

DESIGN |

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DAY 3
29-06-22

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BOOK OF
ABSTRACTS **DESIGN**

2022
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URBAN FORESTS FOREST URBANISMS & GLOBAL WARMING

*Developing Greener, Cooler
& more Resilient Cities*

DAY 3 | DESIGN

29–06–22

The final day of the conference will focus on the presentation of several canonical case studies by leading designers through built projects as well as by academics through design research. The context-embeddedness of various projects will reveal the necessity of nuanced landscape architecture and urban design to create robust urban forests, new models of forest urbanism and strongly respond to issues such the urban heat island, carbon sequestration, urban pollution, integrated stormwater management and an enlarged public realm.

DAY 3

PROGRAMME

DESIGN

08.00

REGISTRATION & COFFEE

08.15

INTRODUCTION & WELCOME

08.30 – 10.15

DESIGN EXPERT PANEL

Moderated by Kelly Shannon

MARGARITA JOVER → 10
Madrid Greenbelt and Sewer Treatment Plants
as Civic Springs

KATE CULLITY → 12
Beauty, Aesthetics & Care

AMY WHITESIDES → 14
Building Equity through Urban Forest Planning
& Implementation

BAS SMETS → 16
Accelerated Nature

WIM WAMBECQ → 18
Forest Urbanism in Flanders

10.15 – COFFEE

10.30

MODERATED DISCUSSION

11.45

LUNCH BREAK

AM —

Scan here for latest
programme updates



13.00 — 15.40

PARALLEL DESIGN PAPER SESSIONS

DES I → 20

NEW HUMAN / NON-HUMAN RELATIONS

Moderator: Bruno Notteboom

JAMIE VANUCCHI ^{FT}

ROBIN WINOGROND ^{FT}

BJÖRN BRACKE ^{FT}

NICOLAS VANDENPLAS ^{PK}

JORG SIEWEKE ^{PK}

JEAN-FRANÇOIS GAUTHIER ^{PK}

DENNIS ROITSCH ^{PK}

DISCUSSION

DES II → 30

VARIATIONS OF FOREST & URBAN CO-EXISTENCE

Moderator: Chiara Cavalieri

GIULIA PANDOLFI ^{FT}

SWAGATA DAS ^{FT}

SIMONE MARCHETTI ^{PK}

DIANA ZERLINA ^{PK}

DISCUSSION

15.40 — COFFEE

16.00 — 18.20

PARALLEL DESIGN PAPER SESSIONS

DES III → 36

ECOLOGICAL INFRASTRUCTURE IN RURAL & (PERI) URBAN AREAS

Moderator: Nadia Casabella

OMER DEVRIM AKSOYAK ^{FT}

MINH QUANG NGUYEN ^{PK}

MYRA SAMPSON ^{PK}

FEDERICO GOBBATO LIVA ^{PK}

PHAM ANH TUAN ^{PK}

LIVIA SHAMIR ^{PK}

DISCUSSION

DES IV → 46

NEGOTIATING CULTURES OF DESIGN AND MAINTENANCE

Moderator: Michiel Dehaene

BIANCA MARIA RINALDI ^{FT}

JÖRG REKITTKE ^{FT}

NICHOLAS PEVZNER ^{FT}

VU THI PHUONG LINH ^{PK}

TAKAKO TAJIMA ^{PK}

DISCUSSION

18.20 — 19.00

ROUND TABLE

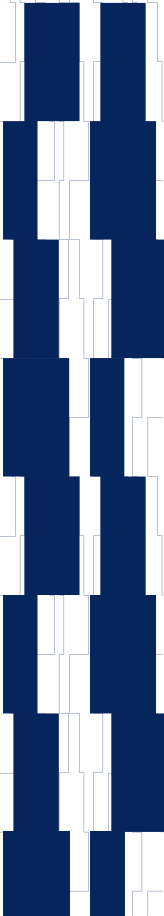
19.15

CLOSING EVENT

FT = Full Talk 15' + 10' Response
PK = Pecha Kucha 20" x 20 Slides + 10' Response

PM

NOTES –



DESIGN EXPERT PANEL

—
Moderation:

KELLY SHANNON

Department of Architecture, KULeuven

MARGARITA

JOVER

7-

KATE

CULLITY

AMY

WHITESIDES

BAS

SMETS

WIM

WAMBECQ



MAGARITA JOVER

Associate Professor, Tulane School of
Architecture
Owner, aldayjover architecture and landscape

Margarita received a Master of Architecture degree from the Polytechnic University of Catalonia in 1995. Together with Iñaki Alday, she founded the internationally awarded firm aldayjover architecture and landscape in 1996 in Barcelona, Spain. Today, Margarita is Associate Professor of Architecture at Tulane University. She is co-editor of the book *Ecologies of Prosperity* (ORO Editors, 2018), and *The Water Park* (ACTAR, 2008). Both in academic research and in practice, Margarita promotes a broader understanding of architecture that aims to contribute to mitigate and reverse socio-ecological crises.

The presentation will focus on the long-term construction of a Green Belt for Madrid, as a strategy for climate adaptation. The presentation will focus on zone 4, where the Green Belt intersects with the Manzanares River downstream and south of the city. The project is a plan for the management of local resources overtime, and will encompass several scales. The most innovative part of the proposal is at the intersection between architecture and infrastructure where there is an ambition to propose a new 'architectural archetype' – an urban spring – that will become a civic infrastructure at the neighbourhood level.

MADRID GREENBELT & SEWERTREATMENT PLANTS AS CIVIC SPRINGS





KATE CULLITY

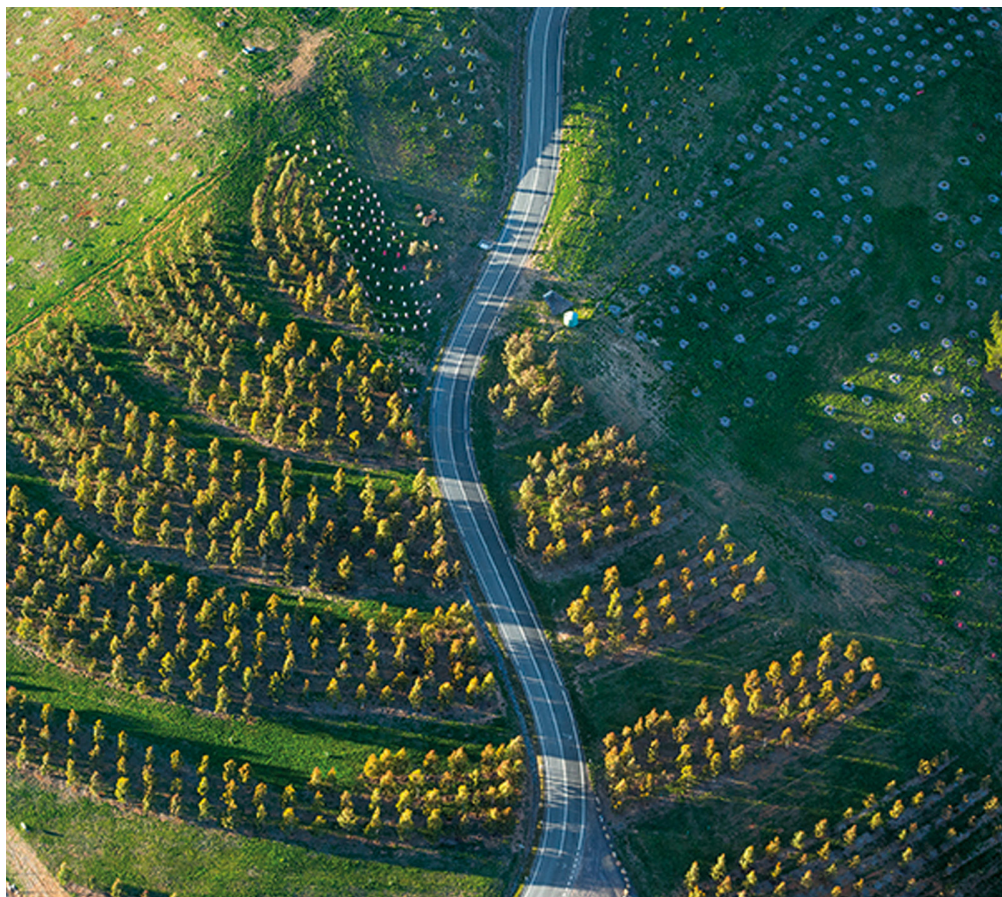
Director, TCL Landscape Architecture and
Urban Design
Associate Adjunct Professor, University of
Adelaide FAILA

Kate is a founding director of TCL (Taylor Cullity Lethlean) and is a nationally and internationally recognised and awarded landscape architect, urban designer and environmental artist. She has worked as both an artist and designer for a number of international art and garden festivals both in Australia and overseas and her work has been extensively published internationally. Her background in botany and her strong personal interest in horticulture have resulted in her involvement in the planting design of sites throughout Australia. She has completed a PhD which reflected on 25 years of TCL's practice, as well as her interest in beauty, aesthetics and care and how these qualities can be aligned with creating and appreciating resilient cultural, social and environmental landscapes.

The challenge of this and allied professions, is to awaken the rich potential which resides within this overlap of disciplines, through a reinvigoration of the connection between beauty and the environment. The presentation will focus on TCL's urban forest projects and the role of narrative and interpretation to convey messages of biodiversity, climate change and sustainability. Projects discussed will include the internationally awarded the Royal Melbourne Botanic Garden, the Forest Gallery at the Melbourne Museum and the National Arboretum, Canberra. The talk will also touch on TicKLe's (a research arm of TCL) latest research into heat mitigation.

