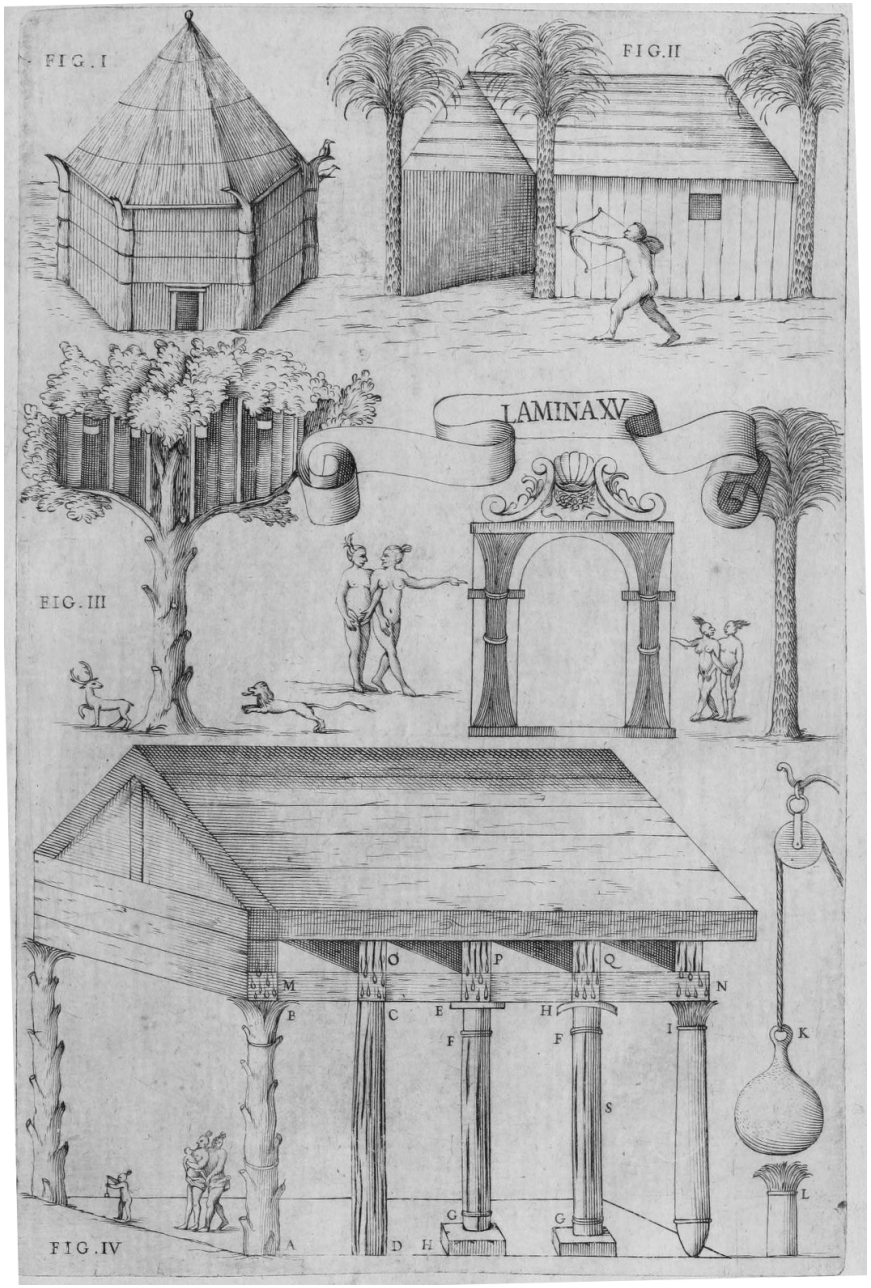
If there is one term that lends itself better than any other to an almost universal confrontation with the artifact architecture, it is that of nature: nature as creation and hence as a model for any creative process, the work of the divine creator or of the demiurge; nature as omnipresent physical reality and hence the sole reference for any attempt at imitation; nature finally -in more illuministic terms- as preconized system and order, system of the universe, to reproduce in the quest for homo sapiens[1]!

The great encyclopaedia of Diderot and d'Alembert, aware of the great influence exercised by the concept of nature on the arts, brought together a majority of discussions and ideas associated with these in its list of the various meanings of the word. Aside from the associated definitions with judicial, moral or mythological connotations, the term is introduced as a philosophical concept, that ranges from the "systeme de l'univers" to the "essence d'une chose", from the "ordre nature"! to the "action de la providence". As for the application of the term to the arts, a distinction is made between "nature" and "la belle nature", by which is intended the sophisticated and composed effect of those who are no longer satisfied with simple nature and replace it with a "choix des plus belles parties de la nature, pour en former un tout exquis". But the variety of its transformations seems already assured in the very definition of the word nature. At first nature is understood in the more narrow sense of "cause active," associated with the "sagesse meme de l'auteur de la nature" and thus to the "plus grande perfection", from which one infers the necessity for the artist to take his inspiration and "stimulation" from nature. But then, starting out from the definition of nature "comme effet", it allows jtself almost a show of licentiousness, observing: "Elle (la nature) est le magasin toujours ouvert, d'ou l'artiste tire Jes ob jets qu'il veut rapporter a ses vues"[2].

This brief *excursus* into the Encyclopaedia spares us an investigation into what is a long history of philosophy which will never be able not to take the concept of nature seriously, but above all it shows us from the beginning that what counts is not so much the universality of nature as such, but its availability; to which same conclusion come the Encyclopaedia as well. When man does not find what he is seeking, his "génie" comes to his aid to invent new things: "... s'il ne rencontre pas tout de sutte dans la nature ce qui lui serait necessaire, des objets imaginaires qui se rapportent à son but". Nature here no longer seems to be an absolute dictator but is on the contrary stripped of its belongings. And as a consequence the Encyclopaedia will say that whoever is best prepared with a knowledge of things will be their better imitator.

It may be supposed that from the moment that nature

Invention of Pillars and Orders and the Natural Architecture of "Primitive" Peoples. From Caramuel, *Architectura Recta y Obliqua*, Vigevano, 1678.



entered into the discussion of art, the centre of interest shifted from a simple affirmation or even admiration of the various possibilities for the exploitation of its effects. In the end nature and art compete for their position in the world, each accusing the other of being limited in its possibilities. This "struggle" is followed by the young Daniele Barbaro, later the most, often quoted interpreter of Vitruvius, who while still a student at Padua writes his dialogue of eloquence, published by Ruscelli in Venice in 1557 and dedicated to the "Signori Accademici Costanti di Vicenza". The interlocutors are "Art, Nature and the Soul". It begins as follows:

> *Art*: it would be much to my taste o Nature, to hold a discussion with you, but only if the act of debate is suitable to your state.
>
> *Nature:* Debate is a thing of yours o Art, my daughter. But if it is my part to instruct you, I would say for now that between your understanding and mine, no difference exists, whatever may be the motive for your wish to debate with me.
>
> *Art:* I at least desire such an opportunity.
>
> *Nature:* Vain, and harmful is your desire, both because I am never idle and because you must always embrace the good no less than seek the truth of things.
>
> *Art:* Nothing avails me more, than the good, nor delights me more than the true.
>
> *Nature:* In this at least you resemble me, that wherever I find myself, I am the true, and the good of all things.
>
> *Art:* Yes, but you go blindly away, and I so love each one, that I act with deliberate counsel and end in view, and I know that I do good.
>
> *Nature:* And yet it is manifest to me, that your greatness is to conceal yourself as much as you can, and to come near to me.
>
> *Art:* This is so, but it happens because you came into the world before me, and men became accustomed to your pleasures long before I was born there, and this my imitation does not in any way increase your dignity. Since neither is the humble beast the ant more worthy, nor man less honoured because the one imitates the other, in summer providing for the winter. My industry, o Nature, makes greater your poor heritage.⇓

Nature and art, while finding themelves in agreement on the principal facts, do nothing but contend for the upper hand: Nature knows how much Art is dependent on her, and Art shows pride in the freedom she has gained. Art calls Nature "blind" and boasts of increasing her "poor heritage". The dialogue goes on in this manner. And so the interlocutors reach the point of describ-

ing their external appearance. Nature discovers in Art "something of the solemn in her appearance, in her movement and in her dress", and admits a "certain tenderness of weeping," from which Art concludes: "this is a sign, that you love, and revere me". Likewise the latter allows herself to observe that she has something "of the divine" in her eyes. Art appears so sublime with an aquiline nose, a broad chest, ,wide shoulders, long arms, palms and fingers. While Nature admits: "I am simpler than you, and more open as you see". And When Art exclaims: "You make me laugh with so many breasts", Nature replies: "How many then should I have, being mother of all things?"⋔

Although art seems to have been liberated from its primary circumstances, although it can - as occurs in almost all the literature of art - boast of excelling nature itself, the latter remains the mother of all things, is preexistent (even if only simply in terms of its prior physical presence) and remains undisputed in as much as it is the real background against which the innovations and the artifices are formed. In this affirmation, frequently repeated by Barbaro, we find also the argument by which art and more especially architecture is always returned to in order to discuss their origins and descent from nature, almost as if to make more explicit the differences and the ways in which they are removed from it ⅂.

A metalanguage has been set up, that deals with their relationship, personalized as that of mother and daughter by Barbaro, and that describes the depth of their interdependency, subject again to the renewed conceptions of nature itself, whether philosophical or scientific-geological ones. Each vision of nature will bring new clements to legitimize its daughter "art".

This reciprocality will find its own independent philosophical ground. The view of the interchangability of nature and architecture has been given a suitable "philosophy of nature". Just as mathematics can make perfect the sciences, architecture - similar in many respects to mathematics as Barbaro for example tended to stress – seemed able to symbolize like nothing else the systematic value of creation, "le système de la nature". Right up to modern times the term "Architetonik" has conveyed to philosophers the quality of a well-founded system. In his *De Polymathia Tractatio* (1603), Johannes à Wower runs over the history of philosophy, starting out from the Aristotelian definition of the "principes seientiae" as "architektonikai" in order to deduce the superiority of architecture over all the other arts. ⊦ From the ''philosophia disciplinarum architektonik" he arrives al the '"Architektonikè' & princeps Philosophia, artium mater" that embraces all the arts ("omnes artes tanquam satellites")

The Vitruvian Legend of Callimachus and the Inventrion of the Corinthian Capital. From Dieussart, *"Theatrum Architecturae Civilis"*, 1979.

with its universal criterion ("universali vinculo"). In the 18th century, inspired by Locke, Johann Heinrich Lambert[*] developed his "Anlage zur Architectonic, oder Theorie des Ersten und des Einfachen in der philosophischen und mathematischen Erkenntniss" (1771), and ten years later, Immanuel Kant gave the following definition in a chapter of his Kritik der reinen Vernunft entitled "Die architektonik der reinen Vernunft"[‖]: "lch verstehe unter einer Architektonik die Kunst der Systeme. Weil die systematische Einheit das jenige ist, was gemeine Erkenntnis allerest zur Wissenschaft, d.i. aus einem blossen Aggregat derselben ein System macht, so ist Architektonik die Lehre des Scientifischen in unserer Erkenntnis uberhaupt, und sie gehört also notwendig zur Methodenlehre".

This concept has been passed down - through Charles S. Pierce for example - to the present day[⅄]. Architectonicity (to use a somewhat forced neologism) has become a synonym for system, for something ordered, as was only to be expected from its very nature: "Ordinem dico, sine quo Natura constare non potest" - to use Scaliger's formula - and again "Ordo divina res in Natura"[⅄⅄].

It is therefore obvious that we will have something to do with these philosophical concepts, especially in their universal aspect. Architecture - ideally conceived and imagined - will also serve to illustrate these features, and will even serve to suggest by means of numerous models of the convertibility of nature and architecture a foundation "inre", the real dependence of one on the other and vice versa.

But it is obvious too that what its images project will often return to the concrete vision of historic events, perhaps in order to combine what Giovanni Battista Giraldi separates in his *Discorsi* (1554): "The Poet aims at the nature of the thing, which is wholly on a universal level, but the historian has only to write of the particular event"[⅄⅄].

An almost ideal combination of the universal and universalistic discourse with a concrete subject as illustration is offered by that sector of art theory that idealizes its own origin in fables and mythical tales. In Barbaro's dialogue quoted above Arts says to Nature, "you came into the world before me".

And thus art was left with the job of deriving its own principles from nature. Just as in other fields of culture and human works, so too in architecture "the inventions" were often associated with some element of ancient history, from the biblical or the classical age.

Thus the "invention" of a form as sophisticated and highly developed as the Corinthian column is transformed in the metamorphosis brought about by its very nature. This is the story of

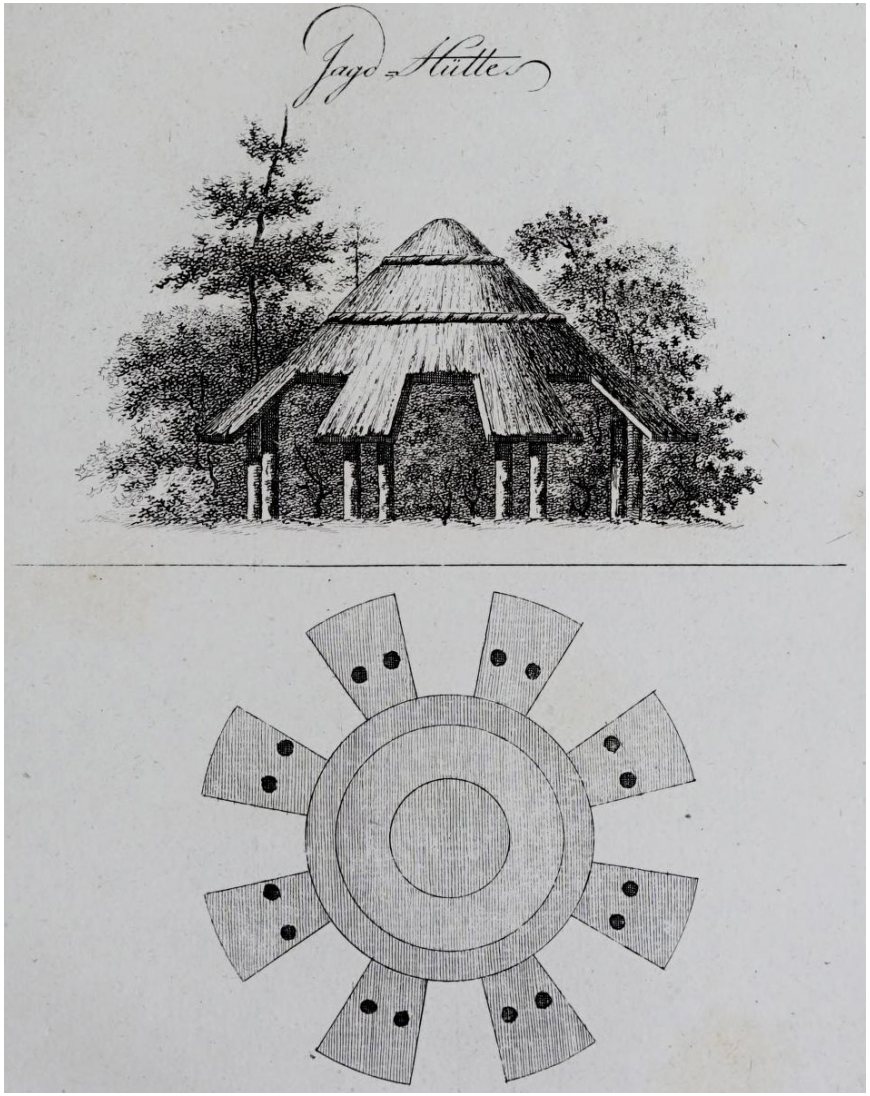
"L'origine des Chapiteaux des colonnes", engraving by Jean Baptiste Broebes. From F. Blondel, *Cours d'Architecture*, II, 1683.

Kallimachos' finding of the basket abandoned on the tomb of a young girl and surrounded by acanthus leaves, as it was repeatedly drawn to illustrate the treatises of architecture, such as the one by Freart de Chambray on the *Parallele de l'Architecture antique et de la moderne of 1650* or, another example, the one by Dieussart entitled *Theatrum architecturae civilis* and published for the first time in 1679 at Giistrow. Thus Vitruvius' tale provided an occasion for meditation on nature, mistress of architecture - from the pictures mentioned, where the young Kallimachos is portrayed in the act with drawing-board and stylus, up to Gerd Neumann, who felt himself driven in 1980 to redesign in a pessimistic tone the capital with its fluttering acanthus leaves.

For those who preferred not to follow Vitruvius, it was easy to find the opportunity to replace this myth by another, more ideological or rather archaelogical one. Villalpando puts palm leaves in place of the acanthus and sees the capitals as having been derived from the Solomonic temple, the work of the Holy Spirit. François Blondel, in the second part of his *Cours d'Architecture* (1683), goes back more generically to funeral monuments in order to explain the origins of the capitals and columns. But the image, in the engraving by the still young Jean-Baptiste Broebes, does not stray at all from the mythical tale of Kallimachos, depicting the basket with its acanthus leaves, adding the usual artist who discovers and reproduces the artifice in nature, and finally setting the whole thing in a true and proper archaic landscape, in an anticipation of Gandy's programmatic image which we shall discuss later on. For now we will stay in the ambit of the convertibility of architecture and nature, but in terms of submerged archaic cultures, from the golden age perhaps: the first civilization, closer to divine relevation, appears in its scanty remains and inspires modern man with its artifacts by now separated from their original and natural function.

The story of the primitive Adamic house has similar consequences. By its natural preamble it justifies the invention of the architectonic artifice. And everywhere a trace can be found of them, the arguments help to drive home the dependence of architecture on natural laws. Caramuel, in his *Architectura recta y obliqua*, makes use of his knowledge of the American peoples drawn from Ramusio to expand on the arguments already to be found in Vitruvius that elucidate the descent of the house and the columns from woods and tree trunks. He goes on to add observations that appear to detail the stages of this process of transformation. Alongside the usual primitive house in fig. I of Plate XV he draws the model of the primitive dwelling, of the natural man who lives in the trees "por temor de la fieras, y de

Primitive huts and exotic architecture: Otaiti's hut.
From J. G. Grohmann, *Ideenmagazin*, 1799.



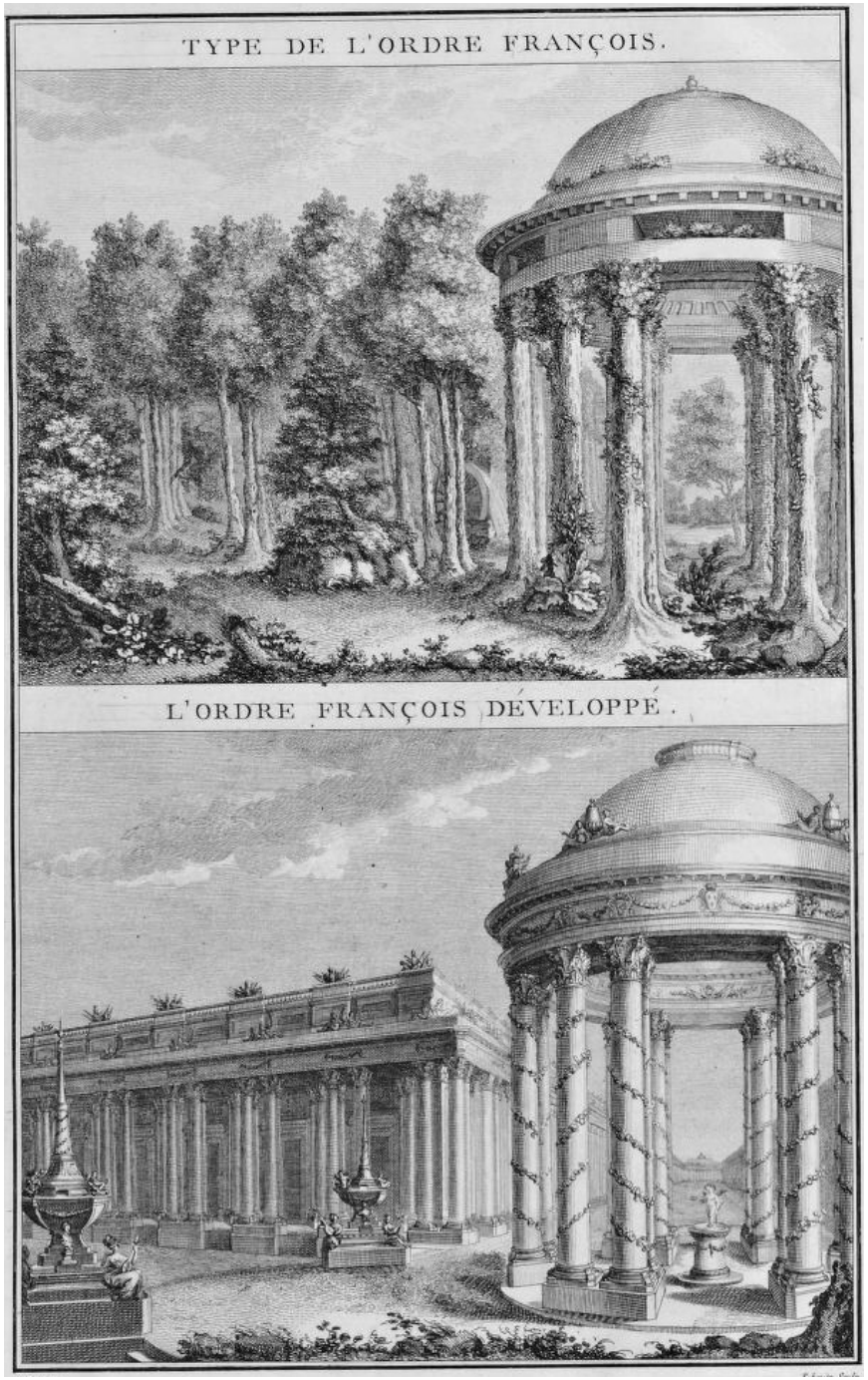
inundaciones repentinas." The rest follows the logic of the theory: from the varied use of tree trunks – demonstrated in fig. IV – derive the different orders. And again: palms appear, no longer as an inheritance from the temple of Solomon, but because of the factors of geography and natural history, as corner supports of the primitive hut. The picture of the "Palatium Reguli in S. Dominici Insula ab Hispanis inventi" (Plate XIII) seems to repropose this type of solution on a level of developed architecture as well. Palms – as well as forming a quadrangle in front – flank the building, that in the description given by Caramuel is made up of "many very large, and finely worked timbers... set up as columns".

That this building or rather palace is (still) linked to the natural manner of the American natives is shown by the doorway with its "columns" of twigs bound together, which go back in fact to the primitive houses of Plate XV mentioned above, that are moreover intended as an illustration "De el origen de la Architectura". This is a genuine example of anthropology applied to the myth of the natural birth of architecture. The palms themselves: had to increase the significance of "the natural", as they will do again in Gandy's *Architecture, its Natural Model*; they reflect the fascination already sought in the reconstructions of the Temple of Solomon and proposed again in numerous revivals right up to Hans Hollein's modern decorations.

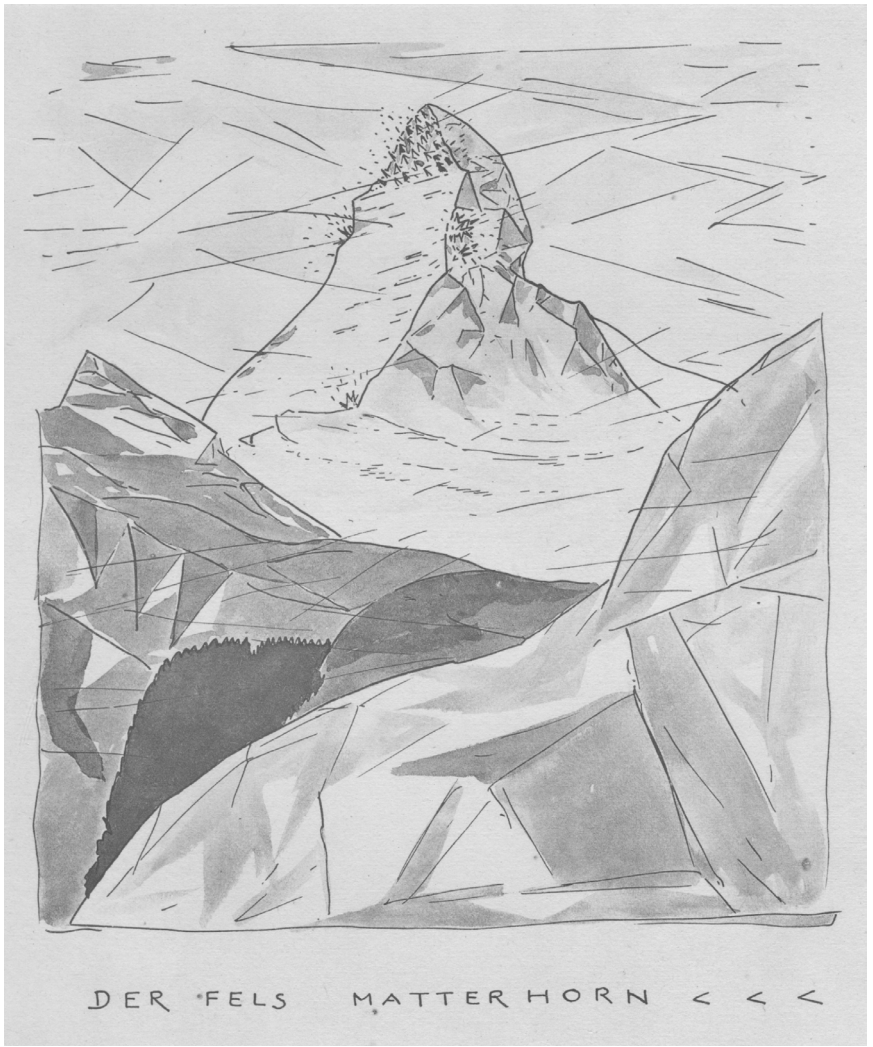
The "imagerie" created around the origin of the columns and capitals, and more generally of architecture itself will have its own extreme consequences. The illustration discussed by Caramuel will be reproposed by the Trapanese Giovanni Amico[17] in his *L'Architetto pratico* of 1726; but more particularly the various formulations of the primitive and "natural" house will be applied in the different kinds of refuge set up in gardens right up to the picturesque "Jagdhütten" proposed by the Ideenmagazin für Liebhaber von Gärten, Englischen Anlagen und für Besitzer von Landgütern, published by Grohmann[18] from 1796 onwards. Here, where 18th-century man in fact rediscovers nature in parks and gardens, the opportunity to give a concrete form to the founding myth is immediately grasped and does not shrink -again in analogy to Caramuel's evocation of American and Caribbean cultures- from proposing the exotic hut from the island of Otahiti as architecture, which is what Grohmann does.

But on the other hand, far from the simple processes of imitation and the various attempts, often innocuous, at self-deception about the primitive state, the very idea of the prefiguration of architecture in nature intensifies on the level of the concepts themselves. A by now classic example is offered by Ribart de Chamoust in his *L'Ordre François trouvé dans la nature* of 1783,

Architecture based on the natural "type,"
The french Order as conceived by Ribart de Chamoust (1786).



Bruno Taut, “Der Fels Matterhorn,” *Architecture preserved in nature*, 1919.



where the author claims to have found – as the first to tackle the specific task of designing the French order – ”le principe dans la Nature”. The note “planche II” contrasts natural prototype and modern architectural formulation of a given theme (portico, temple, pyramidal monuments): the usual version of the comparison between tree and column – at first sight! But the accompanying legend defines things precisely on the level of the weight given to the natural prefiguration – no longer seen as a simple precursor, but investigated in its universal dimension. In this way before the “Ordre Frarnçois développé” is placed the “Type de l’Ordre François”. The implications of such a suggestion go beyond the usual model of architecture derived from nature to the omnipresence of the very concept of the archetype of nature, as an idea drawn by now from historical mythography. By this it is intended that nature is always present as the foundation of architecture, as perpetual entreaty, as pattern.

It is suggested that architecture can be brought back to nature and that in the last analysis they are interconvertible. This paradigm – of illuminist derivation in the case of Ribart de Chamoust – stretches right up to Leon Krier’s laconic formula of 1974 of the “2 Kinds of Roofs”. The latter’s “architecture rationelle” is of more use in this context than the corresponding Italian movement, biased as it is towards the historicism.

However the convertibility of architecture and nature also takes its inspiration from themes that are more modern, less humanistic and less Vitruvian but are inspired by that very 18th-century movement of the rediscovery of nature and more especially of the Alps. Subsequently the exercises of Rustini and Viollet-le-Duc with their presentation of the formation of mountains as a deformation of an originally architectonic structure, and the emphasis they placed on the various stages of development come as little of a surprise, all the more in that no-one contests the various processes of erosion and deformation. But on a more careful examination one once again meets with the vision of a world archetype of a mathematical and architectonic nature – although Rustini’s formula for reducing the “Aiguilles-de-Chamonix” to a sort of city wall with towers perhaps makes use of too concrete a model. For Viollet-le-Duc in his “Mont-Blanc” which describes the disintegration of crystalline rocks on account of the glaciers, the tenor is that of the architectural monuments of nature. The watchword is “crystallization”.

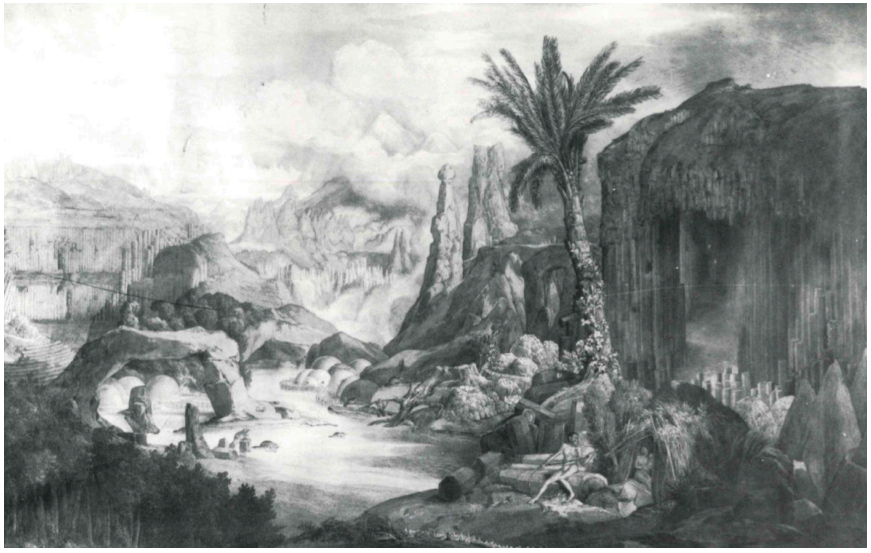
Ever since Josias Simler had published in 1574 the first real monograph on the Alps, the *Vallesiae et Alpium descriptio* crystallography has been a discipline pertinent to the analysis of the phenomenon of the natural architecture of the mountains.

The interest in the various geological layers, in stratigraphy, as it was cultivated by naturalists of the early 18th century such as Scheuchzer, was able to provide further motives – grounded in science – for uncovering the architectonic (though distorted) regularity of the Alps. When illustrating the Biblical story of Genesis, Scheuchzer seems to want to promote the stratigraphic image of the Alps – the fruit of the exploratory trips he made into the Alps from 1702 onwards – to characterize the "historical" period of the postdiluvian age. The relative engravings are entitled *Cataclysmi Reliquiae or Ueberbleibselen der Sündfluth* and they once again make use of the archetypal view of nature bestowed on it by myth and by history. On the other hand it seems that the crystalline structure of the mountains is already represented here, just as it will later be by Gandy, for its own ends. Crystallization becomes itself a synonym for architecture. This will be an obvious matter to the romantics. Visiting the cathedral of Cologne – not yet completed at that time – Friedrich Schlegel observes: "Wenn man etwas näher tritt, (ist der kölner Dom) eher einer ungeheuern Krystallisation zu vergleichen", "einem unermesslichen Gebilde der krystallisierten Natur", as he writes in a preparatory version. Thus the incomplete cathedral is seen as an immense crystallization or as a vast crystallized natural formation.

This too gives rise to new traditions of architectonic "imageries". The example of Bruno Taut's *Alpine Architektur* lends itself to the comparison. He is familiar with the whole spectrum of possible formulations: from the crystal at the summit of the mountain (the "Glaskristall" near Garda) to the transformation and reduction of the mountains into architecture, where he cites the applied terraces as a "Naturform" (natural form) that is even suitable – utopistically or if you like "futuristically" – for landing strips for aeroplanes (we are in 1919). Almost contemporaneously for Hugh Ferriss and his *The Metropolis of Tomorrow* the Babylonian and Biblical connotations of his crystallization of terraced skyscrapers seem still within reach, and preferable.

At this point the convertibility of architecture and nature again becomes a suitable means of contrast, aiming to emphasize one or the other; nature's impetuous miracle of the elements and that of the extreme effects of artifice in architecture. Schinkel visualizes his impression of Milan Cathedral by setting it on a rock in the vicinity of Trieste ("Der Mailander Dom, gedacht auf einem Felsen frei oberhalb Triest liegend"). This isolation from the urban context that aims to emphasize the excellent quality of a single selected monument by Juvarra and by Fischer von Erlach. Both pictured their works - there are other similarities and analogies between the Church of Superga and the

Crystallization, Architecture and nature,
Architecture, its natural model by J. M. Gandy, 1838.



Karlskirche of Vienna – in a raised position and moreover surrounded by water. Such a practice does not seem all that different from that – again with distinctly archetypal references – proposed by the authors of the Superstudio group in Le dodici Citta ideali in 1971. Here the image reaches an extreme of what can be represented, taking its inspiration from the debate over the architectonic quality of nature. The transformation of Manhattan into a megalomanic structure of ice, entitled "New New York" (1969) is nothing but the application of the principle to the highly expressive skyline of that most Babylonian of cities, the heart of Manhattan. The by now overworked effect of modern imagery -as in similar cases- extends into the publicity sector which unites in collage the miracle of the architecture of Manhattan with that miracle of nature that is the Niagara Falls!

The significance that Manhattan has for architecture, the Matterhorn may have for architectonic forms joined to nature. It is perhaps the inherent and unusual archetypal force of this mountain that makes it a symbol of Alpinist nostalgia. Descriptions such as that of "triangular obelisk of living rock" are common. For Bruno Taut the Alpine model for once no longer requires architectonic transformations, but can stand as it is, already expressed in architecture by nature itself! "Der Fels Matterhorn" is the succinct comment to the relative plate of *Alpine Architektur*. Little or nothing is changed if the architects of Haus-Rucker-Co. complain that the image of the Matterhorn (in thousands of picture postcards -like the skyscrapers, we might add!) is an exclusively second-hand one and has replaced the immediate effect of the mountain. To remedy the situation and to give a concrete form to the nostalgia for nature the artists reproduce- in an exhibition in the Braunschweiger Kunstverein in 1974 - the Matterhorn on a very large scale and invite the spectator to approach it along a ramp of stone in order to admire the miracle of nature. This "new nature" aims to reconstruct the relationship between man and nature, to make sure one more time of the inspiration that can be drawn from it: just as that described of the Alps for Taut, or that of Monserrat for Gaudì and so on.

But let us go back to nature in its role as an autonomous producer of architecture. We have already referred on several occasions to the watercolour by J.M. Gandy, exhibited in 1838 at the Royal Academy in London and entitled *Architecture, its Natural Model*. The painting was intended as a part of an entire programme devoted to the origin and development of architecture. But this time the author is far from any desire to make a philological comment on some Vitruvian myths. All the elements are symbolized and idealized and lead to a genuine allegory of nature as

architecture. Certainly we find here the symbol of Noah's Ark on top of a distant mountain, which Gandy describes elsewhere, in a writing *On the Philosophy of Architecture*, as the beginning of architecture, characterized as a period of "scientific carpentry". But the concrete historical reference is hidden in the imposing scenery like the tiny religious scenes in the abundant representations of kitchens and still lives of Beuckelaer's paintings! What stands out overall is the general character of the landscape of the flood. And even this is estranged from its original historical and Biblical context by the accumulation of other motifs and references. We find the palm, which as far back as Caramuel recalled the exotic world of unspoiled nature, and that has always furnished models for architectural decoration. We see "Fingal's Cave" as a prefiguration of Gothic architecture, pyramidal formations provided by nature itself, but also the shapes of the perfect domed roof. In the foreground we find not Noah's sons, but a family of "hominids," precursors of homo sapiens. We can associate these -through the image of the ape- with the allegory of the imitation of nature, also expressed in the title of Gandy's painting. But on the other hand the scene seems to be not just that of the flood, but still pre-cultural. Nature is presented at a moment that clearly predates any human artificial intervention. And yet the architecture is there! It is outlined in the mountainous structures and again in the abundance of crystalline formations that are reproduced here with the accuracy of a skilled geologist and even with the addition of analytical details (individual pieces that demonstrate the shearing of vertical structures!).

After Scheuchzer's harking back to Biblical scenes in his stratigraphical analyses, the reference to 18th-century geological studies dominates here too. "Crystalline", volcanic or basaltic structures have always attracted attention as miracles of nature wherever they appeared, whether at the foot of Etna, between Randazzo and Taormina, near the river Alcantara, or on Staffa in the British Isles, where Sir Joseph Banks discovers "Fingal's cave" in 1772. A particularly impressive group of columnar structures of basalt was know in the so-called Giant's Causeway, which was later to provide the pretext for a struggle between different geological schools, between the Vulcanists and the Neptunists. This interest in the origin of "architectonic" structures found in nature, that preoccupied geologists throughout the 18th century, is further documented in a series of engravings stretching from those published in 1696 by Ewin Sandys to those of Franvois Vivares by Susanna Drury. This is a further demonstration of how any new element - geological discoveries for example - can serve as an illustration of the programmatic relationship

between architecture and nature. It is easy to associate the basaltic structures studied in the Giant's Causeway and depicted by Gandy with the image of Hugh Ferriss's crystalline skyscrapers: it reminds one in fact of what induced Summerson to speak of "semi-Biblical anthropology" in Gandy's case, linked up with architecture and with archaeology.

The opportunities to expand on the subject of architecture generated by nature are numerous. Kircher in his *Mundus subterraneus* and the great Encyclopaedia in its section on "Minéralogie" share the fascination with architectural images formed out of stone, an "urbs turrita" or a scene of ruins. "Natural bridges" were the object of admiration wherever they appeared. This motif is found again in Gandy and offers Zaccaria Betti the pretext for a long text dedicated to the Academicians of Bologna: *the Description of a marvellous natural Bridge in the Veronese Mountains* (1776) aims in fact to propose once more the theme of nature as a model for architecture, bears the motto "Duce Natura" on its frontispiece and ends – after various comparisons with examples taken from as for away as the Cordillera of the Andes – with the verdict: "designed with noble proportions by Nature, herself a highly skilled Architect". This explains the curiosity about nature that extends even to the mountainousness of the moon, a subject already debated in a controversy between Cristofaro Grienberger and Galileo Galilei!

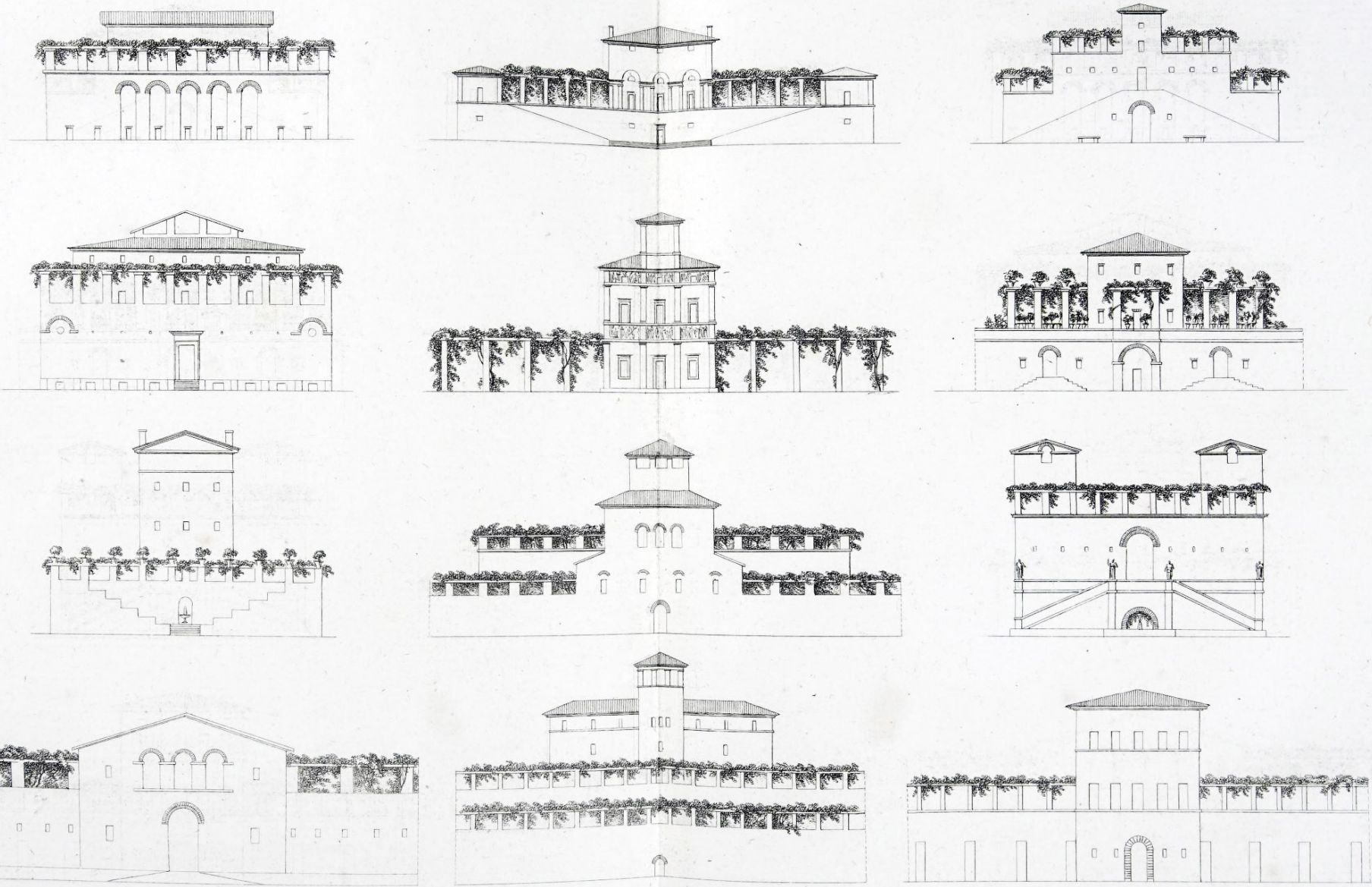
So the subject extends from the Vitruvian tale to the Eighteenth-century mythologies, from philosophical concepts to the manifold references of the naturalists. In any case the relationship between architecture and nature, when it is compared with the concrete practice of construction and seen stripped of its archetypal and universal halo, borders on the ridiculous and runs the risk of losing itself in a jungle of wquotations. It seems inevitable that the road from the philosophic "architektoniké" of nature to the possible connotations of nature in actual works of architecture should be one of regression - and this is perhaps especially true where the hidden symbol that remains a valid testimony to the original idea is replaced by the explicit "natural" reference. Forming an epilogue to our investigation, suspended in the realm of universal concepts, is the road that leads from the cabin of the English garden of geraniums to the windows of the houses of central European villages. From the "Merlin's Cave" of William Kent at Richmond, which still creates a setting full of "natural" sensations and provided with numerous concrete references (in the columns, in the vaults), to the pragmatic decorative use of elements from nature on the part of Durand, we notice the loss of concepts of nature as it is reflected in architecture. Durand

leaves us perplexed with his "green" buildings, summed up under the eloquent title: "Emploi des objets de la nature dans la composition des édifices". What seems more prolific instead is the method of imposing the faking of nature itself: in the artificial mountains of the "glacieres" in the parks, in the irritating use of a "natural" tree in the cabins proposed by Krafft and by Grohmann, and even in the resuscitated "architecture parlante" of the Forest Showroom carried out by the Site group in 1980. It seems inevitable that to link up again the features of architecture and nature what is still needed – in a world that is officially deprived of symbols-is reference to nature itself.