BEAUTY, AESTHETICS & CARE

—
A link to a sustainable future





AMY WHITESIDES

— 12 —

Director of Resilience and Research, Stoss
Landscape Urbanism
Design Critic, Harvard University Graduate
School of Design

Amy is Director of Resilience and Research in the Boston office of Stoss Landscape Urbanism where she brings her background in landscape architecture, science communication, ecology and biology to projects across scales. Amy leads the firm's waterfront design and planning efforts focused on resilient public open space. This work has received numerous awards including a World Landscape Architecture Award of Excellence, Boston Society of Landscape Architecture Merit Award, and American Planning Association Merit Award. Amy is committed to design education and has taught studio and lecture courses at Harvard Graduate School of Design, Northeastern University and The University of Toronto.

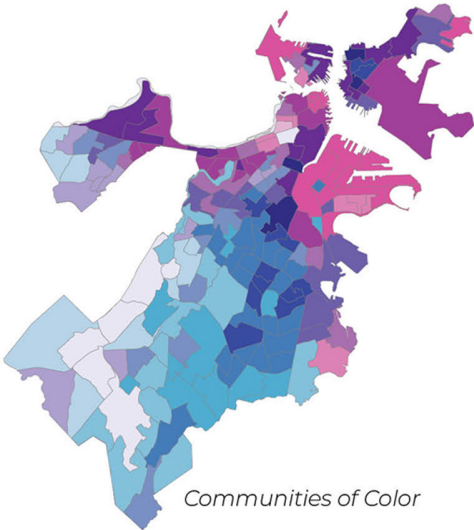
Urban forest planning and implementation is an increasingly critical response to climate change and the long-standing inequities in the structure of American cities. Historic marginalisation has left some neighbourhoods chronically underinvested in, many of which experience excess heat and pollution in part due to the lack of significant tree canopy. Through three projects spanning from city-wide planning to site-scale implementation, the presentation will share research and implementation methods aimed at expanding and protecting urban canopy as means to equitably mitigate climate impacts, increase biodiversity and improve the quality of the urban experience for all residents.

BUILDING EQUITY THROUGH URBAN FOREST PLANNING & IMPLEMENTATION

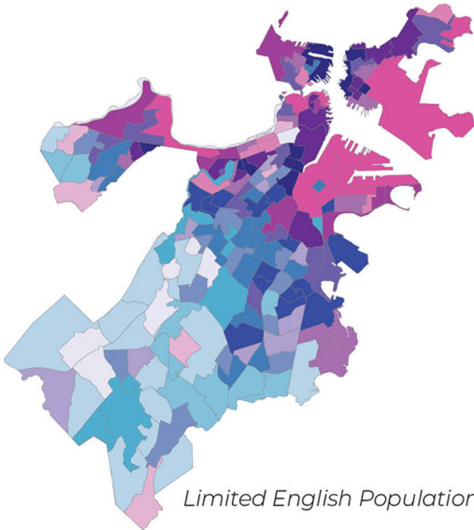
SOCIAL VULNERABILITY + URBAN CANOPY

Boston: socially vulnerable populations and low canopy coverage

13 –



Communities of Color



Limited English Population



BAS SMETS

— 14 —

Owner, Bureau Bas Smets

Bas has both a master's degree in architecture and civil engineering and a postgraduate qualification in landscape architecture. He founded his office in Brussels in 2007 and has since constructed projects in more than 12 countries with his team of 20 architects and landscape architects. Each project presents the opportunity to undertake innovative research on climatic conditions, ecological succession, natural processes, and enhanced resilience. The collaboration with artists and scientists takes a central role in this research. The aim is to conceive 'Augmented Landscapes' by using the logics of nature. These augmented landscapes produce new climates while creating new atmospheres

We have started out in forests. We have made clearings to settle in. We have pushed nature out to make artificial micro-climates for ourselves. Today a growing population of 7.9 billion is concentrated in man-made metropolises, while the natural reserves of the world are diminishing. We need to imagine a nature specifically for these built environments, for them to become more resilient to the uncertain changes in climate. For each urban microclimate there exists a similar natural condition. A better understanding of the logics of nature will allow us to conceive these new urban landscapes that will produce enhanced micro-climates.

ACCELERATED NATURE





WIM WAMBECCQ

— 16 —

Co-founder, Atelier MIDI

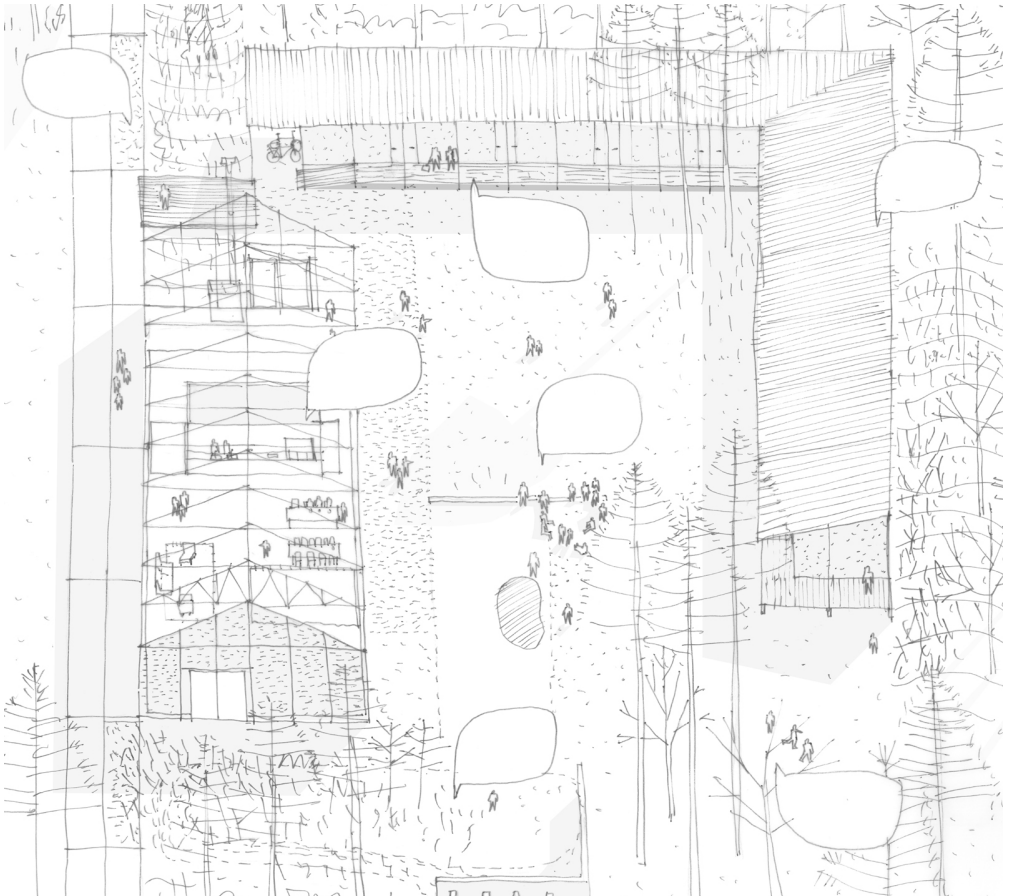
Wim Wambecq completed his education as engineering-architect at KU Leuven with a Master in Urbanism and Spatial Planning at KU Leuven where he also developed and obtained his PhD in Engineering Science, Architecture with research on Forest Urbanism in Flanders (2019). For this research he was awarded the third Manuel De Solà-Morales European Award in 2021.

He currently teaches urban design and architecture at the Department of Architecture (KU Leuven) and he is co-founder of the design office MIDI, based in Lisbon and Brussels, that works on the meeting point between architecture, landscape, and urban design, with a special interest in the systemic functioning of the territory.

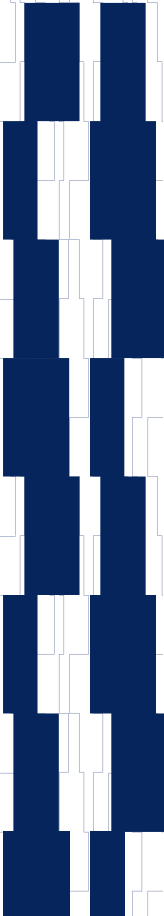
A proximity of trees, forest and urban form is often deemed sufficient to catalogue a project under the term “forest urbanism”. This contribution aims to pierce through this simplistic definition by showing the palimpsestic complexity of the forest-urban relation. A forest urbanism genealogy – strongly structured through soil as a qualifier – is used to inform some of the recent projects of MIDI. These suggest that the systematic integration of the forest in urban design could lead to a resilient forest territory.

FOREST URBANISM IN FLANDERS

—
*From discovery as genealogy to
designing a forest territory*



NOTES –



DESIGN SESSION I

NEW HUMAN / NON-HUMAN RELATIONS

The session will debate an array of case studies all which have both an interpretative understanding of the existing and a projective component. The papers unfold explicit design scenarios for forests as an urbanizing infrastructure that includes both new typologies of public space and as requalified ecological corridors.

Moderation:

BRUNO NOTTEBOOM

Department of Architecture, KULeuven

JAMIE VANUCCHI

Finding and Founding Forest Logics Toward a Climate-forward Forest Urbanism Along the Erie Canal National Heritage Corridor in New York, USA.

ROBIN WINOGROND

In Search of Geographical Re-enchantment: experience and imagination as forest services.

BJÖRN BRACKE

The Maelbeek Valley in Brussels as an Ecological Corridor.

NICOLAS VANDENPLAS

Mobile Forests. Lessons from the field.

JORG SIEWEKE

Expanding on Wood Wide Webs in Spontaneous Urban Forest Patches.

JEAN-FRANÇOIS GAUTHIER

Trees First. The public spaces of the forest city.

DENNIS ROITSCH

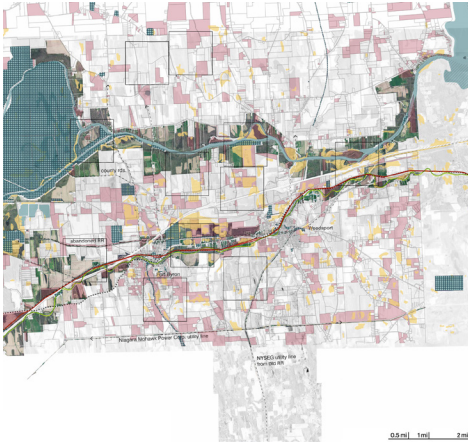
Co-producing Urban Forests as Nature-based Solutions. Potentials, dilemmas, and outcomes.

Finding and Founding Forest Logics Toward a Climate-forward Forest Urbanism Along the Erie Canal National Heritage Corridor in New York, USA .

Jamie Vanucchi, Maria Goula

Cornell University Landscape Architecture

forest urbanism – carbon sink – reforestation –
climate resilience – Erie Canal



The aims of this research, situated along the historic Erie Canal National Heritage Corridor in New York state, USA, are to utilize the forest as an urbanizing infrastructure, to transform abandoned agricultural lands to carbon-sequestering and storing forests, while diversifying local economies, establishing alternative modes of relating to nature, rebuilding the heritage corridor, and expanding the array of recreational experiences accessible to residents and tourists from the region. We use various logics to reveal past and existing forest orders along the canal, then design a forest urbanism along the corridor that responds to and surfaces some existing orders while introducing others, providing a framework for placemaking, articulation, connectivity, and novel

modes of production and inhabitation now and into the future. Uncovering forest logics requires a multitude of interdisciplinary design research methods, including cross-scale mapping and modeling, interviews with experts and landowners, design iterations, and projections in time.

In Search of Geographical Re- enchantment. Exerience and imagination as forest services.

Robin Winogrand

*Urban Design & Landscape Architecture Robin
Winogrand - Harvard GSD*



The replacement of the unique and specific with the generic is a sign of our times. Cities and the urban edge make no exception. In the name of the modern, new and improved, the luring richness, unexpected and uncontrolled are being standardized out of our urban landscapes. The result is often a sterile built environment having little to do with the unfolding of human experience.

Forests have unique spatial, sensory and atmospheric qualities able to greatly increase the power of contemporary landscapes to move us. Old forests unfold their power of experience, or even magic,

on their own. But how can we, as designers, work with young forests, to create site-specific, powerful landscape experiences?

Robin Winogrand will show several of her projects in Switzerland; forested landscape fragments on the seemingly faceless urban periphery, where most of her work takes place, including the recently opened Zurich Airport Park. Next to the pressing tasks of sustainability and social justice, her works increasingly focus on sussing out the poetic potential of the banal, contemporary urban landscape. All three projects work with the principle of soft tourism. Each is sited within suburbia, yet the forest setting dominates the designs. Uses are embedded visually and atmospherically within this setting to enhance, not compete with, the forest experience. The forest itself is seen as a design medium to achieve specific goals. Maintenance as an instrument allows for creative visions of forests formerly conceived of as merely economically functional landscapes. The recently opened Zurich Airport Park represents a new form of global yet local urban nature, of landscape and built interventions, used daily by thousands of visitors. The goal was to make a win-win story out of what at first glance appear to be contradictory requirements of nature, preservation, recreation, and forestry. New forest interventions were developed with a team of woodland experts, including Anders Busse Nielsen from the Woodland Laboratory in Sweden and the Airport forester, unaccustomed to collaborations. Rich biodiversity and experience were explicit goals. Strict Forestry laws controlled everything from plantings to construction. After long negotiations the project succeeded in creating new paths for design such as a new legal category for open woods and perennial plantings within the forest. In the Museum of Natural History Park, Sankt Gallen, a new forest grove has been planted on a former cow pasture above a highway tunnel, bringing problems. The lush grove is backdrop for scenographic interventions while filtering the heterogeneous surroundings, allowing visitors to immerse themselves atmospherically, spatially and mentally into the theme of Natural

History. Vegetation is used as a carrier of natural and cultural stories. Metasequoia show the former geological era of the tropical ocean. Hydrangeas, attacked as non-natives, express contradictions of contemporary nature on this highly artificial site. The neophyte Nettle, valuable for butterflies, has been added by the client. In Wildwood Plaza, three circular “plazas” with tree trunk paving allow us to simply perceive the three highly contrasting forest typologies, which lie just meters apart, reflecting the radically differing history of climate and weather on each side of the small glacier moraine. Urban dwellers in search of quick natural experiences close to home can dive into immersive forest experiences. Forests have no hierarchy, no front and no back, no left and right, providing us with a place to mentally drift and get lost.

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The Maelbeek Valley in Brussels as an Ecological Corridor. A reflection on urban tree planting.

21 –

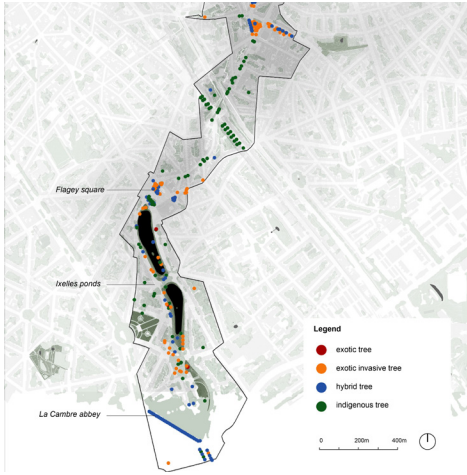
Björn Bracke, Koenraad Danneels, Marlène Boura

–

*Kollektif Landscape bv, P.PUL, KU Leuven,
Institute for Landscape, Architecture, Built
Environment, UCLouvain*

**urban ecology – landscape architecture – forest
urbanism – Brussels – mapping**

As a response on the rapid global degradation of biodiversity and in the slipstream of the revaluation of the urban living environment, many Western European cities have developed a biodiversity strategy in recent decades. These strategies focus, among other things, on the realisation of ecological corridors and the protection and strengthening of existing plant and animal communities. It generally involves a discourse on favouring indigenous plant species and limiting exotic species. Historically,



urban trees were chosen for their resilience and suitability in the urban context and for their aesthetic characteristics. In this sense, the ecological relevance and indigenous character are relatively new parameters to reflect on vegetation in the urban context. This new discourse not only generates new urban vegetation projects but also opens a debate on the transformation of the existing green spaces.

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In order to get a better view on this discussion, we analysed the tree stock of the Maelbeek valley in Brussels. Based on the available databases of the Brussels region, a total of 550 trees located in the streets, squares and parks of the Maelbeek valley were studied. This gives us a good overview of the number of indigenous, exotic and hybrid species. We examine the exotic nature of these trees and link it to the various historical urbanisation projects in the Maelbeek valley and the landscape architectural styles of which they are a part. After all, many exotic trees were deliberately planted and are part of the urban identity and heritage. Subsequently, we link this analysis to recent research within forestry into changing growth conditions of trees under the influence of climate change.

Based on these observations, we will argue that the urban context is an excellent laboratory for testing and monitoring exotic and hybrid plant species. The city possesses a unique set of mature exotic trees and changing growth conditions also

manifest more rapidly in an urban environment. By monitoring existing exotic species and testing them, their adaptability and impact on indigenous fauna and flora can be closely monitored. In addition, we advocate to anchor urban trees more strongly in the socio-cultural urban identity by focusing on their symbolic value, artistic practices, imagination, stories, etc.

–

Mobile Forests. Lessons from the field.

Nicholas Vandenplas

–
Plant en Houtgoed

urban ecology – nature positive urban development – non-indigenous species – green/blue/brown networks – biodiversity



Plant and Houtgoed (PHG) has conducted several projects in different settings with mobile forests. This paper reports on some of the lessons learned up to now and further explores the role mobile forests could play as an active instrument of a new urban ecology approach. A mobile forest is defined as a set of perennial plants, shrubs and trees that are permanently put in big plastic containers or pots.

The experience gained so far with the mobile forests is teaching us that they can be an effective tool to transform a specific urban setting on a temporary or

permanent basis. They are a light and cost effective intervention with big transformative potential. They allow us to respond to changing opportunities. Mobile forests also have a visible emotional impact on city users, especially when they are composed of a diverse set of species and represent different vegetation layers. They invite users to imagine a city where nature has a more prominent place, and by doing so, turn all of us into participants. The interventions create awareness and inspiration for nature positive urban development. Stam Europa, which has won the Brussels architecture prize for small interventions and for which PHG has designed the outdoor space, is a good example of the power of a movable forest.

Mobile forests can also help understanding and defining new urban species. At PHG we deliberately use both native and non-indigenous species with anthropogenic expansion such as mediterranean evergreen species. Urban nature will play a key role in adapting our cities to the new climate regime. But cities will also allow species to adapt; many species on their migration northwards to find a suitable habitat, use cities as stepping stones. Additionally, the dynamic context cities offer can create niches that are becoming rare outside of the built environment. In this way, mobile forest can also help redefining with native means in a context of a rapidly changing environment.

In the future, we will further explore how mobile forests can become an integral part of the green, blue and brown networks in cities as a valuable addition to 'full ground' interventions. In the new urban ecology approach, functional urban ecosystems include a patchwork of habitats that go beyond the classic green network made by parks, big gardens, trees and canopy cover. The fringes, the green roofs, abandoned buildings and temporary building sites for example are integral part of this patchwork and the most valuable biodiversity of cities is often to be found in these habitats. These are often places of scarcity and niches with different moisture and heath characteristics and support specific and unique

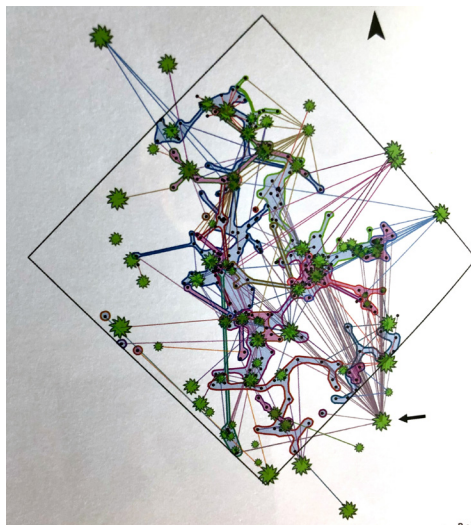
biodiversity. This approach opens new opportunities for planning and building robust ecosystems within cities. One often thinks that availability of land for nature is scarce in cities. But with this new approach, this lack of land is not necessarily an obstacle for the creation of robust nature.