J.N.L. Durand, *Précis des leçons d'Architecture données à l'Ecole polytecniche*, Paris, 2.ème parte.

Emploi des objets de la nature, dans la composition des edifices.

Vignes.



Gravé par Ballard

For a more extensive treatment of the matters dealt with below I refer you to my *Architettura mai costruita* (in preparation) and in particular to the chapters on nature on creation and on crystallization.

I refer here and in the following to the famous *Encyclopedie au Dictionnaire raisonné des de Sciences, des Arts et des Metiers, par une société de Gens de Lettres*, Paris, 1751 et seq. of Diderot and d' Alembert, and to the various items that refer to the concept of nature (IV, 746; Supplement JV, 319; XI, 41); the criteria cited are those which also appear extracted in *Table analytique et raisonnée* (II), Paris, 1780, pp. 278-279.

Cf. (Daniele Barbaro) Della Eloquenza, Dialogo del Reverendiss. Monsignor Daniel Barbaro, eletto Patriarca d'Aquileia. Newly brought to light by Girolamo Ruscelli, Venice, 1557, I et seq.

Ibid., p. 34.

We will not enter into the very wide-ranging discussion of the notion of nature in art and in aesthetics; for for a brief and useful introduction to the problem see: Arthur o. Lovejoy, *Essays in the History of Ideas*, Baltimore, 1948, pp. 69 et seq.

Cf. Joannes à Wower, *De Polymathia tractatio*, 1603 (reprint *ibid*. 1604); see specially chapters XXV and XXVI on pp. 214 et seq. and pp. 229 et seq., whose titles we have quoted or paraphrased in apart.

Cf. J.H. Lambert, *Angale zur Architetonic, oder Theorie des Ersten und Einfachen in der philosophischen und mathematischen Erkentniss*, Riga, 1771. (The work dates back to the years 1764/65 of the philosopher's stay in Berlin and therefore to the period immediately after the publication of the famous *Neues Organon*, Leipzig, 1764).

Cf. I. Kant, *Kritik der reinen Vernunft*, ed. R., Schmid/Meiner, Hamburg, (1956) 1962, p. 748. The chapter forms the "Dritters Hauptstück" of the "Transzendentale Methodenlehre".

See for example, Karl-Otto Apel, *Der Denkweg von Charles S. Pierce*, Frankfurt, (1967) 1975, passim and especially pp. 159 et seq.

The definition (with reference to aristotle's Physics) is taken from I.C. Scaliger, *Exotericarum Exercitationum Liber quintus decimus, de Subtilatate, ad Hieronymum Cardanum*, Paris, 1557, fol. 3 verso.

Cf. *Discorsi di M. Giovanbattista Giraldi Cinthio…*, Venice, 1554, p.226.

The story and the relative illustration are to be found inserted in the treatises cited as an introduction to the Corinthian order and refer to the first chapter of the fourth book of Vitruvius. For the variant version by Blondel, cf. below.

This drawing was exhibited at the 1980 Venice Biennial and is reproduced in this issue of Lotus.

Villalpando's "Biblical" version was directly quoted in the comment on the illustration of the story of Callimachus according to *Vitruvius in the classic Parallele de l'Architecture antique et de la moderne* by Freart de Chambray (Paris, 1650, p. 51). The author introduces the model (pp.59-60) after the discussion of three ancient Roman examples, and confirms the "Corinthian" character of the Solomonic capital.

F. Blondel, *Cours d'Architecture Seconde et troisiéme parties*, Paris, 1683, pp. 2 et seq. (Broebes' picture was reproduced and popularized in Blaeu's *Nouveau Théâtre d'Italie*, Amsterdam, IV, 1704, 3).

Cf. J. Caramuel de Lobkowitz, *Architectura Civil recta y obliqua*, Vigevano, 1678. The plates under discussion are to be found added onto the part "Architectura recta": cf. "Parte III" of the plates and - for the relevant comments - pp. 87, 89 of "Articulo lll" of "Tratado IX" of "Tomo III."

Cf. G. Amico, *L 'Architetto Prattico, in cui con facilità si danno le regole per apprendere l'Architettura Civile*, Palermo, 1726: pp. 93 et seq. and figs. 5 and 6 of the Third Part.

We refer here to the classic work of repertoire for the architect of gardens, published in installments from 1796 on by Johann Gottfried Grohmann in Leipzig with notes in French and German: *Ideenmagazin für Liebhaber von Gärten, Englischen Anlagen und für Besitzer von Landgütern .../"Recueil d'Idées nouvelles pour la Décoration des Jardins et des Parcs dans le goût Anglois, Gothique, Chinois etc.* - The "Otahitische Hütte" /"Hutte de l'Ile d'Otaiti" is depicted in plate IX of Cahier XXV. (This was preceded in Cahier XVII, 2 by a "Sommerhaus"/"Bachot" of the same origin!).

Cf. Ribart de Chamoust, *L'Ordre François trouvé dans la Nature, présenté au Roi, le 21 septembre 1776*, Paris, 1786. The statement appears in the preface entitled "A la Nation"!

It is not very surprising that "the specialists" passed a somewhat ambiguous judgement on Viollet-le-Duc's "Le Massif du Mont Blanc" which appeared in 1876: the 1880 bulletin of the "Club Alpin français" contained the following passage: "Ses traveaux d'architecture sont prodigieux de justesse, de science, d'infaillibilite en quelque sort... tandis que !es admirables et naives esquisses ou aquarelles du Mont Blanc portent en outre le cachet d'une sincérité d'emotion à laquelle on ne peut rester indifferent."

Josias Simler, *Vallesiae et Alpium descriptio*, Zurich, 1574. The book remained the standard work up until the 18th century.

Scheuchzer's Alpine geological researches were summarized and published in *Helveliae Stoicheiographia et Oreographia. oder Beschreibung der Elementen/ Grenzen und Bergen des Schweizer/ands ...*,

(Zurich, 1716), preceeded among others by Ouresiphoites Helveticus, sive itinera a/pina tria ..., (London, 1708). – The illustration of the famous *Kupferbibel in welcher die Physica sacra oder geheiligte Naturwissenschaft derer in heil. Schrift vorkommenden natiirlichen Sachen deutlich erkliirt und bewtihrr* (Augsburg/Ulm, 1731/35), that we reproduce can very well be seen as a direct testimony to the scientific interests of the editor / author.

Cf. Friedrich Schlegel, *Ansichten und Ideen van der christlichen Kunst, hrsgb. van Hans Eichner*, Munich, 1959, p. 179.

Cf. Bruno Taut, *Alpine Architektur*, Hagen, 1919. - It is well known that he took his first cues from Paul Scheerbart's Glasarchitektur, published in Berlin in 1914 and dedicated to Taut.

Cf. Hugh Ferriss, *The Metropolis of Tomorrow*, New York, 1929.

We report the title as it is documented in: Alfred Freiherr von Wolzogen, *Aus Schinkel's Nach/ass, IV, Katalog des künstlerischen Nachlasses*, Berlin, 1864, p. 538.

I have suggested a comparison between Juvarra's sketch of the Superga "immersed in the sea" with a similar representation of the Karlskirche by Fischer von Erlach in W. Oechslin, *Bildungsgut und Antikenrezeption des frühen Settecento in Rom*, Zurich, I 792, pp. 21-22 and p. 45, note 50.

This is just one of the many possible examples attesting to the presence of such metaphors in advertising! Besides New York has always lent itself to such fantasies - to start with, the cosmological and meteorological connotations of certain spaces in the architecture of the skyscrapers: from the "Rainbow-room" of the RCA building to the "Cloud-club" of the Chrysler Building.

This is a literal translation of a title that appeared in a Swiss newspaper commenting at the height of the tourist season on the peculiarity of this "Alpine monument."

Cf. the catalogue of the exhibition *Haus-Rucker-Co. - Zeichnungen 1967-74*, Bonn, 1974-1975, pp. 12 et seq.

The watercolour is in Sir John Soane's Museum in London.

Cf. J.M. Gandy, "On the Philosophy of Architecture," in *Magazine of Fine Arts, I*, 1821, pp. 289 et seq. and pp. 370 et seq.

An extensive documentation of the discovery and of the graphic representation of the Giant's Causeway has been offered recently by: M. Anglesea/ J. Preston, "' A Philosophical Landscape', Susanna Drury and the Giant's Causeway," in *Art History*, vol. 3, 1980, pp. 252 et seq. However the authors make no approach to or mention of Gandy's picture although it seems to be the apotheosis of the geological and cultural interest described!

Cf. J. Summerson, *Heavenly Mansions*, New York, 1963, pp. 132-133.

The great interest in such "puzzles" is well-known. For Kircher see: "A. Kircher, Mundi Subterranei Tomus II.us," in V. *Libros digestus*, Amsterdam, 1678, p. 32 and fig. a, p. 33, that refers to a monument "in my Museum."

Cf. Z. Betti, *Descrizione di un meraviglioso Ponte Naturale nei Monti Veronesi*, Verona, 1766, passim and p. 21. Corresponding to the wonderfully functioning "natural bridge" in the sector of "fabriques" is the "broken bridge," as it appears for example in the above-mentioned work by Grohmann (cahier 6, plate I): without making any reference to the similar Roman monument (!), Grohmann claims on this occasion to be contributing to the debate over art and nature.

Cf. "Lettera del Sig. Galileo Galilei al Padre Cristofaro Grienberger... In materia delle Montuosità della Luna," in *Opere del Galileo, II*, Bologna (Dozza), 1655. (Cf. ivi too the "De Lunarium Montium Altitudine Problema Mathematicum Ter habitum Mantuae ...").

Cf. *Some designs of Mr. Inigo Jones and Mr. Wm. Kent*, published by Johm Vardy, London, 1744, p. 32.

Cf. J. N. L. Durand, *Précis des Leçons d'Architecture données a l'Ecole polytechnique*, Paris, 2.éme partie, planche 18.

THE QUEST FOR WILDERNESS IN THE FACE OF CLIMATE CHANGE

SUSANNE STACHER

The quest for wilderness, which since the 19th century has been an essential reason for architectural constructions in pristine nature, seems to have reached an end point in the face of the ever-deepening environmental crisis. Architectural phantasms built in the midst of forests, on mountains, or overlooking the sea can be regarded as sublime relics of the past, as the sealing of natural soil is now becoming a taboo. Nevertheless, the longing for wilderness persists or has even been amplified by the overlapping contemporary crises – climatic, ecological, and sanitary – that reinforce the desire to escape "pathological" cities. This is certainly an old story, with the difference that in the past the "original wilds"[1] could still be seen – at least for a limited time – as a possible counterworld, prompting all kinds of constructions corresponding to very specific dreams, ideologies, and health concepts. The question is more complex today, as any architectural project implies the conquest and destruction of nature – of what we originally came to the wilderness for. This human and ecological predicament needs to be examined more carefully, especially at a time when it is ever more apparent that there is an inextricable link between striving to be in nature and its irreversible degradation.

But what actually causes the longing for wilderness, when did it first arise; and how does it express itself today? What kind of architectures were built in the past amidst "wild nature" and for what purposes? What has happened to them since? What potential and what problematics do the forest and the mountains have today in view of climate change and increasing heat? And how can architecture, especially structures that already exist, albeit often in ruined condition, respond to the needs of climate and heat refugees from various countries and cities?

Let's start at the beginning, long before architecture came into play, namely in the early 18th century, when the wilderness was discovered as a subject that had yet to be explored from a scientific, philosophical, moral, and aesthetic point of view. It was a period characterized by a burgeoning sense that the world should be considered as a whole, that there is only one "Nature on which the World depends"[2], as Anthony Ashley Cooper, 3rd Earl of Shaftesbury, wisely put it. Isn't it time now to draw inspiration from this holistic view of the world to enable us to deal with it in a different way?

SHAFTESBURY: WILDERNESS AS A HOLISTIC VIEW OF THE WORLD

Following the rise of the sublime in the early 18th century, "wilderness" became a coveted topos in philosophy, literature, and the arts. The aesthetics of wilderness emerged in the Enlightenment

in conjunction with the heliocentric view of the world, whereas in medieval Western culture it was still associated with hell and fear due to its chaotic, unpredictable characteristics. Championed by the disciples of the enlightened English New Science Movement (1640–1700, also called New Philosophy), who drew on the doctrines of antiquity, wild nature increasingly became a key feature of aesthetics. A holistic conception of the world spread that viewed all natural elements as part of the cosmos, which henceforth contained both order and disorder.

This radical turn is evident in Shaftesbury's writings; he considered the "original wilds" (such as deep forests and frightening mountains) and even dangerous animals as part of Creation, emphasizing that they are also part of the harmonic cosmos and therefore useful too:

> The wildness pleases. We seem to live alone with Nature. We view her in her inmost recesses, and contemplate her with more delight in these original wilds, than in the artificial labyrinths and feigned wildernesses of the palace. The objects of the place, the scaly serpents, the savage beasts, and poisonous insects, how terrible soever, or how contrary to human nature, are beauteous in themselves, and fit to raise our thoughts in admiration of that divine wisdom, so far superior to our short views.

The savage beasts and the roughness of nature contain riddles, surprises, wonders, and frights; he saw the divine expression of wisdom in its "madness", and not merely in its harmonic order, since the unpredictable moves us and provokes us to reflect. For Shaftesbury, the sublime lay in this area of conflict: a God-Nature concept in which good and evil are united and the assumed chaos is recognized as part of the order.

Shaftesbury interests us more particularly with regard to the forest, which he uses to illustrate his holistic view of the world: "Why […] is there any difficulty in fancying that the Universe is one entire thing? Can one otherwise think of it, by what is visible, than that all hangs together, as of a piece?" He illustrates his cosmic idea with the example of the forest, as one does not perceive the individual trees, but rather the forest as a whole. A tree was for him a symbol of unity with a larger, interconnected cosmos: "All things in this world are united. For as the branch is united with the tree, so is the tree as immediately with the earth, air, and water, which feed it".

What particularly interests us in his reflections is the holistic perspective that today needs to be reconsidered from an ecological and intellectual point of view.

John Closterman, Maurice Ashley-Cooper and Anthony Ashley-Cooper, 3rd Earl of Shaftesbury, ca. 1700-1701.
National Portrait Gallery, London, Primary Collection, NPG 5308.
Wikimedia Commons.

WILDERNESS AS A COUNTERWORLD

Following the Enlightenment, "wilderness" was seen, for various (primarily moral) reasons, as an idealized counterworld to the city. Rousseau wanted his Émile to be educated in nature in order to develop independent thoughts, observations, insights, and, above all, a natural, uncorrupted morality. He also recognized the potential healing force of nature:

> I doubt much whether any violent agitation, or vapours of the mind, could hold out against such a situation; and I am surprised that a bath of the reviving and wholesome air of the mountains is not frequently prescribed both by physick and morality.[1]

But it was not until the 19th century, when railroads began to be constructed, making the mountains increasingly accessible, that large-scale constructions were built to accommodate people from the cities in the midst of "wild nature", whether for pleasure (grand hotels) or for health reasons (sanatoriums).

Since Shaftesbury's day, the Industrial Revolution and an ever-expanding transportation system have led to the exponential exploitation and domination of nature. As humanity's proliferation started to put nature under pressure, measures were put in place to protect it. Sigmund Freud visited one of the first nature reserves to be established in America in the late 19th century and was impressed by these parallel worlds, where everything is preserved in its "original state", while in reality industrialization is proceeding apace. He compared the nature reserves to the functioning of the psyche, particularly to phantasy, a mental process that makes it possible to take distance from reality:

> The creation of the mental realm of phantasy finds a perfect parallel in the establishment of "reservations" or "nature reserves" in places where the requirements of agriculture, communications and industry threaten to bring about changes in the original face of the earth which will quickly make it unrecognizable. A nature reserve preserves its original state which everywhere else has to our regret been sacrificed to necessity. Everything, including what is useless reserves" in places where the requirements of agriculture, communications and industry threaten to bring about changes in the original face of the earth which will quickly make it unrecognizable. A nature reserve preserves its original state which everywhere else has to our regret been sacrificed to necessity. Everything, including what is useless and even what is noxious, can grow and proliferate there as it pleases. The mental realm of phantasy is just such a reservation withdrawn from the reality principle.[2]

Model of the Panorama building Leicester Square,1792,
conceived by Robert Mitchell and Robert Barker.
© History seminar led by Susanne Stacher at the ENSA Versailles.

Wilderness and phantasy are to be understood in terms of this intrinsic relationship. This is one of the reasons why the "original wilds" had caused a furor in the cities, after literature, paintings, panoramas, and diorama shows had illustrated mountains and wilderness in an increasingly realistic way.

As the construction of railways made traveling easier, urbanites flocked to the Alps to experience the sublime in situ, staged in iridescent colors. The first Alpine grand hotels sprang up in close proximity to the railway stations and in the most attractive locations. The buildings that city folk erected in the Alps to follow their yearning for the highly publicized "sublime mountains" had their architectural origins in these projects. The illusionistic image of the Alps was transferred from urban reproductions to the real mountains, thereby changing the way they were perceived. There developed an interplay between the experience of the original and of reproductions of it. Phantasy found a new realm in the "wilderness", which, as construction continued apace, became less and less wild however, while the longed-for sublime became more and more picturesque.

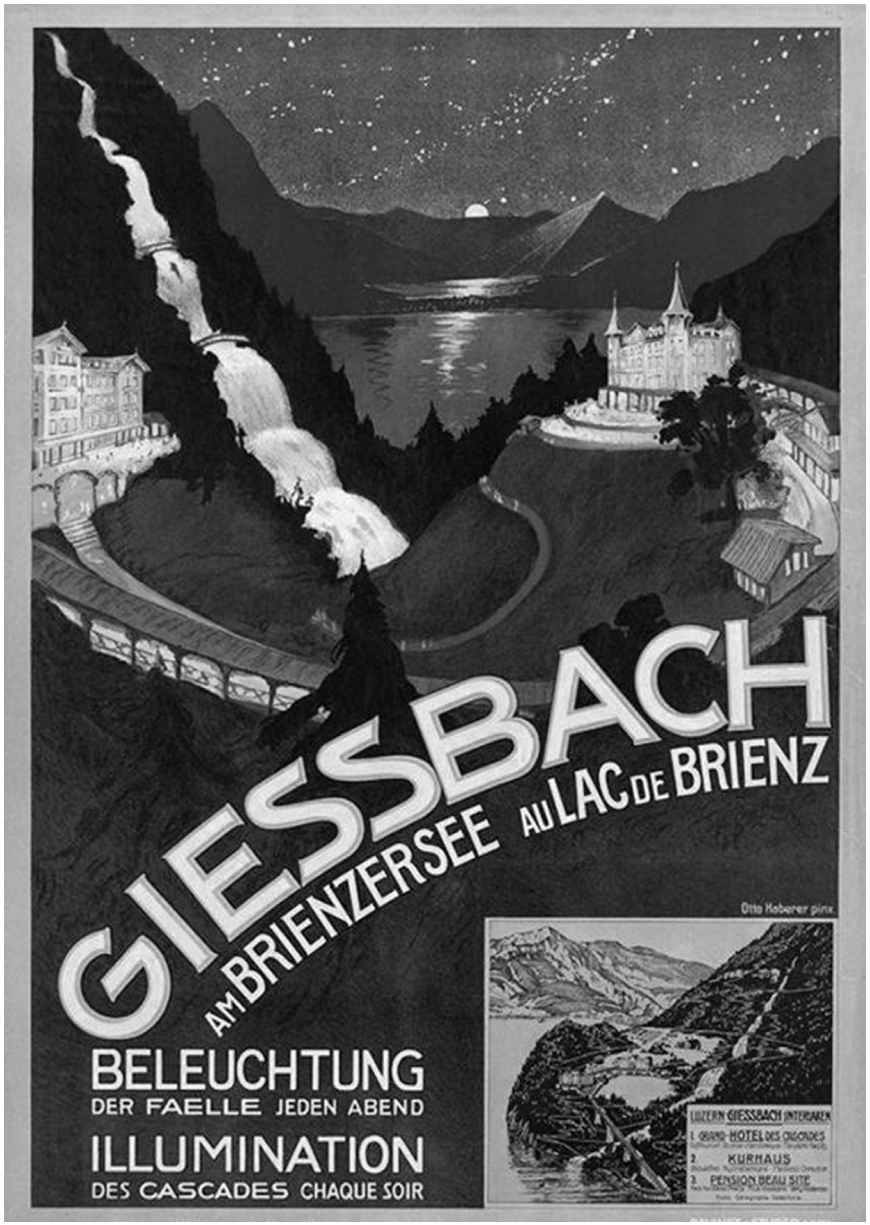
NEW HEALTH CONCEPTS IN THE MIDST OF NATURE: A LABORATORY FOR LIVING FORMS AND ARCHITECTURAL INVENTIONS

From the second half of the 19th century on, the Alps were seen as a therapeutic landscape; the mountains, the fresh air, and, above all, the sun as a panacea, were mythologized. It was not just pristine nature that was now deemed "sublime" but also the sun, which was elevated to mythical status and seen as being conducive to good health. The notion of God and nature thus shifted from the wild mountains to the sun; its radiance was to further the healing and recovery of the "new man", far from the cities, which were associated with alienation and illness. The sun was the basis of various conceptions of healing.

New ideals of a more natural way of life emerged. The Monte Verità colony, founded in 1900 by a small group of "life reformers", tried to put this ambition into practice. They built small wooden huts on the edge of the forest in the mountainous region of Ticino and lived mainly outdoors, naked or dressed in loose white "reform" clothes, trying to re-establish life in a holistic way. Body, mind, and soul were meant to find unity by introducing into this phantasmic new way of "natural" life a cultural dimension via music, conferences, and modern dance classes – a holistic way of achieving more "resonance" (in the sense that Hartmut Rosa gave to this term).

But the most dominant healing concept was the one prac-

Friedrich Studer, Giessbach, Am Brienzersee, Au Lac de Brienz, *Beleuchtung der Fälle jeden Abend*, 1912, advertising poster. Otto Haberer-Sinner, Hubacher & Cie. AG, Bern.



ticed by doctors in sanatoriums. To gain exposure to the sun and mountain air, patients would lie for hours, in any weather conditions and in all seasons, on cure galleries that were specially created for this purpose (a contrary healing concept to the one practiced on Monte Verità). Corresponding to the ideas of the doctors and founders of sanatoriums, new architectural typologies were developed, and over time improvements were made to optimize their effect. Architects were challenged to invent typologies that allowed a maximal exposure time without shading, all day long, in winter and in summer.

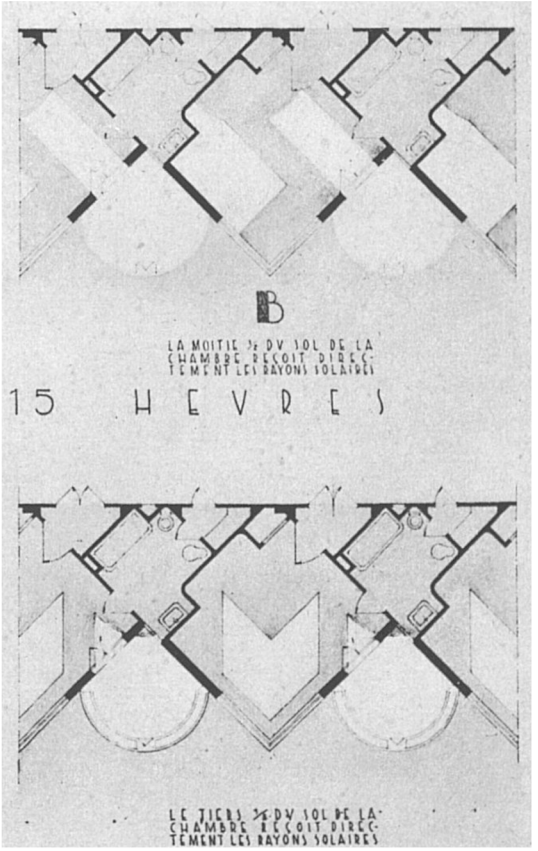
In the first type of sanatorium, the cure galleries were collective spaces built in the garden, whereas in the second type they were placed in front of the façade, so that everyone could have direct access to their own outdoor space. But the balconies prevented the sunrays from coming directly into the patient's room. Furthermore, in order to accommodate as many rooms as possible, increasingly narrow building grids had been developed, which prevented light from penetrating into the depths of the rooms and also limited the view. New typologies needed to be invented in order to provide maximal sunlight.

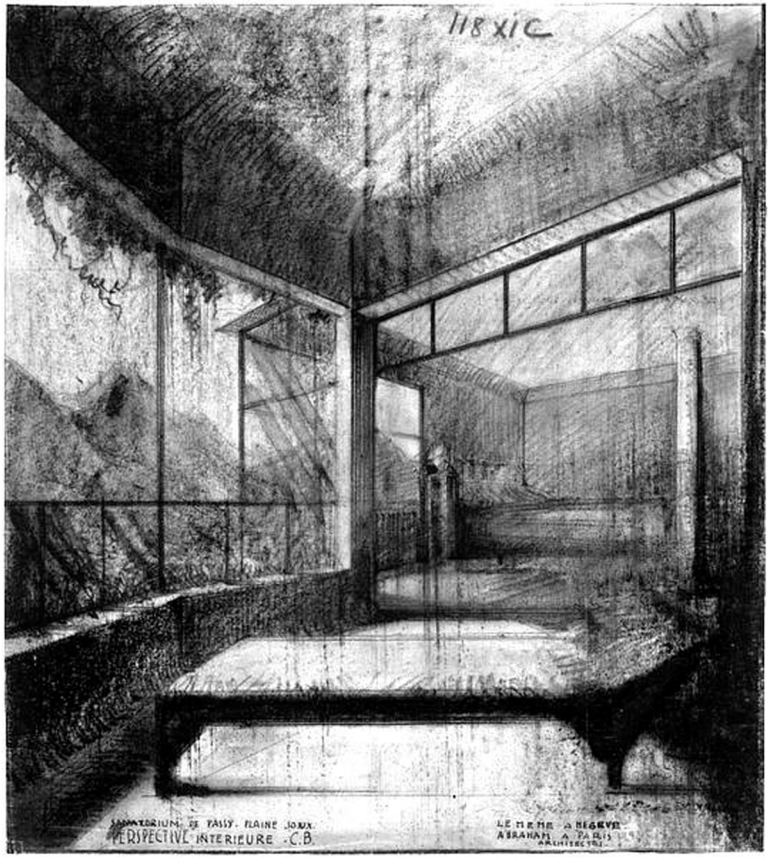
One of the most interesting typological innovations was conceived by Pol Abraham and Henri Jacques Le Même for the Plaine-Joux sanatorium (1927–29) on the Plateau d'Assy in the French mountains: a huge ship-like terraced building on the edge of the forest. Of primary importance for the choice of location was its remoteness and altitude – the sanatorium was supposed to be situated 300 meters above the village of Assy at the edge of the woods – as well as the intense sunshine it received. The isolated location promised a dust- and smoke-free atmosphere, as well as absolute peace. The originality of the proposed typology lies in the idea of twisting the rooms 45 degrees to ensure permanent sun exposure. Semicircular balconies were inscribed between the glazed corners of the rooms, which sprang out of the façade. Such a corner has the advantage that the sunrays illuminate the room from morning to evening. While the insolation of one of the two sides could be regulated by an awning, the other side continued to provide a view of the mountains. The rounded balconies did not prevent sunlight from coming into the rooms and, thanks to their location between the glass corners, they were also sheltered from the wind. Although this ingenious design never progressed beyond the foundations owing to the global depression (and the withdrawal of American shareholders), the architects were soon able to build four more sanatoriums on Plateau d'Assy, two of which still exist today – converted into hospitals and vacation homes for children's colonies, although some are now in ruins.

Johann Adam Meisenbach, photograph of Rudolf von Laban with his dance school at Monte Verità, 1914. Left to right: Betty Baaron Samoa, Totimo, Isabelle Adderley, Rudolf von Laban, Maja Lederer, Suzy Perrottet, Katja Wulf.

Left: Roger Soubie, Sketch for the Plaine-Joux Sanatorium Plateau d'Assy, France by Pol Abraham and Henry Jacques Le Même, 1929, in *L'Architecte*.
Right: Pol Abraham, Henry Jacques Le Même,
Room plan with natural light impact, 1929.

Pol Abraham, Henry Jacques Le Même, interior perspective of a round balcony with room in the background.
Bibliothèque Kandinsky. © RMN, inv. no.: Pol Abraham_04-004245.





One of them, the Roc des Fiz children's sanatorium, constructed in 1932, had an outstanding typology with completely different organizational principles than the compact pioneering project, as it is based on a ramified system of individual buildings that spread out into nature: the main edifice contained the dining room, the medical facilities, and two dormitories, where a third of the children slept. The others were distributed among four individual pavilions, each one offering accommodation for thirty children. They were connected to the central edifice by glazed and heated galleries to ensure a constant climate. In this way, an interconnected ground-level system was created, providing the children with an immediate relation to the outside and yet offering protected paths to the main edifice. Each pavilion docked at one end to the gallery system, while the other, rounded end housed a playroom. The semicircular shape of the pavilions captured the sunrays all day long and lent it a dynamic character. Structurally, they consisted of semi-arched, reinforced concrete frame elements, which forked to the front glazed area in order to support the cantilevered pent roof. It opened toward the south, so that the room was flooded with light. While the upper windows let the sun's rays penetrate deep into the room, the lower ones provided a view of the landscape and direct access to an elevated terrace that led to the meadow via stairs. There was easy access to the outdoors; inside and outside formed a completely fluid continuity, similar to the open-air schools (écoles de plein air), or schools of the woods, that were developed in various countries on the outskirts of cities at the same time. This very innovative sanatorium was hit by an avalanche in the 1970s and was demolished soon after.

The third example we will mention is the Villaggio Sanatoriale di Sondalo – a huge utopian city-like, modernist health complex surrounded by woods, built in Italy between 1932 and 1940. The typology (corresponding to the second sanatorium type) was quite common at that time: the pavilions feature long, overhanging cure galleries in front of the façades, which were elegantly shaded by curved wooden lamellae that stand out from thelandscape – reminiscent of ships at sea. What makes this sanatorium village outstanding is not the typology but its Promethean relation to the ground and its complete autonomy from the surroundings: towering futuristically above the Valtelline village of Sondalo, the complex plants itself into the steep, woody mountainside in the southern foothills of the Western Rhaetian Alps with gigantic infrastructural construction measures. High stone walls support the roadways, which – as in ancient Rome – are built on brick terraces and viaducts to overcome the unevenness

of the terrain. The winding roads that jut far beyond the natural terrain lead up the steep slope in maneuverable curves and are bordered by boulevard-like rows of trees that provide shade to pedestrians. They are accompanied by rotundas, terraced gardens, and wooded parks that invite people to stroll. The nocturnal lighting of countless lamps lends them an urban character in the midst of the wilderness. Made of porphyry blocks, the plinth and the terraces form a material unit with the viaducts, while the colorfully plastered buildings contrast the massive plinth landscape with ocher reds and yellows.

What is very interesting for our contemporary problematic is the fact that the sanatorium city was a microcosm functioning independently of the outside world with its own power plant and autonomous water supply. It had a church, shops, a cinema, an amphitheater, thermal baths, a weather station, and even a private radio antenna. The medical and administrative staff enjoyed their own swimming pool, bocce court, and tennis court. An extensive aerial cableway system made fast delivery possible: from the roof terrace of the central building, small cable cars headed directly to the rooftops of the nine sanatorium pavilions, where freight elevators took over the vertical distribution.

With the invention, in the 1940s, of antibiotics – the only efficient means of curing tuberculosis – all sanatoriums suddenly lost their raison d'être. The Sondalo complex is today partially still used as a hospital town (Ospedale Eugenio Morelli); some of the pavilions are empty and dilapidated.

As sanatoriums, just like grand hotels (and very soon – with advancing climate change – ski resorts too), have been deprived of their original purpose, they are suffering today from a lack of new, vital concepts. The city in the forest, which is half-abandoned today, offers great potential for new uses, particularly because of the large supply of common space and a possible carbon-free transportation system, which could easily be reanimated. In the Face of Climate Change: Some Reflections on the Architectural Challenges of Dealing with the Utopias of Modernism

The current superimposed crises (climate, environmental, health, geopolitical, energy, economic, and social) could be seen as an opportunity to reconsider cultural heritage in a creative and sustainable way. Given the issues at stake, don't these buildings, surrounded by pristine nature, have real potential for reuse?

When the COVID-19 pandemic interrupted the continuous flow of life, the French sociologist and philosopher Bruno Latour – who saw in the suspension of time an opportunity for a possible reorientation – wrote, "If everything is stopped, everything can be questioned, inflected, selected, sorted, interrupted for good

Pol Abraham and Henry Jacques Le Même, Roc des Fiz Sanatorium Plateau d'Assy, exterior seen from a children's pavilion, France, 1933. Archive 74.

Pol Abraham and Henry Jacques Le Même, Roc des Fiz Sanatorium Plateau d'Assy, interior of a children's pavilion, France, 1933. Archive 74.

Villaggio Sanatoriale di Sondalo, viaduct with central house (right) and church (left), 2015. © Susanne Stacher.

or on the contrary accelerated"[11]. Crises can be seen as an opportunity to focus on what is essential and to imagine alternatives[12]. Latour reminds us that "the health crisis is embedded in what is not a crisis – always temporary – but rather a lasting and irreversible ecological mutation. If we have a good chance of 'getting out' of the former, we have none at all of 'getting out' of the latter"[13].

Crises are increasing the need (and desire) to escape diseased or overheated cities, which will become much more common and increasingly hotter in the future, according to IPCC reports. People will attempt to move to climatically more favorable zones and to higher altitudes, at least for some time. In addition, the need to reduce carbon emissions and ever-rising energy prices will lead to a change in travel habits, with people seeking out nearby cooler areas rather than distant destinations in hot climates. This may be the point at which the ruins of the past, especially grand hotels and sanatoriums, can once again play a key role, as they were designed to house large numbers of people and are located in cool mountainous regions on the edge of forests – ideal places to withstand future temperature spikes. Too expensive and too beautiful to demolish, couldn't they be given a new lease of life in the face of climate change, as their footprint already exists?

One of the biggest challenges will be to provide affordable space for those who don't have a second home in the countryside. The state would have to invest, regulate prices, and organize the flows of heat refugees from different cities, regions, and countries.

Another challenge lies in the adjustment of the architectural characteristics, as these buildings were conceived for maximum solar radiation, while in the future we will need to protect ourselves from the intense rays of the sun during the summer. All kinds of shading systems could easily regulate such problems. The lamellae for the pavilions in Sondalo are already there for this purpose; restoring them would be a relatively simple task.

From a spatial point of view, these buildings would have to be adapted to contemporary use, allowing greater flexibility between individual, family, and collective spaces. The current single rooms could be connected by communicating doors, allowing greater intimacy between family members, friends, and couples, as desired, while the collective corridor would still be a possible way of reaching one's own room independently. In this way, privacy could be maintained even better than in standard apartments, as more flexibility is offered.

Consideration should also be given to common indoor and outdoor spaces to encourage the development of collective

activities that provide a stronger feeling of "resonance". Hartmut Rosa understands by this concept "a specific form of entering into a relationship with the world that is based on essential elements. […] For this, one must feel connected to the world. […] One must have the experience of touching the world"[1]. The German sociologist and philosopher analyzes our relationship to the world through very diverse forms, ranging from the most basic bodily experience (breathing, eating, sensations …) to the most elaborate affective relationships and cognitive conceptions. He establishes three categories of resonance: the relationship with others in the spheres of friendship, love, and politics (what he calls "the horizontal axis"); the relationship with matter, artifacts, and things in the spheres of work, education, and sport ("the diagonal axis"); and the relationship with an idea or an absolute in the spheres of nature, religion, art, and history ("the vertical axis"). "Resonance" – that is to say, our sensitive and conscious link to the world – increases our power to act and, in return, our ability to let ourselves be "touched" and transformed by the world, as Rosa puts it. He emphasizes that resonance is lacking in modern society, because the acceleration of time has profoundly changed our relationship to the world on an individual and collective level[2]. This concept is of interest to us as it encompasses the totality of our "being in the world," which we question here through the lens of architecture and nature, and more particularly because it opens up a different kind of relationship with heritage, which can be dealt with in a more holistic way (beyond a simple focus on the technical restoration of concrete).

Since sanatoriums and grand hotels have always had large dining rooms, game rooms, and even libraries (and, in the specific case of Sondalo, a city-like offer with a church, shops, a cinema, an amphitheater, thermal baths, a weather station, a private radio antenna, and an extensive aerial cableway system), the implementation of common space is much easier here than elsewhere; and maybe the creation, too, of more resonance, as the relationship with others could be formed through common living space and activities ("the horizontal axis"), combined with new concepts of work (co-working and cooperatives), education and sport ("the diagonal axis"), as well as an intense relationship with nature ("the vertical axis"). Successful renovation would mean bringing these three axes into convergence, without forgetting the need to increase our capacity to act.

The emblematic style of these buildings, their collective typologies, and their compact forms could be seen – compared to the never-ending settlements of individual houses that have been spreading in pristine nature since the advent of the consumer society in the 1950s and have, to a great extent, destroyed it – as a far more promising formula that might regain a certain interest today from an ecological point of view, as these constructions offer the qualities that we are longing for today. The most important of these is certainly the immediate connection with nature in terms of view and access to the surrounding forests and mountains, which is indeed a very desirable quality but one that is hardly reproducible today, unless it be in the form of a renovation.

The dream of a rudimentary hut in the woods (like the ones built by the life reformers on Monte Verità), which now implies the construction of roads, soil sealing, sewage, waste, etc., seems to be an unattainable topos of the past or a rare privilege for the richest and most influential personalities. Today, we are aware that our longing to be in nature is quite destructive, as the structures we build alter the very fragile equilibrium of the whole. The collective structures, though, such as sanatoriums and grand hotels, are already there and capable of providing to a greater number of people not only (temporary) shelter in the face of ever-rising temperatures but also a (more permanent) decent living space, especially if they are adapted to our contemporary lifestyle and aspirations – so that the three axes of resonance could, ideally speaking, converge.

Architecture and its relationship with nature need to be rethought thoroughly today, which is indeed a rather complex issue. On the one hand, we wish to escape to nature in order to replenish ourselves, to expand our mind (Shaftesbury put it beautifully: "To raise our thoughts in admiration of that divine wisdom, so far superior to our short views"), or to retreat into a counterworld where phantasy and the imaginary can freely unfold, as Freud pointed out. On the other hand, we are aware that our presence in nature compromises the "original wilds" we are looking for, as we destroy the fragile balance of the "who le" that Shaftesbury emphasized in his cosmic view of the world. Modernism and its ongoing exploitation of nature in the name of progress have created such environmental chaos around the world that the subtle balance between order and disorder in the cosmos is in danger of collapsing. At this advanced stage of environmental crisis, a holistic worldview, as advocated by Shaftesbury, seems more than ever necessary if we are to think about the future.

Obviously, wilderness no longer exists today. However, the longing for the lost realm still fires our phantasy, probably more than ever, as its disappearance provokes horror in the face of increasingly complex environmental problems. The forest and

the mountains, themselves at growing risk of profound, irreversible alterations, remind us of this fact, as components of a "whole" that lost its cosmic balance a long time ago. Our contemporary yearning for nature is to be seen in this tension between romantic nostalgia and the alarmed awareness that this one "Nature on which the World depends"[1] might not be everlasting.

Let us therefore try to restore this balance as much as possible in this very advanced stage of transformation and develop powerful concepts for the heritage built in nature, in order to offer, in the face of the coming crises, a better and healthier life to the most vulnerable citizens, enriched with greater resonance.