Expanding on Wood Wide Webs in Spontaneous Urban Forest Patches.

Jorg Sieweke

School of Landscape Architecture/Norwegian University of Life Sciences, NMBU

mycelium – symbiosis – natura urbana – social life of trees – wood wide web



23 –

This abstract explores the principal distinction between the default urban forest consisting of planted clone saplings versus acknowledging the unsanctioned emergent forest vegetation of urban fallows. A network of patches may prove ecologically favorable, if managed towards a complementary spontaneous urban forest in their own rights.

A critical perspective on the modernist act of schooling a tree shows symmetrical standardization (repetition and abstraction) in a fordist production scheme. Such practice culminates in the ribbon cutting moment of installing the tree in its urban destination as a patrimonial act of culture dictating nature. The re-location from a nursery into the multiple challenges of an urban environment, causes stress on the transplanted species. Despite high maintenance of amending the soil and ongoing irrigation, significant numbers of such transplants fail; others endure the re-planting shock, but barely continue to grow for years. Compared to the domesticated plants in nurseries, locally emerging vegetation does showcase resilience and adaptation, demonstrating unassisted success growing out of crack in the surface. How does the urban forest offer more than the sum of its trees? Recent research (wood wide web, Simard) indicate an abundant web of life in the rhizosphere consisting of mycelium and micro-organisms in a symbiotic relationship with trees. In-situ labs utilizing radioactive isotopes method monitor and trace physical evidence of below ground exchange of water and nutrient through mycelium networks serving metabolism across tree species (Ferris, Simard, 2020). In such networks mature trees can be linked with up to hundreds of other and may adopt their offspring. Biologist studying wood wide web opt for fungi-centric perspective, suggesting the mycelia is hosting a network of trees -rather than the other way round. Mycelia can actively direct the flow in such symbiotic networks to help single species with supply of water and nutrient in times of scarcity which would be paramount to compensate for the various habitat stresses of any urban tree. Urban ecology studies originated post-war urban rubble fields within the political island of West-Berlin (Sukopp, 1960s). Today the socio-ecological qualities of urban forests emerging out of fallow land are recognized (Natura Urbana, Gandy2020). Marginalized self-seeding trees—now 4th nature—(Kovarik, 2005) of former railyards have been aggregated to ensembles of networked urban forest leaving room for

interpretation which spatial assemblage of patches and clearings may qualify as a coherent forest. Recent precedents of urban post-industrial parks projects were established in the IBA Emscher Park e.g. Zeche Zollverein, Essen (Koerner, Kovarik) hundreds of hectares of parkland were deliberately classified as forests to abate liability standards of public parks (K. Ganser). Emergent self-seeding urban trees appear perfectly adapted to local site conditions, which register in their locally adaptive genome, such spontaneous vegetation may be equipped to provide and expand such critical networks to more resilient and enduring urban forest patches. Can we project these recent acknowledgements in forest science regarding the multiple entanglements to project them in managing the even greater challenges of urban habitat? Sheldrake proposes that the rich entangled webs of life between fungi, plants and microbes form a complex dynamic web of life which may be attributed as “urban” in for their own sake. “We” may want to begin appreciating these elegantly self-sustaining, symbiotic forms of life and learn to co-evolve with them.

—

Trees First. The public spaces of the forest city.

Jean-François Gauthier

—
SYLVA, Atelier for Landscape Architecture & Urban Forestry

landscape architecture – urban forest – biodiversity – trees first – forest city

As 68% of the world population is expected to live in cities by 2050 (United Nations2018), a radical approach to cityscape is needed to allow citizens to access nature in their daily lives. We propose to plant forests in our cities rather than solitary trees. By increasing the tree canopy cover, we will receive great



benefits in return such as improved public health (Konijnendijk2022) and climate change adaptation (Klemm2017). Three main themes are introduced as a possible ecological framework for urban forest design: a territory, a community, and a time landscape. Let's look at the city as a potential forest territory. In a natural setting, forests are organized through sources, corridors, and stepping stones, forming an ecological network (Olson, Forman, Dramstad1996). In urban conditions, nature is fragmented and highly disturbed by human activities which results in loss of biodiversity (McKinney2008). However, looking at the city as a potential forest ecological network, parks could be seen as biodiversity sources; streets could be seen as ecological corridors and squares could be seen as stepping stone habitats. Let's invent new public space typologies around tree communities. In the 'Trees First' methodology, climate adaptation of the urban environment is designed from the habitat of trees. The degree of sunlight, shade, soil moisture characteristics and soil type determine which natural habitat and its corresponding planting community are applicable for a specific urban location. Let's define landscape strategies to allow forest successions to happen in the city. When given time and space, a forest will grow strong and will self-sustain itself. By defining specific strategies, ecological succession can happen within our various and constrained urban spaces. Citizens will then connect back with the slow-paced growth of trees, enhancing a sense of belonging around the maintenance and care of the urban forest. As an illustration of the proposed design

methodology, three pilot projects will be presented, including the design principles, the experimental aspects of the projects, and the results from the ongoing monitoring. The pilot projects are: Slachthuisplein Urban Forest, Den Haag (park design built in December 2020), Mother trees from Van Musschenbroekstraat, Den Haag (square design built in March 2022), and Urban Bocage (street design under development). Lessons learned from the design experience results in a set of design principles pointing out a site-specific approach for designing public spaces and urban forest habitats.

-

Co-producing Urban Forests as Nature-based Solutions. Potentials, dilemmas, and outcomes.

Dennis Roitsch, Nicola da Schio, Francesc Baró, 25 –
Rik De Vreese, Dijana Vuletić, Silviija Krajter

-
*EFI Bonn/University of Bonn, Cosmopolis
Centre for Urban Research, VUB, VUB/ICTA-UAB,
European Forest Institute*

urban forest – nature-based solutions – co-production – urban planning – urban governance

Urban forests have an acknowledged positive impact on human wellbeing and biodiversity through the provision of multiple benefits, including urban cooling and opportunities for outdoor recreation. The awareness about the benefits of urban forests is reflected in societal efforts to provide and protect them as well as in the adoption of policy and planning instruments to maximise the delivery of these benefits, i.e. the so-called nature-based solutions. Planning and managing urban forests as nature-based solutions (UF-NBS) in cities, however, is not always straightforward and even when there is a political will to do so, policy



makers and practitioners face numerous challenges. These include tailoring management towards societal demands and needs, addressing technical complexities in the selection of the right UF-NBS in the right context, ensuring adequate phytosanitary conditions, coping with trade-offs and opportunity costs, or managing potential disservices.

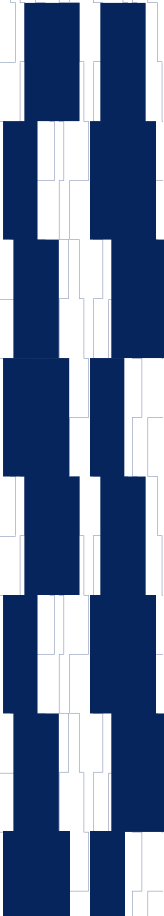
– 26

In this context, UF-NBS projects based on co-production seem to be promising and have the potential to deliver a better understanding of the problem and to promote more democratic decision making. There are different ways to understand the notion of co-production: for the purposes of this study, we used it as an umbrella term for the wide range of approaches at the nexus between policy, practice and research where multiple stakeholders within government, academia, civil society, private sector, join hands to cope with complex problems. But is this potential realised? In our paper we investigated dilemmas and outcomes of co-production-based projects for UF-NBS by analysing the experience and the narratives of those involved in their design, implementation and management. Particular attention was paid to questions related to the effectiveness, credibility and legitimacy of those processes, and to their impacts in terms of fair and just sustainability.

Empirically, our contribution will be based on the analysis of 25-30 in depth semi-structured

interviews mid-seniority city officials in 5 EU cities in Europe. Preliminary results based on 5 interviews show that a co-produced urban forest project can be considered to be a success, when the space is appropriated by residents during and after the project, as well as when it meets a demand by the residents that was hitherto unknown or anyway unmet. To be successful, a project requires the development of trust between actors, as well as far-reaching, strong, long-term involvement from the citizens, the communes, the local associations, and other relevant actors. In contrast, unsuccessful projects were considered to be when the residents were not sufficiently involved and when there is no visible end-product. City officials were generally in favour of co-production to engage residents but pointed to the fact that the appropriateness of co-production in urban forest projects depends on the location and the resources available. This section on preliminary results was written based on limited empirical material, some elements still emerged such as the definition of what constitutes a successful and unsuccessful project of UF-NBS co-production, though some questions remain open, such as on the opportunity of interviewing stakeholders from non-governmental institutions at a later stage.

NOTES –



DESIGN SESSION II

VARIATIONS OF FOREST & URBAN CO-EXISTENCE

Moderation:
CHIARA CAVALIERI
LAB, UCLouvain

GIULIA PANDOLFI

Urban Forests as a Nature-based Solution for Flood Management in Rome.

SWAGATA DAS

Foresting a char. Forest urbanism in the Brahmaputra Valley in Assam, India.

SIMONE MARCHETTI

The Parco Italia Project as a Nationwide Resilient Ecological Infrastructure.

DIANA ZERLINA

Nagara Rimba Nusa. Creating the co-existence living between Indonesia's New Capital City and the forest ecosystem in Borneo.

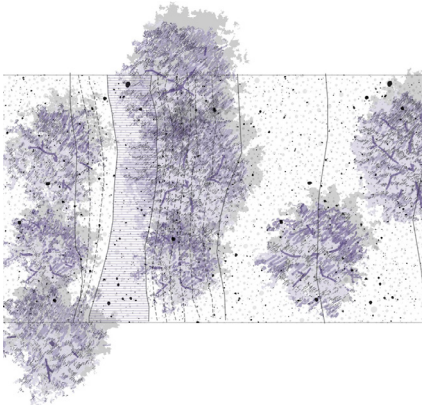
The co-existence of forests and different forms of inhabitation is a process that triggers the evolution and transformation of both natural and urban environments. This session will discuss the value of forests not only for the city, as a 'nature-based solution' for preventing flooding risk or improving the given natural capital, but also as a community reserve able to rally people around its preservation. Contributions will also debate possible variations of urbanism and architecture for a new co-existence with a natural forest-based environment.

Urban Forests as a Nature-based Solution for Flood Management in Rome.

Giulia Pandolfi

Architecture Department, Roma Tre University

urban water management – landscape architecture – environmental remediation – urban forests – SWMM



– 30

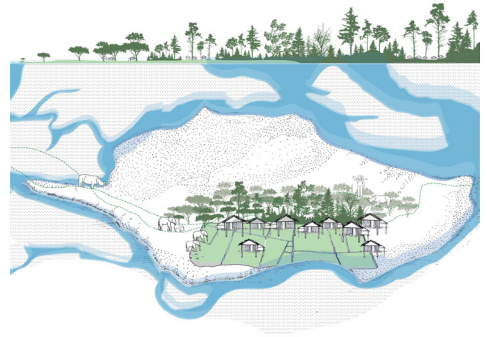
The paper focuses on a district on the border of Rome called Prima Porta, increasingly affected by floods, even if the sewer has been recently improved by engineering works. In order to reduce the local runoff water, this study defines a nature-based management strategy on a site-level analysis where, with the progressive introduction of a local urban forest in both public and private areas, the surface runoff decreases by 9.7% of the rainfall total volume. The use of a hydrologic software along the research, called Storm Water Management Model (SWMM), makes it possible to evaluate the effective quantity of rainfall total volume reduction. The final purpose is to combine and interpret together the quantitative evaluation of the data, obtained through the SWMM models, together with the aesthetic redevelopment of the site and the better quality of local life in a more comprehensive ecological and landscape approach.

Foresting a char. Forest urbanism in the Brahmaputra Valley in Assam, India.

Swagata Das

OSA, International Center of Urbanism, KULeuven

climate change – forest management – traditional ecological knowledge – scientific ecological knowledge



Since the 1970s, the importance and relevance of indigenous communities for local management systems for forest science, conservation and development have become well-recognized. Molai Kathoni is a 550 hectare forest on a char (river island) where inhabitants have embraced nature based solutions to tackle climate change and erosion of the fluvial territory. Situated in the state of Assam, India where 40% of territory is flood prone and thus subject to erosion, the paper will investigate how a man-made forest can provide mitigative and adaptive benefits to local communities and beyond. It explores the transformation by overlapping mobility of communities with the movement of animals – the evolving relationships of human and more than humans against the backdrop of the forest.

Plantation on the char was initiated by the state but was soon abandoned due to lack of funds. Its transformation into a forest is credited to a single

worker, who stayed behind to continue planting. Today the forest not only shelters wildlife, but also provides crucial ecosystem services to the people living nearby, ensuring their livelihoods and food security. It supports nearly 250 families who live in several clusters of 10 to 12 stilt-houses, mostly belonging to Assam's indigenous Mishing community. Officially classified as 'Scheduled Tribe' in the Constitution of India, the Misings are a riparian-based ethnic group who manage the land through indigenous stewardship and conservation practices. Recently, man-animal conflict and poaching have led conservationists to demand protected status for the forest. There is resistance to granting the forest formal protected status, because it would limit local peoples' access to forest resources. Its status as a "community reserve" might be the right balance to simultaneously embrace conservation and indigenous peoples' forest rights. By looking at the process and role of community in the management of the forest, the paper guides towards facilitating alternative solutions for better management of forests.

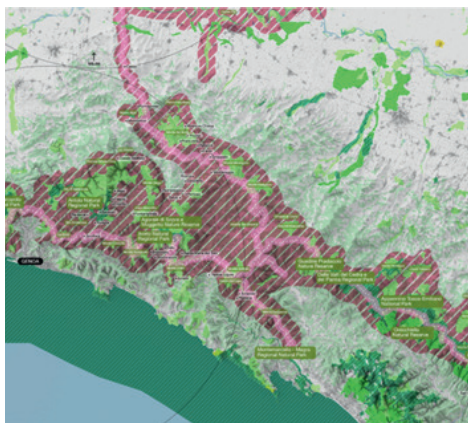
What started as an experimental project in the 1980s to analyse the impact of tree cover against floods and erosion is ambivalent today, situating itself between SEK (scientific ecological knowledge) and neo-indigenous TEK (traditional ecological knowledge) approaches of the Mising community. Molai Kathoni presents promising opportunities for the design of alternative strategies for the management of forests in such fluid territories and contribute significantly to resilience thinking and social-ecological systems. Though the paper highlights how conversion of this sandbar into a forest has initiated ecological services and livelihood opportunities for local communities in addition to being part of a migration corridor for wildlife during floods, it insists to move away from the dichotomy between indigenous and western, or traditional and scientific knowledge in order to ensure better understanding of forest-society relationships.

The Parco Italia Project as a Nationwide Resilient Ecological Infrastructure.

Stefano Boeri (1)(2)(7), Maria Chiara Pastore (1), Marco Marchetti (3), Paolo Mori (4), Fabio Salbitano(5), Giorgio Vacchiano(6), Livia Shamir(1)(7), Luis Pimentel(1)(7), Sofia Paoli(1)(7)

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(1) Politecnico di Milano, (2) Future Lab, Tongji University, (3) University of Molise, (4) Compagnia delle Foreste, (5) University of Florence, (6) University of Milan, (7) Stefano Boeri Architetti

natural capital – urban forest – landscape ecology – nature-based solutions – ecological planning – green infrastructure



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In recent years, tree planting campaigns have been at the forefront of many national and international programmes worldwide. Actions are usually locally developed, sometimes disconnected by the general vision of the city, or its wider environmental context, and finally poorly rooted from an ecological perspective. Parco Italia is a project born from a vision conceived by Stefano Boeri and

discussed at the World Forum on Urban Forests 2019 - Milano Calling. The project aims at creating and/or connecting a large network of ecological components that physically and symbolically could interconnect Italian urban and coastal areas to forests and protected areas inland, through a large and diversified green infrastructure based on a robust landscape ecology approach. Parco Italia is also an urban forestry program supporting initiatives to adapt to the effects of the climate crisis and improve air quality in the fourteen Italian metropolitan cities, in line with the national and European strategies.

A range of conservation and adaptive management schemes (from zero-management/full protection of existing forests to assisted naturalisation and ecosystem restoration of degraded or treeless areas) has been developed and tested through a key-impact analysis and a theory of change approach. The results allow for building an overall multiscalar and national multimodal strategy, then developing contextualised strategies at a local level that take into account the territorial complexity and biocultural diversity. The process will also support decisions in tackling the natural hazards and associated risks, such as wildfires, floods, landslides and other hydrogeological-derived risks.

Parco Italia is conceived as a multi-functional reticular park characterised by trees, woods, wetlands, sustainable and quality agricultural areas, plantations of polycyclic tree crops, hedges, rows, clearings, vegetable gardens, fields, streams and stretches of water, green walls and roofs, bioengineering solutions, the integration of smart and IA systems in integrated green and blue infrastructures, and accessible green spaces. Cities, and their urban forests, are considered hubs of the reticular park while large forest patches will be the core areas of the system. The first baseline research converges in a revised and updated mapping of the natural capital of Italy, including forests, wetlands, high elevation deserts and other natural land covers within formally and non formally protected areas. In addition, the under-construction and existing

urban and peri-urban forests will be included as key components of the natural capital in cities. A re-elaboration of the natural capital map, functional to a multiscalar and multimodal use is proposed. In parallel, the mapping phase will include anthropogenic structures and infrastructures and the demographics of the municipalities. Data on Ecosystem Services, environmental risks and degradation processes (soil sealing, polluted areas, natural and man-induced disasters and hazards, such as forest and tree cover loss) will be considered along with their historical series and mapped. The mapping phase will promote the adaptive management of existing vegetation and forests, and advance ecosystem restoration initiatives as trigger points for improving the conservation and connectivity of land ecosystems nationwide.

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Nagara Rimba Nusa. Creating the Co-existence Living between Indonesia's New Capital City and the Forest Ecosystem in Borneo.

Diana Zerlina, Yasmina Azriani, Vallin Tsarina

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URBAN+ Institute

forest – forest urbanism – capital city – Kalimantan – Indonesia

The decision of relocating the Indonesia's capital city (Ibu Kota Negara/IKN) to Penajam Paser Utara, Kalimantan Timur (East Borneo) has been made in 2019 by the Republic of Indonesia's 7th President, Joko Widodo. The planning of the new capital city was followed by the new capital's core area design competition, which resulted "Nagara Rimba Nusa" as the first winner. Named Nusantara in 2022, the new capital is situated in the equator zone, which is treasured with vast biodiversity and enormous



rainforest ecosystem. However, rapid deforestation has been an elongated contested issue on the island. Over than four decades, Borneo's old-growth forest was converted to industrial plantations, made the island losses its original forest structure subsequently.