1 A. Ashley-Cooper, 3rd Earl of Shaftesbury, "The Moralists, a Philosophical Rhapsody" (1709), in *Characteristics of Men, Manners, Opinions, Times, with a Collection of Letters by the Right Honorable Antony Earl of Shaftesbury*, vol. 2, J. J.Tourneisen and J. L. Legrand, Basel 1790, pt. 3 (1), p. 321.

2 *Ibid.*, pt. 3 (1), p. 290.

3 See Dmitri Levitin, *Ancient Wisdom in the Age of the New Science: Histories of Philosophy in England*, c. 1640–1700, Cambridge University Press, Cambridge 2015.

4 Shaftesbury, part 3 (1), p. 321.

5 *Ibid.*, part 2 (5), p. 280: "We must have riddles, prodigies, matter for surprise and horror! By harmony, order, and concord, we are made atheists; by irregularity and discord, we are convinced of Deity! The world is mere accident, if it proceeds in course; but an effect of wisdom, if it runs mad!"

6 See Susanne Stacher, *Sublime Visions*, Birkhäuser, Basel 2018, pp. 26–28.

7 Shaftesbury, part 3 (1), p. 288.

8 *Ibid.*, part 3 (4), p. 237.

9 Jean-Jacques Rousseau, *Julia, or the New Eloisia: A Series of Original Letters*, etc. (1761), vol. 1, J. Bell, J. Dickson, and C. Elliot, Edinburgh 1773, p. 68.

10 S. Freud, *Introductory Lectures on Psychoanalysis*, vol. 1, trans. James Strachey, ed. James Strachey and Angela Richards, Penguin Freud Library, London 1991, pp. 419–420.

11 Stacher, *Sublime Visions*, pp. 37–39.

12 *Ibid.*, p. 81.

13 *Ibid.*, pp. 82–85, 94–97. Followers of the German *Lebensreform* movement, which drew inspiration from English reform movements.

14 See Hartmut Rosa, *Resonance: A Sociology of Our Relationship to the World*, Polity, Cambridge 2019.

15 Stacher, *Sublime Visions*, chap. 3, pp. 104–105.

16 Province of Sondrio, Lombardy.

17 *Ibid.*, chap. 3, pp. 108–109.

18 B. Latour, *Imaginer les gestes-barrières contre le retour à la production d'avant-crise*, AOC [online journal], 30 March 2020, https://aoc.media, accessed April 2020.

19 See Susanne Stacher, *Architektur in Zeiten der Krise: Aktuelle und historische Strategien für die Gestaltung "Neuer Welten" / Architecture in Times of Crises: Current and Historical Strategies for Designing "New Worlds,"* Birkhäuser, Basel 2023.

20 *Ibid.*

21 See Hartmut Rosa, *op. cit.*

22 *Ibid.* Hartmut Rosa seeks to break with the idea that material, symbolic, or psychic resources alone are sufficient for our happiness by emphasizing that we must also be able to act.

23 Shaftesbury, part 3 (1), p. 321.

24 *Ibid.* p. 290.

CONSTRUCTING THE MODERN FOREST IN GREECE: DIMITRIS PIKIONIS AND THE PERTOULI EXPERIMENT ON THE MOUNTAIN RANGE OF PINDOS

EMILIA ATHANASSIOU

INUJIMA: THE DISCOVERY OF THE LANDSCAPE

This chapter attempts a critical re-reading of the Greek architect Dimitris Pikionis' (1887-1968) project for the model forest settlement at Pertouli, situated in the heart of the mountain range of Pindos, at an altitude of 1,150 m. This settlement, designed between 1953 and 1956 and realized gradually until 1964, was built with a view to house the administrative, teaching and research staff, students of the Faculty of Forestry of the Aristotle University of Thessaloniki, as well as the forest workers, their families and various support personnel, all entrusted with the sustainable management of the local fir forest reserve, covering an area of 3,296.59 hectares. The Pertouli project marks the first attempt to establish in Greece a fully developed, scientifically organised and controlled forest management plan in a previously inaccessible forest, initially envisioned in the 1920s by forestry professor Anastasios Economopoulos (1893-1971), a key figure in raising an awareness on modern forestry and sustainable forest management in Greece. His vision was conceived both as a scientific and a social experiment in collective living in the remote mountainous wilderness of Pindos. Pikionis' design for the forest settlement was an early paradigm of post-war vernacular modernism and up to this day remains a telling example of a creative synthesis between the architectural tradition of mountainous central Greece and the modern functionalist idiom. The Pertouli project is discussed here in the context of the emergence of the sylvan ideal in Greece in the late 19th century, its idealisation in the interwar period and its visionary reformulation in the first post-war years. Pikionis' architecture and Economopoulos' forestry are explored as compatible trajectories of thought, characteristic of interwar idealism, projected into the post-war discourse of social and economic reconstruction as a model of development for both the forest and the forest-dependent local community. The two university teachers believed in the educational role of nature in maintaining society's robustness and upholding its moral and ethical strength in the challenging backdrop of the modern condition. Nature was a concept that defined interwar thinking, by permeating all cognitive levels of self-definition; scientific, aesthetic, mystical, philosophical and social.

In legal terms, the forest cannot be defined by any laws of nature, nor is it a readily perceivable physical entity, rather, it constitutes a mental construct, a landscape that is shaped in the mind of the legislator according to the dominant perceptions of each era[8]. Beyond this, the forest, in particular the thick, evergreen forest of the high mountains, is a retreat for the senses, an

View of the village of Pertouli from the Southwest.
© Archimedes Athanassiou, 1973.

imaginary realm that functions as a strong conceptual counterpoint to the concept of culture. Allegories of the forest originating in the mythological past rendered evergreen trees, such as oaks, sacred; cutting them down was forbidden, as they were associated with Dryads, nymphs of forests and meadows, and Alseids, nymphs of glens and groves. In modern times, the high forest of evergreen fir trees was identified with the German cultural landscape as a real and conceptual territory that Tacitus, the Roman historian of the 1st century, had described in his *Germania*, as covered by horrid forests⇓. However, over the centuries, the high forests of Germany were threatened with extinction many times over, more recently towards the end of the 18th century, when intensive exploitation led to an almost complete deforestation of the land. In response to this, as Radkau writes, "in the early 19th century, Germany became the pioneer in reafforestation policy"⋔ and the sylvan ideal became the basic ingredient of the then re-configured Germanic romantic nationalism.

In this context, Caspar David Friedrich's (1774-1840) painting *Chasseur in the Forest* [Der Chasseur im Walde] (ca. 1812-1814) renders the forest "a manifestation of the awful and sacred power of the fatherland"⅂, the representation of Germanentum par excellence, the visual equivalent of Richard Wagner's (1813-1883) musical works, where the forest symbolizes the spiritual cradle of the German race. The painting exudes a powerful, declarative visual energy, where Germany is represented as the menacing forest that defeats its enemies. Friedrich's work can be seen as extolling the unconquerableness of the mountains and the forests, while exposing the vanity of Prussian power, which shall never tame the highlands of the country. Furthermore, Friedrich's landscapes bring on the melancholy of the human condition, against the magnificence and eternity of nature. In the same vein, Friedrich Nietzsche (1844-1900) has also been identified with the metaphor of the elusive high mountains of the Black Forest range, whose footpaths he often walked⊦. At the core of the Nietzschean argument is the belief that escaping the urban chaos, enjoying the view of high mountains, striding across the dark forests and climbing the untamed peaks makes the search for philosophical truth possible. Mountains symbolize the "will to power" [Wille zur Macht]. There, Nietzsche's "eternal recurrence" [Ewige Wiederkunft] and "becoming" [Werden] inform Martin Heidegger's (1889-1976) "being", moulded by following the Holzwege, the network of paths that run through the forest, a metaphor for the labyrinthic twists and turns of scientific and philosophical inquiry that eventually would lead to the "clearings of truth" [Lichtung]⋇.

GREEK INTERWAR AGRARIAN REFORM

In modern Greece, the organized management of the natural environment and the systematic study and protection of the forests were advocated by Princess Sophia of Prussia (1870-1932), who upon her arrival to Greece in 1889 as royal bride, considered it her duty to instil her love for the forest in the Greek people. In 1899, with her patronage and the contribution of a few other enthusiasts, the Athens Friends of the Forest Association [AFFA] was founded with the aim of reforesting bare land and raising a forest-friendly public consciousness. In 1916, Sophia, by then Queen consort of the Hellenes and head of the AFFA, commissioned poet Pavlos Nirvanas (1866-1937) to author a propaganda essay entitled "The Forest". This essay, printed at the Government Printing Office, was distributed free of charge in order to further cultivate the love for the forest.

The Pertouli experiment was incubated in the fertile climate of interwar Greece's agrarian reform, permeated by socialist ideas. The 3rd grade elementary school textbook *The High Mountains* (1918) by Zacharias Papantoniou (1877-1940) served as the flagship of PM Eleftherios Venizelos' (1864-1936) educational reform (1917-1920). It was the first textbook written in Demotic Greek (the language of the people) and set the foundations for a thorough pedagogical reformation of the Greek educational system. Papantoniou introduced his young readers to modern life and thinking, i.e., reasoning, free spirit, scientific inquiry and experimentation, responsibility, cooperation and solidarity, by means of a literary return to nature, to the agrarian life of the mountainous village communities in the forest. In 1917, Venizelos established an independent Ministry of Agriculture and Public Lands, with Andreas Michalakopoulos (1875-1938) as its first minister and with a wide-range of responsibilities that included agricultural education and research. In the same year, the Athens Faculty of Forestry was founded, followed, three years later, by the Athens Faculty of Agriculture. Alexandros Papanastasiou (1876-1936), another influential figure of the times and minister of Agriculture (1926-1928), was a sociologist who believed in transplanting suitable functional relations of production from abroad into the backward economy of Greece, which were expected to promote modernization without social inequalities. He also championed for a responsible state, capable of responding to the needs of its citizens and restoring social harmony. The 1917-1923 agrarian reform set the basis for the economic and social rejuvenation of the Greek periphery, which also affected forest communities in the Greek mainland.

A comparable impulse can be detected in the work of social-

ist sociologist Platon Dracoulis (1858-1942), who explored, in his utopian *Rural Alliance* (1927), rural poverty and the prospect of transforming the countryside into a network of clusters of spiritual, physical and moral development. He championed the foundation of an agrarian culture as an antidote to the urban lure that drove farmers away from their land. Dracoulis evangelized an agrarian revolution in which a new rural civilization would emerge through the construction of new agrarian towns. These utopian settlements would constitute the Rural Alliance, based on cooperativism, where agriculture and industry would coexist harmoniously, thus eliminating the urban-rural divide. However, in the 1920s, Greece, a largely non-industrialised and non-urbanised country, was lacking the motivation that had fuelled the Anglo-Saxon back-to-nature movement. In the end, the long-awaited agrarian reform was expedited by the influx of refugees caused by the Asia Minor Catastrophe of 1922, which put over a third of the population at risk of unemployment and starvation. In the light of this, the return-to-land movement was expected to function as a viable alternative to the suffering population and, eventually, protect the countryside from abandonment.

THE SCIENTIST AND THE FOREST

At the heart of the Pertouli experiment was forestry professor Anastasios Economopoulos; graduate of the Faculty of Natural Sciences of the University of Athens, with postgraduate studies in forestry in Vienna, on a state scholarship. In 1917, he was appointed professor at the newly-founded Faculty of Forestry in Athens, which inaugurated forestry as an academic subject in Greece. The school operated until 1928, when it became affiliated to the newly-formed University of Thessaloniki (UT), in Northern Greece, with the aim of training scientists in the fields of research, development, exploitation and protection of the Greek forests and woodlands. According to Economopoulos, Pertouli was first discovered in the summer of 1923, on an educational field-trip with his students, and, as he writes, "since then, it has been the setting from where visions of forestry have sprang, a place of scientific experimentation, study, reflection, living experience and research, in line with the forestry of advanced European countries". Two years later, in 1925, he embarked on a systematic study of forests motivated by *The theory of forest types* by Aimo Kaarlo Cajander (1879-1943), Finnish botanist, professor of forestry and Finland's prime minister, which Economopoulos aspired to introduce in Greece. With this aim, he travelled to

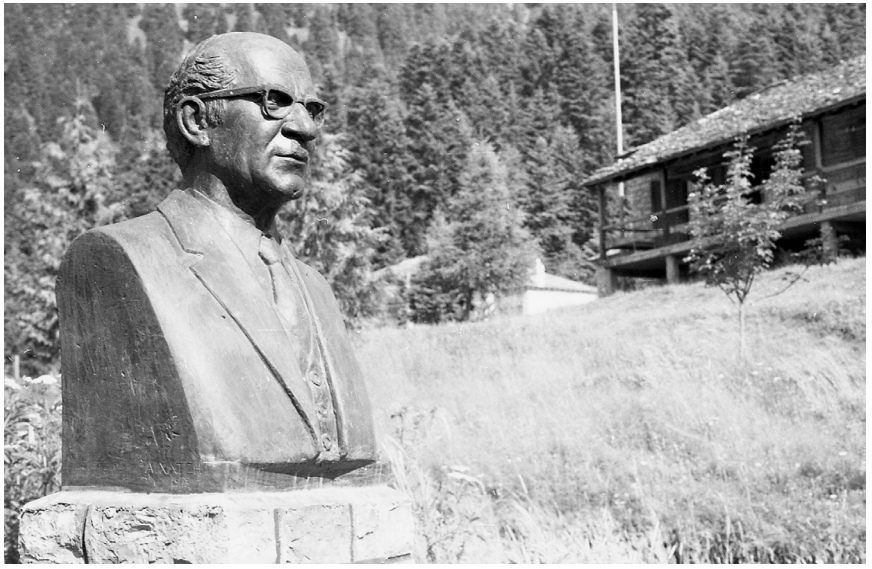
Finland in the summer of 1928 on a self-funded, month-long research expedition. From 1929 onwards, as professor of Forest Protection and Forest Management in Thessaloniki, he would work on his lifelong project, the Pertouli forest.

Ownership of the Pertouli forest was transferred to the modern Greek state via the Convention of Constantinople (24 May 1883). In 1930, following the mediation of famous mathematician Constantin Carathéodory (1873-1950) and the tireless efforts of the Faculty of Forestry, a petition was presented to the Greek government to place the forest under the purview of the UT for educational purposes. Part of the local population – approximately twenty families – opposed this prospect, claiming the usufruct of the forest and initiating a legal claim for the formal ownership of the land. Eventually, on 31 January 1935, Panagis Tsaldaris' administration (1933-1935) granted the exclusive ownership and use of the forest to the UT. Following this, the UT Forest Service established its presence in Pertouli in October 1935 and, one year later, initiated the construction of the sawmill, the planning and laying of forest roads and the demarcation of the forest, completed in 1937. Stone markers engraved with the initials UF (University Forest) were placed throughout the area, recalling Heidegger's Wegmarken (pathmarks) that remind wayfarers and ramblers to stay on the path.

At the same time, the UT approached the Architectural Department of the Technical Service of the Ministry of Education to design a dormitory for the students of forestry who receive their practical training in Pertouli during the summer. The foundation stone laying ceremony of the building, designed by modernist architect Nikolaos Mitsakis (1889-1941), was held on 15 August 1940. Economopoulos' speech, then rector of the UT, echoed Thoreau, Nietzsche and Heidegger, as he argued that the precondition for a complete personality is the communication between psyche and nature:

> We, human beings, are an organic part of the landscape, which, in turn, is an organic part of nature, to which […] we all belong. [...] In the course of your interaction with nature and the theory of the forms of the landscape, you are given the opportunity to always ascribe these forms with something of the experience of your psyche that sprang when you first laid eyes on them […]. [D]uring your stay here, you will take joy in physically connecting to the landscape, which also has its individuality [...]. [T]he effect of nature on your soul […] will enrich your mental and spiritual world; this is expected to be of paramount importance for […] your future life. During the first two decades, Economopoulos camped for

The bust of Forestry Professor Anastasios Economopoulos by the sculptress Aliki Hatzi (1923-1997). The wooden porch of the Forestry Service Station can be seen in the background. © Archimedes Athanassiou, 1976.



months-long periods in the forest, in a makeshift wooden hut, in order to conduct his research and monitor the construction of the sawmill factory, which, prior to WWII, operated on a 24-hour basis, in three shifts, employing more than 300 workers. The scientist's hut, an unassuming construction dating from the late 1930s, survived the war, outlived its occupant and stood across the village in a ruinous state until the 1970s, as a monument to Economopoulos' transcendental experience, similarly to other historical examples mentioned below.

Henry David Thoreau (1817-1862), the foremost representative of American transcendentalism (1820-1830) - a romantic movement influenced by German Idealism - lived for two years, two months and two days, between 1845 and 1847, in a makeshift wooden cabin on the wooded shores of Walden Pond in Concord, Massachusetts. As a social reformer, he advocated for civil disobedience, demanding better governance and social welfare. As a philosopher, he sought the meaning of human existence in dwelling in nature. Seemingly similar, though actually in a different vein, Norwegian Nobelist Knut Hamsun's (1859-1952) symbolic novel *Pan* of 1894 – where Lieutenant Thomas Glahn, a hunter and ex-soldier, lives with his dog Aesop in a cabin in the mountains – argues that happiness is attainable without an abundance of material goods; Thomas meets Edvarda, a girl from a nearby town, they fall in love, but their respective worlds collide, thus rendering their failing relationship an allegory of the conflict between nature and civilization. The novel was translated into Greek by Nirvanas, the symbolist poet who was also the first to publish a study about Nietzsche's philosophy in Greece. In Hamsun's novel, the purifying forest reconnects to its Germanic origin, where truth emerges from the dark depths onto the bright paths; notions that will reverberate in the Nazi rhetoric and its terrifying claim of racial purity. In 1922, Heidegger also acquired a small wooden house, *die Hütte* (approximately 6x7 meters) in the Black Forest [Schwarzwald] at Todtnauberg in southwestern Germany; an archetypal gesture that underpins the return to nature on the one hand and to pre-industrial social structures on the other. Both Economopoulos and Pikionis understood occasional isolation as a constituent element of the creative process; a return to a deeper identity or to the memory of a past self. Pikionis is known to have developed a preference for ascetic life, where recalling one's memory is a process of self-reflection that echoes the meditation of monks, who struggle to free themselves from the mundane reality of everyday life and live in spirituality. As Zissis Kotionis points out, the metaphor of the monk/painter or the monk/architect, one might add the monk/scientist, was deeply embedded to the founding myth of Greece's cultural generation of the 1930s, as exemplified in Kazantzakis' *Ascesis*, written in 1922-1923, during the author's stay in Vienna. According to Kazantzakis "a stone is saved if we lift it from the mire and build it into a house, or if we chisel the spirit upon it". Thus architecture is vested with historical conscience, where the memory of the past salvages the irreplaceable values of tradition, with, as T. S. Eliot wrote, "a perception, not only of the pastness of the past, but of its presence". A freudian invocation of the memory of nature's, forest's and architecture's previous past would successfully transcend and manage this past through modernization, thus human agency would eventually lead to its rescue from obscurity and destruction.

THE ARCHITECT AND THE FOREST

In 1951, the University Forests Administration and Management Fund was established at the Faculty of Forestry, with the aim of administering and managing the university's forests, the practical training of its students and the research conducted at the various model forestry estates. In 1953, the Forests Fund commissioned Pikionis to plan and construct a new settlement in Pertouli, which would include five different types of housing and administrative and community buildings, designed between 1953 and 1956. According to Alexandros N. Papageorgiou, Pikionis' collaborator, the Pertouli project had an experimental character from its very inception, which aimed at rendering resilient, maintaining, renewing and developing the forests of Pindos, while improving the living conditions of the people who worked in the forest and their families. He argues that the cultural landscape of Pertouli, as an integral part of a wider natural context and its ethos and as shaped by the local, time-honoured traditions of habitation, would have never allowed "a removal from the sense of permanence that the local vernacular inspires, thus rendering illusional all modern additions and the alleged cultural progress". He also claims that any attempt towards a modern interpretation of traditional dwelling ceases to make sense the moment someone arrives in Pertouli and encounters the majestic mass of Koziakas and the surrounding nature, where every substantive element of local tradition lies in place, unchanged by time:

> For the modern individual who visits this region of Greece, the presence of nature and all the elements of human dwelling that serve as signifiers of local culture offer a categorical and inviolable frame of reference. Nature here is a symbol

View of the village of Pertouli from the Forestry Service Station.
© Archimedes Athanassiou, 1970.

of stability in a time of transition.

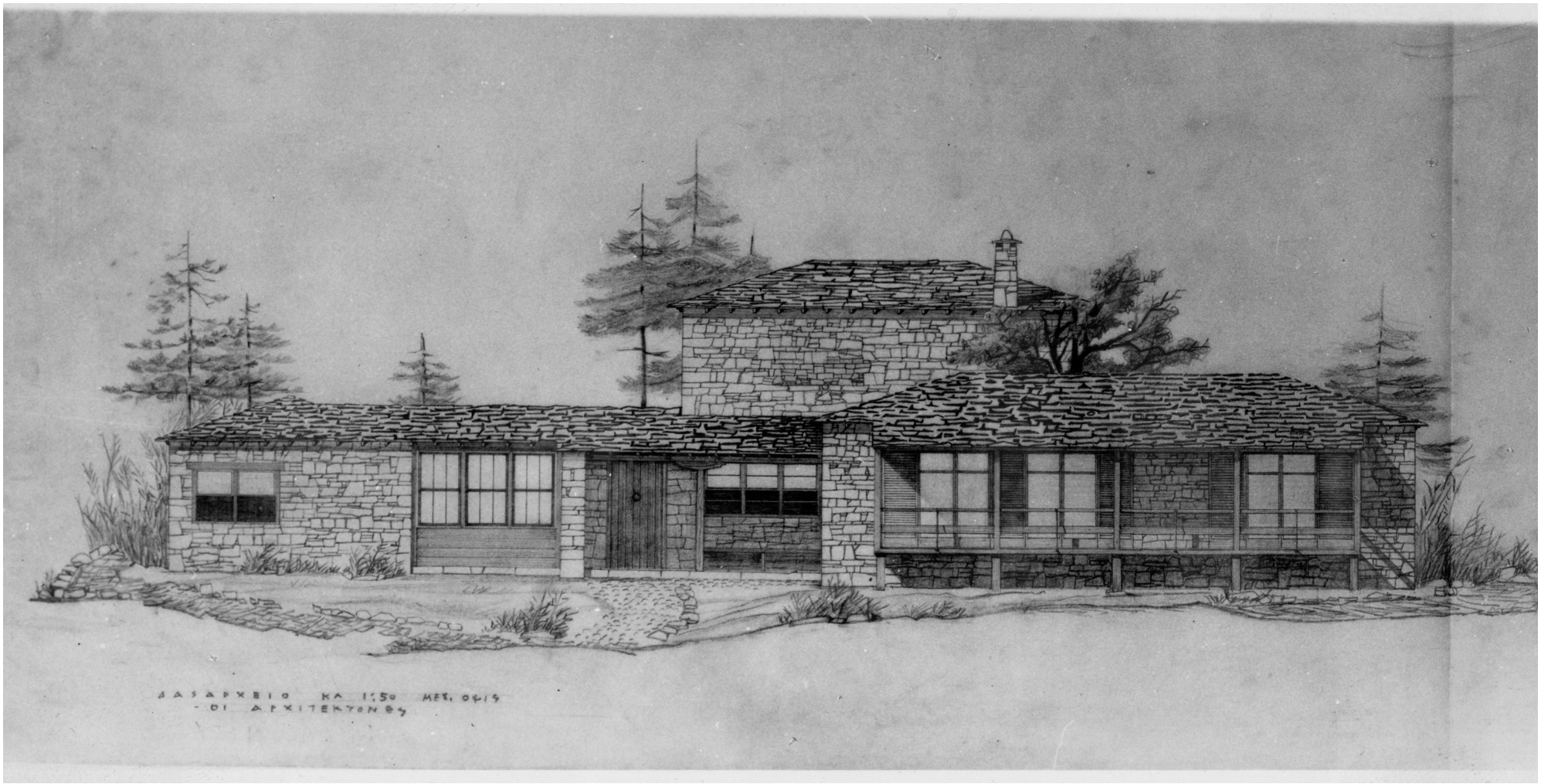
However, a retrospective formal analysis of Pikionis' architecture brings on morphological and functional traits that can be attributed to the modern vocabulary, while subtle references to the architecture of 17th century Japan also appear in his work, as in the timber-framed covered porch of the building of the Forestry Service Station, which echoes the pre-modern porches of villa Rinshunkaku (1649) or villa Gekkaden (1603), preserved in the Sankeien Gardens in Yokohama. Before Pertouli, Pikionis had designed two unrealised projects for cooperative settlements. Around 1934, Greek poet Angelos Sikelianos (1884-1951) asked Pikionis to design the Delphic Centre, his vision for an inclusive cultural community at Delphi. After WWII, Pikionis was commissioned to design a cooperative housing settlement at Aixoni (1951-1955), Attica, for an heterogeneous community of intellectuals and locals. All three projects constitute organic compositions that comprise low-rise, free-standing structures with pitched roofs, rendered in natural, local materials, whose common denominator is an emphasis on the processional ascent of the uphill terrain and the choreographed succession of staged vistas that pace the experience of traversing the settlement. As Kostas Tsiambaos points out, Pikionis' plans for the Delphic Centre invoke the image of a traditional mountain village, where walking up the main, winding road feels like ascending to a crowning quasi-acropolis. In Pertouli, Pikionis renders his own version of *promenade architecturale*; an archetypal ascent that links antiquity with the vernacular, whose actual and symbolic crown at the top of the hill was the building of the Forestry Service Station.

Like Nietzsche and John Ruskin before him, Pikionis was also a keen walker and rambler. He used to take long walks in the company of Nirvanas' poetry, among other works, that helped him reconnect with the surrounding nature. As he recalls:

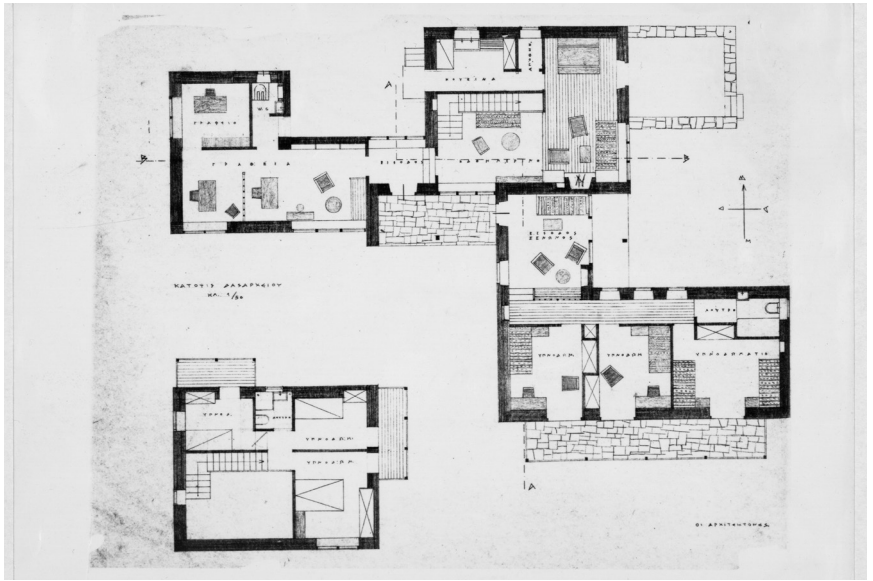
> While still in high school, I often made frequent long walks, exploring the landscape of Attica. [...] But who can deservedly recount how these landscapes registered in the eyes of a young man on whom the magic veil of poetry was still cast. What did these solitary journeys mean to him. [...] Oh, what joy brings the unexpected sight of an unknown cliff, a cluster of olive trees.

Pikionis' reference to Goethe's 'magic veil of poetry' [der magische Schleier der Poesie] hints at an axiomatic relation between *truth* and *nature*. In Goethe's allegorical poem *The Secrets* [Die Geheimnisse], a young man wandering through a foggy landscape encounters a female figure, the personification of

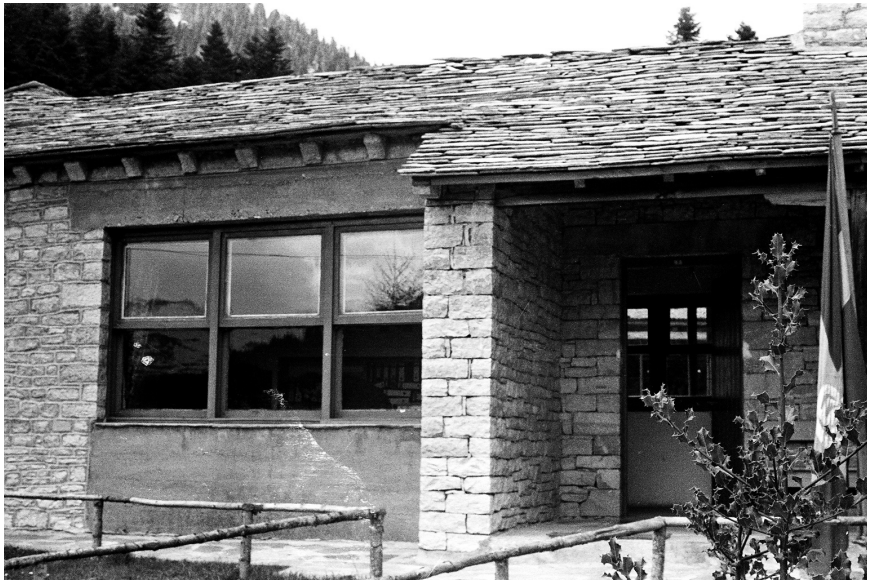
South elevation of the Forestry Service Station in Pertouli,
designed by Dimitris Pikionis.



Plan of the ground floor (administration, guest house, and head forest manager's residence living room) and the first floor (head forest manager's residence sleeping quarters) of the Forestry Service Station in Pertouli, designed by Dimitris Pikionis. © Modern Greek Architecture Archives, Benaki Museum.



View of the entrance to the Forestry Service Station, designed by Dimitris Pikionis. © Archimedes Athanassiou, 1970.



Truth, who, by lifting the enveloping veil of fog, reveals the surrounding landscape as a gift to the youth, with the promise that the person who receives the gift of nature will always be happy and self-sufficient. Hence, an interesting parallel may be drawn between Goethe's inquiries and Heidegger's notions of the *forest* [Wald] and the *clearing* [Lichtung].

Evidently, Pikionis will keep returning to these philosophical pathways and clearings of his youth until the end of his life. In 1966, two years before his death, while preparing his inaugural speech at the Academy of Athens, entitled *The Study*, he gleaned various contemplative fragments of texts, the *Holzwege* of his thoughts, in an attempt to redefine his own *spiritual clearings*. One such fragment comments on the way Leonardo da Vinci draws the high mountains in *The Virgin of the Rocks* [La Vergine delle Rocce I & II] (1483-1486):

> My soul revered their forms, and revered the high mountains in the background. Already readied for this reverence of the mountains by [studying] Ruskin [...] I recall his words from his *Gates of the Hills.*

Pikionis refers to John Ruskin's (1819-1900) *Modern Painters*, which deals with the description, representation and glorification of the beauty of the mountains. As Michalis Parousis comments, Pikionis identifies himself with Ruskin, whom he considers his mentor, and aspires to return to the Black Forest and to the views of the high mountains, in the same way that Ruskin kept returning there, as narrated in his unfinished autobiography *Praeterita*. Pikionis has been described as a Victorian, who represents the embodiment of the Ruskian ideal in interwar Greece, on the basis of, among other things, their shared love for the German mountains and their common search for truth in nature. However, according to Dimitris Philippides, he cannot be interpreted exclusively as a continuation of 19th century European tendencies, as the Greek architect drew from many sources of inspiration, such as Neoplatonic philosophers, Asian culture, Orthodoxy, and the nascent modernism in art and architecture of his time. Hence, the contradictions in his work, which are representative of the ambiguity of the 1930s.

As Zissis Kotionis points out, there is an inverted reality in the architect's thinking. When in Germany, he reads Aeschylus and is nostalgic for Greece, or rather the construct of Greece as imagined by the Germans through fragments of ancient literary discourse. Once back in Greece, Pikionis becomes the kind of thinker who draws his metaphysical connection to his land from the German idealist discourse, thus reconstituting a non-Greek helleno-centrism. For Kotionis, it is clear that the distinction

between *european hellenism* and *greek hellenism* is a conscious contradiction in Pikionis' work that held true till the very end of his life. Again, Kotionis points out that in Pikionis' drawings:

> the 'memory of the earth', solid and holistic, could not be subordinated to the demands of an analytic approach, which waives the solidity of appearance and resorts to the individual drawing – a fragmented architectural representation – of the object through elevations, plans, sections.

In his designs for Pertouli, the buildings seem to be the pretext that allows Pikionis to sketch the dense forest with its tall fir trees in all their glory.

EPILOGUE

Pertouli was a pioneering experiment that, in its full development, lasted from 1935 to 1964. Today its forest is still under a special status of protection and sustainable management, i.e., in a way and at a rate that maintains its regeneration. This analysis both touches upon the political and economic history of the country during the interwar period and tackles issues of national identity, a topical concept at the time. This interpretation is largely anthropocentric, in the sense that all discussions about nature and the environment are inescapably anthropocentric; the history of the forest is inextricably intertwined with human history. The Pertouli project, an ambitious developmental and educational experiment, marks an attempt to reconcile the modern with the pre-modern world for the benefit not only of the locals or the scientific community, but also for the wellbeing of the forest, i.e., its growth, conservation and sustainable management, which requires the human presence and toil to ensure its rebirth and as a safeguard against human-driven destruction. Therefore, this chapter argues that forest habitation is not necessarily a case of forest/nature exploitation by humans. It also highlights the deepening contradictions of the perception of nature, and specifically the forest, in the Interbellum, as well as the diverse origins of the return-to-nature movement, as an ideological counterweight to the onrushing modernism of the time and its sweeping ideal of progress. For Economopoulos and Pikionis, professors of forestry and architecture respectively, connecting with mother nature was signposted by German idealism, whose philosophical core, alongside facets of interwar modernism, can be detected in the Pertouli project. The Pertouli forest of tall and proud fir trees triggered the development of a rare example – for Greek standards – of scientific, environmental, social and architectural harmonious cohabitation, where a freudian invocation of the deeper memory

Elevation of the foresters' residences, sketched by Dimitris Pikionis.

of nature, the forest, architecture and their assimilation by the modern condition and interplay with human presence will lead to their salvage. For Economopoulos and Pikionis, Pertouli was a path back to the clearings of truth, a return to the spiritual homeland of the high mountains and the proud forests of their youth.

View of the Koziakas mountain.
© Archimedes Athanassiou, 1973.

Then professor at the School of Architecture, National Technical University of Athens.

N.D. Hasanagas, *Landscape Sociology* [Κοινωνιολογία του τοπίου] (In Greek), Papasotiriou, Athens 2010, p. 103.

Tacitus, *Germania* [De Origine et situ Germanorum]. In the 5th chapter Tacitus comments: "Terra esti aliquanto specie differt, in universum tamen aut silvis horrida aut paludibus foeda, umidior qua Gallias."

J. Radkau, "Wood and Forestry in German History: In Quest of an Environmental Approach," *Environment and History*, vol. 2, 1, February 1996, special issue: Lammi Symposium, pp. 63-76, doi:10.3197/096734096779522482.

V.H. Miesel, "Philipp Otto Runge, Caspar David Friedrich and Romantic Nationalism," *Yale University Art Gallery Bulletin*, vol. 33, 3, October 1972, special issue: Correlations between German and Non-German Art in the Nineteenth Century, pp. 37-51.

M.E. Bolland, *Nietzsche and mountains*, Durham Doctoral Thesis, Durham University, 1996, http://etheses.dur.ac.uk/1579, accessed 14 October 2022.

M. Heidegger, *Off the Beaten Track* [Holzwege], trans. J. Young and K. Haynes, Cambridge University Press, Cambridge 2002.

Sophia of Prussia, born in Potsdam, was the daughter of Emperor Frederick III and granddaughter of Queen Victoria of Great Britain. She married her third cousin Constantine in 1889, future King of Greece from 1913-1917 and 1920-1922.

Forest scientists Petros Kontos (1874-1941) and Konstantinos Samios, the minister of Finance Fokion Negris (1846-1928), and the Smyrna engineer-metallurgist Andreas Kordellas (1836-1909), http://www.philodassiki.org/, accessed 13 January 2023.

P. Nirvanas, *The Forest* [Το Δάσος] (In Greek), Government Publishing Office, Athens 1916.

Interwar Greece's agrarian reform, i.e., the compulsory expropriation of large land holdings from the Greek State and their redistribution to landless farmers – provisioned in the Constitution of 1911 – was instituted in 1917 by Andreas Michalakopoulos, minister of Agriculture in Eleftherios Venizelos' administration (1917-1920) and was finally implemented by his successor, minister Georgios Kafantaris (1873-1946) with Law 2052/1919.

In 1921, with the electoral defeat of Venizelos, a committee of university professors suggested that textbooks in the demotic vernacular language should "be burned as works of falsehood and evil intent and to prosecute those responsible" as these textbooks were considered harmful for the language, the homeland, religion and family values.

Law 893, *Government Gazette* A(202), 18 September 1917.

In 1926, as Minister of Agriculture in the Alexandros Zaimis (1855-1936) administration, he strengthened the agricultural sector by establishing autonomous organisations for the collection and management of products, while in 1929 he founded the Agricultural Bank.

A-A. Kyrtsis, "A. Papanastasiou and early 20th century theories of social reform" [Ο Α. Παπαναστασίου και οι Θεωρίες Κοινωνικής Μεταρρύθμισης των αρχών του 20ού αιώνα] (In Greek), *Historika*, 9, 1988, p. 63-77.

In 1924, Drakoulis founded the Hellenic Society of Rural Cities in order to promote his ideas.

Law 3577, *Government Gazette* A(112), 30 June 1928: "On the ratification and amendment of the Law of 6 October 1927," "On the annexation of the Faculties of Forestry and Agriculture to the University of Thessaloniki."

A. Economopoulos, "Letter to the members of the Directing Board of the University Forests Fund," in *Basic Forestry Issues in Pertouli* [Βασικά Θέματα της Δασοπονίας Περτουλίου] (In Greek), M. Triantafyllou &Sons, Thessaloniki 1964, p. 3.

A. Economopoulos, *Report on the scientific research carried out from 1929 to 1931* [Έκθεσις περί των από του έτους 1929-1931 εκτελεσθέντων επιστημονικών ερευνών] (In Greek), University of Thessaloniki, Thessaloniki 1931.

A.K. Cajander, *The theory of forest types*, The Printing Office of Society for the Finnish Literary, Helsinki 1926, https://www.silvafennica.fi/article/7193, accessed 13 January 2023.

Law 4173, *Government Gazette* A(205), 19 June 1929: "On the ratification and amendment of the Legislative Decree of 11 May 1929 on the forest code," article 62.

Law 6320, *Government Gazette* A(356), 17 October 1934: "On granting the use of public forests to the University of Thessaloniki for educational research purposes etc." See also Legislative Decree, *Government Gazette* A(448), 28 December 1934: "On granting the use of public forests to the University of Thessaloniki for educational and research purposes." A protocol signed between General Inspector of Forests Petros Ioannidis and Inspector of Forests of Thessaly Alcibiades Giannakopoulos on behalf of the State, and professors Petros Kontos and Anastasios Economopoulos on behalf of the UT.

M. Heidegger, *Pathmarks* [Wegmarken 1919-1961], trans. & ed. William McNeil, Cambridge University Press, Cambridge 1998.

N. Mitsakis, "The University of Thessaloniki Students' Dormitories in Pertouli" [Το Ησυχαστήριον Φοιτητών Πανεπιστημίου Θεσσαλονίκης] (In Greek), *Technical Chronicles* [Τεχνικά Χρονικά], vol. 17, 196, 15 February 1940, pp. 141-143, http://library.tee.gr/digital/techr/1940/techr, accessed 13 January 2023.

A. Economopoulos, "Speech on the foundation ceremony delivered on August 15th, 1940 on the site of the erection of the branch of the University Club of Thessaloniki at Pertouli," in D. Louca, A. Papaioannou, *Pertouli: Settlement, Natural Environment, History* [Το Περτούλι: Οικισμός - Φυσικό Περιβάλλον - Ιστορία] (In Greek), Cultural Association of Pertouli, Trikala 2009, pp. 353-358.

The factory closed in the 1960s.

Thoreau's account of his experience at the pond was recorded in his 1854 book H.D. Thoreau, *Walden; or, Life in the Woods*, Oxford University Press, Oxford 2008.

Z. Kotionis, *The question of origin in Dimitris Pikionis' work* [Το ερώτημα της καταγωγής στο έργο του Δημήτρη Πικιώνη] (In Greek), Technical Chamber of Greece, Athens 1998, pp. 228-229.

N. Kazantzakis, *Ascesis – Salvatores dei*, trans. K. Friar, http://www.angel.net/~nic/askitiki.html, accessed 25 September 2022.

T.S. Eliot, "Tradition and the individual talent," *The Egoist*, vol. VI, 4, September 1919 and vol. VI, 5, December 1919. See also: *Perspecta*, 19, 1982, pp. 36-42.

Law 1881, Government Gazette A(210), 30 July 1951, "On the establishment of a Fund for the Administration and Management of the University Forests at the University of Thessaloniki."

A.N. Papageorgiou, "Forest village in Pertouli 1953-1956" [Δασικό χωριό στο Περτούλι 1953-1956] in A. Pikionis (ed.), *Pikionis*, vol. V, *Dimitris Pikionis Architectural Work 1949-1964* [Δημήτρης Πικιώνης Αρχιτεκτονικό Έργο 1949-1964] (In Greek), Basta-Plessa, Athens 1994, pp. 49-72.

Ivi, pp. 371-372.