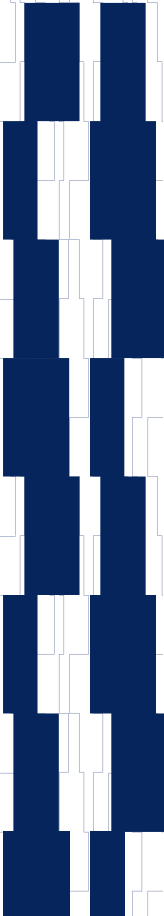
Nagara Rimba Nusa brought the idea of a city that's built on the wisdom of the culture and forests in Indonesia. The design approach was profoundly present the forest landscape ecosystem as the foundation and core of design reflection as could be seen from the urban forming process, responsive design gestures, and nature inspired architecture through Biomimicry approach. The design is envisioned the interaction of urbanism and forest by bridging the existing nature with a desired built environment through distinct design approaches. The interplay between urban and forest domains was emphasized by the 9 big moves design values and deliver through comprehensive urban design frameworks, which accommodating the three pillars of IKN's Vision to represent Indonesia's Identity; create Economy, Social, and Environment Sustainability; and as a Smart, Modern, and International standard City. Transformation has been the highlight of Nagara Rimba Nusa's concept, offering a new way experience of work, live, mobilize, culture, and conserving the nature under the envelope of urban design development. The design is embedded a network of future ready

infrastructure within the forest landscape system, enables nature penetrates urban block, establish reliable urban built environment, and give space to regrowth for rainforest.

This paper strives to unfold the design methods, principles, and inventions in answering the complex interlace relations between city and forest of Nagara Rimba Nusa from the designers' point of view. We argued that urban development within forest landscape is possible with appropriate approaches and strategies. Distinct design strategies constitute the new capital design articulations and engage the site as the design reflections. As part of the KIPP design team, this paper will explain our ideas and thoughts towards the design discourse in responding the KIPP's specific site conditions and targeted the city's key performance indicators (KPI). By reflecting on the landscape urbanism concept, relevant literatures, news, and design concept of Nagara Rimba Nusa, this study will identify the importance and critical design propositions that integrate the Indonesia's New Capital City Nusantara within the forest ecosystem in Borneo.



NOTES –



DESIGN SESSION III

ECOLOGICAL INFRASTRUCTURE IN RURAL & (PERI) URBAN AREAS

The notion of ecological infrastructure integrates both human-made and natural elements and promotes the co-development of sustainable solutions in designed and managed landscapes. The session will focus not only on the ecological functions, but also on the emerging livelihood benefits and challenges of reforestation programs and designs.

Moderation:
NADIA CASABELLA
Faculty of Architecture, ULB

OMER DEVRIM AKSOYAK
Innovative Life in the Urban Forest as an Urban
Landscape Area in the Context of the Continuity of
Cultural Heritage.

MINH QUANG NGUYEN
From Planning to Planting in Thua Thien Hue, Vietnam.

MYRA SAMPSON
PermaPark.

FEDERICO GOBBATO LIVA
One Hundred Percent Square. Exploring integration
between forest, urbanism and material practices in
the Dijle Valley.

PHAM ANH TUAN
Forest Urbanism in Vung Tau, Vietnam.

MARIA CHIARA PASTORE
Urban Forestry as a Tool to Improve Permeable Soils
and Green Surfaces.

Innovative Life in the Urban Forest as an Urban Landscape Area in the Context of the Continuity of Cultural Heritage.

Ozlem Kevseroglu, Omer Devrim Aksoyak

—
Abdullah Gul University

**bio-culture – cultural landscape – cultural
heritage management – Koramaz – urban design**



— 36

Rapidly decreasing rural population and migration to cities bring along many problems. This situation causes extreme poverty to concentrate in urban areas and create unhealthy environments. Rural landscape as a cultural and natural heritage site; can be seen as living and dynamic systems that include technical, scientific, and practical knowledge about human-nature relations, contribute to the continuation of bio-cultural diversity, and include cultural, spiritual, and natural characteristics of an environment. It is necessary to consider the natural, socio-cultural, and physical environment relations with a content that makes sense with an integrated understanding, considering the traditions, including beliefs, rituals, collective behaviours. Koramaz Valley, which has low-density semi-urban settlement features and is located on the periphery of Kayseri (Turkey) city centre, presents unique examples of the mutual interaction of human and nature, and is also on the

Tentative List of UNESCO World Heritage Sites, has been selected to be examined in this sense. The potential arising from the coexistence of the cultural and natural landscape in the settled areas in rural areas, as in the example of the Koramaz Valley, creates an opportunity for the sustainable protection of these areas. In urban settlements with high building density, the hard surfaces that make up the built environment, both cover the natural environment and have negative effects against climate change due to the amount of carbon emissions in their production process. It is important to develop urban settlements in low-density rural areas as well as to systematically increase the ratio of natural surfaces in existing urban settlements within the city. The planned realization of housing settlements in rural settlements with low urbanization and high rural density also provides an important opportunity for new urban settlement forms to be developed against climate change. To realize the urban development that can be controlled with this perspective, which can be described as “Innovative Life in the Urban Forest”, cultural landscape areas, where natural and cultural heritage come together, can be put forward as areas of opportunity due to their spatial and socio-cultural potential. To reduce the effects of climate change, addressing low-density rural settlements with a new settlement model with a cultural landscape perspective can be put forward as an alternative settlement form against the dense urban settlement approach consisting of hard surfaces that increase the negative effects of climate change.

The planned realization of housing settlements in rural settlements with low construction and high rural density also provides an important opportunity for new urban life forms to be developed against climate change. As in the example of Koramaz Valley, cultural landscape areas where natural and cultural heritage come together can be presented as areas of opportunity due to their spatial and socio-cultural potential. In this way, it will be possible to present low-density rural settlements as a new settlement model with a cultural landscape perspective, as an

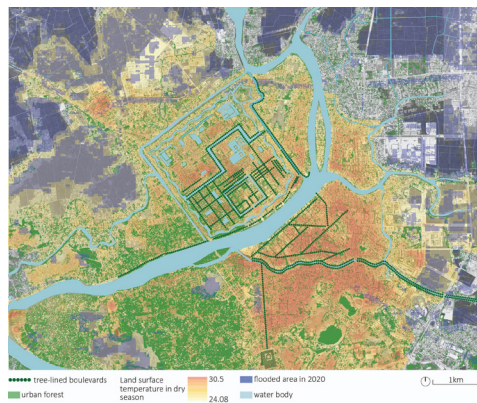
alternative to the dense urban settlement approach consisting of hard surfaces that increase the negative effects of climate change. The cultural landscape approach aims to reveal the characters of such areas and to ensure the sustainable use of these characters, with the tangible and intangible values they have, to protect the physical environment and to form the basis of a balanced and sustainable relationship between urban requirements and cultural heritage. In this way, while the heritage will be preserved, the values that make up the urban memory will be kept alive, and the social and economic-based development and sustainable development goals will be achieved.

From Planning to Planting in Thua Thien Hue, Vietnam.

Minh Quang Nguyen

OSA, International Center of Urbanism, KULeuven

urban forest – heatwave – landscape – urban park



More frequent and severe heatwave events and floods due to climate change, alongside the increased urban heat islands effects caused by continuous urbanization, threaten many regions

worldwide. Hence, more attention has been given to (urban) forests and their benefits to the urban environment. The paper investigates the existing and potential future role of (urban) forests in urban areas and how planting can be integrated into the planning process in Thua Thien Hue (TTH). Since 2010, the province has witnessed increased heatwave and peak temperatures during the dry season and intensified precipitation during the rainy seasons. The city of Hue lies on the narrow alluvial plain sandwiched between the majestic Truong Son Mountains, foothills, and the Tam Giang - Cau Hai lagoon with an elevation ranging from 15 to 2 meters above sea level. The city was developing along with planting. During Imperial Era, following the Phong Thuy principles, patches of native woodlands were choreographed as sacred forests and (royal) gardens together with the planning of the Imperial City. These sacred forests and garden complexes have created an environment of prestige and pragmatics for the living and the dead. Additionally, tree planting and maintenance along roads, moats and waterways were obligatory as a tradition. Later, adopted the theory of climatology, the French replicated modern European sensibilities of urban living by promoting tree planting, urban parks, and low-density development as this was seen as required given the tropical climate. In such a way, a microclimate – an area that is a bit cooler than the surrounding ambient ground temperature – is created to mitigate the extremely hot and humid environment of tropical climate; a domain is generated to engage dwellers in exploring, cultivating, worshipping, and entertaining. Urban forestry has played an essential role in promoting economic development and mitigating the impacts of climate change on the urban environment. However, the results have been limited in recent decades because forestry, street tree planting and urban planning are independently developed and directed by different departments. The paper develops notions that: first, integrating forests within a city as a counter-figure is an old tradition in TTH; second, revisiting and strengthening the tradition can pave a way to

reintegrate large-scale tree planting and afforestation into urban development. As such, planning becomes planting to create landscape infrastructure to settle with or within that goes in parallel with the practice of contemporary Vietnamese urban architecture – re-embedding in forests.

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PermaPark.

Myra Sampson, Paul Coffey, Taykhoom Biviji

–
CCA Academy, School of the Art Institute of Chicago

community – parks – systemic neglect



– 38

Located 5-miles from downtown Chicago, the North Lawndale neighborhood struggles with the complexities and contradictions of urban America. This historic African-American neighborhood has been under-resourced and suffered due to disinvestment. Residents consistently draw attention to the lack of tree canopy and the need to plant trees within their community. Having lost its arboreal resources to the invasion of the emerald ash borer beetle and subject to policies of systemic and racially

enforced neglect, at 16.6% North Lawndale has one of the least dense tree coverage of any Chicago neighborhood. Additionally, residents suffer from multiple health issues associated with deforested areas: 21% have asthma, 25% have mental health issues, and 34% of the residents report poor health.

CCA Academy, led by Dr. Myra Sampson, has spent more than forty years responding to the needs of the community. The school began a Wellness Program in 2003 that expanded into an urban agriculture curriculum to support students in earning their high school diplomas. In 2017, CCA partnered with the School of the Art Institute of Chicago (SAIC) on a forest urbanism project to develop six contiguous vacant lots into a permaculture food forest, named PermaPark. PermaPark integrates the green aspirations of the community and the curricular needs of the students as it helps to replenish the earth so that earth can continue to sustain us.

SAIC has been active in North Lawndale since 2013 and partners with local organizations, activists, and residents through its satellite campus ‘SAIC@Homan Square’. In collaboration with the community, SAIC launched a tree planting initiative called Oaks of North Lawndale in 2017. Inspired by German artist Joseph Beuys’ 7000 Oaks (Germany 1982), Oaks of North Lawndale addressed job creation and economic development by increasing the tree canopy of the neighborhood.

Graduate students from SAIC’s Art Administration & Policy program worked with students, faculty and staff at CCA to define and set the vision and mission for this project. Simultaneously, students from the Architecture, Interior Architecture and Designed Objects (AIADO) program spent a semester paired with CCA students designing the food forest using the principles of permaculture. Seven designs were developed by teams one – PermaPark - was chosen by the academy’s leadership. Currently, PermaPark is home to over 70 fruit trees and bushes. Students are being trained to be the next generation of environmental stewards. Additionally, produce grown in PermaPark has been packaged and made

available to residents in a neighborhood that has long been defined as a food desert. For the CCA Academy community this site has become an illustration of the cyclical nature of urban forests. The community participates in the plant life cycle: planting, nurturing, harvesting and replenishing the earth for the next growing season.

This urban forest has become an asset to the community and continues to develop as a place of gathering and hope for a neighborhood aspiring to be one of the greenest in Chicago.

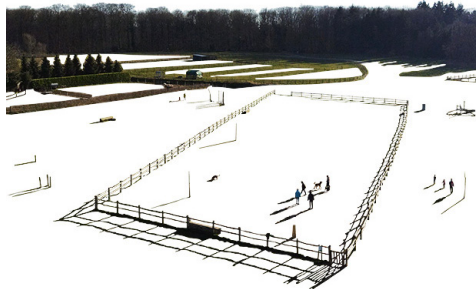
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One Hundred Percent Square. Exploring integration between forest, urbanism and material practices in the Dijle Valley.

Federico Gobatto Liva

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*IUAV University of Venice, PhD school of
Urbanism*

**afforestation – transition – forest management
– urban manufacturing – materialism**



Flanders relies on external forestry for 90% of its annual consumption of timber (INBO 2018), with specific cases such as wood panels, sawn-wood and DIY products mainly from imports from China

and South America. This indicates that large stocks of forest products are being produced and traded from either carbon intensive economies, or from venues where intensive forestry is associated to deforestation (FAO Yearly book of forest product 2019).

Furthermore, we are facing a concrete challenge in keeping timber local. As shown by Fedustria, the Belgian Federation of textile, wood and furniture industry, as much as 40% of roundwood extracted in Belgium was exported to China in 2021. This has critical impact on a reduced efficiency in carbon sequestration of this biomass stock, and on local labor related to the timber supply chain.

Exploring these contradictions, the paper argues for the possibility of a locally integrated approach between the design of urban forests, management practices and the wood related industry in Flanders. The paper presents explorations of the ongoing research *Hovering Landscape(s)//Paesaggi Sospesi* as part of the PhD track in Urbanism at IUAV Venice. The driving questions of this research arise at the intersection between models of Industrial forestry and local forest management, attempting to research the potential of European Forest Urbanism as a mean to shrink our footprint on global forest resources.

The first part of the paper presents the quantitative state of the Flemish and Belgian supply chains of forest products, based on research that crosses spatial observation and field interviews with FAO forest products archives (1950-2019). Departing from fieldwork conducted on a case study area positioned in the Dijle valley (Vlaams Brabant), the multiple forms of forest that exist in the valley are represented by deconstructing the landscape. It shows how the forest in its natural form and the forest in the form of commodity (wood) coexist yet contradict each other. While the local natural forests are a representation of the growing ecological discourse and practices of preservation and afforestation, the material genealogy of wooden objects in the urbanized landscape, correlate to

intensifying operations of forest commodification and extraction globally.

The second part of the paper expands from a specific situation on the field towards a broader territorial scale, mapping and un-packing the operational logic of actors focused on forest design, forest management and timber manufacturing in the territory between Brussels and Leuven. In this area, we can identify important efforts in the production of new forest and at the same time the “emerging intelligence” of few practices looking at local peri-urban and urban forests as a material resource.

The cartography is developed to explore, in the form of a question, whether it is possible to upscale these practices, imagining an “urban transition“ through the integration between the management of forest’s ecological space (new and existing forest) and the distributed patterns of urban manufacturing and urbanization of Flanders?

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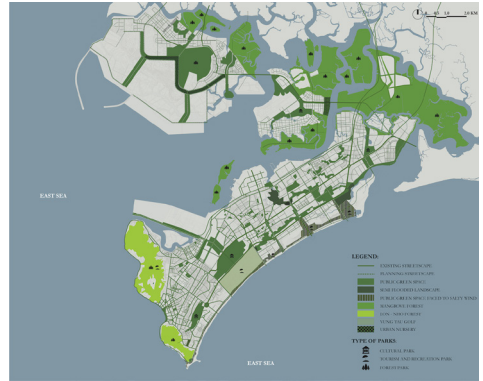
Forest Urbanism in Vung Tau, Vietnam.

Pham Anh Tuan

Landscape Architecture Department, Faculty of Architecture and Planning, Hanoi University of Civil Engineering, Hanoi, Vietnam

forest urbanism – plant species selection – streetscape – sustainable development – Vung Tau

Vung Tau is a famous tourist city in Southern Vietnam, where has been receiving a wave of fast urbanization and tourist development investment. In 2019, a new master plan vision to 2035 approved by Prime Minister of Vietnam has strategies to build Vung Tau into a tourist, financial and commercial service city with a huge sea-logistic system for the



South of Vietnam. It also strives for a green, clean, beautiful, civilized and friendly city. To realize these sustainable strategies, urban tree system, especially shade trees, becomes one of the most significant elements. It has an important role and needs to be much concerned to develop the city for future perspective. However, the system has been suffering many challenges for sustainable development due to real natural and existing urban conditions, such as narrow spaces for living, planting on sandy soil, lack of water and sea salt wind in the dry season, a very large system of abandoned lagoons... These challenges become more seriously because of predicted climate change phenomena. For example, tropical hurricanes start to be stronger and more popular in this city’s region. They can be obstacles for an adaptive and attractive landscape development of the city. Moreover, Vietnam has a diversity of natural plants, which has about 13.766 species. Of which, there are a lot of species can be used for urban landscape. There is a need of reviewing the existing situation of urban shade tree system in relationship with the facts of natural and urban conditions in Vung Tau, as well as proposing several suggestions for the best and native shade tree species. Using the native plants can become specific species for characterizing the Vung Tau’s urban landscape by the forest urbanism approach. Firstly, the paper investigates the existing condition of urban forest system. Secondary, it evaluates and selects the most adaptable shade tree species for the sustainable development strategies according to

the main selected parameters of natural and urban conditions, aesthetics, growth characteristics, and specific features in Vung Tau. Finally, it proposes a new urban ecological planning integrated with the approved master plan vision to 2035 and several solutions for streetscapes due to the characters of each streets' group.

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FORESTAMI. Urban forestry as a tool to improve permeable soils and green surfaces.

**Maria Chiara Pastore (1), Stefano Boeri (1, 2),
Livia Shamir (1)**

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*Politecnico di Milano (1), Stefano Boeri Architetti
(2)*

**urban forestry – treecanopy – urban planning –
participation – Milano**



The paper aims to present some ongoing original results from the research “Forestami”, a research started in 2018 by the Department of Architecture and Urban Studies, Politecnico di Milano. The research seeks to implement an urban forestry plan in order to plant 3 million trees by 2030, one tree for each resident of the metropolitan area.

The area of intervention of the research “Forestami” covers the entire Milanese metropolitan area, fixing a series of objectives that try to tackle climate change and improve air quality by improving public health, promoting ecological connections, increasing permeable areas, and fostering the ecological transition of the metropolitan city.

The research outlined four main challenges to overcome to start this implementation process:

The first relates to the availability of areas suitable to host new plantings; The second one relates to the necessity of implementing new financing models that can support planting and the maintenance of new plants and shrubs; The third challenge relates to the importance of redesigning new methods of involvement of the different stakeholders (public and private) in the making and maintaining the green systems, particularly in the long run. The fourth challenge relates to the necessity of building protocols that enforce the implementation of green systems in all the new projects and transformations that occur in the urban environment.

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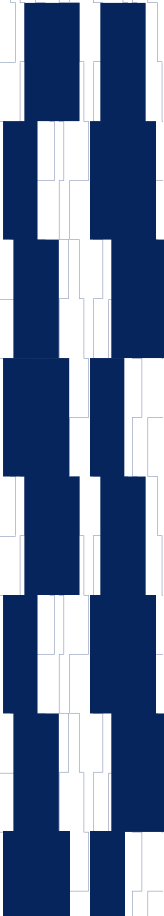
The development of the research includes the study of the actual condition of the Milan Metropolitan Area, particularly considering 1) urban heat island effect 2) the pattern of permeable/impermeable soils; 3) the water runoff; moreover, it establishes the tree canopy cover at the entire metropolitan scale. In particular, to plant trees and find suitable areas, the project has analysed the above features, and also, it has studied the voids, considering them as potential areas for tree plantation. These voids have been then considered in relation to their functions and uses, by the different administrative bodies, in order to know what are the necessary steps to be taken in order to transform the different areas into permeable and green areas.

The Municipality of Milan, The Metropolitan City of Milan, the North Milan Park, the South Milan Agricultural Park have signed a memorandum of understanding, “The strategy for the construction of the metropolitan green network towards the establishment of the Metropolitan Park between the

Metropolitan City of Milan, Municipality of Milan, Resilient Cities Project Management, South Milan Agricultural Park and North Milan Park “. With this protocol, the subjects agreed to cooperate to promote the construction of a Metropolitan Park and to encourage policies and projects that can raise urban forestry.

Planting trees, creating woods, multiplying the number of plants along the streets, squares, courtyards, roofs and facades of our cities, is the most effective, economical and engaging way to slow down global warming, reduce soil consumption, and clean the air we breathe from fine dusts..