A. Loukaki, "Pikionis and the East," in Id., *The Geographical Unconscious*, Ashgate Publishing, Farnham/Burlington 2014, pp. 301-335.

Sankeien Garden, a traditional Japanese garden in Yokohama, was built in 1906 by silk merchant Sankei Hara. It contains many important buildings of traditional architecture, which Hara had spotted in various parts of the country, bought and moved them to the garden to save them from destruction.

P. Psomopoulos, "Dimitris Pikionis: An indelible presence in modern Greece," *Ekistics*, vol. 60, 362-363, September-December 1993, pp. 253-275.

K. Tsiambaos, "The Delphic Utopia" [Η Δελφική Ουτοπία], in K. Tsiambaos *Ambiguous Modernity* [Αμφίθυμη Νεωτερικότητα] (In Greek), Epikentro, Athens 2017, pp. 45-107.

D. Pikionis, "The spirit of tradition" [Το πνεύμα της παράδοσης, 1951] and "Aesthetic principles of the architecture of the Housing Settlement in Aixoni" [Αισθητικές αρχές της αρχιτεκτονικής του Αιξωνικού Συνοικισμού, 1952], in Id., Texts [Κείμενα] (In Greek), MIET, Athens 1987, pp. 157-159 and pp. 255-258.

K. Tsiambaos, *op.cit.*, pp. 77-78.

D. Pikionis, "Autobiographical notes" [Αυτοβιογραφικά σημειώματα, 1958] (In Greek), in Id., *op.cit.*, pp. 23-35.

M. Parousis, "*The Study*: The dreamscapes of Dimitris Pikionis" ['Η Μελέτη': Τα ονειρικά τοπία του Δημήτρη Πικιώνη] in P. Pantelakis, A. Pikioni, G. Sarigiannis (eds.), *Dimitris Pikionis: A tribute to the centenary of his birth* [Δημήτρης Πικιώνης: Αφιέρωμα στα εκατό χρόνια από τη γέννησή του] (In Greek), National Technical University of Athens, Athens 1989, pp. 211-226.

Ivi, p. 219.

J. Ruskin, "Of Mountain Beauty," in *Modern Painters IV*, Part V, Smith, Elder, and Co., London 1856, pp. 166-186.

J. Ruskin, "Schaffhausen and Milan," in E.T. Cook, A. Wedderburn (eds.), *The Works of John Ruskin*, Cambridge University Press, Cambridge 2015, pp. 104-119. See also: J. Ruskin, Praeterita, George Allen, London 1907, pp. 146-171.

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D. Philippides, *Modern Greek Architecture* [Νεοελληνική Αρχιτεκτονική] (In Greek), Melissa Publishing House, Athens 1984, pp. 182-183.

Z. Kotionis, *op.cit.*, p. 70.

BEYOND DUALISMS. THE "ELECTRONIC URBANISM" OF TAKIS CH. ZENETOS: 1962-1974

YORGOS TZIRTZILAKIS

> It will be possible to create hallucinatory situations without hallucinogens, etc.

ELECTRONIC PROMETHEUS ("STORMED HEAVEN")

Since the early 1960s, the Greek Architect Zenetos (1926-1977) attempted a radical redefinition of the "City and House of the Future", based on concepts such as "tele-working", "tele-contact screens", "flexibility", etc. Thus, he upended the established hierarchies of metropolitan hubs with respect to the regional cultures of Europe, where architectural interest was usually limited to cultural heritage or derivative forms of modernity. In a sense, his work arguably rewrites the history of post-war modernity from the fringes of Europe. The focus is on the role of the architect in the post-industrial society of information and biopolitics.

The first public presentation of his provocative study was held at the Hellenic Modern Housing Organisation's Fair in Athens in 1962; the final revised version was presented nine years later at the 1st Building Fair at Zappeion, under the ambitious generic title *Electronic Urbanism*. Its content is summarised in a column published in daily newspaper *To Vima* in November 1971:

> Are we going to live in the clouds? That will certainly be the case sometime in the future. And it will come as a result of advancing technology. That's what the architect-urban planner and futurologist Takis Ch. Zenetos claims and demonstrates. […] According to yesterday's press release for the event: The Greek 'Home' of the future eliminates the concept of residence in the familiar sense, established for hundreds of years now. It will be a space suspended in the atmosphere without a 'material' shell, with controlled climate conditions. This unit will be integrated into the broader area of the 'City of the Future', a city built on the principles of electronic urbanism: a three-dimensional garden-city suspended in atmospheric vacuum. In this immaterial house, people will live in nudity and, should they so wish, express themselves through colourful make-up, etc.

The starting point for the architect's choice is not only visionary but specific, with a quadruple goal: (a) the radical reversal of the heavy population concentration and the massive buildings in large urban centers – what we could describe, in different terms, as the rejection of "manhattanism"; (b) blocking pollution and the climatic deterioration of the environment; (c) liberating and restoring the Earth's soil to its "natural state"; (d) the persistence on the modernist vision of re-building cities and re-structuring society from scratch. Therefore "life in the clouds" takes

on an accelerationist, planetary, and "techno-ecological" character to the new technological conditions of electronics, which penetrate all aspects of contemporary life.

Already in the earliest publications about his proposal, Zenetos argued that the conventional ways of building cities and "their traditional permanent structure damages irreparably the soil due to the great load and auxiliary installations while it has no possibilities of altitude or flexibility" ⇓. And later: "In the large urban complexes, we should strive to free, rather than occupy new soil, which should be preserved in its natural state" ⋀. And he elaborated, the suspended garden-city program: 'In the roposed stressed cable system the ground, left almost free, in an uninterrupted space of wild life'. In this electronic restoration of "wild life" and the unlimited variety of uses "the individual can choose between two basic systems (corresponding to basic human types, the 'nomad' and the 'farmer')".

In this "three-dimensional space grid", "the man desires, and has a right to acquire a 'home' in a quiet environment close to nature" ⎣. At this point Zenetos – who has a political vision – reverses the prediction made by Karl Marx in the *Economical and Philosophical Manuscripts* (1844): "A dwelling in the light (*Lichtwohnung*), which Prometheus describes in Aeschylus as one of the great gifts through which he transformed savages into men, ceases to exist for the worker". Instead, the New Worker of Electronics does not "revert once more to living in a cave", but to the suspended aerial cells. Electronic Man lives "in a 'close to everywhere' – right in the woods – dense – urban space", with "supports for plant climbers" and "vegetation extending over two levels". These suspended gardens comprise "air-tight cells of controlled micro-climate containing (in place of earth) the 'microstructure carrier' for anchoring the roots system of tall vegetation and liquids supply" ⊦.

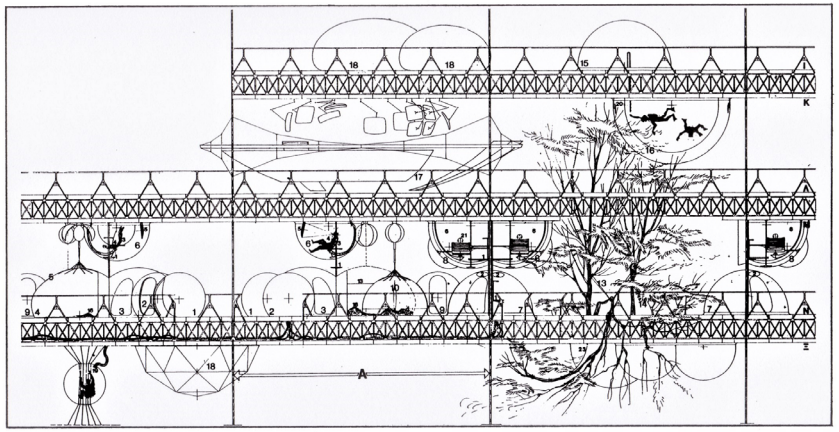
Yet this "wild life" in the "quiet environment" of the clouds, possesses an inexorable background: the advent of Electronics (automation, artificiality, planetary-scale computation) and, later, the Anthropocene, established a *global planning of the world*, an *alternative planetarity*, described in our case as *Electronic Urbanism*: "Seeing the Earth from space is the beginning of ecological thinking. The first aeronauts, balloon pilots, immediately saw Earth as an alien world. Seeing yourself from another point of view is the beginning of ethics and politics" ✳.

This is the core of this peculiar "aeroforming" and the "rezoning" of the Earth proposed by Zenetos: the identification of the uprooting of Earth's cities and the immaterial nature of electronics (what we now call "clouds platforms") with the mate-

Takis Ch. Zenetos, "The probable future of the Earth. The growth of conventional systems will destroy our planet." First published in *Architecture in Greece*, 7, 1973, Archive Takis Ch. Zenetos, Athens.

faut-il éviter cela ?

Takis Ch. Zenetos, "Partial view of the urban space grid with dwelling space for groups, cells, space for the couple's contacts, rests, 'instant sleep', public piazza, garden, cell for suspension experiences, space viewing etc."
First published in *Architecture in Greece*, 8, 1974,
Archive Takis Ch. Zenetos, Athens.



riality and physicality of the deterritorialized dwelling ("life in the clouds"). The primal distinction between earth and sky, terrestrial and aerial, "down here" and "up there" is not only modified but in fact ceases to exist altogether, with the aerial railway electric cables ("systems of tension without anchorage") and "the suspension bridges" as a symbolic and technical point of reference. The third reference image – or "found image" – from the past, is a drawing of Karpenisi (Central Greece) as an "example of a dense vertical 'garden city'". And the fourth "found" inspiration for the architect, is the spinning carousel in the amusement park, as shows the photograph published with the caption: "A new dimension to everyday life"[7].

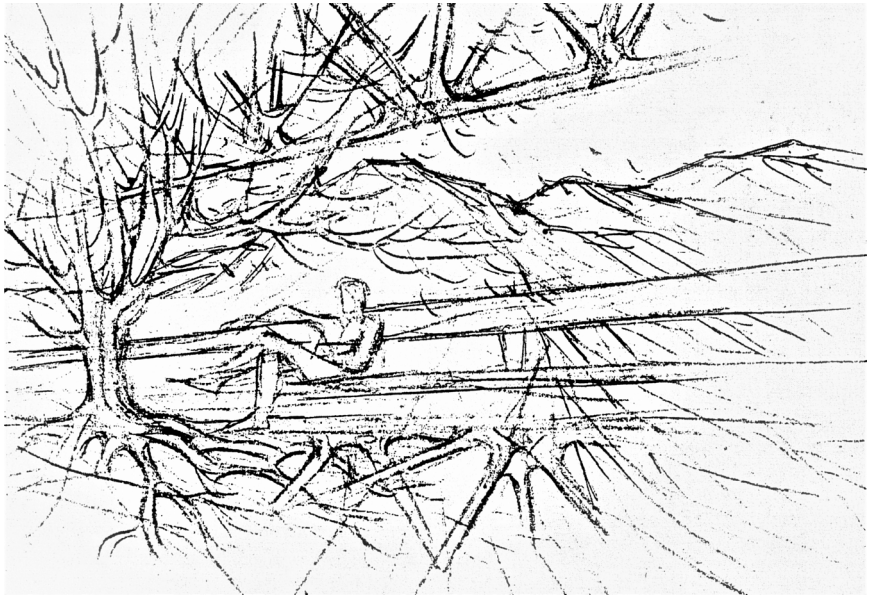
Using Ernst Bloch's terms,[8] we could argue that the "wild life" of *Electronic Urbanism*, as Zenetos envisions it developing "uninterrupted" in the "immense surface of the sky" above "forests, lakes, rivers, seas", re-situates architecture in a "Promethean momentum". An impatient search is readily apparent in this. The future of the city is thus inscribed within a kind of electronic messianism, a *novitas mundi* that attempts a furious opening towards what does not yet exist. Let us examine, therefore, how the presuppositions for this inconceivable "wild life 'close to everywhere' – right in the woods – dense – urban space" are articulated in the multimedia framework of *Electronic Urbanism*.

Today we realize that this radical electronic deterritorialization "suspended in atmospheric vacuum" combines the online diffusion of the post-industrial era and elements of science fiction, cybernetics, pop culture, and hippie subculture which, are intertwined with a "neo-primitivism" that many people push back.

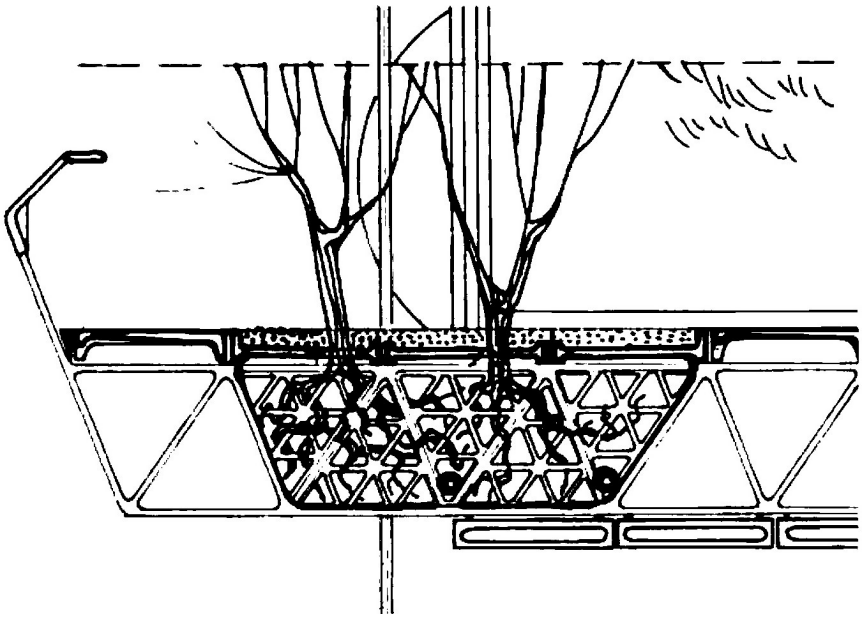
ACROBAT (TECHNOLOGICAL EROS)

From the outset, Zenetos places the human body at the core of his proposition, ushering us directly into the post-human future. The renegotiation of the boundaries of the body is increasingly combined with mechanised systems, devices and mediations of computer technology that determine social and productive behaviours, as well as habits, moods and dispositions. In 1967, Zenetos would detail this view in "Multi-Purpose Furniture"[9], which would form the core of *Electronic Urbanism*. This modular furniture reflects certain assumptions for the year 2000, including that "humans, both during working hours and in their free time (i.e., a large part of their day) will be either sitting or lying down". For these reasons, Zenetos defines this "orthopaedic" chair as "a second body-prop, complemented with all the tech-

Takis Ch. Zenetos, “Living in ‘close to everywhere – right in the woods – dense urban structure’”: Detail from a typical level of suspended electronic city. First published in *AD*, 4, 1973, Archive Takis Ch. Zenetos, Athens.



Takis Ch. Zenetos, Structural detail of an artificial suspended ground level. First published in *AD*, 4, 1973, Archive Takis Ch. Zenetos, Athens.



nological capabilities to extend the means of action of the human of 2000 (tele-contacts, tele-work, tele-controls, etc. [...] This is the heart of the man of the future".

What, then, does this modular "posture chair" signify, which already by its titular description heralds the loss of boundaries through the unifying holistic triptych "work-rest-sleep"? First of all, the cancellation of the distinction between *human* and *machine*, *organism* and *mechanism*. Henceforth, all human activity becomes a mechanism. And, in this sense, the future *machine-becoming* of the human body is established, which is not only an *imitation* or *representation* of the machine, but also a *metamorphosis*: a form of Otherness, a way of becoming Other. Friedrich Kittler gives a fascinating definition of the predominantly *materialistic* framework of this new era:

> [Human] essence escapes into apparatuses. Machines take over functions of the central nervous system, and no longer, as in times past, merely those of muscles. And with this differentiation – and not with steam engines and railroads – a clear division occurs between matter and information, the real and the symbolic. […] So-called Man is split up into physiology and information technology.

However, it is not only a matter of the embodiment of technological means, but also of their *dissemination* to the "public at large" through the ultimate modernist achievement: mass media. Zenetos has no inhibition about the *mass media* of his time. On the contrary, he ascribes a special importance to them. And this makes the connection between "tele-work" and "tele-vision" completely transparent. Or rather, "tele-work" completes and expands what "tele-vision" has paved the way for, socially: the *remote* transmission and reception of information, doing away with physical presence or contact, which is why every person "both during working hours and in their free time (i.e. a large part of their day) will be either sitting or lying down". Thus, we arrive at the ultimate postmodern paradox: The culmination of this fusion between *organism* and *mechanism* is the *immobilised body*. A body that, whether voluntarily or not, accedes to the lack of mobility with which we formerly experienced space, to a kind of disability.

In this way, Zenetos indicates the topological shift from a passive "egosphere" of "tele-contacts" to the intensity of verticality and, especially, the anthropology of the acrobat. The suspended city of electronics is an acrobatic programme. Its dweller shifts away from the spiritual model of the ascetic (to which Greek architects such as Dimitris Pikionis and Aris Konstantinidis were initiated) towards the vertigo of acrobatics:

> The word *acrobatics* refers to the Greek term for walking on tiptoe. […] It names the simplest form of natural anti-naturalness […] [forming] a support that lacks all qualities of a solid ground. […] Acrobatic existence detrivialises life by placing repetition in the service of the unrepeatable. It transforms all steps into first steps, because each one could be the last. It knows only one ethical action: the supervision of all circumstances through the conquest of the improbable.

Zenetos attempts to compensate for the dystopia of the immobile body – what he calls the "disadvantages of the sedentary life of tertiary-society man" – with the "posture changing features" while seated, and generally with "long walks in the three-dimensional space structure," the "development of sports," and various "attractive game-exercise equipment" in the "atmospheric vacuum," culminating in "the liberation of humans from clothes": The *disembodiment* of electronics coexists with the *physicality of nudism*, a predilection for which the architect rooted enthusiastically. It was, after all, a prominent feature of the counterculture of the 1960s.

As an iconic archetype of such a stance, Zenetos published a detail from the central panel of Hieronymus Bosch's *Garden of Earthly Delights*, where two nude figures of lovers are seated inside a glass sphere. The two naked bodies do not represent the dangers of sin, as many analysts of this enigmatic work have reiterated over the years, but the restoration of a "heavenly innocence". In this sense, we can argue that *Electronic Urbanism* is not limited to a purely *mechanical aesthetic* (along the lines of early modernity), but instead claims a machinique character of enjoying technological life (above the "forests, lakes, rivers, seas"). It adopts a "hedonic principle" that anticipates a kind of technological enamouration inside the electronic bubble ("soap bubble"): "In the atmospheric vacuum […] in the micro-flexibility region, an area of the living space will be periodically occupied for sex life, rest, instant sleep". Behold how "this immense wooing of the cosmos was enacted for the first time on a planetary scale, that is, in the spirit of technology".

BACHELOR (THE ELECTRONIC BODY)

This "erotic claim to the universe" is what separates ancient from modern humans: "It is the dangerous error of modern men to regard this experience as unimportant and avoidable and consign it to the individual as the poetic rapture of starry nights", Walter Benjamin notes. The question here seems inescapable:

How, then, does Zenetos imagine the "individual" of *Electronics*, this new subject that spends much of the day 'sitting or lying down' on his modular piece of furniture?

Two tiny drawings in the first publication of the modular chair offer a first answer. Zenetos represents the normalised body of *Electronics* nude – like Leonardo da Vinci's *Vitruvian Man*. At first glance, it is difficult to determine the gender of this nude body. It would be rash on the part of someone addicted to anatomical knowledge to simply assume that this is a custom of the standard anthropometric depictions to which Ernst Neufert's famous Architects' Data introduced us in 1936. This is because gender roles are distinct there. The Vitruvian Man figure is also male, of course (ca 1490), as is the *modulor* body type, designed by Le Corbusier in 1948. By contrast, the body of *Electronics*, seated on the modular chair, seems to be neutral – "neither male nor female". Bereft of discreet sexual organs, with a hairless (shaved) head and surrounded by mechanical and electronic components and buttons, the naked body of *Electronics* is depicted as a genderless semi-reclining figure. The way in which the architect himself prepares us for the rest is of particular importance: "His personality will be expressed through colourful make-up and optical effects (using reflective and absorbent substances), complemented by scents, and other intangible elements"[14].

This gender indeterminacy denotes the new corporeality of electronic normalisation, which Donna Haraway would epitomise, twenty years later, in the question: "Why should our bodies end at the skin?" Above all, however, it completes the categorical ambiguity of "City and House of the Future". I mean to say that this body is inseparable from the generalised loss of established boundaries and the fusion of many binary schemas that characterise Zenetos's overall proposition; that is, between human and machine, organic and inorganic, material and immaterial, interior and exterior, architecture and "non-architecture", production and consumption (post-production), work and rest ("work-rest-sleep"). Any distinction between the organic "self" and the mechanised "other" is no longer feasible. The body embodies machines, just as they embody it in turn. Rosalind Krauss describes this loss of boundaries in surrealism as a kind of "perverse feminisation, if you will, of the masculinist values of 'straightness' itself: clarity and decisiveness"[15].

Thus encouraged, allow me to draw another parallel: The hemispherical shape itself of the suspended transparent cells of *Electronics* can be compared not only to the archetype of the "Eskimo snowhouse" (igloo) or a spaceship cockpit, but also to a protruding horizontal eye on the levels of the "suspended city", or

even to an allegory of the breast: an inverted uterine cavity in the endless space frame of the "spider's web that surrounds the Earth".

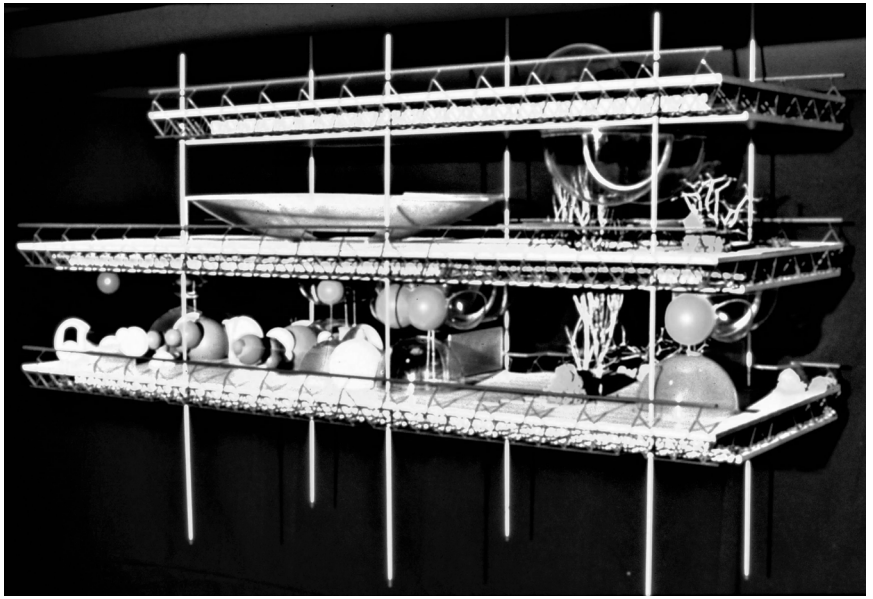
There is no reason to be scandalised by such a formulation, since the dwelling, even in the age of wireless communications, is an extension of what we start doing as soon as we are born: desperately constructing forms of intimacy with all that surrounds us. So, then, the hemispherical "tele-operation chambers" and "twin hive cells" are also a post-historic "substitute for the womb, the first – and apparently still desirable – dwelling place where man was safe and carefree"[16]. The difference being that in Zenetos's proposition the place of a complete body, a complete architectural object, is taken by "part-objects", chambers, organs-cells, eyes, breasts, bodies, "soap bubbles", "holographic replicas", "molecular structures", "groups and sub-groups" of elements above the "forests, lakes, rivers, seas" – each with its own flows. At the intersection of these flows is the "bachelor"[17] of the future modular chair.

RETRIBALISATION (THE MOUNTAINS OF ELECTRONICS)

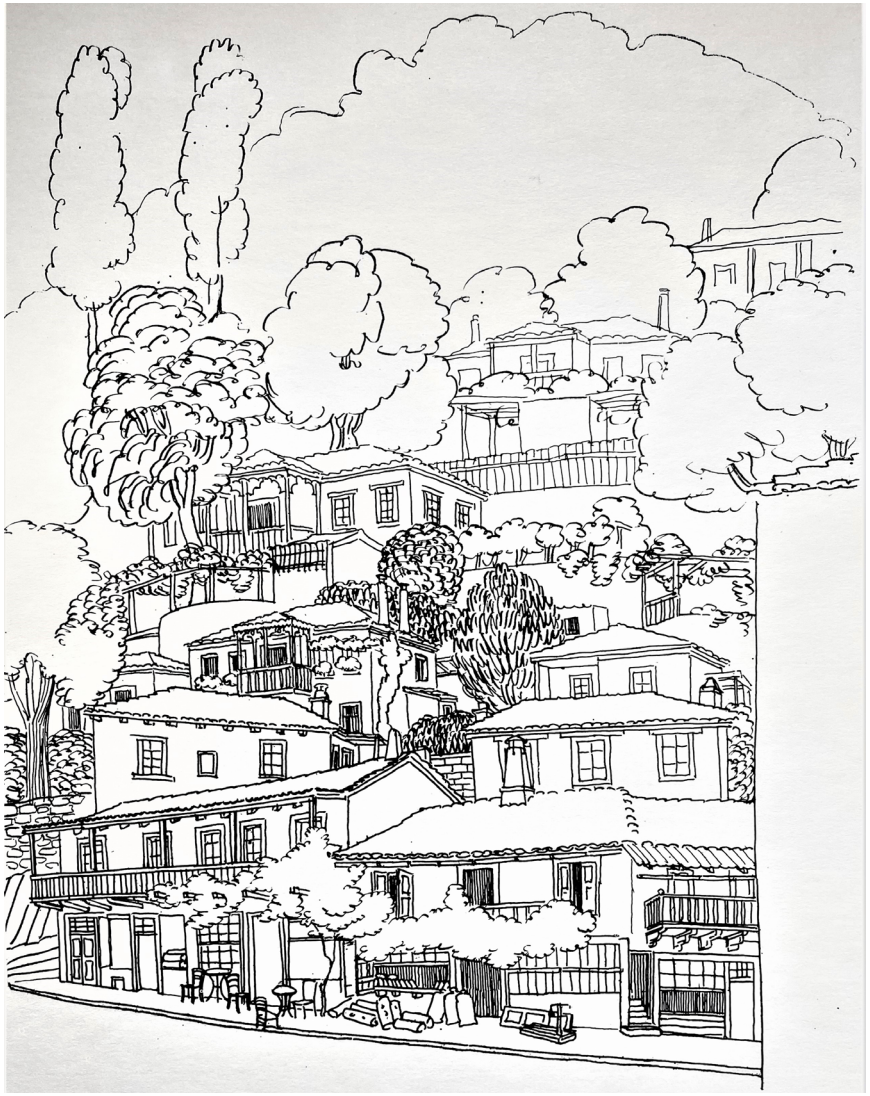
In a sense, this *mechanisation of human* tends to reproduce in a mirror-image inverted manner the *humanisation of the animal*. Such a loss of demarcation can be associated with certain versions of primitivism, which flourished in Paris at the time when Zenetos was a student there. Certain radical reversals can broadly be identified in his work, which are akin to what is called *regression* in the psychoanalytic process. The directionality of time progression of "futurology" is suddenly reversed, acquiring the characteristics of "archaeology:" It not only moves *forward*, i.e. from the present to the future, but also regresses *backward*, from the future to the past, reaching all the way to the origins of human civilisation. I mean to say that *Electronic Urbanism* does not constitute the symmetrical opposite of primal instincts and primitive anthropological structures but, on the contrary, it identifies with them, making the boundaries between the *primitive* (past) and the *electronic* (future) permeable.

Throughout his study, Zenetos makes ample reference to "new primitivism" and the affinity of the "distant future" with "the age of primitive societies". Already from the first publications of his "City of the Future", he paves the ground by arguing for "suspended urbanism": "A convincing example […] are mountain villages, fixed in place on inaccessible mountains (far from plains and crops)"[18]. And he goes on to internationalise the scope of "new primitivism" in the description of *Electronic Urbanism*: "The need of reverse visual isolation, which is not as necessary as acoustic isolation (i.e. when one does not wish to be

Takis Zenetos, Recycled experimental furniture: Recycling of finished objects (seats from tractors, cars, and lighting fixtures from automobile exhausts and camera tripod). First published in *Design+Art in Greece*, 6, 1975. Archive Takis Ch. Zenetos, Athens.



Karpenisi (Central Greece): “An example of a dense vertical ‘garden city’, transcending from the past.” Drawing by Panos Tzelepis from *L’ Architecture populaire en Grèce*, ed. Christian Zervos. Archive Takis Ch. Zenetos, Athens.



seen by others), will not exist in the future, as man will have done away with all his acquired inhibitions and will be living as in the manner of ancient societies, specimens of which have been preserved to our days (Eskimoes, Indians, African tribes)"[32].

Marshall McLuhan (whom Zenetos often cites) argued that "the immediacy of electromagnetic media fosters retribalisation". To this end, McLuhan refers to the difference between "the eye" and "the ear": The acoustic space belongs to the pre-literate environment of primitive man's orality, which has no centre, a world of simultaneous relationships. On the contrary, visual space is linked to the written language, where all things are linear and perceived in sequence. The distinction between the pre-literate (oral culture) and the literate (writing) here takes on a radically different meaning from what was thought until now: "Until writing was invented, man lived in an acoustic space: boundless, directionless, horizonless, in the dark of the mind, in the world of emotion, by primordial intuition, by terror"[33].

Against this binary opposition, the advent of electronic digital media privileges the pre-literate acoustic space of primitive tribalism, where the distance between inside and outside recedes. The human relationship with the environment is now regulated "haptically", which for the new-media guru involves *synergy* and *interaction of the senses*. Electronic media are "haptic" (i.e. interactive) and almost synaesthetic, fostering a new kind of participatory culture.

BEYOND DUALISMS (THE NATURE DOES NOT ENCLOSE US)

In this sense, the "retribalisation" of Electronics is an appropriate term for describing the unexpected way in which new technologies spread to all areas of the planet: The extensive diffusion of *entropy* and the environmental – almost archaic – decomposition of most areas seem to critically reverse the architect's futuristic project.

Moreover, Zenetos focused on the question of *entropy* early on, documenting it with images of a deterrent effect. Specifically, in the environmental requirements for *Electronic Urbanism* he published photos from the destructions caused to the planet by "the growth of conventional building systems", the "demolition of the luxury Traymore Hotel in Atlantic City" and the "chopping up of the mountain into gravel and sand to make concrete and then back into rubble once the building is demolished"[34]. To this end, he focuses on alternative forms of "recycling"[35].

The spontaneous environmental assemblages, the wild habitation practices and the extensive territorial *bricolage* in a series

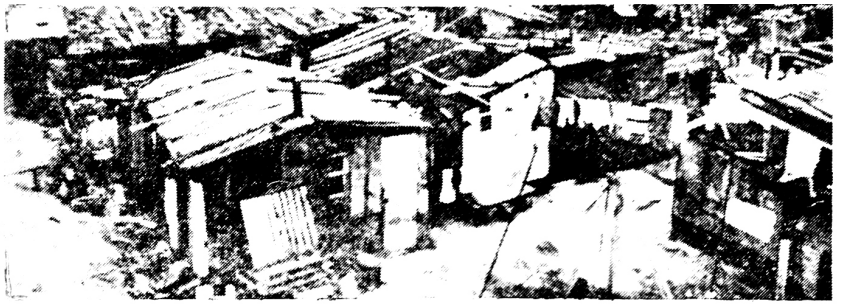
of areas are the prime example of what Zenetos calls "technologies of secondary use," in publishing a photograph of a "shanty town (Bidonville) in the Paris suburb of St. Denis." To the same effect, he re-used parts and entire recycled objects to furnish his family's apartment in Athens: tractor and car seats, a light fixture made from a car exhaust and a camera tripod, etc.

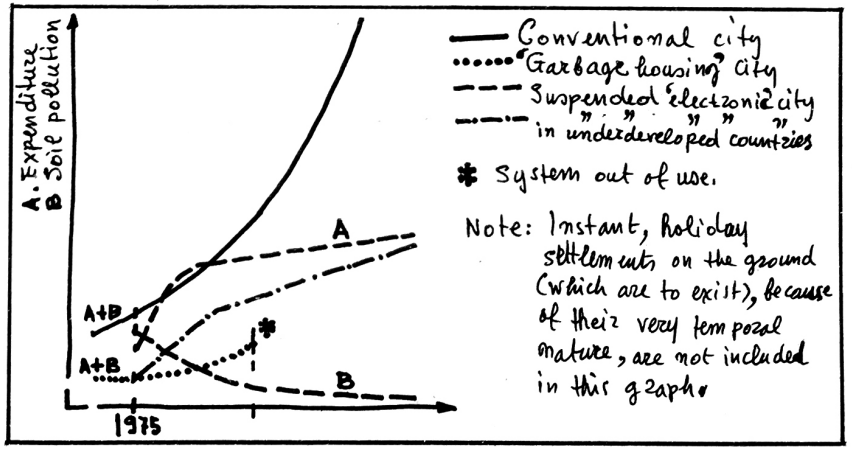
The tropes in which "retribalisation" is realised shifts electronic technology both from the Aristotelian "antecedent" (*πρότερον*) and its symmetrical counterpart (*ύστερον*). In a word, it shifts it twice, both from "too early", i.e. the advent of *Electronic Urbanism*, and from "too late" of the dystopian environmental crisis, to the present – the *now-time*: not the *novitas mundi* of the technological utopia; but the discontinuities, enduring archaisms, disturbing ruptures, territorial inequalities, sub-modern and hyper-modern deviations, tensions and cumulative entropy.

Besides, the great transformation has already taken place: *Electronic Urbanism* is one of those utopian projects that paved the way for the end of the traditional notion that man and his civilization find themselves within an enclosing and encompassing *nature*, or rather, a "Wilderness"[36]. Dissolving the boundaries between *man* and *machine*, Zenetos abolishes the predominance of man, situating humans within the post-binary condition of posthumanism, where any distinction between natural and artificial, organic and technical, human and non-human is blurred. In brief, he activates *in extremis* a condition in which these distinctions – where modernity was founded – are no longer viable.

As paradoxical as this may seem, *Electronic Urbanism*, surpassing the anthropocentric view, becomes the heir of a series of bright and dark visions lost in humanity's historical past. "Life up in the clouds" and the "individual movement-flight"[37] in the atmosphere, are not solely the privileged space of astronomy, ornithology, day-dreaming, or space exploration, prevalent in the 1960's, but of metaphysics and theology, as well: Assumption, circulating angels, and heavenly Jerusalem are only a few symbols and archetypes of this transcendental space, which modernity tried to confront its very beginning. What we call future never ceased to draw from this mystical horizon, resituating a series of *pathosformeln*[38] (formulas of pathos) within the technical framework of electronics. In other words, within the "wild life", "'close to everywhere' – right in the woods – dense – urban space".

Takis Ch. Zenetos, “Secondary use technology”: bidonville in the Paris suburb of St. Denis, and comparative graph of probable developments.”
First published in *Architecture in Greece*, 7, 1973.
Archive Takis Ch. Zenetos, Athens.





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T.Ch. Zenetos, *Town Planning and Electronics*, in “Architecture in Greece,” 7, Athens 1973, p. 113.

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T. Morton, *The Ecological Thought*, Harvard University Press, Cambridge, Mass.; London 2010, p. 14.

T.Ch. Zenetos, *Town Planning and Electronics*, “Architecture in Greece,” 8, p. 128.

E. Bloch, *The Principle of Hope*, Volume 2, trans. N. Plaice, S. Plaice and P. Knight, MIT Press, Cambridge, Mass.; London 1995.

T.Ch. Zenetos, *Furniture for Living and Working in the Year 2000. All-Purpose Furniture*, in “Architecture in Greece,” 3, 1969, p. 14.

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P. Sloterdijk, *You Must Change Your Life: On Anthropotechnics*, trans. W. Hoban, Polity Press, Cambridge 2013, p. 125.

W. Fraenger, *Il regno millenario di Hieronymus Bosch*, trans. I. Bernardini e G. Collu, Guanda, Parma 1980, p. 149.

T.Ch. Zenetos, *1st Building & Construction Trade Fair*, exh. cat., Zappeion, Athens, November 1971, Pavilions 42 and 48, pp. 38, 42 [in Greek].

W. Benjamin, *To the Planetarium*, in *One-Way Street and Other Writings*, trans. E. Jephcott and K. Shorter, NLB, London 1979, p. 104.

T.Ch. Zenetos, *1st Building & Construction Trade Fair*, p. 40.

R. Krauss, *Bachelors*, The MIT Press, Cambridge, MA, London 1999, pp. 12-13.

S. Freud, *Civilization and Its Discontents*, trans. D. McLintock, Penguin Classics, London 2014, p. 51.

M. Carrouges, *Les Machines célibataires*, Arcanes, Paris 1954; cf. Rosalind Krauss, op. cit.

T.Ch. Zenetos, *Town and Dwelling in the Future*, p. 49.

T.Ch. Zenetos, *Town Planning and Electronics*, in “Architecture in Greece,” 8, p. 125.

M. McLuhan, Quentin Fiore, *The Medium Is the Massage: An Inventory of Effects*, Random House, New York 1967, p. 48.

T.Ch. Zenetos, *Town Planning and Electronics*, in “Architecture in Greece,” 7, p. 115.

T.Ch. Zenetos, *Recycling*, in “Design in Greece,” 6, 1975, pp. 209-210.

L. Bryant, *Wilderness Ontology*, in Celina Jeffery (ed.), *Preternatural*, Punctum Books, Brooklyn, New York 2011, pp. 19-26.

T.Ch. Zenetos, *Town and Dwelling in the Future*, p. 51.

The term *Pathosformel* is coined by Aby Warburg to designate the “afterlife” of the images that changes in form until it re-emerges in a later version.

1592 HOUSES IN THE FOREST. BRUNO TAUT AND THE WALDSIEDLUNG ZEHLENDORF IN BERLIN

CHIARA CARAVELLO

Faced with the shattering European post-war scenario, Bruno Taut wrote: "If one succeeded in directing these forces into another, more beautiful channel, then the Earth would really be a good apartment"[1]. Utopian yet moved by a genuine social vocation, Taut will make his statement a reality in the design of the Waldsiedlung Zehlendorf in Berlin[2], also known as Waldsiedlung Onkel Toms Hütte or *Papageiensiedlung*[3]. This social housing complex, built between 1926 and 1932, stands out for its careful composition between built and natural environments, characterised by the presence of a vast pine forest. Indeed, the designated urban development area lies on the edge of the Grunewald forest[4]. The site includes a large woodland consisting mainly of pine trees, giving the settlement its unmistakable character, but also of other tree species such as oak, weeping willow and silver birch. Indeed, the term *Waldsiedlung* (Forest Settlement) recalls the compositional relevance of the forest landscape, perfectly integrated into the urban and architectural design of the complex. For this reason, the image of the Waldsiedlung Zehlendorf is still strongly characterized by its forest-permeating open spaces and gardens, to be preserved as an intrinsic part of this built heritage.

After surviving National Socialism and World War II, the Waldsiedlung Zehlendorf was aesthetically disfigured in the post-war period when the colors on the façade were removed. In 1982, the complex was declared a *geschützter Baubereich*[5] and the first restoration work began. Added to the Berlin Monument List of 15 May 2001[6], the Waldsiedlung Zehlendorf has been acknowledged not only as a *Denkmalbereich*[7] for the uniqueness of its urban and architectural design, but also as a Gartendenkmal for the outstanding value of its open spaces[8]. Moreover, the housing estate has been recently proposed to be listed as UNESCO World Heritage, as the seventh *Siedlung der Berliner Moderne*[9], similar to Taut's Gartenstadt Falkenberg (1913-1916)[10]. Among the values underlying this proposal[11], the most relevant in the context of this volume are: key Value D, acknowledging the further development of the *Gartenstadt* concept to large-scale settlements and key value E, recognizing the achieved balance between urban, architecture and open space design. Likewise, points 7, 8, 9 respectively considering the creation of living space with *Licht, Luft und Sonne*[12] as the new norm; the innovative housing development from garden cities to large housing estate concepts; the wide offer of *Außenwohnräumen* in the form of private gardens and shared open green spaces.

It is important to frame the historical context in which this complex was developed. The First World War had left Europe in

a state of decay and despair. Certainly, there was a need for practical solutions to ensure efficient and affordable housing development, but there was also as much need for a new aesthetic vision guided by moral standards. Bruno Taut was convinced that architecture had to correspond, first and foremost, to human needs, for not only the physical but also the psychological and moral effects it could bring about in people. It is to the desire to bring cheerfulness and vitality through new buildings that Taut aspires when – not frightened by the derisory name *Tuschkastensiedlung* attributed to the Gartenstadt Falkenberg – he decides to realize another colorful residential complex.

The Waldsiedlung Zehlendorf, commissioned by the Gemeinnützige Heimstätten-, Spar- und Bau Aktiengesellschaft (GEHAG) in 1926, was built in a total of seven construction phases until 1932, for a covered surface of 34.46 hectares. This social housing complex is especially innovative and extraordinary for the way the urban development project has been embedded within the local forest landscape. In fact, Taut was inspired by the site's topography and pine forest, which spontaneously became a fundamental element in his design. Together with Taut, architects Otto Rudolf Salvisberg and Hugo Häring were engaged to design the housing typologies, whereas the landscape architect Leberecht Migge was involved in designing the open spaces. The construction of the complex was carried out by Bauhütte Berlin and the Allgemeine Hausbau AG (AHAG) of Adolf Sommerfeld.

Without a given overall plan, the first two settlements' design and construction stages (1926-1927) saw the collaboration of Bruno Taut and Martin Wagner, who had been nominated city planning officers of Berlin in 1926. Bruno Taut made by far the most significant contribution to the construction of the estate, developing the urban design by drawing charming outdoor environments, setting intriguing and suggestive perspectives. An excellent example of Taut's stunning settings is the so-called *Kiefernhof, offen*, a wide courtyard resulting from the large overall forms of the long house rows being lightened up with snapped-off end-houses.

The Waldsiedlung Zehlendorf is one of the largest housing projects of the Weimar Republic, with a total of 1915 residential units, of which 1106 are storey apartments and 809 are single-family row houses. Due to economic reasons, the architectural project for the single-family row houses is limited to two residential types, leaving the way open for the design of unprecedented solutions in the intermediate spaces between built-up and open areas. Indeed, despite the limited number of architectural typologies, the composition is anything but monotonous, thanks to the juxtaposition of elements on staggered planes in an engaging interplay of light and shadow, solids and voids, open and private spaces.

Actively fostering social and ecological connections through an approach that strongly emphasizes relations between neighbors as well as between people and nature, the Waldsiedlung Zehlendorf settlement can be seen as an icon and pioneering project of eco-social housing. In his architectural design, Taut introduces the need to establish a relationship of balance and reciprocity between his 1529 residential units and the surrounding open spaces, considered as part of the architectural design itself. The forest becomes a compositional element, integrated into the functional and aesthetic aspects of the project. The forest vegetation accompanies the inhabitants to their front door, establishing a fluid relationship between the external and internal environment. Not to be omitted are the consideration of the vegetation as a protective filter between the city and the residential complex and the innovative attention to climatic aspects. Indeed, to ensure optimal sunlight and ventilation for the flats, the architects laid out the majority of the residential rows in a north-south orientation. Aesthetics and modern functionality achieve an outstanding compositional balance, where nature and man-made features are linked to each other with intuition and sensitivity.

One year before the end of the construction of the Waldsiedlung Zehlendorf, in the fall of 1931, Martin Wagner founded the research group *Das wachsende Haus*, including, among other prominent German architects, Bruno Taut and Leberecht Migge. The group, faced with the challenge of standardization and prefabrication for housing, investigated a new house concept with significant consideration of outdoor areas, integrating them within the design process. So, based on functional connections, interior and exterior spaces were placed in direct relation. This concept, developed by the most influential architects of Germany at the time, reconsidered the value of the house as a place for living and well-being, with a biological understanding of the built environment.

The *Das wachsende Haus* concept, developed over the time frame in which the Waldsiedlung Zehlendorf was built, is reflected in a few improvements made to the design of the complex. For example, in order to increase the residential value of the single-family row houses, it was decided from 1928 onwards to implement the initially-provided open wooden pergola into an enclosed terrace. This was built with a glass roof according to var-

ious standard designs, including different solutions with materials such as wood, steel, glass and zinc plate.

The ownership of the properties in the settlement is currently distributed between approximately 800 private owners and 1,100 rental units, which are now managed by the private company *Deutsche Wohnen*. Both owners and tenants, of which many have now been living in the complex for decades, still appreciate the Waldsiedlung Zehlendorf as a high-quality residential area in nature. Indeed, the residents are so proud of the green atmosphere of their listed ensemble in the Grunewald that they have set up a neighborhood initiative to promote the monument's conservation and increase the eco-social quality of life in the settlement according to climate standards. The community group was founded in 2007, holding its first meeting in Ladenstraße, named, not coincidentally, *Bruno Taut Laden*. In June 2010, it became a nonprofit organization named *Verein Papageiensiedlung e.V.* (Parrots Settlement Association). For the upcoming centenary of the settlement, an active part of the residents is planning to render it carbon-neutral in the next century, under the motto *Die nächsten 100 Jahre* (The next 100 years), making it a model project for the compatibility of monument protection and climate protection.

In 2019, the *Verein Papageiensiedlung* launched the *Klimafreundliche Papageiensiedlung* (KliP; Climate-friendly Parrots Settlement) project. A citizens' survey, several meetings and various workshops have given rise to diverse KliP project groups, such as the *Gruppe Grün* (Green Group), which is concerned with climate-friendly gardening, or to groups focusing on climate-friendly mobility, CO2 reduction by implementing thermal insulation, solar power systems, heat pumps. To make the project even more ambitious, one group has upgraded KLiP to KliQ, standing for *Klimafreundliche Quartier KrummeOnkelOskar*, extending from the Oskar Helene Heim station to the Krumme Lanke station, thus including all climate-relevant private and public actors from a radius of about one kilometer around the Ladenstraße center.

Bruno Taut, Otto Rudolf Salvisberg, Hugo Häring, Waldsiedlung Zehlendorf
Berlin Zehlendorf, Riemeisterstraße Frisierkunst, Berlin, 1926-32.

Deutscher Werkbund Berlin e.V (ed.), *Bruno Taut. Meister des farbigen Bauens in Berlin*, Verlagshaus Braun, Berlin 2005, p. 10.

The name *Onkel Toms Hütte* derives from the homonymous *U-Bahnstation* (underground station) opened within the housing complex in 1929 as part of the U3 underground line connecting today Zehlendorf and Dahlem via Wittenbergplatz.

The term was used as a form of popular mockery referring to the bright parrot-colours applied on the façades.

The Waldsiedlung Zehlendorf is located in Berlin-Zehlendorf, on both sides of the Argentinische Allee, between the streets Onkel Tom Straße, Sprungschanzen Weg, Holzungsweg and Am Fischtal.

According to the definition given by the DWDS, "area of a city that is protected as an ensemble" (my translation).

Amtsblatt Berlin Nr.29 vom 14 Juni 2001.

According to the Landesdenkmalamt Berlin's *Erläuterung zur Denkmalliste* (Explanation regarding the list of monuments), a *Denkmalbereich* (Monument area, ensemble, overall complex) is a plurality of built structures including streets and squares connected to them as well as green spaces, open areas and water surfaces, the preservation of which is in the public interest (my translation).

According to the Landesdenkmalamt Berlin's *Erläuterung zur Denkmalliste*, a *Gartendenkmal* (Garden monument) is a green space, a garden or a park, a cemetery, an avenue or any other witness to garden and landscape design, the preservation of which is in the public interest. A Gartendenkmal may include built structures and be integral parts of monument areas; furthermore, it can include accessories and furnishings insofar as they form a unit of monumental value with the garden monument (my translation).

Deutscher Werkbund Berlin e.V (ed.), Bruno Taut, *cit.*, pp. 30-31.

It is thought to be the combination of these seven social housing estates, including the Waldsiedlung Zehlendorf, to have contributed decisively to the improvement of housing and living conditions in low-income residential blocks in Germany and elsewhere.

Gartenstadt Falkenberg, curated by Landesdenkmalamt Berlin.

Waldsiedlung Zehlendorf 3D Tabelle Vergleichsanalyse, curated by Landesdenkmalamt Berlin.

The contemporary guiding principle of providing affordable housing with "light, air and sunshine" is also promoted by the commissioner (GEHAG).

For the first time, Taut used such intensive colours as an ornamental element for an entire housing estate. What has now become a trademark of the estate has been heavily criticised at the time, leading to the housing estate generally being known as the *Tuschkastensiedlung* (Paintbox settlement).

For this reason, Taut has often been defined as the *Meister des farbigen Bauens*.

The Gemeinnützige Heimstätten-, Spar- und Bau Aktiengesellschaft (GEHAG) was established in 1924 to reorganise the housing estate after the First World War and one of the best-known societies for social housing until 2007.

Landesdenkmalamt Berlin (ed.), *Vorschlag für das deutsche Tentativverfahren 2021-2023 Waldsiedlung Zehlendorf. Erweiterung der Welterbestätte "Siedlungen der Berliner Moderne,"* https://www.berlin.de/landesdenkmalamt/welterbe/welterbepotenziale/waldsiedlung-zehlendorf-1179346.php, accessed August 27, 2022, p. 1.

Migge's design was inextricably linked to a growing residential landscape, which the architect described in his publication *Die wachsende Siedlung nach biologischen Gesetzen* of 1932, the year in which the construction of the Waldsiedlung Zehlendorf was completed.

Winfried Brenne Architekten, Berlin-Steglitz Untere Denkmalschutzbehörde (eds.), *Waldsiedlung Zehlendorf Onkel-Toms-Hütte*, Untere Denkmalschutzbehörde Berlin-Steglitz, Berlin 2006, https://nbn-resolving.de/urn:nbn:de:kobv:109-opus-99256, accessed August 27, 2022, p. 6.

Deutscher Werkbund Berlin e.V (ed.), Bruno Taut, *cit.*, p. 123.

In addition to single-family row houses, the settlement is also characterised by multi-storey apartments in order to keep rents and house prices low thanks to a high degree of land use.

Taut designed a total of 1106 multi-storey apartments and 486 single-family row houses out of the 1915 residential units of the Waldsiedlung Zehlendorf. See Winfried Brenne Architekten (ed.), *Waldsiedlung Zehlendorf Onkel-Toms-Hütte*, *cit.*, p. 120.

In opposition to the spacious and sumptuously furnished villas still proposed by renowned architects such as Mies van der Rohe in the early 1930s, Martin Wagner was moved by the conviction of the need for a rationalisation of residential accommodation making use of simple, prefabricated structures to meet the demand for housing.

F. van Andel, *Woningbouw in tijden van crisis. De groeiwoning als antwoord?/ Housing in Times of Crisis. Is the 'Growing House' the Answer?*, in "DASH. Delft Architectural Studies on Housing, Housing exhibitions," 9, 2013, pp. 4-17. doi: https://doi.org/10.7480/dash.09, p. 10.

The *Das wachsende Haus* concept offered the possibility of expanding the building outwards, considering the design of open spaces as an integral part of the living space of the house.

Particularly innovative within this movement is the development of ideas and proposals to ensure the self-sufficiency of the inhabitants, such as the creation of small greenhouses for growing vegetables in private gardens.

Unfortunately, a major fire in the Ladenstraße destroyed this meeting place in 2020 and the working group moved to the vacant former hairdresser's shop in Riemeisterstraße, where a *Klimabüro* (Climate office) was established.

THE FOREST IN BRUNO TAUT'S *CITY CROWN*: A SPIRITUAL AND PERCEPTUAL UTOPIA FOR OUR CITIES

KEVIN SANTUS

> Walking through the woods, your attention is caught by particular tree. There it is, rooted in the earth, trunk rising up, branches splayed out, swaying in the wind, with or without buds or leaves, depending on the season. How should we define it? What is tree and what is not-tree? Where does the tree end and the rest of the world begin? These questions are not easily answered.[1]

Bruno Taut, among other architects of Modernity, could reveal a distinguished attitude in looking at the potentiality of vegetation and the sylvan to construct a new alliance between architecture and nature.

This relationship between nature and the project was then highlighted in his two essays *Natur und Kunst (Nature and Art)* and *Natur und Baukunst (Nature and Architecture)*. The two articles present nature as the primary source for the art and the project, to look in depth with the lens of the spirit, finding in trees and sylvan the "architecture of the world". Thus, the forest emerges as a spatial device between the scales and part of the territory and architecture itself.

From this, the contribution aims to present Taut's utopia of the *City Crown* as seminal work, where the city becomes a hybrid space between architecture and forest, which creates an indispensable bond of coexistence for people and built spaces.

Consequently, the definition of Taut's utopia is intimately connected with the image of the forest, outlining a nuance between minerality and naturality, defining a transformed vision of the idea of the garden city, and enriching the urban experience. Indeed, the forest becomes a new element of the city, a dense image that constitutes an experiential part of the urban fabric, defining borders and blending features. Here, the architect – as Bruno Taut explained in his essay – should "awaken the treasure that sleeps in the depths of the human mind"[2], filling the spatial configuration with a new spiritual bond between space, nature and society. Taut's *City Crown* aimed at presenting a visionary imaginary for the new city, considering this as a true mission; indeed, he specified that "If they [the architects] have no ultimate vision, if they do not hope and long for the greatest achievements, then their existence has no value"[3].

Finally, the essay proposes to frame Taut's work as a project legacy able to impact the approach to the current urban transformation, looking at the sylvan as a design and spiritual possibility for a new experience of architecture and urban space. Hence, themes like reforestation, green belts, or green wedges could find a new architectural and urban significance, further than their technical usefulness, presenting a new vision for the city.

THE VEGETATION: FROM HOWARD'S GARDEN CITY TO BRUNO TAUT

Since the last decades of the XIX century, and then exploding during the following century, the role of the city and its future started to be at the center of the architectural debate[1]. The urban growth, the mass of people moving from the countryside to the city, and then the two world wars of the XX century pushed for a reimagination of the city, its spaces and significance[2].

In the changing condition of the space, many architects proposed new models for urban development. Modernism played a crucial role in this architectural speculation, building new experimental neighbourhoods and producing utopias that heavily influenced the development of the built environment and urban design. New values were spreading, and the need to reframe the city's social, ethical, and spatial theme pushed many authors to propose new development models.

Within this framework, at the turn of the XIX century, Ebenezer Howard published a book in England, stating a new alliance between the naturality of the country with the services and minerality of the city. Titled *To-morrow: A Peaceful Path to Real Reform*, the book heavily influenced architects and urbanists all over Europe, producing a proper garden city movement that aimed to transform the urban quality of life and, at the same time, reframe the relationship between the project and vegetation. From Taut to Migge, Gropius and Le Corbusier, the theme of vegetation entered the modern discussion of architecture and city, reflecting on the role of gardens and sylvan as controlled elements of a new vision for the project, capable of making a closer relationship between oxymorons of the past. As the physical construction of Howard's vision for a new urbanity, the first garden city of Letchworth was built. Like other German architects, Taut knew Unwin's work[3], visiting and reading his book *Fundamentals of City Planning*, which was translated into German with the title *Grundlagen des Städtebaus*. This textbook had a significant repercussion on a generation of architects, which considered the theme in the practice of urban design not only as a planning issue (such as the relationship between industries and dwellings or the circulation principles for the modern cities) but also in defining a crucial alliance between country and city.

Thus, the vegetation became a tool of the project, but also an environment to build and confront. Considering the work of Bruno Taut, we could affirm that Nature played an important role in his career as an architect, visibly interacting with his design production.

Starting from the city, Bruno Taut was concerned about the possible alliance between human beings, Nature and the urban

context, approaching the theme from a poetic point of view. When writing the essay *Natur und Kunst*, Taut directly quotes John Ruskin in an excerpt from the book *Stones of Venice*: "We are forced, for the sake of accumulating our power and knowledge, to live in cities: but such advantage as we have in association with each other is in great part counterbalanced by our loss of fellowship with Nature. […] Then the function of our architecture is, as far as may be, to replace these; to tell us about Nature; to possess us with memories of her quietness; to be solemn and full of tenderness, like her, and rich in portraitures of her"[4].

Quoting these lines, Taut let us understand the impact they could have had in shaping his approach to nature. Far from the utilitarian perspective, Taut gazed at the sylvan with an artistic and spiritual bond. Through it, he proposed a new vision for the garden city, trying to advance Howard and Unwin's model and enrich its design values. This concept was then exposed within a utopian project, published in 1919, titled *Die Stadtkrone – The City Crown*. In this publication, before introducing the project itself, he wrote: "To view architecture as nothing more than nicely designed functional forms or as ornamental wrappings around our essential needs is to assign it to the role of a craft and places too little value on its importance [in our lives]. In buildings that demand more than the fulfillment of basic necessities, [architecture] is an art, a play of fantasy, and only maintains a very loose connection to those purposes. However, no effort of the human imagination can lead to profound [physical] forms if it does not root itself in the inner spiritual life and existence of mankind"[5].

Bruno Taut, here, clarified his position on the role of design, opening to the project of the *City Crown*, where his attitude was revealed both in his treatments of architecture and sylvan. These were based on functional purposes and rooted in a spiritual and spatial bond. In this way, he demonstrated how the practice of architecture could work with nature as a declared formal inspiration[6], and direct use of nature as a design element.

THE *CITY CROWN*: BUILDING AN IDEAL

> This design goes beyond the barriers of the everyday, the 'natural' flows freely and, at the same time, in a tight spiritual bond.[7]

With these words, Taut described the project *City Crown* (Fig. 1), his utopian figuration for an urban reimagination. The utopian project constructs a continuous dialogue between buildings and Nature, where the forest plays a crucial role in the definition of the design figuration of the project.

The utopia echoes the medieval city in a concentric disposition with its core at the centre. Nevertheless, if in historic cities, the urban limits were defined by the walls, Taut assigned the role to the forest, which encircled the new city, with trees constructing a natural architecture. The inner structure is then proportioned between private buildings, gardens, parks, and public services. Then, starting by mirroring some typological features of Howard's Garden city, Taut proposed a complete permeation between minerality and naturality, starting with the houses which are "entirely conceived in the character of a garden city; in low single rows with deep gardens for every house, [...] so that the residential area itself is a horticultural zone making allotment gardens unnecessary. Beyond the periphery of the park belt is the agricultural zone"[12].

Following, relating the main concern of his time, Taut reflected on the relationship between industries and dwellings, infrastructures, and public space. However, the central architecture is the fundamental place in this utopia, which also gives its name to it. Echoing the Glasshouse, a series of constructions thicken in the heart of the city, expressing at the same time the solidity of the new city and the poetic light that shines in the interiors across the glass facades. The central building is taller than the others, towering over the rest of the urban fabric. Entirely thought as a public space, Taut imagined the people to overlook the territory around, having a close contact with nature and the city, experiencing the space as a collective good. Moreover, the agglomerate that composes the core of the *City Crown* and hosted public functions grounded on a sequence of squares where the minerality blended the sylvan: "While the exits from the theater and small community center lead to large outside staircases (special ramps are not drawn; the approach to the loading dock in the middle would take place via a tunnel-like driveway) and tree-covered squares, on the right and left of these two large buildings is a framework of courtyards, arcades and buildings, which vary depending on position and purpose"[13]. In general, overcoming functional zoning, it is possible to interpret the utopia by looking at the sequences of its spaces, where woods and buildings define a reciprocal dialogue between masses and voids. The sylvan is used to construct a precise figure of the urban space and is valued with a spiritual meaning. More than a border, the forest enters the city and reaches the main buildings: like thick connections, axial churches are placed as forest front elements; similarly, the central architecture is the culmination of a forest wedge which constitutes a forest park. Within this, universities and hospitals are hosted, making the forest also a public and livable space.

THE ROLE OF THE FOREST: BETWEEN SPIRIT AND PERCEPTION

Taut's fascination for the forest is already visible in his early paintings. In the first years of the XX century, Taut produced a series of paintings and drawings with the forest as a landscape or main subject, representing its physical presence in the territory. The production reveals a strong interest in sylvan's atmospheres, its relationship with the light, as well as the forest as physical construction of nature[14]. These are collected in the book *Bruno Taut: Natur Und Fantasie 1880-1938* curated by M. Speidel and published in the 1994. Some paintings like *Flußlandschaft*[15] emphasize the forest as an object, a solid figure which defines a natural architecture in the territory, underlined by the contour lines and standing between landscape and buildings.

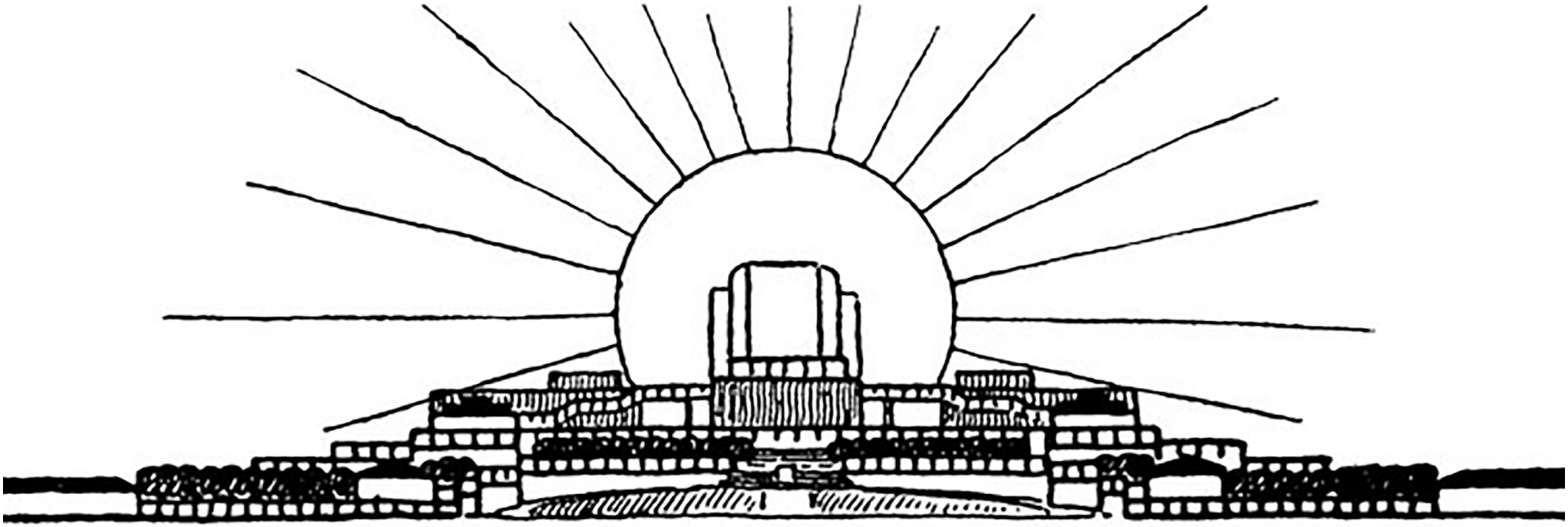
The project for the *City Crown* transposed the same attitude to look at the sylvan as an urban figure. Indeed, in this work, the forest takes a prominent role, being a design tool and an element of perceptions. Both a barrier to define the city's shape, a dense element within the city itself, defining the "basement" of the central architecture, and a space to perceive nature, the forest could be described as a symbolic foundation for the *City Crown*.

More than just a garden city, Taut envisioned the space for the wilderness to "connect the heart of the city with the open land like a lifeline. This will be a true people's park with [...] a vast grove and a forest leading to a natural area"[16]. Through this relation, the Architect envisioned a true symbiosis between the city and the sylvan, an alliance embedded in the city's morphology, metabolisms, and climate functioning.

The forest in the *City Crown* becomes a living element of the settlement, controlled in its form as an architectural material. The shape of the forest traces the form of the city, where the sylvan becomes its natural construction, in a strong relationship with the built environment. The same circle around the city that recalls the city's wall of the middle age is a reinterpretation of the historical city but imagined through nature. Remarkably, the forest's aesthetic echoes the urban elements, configuring a series of visual metaphors and, lastly, becoming a city itself. The forest is a built organism that gives structure to architecture; we could see in the sylvan a typological element, a built space, and a spiritual place of Taut's imagination.

Moreover, the forest in the Architect's vision is more than an image of wilderness, becoming a climate device too. Indeed, even without technical analysis, Bruno Taut proposes the forest to be more prominent on the City Crown's western side to allow the city's fresh ventilation thanks to the main winds. As described by Taut: "In the west, along the main wind direction, a big sec-

The images show the towering element of the city crown.
Drawings by Bruno Taut.



tor shaped park brings good air from the woods and fields into the city”[11]. The relationship between the city and the forest also becomes a method to cool the city, avoiding the hot urban climate and considering the connection between the city and nature for better wellbeing.

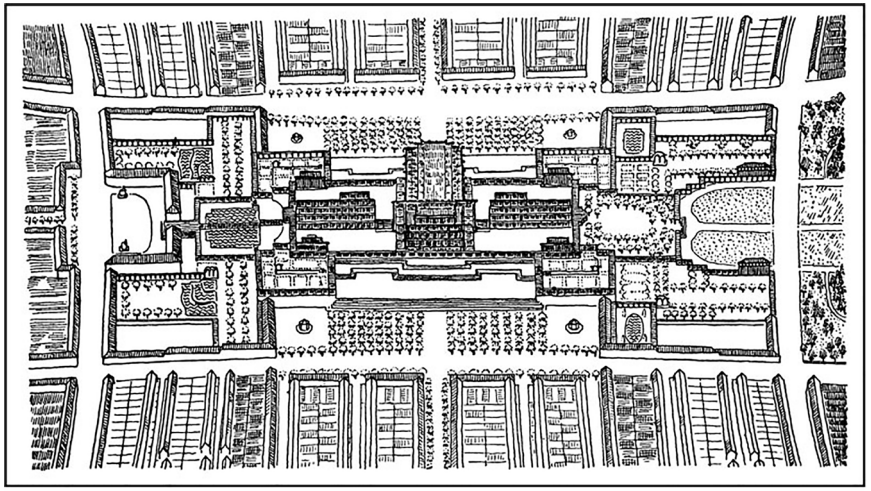
Bruno Taut, starting with the knowledge of the work of Unwin and Howard, tried to evolve the garden city model. In his vision, nature is no longer a utilitarian space; instead, the forest, so Nature, becomes an integral construction of the city and architecture as a spiritual counterpart to them.

Interestingly, the main elements of the urban fabrics arise from a differently dense forest. The three churches, placed at the margin of the urban fabric, are built as complementary to the forest that seems to penetrate the city itself. The forest wedges become a thick and dense construction of trees, which makes closer the relationship between the mineral space for the citizens and the naturality of the sylvan. Similarly, hospitals and the university are placed within the forest park, valuing the last one of a social and public role, making the relationship between man and nature closer.

As written before, the culmination of the project is the crowning building. Here the forest reaches the architecture and represents a natural basement for the main public building, shaping small dense forested squares. The woodland is so blended with the architectural forms, stressing its presence. The project, as a whole, displays the concept “to tell about Nature” through urban and architectural design that Ruskin suggested and that fascinated the imagination of Taut.

To conclude, with a modern attitude, Bruno Taut controlled nature and, at the same time, achieved a sense of freedom for the city. The City Crown evolved the concept of the Garden city proposed by Howard and tried to do what, decades later, Monestiroli wrote about the Modern urban culture, which “seems to allow, at least theoretically, the ancient dream to equip the nature to be inhabited”. Taut traced this poetic interdependence between the Forest and Architecture, shaping a city where architecture and nature are reciprocal complements. The forest, which Taut believed essential for the modern city, is a symbolic and perceptive tool. Spiritual and experiential, this utopia presents the forest as an architectural element, a form of the territory, and a design tool that could work on new urban figurations.

The figure represents the city’s core, with the city crown’s complex. Trees create a sequence of forested squares and define a tight bond between architecture and naturality. Drawing by Bruno Taut.



Taut's work remained tight to the forest beyond the utopia, making it a manifesto of his belief and a possible will for a different relation between minerality and naturality. This is visible in Hufeisensiedlung, built in 1925, or even the following project, like the Waldsiedlung, constructed between 1926 and 1931. Both projects revealed a sensibility for the sylvan, which became an integral part of the urban and architectural space.

In this perspective, rereading the *City Crown* means catching the architectural and spiritual vision of the forest in connection with the mineral city. This allows us to frame and signify the forest starting from the design values shaped by Taut, trying to address them as a new possibility for the urban wilderness. The *City Crown* project displays that it is not enough to find space for nature in the city; instead, through this utopia, the Architect showed how it is possible to manipulate and give value to the forest, which becomes the counterpoint of architecture and an architectural construction itself. This, somehow, forces us to go beyond the idea of a quantitative nature, an approach based on the number of plants implemented in the city, rather, he suggested facing sylvan in its qualitative essence, looking at its shapes and atmospheres.

The usefulness of this interpretation becomes central when referring to current practices. Indeed, what seems to be missing in the present-day panorama is a cultural understanding of the ongoing processes, where design could have a role in shaping the possible relationship between nature and the city, sylvan and mineral. If the current issue of the project is to adapt cities through nature, we should deepen its poetic power, where nature is not only a straightforward solution to climate hazards but a vehicle to transform the urban experience[17]. Here, the role of the forest could be valued with new morphological and ethical significance in a vision that is not focused on filling the neglected areas with forests but instead on shaping a new alliance and interdependence between the city and the sylvan. This relation, as Bruno Taut suggested, could relate at the same time qualitative and quantitative features. In fact, the thermal discussion briefly introduced in the *City Crown* could be deeply implemented in the contemporary project. Similarly, new ecological connections and forestation projects could see in the City Crown a utopian paradigm, able to rethink the urban structure and experience.

An example could be seen in some experimentations developed by Ecosistema Urbano. The Spanish studio reflected in different contexts how to implement technical-based solutions to improve the environmental quality of urban spaces, where the

sylvan become a shaped element of architecture, like in projects such as the *Ecoboulevard*. Likewise, moving to the territorial scale, the international office Sasaki developed a series of projects where green wedges become new social and experiential opportunities, where the ecological project allows to work on the qualities of nature as part of the city. Exemplary is *Zhangjiabang park*, in Shanghai, where green and blue infrastructures are shaped in their complexities, offering an environmental restoration, an infrastructure for the city's climate control, and a new living habitat.

Finally, it is useful to revisit what Taut wrote about the work of an architect: "The architect must carry within himself an awareness and knowledge of all the deep feelings and sentiments for which he wants to build. Of course, his work aspires not only to the ephemeral, in that it calls to the Zeitgeist, but also to those dormant spiritual forces of generations, cloaked in beliefs and aspirations"[18].

This spirit led Taut to conceive the *City Crown*, which he addressed as a necessity to rethink a transformation of the city. As Bruno Taut wrote, this possibility was not a defined and close work but rather a suggestion: "At best, this work should be a flag, an idea, or a theoretical suggestion, whose ultimate solution is comprised of many thousands of varied possibilities"[19]. Nowadays, we can read and use the City Crown as a "fossil index," a utopian vision that could guide us in shaping the contemporary need for new sylvan relations within the city. Hence, with this visionary project, Bruno Taut highlighted the need to consider the city's future to address utilitarian and technical issues while reflecting on the poetic potential of a new urban imaginary. Nowadays, this attitude could be helpful in approaching the technical-based knowledge leading the projects that tackle the climate crisis, shaping a new design culture of urban nature.

T. Ingold, *Correspondences*, Polity, Cambridge 2021, p. 34.

B. Taut, M. Mindrup, U. Altenmüller-Lewis (eds.), *The City Crown*, Ashgate, Surrey 2015, p. 126, or. ed. B. Taut, *Die Stadtkrone*, Eugen Diederichs Verlag, Jena 1919.

Ibid.

E.P. Mumford, *Designing the Modern City: Urbanism Since 1850*, Yale University Press, New Haven 2018.

B. Gravagnuolo, *La progettazione urbana in Europa – 1750-1960 – Storia e teorie*, Laterza, Bari 1991.

J.R. Gold, *Modernity and Utopia*, in T. Hall, P. Hubbard, J.R. Short (ed.), *The SAGE Companion to the City*, SAGE, London 2008, pp. 67-86.

In the same year, for example, Walter Gropius and Bruno Taut visited the garden city by Unwin, in England, as reported by Kristina Hartmann in W. Nerdinger, K. Hartmann, M. Schirren, M. Speidel (eds.), *Bruno Taut 1880-1938*, Deutsche Verlags-Anstalt, Munich 2001, p. 139.

J. Ruskin, *Stones of Venice vol. 9*, in Id., E. Tyas Cook, A. Wedderburn (eds.), *The Works of John Ruskin*, George Allen, New York 1903, p. 411.

B. Taut, *Die Stadtkrone, op. cit.*, p. 121.

D. Nielsen, Kumarasuriyar A., *Nature's Muses in Bruno Taut's Glashaus*, in "Wit Transactions on Ecology and the Environment," 2012, pp. 49-60. https://doi.org/10.2495/DN120051.

B. Taut, *Die Stadtkrone*, *op. cit.*, p. 89.

Ivi, p. 128.

T. Miller, *Expressionist Utopia: Bruno Taut Glass Architecture and the Dissolution of Cities*, in "Filozofski Vestnik," 1, 2017, pp. 107-129.

B. Taut, *Die Stadtkrone, op. cit.*, p. 128.

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Ivi, p. 64.

B. Taut, *Die Stadtkrone, op. cit.*, p. 86.

Ivi, p. 128.

A. Monestiroli, *Le forme e il tempo*, in L. Hilberseimer (ed.), *Mies van der Rohe*, Città Studi, Milano 1984, pp. 7-18.

Regarding the possibility of a new urban experience look at: M. Zardini, *Toward a Sensorial Urbanism*, in "Lotus," 157, 2015, pp. 63-73; M. Gandy, Urban Nature and the Ecological Imaginary, in N. Heynen, M. Kaika, E. Swyngedouw (eds.), *In the Nature of Cities. Urban Political Ecology and the Politics of Urban Metabolism*, Routledge, London 2006, pp. 62-71.

B. Taut, *Die Stadtkrone, op. cit.*, p. 121.

Ivi, p. 133.

FOREST, CONCEPTUAL, SYMBOLIC

IV

TREES, VINES, PALMS, AND OTHER ARCHITECTURAL MONUMENTS

PAULO TAVARES

> This arc of trees used to be a village. The end of the row of houses was there, and the other end over there, far away. The village was enormous, so the vegetation that formed inside the semi-circle is as big as the village was. The center of the village was located around here. That's why this forest is in the middle of the village. Here we used to make warã, our collective meetings.
>
> The ancient villages are disappearing, I'm very concerned about that. I thought the government was taking care of these sites! There are people who don't like us indigenous people that's why we are being expelled from our territory. This region is being deforested for soy and corn plantations. Deforestation is intense nowadays, so before all is destroyed we should create an ecological reserve here.
>
> We were all displaced from this area, leaving everything behind. And the non-indigenous people took advantage of that and occupied the region, without caring to the fact that we are the original owners of this land. This region is called Suyá. In our language it is called the place of stones. Look at the rocky mountain over there. Next to the mountain there are plenty of yam; this is a very fruitful region.

The aircraft is flying over a thick jungle; the image captured by the film camera on board shows a blurry picture painted in various shades of dark. Only the highest palms, which stand out from the canopy mass, can be identified from this birds-eye perspective. The camera pans toward an open field where we see a large human settlement. Its spatial layout is geometrically arranged in the form of a vast arc. The aircraft circles the area, the camera holds on the settlement while the voice-over provides some contextual information: "On the right bank of the das Mortes River begin the domains of the Xavante Indians, the great warrior tribe that became famous for its stubborn resistance against all attempts at catechesis. A few kilometers from the river, protected by the dense *cerrados* [biome], we begin to see the first villages of these forest peoples, which they defend with remarkable determination".

Produced in 1947 by the Indian Protection Service (SPI), the Brazilian agency created to govern indigenous affairs, Riodas Mortes is one of the few documents of the ancient settlements of the Xavante. Fifteen years or so after these images were recorded, all of their settlements had been abandoned or destroyed.

From the 1940s to the late 1960s, the Xavante, an indigenous nation that has lived in the central Brazilian plateaus since time immemorial, were subjected to a brutal campaign of land dispossession and forced removals to create space for cattle and

Article on the “pacification” of the Xavante from O Cruzeiro, September 1946.

NUNCA UMA ALDEIA chavante fôra devassada como naquele vôo sensacional de nossos companheiros, em um avião pilotado pelo Major Antônio Basílio. Passaram durante 2 horas sôbre as habitações dos chavantes, que, desesperados, enviavam muitas flechas contra o bimotor de tela de pano, atingindo-o três vêzes.

CHAVANTES NA GUERRA

Fotografias de JEAN MANZON ★ Texto de DAVID NASSER

RENDERAM-SE os chavantes, segundo dizem, e aproveitando essa oportunidade, vossa revista deseja lembrar a nunca esquecida reportagem de David Nasser e Jean Manzon, "Os chavantes!" Evidentemente, não ficaria bem à gente dizer que êsse feito jornalístico não encontra paralelos nem antes, nem depois, em tôda a história da imprensa brasileira. Seria imodéstia alegarmos que a grande página escrita com o risco da própria vida por nossos dois companheiros foi lida em todos os países, reproduzida por "Images du Monde", na França, por "Life", nos Estados Unidos, e por dezenas de outras publicações. Não ficaria bem à própria revista que patrocinou o feito de Nasser e Manzon chamar a atenção dos senhores para certos detalhes, tais como os 6.000 quilômetros percorridos, desde o Rio até Kuluene, nas vizinhanças do Xingu. Fique bem ou não, seja imodéstia ou não, a verdade é que já não será possível escrever a história dos chavantes sem que a reportagem que hoje vos devolvemos ocupe um plano altíssimo, tão alto quanto aquêle em que colocou a própria imprensa brasileira, porque, como disse o famoso repórter norte-americano Richard Dyer, da I. N. S., "essa façanha jornalística está entre as dez maiores de todos os tempos e depois dela, seus autores deveriam ser aposentados com os honorários integrais."

ACONTECE que o mêdo de um repórter é diferente. Êle receia a morte, sente calafrios, jura que não mais se envolverá em assuntos dessa espécie, mas não vai embora. Os chavantes estavam lá em baixo, eu sei, o avião fôra atingido, também sei, uma vontade doida de voar para bem longe. E depois? Lá estavam os olhos investigadores dos companheiros procurando em mim a veia jugular do mêdo, a que revela as palpitações do coração. Mas, o essencial aí está. (CONTINUA NA PÁG. 16)

DAVID NASSER JEAN MANZON MAJOR ANTÔNIO BASÍLIO

soy farms. Officially known as “pacification,” this campaign was part of a strategy of territorial colonization that the Brazilian state described as “occupying demographic voids”. In 1966, at the peak of this campaign, the Xavante communities of the Marãiwatsédé region were deported from their ancestral land. In 1974, the National Indian Foundation (FUNAI), the state agency that replaced the SPI in 1968, issued a certificate attesting that this territory was indigenous land no more.

Following the publication of the final report, in late 2014, of the Brazilian National Truth Commission a commission set to investigate human rights abuses committed by the military dictatorship (1964–1985), my architectural practice, in collaboration with the Bö’u Xavante Association and the Brazilian Public Prosecutor’s Office, initiated a project to document the sites of ancient indigenous settlements in order to provide evidence of their ancestral possession of this territory. This visual essay shows excerpts of this ongoing project⩚. Our methodology is based on the reading of various media, ranging from historic photographs and films to satellite data to the territory itself. The landscape and its representations are interpreted as documentary mediums, archaeological surfaces that bear traces and memories of the ancestral occupation of the land by the Xavante people.

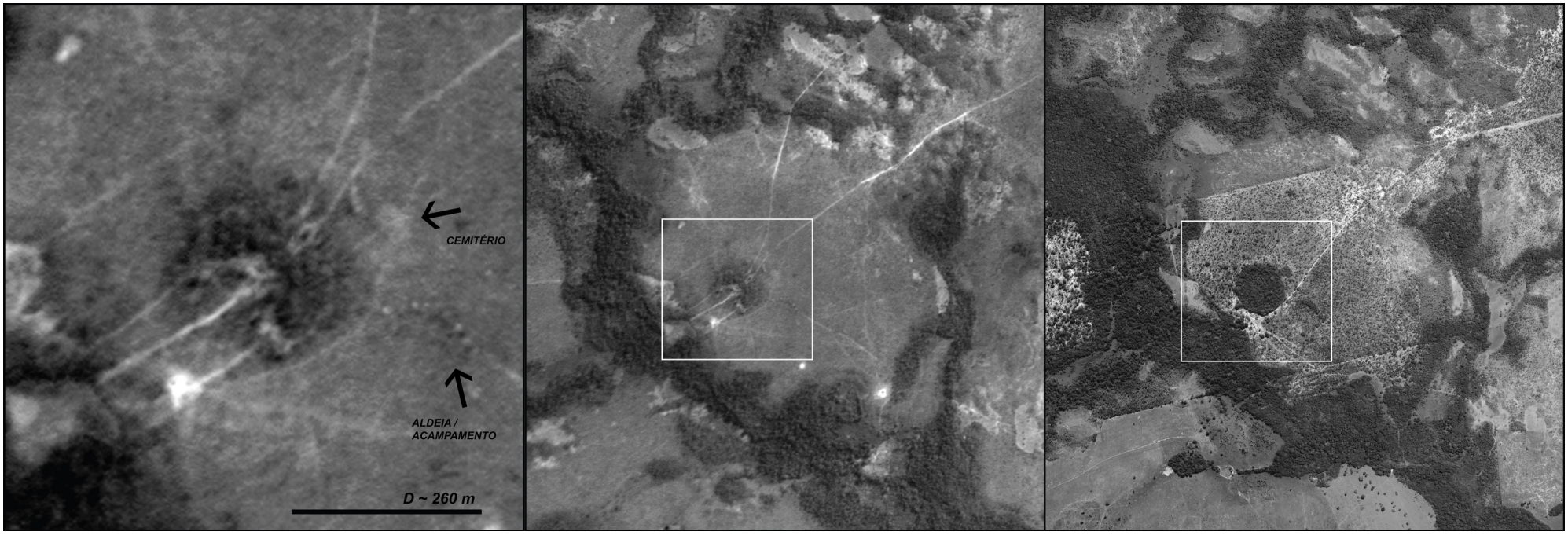
IMAGE ARCHAEOLOGY

The “conquest” of the Xavante country became a mass-media phenomenon at the time, with sensational photo-journalism stories circulating in popular magazines, depicting the Xavante as peoples and missionaries as redeemers. But these visual records constitute an important source of information about the history of the Xavante territory; through them we can study the spatial arrangement of its ancient settlements.

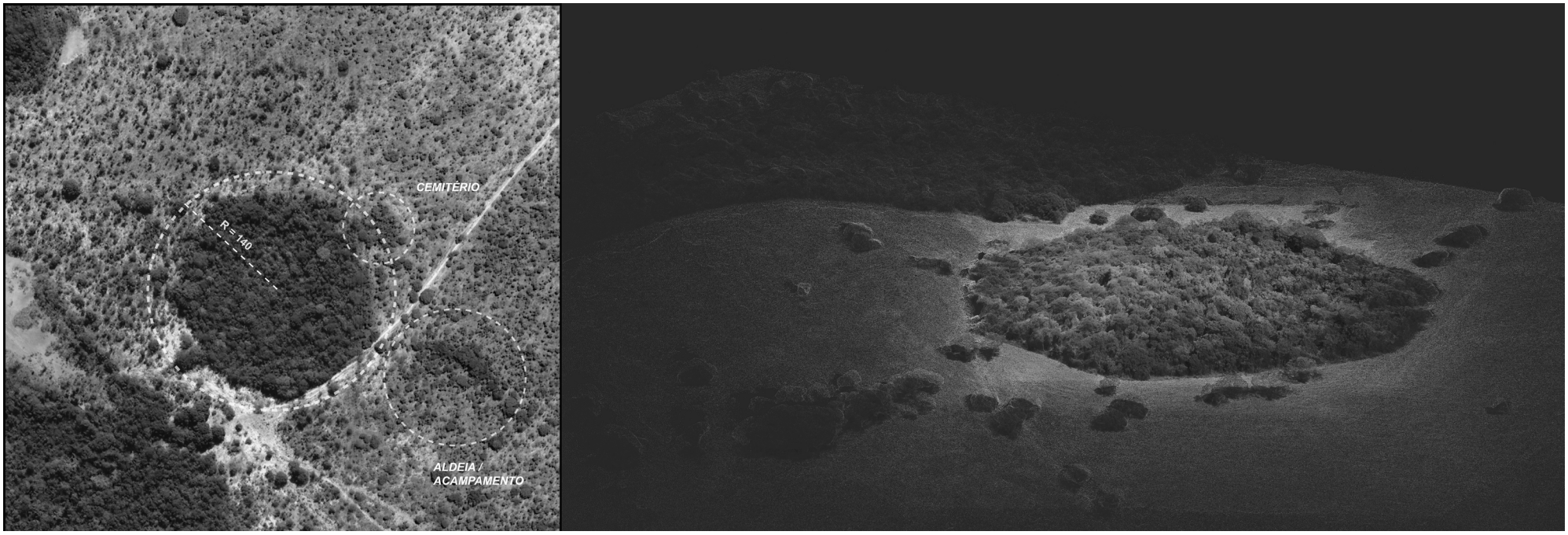
The research reconstituted the architecture of some of the old villages by working the photographs through a set of digital modeling tools. The villages were traditionally built following a precise circular layout, with the houses distributed in an arc-shaped line forming a great internal plaza. The central patio of the largest village we modeled had a diameter of about 200 meters, though its footprint extended beyond the village’s perimeter, defined by the row of houses. The settlements were always situated near streams, with the opening of the arc oriented toward the watercourse. The houses were built as domes structured with wood beams and covered with palm leaves, reproducing the circular logic of the overall urban scheme at the scale of architecture.

Our research also examined a series of satellite images and

Identification of Bö'u, the old center of Marãiwatsédé.



Identification of Bö'u, the old center of Marãiwatsédé.



aerial photographs of cartographic surveys. Despite the dramatic transformations in the landscape caused by the widespread deforestation that followed the forced removals, some of the ancient Xavante settlements seem to have been so old and robust that they left lasting marks in the territory, which are still clearly visible in these images.

Our analysis identified several traces on the ground whose shape, size, location, and disposition indicate the former presence of indigenous settlements. These footprints exhibit an arc-shaped layout that bears striking resemblance to the spatial arrangement of the villages reconstituted from the photographs. Inscribed on the Earth's surface like geoglyphs, these are vestiges of interventions in the landscape that were planned according to a cultural pattern consistent with the architecture of the ancient Xavante settlements documented in the archival records.

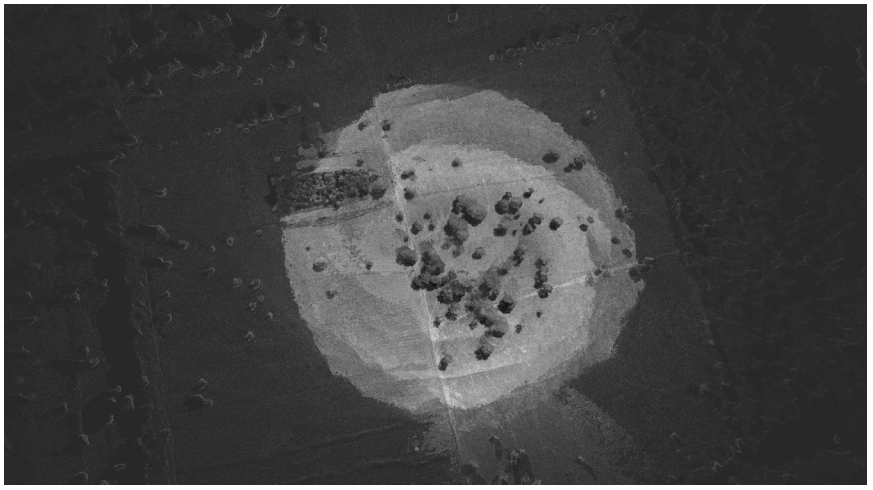
LANDSCAPE ARCHAEOLOGY

In parallel with the exercises in "imagery archaeology," the project undertook a series of field expeditions, together with elders of Marãiwatsédé, to document some of the archaeological sites on the ground. Policarpo Waire Tserenhorã, Dario Tserewhorã, and Marcelo Abaré, the elders who guided us, used to be warriors who led their communities in great geographic expeditions through their territory (a cultural practice called hömono that was totally eradicated by state policies). They therefore have a very sophisticated knowledge of this land, its environs and history.

Such extraordinary, unique knowledge of the territory, typical of Xavante culture, has been documented by various studies, as illustrated in this passage from anthropologist

David Maybury-Lewis's classic 1967 ethnography, *Akwẽ-Shavante Society*: "In their monotonous scrub, where I was unable to tell one bush or thicket from another, and was frequently under the impression that I had traveled through a particular patch of trees only a little before, the [Xavante] can remember the exact place where a kill was made months or even seasons previously and narrate its circumstances in detail." What Maybury-Lewis perceived as an amorphous and homogeneous landscape, the Xavante people identified as specific places saturated with history and memories. In the context of our project, even with the disfigurement of the landscape due to the predatory advancement of pastures and plantations, the elders recognized several archaeological sites, even remembering places where indigenous massacres occurred. The three localities surveyed – the villages of Tsinõ, Ubdönho'u, and Bö'u – match precisely the geographical

Identification of Tsinõ, a village founded in the early 1960s after the communities of Marãiwatsédé were forced to settle next to the headquarters of the Suiá Missu farm.



points of the footprints identified in the satellite images.

The ancient Xavante villages can be identified through very peculiar evidentiary signs that are easily recognized by the elders. These include the form and composition of botanic formations, the presence and the disposition of certain trees and palms, and variations in soil type.

All the sites that were documented display a similar remarkable feature wherein a patch of vegetation had grown in the arc-shaped layout of the ancient village. Made of a combination of medium and large trees, palms, and other types of plants and vines, these botanic formations contain certain species that are associated with Xavante ancestral occupation and land-managing systems. Their precise geometry, as well as their species content, makes them stand out from their surroundings and reveals their anthropogenic, "constructed" nature.

LIVING RUINS (THE FOREST AS HERITAGE)

The indigenous past of this territory is recorded not only in the collective memory of the Xavante people, but also in the memory of the Earth itself. In spite of the many different ways these communities have been subjected to what the Brazilian Truth Commission described as a "politics of erasure", their history remains registered in the forest fabric.

The trees, vines, and palms that grew from the fertilized soils of the ancient settlements are the historical landmarks that testify to the ancestral presence of the Xavante in this territory. In many different ways, these botanic formations are the product of the village design, the equivalent to architectural ruins, albeit not dead but living. Can we claim trees, vines, and palms to be historic monuments? Is the forest an "urban heritage" of indigenous landscape management systems?

Most of this archaeological heritage is outside the recognized limits of the Xavante reserves, situated within private fenced lands to which the Xavante people do not have access. As such the sites are in danger of being completely destroyed by the advancement of the agribusiness frontier.

In August 2017, following the presentation of our research findings at the Xavante village of Etenhiritipá, we started drawing a petition to be submitted to the Brazilian National Institute of Artistic and Historic Heritage (IPHAN) and to UNESCO calling for the inclusion of these botanic formations on the list of the protected common heritage of humankind. Our petition contends that those botanic formations should be considered archaeological heritage inasmuch as they represent "architectural artifacts" of the unique culture of the Xavante.

Beyond the urgency of protecting these sites, in interpreting trees and palms as ruins, the petition seeks to probe the liminal relations between natural and cultural landscapes as they have been defined by colonial categories of thought within and beyond the field of architecture, particularly in the way such categories and cognitive schemes have constrained definitions of heritage, memory, and history. Architectural knowledge often blinds us from understanding the deeply human and historical, properly architectural nature of these forest landscapes, and such is the tacit act by which it becomes complicit in the colonial politics of erasure.

Policarpo Waire Tserenhorã describing the archaeological site of Bö'u during field documentation, December 2017.

Documentation of field expedition to the archaeological site of Bö'u.

Documentation of field expedition to the archaeological site of Bö'u.

Policarpo Waire Tserenhorã describing the archaeological site of Bö'u during field documentation, 2017.

Domingos Tsereõmorãté Hö'awari, field trip, 2017.

Policarpo Waire Tserenhorã describing the region where the village of Tsinõ is located, 2017.

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EXPOSURE: 48 VARIATIONS OF DARKNESS

VALENTINA NOCE

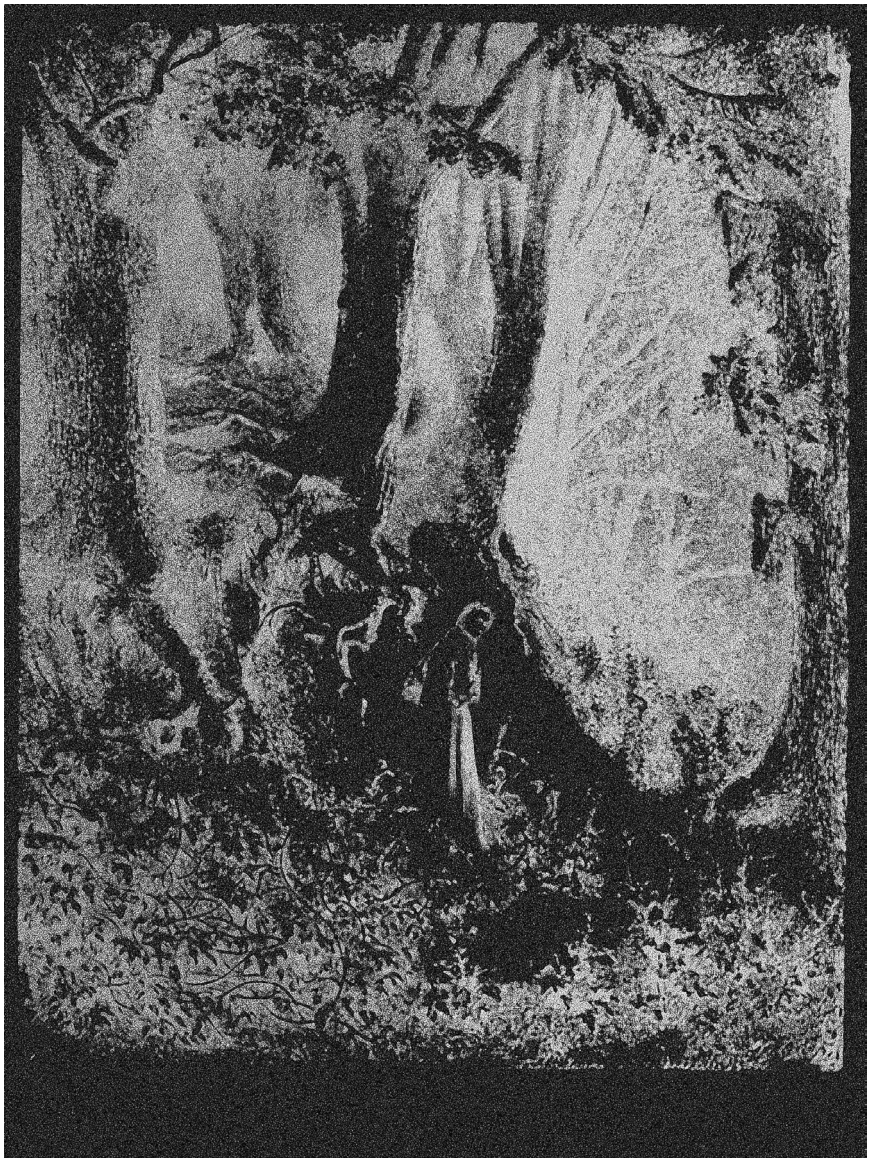
In VIA 48 Dante Variations, artist and author Caroline Bergvall collected forty-seven different English translations of Dante's first canto of the Inferno, documenting the attempt of describing the selva oscura condition[1]:

1. Dark wood
2. Dark wood
3. Night-dark wood
4. Obscured in a great forest
5. Sunless wood
6. A wood
7. Dark wood
8. Gloomy wood
9. A forest in the darkness
10. Darksome wood
11. Darkling wood
12. Wood obscure
13. Dark forest
14. Dark wood
15. Dark wood
16. Dark wood
17. Dark wood
18. Darksome wood
19. Dusky wood
20. Gloomy wood
21. Dark wood
22. Shadowy wood
23. Dark woods
24. Dark wood
25. Dark wood
26. Dark wood
27. Dark forest
28. Dark woods
29. Darksome wood
30. Darkling wood
31. Dark wood
32. Gloom-dark wood
33. Wood so drear
34. Forest dark and deep
35. Forest dark
36. Forest dark
37. A wood so dark
38. Dark wood
39. Darksome wood
40. Dark wood

41. Darkened forests
42. Darkling wood
43. Gloomy wood
44. Dark wood
45. Darksome wood
46. Gloomy wood
47. Shadowed forest

The 48th variation composed by Ciaran Maheis is a fractal structure from the recording of the author's voice reading the 47 translations[8]. It is though useful, for the purpose of this investigation, to distinguish between two generative ways of intending darkness. The first one – the rhetorical and symbolic – of darkness as an absolute ontological notion: inscrutable black holes, the religious blindness, solemn Burke's *great privation*. Eventually, a very simple principle: darkness as absence of light. On the other end, though, translating *selva oscura* became ambiguous. The oscura forest is not a blind space (and does the forest still exist if you can't see it?), but an inventory of gloomy shadows and Guelphic fears. Bergvall's work alludes, through repetitions and variations, to vagueness and obscurity. Borrowing Mark Fisher's title of a chapter of his work *The Weird and the Eerie*, the dark wood is the ideal set for Something *Where There Should Be Nothing: Nothing Where There Should Be Something*. Expanding the *Unheimlich* notion, Fisher identifies in the weird and the eerie a common concern with the strange; while the weird describes the presence of something who doesn't belong, the eerie is a failure of presence. The *Unheimlich* is the strange within the familiar, the observation of something that doesn't fit the domestic environment; the weird and the eerie are related to external presences that don't belong to the known. Dante's dismay in the forest at night doesn't belong to the *Unheimlich*; it is the incipit of a wander that doesn't relate to the domestic and the familiar. If the house is the definitive set – by definition – for the unhomely, the dark forest presents potential manifestations of the weird and the eerie: fairy tales creatures, gigantic moving shadows, witches' secret meeting, animals speaking in tongues. The darkness of the forest at night is therefore a stage for opaque presences, not the absolute absence of light. Following Bergvall's exercise, we can try to translate the selva oscura notion into the spatial discourse, working with analogies for critically approaching the state of urgency of contemporary cities. Reading the article by Maya Nanitchkova Ozturk, "On Exposure, Dark Space, and Structures of Fear in the Context of Performance", I firstly thought that in the title the author referred to *camera-exposure*, as in the capability of con-

Gustave Doré's illustration of Dante's Inferno.
Graphic manipulation by the author.



trolling light in photography through time. Actually, being an article about the theatre, it meant exposure as in the act of making actors visible on stage. However, *exposure* – as I firstly understood it – could be a fitting container-word for few variations of darkness, without the symbolical rhetoric of the pure absence of light. Targeting darkness not as an unconditioned circumstance, but as a spectrum of opaque visibility: exposure as a variation of darkness rendering space. In the context of the theatre site, exposure is the autonomous property that, coupled with dark space, creates the conditions of experiential spatial organisation: "an unsettling quality that is strategically embedded in contemporary architecture through practices relying on subtle deception of visual perception, on generating illusionary spaces by blurring boundaries, mirroring, or artful manipulation of light"⇓. As the *Unheimlich*, also the weird and the eerie manifestations in space display a condition of distress. The catalogue of space-phobias contributes in the description of contemporary architecture idiosyncrasies. Investigating psychopathologies of urban space, Anthony Vidler presents modern conditions of fear, anxiety and alienations linked to space⋀. However, nyctophobia (i.e. fear of the dark) is not listed among the psychopathologies related to space. Fear of the dark is not a state of anxiety related to the perception of space, but the uncomfortable state of *non-perception* of space: it is the archaic anxiety of being lost in the woods at night, the spatial dismay of Dante, Little Red Riding Hood, Parsifal. An embedded state of nightmares, the condition of not being able to control and perceive space and, according to Freud, the children's expression for articulating the feeling of loss of a person they love: children are afraid in the dark because they cannot see the person they love. The dark forest is the sampled fear of a binary classification of the environment that no longer exists in the urban environment: the safe, lit, domestic built space vs the gloomy shadows of a dark forest. Among the wide range of psychopathologies of space, is fear of the dark a state of urban anxiety? The anecdote of "Pascal's abyss" tracks a discourse around the construction of fear into a critical architectural theme; allegedly, after an accident in 1654, Blaise Pascal kept seeing a horrific void on his side. From this obsession, reflection on the void developed into a theoretical address: late eighteenth-century architects like Etienne-Louis Boullée and Claude-Nicolas Ledoux embraced "Pascal's resistance to the open transparency of rationalism […] as a way of symbolically and affectively exploiting the ambiguities of shadow and limit, remaining a sign of potential disturbance beyond and within the apparently serene and stable structures of modern urbanism"⌊. Contemporary urban and architectural

practices' desire is to prevent darkness: over-exposed forests illuminated by stage-lights. After the Modernist fetish for transparency, darkness is no longer a contemplated condition of design: transparency of contemporary buildings and cities enclosed a series of moral and symbolic values, in addition to functional contingencies of security and control. The range of visibility – so the level of darkness – of the built environment is not only related to eye-vision, but also to digital scrutiny: the virtual infrastructural gaze permeates physical space, rendering the darkness visible. The meaning of transparency and/or visibility, from corporate skyscrapers to digital surveillance, is a formal and political trope in contemporary architectural criticism. Also domestic space teases with the notion of transparency: immersed in an abstract nature, Mies van der Rohe's Farnsworth House is an hygienic and calvinist transparent body. Edith Farnsworth though, gave up on her modernist dream of retirement and moved to a thick and opaque walls villa in the countryside of Florence, probably not far away from Dante's forest.

Framing the discourse on transparency, in the structure of this text, we can classify it as *over-exposure*; panopticon control rooms, Silicon Valley HQ, Olympic swimming pools, mass weddings in stadiums⊧: optimal level of visibility for comfort and control. Considering over-exposure as the ideal condition of a safe, healthy, adequate and decorous architecture, some *junkspace* cut-out from urban planning has, anyway, a character of variable exposition. The aim of this research is to investigate the imaginary of *under-exposed* space: a set of codified sites of contemporary cities – flooded underpasses, black-out lifts, dark-glass limousine, automatic gas-stations, office dwellings on a Sunday – reproducing the anxiety condition of the dark forest dismay. Parking lots are a sample of built urban environments that is overlooked by the hyper-control of over-exposure. Similarly to many infrastructural shreds of contemporary cities, they don't accommodate any design requirements apart from function. Any attempt to add any formal or aesthetic features – trees, flooring, lighting – doesn't belong to the discourse of a critical interpretation of architecture. Let alone, parking lots cannot, by typological definition, assume any value of *transparency*. At night, the use of parking lots is a recurring set of perceptions: *something where there should be nothing* (moving shadows, unknown sounds, feeling of being observed), *nothing where there should be something* (no phone signal, no recollection of where the car is). Parking lots at night belong to the framework of the weird and the eerie: the user is moving in a condition of discomfort for reaching the state of safety of the domestic environment (i.e. being inside the car);

Picture of a parking lot at night generated by Artificial Intelligence.

the state of temporary and delimited anxiety can be bound to the fear of the dark in a forest at night. Both woods and parking lots are a setting for liminality. Liminality is the threshold passageway between two separate places, the ritual transition crossing individual or collective states as death, war, status[*].

Dante's crossing into the forest is the perfect example for studies on liminality: a threshold toward the discovery of a ritual journey. Similarly, the informal interest for liminal urban space developed into *backrooms*, abstract mazes of randomly generated standard environments like offices, car garages, corridors, emergency exits. Interrogated about the issue of an uncomfortable liminal space such as the parking lot at night, standardised architectural practice would suggest a design solution to adjust the exposure of the dark environment. Physical exposure: day-lighting devices; digital exposure; surveillance camera system. Visibility is the intrinsic aim to avoid fear of the unknown darkness. Conversely, the Cultural Center in Saint Herblain, designed by Jean Nouvel in the late '80s, makes a statement about parking lot exposure; presenting the project, the architect publishes pictures of the parking lot at night. "The context: On one side, a parking lot, slightly sloped towards the lake. […] There is no rupture between the parking lot and the lake; but a superimposition. The parking lot is itself a landscaped element, bearing the signs of urbanity and of artificiality"[‖]. The autonomy of the parking lot is designed in the distress condition of darkness, rendered into a precise aesthetic language. In the conversation between Jean Baudrillard and Jean Nouvel, transparency is a keyword[⅄]. If the architect is tempted by the possibility of revealing and controlling architecture, the philosopher expresses how transparency is a tool of power, the elimination of secrets to reveal the visible. Jean Nouvel's parking lot is a testing ground for adjusting the exposure of space through design. As a high-functional anxiety process, the fear of the dark in urban environments is manipulated and digested into a deliberate use of the constituting elements: gloomy lights, soft digital devices, twitchy shadows, blank background. Introducing conditions of contemporary anxiety in the architectural discourse, opens up wide new possibilities of representation. Detailing the role of exposure on stage, "Dark space succeeds in imparting a vibrant limitless void that is experienced as matter, touching, enveloping, even permeating the body, and thus invokes an imminence: the possibility of danger"[‖Y]. As stated in Vidler's research, the contingency of architectural design could manifest a state of discomfort; the emancipation of darkness through transparency eventually led to the distressing nudity of contemporary cities. Jean Nouvel designed the conditions for turning a

Jean Nouvel, Onyx Cultural Center, Saint-Herblain, France, 1987-1988.
Courtesy of Atelier Jean Nouvel.

neutral space setting into an interpretative architecture, through the manipulation of the characters of an upsetting shred of urban environment. The superposition between the inventory of dark forests' tales and the under-exposed fragments of cities performs the same vocabulary of liminal rituals, unintelligible bodies, defective compasses. Through variations and repetitions – as different translations of the same brief – architecture is able to render the coping mechanisms of space distress.

https://carolinebergvall.com/wp-content/uploads/2018/08/VIA.pdf, accessed 5 September 2022.

https://soundcloud.com/carolineberg-vall/via-48-dante-translations-mix, accessed 5 September 2022.

M.N. Öztürk, *An uncanny site/side: On exposure, dark space, and structures of fear in the context of performance*, in "Contemporary Theatre Review," vol. 20, 3, 2010, pp. 296-315. https://doi.org/10.1080/10486801.2010.488840.

A. Vidler, *Warped space: Art, architecture, and anxiety in modern culture*, The MIT Press, Cambridge MA 2002.

Ibid.

D. DeLillo, *Mao Ii*, Leonardo, Milano 1992.

A. van Gennep, *Les Rites de passage*, Johnson Reprint Corporation, 1969, or. ed. E. Nourry, Paris 1909.

http://www.jeannouvel.com/en/projects/onyx, accessed 5 September 2022.

J. Baudrillard, J. Nouvel, *The singular objects of architecture*, University of Minnesota Press, Minneapolis 2002.

M.N. Öztürk, *op. cit.*

THE TEATRO REGIO IN TURIN. A FOREST PERSPECTIVE

MARTINA MOTTA

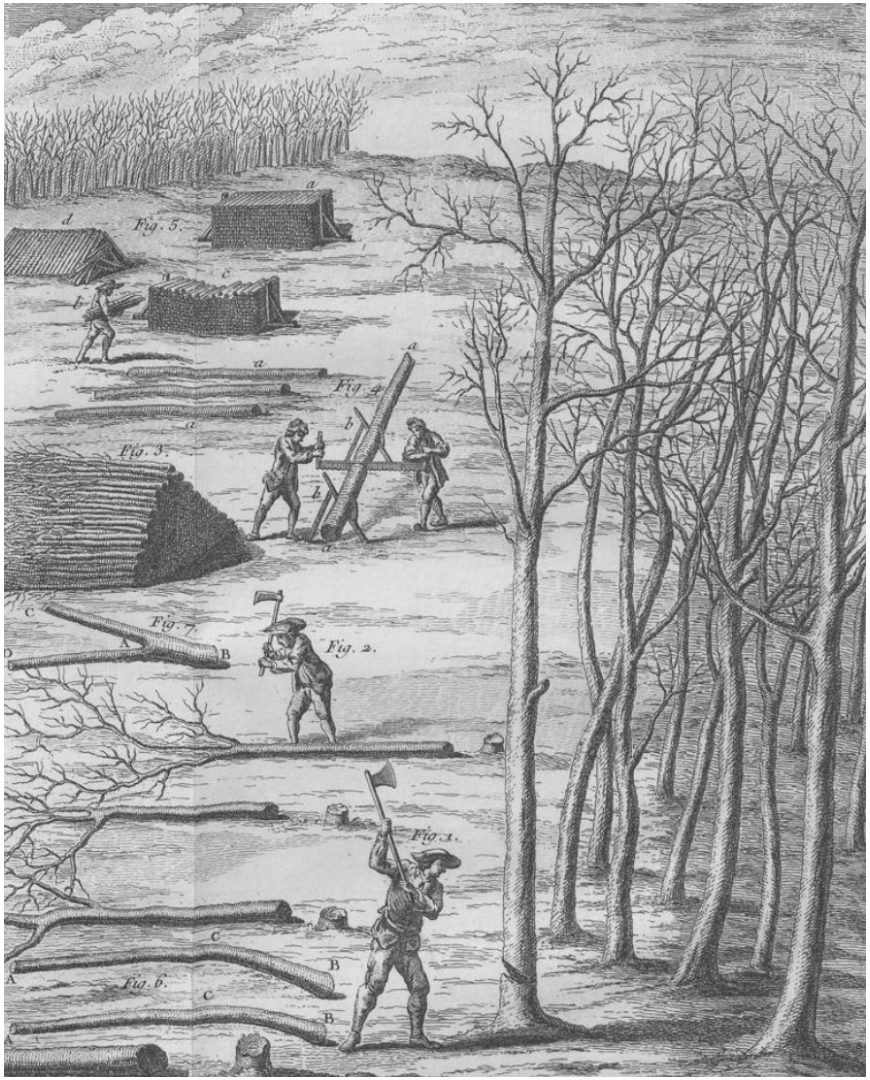
After the sudden fire in 1936, the new Teatro Regio was spectacularly designed by the modern architect Carlo Mollino in the '70s. Yet the 18th-century theatre is still little known by the public at large. Designed by the First Royal Architect Benedetto Alfieri, the theatre boasted a comparable avant-garde project. Indeed, the theater's main hall was built with an extraordinary capacity for the time, responding to innovative visual and hearing solutions. The Teatro Regio therefore became a paradigm in the context of contemporary European theatrical achievements. If we do investigate where the carpentry's timber came from, the history of the architecture expands beyond the time of construction and brings out new points of view. How did a forest work in the 18th century? What kind of manpower was required? How has centuries-old knowledge around the forest changed? Which human and non-human species were affected by the logging? Which local communities' forms of resistance against the process of extraction? Studying architecture through the forest' events therefore means to uncover the relation between the natural and the man-made. The events of construction bear witness to being intertwined with the physical environment and its exploitation, revealing a history of architecture that cannot be separated from the environmental one.

KINGDOM OF SARDINIA'S CONSTRUCTION. THE LACK OF WOOD

For the Kingdom of Sardinia and Piedmont, the first half of the 18th century represented a period of great transformations in the field of construction and urban planning, both civil and military. The great wars started by Vittorio Amedeo II involved an enormous consumption of timber. Beams, poles, bundles, but also timber for lime kiln fuel, served to power the military infrastructure: peripheral fortresses, such as Fenestrelle, Brunetta, and Exilles, on the Franco-Piedmontese border, and urban fortifications, such as the system of bastions and military quarters in Turin, the Kingdom's capital. The model of the city-fortress was indeed consolidated, in defense of both the capital and the Alpine passes.

Important non-military construction sites also started. In 1713, the Messinese architect Filippo Juvarra was called to Court as the First Royal Architect and we owe to him the design of all major interventions of the following two decades. Within thirty years, most sites of the Savoy court were either renewed or built from scratch, such as Palazzo Reale, the royal secretariats, the court archives, Teatro Regio Cavallerizza Reale and the military academy. At the same time, the system of suburban residences,

Cutting the forest, in H.L. Duhamel du Monceau, *De l'exploitation des bois, ou, Moyens de tirer un parti avantageux des taillis, demi-futaies et hautes-futaies, et d'en faire une juste estimation*, Chez H.L. Guérin et L.F. Delatour, Paris 1764, pl. III, p. 250. Private collection.



the so-called "crown of delights" was extended in the Turin belt, to celebrate the prestige of the royal dynasty and its capital city.

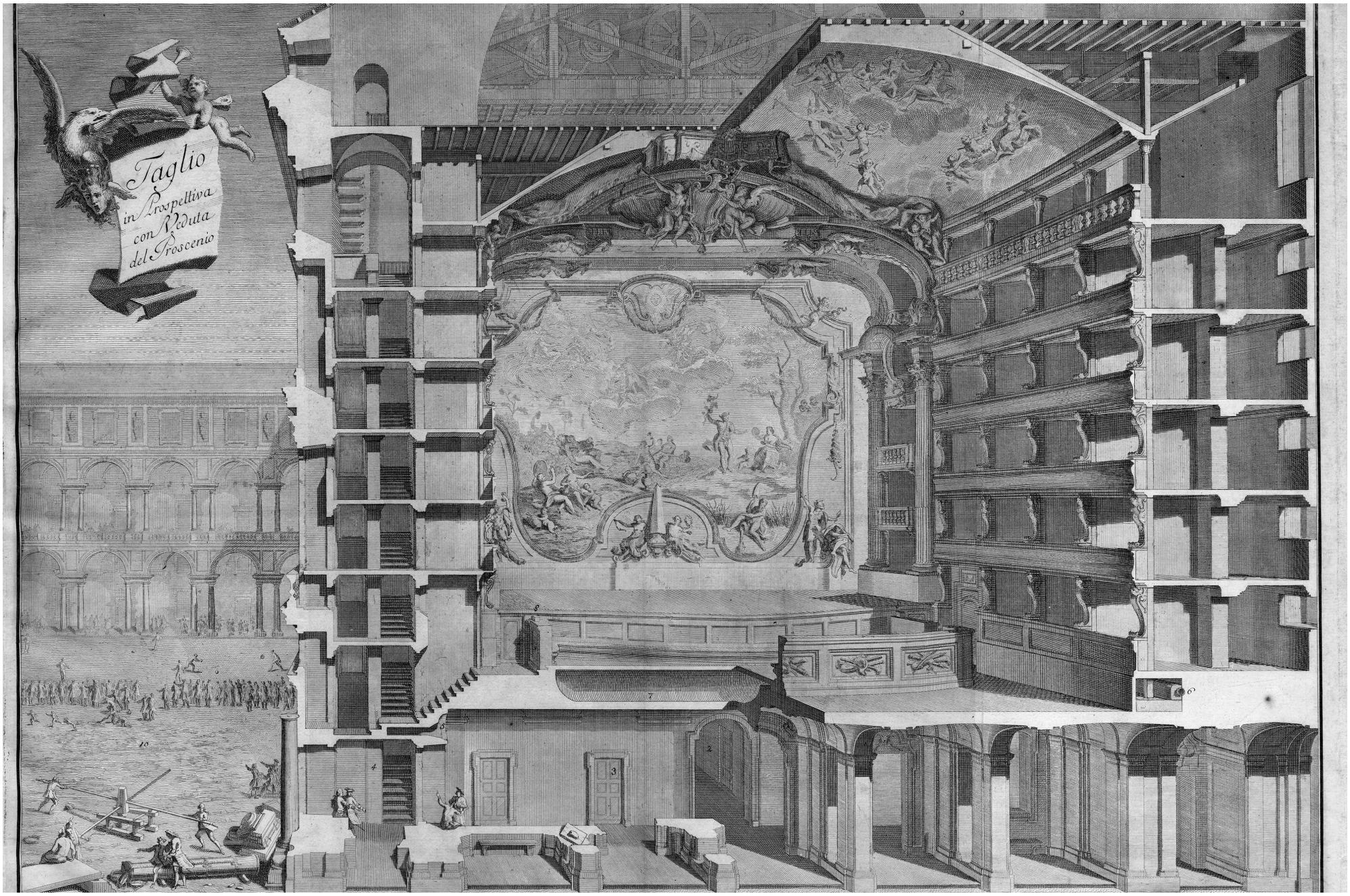
Alongside the absolutism's political design program, the state's population grew quickly. Turin was growing very fast compared to the local availability of basic resources, and firewood scarcity increased towards the end of the century. At the root of the problem was the exhaustion of the nearby woods. Urged by the Azienda Generale di Fabbriche e Fortificazioni, to which the jurisdiction and competencies on the construction sites belonged, the king Vittorio Amedeo II promoted a legal reform in the matter of forest in 1729. The *Regie Costituzioni* included a new section entitled *De' Boschi e Selve*, which established the rules and the relative penalties in case of abuse, to apply to all the kingdom's forests.

The application of the new laws on forestry imposed harsh changes on the centuries-old customs of local communities. Grazing was forbidden in many woods, together with collecting small wood and twigs. The inhabitants could cut wood only twice a year, in limited quantities and only for their own subsistence. The royal invigilators were obliged to control that no young high-trunk plants were cut, but only dry ones, and trees with defects. The common lands' wood could not be sold. In case of theft or fines, private homes could be inspected by the authority. Tanners were prohibited from peeling any type of tree for the resins. Also, the environmental practices embedded in the ancient bans were at risk and led to natural phenomena such as erosion, flooding. We actually have records of flooding and landslides probably caused or aggravated by deforestation. A further A further verification is to compare the wood used in the carpentry with the kind of forest on Alpine territories at the time. We saw in the construction site's documentation the larch tree mentioned several times, together with the oak and the fir, both for the roof that provisional structures like scaffolding or lifting machines.

THE TEATRO REGIO

The Teatro Regio is located in Piazza Castello, in Turin's city center. Inaugurated on 10 April 1973, the project is signed by Carlo Mollino, who designed together with a team of excellent engineers one of the most celebrated modern buildings in the history of architecture. A volume stands out from the 18th-century architectural complex and connects to it through two elevated passageways. The large hyperbolic paraboloid solution for the roof allows Mollino to create an "egg" , a whole overall concrete structure that includes the stalls, the walls and roof. The building

Spaccato prospettico della sala, dell'atrio ec. con veduta del proscenio, e dietro il medesimo la tela abbassata, in B. Alfieri, *Il nuovo Regio Teatro di Torino apertosi nell'anno MDCCXL*, Torino, Stamperia Reale 1761, tav. XI.
Archivio Storico del Teatro Regio, Torino.



View of Teatro Regio from Piazza Castello. Photo by Ramella & Giannese. Archivio Storico del Teatro Regio, Torino.

we see today is however the result of various transformations that have occurred over the past three centuries. A fire that broke out on the night of February 8, 1936 totally destroyed the pre-existing theater. During the nineteenth and early twentieth centuries, numerous structural, stylistic and technical updates were added to the original architecture, designed by the First Royal Architect Benedetto Alfieri in 1737. The Teatro Regio was built by the will of the Kingdom of Sardinia's new king Vittorio Amedeo II, in order to replace the ancient court theater. Following the transition from ducal rank to royal, a renovated dimension of representation became necessary. The theater played a strategic role for producing culture and entertainment, and for attracting international figures to the city. The project was also part of the aforementioned general functional and urban reorganization of the so-called "command area" in the north-eastern side of Piazza Castello. The building was completed in a short time: we can assume the start of works at the end of 1737 and the theater was inaugurated on December 26, 1740.

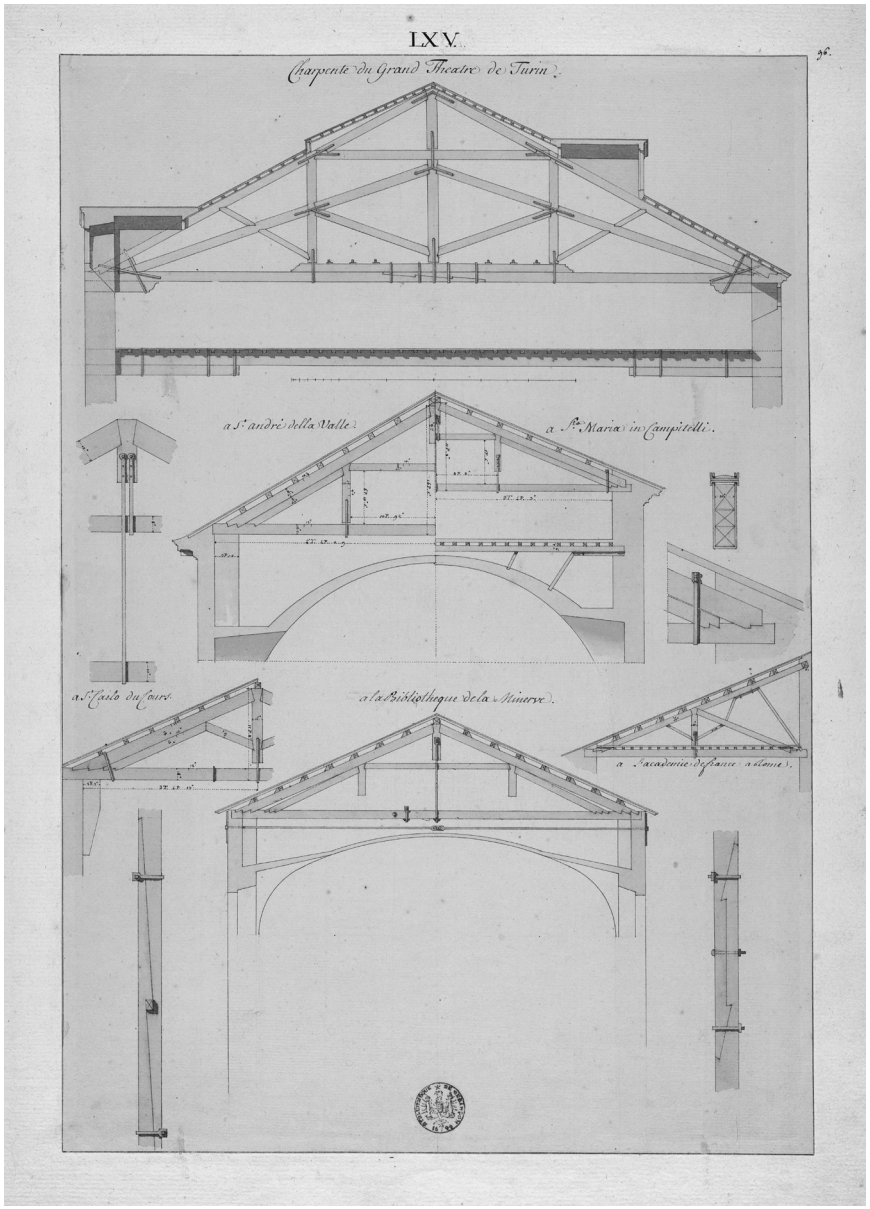
Among the most avant-garde aspects of the Teatro Regio is the main hall, which enabled the theater to be included in *Encyclopédie* by Diderot and d'Alembert. The capacity of the building was extraordinary, and carefully studied in terms of acoustics and visibility: five tiers of boxes, of which the upper one was called "heaven", to hold up to 2.500 spectators, a considerable number for a city of 70,000 inhabitants like Turin at that time. By comparison between coeval theaters, the San Carlo Theater in Naples hosted a 538 square meters hall, 23.50 meters wide and 29 meters long; the Teatro Regio Hall was 345 square meters, 16.50 meters wide and 23 meters long. By doing the calculations, the Teatro Regio's construction site employed 2,137.95 square meters of timber for the roof structure. From documentary sources we know that the following wood was used: 42 *malegine* beams of excellent quality between 4 and 6 meters long; 2,220 red oak joists, at least 3 meters long; 1,440 *assi d'albera* about 30 centimeters long and 3 cm thick; 24 oak *reme* between 4 and 5 meters long; and 18 *sappino* trees, between 9 and 13 meters, whose intended use is not specified. Where did this extraordinary amount of timber come from?

ARCHIVAL DOCUMENTARY SOURCES IN A FOREST PERSPECTIVE

In order to trace the timber's origin, it is necessary to study different archival documentations.

As regards the institutional sources related to the construction site, the instructions and contracts, which are collected in the

P.-A. Pâris, *Charpentes de divers édifices à Rome et à Turin: coupes*.
Collection Pierre-Adrien Pâris, 1700-1800, vol. 482, n. 96.
Bibliothèque municipale de Besançon.



fund *Azienda Generale Fabbriche e Fortificazioni* are essential. The most appropriate way to guarantee the desired quality of the building was to define where to obtain construction materials in the construction site regulations, whether it was wood, quarry or furnace. Therefore, we find cited operations of *"provisione e condotta"*.

We read the contract of Michele Antonio Perrone and Gio Battista Coletto for "cutting and handling of woods for the Teatro Regio" dated 3 June 1739. At the end of the document it is written: "If they obtained permission to cut Salbertrand and the surrounding forests by Intendant of Susa". We know that following the new *Regie Costituzioni*, an intendant was placed to control the royal woods, and before proceeding with the logging, anyone – primarily the inhabitants of the communities – had to ask him for permission.

The documentation related to infrastructure is a useful source to trace the timber's path. In order to perform the Savoyard administration's organizational capabilities, a well-performing transport network was essential. So, we have numerous reports of road repair works in order to provide the construction sites materials. There is a contract about "the maintenance of roads for the passage of timber to be used in the theater's roof". A note concerns "the reparation of the bridge over the Dora river for the passage of sand wagons for the construction sites of the royal secretaries, Teatro Regio and the new timber warehouse". The passage of a large transport of timber for the theater demolished a house's arcades in Bussoleno, in Susa Valley, and therefore, the community demanded the king a remuneration.

To reconstruct the work of the "forest keeper" assigned to those territories helps us to add many useful information to the discussion. He has been a key figure in the field of forest "maintenance". The forest keeper was sent on site as a supervisor of quality and quantity of trees in the Kingdom of Sardinia's forests. We have a track of a first appointment in 1738 – in exactly the same years of Teatro Regio's construction site. This is the castellan Pietro Francesco Syord, from an ancient family of notaries in Oulx, who was awarded the title "Keeper of Forests and Woods in the vicinity of Exilles", as "endowed with commendable qualities to fulfill duties with that zeal, attention, and vigilance that are more convenient". From the *Contratti* fund, we have a record of a payment dated 11 September 1738 made to Syord "for a visit he did in the forests of Exilles, Salbertrand, Oulx and Beaulard to recognize suitable wood for the construction of the theater's".

Juxtaposing local sources, we find various payments to the communities for the supply of timber for the theater's construction site. In particular, the municipal archive of Salbertrand

cntains many traces around the year 1740 For example, we know that "the price of the common woods", the price of the forest cut in Salbertrand to be used for the Teatro Regio has to be fixed according to Castellan Syord's evaluation"[32].

A further verification is to compare the wood used in the carpentry with the kind of forest on Alpine territories at the time. We saw in the construction site's documentation the larch tree mentioned several times, together with the oak and the fir, both for the roof that provisional structures like scaffolding or lifting machines.

In the 18th century, Upper Susa Valley's woods were rich in all these species, in particular the larch. To reconstruct this information, it was necessary to draw on additional archival documentation, such as the *Caccia e boschi* collection in *Materie Economiche* fund, in Archivio di Stato di Torino. In the first half of the century, numerous descriptions and censuses of the woods were drawn up in order to register the new territories acquired following the Treaty of Utrecht[33]. The declaration of intend is clear, that is "to supply Turin with timber"[34]. In the 50 wooded areas surveyed in the 1740s in Upper Susa Valley, about 400.000 larches were counted (of which over 41% on the territory of Oulx, 9% Savoulx, 19% Beaulard, while Salbertrand and Exilles account for about 15% and 16% of the total), against 16.210 firs, 75.500 pines, 300 beeches, and just under 3,450 chestnut trees[35]. In the *Description des Bois de haute futaje qui sont dans les vallées en decu du Montgenevre. État et discription des Bois de haute futaje de divers endroits qui ont été cédés par la France ensuite du Traité d'Utrecht en 1713*, we read about Salbertrand the following sentence: "Of all the valleys' forests no one is more beautiful than Salbertrand, which is called *sapée*, and it's surrounded by larches"[36]. The abundance of woods, the proximity to Turin and an active network of connections to the Piedmontese plain by land with the Royal Road or Strada di Francia, and by river with the Dora Riparia, justify why Upper Susa Valley was of great interest to the state in the matter of extraction.

The disputes between local communities and the state reveal to be a very important aspect, too. In addition to providing us with valuable information on places, materials, actors and economic factors affected, they offer a measure of the possible tensions around the construction site's events.

From the sources, we know about some entrepreneurs of Teatro Regio's construction site which were involved in rather controversial matters of wood. Lorenzo Giacinto Teppa, who was paid "for provision of nails for Teatro Regio"[37], was mentioned regarding possible incidents of "woods destruction" in Pinerolo area, in Chisone Valley. He was accused of logging "extra 700 tall

Firefighters on the roof of the theater, the day after the fire, 1936. Photo by Luigi Bertazzini. Archivio Storico del Teatro Regio, Torino.

trees from the common forest out of the contract"[32]. Twenty years later, Gio Blanchet was hired to transport 180 larch beams for the renovation of the theatre's roof. Once he got the money, he carried only a small part of the load, blaming the state for the crumbling roads. The expert reports did not reveal any damage, so he was housed under military guard and prohibited from leaving the country[33].

CONCLUSIONS

This contribution represents my position in comparison to the traditional historiography of architecture. The tendency to reduce architectural studies to the spectrum of their spatial connotations is all too common. The chronology of the construction site itself is usually set by the erection of the first stone, and closes with the building's inauguration. What happened before? What will happen later? To shed light on the provenience and transfer – and eventually on the disposal – of raw materials means interpreting the construction site as the materialization of the Earth's resources acquired through extraction[34] and relocation. Because of the unequal access to nature, architecture plays the role of building the world as much as destroying it, with the great construction sites of the Savoy that become an archetype or a pre-industrial model of extractive relationships towards the territory.

This perspective, moreover, unveils the construction site as "network"[35]. It is an infrastructure made of a complex net of hybrid, human and non-human agents, which through their action produces those thickenings of institutions, practices, behaviours, values and meanings, but also material stratifications, which are the construction site itself.

Actors, processes and territories, which are usually excluded from the traditional narrative of the architectural artifact, become protagonists as well. There is not only the building and not even the tree, but also the stump, who collects the branches or the pasture from which the undergrowth is deprived; the transport of the product, the money exchange or the disputes over the forest; the city is worth as much as the village. Once the theoretical framework has been defined, at the center of the investigation of architecture there is no longer the building, but the forest: a theater of confrontation between different visions, a place of conflict between the state and local communities, a space for environmental modifications. A question emerges, that of the overturning of the perspective, which is totally urgent.

Larch woods in valle Argentera, in Upper Susa Valley, 2021.
Photo by Martina Motta.

Vittorio Amedeo II took part in the War against France (1690-1696) and in the War of the Spanish Succession (1700-1713). For further study about 18th-century Piedmont in history, see: A. Barbero, *Storia del Piemonte*, Einaudi, Torino 2022; azinchè: G. Ricuperati, Lo Stato sabaudo nel *Settecento: dal trionfo delle burocrazie alla crisi d'antico regime*, UTET, Torino 2001.

For the Piedmontese military forts, M. Minola, *Fortificazioni nell'arco Alpino*, Priuli & Verlucca, Pavone Canavese 1998; M. Viglino Davico, *Fortezze alla moderna e ingegneri militari del ducato sabaudo*, CELID, Torino 2005; F. Barrera, *I Sette Forti di Exilles. Metamorfosi architettonica di un complesso fortificato*, Museo Nazionale della Montagna Duca degli Abruzzi, Torino 2002.

Among the many books on Filippo Juvarra in Turin, see: Comoli Mandracci (ed.), *Itinerari juvarriani*, CELID, Torino 1995; G. Griseri, A. Romano (eds.), *Filippo Juvarra a Torino. Nuovi progetti per la città*, Cassa Risparmio Torino, Torino 1989; V. Comoli Mandracci, A. Griseri (eds.), *Filippo Juvarra: architetto delle capitali da Torino a Madrid 1714-1736*, Fabbri, Milano 1995.

"Crown of delights" is the name given to the series of royal residences for leisure and entertainment built between the 16th and 18th century around Turin: G. Sgarzini, *Residenze sabaude: Corona di delizie*, Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, Roma 2008.

The *Regie Costituzioni* is a collection of royal laws by Vittorio Amedeo II and his predecessors which has been published first in 1723. Archivio di Stato di Torino (ASTO), Corte, Materie giuridiche, Testi legislativi, Regie Costituzioni.

The medieval bans, *bandi campestri*, gave guidance on how to manage nature according to specific environmental conditions related to the seasons, in order to prevent natural disasters. About this topic, M. Riberi, *Il Trattato di Utrecht e le autonomie locali nelle Alpi occidentali: il caso della République des Escartons*, in "Utrecht 1713. I trattati che aprirono le porte d'Italia ai Savoia. Studi per il terzo centenario," Centro Studi Piemontesi, Torino 2014; W. Ferrari, D. Pepino, *"Escartoun". La federazione delle libertà. Itinerari di autonomia, eresia e resistenza nelle Alpi Occidentali*, Tabor, Valle di Susa 2013.

When Carlo Mollino illustrated the theater project to the public, he showed up with an egg in his hand. He used this form to explain the dominant symbolic form that linked the different spatial enclosures together.
About Mollino's project, among the wider bibliography, see: AA.VV., *Il nuovo Teatro Regio di Torino*, in "Atti e rassegna tecnica della Società degli Ingegneri e degli Architetti in Torino," anno XXVII, n. 9-10, settembre-ottobre 1973, Stamperia Artistica Nazionale, Torino; P.G. Bardelli, E. Garda, M. Mangosio (eds.), *Il teatro regio di Torino da Carlo Mollino ad oggi*, Flaccovio Editore, Palermo 2011; N. Ferrari, M. Sabatino (eds.), *Carlo Mollino, architetto e storyteller*, Park Books, Zurigo 2022.

On the 18th-century project of the Teatro Regio see: A. Cavallari Murat, L. Carluccio, M. Viale Ferrero, V. Mazzonis (eds.), *Il Teatro Regio*, Edizioni Aeda, Torino 1970; A. Bellini, *Benedetto Alfieri*, Electa, Milano 1958; G. Gritella, *Juvarra: l'architettura*, Panini, Modena 1992; L. Tamburini, *L'Architettura. Dalle origini al 1936*. *Storia del Teatro Regio di Torino*, vol.4, Cassa di Risparmio, Torino 1983.

We have a record of payment of Pietro Antonio Benedetto,who assisted in the tracing of the theater area. L. Tamburini, *L'Architettura, op.* cit.

Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers par un société de gens de lettres. Mis en ordre et publié par M. Diderot … et quant à la Partie Mathématique par M. D'Alembert, Livourne, Impr. De la Société, 1770-1778.

This term, which appeared even before the construction of the Teatro Regio, was used to indicate the sentries' position during the shows.

A. Cavallari Murat, L. Carluccio, M. Viale Ferrero, V. Mazzonis (eds.), *Il Teatro Regio*, *cit.*

The unit of measurement is trebuchet, with 1 square trebuchet corresponding to 9.502 square meters, and 1 trabuchet to 0.342 meters. The quote is taken from a contract to the forest master Giuseppe Cantone who was supposed to take care of the supply of timber: ASTO, Corte, Miscellanee, Miscellanea Quirinale, Materie Militari, m. 54.

The Piedmontese word *malegine* comes from the French *mélèze*, that means larch. The source is Michele Antonio Perrone and Gio Battista Coletto's contract signed on 3 June 1739. *Ibid.*

Ibid.

The Piedmontese word *albera* means poplar, so wooden planks. *Ibid.*

Reme means beams.

From the instructions to build the roof, *Ibid*.

Sappino comes from the Occitan word *sapé*, that means spruce.

In Coletto's contract., *Ibid*.

Supply and transport.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 5.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 6.

This term, which appeared even before the construction of the Teatro Regio, was used to indicate the sentries' position during the shows.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 5.

ASTO, Camera dei Conti, Patenti Controllo Finanze, reg. 14, f. 37.

Following the Utrecht Treaty in 1713, the French valleys on the Piedmontese side (the *Escartons* of Oulx, Pragelato and Casteldelfino) passed to the newborn Kingdom of Sardinia.

ASTO, Corte, Materie economiche, Materie economiche per categorie, Caccia e boschi, m. 3.

P. Sereno, *Una carta inedita settecentesca dei boschi d'Exilles (Alta Valle di Susa)*, in P. Caroli, P. Corti, C. Pischedda (eds.), *L'agricoltura nel Piemonte dell'800. Atti del seminario in memoria di Alfonso Bogge (Torino 2 dicembre 1989)*, Centro Studi Piemontesi, Torino 1989.

"De toutes les forets des vallées il n'en est point sans contradir de plus belle que celle de Salbertrand appelée sapée elle est fermée de Melezes". ASTO, Corte, Materie economiche, Materie economiche per categorie, Caccia e boschi, m. 1.

ASTO, Corte, Miscellanee, Miscellanea Quirinale, Miscellanea Quirinale, primo versamento, Materie Militari, m. 54.

ASTO, Corte, Materie economiche, Materie economiche per categoria, Caccia e boschi, m. 1.

ASTO, Riunite, Intendenza Susa, Periodo riguardante i secoli XVI - XVIII, Corrispondenza, Lettere provenineti dall'azienda Regie Finanze e indirizzate all'Intendente di Susa, m. 46.

On the notion of "extractivism," the reference literature is on neoliberal policies in Latin America that led to the launch of development programs focused on re-primarization and export of raw materials. Among the main theorists, Maristella Svampa, Alberto Acosta and Eduardo Gudynas. On the relationship between extractivism as a model of organization of work and territory, see in particular J. Moore, *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, PM Press/Kairos, 2016.

The reference is to the actor-network or ANT theoretical model, formulated by some French sociologists, including Bruno Latour and Michel Callon and the anthropologist John Law in the early 1980s. ANT is a formulation that thematizes the role of objects in determining social situations.

UNPREDICTABLE SPACES. FOR A NON-DOMESTICATED USE OF WOOD

FRANCESCA ZANOTTO

In recent years, wood has been the object of revived attention devoted by the architecture industry as a climate-friendly construction solution: a renewable resource, a sustainable material, with a low carbon impact and low embodied energy. Moreover, wood is light, cheap, and easily accessible: timber construction systems are adaptable and simple to design and realize. This double message conveyed by wood – sustainability and accessibility – is clear and easily marketed by the architectural industry, which exploits in a broad range of projects wood's physical features channeling its use, into productive, repetitive paths, shaped by building regulations. This recurring use of wood interests building systems as well as the codified meanings timber can convey: warmth, simplicity, practicality, and a simplistic reference to "nature" as a salvific counterpart to the unsustainability of urban lifestyles and industrial production. However, the use of wood in the construction domain bears broader meanings. The choice of wood, as well as how wood is employed, is often, more or less explicitly, referred to its potential to evoke the primeval forest and its many implications: an archaic refuge, a primigenial accord to nature that is, the original environment of human stock and many of most valued social concepts, but also "a space for non-normative relationships, not informed in cultural terms and therefore anarchic, without (human) law", where non-accepted behaviours and inner pulsions are expressible.

Outside the market, where architecture is considered "an expert's art", wood is the primary means of individual expression through the act of building: a cheap, omnipresent resource, easy to manage and use by "untutored builders". Indeed, wood is the chosen material for primigenial huts, pioneers' log cabins, children's treehouses, and homeless' shelters: enclaves that accommodate alternatives rules to the environment, time to time the hostile nature, the codified world of adults, the civil society. In many cases, this outsiders' architecture – makeshift dwellings, individual "forts," hideaways – comes from the necessity for a shelter; in others, it is the answer to an expressive urgency of creation and self-definition, the obsession for an alternative, personal ordering principle that finds a way out through architecture. Sometimes, these conditions coincide, and architecture becomes a metaphor for aversion to societal rules, in the form of works that are "too unclassifiable to leave the margins of the classical history of architecture": huts, megastructures, gardens in between architecture and playgrounds, "environments" taking shape day by day, following the evolution of builder's life and mind, in a never-ending accumulation and form-shaping project diverging from the original design–when existing. Builders fol-

low creative paths led by personal obsessions for shapes, materials, never appeased manias, dreams and childish reminiscences of fairy tales. These environments often propose a non-domesticated use of wood, employed in unexpected, casual, unorthodox systems, on which the action of natural elements, water and wind, intertwines with human work, giving life to "unpredictable interactions between nature and architecture". Over time, the limit between architecture and nature blurs: human creation handles natural bodies and forms, and nature digests artefacts. This blend is especially evident whenever the builders realize these environments in forests, where they find isolation and can recreate the archetypical hut in the woods as a refuge from society and control, as identification as part of the wild nature in opposition to the hostile city. Through the different use of building materials they make, and the out-of-ordinary creative paths they follow, these builders overlook construction regulations and the rules of cohabitation, in a proclamation of their right to exercise control over their life; consequently, they usually undergo similar patterns of rejection and, time after time, are labeled as fools, weirdos, witches – despite being often rehabilitated after their death. Their artefacts raise mistrust among neighbours and are targeted, damaged or destroyed by vandals; the law opposes them as dangerous or illegal; they are forcefully abandoned as a result of injunctions, or left in decay after the death of the master, being slowly reabsorbed by nature. At the same time, these "minor" architectures, as well as their creators, are often surrounded by a mythical aura and attract visitors who, seduced by the forms of an alternative world conceived and built by an "undisciplined" individual, recognise these environments as free areas, where the suspension of control allows "freer action, as well as free mental reconstruction".

Over the last years, the architectural domain, too, has been recognising some of these environments, praising the space they give to latent needs through the alternative uses of materials such as wood. The local architectural industry is showing growing interest for *Pilpalossi*, a complex of three constructions made of scrap wood and other reclaimed items built by Vaike Lubi in the Estonian forest near Suure-Jaani, starting from the Seventies. In the Fifties, Lubi – an eccentric woman suspected of having healing powers, and suffering from a mental condition – moved along the Navesti river on the site of the abandoned Lepakos sawmill, in one of the preserved buildings. A couple of decades later, she started to build her *pilbasmaja*, "junk houses", by herself, from scraps and materials she found in the surroundings. Existing trees were used as structural elements, around which

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

she bundled up, up to eight meters, wood logs, planks, caissons, rods, cartwheels as rose windows, wooden ladders and scraps in an ensemble anything but casual: each of the towers "was intended as living spaces and bore a semblance of an architectural style. One looked like a contemporary barn; the other, a functionalist summerhouse; the third, a chalet". Existing pictures document Pilpalossi in the Eighties, and, regarding the taller tower, they convey an evident study of the elevations, divided in vertical canvases from the ground to the roof; the identification of a recurring rhythm in the division of such canvases, evoking the façade of a multistorey building; the manufacturing of portions of cladding, in the form of weaved panels of branches; fine control of the proportions of the construction, which plays on different orders in a compact, tall object that looks out of scale but reveals, in the details of the façade, a constant reference to the human size. This allusion to a double proportion seems to refer to a bigger order, a greater system understood just by Lubi and coherent with her "folk deity" aura, to which she gave shape employing wood and the space of the forest according to personal, indecipherable paths. Thermal performances were a special interest of Lubi, who named her projects *Kalorifeerkütte* (calorific heating) project and Thermospudel (thermos bottle) project and is reported mentioning her houses had thermal heating, despite the sparse walls of alder. Furthermore, she employed a butterfly roof – made of a tin sheet – particularly suitable in cold climates, as it allows daylight and heat to penetrate the building better. These features,and her knowledge of construction terminology, corroborate the rumor that Lubi studied Architecture at the University of Riga. The local community was highly interested in Pilpalossi, often visiting Lubi's for social gatherings. She had opponents too: in the Eighties, the local fire department and foresters wanted to tear down the building as a potential fire hazard, but the then renowned forestry minister H. Teder understood the importance of Pilpalossi as a tourist attraction and saved the place from destruction. Later, the municipality issued an injunction to Lubi, forcing her to liquidate Pilpalossi as dangerous for people and polluting the environment. After being accommodated by the municipality in a social apartment – from which she constantly left, going back to the forest, escaping "normalization", – living a homeless life and, eventually, returning to Suure-Jaani to live with her relatives, Lubi died in 2019. After her death, Pilpalossi was left in decay and is now destroyed, laying in the forest as a pile of wood and scraps, slowly digested by the soil, the winds, and the rain.

Lubi is a local character slowly getting recognition from the

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

architectural domain as a valuable representative of the opposition to the so-called "trained thinking" and as part of the Estonian postmodernist architecture, reconciling the new and the old in a "paradoxical, surprising and interesting way"[12]. The Kreisi Foundation – an Estonian family foundation supporting architecture – issues a yearly award devoted to "acknowledge noteworthy phenomena, alternative practices and versatile creators who have remained on the margin of the mainstream Estonian architecture"[13]; in an interview called "Acknowledging unnoticed architecture", the board of the Foundation states how built architecture has become "primitive", in the sense that contemporary buildings follow market rules and therefore are all identical: "posts, boards and something around them". "Nutcases" such as Vaike Lubi, whom they consider a hypothetically eligible recipient of their award, are relevant to stress architecture as an intellectual activity: they deviate from the mainstream and practice innovation and divergence in thinking[14].

Different from Lubi's posthumous recognition has been the reception of Elemér Zalotay's self-built house in Switzerland, which obtained appreciation from the architectural community well before the Hungarian architect's death, in 2020. The house was a "certified" architecture, realized by a professional based on a building permit; these characteristics have played an essential role in this recognition, which is being renewed in recent years. Elemér Zalotay fled his country in 1973 and started to build his house in Ziegelried, near Bern, in 1978, developing it until 2017, when he moved to a retirement home. Zalotay's house project integrates many of the ideas on which the architect had been working since the beginning of his career in Hungary: he had mainly focused on elaborating experimental solutions to the housing crisis that arose in Hungary after the Second World War. He devised an ambitious plan for a one-kilometer-long, 30-50 stories-high strip house system, based on Le Corbusier's Unité with an "environmentalist spin"[15], to concentrate an entire neighborhood in a single housing structure. The strip house would have been located along the Danube, surrounded by woods and hills so that people would benefit from both urban and "wild" living conditions. In Zalotay's words: "one can enjoy the advantages of urban living – if he wishes – but he can also withdraw when he needs quiet as all inhabitants would feel as if their flats were a single unit on a wooded hilltop of the Pilis"[16]. The structural principle is a dwelling suspended on a high-strength but lightweight frame, cost-effective and conceived to have future inhabitants restore or set apartments up by themselves. A successive version of the strip house was equipped with a green façade: "a curtain of

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

creeper plants hanging in front of the balconies and functioning as a *brise-soleil*, climate control"[11]. When in Switzerland, where no housing crisis was ongoing, Zalotay developed his ideas in the projects of his own home. The lightweight module system on which the house's structure is based is strictly related to the strip house's[12], and the overall process was conducted following a self-building process; a single person could easily transport all the components employed in the house. The two-storey villa is made of a living room, two bedrooms, a kitchen/dining room, two bathrooms, a roof terrace overlooking Jura massif, and an atelier. The living room can be separated into two additional bedrooms, with beds built into the ceiling and can be lowered through a mechanical device[13].

The construction of Zalotay's house was never really concluded: after the realization, the villa entered an "open-ended process"[14] due to the need to solve several weak points of the building, which the architect, lacking finance, tackled employing scrap materials and unorthodox techniques, in a continuously evolving recycling operation, embracing "accident" and "dissonances"[15]. He built an unauthorized[16] glass shield on two sides of the house to protect it from overheating and heavy rains; "sewed" breakages with pebbles and cement; included copper and wood additions: "the character of the house slowly but steadily shifted"[17]. The outer concretions started to cover the house's interior, following Zalotay's imagination, in an "apparent anarchy and fragmentation"[18]: a landscape of small stones, *objet trouvé*, debris recreating inside the house the randomness of the densely overgrown vegetation outside. The architect let this vegetal layer blend with his work, an unplanned synthesis of living wood and architecture enabling the profound need for retirement in the wilderness.

The precarious character of the house, and the several breaches of norms carried out in its realization brought the neighbors to issue a petition to tear it down[19]. Despite the local opposition, the house became much appreciated in the professional circle; Zalotay was mentioned in 1986 in "Architectural Review" in a piece on the death of post-modernism[20], counted among those architects showing of a

> resurgent spirit of enquiry, a renewed interest in space and movement, in the use of real materials – steel, concrete, timber, stone, even plastic, appearing as itself – in a stripping-back towards the essentials of architecture and, most importantly of all, in the dynamism of asymmetry, the very genesis of freedom.[21]

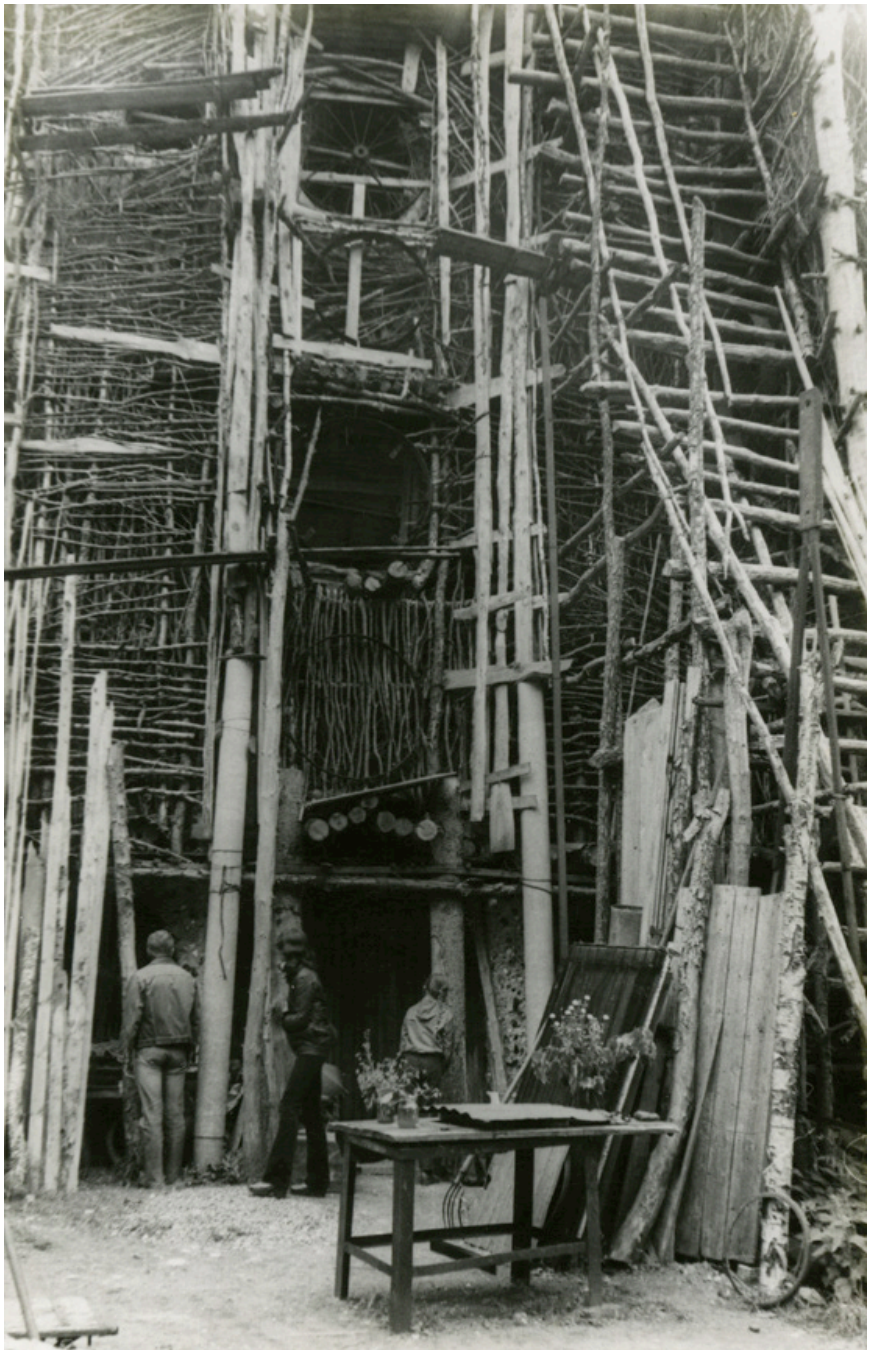
In 1992, Zalotay's house in Ziegelried was placed under protection for forty years, for its "architectural uniqueness and special approach to material recycling"[22]; since August 2022, the house is not under protection anymore, in a state of decay and with an uncertain destiny.

Zalotay's name is raising renewed interest thanks to the work of valorization carried on through research and exhibitions by Bálint Nagy, Júlia Őry, Lóránt Perényi and Elemér Nagy at the FUGA center in Budapest, as well as to the efforts by Tibor Joanelly, who curated the exhibition *Elemér Zalotay: Manic Modern* at BALTSprojects gallery in Zurich in 2021 and at f'ar - forum d'architecture in Lausanne in 2022[23]. The same scholars are also looking for viable solutions for the preservation of the house in Ziegelried; the latest opportunity has been presented by the Denkmalpflege des Kantons Bern, which is planning to deconstruct the house and rebuild it in another location, possibly at the Collection de l'Art Brut in Lausanne or at the Fachhochschule in Biel[24].

The cautious recognition accorded in the last years by the architectural community to these works and less controllable, less predictable uses of wood is a sign of needed attention to the formless, the uncertain, the unexpected. In the framework of the environmental crisis, wood is looked at with renewed attention as a sustainable material, able to respond to contemporary instances in a sharper way than heavier materials. In the current condition of instability, however, the idea of sustainability – always intended as environmental, economic, social, and cultural – should involve diversity and flexibility, in order to adapt systems, products, and processes to unknown future conditions and guarantee a complex vision, inclusive of different perspectives, hidden urgencies, alternative lifestyles to a failing *status quo*. Works such as Lubi's towers or Zalotay's house show how a non-domesticated use of wood in architecture can enable unforeseen ways to inhabit the city and the wilderness, establishing new balances between cohabitation and isolation, weaving new relationships between humans and nature, embracing new temporal dimensions for shelter. Even in mainstream architecture, through the mesh of market and building regulations, some works go beyond the norms ruling the use of wood, giving space to latent needs and potential, uncontrollable deviations from the original design. The 95 Degrees Restaurant by Alexander Brodsky in Pirogovo, near Moscow, stands on a wooden grid with columns slightly inclined – 5 degrees above the vertical – following the pattern of the surrounding trees, in a formal intuition of the author[25]. Slabs serve as terraces and, here and there, closed volumes appear in a disordered arrangement. Wooden pillars main-

tain their appearance as tree trunks; knots, scratches, and gnarls are visible in the columns, left raw and untreated as if they were found in the surroundings and put together by a resident, realizing their rickety jetty above the water of the Kljaz'ma, in the Klyazminskoye Nature Reserve. The reference of this project is a kind of structure widespread in Russia[16]: temporary, hybrid waterfront structures, with an unclear purpose. When these structures are not used anymore, they are left in decay, decay that Brodsky froze in time in this building in the 5-degree inclination of the load-bearing columns, giving shape to a precarious, but familiar building. A hybrid, referring to the forest and the water, a refuge alluding to an archetype. Like many of Brodsky's works the restaurant was temporary, conceived to last a couple of summers[17]; however, it is still standing and in use. Recent pictures show an entirely different visual character from the ephemeral images of the restaurant widespread in the media. An imperfect, low-key, unpolished use of wood allowed a temporary architecture to last, creating the space for it to be light-heartedly adjusted to changing needs, free from the rules of the architectural establishment. In the framework of the contemporary global crisis, in front of the inadequacy of fixed norms to the current unstable conditions, a non-domesticated use of wood in architecture can create the space for the unpredictable, for "the first weak forms of some new thing, a new religion, a new politics"[18], protected by the rigid borders of total control.

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 12908, Estonian Museum of Architecture, http://www.muis.ee/museaalview/2638539 (CC BY-SA 4.0).



See R. Banham, *Is There a Substitute for Wood Grain Plastic?*, in E.A. Anderson, G.F. Earle (eds.), Design and Aesthetics in Wood, State University of New York, New York 1972, reprinted and published in "GAM 17: *Wood. Rethinking Material*," 2021, p. 58. In this article, Banham writes that "the use and experience of wood is an essential and basic part of the cultural inheritance of all northern, non-Mediterranean peoples" (p. 60) referring to North-Americans as well as to North-Europeans. Due to globalization and the free circulation of ideas and cultural products, the experience of wood is a cultural trait than, even if not shared, is understood also by those referring to a culture "carved in stone […], the dominant material of the Mediterranean basin – poor in wood in all historic time – from which our conscious culture derives" (p. 58).

PRIN Sylva, *Project*, 2017, available at: https://sites.google.com/iuav.it/iuav-prin-sylva/sylva?pli=1.

B. Rudofsky, *Architecture Without Architects: A Short Introduction to Non-Pedigreed Architecture*, The Museum of Modern Art; Doubleday, Garden City NY 1964, p. 6.

Ibid.

J. Choppin, N. Delon, *Indisciplinés*, in Id., *Matière Grise. Matériau, réemploi, architecture*, Pavillon de l'Arsenal, Paris 2014, p. 111 (my translation).

The word "environments" is commonly employed to define these works, as stated in H. van Es (ed.), *Outsider Environments Europe*, blog, available at: https://outsider-environments.blogspot.com, meticulously collecting outsider environments case studies in Europe and former USSR countries.

These works fall into different definitions: *art brut, outsider art, outsider environment, outsider architecture*. Many well-known examples exist, such as the Ideal Palace by Postman Cheval, a rural postman living in Hauterives, in the South of France, who in 1879, on the wave of curiosity for the sculptural skills of nature, started to collect "odd or fanciful" stones in the surroundings of Hauterives and building, using just rudimentary tools and along thirty years, a complex architecture, 26 meters-long, and 10 meters-high. A "peasant's handiwork," the palace has an encyclopedic character, "a fantasmagorical world of plant and animal life." M. Thévoz, *Art Brut*, Rizzoli International, New York 1976, p. 25.

Postman Cheval wrote in his autobiography about his obsession for stones and the struggles of re-use architecture: "As for the plans and figures to be adopted, they have at the same time absorbed my attention and disturbed my sleep," J.-P. Jouve, C. Prévost, C. Prévost, *Le Palais idéal du facteur Cheval. Quand le songe deviant la réalité*, Arie éditions, Hédouville 1994, quoted in J. Choppin, N. Delon, *op. cit.*, p. 111, (my translation). The forms of Cheval's palace stem from his memories, reminiscences, and dreams, "not governed by the same principles of affiliated forms as architecture in general. […] They stem from the same mechanism of association and condensation as dreams do." M. Thévoz, *op. cit.*, p. 25. Similarly, *anarchitect* Richard Greaves' work is described as "a dream that never ends," S. Lombardi, V. Rousseau, *Richard Greaves: architect of the possible*, in Id. (ed.), *Richard Greaves. Anarchitecte / Anarchitect*, 5 continents, Milan 2005, p. 78, and he declared, about his work: "Everything I do here is to sleep better," in Id. (ed.), *Richard Greaves, op. cit.*, p. 93.

Some works by Richard Greaves have names inspired by tales, such as The Sugar Hut or The Three Little Pigs' House; see Id. (ed.), *Richard Greaves. op. cit.* Vaike Lubi's wooden castles, described ahead in the text, were called "witch houses;" see https://foorum.perekool.ee/teema/kas-keegi-oskab-maletuse-jargi-oelda-miskohaga-tegu/ (my translation).

J. Wines, *L'architecture verte*, Taschen, Cologne 2000, p. 64, quoted in S. Lombardi, V. Rousseau, *op. cit.*, p. 79.

Throughout the building of his Ideal Palace, Cheval was labeled "just a poor fool who fills his garden with stones." M. Thévoz, *op. cit.*, p. 25. About the postman, it is stated: "it was not, he says, because he was crazy that he built his Palace; it was because he built his Palace that he was called crazy." Ivi, p. 26. The Palace found later recognition and was praised by Breton and Picasso, before being classified as a historical monument by André Malraux in 1969, see J. Choppin, N. Delon, *op. cit.*, p. 111 (my translation).

J. Choppin, N. Delon, *op. cit.*

K. Lynch, *Wasting Away*, Sierra Club Books, San Francisco 1991, p. 25.

See M.D. Shrayer, *Leaving Russia: A Jewish Story*, Syracuse University Press, Syracuse 2013, pp. 72-74.

See M. Jürgen, *Visiit külageeniuse juurde*, in "Eesti Ekspress," March 15, 2015, available at: https://ekspress.delfi.ee/artikkel/73945125/visiit-kulageeniuse-juurde, accessed December 22, 2022.

See A.-M. Rannamäe, *Mälestuskilde Lubi Vaikest*, in "Leole," n. 8 (233), August 2019, p. 9, available at: https://dea.digar.ee/article/leole/2019/08/01/32, accessed December 22, 2022.

M.D. Shrayer, *op. cit.*, pp. 72-73.

Ivi, p. 73.

T. Kukk, *Pilpalossi perenaine*, in "Leole," vol. 14, 5, May 2001, p. 6, available at: https://dea.digar.ee/page/leole/2001/05/01/6.

See *Ibid*.

See *Ibid*.

See A.-M. Rannamäe, *op. cit.*

See T. Kukk, *op. cit.*

S. Saarep, *Kui süsti asemel antakse pintsel ja värvid*, in "Sirp," July 27, 2018, available at: https://sirp.ee/s1-artiklid/c6-kunst/kui-susti-asemel-antakse-pintsel-ja-varvid/ (my translation).

T. Kukk, *op. cit.* (my translation).

Kreisi Fond, in M. Karro-Kalberg, *Acknowledging unnoticed architecture. The foundation of the Kreisi family*, in "MAJA," n. 98, autumn 2019, available at: https://ajakirimaja.ee/en/acknowledging-unnoticed-architecture/.

E. Urbel, in M. Karro-Kalberg, *op cit.*

V. Molnarr, *From Constructivism to "Routinized Modernism": The Zigzag Trajectory of Radical Utopianism in Postwar Central Europe*, in "Laboratorium," vol. 1, 8, 2016, p. 21.

E. Zalotay, *A difficult man*, letter to Károly Valentiny published in "Új Írás," 6, 1965, in M. Major, J. Osskó (eds.), *New architecture, new society: 1945-1978. A selection of the architectural debates and documents of the past decades*, Corvina, Budapest 1981, p. 252, in Z. Fehérvári, J. Őry, *"…not talking to the wind, even if I'd like to build on them" – portrait of Elemér Zalotay (1932-2020)*, on FUGA website, December 22, 2020, available at: http://en.fuga.org.hu/not-talking-to-the-wind-even-if-id-like-to-build-on-them-portrait-of-elemer-zalotay-1932-2020/.

V. Molnarr, *op. cit.*, p. 21.

See Z. Fehérvári, J. Őry, *op. cit.*

See A. Krafft, *Villa 3054 Schüpfen/Ziegelried/BE*, in "Schweizer Architektur," 79, October 1987, p. 79.29 (my translation).

Z. Fehérvári, J. Őry, *op. cit.*

E.M. Farrelly, *The New Spirit*, in "Architectural Review," vol. 180, 1074, August 1986, p. 11.

See Z. Fehérvári, J. Őry, *op. cit.*

Ibid.

E.M. Farrelly, *op. cit.*, p. 11.

See F. Principe, L. Ambrosi, *Save the house!*, in "Domus," 656, 1984, p. 31.

See E.M. Farrelly, *op. cit.*, pp. 7-16; Zalotay is mentioned here alongside Moser and Goodwin, Coop Himmelb(l)au, Itsuko Hasegawa, Richard Leplastrier, Eduard Samsó, Alfredo Vidal among others.

Ivi, p. 10.

M. Andina, *A home made of recycled materials*, in SwissInfo website, June 3, 2012, available at: https://www.swissinfo.ch/eng/not-wasted_a-home-made-of-recycled-materials/32796812.

A careful record of the valorization activities carried on to promote Zalotay's work has been drafted and updated until 2020 by Júlia Őry. See: J. Őry, *The Zalotay story. Status report and plans*, in Epitesz Forum website, November 3rd, 2020, available at: https://epiteszforum.hu/a-zalotay-sztori-helyzetjelentes-es-tervek.

See *Ibid.*

See F. Moral Andrés, *Alexander Brodsky: del papel al desvanecimiento*, in M.Á. Chaves Martín (ed.), Arquitectura, Patrimonio y Ciudad, Universidad Complutense de Madrid, Madrid 2015, p. 262.

See A. Brodsky, *Everything is Temporary*, in "Digital Architectural Papers. *After Crisis*," 1, July 2012, available at: https://www.architecturalpapers.ch/docf723.pdf?ID=10.

See *Ibid*.

K. Lynch, *op. cit.*, p. 135.

PORCH AS SCREEN OF TREES

CHARLIE HAILEY

ON SEEING

Paul Cézanne leans forward, brush in hand. It is an extension of his fingers; its angle matches the sloping ground that rises toward Mont Sainte-Victoire. The thick edge of Cézanne's canvas breaks this horizon, and the architecture of the easel supports not just the canvas but the photographic vignette as a whole. We are looking through its structure of unfolded legs and frames and through that charged void between artist and canvas. We feel Cézanne's concentration in the weighting of his body as he steps into the brushstroke, its tip in sharp focus, poised inches from the canvas. His coat is torn where his right arm meets his shoulder, as if the action of painting pulls at the very seams of your clothing and skin. His collar is upturned against the cool air of January. The painter "lends his body to the world".

Leafless trees rise above his shoulder to frame the photograph's left edge, and evergreen trees hold its right side. In the distance, a line of trees hold the middle ground and serve as a background for the white line of the brush. The flowing edge of a rock wall passes behind the artist and structures perspectival depth as it continues into the distance. Cézanne's action of painting and the space he has created for himself in the landscape – in the photograph's immediate foreground – screen our view. His head turned slightly into the scene, Cézanne's view is nearly our view, but the photographer Roussel is not showing us what Cézanne sees (which might be another vision of the mountain or a "screen of trees" painting). Instead, he reveals how and where the painter works, and how that place anchors the process of seeing. At the same time, we are afforded our own view of the landscape, made possible by the space Cézanne and then Roussel have created. I believe that space is a kind of porch.

A PORCH ON A RIVER IN A FOREST

Each day you walk out onto a porch, you are an impressionist painter. Air is your medium, and the screen is your canvas. You return to the same spot, in the open air, to learn the process of seeing. Like Paul Cézanne poised at his easel in front of Mont Sainte-Victoire, the porch screen is your étude canvas, where you study the way air and light touch rocks, leaves, and grass, as well as the screen itself. Even if you're not actually painting, you still test vision and study change.

The porch where I sit looks onto a small lagoon that the cabin's original owner blasted out of limestone rock. From the porch, this lagoon has all the repose and painterly opportunities of Claude Monet's pond at Giverny; and like the cabin's build-

er, Monet dug his pond in a carefully composed location. The lagoon provides the foreground for the porch's view out to the Homosassa River, a spring-fed watercourse on the Gulf coast of Florida. When the tide comes in, the river reverses direction and water rushes from right to left, which is also west to east.

Seven decades old, the porch's floors tilt with tidal surges and sinking ground. The porch and its modest cabin nest in a coastal forest that is also changing. Cedar trees, cabbage palms, and live oaks, some as tall as forty feet, still cling to the limestone island's sparse soil; but with saltwater intrusion, they are declining, and Brazilian pepper trees, an invasive species from southern Florida, are crowding out the native forest, which is becoming a ghost forest. And so one forest is being replaced by another. Awash in warmer water and protected by milder winters, mangroves have colonized the lagoon's shoreline. In the last ten years, they have grown up to my eye level on the porch. Marsh grass adds a bristling texture as the new understory to this coastal forest on the cusp of change.

When I sit here on the porch, I stare trance-like over the lagoon, across the river. Each time, the scene – its river, light, water, color – asks me to see it for the first time. Sometimes I sketch, but often the viewing remains a mental study. It asks for a way of seeing reminiscent of Stéphane Mallarmé's call to impressionism in the late summer of 1876: "Each work should be a new creation of the mind. The hand, it is true, will conserve some of its acquired secrets of manipulation, but the eye should forget all else it has seen, and learn anew from the lesson before it" [.

SCREENS OF TREES

Eight years ago, I made a three-dimensional laser scan of the writer Marjorie Kinnan Rawlings' porch in Cross Creek, Florida. Ten feet deep and thirty feet wide, her porch is typical of the region's vernacular architecture, framed in wood with exposed rafters and screened openings. Usually, these digital scans go through a processing phase to sort out the raw data and correct errors. This scan was never processed, so the image I'm looking at has many pieces of information laid one on top of another. It remains raw. I borrowed the scanner from a historic preservationist who uses it to archive buildings to prepare for renovations or to document them ahead of imminent destruction. I have pored over this image like I sometimes look out from the porch, through the screen, with a mix of rapt attention and blank stare. The result here in front of me is not what the preservationist seeks – there are too many anomalies, misalignments, and blurred edges. But

what I see is a near-perfect visual analog for this porch, and the broader experiences of porches, both in the past and now in our present time.

The porch sitter views the world through a deep veil. In the scan's resulting image, the inner and outer edges of the porch mingle. The glass of the porch's back wall, which is the house's front wall, meshes with the porch's screened wall and its lower wooden paneling. A moiré of reflected and filtered light joins colors and forms from the farmyard beyond. It is as if the screen reflects, holds, and filters not just light but also image. Smudges of blue sky, flecks of grass, orange trees, tea olives, and birds all float across the screened image to collapse inside and outside, near and far, reflected and filtered, coming and going.

The digital process has done what Cézanne did, playing with depth and making tangible what would otherwise remain ephemeral, even invisible. In the decade that followed Mallarmé's essay, Cézanne executed a series of paintings that relied on screens of trees for their composition but also for their meaning. The dominant formal scheme of these paintings, also developed by Corot and Pissarro, is a foregrounded row of trees that sets up a dialogue in the depth of the painting with additional layers of trees and other landscape elements. "Screen of tree" paintings exemplify the late 19th-century plein-air painter's intentioned relationship with a setting. In one sense, the trees are a natural architecture of vision; they establish depth and provide stability in their frames, but they also give something else, much more important to Cézanne's intent. The screens of trees afford doubt.

When you look at *Trees and Houses* (1886) at the Orangerie, you have the sense that the painter is practicing sight. The painting is not just about seeing, it is about learning and then knowing how to see. As this process unfolds, the screen promises order, but it raises as many questions as it answers. Leaves are smeared on houses, contours shift as they pass behind tree trunks, mountains evaporate into the sky, windows hang from tree limbs, houses become the color of underbrush, and tree limbs and trunks are suffused with sunlight and infused with the color of houses. [These paintings and the digital scan of Rawlings' porch do not offer exact documentations and yet they are wholly accurate. In this way, they are also like porches: they teach us the reflexive nature of perception.

OUTSIDE AND INSIDE

Cézanne said that "nature is on the inside" *. Behind the screen of trees – and on a porch, we are neither inside nor outside. The

Water lilies (Agapanthus), Claude Monet, 1915-1926.
© Cleveland Museum of Art, 2019.
https://archive.org/details/clevelandart-1960.81-water-lilies-agapant.

painter instead takes us to a place where we're partway in nature; but most significantly for Cézanne, we become conscious of how we perceive nature. The experience is important: Cézanne ventures into *plein air* just as we go out into a porch's open air. But the process of reflection – of thinking about what we are seeing and feeling – is also critical. We see things and we see ourselves in the world. I have always thought of these paintings as if they were composed from a porch, where the trees are columns and what happens across the canvas is a screen of built-up paint. Cézanne takes us to a place where our vision might live[7]. This way of seeing includes what we see and what we don't. On a porch, this way of seeing finds a home, as the philosopher Maurice Merleau-Ponty says, in the "texture" of the visible and invisible[8].

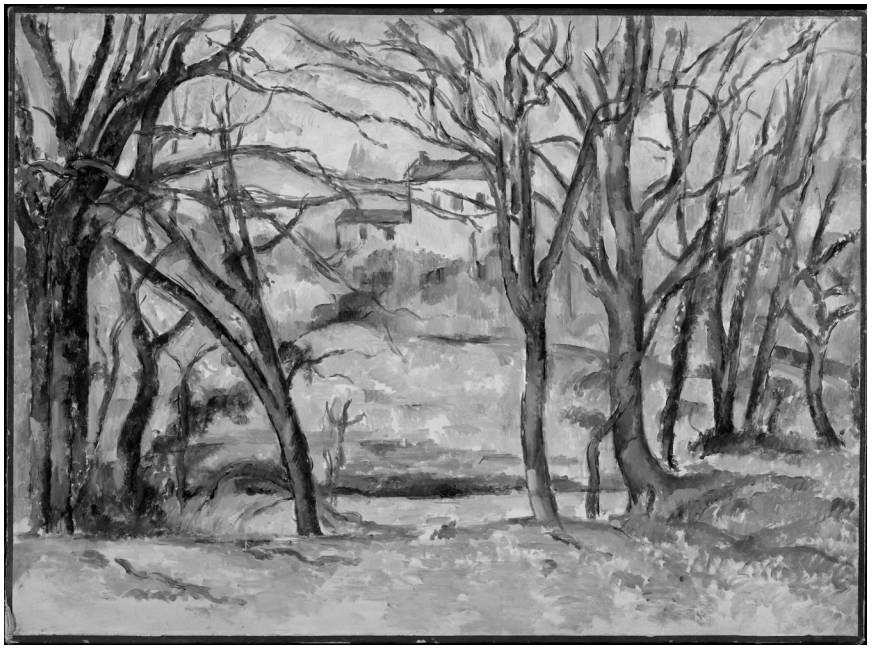
Merleau-Ponty also noted that without a screen there is no vision. A porch's screen extends the threshold our body makes with the world around us. It brings what is distant closer and it allows us to see what might otherwise remain invisible. Just as Cézanne found the thresholds of sight in his painting's trees, the philosopher once marveled at a screen of cypresses "where the web of reflections plays"[9]. Whether it has a screen or not, the porch is an anchor for this kind of seeing. And right now, when I raise my head from this myopic cradle of writing, there is a play of distance between near and far. A meter away, a lizard leaps from a tree trunk and climbs the porch's woven screen. He looks through the openings between nylon mesh, its apertures about the size of his eye. We see each other for a moment, and there is disdain in his gaze. Beyond, a few juvenile palm fronds finger the breeze, and, further away, water reflects sky, pleated by a crab boat that passed upriver a few minutes ago. Across the river, a line of cordgrass, limestone and trees offers other horizons. Along the porch screen, shadows of limbs dance and flicker.

BUILT GROVE

Architects Alison and Peter Smithson explored the porch as a screen of trees in a series of built and unbuilt projects. Discussing their project for Axel Bruchhäuser's porch at Hexenhaus in Germany, the Smithsons define porch as a method, one that combines tuning and tree-screening: "The porch can be read as an exemplar of a method by which a small physical change – a layering-over of air adhered to an existing fabric – can bring about a delicate tuning of persons with place"[10]. No more than five square meters, the Hexenhaus porch is ostensibly a modest project for a man (Bruchhäuser) and his cat (Sir Karl), but its construction draws together all the possibilities of porch as method

Trees and Houses Near the Jas de Bouffan, Paul Cézanne, 1885-1886.

https://www.metmuseum.org/art/collection/search/459092..



as well as the Smithsons' ideas about air, trees, and architecture. For the Smithsons, air is the general medium, and trees are the specific means, for the porch's tuning capabilities, just as plein-air was the effective medium for Cézanne in his screen of tree paintings. Alison Smithson identified "adherent air" as the connective tissue between inside and outside in this "layering-over".

Throughout their career, the Smithsons were fascinated with a dialogue between "grown" and "built" trees. At close range, the Smithsons build a wooden lattice of tree branches across the building envelope's immediate surface; and at a distance, they use lines, or screens, of growing trees to find the outer layers of what they also called "treillage'd space". At Axel's porch, the angled forms of the lattice frame become the "window tree" that works with the grown edges of trees to harmonize near and far. This exploration of the possibilities for the tree to inform architectural enclosure affords a "sense of protection" and defined boundaries along the periphery of Axel's porch. The porch's lattice components that approximate "branches that do not move" also serve as fixed reference points for the viewer-occupant to understand the daily fluctuations of light and air as well as the seasonal transitions of color and leafing cycles.

The Smithsons saw the structure of their porches – whether wood or steel frame – as a "built grove". In a final note appended to the Frances Loeb Library's copy of the manuscript for "Lattice-screens and Paravents," Alison Smithson speaks about porches generally but also references Axel's porch specifically: "So the porch…whose frame supports the all-around glass that is as a built part of the wood; two built-trees whose branches cannot move with the seasons". The porch's fixed-branch lattice, frozen in a leafless wintertime state, ensures a minimally mediated relation between occupant and tree, and the porch's "branches" add to the branched and treed spaces of the Hexenhaus' landscape, contributing to what the Smithsons called "veined air". Picking up on the space between branches, leaves and trunks, screening then becomes a process of veining air, which saturates the porch with the surrounding context, whether it is the landscape's visually pervasive contours, textures, and colors, or whether it also includes additional sensual feedback of smells and sounds that drift through the screen's mesh like those here at my porch on the river.

This explicit concern with "the built grove" and layers of trees extended to the Smithsons' other porch projects. In their proposal for Lucas Headquarters, where tree layers connect the project's built edges to a broader context, the architects could be describing one of Cézanne's screen of tree paintings, just as they

hint at the experience of sitting on a porch:

> The building steps forward, steps back, performs as it were a stately dance with the trees that lace the site on the lines of the old hedgerows; thus, the building form utilises [sic] that sense of connection to place that the interpenetrations of existing trees can transmit. The stepping in and out of the building to receive the penetration, or allow the tree line to pass by, offers to the occupants a variety of serrated edge place.

This interlaced screening in a built grove's "serrated edge" also includes reflection. In the Hexenhaus project, occupants are exceedingly aware of the porch's glazing. The use of glass in Axel's porch maximizes clear views of the outside world, but the thickness of the porch's lattice frame also reduces glare and at the same time supports reflectivity. Reflections of the occupant's body occur simultaneously with those of tree, limb, leaf, and sky.

Resting on the porch, our eye follows contours of receding path, rising hillock, axial trunks, bending limb, or displaced stone. The Smithsons will later note that Axel's decisions about the porch resulted from the effects of context, sight, and climate on "his eye and his body". Within the porch's layers of screen and tree-screen, Merleau-Ponty's "thinking eye" sees and hears the forest's correspondence so that nature finds its way inside, to eye, mind, and body. The flexuous line weaving these linkages must bend as it binds so that inside may also find its way outside.

CLIMATE CODA

Lingering on a site, committed to its environmental situation, Cézanne found a "'new manner of painting' […] capable of keeping the interplay of mass and atmosphere – the visible and the invisible – in a state of engaging, enduring impermanence." Porches are plein-air vehicles that register climate and its fluctuations. The porch where I sit and write and page through images of Cézanne's paintings and the Smithsons' Hexenhaus will soon be inundated by rising seas. Climate change has already deeply transformed its built grove, and the loss of coastal forest is tangible here on the porch – reminders that porches operate on climatic thresholds of time and space.

The trees that create the scene and the trunks that extend like so many porch columns out into the landscape are slowly falling away. Across the river, a storm brought down a greying cluster of cedar trees and the trunk of a palm where the resident osprey liked to perch. Closer to the porch, cedar trunks turn a deeper silver, burnished by wind and salt; and dying limbs mark their

steady decline. Last week one of the dead palm trees just three meters from the porch's front started to lean toward the roof. Its head had been lost seven years ago in the hurricane. I decided to fell the trunk, and I soon realized that saving the porch meant losing part of its context. From my favored position on the porch, its absence was palpable. Not merely because a familiar view had been changed, but something deeper, more visceral. I still felt the presence of the palm tree like a phantom limb. Which is to say that the porch's link between body and landscape, between body and forest, goes beyond vision. It includes the smell of rain on cedar's needles, the remembered texture of that palm tree's coarseness, and the sheen of driftwood smoothed in tide and air.

This photograph is of *Cézanne at the Mont Sainte-Victoire* by Kerr-Xavier Roussel in January 1906.

Eight months later, after being caught in a rainstorm at this site in the hills of Les Lauves, Cézanne will die of pleurisy, having followed his claim that he would die painting.

M. Merleau-Ponty, *Eye and Mind*, in G.A. Johnson (ed.), *The Merleau-Ponty Aesthetics Reader: Philosophy and Painting*, trans. C. Dallery, M. Smith, Northwestern University Press, Evanston, Illinois 1993, p. 123.

Here, I am using the term "porch," but I mean to include other porch-like spaces: verandas, balconies, even stoops.

S. Mallarmé, *The Impressionists and Edouard Manet*, in "Art Monthly Review," 1(9), September 1876, pp. 117-122. This article was reprinted in *The New Painting: Impressionism, 1874-1886*, exh. cat., San Francisco and Washington, D.C., 1986. In the essay, Mallarmé has borrowed "Each work should be a new creation of the mind" from Édouard Manet.

J. Isaacson, *Constable, Duranty, Mallarmé, Impressionism, Plein Air, and Forgetting*, in "The Art Bulletin," 76(3), September 1994, p. 445. In another version of the *Trees and Houses* painting (in Oslo), the presence of trees perceptually compromises the houses and the hillside; and as a result, the painting's substance, identity, and content are found through the process of visualizing.

Merleau-Ponty quotes Paul Cézanne in his essay *Eye and Mind*, p. 125.

I admit to have looked for evidence that Cézanne painted on porches or verandas. His studio in Aix-en-Provence has the region's typically austere, flat facades without covered indoor-outdoor spaces; but the studio's west side has a raised terrace (graced by a large tree) that holds views down the slope. The north side has a large window that looks in the direction of Mont Sainte-Victoire, and Cezanne worked on paintings in the garden outside his studio by taking the oversized canvases (like *The Large Bathers*) out through a specially constructed door. It is also worth noting that Claude Monet painted from the balconies of the Louvre.

M. Merleau-Ponty, *op. cit.*, p. 127

Ivi, p. 142. See also M. Merleau-Ponty, *The Visible and the Invisible*, trans. A. Lingis, Northwestern University Press, Evanston, Illinois 1968, p. 150.

A. Smithson, P. Smithson, *The Charged Void: Architecture*, Monacelli Press, New York 2001, p. 552.

S. Mallarmé, *The Impressionists and Edouard Manet*, in C. S. Moffett (ed.), *The New Painting: Impressionism, 1874-1886*, Fine Arts Museum, San Francisco 1986, pp. 27-35. Working toward a definition of "plein air," Mallarmé states: "Open air: that is the beginning and end of the question.... The search after truth, peculiar to modern artists, which enables them to see nature and reproduce her such as she appears to just and pure eyes, must lead them to adopt air almost exclusively as their medium." Ivi, p. 28. The essay first appeared with the same title in *Art Monthly Review*, 1, September 30, 1876, pp. 117-122.

See A. Smithson, *Into the Air*, in "Mass: Journal of the School of Architecture and Planning, University of New Mexico," vol. VII, Fall 1989, p. 10.

For an extended discussion of the Hexenhaus porch and the idea of "treillage'd space," see my article *Treillage'd Space: Tuning Person and Place in the Porches of Alison and Peter Smithson*, in "Environment, Space, Place," 2(2), Fall 2010, pp. 79-119. There, I discuss the origins of the term 'treillage' and its link to trees and screening. Its linguistic root in *treille*, a French term for arbor, underscores the Smithsons' long-held interest in tree screens, whether they are 'grown' or 'built.' Further, treillage was a skilled art in French landscape design; and in the 18th century, the division of carpenters known as Corps de Menuisiers officially recognized the practice as a technical craft that required the same expertise as complex joinery.

The synthesis of tree and window provides another mode of building "into the air," and Alison Smithson cites Robert Frost's poem "Tree at My Window" when she discusses the integration of building and window in the St. Hilda's project: "Tree at my window, window tree, / My sash is lowered when night comes on; / But let there never be curtain drawn / Between you and me." See A. Smithson, *op. cit.* The poem is included on page 180 of R. Frost, *The Road Not Taken: A Selection of Robert Frost's Poems*, Henry Holt and Company, New York 1985.

P. Smithson, *Three Generations*, in "OASE," 51, Spring 2000, pp. 90-91. Also see P. Smithson, *Conversations with Students*, Princeton Architectural Press, New York 2005.

Retrospective annotations at the introduction to the "Treillage'd Space" section of *The Charged Void* noted "something of a return to our first interest in the steel structure […] the wood structure, the built grove, the grown line of trees." Ivi, p. 377.

The essay closes with the following: "In a sense […], substantial lattice members are like tree branches. Tree branches move and grow, changing what is seen through them without the observer moving." Ivi, p. 2.

Ivi, p. 380. The architects also find traces of memry in this landscape: "[l]ines of trees lace the building into the landscape and are used as 'remembrances'" of historical land patterns. Ivi, p. 382.

Completed in 1949, Case Study House Number 8 includes glazing etched with leaf patterns of the adjacent eucalyptus trees,

effectively drawing near the screening device of the site's treeline. The Smithsons admired Charles and Ray Eames' project.

P. Smithson, "Being at Home," revised August 26, 1997, with Notes "thought and expressed in Copenhagen" in November 13, 1997. Frances Loeb Library, Special Collections, page 5 of unpublished manuscript and lecture.

Commentator Galen Johnson provides a rhetorical framework for these ideas: "Why is it that painters have so often said, in the manner of Klee, that the forest was speaking to them, or the trees were looking at them, or why did Cézanne say that 'nature is on the inside.'" G.A. Johnson, *Ontology and Painting: 'Eye and Mind'*, in Id., *op. cit.*, p. 47.

J. Isaacson, *op. cit.*, p. 430.

For additional discussion of porches and their relation to climate change, see C. Hailey, *The Porch: Meditations on the Edge of Nature*, University of Chicago Press, Chicago 2021.

DISGUISED AS A TREE

KOSTIS VELONIS

The first time that I reflected upon the animistic qualities of the tree was probably when I watched an early slapstick comedy by Charlie Chaplin regarding World War I, in which the comic hero is a soldier who volunteers to wander inside the enemy lines disguised as a tree. Ever since then, the erratic movement of a disguised tree taking away the enemies in *Shoulder Arms* (1918) has left an indelible stylistic imprint on my understanding of the animistic nature of the forest. Lately, we tend to acknowledge that the traditions and beliefs of primitive cultures about animate trees are not an exclusive subject of disciplines such as folklore or social anthropology, but pertain also to architecture. The verticality of the tree, the kinetics of which is expressed in the branches moved by the wind, has other interesting animistic connotations as well. The gathering of trees acts as a simulation of the forest in urbanism, since it is common to put big trees along central boulevards, following the symbolic flow of the water stream. Naturally, these trees do not move in the erratic and mechanical way of the ever flexible and ingenious Chaplin, but their contribution to the artificial environment of the city has to do with the pursuit of a city reconciled with nature and with the primeval forest.

Thus, the property of movement is to be attributed to the whole cluster of trees. Besides, *Dendrophoriae* in ancient Greece, a festival during which trees were transported through the central streets of the city, was a tangible proof of the potential animation of the tree, in the quite literal sense of a moving tree. *Dendrophoriae* reminded people the proximity of rural life within the city, the reunion of the natural and the artificial. Yet this process of likening the stream of trees to the urban network must be seen beyond its schematic figuration as a furious verticality and as the absorption of the wild and inaccessible forest within the friendly and gentle city park; it must be seen in its singular unit – the tree. In popular traditions and in practically every known mythology, the tree in its vertical structure, as an *axis mundi*, a primordial concept of architecture, with its roots, its trunk and its extended branches, corresponds to the three worlds (in reverse order): heaven, earth and the underworld.

In his *Dialogue of the Tree*, Paul Valéry was influenced by Virgil, as he had just completed his translation of the Eclogues, and thus he borrows from the Roman poet the names of Tityrus, the shepherd, and Lucretius, the philosopher. Valéry makes a bold point when he defines the tree not just in terms belonging to the environment of the terrestrial surface, but also in terms of the underworld, of subterranean stratigraphy. In the dialogue, Lucretius professes himself a Plant. He tells Tityrus: "I wished to speak

to you of the feeling I sometimes have of being a plant myself, a plant that thinks"[16]. Yet, from the onset of the dialogue with his friend the shepherd, Lucretius gives a seemingly paradoxical definition: he claims that the tree is a river. In this sense, we can also grasp the subterranean substance of the tree, or better yet its flexibility to be at the same time in *Gaia* and in *Chthon*, both in the upper world and the underworld. The Tree is thus described as "a river all alive whose sources downward plunge and in the earth's dark mass find the pathways of their mysterious thirst"[17].

In another verse, the writer recognizes the diagrammatic extension of the tree's penetration in the ground, insisting that the deeper it advances, the higher it raises itself: it subjugates the amorphous and attacks the void. So when it raises itself, the tree does not move forward; it goes deeper. And Lucretius again claims that this is what meditation means, that the tree with which Lucretius identifies himself does meditate: *Je dis que si quelqu'un médite au monde, c'est la Plante* [I say that if someone on earth does meditate, it is the plant][18].

Later in his dialogue with Tityrus, Lucretius explains what it means to meditate. He argues that to meditate is to dig deeper into the concept of order. The tree for Tityrus remains the ideal example for describing the process of ratiocination. He even asks himself "how the blind Tree (l'arbre aveugle) with its diverging limbs grows up about itself, faithful to symmetry. Life in it calculates. It raises up a structure, and radiates a rhythm through branches and their twigs, and every twig its leaf, even at the very points marked by the nascent future"[19]. Valéry helps us understand the importance of verticality in the emergence of meditation, the vertical structure that bridges the surface of the earth with its depth as a precondition of meditation. This altitude of ours may be seen in its reversal, or to be more precise, in a process that also has to do with utter depth (*profundus: altus et fundus*).

This logic of penetration into the tree, in its tautological version as the human subject, is one of the options of ascetic life, with quietism and monasticism. There are various lives of saints and monks (the so-called pillar saints) that describe anchorites stabilized on the vertical axis of a tree. The dendrites and stylites correspond to the myth of deportation, the end of their stable secular abode, with a view to a new dwelling in verticality and rootedness. In both cases, the vegetative stage is their basic kinetic pattern and model. Their difference lies in the fact that dendrites are nowhere to be found and touch the surface of the earth with a bias for subterranean growths, while stylites accept to communicate their monastic life to others, a group of devotees around them, a few meters above the ground.

Could this preference point to something other than the identification of the anchorite with the morphological and functional properties of plants, and specifically with the features of the silvan ecosystem? In this respect, Lucretius' claim, in Valéry's *Dialogue of the Tree*, to be himself a plant is enacted in the practice of anchorites. To those who start from the need to isolate themselves in the cavity of a tree, the forest offers a seminal framework in terms of vegetation for an ascetic methodology distinct from the one expounded by the hermit in the open and naked environment of the desert. The forest in its silence and darkness is offered as a privileged place for self-redeployment and for the complete merging of the self with the environment. It is a place able to include and absorb the subject. Through the dwelling option of the narrowness of the tree, the anchorite discovers a guaranteed space of self-effacement.

The anchorites, erotically responding to the glorious experience of physical death, choose a self-effacement that takes place in the cavity of the tree or inside a cabin – the equivalent of a "minimal dwelling" that denotes the absence of any pleasure or even any daydreaming through a blessed domesticity.

In these cavities, the virtue of toughness is translated into the confinement of the hardened body, in a way that adopts the existing capacity of the tree interior, even though the conditions may exclude the proper functioning of human anatomy. On the other hand, there have also been some possibilities of "comfort" in the adverse conditions of this humble life. The choice of cedars and platans – both trees with wide trunks – enabled a more relaxed position in the cavity, permitting the worn-out body to lie down or stand upright without bending[20].

But more important than any comfortable position in the cavity of the tree is the abandonment of the human body into another body, a body that feeds itself through its roots from the ground and its substrata. In short, dendrites allow for a clearly grounded and undergrounded reading compared to stylites, whose sight touches the heavenly horizon. Giorgio Agamben argues that

> as the Sibyl reminds Aeneas, the gate of Ades is first of all turned towards hell" (facilis descensus Averno: "the descent into hell is easy")[21]. Here, etymology is most helpful, making us understand, at long last, who we are and where we belong: "The Latin term corresponding to chthon (dwelling beneath the surface of the earth) is not tellus (the Roman goddess of the earth, Tellus Mater or Terra Mater ('Mother Earth'), which designates a horizontal extension, but humus (earth, ground, soil), which implies a downward direction

> (cf. humare, to bury), and it is significant that the name for man derives from it (hominem appellari quia sit humo natus) .The fact that man is 'human', that is, terrestrial, in the classical world does not imply a link with Gaia, with the surface of the earth that looks up at the sky, but above all an intimate connection with the chthonic sphere of depth[4].

Therefore, this vertical constitution of the tree takes place in a world where not everything is readable: a part of verticality is accessible, and another part is unknown, buried. In a classical conception of the world, this relation is more deliberate, while in our modern environment trees are perceived as vertical forms without roots[5].

Lately, there seems to be a renewed awareness by architects, designers and visual artists who stress the experience of reconnecting with the Forest and everything it may represent in the Western imaginary of the 21st century. This sensibility is often combined with the concern to avoid cutting a tree within the developable architectural space[6].

But these are exceptions that do not negate the modern dichotomy of the artificial and natural environments. We need to concentrate on certain practices that testify to the origins of the break between the man-made and the natural environment through the evolution of the grammar of architecture; namely, to show how architectural practice is originally committed to the natural environment, yet in the process grows away from its foundations. In the 15th century, during the early days of architectural design, plans were often made directly on the ground. There was an obvious similarity between planting a tree and erecting a building.

According to Sylvia Lavin: "By the time [...] the Latin word *planta* (a sprout, shoot or twig) had become pianta (the architectural plan in the writings of Alberti and also the common modern Italian word for living flora), architecture did not only use plants as building material or represent them, but was itself a plant"[7].

Human activities colonize interiority, thus fulfilling the need for an artificial expansionism, and combined with the technological enhancements of engineering the clearing of a site is total where a planned building used to take root. What is embedded in the ground is cleared away, and what is cleared away, in its deracinated form, is the useless and the sordid. It is interesting here to note the fascination exerted by the form of the building upon the relatively amorphous vegetative element – even more so when we know that this amorphous vegetative cluster is the result of certain acts of deracination through which the piles of

branches and trees are opposed to their original vertical constitution in the form of trees embedded in the ground and therefore more entrenched from a formal point of view. Sylvia Lavin argues that

> the emergence of the concept of the architectural plan – the a priori image of what a completed building will do to the surface of the earth in anticipation of its construction – is predicated on the multiple forms of abstraction that interpolated into what we now call the discipline of architecture: not only the hierarchy that privileges architecture – structures that are planned – over buildings – structures that occur – but also one that elevates certain life forms over others, with humans clearly at the top and plants at the bottom. Once severed from the projective act of planning, plants were no longer associated with beginnings, but with the abject dirt of the ground.[8]

In this way, we proceed to a deliberate devaluation of the natural environment, and the image of a tree that grows and at the same time goes deeper in the ground is substituted in modern life by the view of a vertical axis devoid of its underground roots. If the building is a substitute of the tree, then certainly the ecosystem sustained below the surface is severely underestimated. Maybe this latent and emasculated verticality inclines us to the absence of rationality as mentioned by Valéry in his *Dialogue of the tree* – a degradation of thinking that entails the risk whatever constitutes an idea to crumble like a house of cards.

On the other hand, and in keeping with the analogy to the tree, a vertical reading that is disrupted instantaneously from the surface downwards highlights the degradation of the repressed unconscious: what lies behind words and rational significations has to do with a tree the unseen aspect of which remains imperceptible for us. Furthermore, in a world where roots are deliberately out of sight, hidden, humans in their topological management open themselves to the sky, seeing things with the reversed eyes of Icarus. If a considerable part of engineering consists in the exclusive management of elevation, navigation and aeronautics, this process too has an analogy with theology, as it brings our sight towards heaven. A disregard for anything profane, including the materiality of the body, is certainly characteristic of standard religious literature, yet in the practice of praying and in the dramatized lives of Christian saints and martyrs the downward inclination suggests that greatness lies in the humble and insignificant, in what rests or, literally, crawls.

However, this need to describe the vertical constitution of

the tree sheds light to another perspective in design theory, one that is pertinently expressed in Homer's *Odyssey*, offering valuable information about rootedness as an immovable concept.

In Book 23, when Odysseus returns at long last to his island, Ithaca, he passes various tests to persuade his wife, Penelope, that he, dressed as a beggar, is indeed the king of Ithaca, her husband. As a final test, Penelope orders to have their conjugal bed moved, and then Odysseus, as a craftsman who takes pride in his skills and knowledge, reacts vehemently, reminding his wife that one of the legs of the bed was an extension of a living olive tree, around which he himself had built their bedroom[1].

The olive tree was already planted in the middle of the room, and Odysseus had carved the wood to form the bed and the trunk as one body. So we have a bed that is rooted and connected with the geology of the ground. The relation is forged by a design that constructs the tree as a bed, around which the room is defined. The immobile, immovable object of the conjugal bed contains the ἔμπεδον, while the vertical reminder of the longing for a stable condition, Homer's μέγα σῆμα, sums up the stability of commitment to a place and a person.

Thus, the Tree embeds verticality, and the latter creates the prerequisites for an altar founded in the cult of the immovable, the immobile. Yet the realization of the condition of ἔμπεδον gives us another valuable piece of information about the man that visits her again, after a series of tests. The act of initiation upon his return also posits a rebaptism of the self, accompanied by a need for rootedness.

But what happens when the ultimate place escapes the real one, in the sense of a subject whose expectation does not consist in a culturally and emotionally specific ἔμπεδον, but uses the real place as a means of escape? When nostalgia for the home country, the farmhouse, the city district, the family, or the family home, for example, is not the ultimate place, the destination?

At this point, folklore and ceremonial practices that describe the close relationship of humans with plants, roots, branches, leaves, and fruits do not point solely to a universal need for protection – e.g. the need for shelter and food –, nor do metaphors have to do solely with active correlations of the city and the forest[2].

Today, the horizontal metaphor and the violent deracination from one's birthplace are trivial and predictable experiences. When we move from our vertical redefinition, don't we open a conversation with what could be called uprootedness? Simone Weil exhorts us:

> It is necessary to uproot oneself. To cut down the tree and make of it a cross, and then to carry it every day. It is necessary not to be 'myself', still less to be 'ourselves'. The city gives us the feeling of being at home. We must take the feeling of being at home into exile. We must be rooted in the absence of a place. To uproot oneself socially and vegetatively. To exile oneself from every earthly country. To do all that to others, from the outside, is a substitute for decreation. It results in unreality. But by uprooting oneself one seeks greater reality.[3]

In a broken and literally roofless Europe after World War II, Martin Heidegger insisted on the ontological significance of dwelling, which one seeks, he claimed, when one experiences homelessness[4]. For this German who longed for his small farmhouse in the Black Forest, the experience of expatriation compels us to think, to be on our way towards our being, which is our own home, unrelated to the man-made and architectural environment of housing. Radical homelessness finds us close to ourselves.

If uprooting the forest is the condition for building a house, radical homelessness and moving away from one's house becomes the occasion for a kind of homecoming where leaving the safety of housing is a given. In this respect, to approach the forest in terms of architectural design is a choice that has to do with enjoying the country house as much as possible, with sensuality; it is a choice developed around the ideal farmhouse, in an idyllic atmosphere, and at the same time around the encroachment of the forest and its transformation into farms or even urban buildings.

Simone Weil's call for uprootedness and her symbolic use of the tree as a metaphor for the human subject in his/her connection with exile meets Heidegger's view about homelessness as a condition of authentic being at the precise point where the element of moving defines a revelatory experience. Let us remember *Dendrophoriae*: what we find there is the inorganic in an act of moving understood in its animistic dimension. Through metaphor, rootedness is challenged, and uprootedness becomes a lived experience. The anchorites in their cavities could not move, but the tree itself acquired an animistic quality through their presence; it could literally breathe. The anchorites had been uprooted from somewhere, only to find their roots in the verticality of the tree cavity, in forests deemed to be inaccessible to most men.

Yet the place of the ἔμπεδον, inscribed in a condition of verticality, may be interpreted as an elusive spatial option; although it belongs to the reality of a place with specific qualities, it opens

itself to the void, it remains unidentifiable.

Take even Lucretius in Valéry's prose: as he identifies himself with the tree, the vertical constitution of which, inside and outside the ground, is analogous to the process of thinking, to what extent could this process be contained within its own natural and living space? The identification with the tree and the gradual absorption of the human into the forest seem to point to a conception that covers different ontological categories, such as movement and immobility, the organic and the inorganic. Yet the verticality of the tree, which seems firmly rooted in the ground, proposes a model of retiring, of exodus, and this dimension of waiting is accompanied by the expectation of a meeting with the "unbuilt"[1]. The forest with its cavities, its treehouses and its wooden cabins is not a place of return to a past form of dwelling, but a place chosen as a condition of non-place, a condition of the subject's absence. From there, we may proceed to a radical rethinking of architectural design, where the disguise of the house as a tree, in the sense of a luxurious simplicity and the adjustment of the house to the model of the forest, further complicates our relationship with our ecological footprint. On the contrary, the disguise of the human subject as a tree is a choice that acknowledges the precedence of the unbuilt over the built.

[1] "Je voulais te parler du sentiment que j'ai, parfois, d'être moi-même Plante, une Plante, qui pense." P. Valéry, Dialogue de l'arbre ; Rousseau frères, Bordeaux 1943; Id., *Dialogue of the Tree*, in J. Mathews, J.R. Lawler (eds.), *Paul Valéry. Anthology*, Routledge & Kegan Paul, London 1977, p. 346.

[2] "Un fleuve tout vivant de qui les sources plongent dans la masse obscure de la terre les chemins de leur soif mystérieuse." P. Valéry, *op. cit.*, p. 332.

[3] Ivi, p. 347.

[4] Ivi, p. 348.

[5] Cf. J. Lacarrière, *Les hommes ivres de Dieu*, Fayard, Paris 1975.

[6] G. Agamben, "Gaia and Chthonia," in Id., *Where Are We Now? The Epidemic as Politics*, 2021, Rowman & Littlefield, Lanham 2021, or. ed. *A che punto siamo? L'epidemia come politica*, Quodlibet, Macerata 2020, unofficial translation, p. 5.

[7] *Ibid.*

[8] The tree and its extension into the forest, notwithstanding our modern ways, does not stop evolving downwards, feeding itself from *Chthon*. It is interesting to note once again Valéry's text, a truly prophetic reference for eco-critical thinking. In his dialogue with Tityrus, Lucretius says that the tree is a Hydra that keeps generating tentacles, and this cluster of roots rushes headlong into the depths and juices of the earth. Indeed, Lucretius' words have an apocalyptic quality: "Into the empire of the dead, of the mole and the worm, the toil of the tree inserts the powers of a strange subterranean will." P. Valéry, *op. cit.*, p. 332.

[9] E. Beaumont, *Round the tree houses: buildings that circle trees*, in "Architectural Review," November 3, 2021, https://www.architectural-review.com/essays/round-the-tree-houses-buildings-that-circle-trees, accessed 9 December 2022.

[10] S. Lavin, "Reclaiming Plant Architecture," in "e-flux Architecture," August 2019, https://www.e-flux.com/architecture/positions/280202/reclaiming-plant-architecture, accessed 9 December 2022.

[11] *Ibid.*

[12] "There was a young olive growing within the precincts of the house, in full vigor, and about as thick as a bearing-post. I built my room round this with strong walls of stone and a roof to cover them, and I made the doors strong and well-fitting. Then I cut off the top boughs of the olive tree and left the stump standing. This I dressed roughly from the root upwards and then worked with carpenter's tools well and skilfully, straightening my work by drawing a line on the wood, and making it into a bed-prop. I then bored a hole down the middle and made it the centre-post of my bed, at which I worked till I had finished it, inlaying it with gold and silver; after this I stretched a hide of crimson leather from one side of it to the other. So you see I know all about it, and I desire to learn whether it is still there, or whether any one has been removing it by cutting down the olive tree at its roots." Homer, *Odyssey*, Book 23, v. 150-204, trans. S. Butler, Barnes & Noble, New York 1993.

[13] For a study that highlights the overlapping of these different ontological categories, as well as the animism of the tree in human artifacts, see S. Papapetros, *On the Animation of the Inorganic: Art, Architecture, and the Extension of Life*, University of Chicago, Chicago; London 2012.

[14] S. Weil, "Decreation," in Id., *Gravity and Grace*, trans. E. Crawford, M. von der Ruhr,: Routledge Classics, London; New York 2002 (1952), p. 39.

[15] See M. Heidegger, *Bauen Wohnen Denken* (1951), in Id., *Vorträge und Aufsätze*, Neske, Pfullingen 1954 (part of a series of lectures in Germany on the relation of man and space, addressed to an audience comprised mostly of architects).

[16] In framing this choice within the psychoanalytic discourse of the suffering subject, we could discern in this mood of waiting the features of depression. See C. Ross, *The Aesthetics of Disengagement: Contemporary Art and Depression*, University of Minnesota Press, Minneapolis 2005.

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SUSANNE STACHER

Architect and architecture critic. She teaches architectural theory and practice at the Versailles School of Architecture, where she holds a professorship. Her PhD was published by Birkhäuser in three languages under the title Sublime Visions: Architecture in the Alps (2018). Her current research, which focuses on crises and possible narratives for building a different relationship with the world, will soon be published as Architecture in Times of Crises: Current and Historical Strategies for Designing "New Worlds.

PAULO TAVARES

Architect, author and educator. Operating through multiple media, his work opens a collaborative field aimed at environmental justice and counter-narratives in architecture. He is the author of several books questioning the colonial legacies of modernity, most recently Des-Habitat (2019), Lucio Costa era Racista? (2022), and Derechos No-Humanos (2022). The project *Terra*, in collaboration with Gabriela de Matos, was awarded the golden lion for best national participation at La Biennale di Venecia 2023. In Brazil he leads the spatial advocacy agency autonoma and teaches at the University of Brasília.

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Architect, theorist and curator who lives in Athens. He studied at the Faculty of Architecture at the University of Rome "La Sapienza", and is professor at the Department of Architecture, University of Thessaly, and artistic advisor at the DESTE Foundation of Contemporary Art. He is the author of the Sub-modernity and the Labor of Joy-Making Mourning: The Crisis Effect in Contemporary Greek Culture (Kastaniotis Editions). In this context investigate the "dismeasured impulse", the "becoming minor", and the new forms of "retribalization" in contemporary culture.

KOSTIS VELONIS

Associate Professor at Athens School of Fine Arts. His sculptures explore the comic and awkward condition of the object as subject, implying allegoric, everyday narratives and mythological plots. His work has been shown in institutions such as Kunsthalle Osnabrück (2019), Cranbrook Art Museum (2019), Art Basel (2018), Documenta 14 (2017). He studied Arts Plastiques/Esthétiques at Université Paris 8. He holds an MRes in Humanities and Cultural Studies from London Consortium and a PhD from the National Technical University of Athens.

LAURA ZAMPIERI

Architect, PhD in Landscape and Environment at Sapienza University of Rome. From 2006 to 2021, with Paolo Ceccon, she combined architectural design with teaching and university research in the field of Landscape Architecture. Member of the Scientific Committee of the *Quaderni del Centro Studi Mediterraneo del Paesaggio* (University of Cagliari) and Senior Researcher at IUAV University of Venice. Since 2021-22, she has been a member of the Prin "Sylva" National Research Unit and the Line 1b/Tedea Research Unit "Paper Architectures and Great Revolutions." Her recent publications include: *The World is No Longer a Garden. Towards a new alliance between landscape quality and environmental reasons* (2021) and *CZstudio associati. Scritti e Progetti* (2020).

FRANCESCA ZANOTTO

Architect, PhD, she is junior researcher in Architectural Design at the Department of Architecture and Urban Studies of Politecnico di Milano, where she works on ecological implications of architectural design within the National Biodiversity Future Center. In 2021 and 2022 she was Research Fellow within the Integral Design Environment Research Infrastructure (Ir.ide) – Center for Publishing Actions and Research Development (Pard) at Università Iuav di Venezia, taking part in the scientific activity of the national research project PRIN "Sylva."

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Sara Marini, Vincenzo Moschetti (a cura di), *Sylva. Città, nature, avamposti*, 2021.

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