NOTES –



DESIGN SESSION IV

NEGOTIATING CULTURES OF DESIGN & MAINTENANCE

The design of urban forests takes shape at the intersection of different disciplinary and cultural worlds that bring along their own sets of cultural assumptions regarding what is considered appropriate, customary, 'normal' or up to standard, effective, manageable, etc. The session will explore design strategies that try to navigate the various cultural assumptions that are held both locally as well as by expert professionals in urban forest development.

Moderation:

MICHEL DEHAENE

Department of Architecture, UGent

BIANCA MARIA RINALDI

Constructing National Landscapes. The aesthetic of the forest in Chandigarh and Singapore.

JÖRG REKITTKE

Urban Forest as a Consequential Post-manicure Design Type.

NICHOLAS PEVZNER

Beyond the Axe. Interdisciplinary approaches towards an urban silviculture.

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TAKAKO TAJIMA

A Fence that Grew a Forest. A Strategy for a Linear Park at Pachacamac Archaeological Sanctuary.

Constructing National Landscapes. The aesthetic of the forest in Chandigarh and Singapore.

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**postcolonial landscape strategies – cultural
role of trees – local identity – Chandigarh –
Singapore**



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The construction of a national identity in former colonies was a complex process that, among the different fields related to ideological and cultural production, involved also open space design and entailed a new perception of forested landscapes. Considered identifying symbols, trees played a crucial role in the construction and definition of a local image and were used to support narratives of the former colonies' cultural uniqueness. Focusing on two parallel but autonomous large-scale projects based on the introduction of dense arboreal vegetation in the urban scene—the landscaping of Chandigarh and of Singapore—the paper explores the relation between urban trees, urban forests and strategies of self-affirmation in former British colonies.

Chandigarh is renowned for its modern architectural

heritage and for its distinctive urban plan designed by Le Corbusier; locally, however, it is identified as the 'City of Trees' to express the unique quality of its urban structure. Singapore is considered one of the greenest cities among the hyperdense metropolises of Far East Asia; its capacity of integrating exuberant urban growth with the tropical landscape was conveyed through well-known slogans the city-state coined to promote itself both at local and global levels: they evolved from the initial 'Garden City', to 'City in a Garden', to 'Tropical City of Excellence', to the most recent and more comprehensive 'City in Nature'. As the series of appealing slogan reveals, the uniqueness of Chandigarh and Singapore is ascribed to an idea of a city based on a harmonious blending between urban form and extensive lush vegetation. Such distinctive image was in fact an ideological construct codified following independence from colonial rule and was based on the role of trees in eliciting an emotional and aesthetic response.

The paper will discuss the two projects as models of a similar approach to the construction of a post-colonial national image based on the rhetoric of the forest as an ideal symbolic emblem of the former colonies unique identity. The paper will argue that the return to an ideal pre-colonial forested landscape was considered a potent tool to convey a sense of site-specificity and came to signify the new democratic nations' liberation from colonial past and their modernity. At the same time, the introduction of dense arboreal vegetation within the city proposed a new aesthetic perception of the forest, elevated as a powerful component of the urban scene and as an effective device to construct urban quality.

While current discourses on urban forestry often emphasize the functional role of urban trees as an antidote to the contemporary and future challenges associated with climate risks, the paper proposes the iconic planting endeavors in Chandigarh and Singapore as models of an approach to urban forestry founded upon cultural and aesthetic principles.

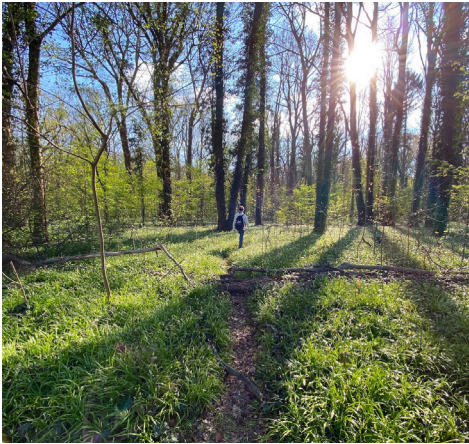
Urban Forest as a Consequential Post-manicure Design Type.

Jörg Rekittke

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park maintenance – neglect of public green space – insolvent cities



It was the manicured design type called ‘park’ that dominated the public space reputation of ‘beautiful’ occidental cities, since the 18th century. Proposing a park, remains a common design reflex triggered off in design schools and offices around the world. Designing a park is rather easy, the overall attractiveness of such type – mostly drawn in the form of a greenish patch on an urban plan – often leads to quick decision-making success, and it can be implemented relatively easy. Nevertheless, it entails the long-term necessity of maintenance, a cost factor that is increasingly being saved, particularly in high-wage countries of the western hemisphere. In Berlin, where, arithmetically, more parkland than in any other European city is at the citizen’s disposal, the sheer amount of park area can’t belie that a professionally pruned tree or shrub became a rare sight, that the sand of the city’s playgrounds is

not replaced any more, and that the trees of public streets and parks only get watered, when residents voluntarily do that with the help of their private ewer and water bill. In order to maintain an urban park, a city needs qualified gardeners and management rather than well-meaning volunteers. Once a proud profession, the urban gardener, employed by a ‘poor but sexy’ city like Berlin, became an almost extinct species. Professional gardeners got replaced by cheap hands, who feature no professional training and limit their maintenance work to a minimum – pruning a bit, when there is no other way; raking away dog shit; fishing the smashed park bench out of the pond – things like that.

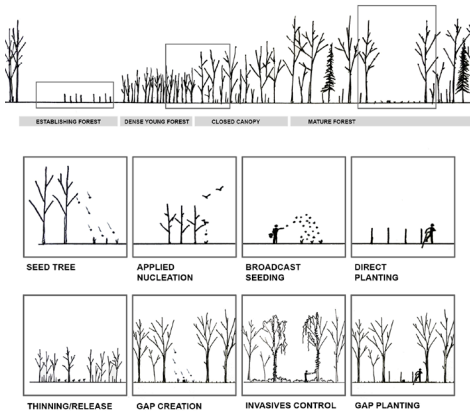
When cities cease to invest into park maintenance, they have to rivet on less manicured types of open public space. This is a reason why urban forest will increasingly receive attention and popularity. It has what it takes to become a beneficial star among public urban spaces. Urban Forest is where increasing numbers of city dwellers will flee, not just because of accelerating climate change. We wouldn’t be surprised if the occidental urban future took the form of an Urban Forest Age because urban forest not only constitutes a flexible post-manicure design type, it also will play a key role in the mitigation of global warming. Furthermore, urban forest allows for increased biodiversity, enables manifold ecological design approaches and offers a healthy and diverse leisure environment. Where there are no human beings, where there is little or no settlement, not very many good things happen. We find the unwinnable battle in the remote rainforests to be an unambiguous example in this regard. Intelligent and progressive action is more likely where urbanity prevails. Urbanites demand parks, but where extensive park maintenance is not financed anymore, parks will develop into urban forests. Nature and the forest will take back what is due to them. A forest not only costs, but also provides wood that can be profitably sold. What’s more, urban forests are not maintained by poorly paid park attendants, but by professional, knowledgeable foresters.

Beyond the Axe. interdisciplinary approaches towards an urban silviculture.

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urban forested natural areas – designed natural areas – urban silviculture – landscape architecture – landscape legibility



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Forests in cities—from large forest parks to remnant forest patches, afforestation sites, and designed natural areas—are becoming ever-more important as oases from urban heat, as islands of nearby nature for city residents, and as refugia for wildlife. Ecologically similar to rural forests, these landscapes lend themselves to the techniques of traditional forest management, such as silviculture—the art and science of growing trees. But despite its relevance to these types of sites, the application of silviculture to forests in American cities has often been met with resistance: public sentiment has long been protective of trees, even when forest health would have benefitted from such treatments.

One of the earliest calls for establishing evidence-

based approaches to forest management came from landscape architect Frederick Law Olmsted, when he proposed that Central Park operate as a kind of forestry laboratory. Olmsted was frustrated by the public's resistance seeing trees cut when he tried to “plant thick and thin quick,” and hoped to advance public understanding and appreciation of long-term forest management. While scientific understanding of forest dynamics, and the role of forest management, have advanced significantly in the century and a half since, public resistance to active forest management continues, especially in cities, with their large, diverse populations of residents and cultural attitudes.

A distinctly urban silviculture can benefit not only from the integration of traditional silvicultural practice and long-term research, but from the expertise and perspective of designers. In this paper, we explore the synergistic potential of silviculture and landscape architecture, and how these allied yet often-alienated disciplines may engage to create socially responsive evidence-based approaches that support the design, management, and resilience of forests in cities. We consider how traditional silviculture may be adapted to urban ecosystems and reinterpreted through design, with landscape architecture helping to frame and situate this urban silviculture practice by tying together its temporal and spatial dimensions, and connecting ecological needs to cultural legibility. Landscape architecture, as the art and science of designing cultural landscapes, helps to shape cultural attitudes about nature in cities, and has the potential to improve public literacy towards urban forest management and its ecological dynamics. Urban silviculture, meanwhile, can provide designers with a toolbox of strategies and prescriptions for manipulating existing forest structure and composition, extending the timeline of concern, and giving designers more nuanced tools to think about forest dynamics, such as forests' responses to disturbance and change over time. We examine several examples of designed landscapes in which silvicultural techniques are employed as central components of the parks'

design strategies, rendered visible to visitors as a way of directing the landscapes' spatial qualities and of daylighting dynamic ecological processes.

Given the need to accommodate the complex biophysical and social dynamics of forests in cities, interdisciplinary collaboration between landscape designers, ecologists, and foresters is urgently needed. Together, these disciplines can define an urban silviculture that will provide a systematic framework and suite of tools relevant to both the design and management of these complex socio-ecological forest landscapes..

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Living with/in the Boeung Chhmar Flooded Forest, Tonle Sap Lake, Cambodia.

Vu Thi Phuong Linh

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**floating settlements – adaptive living – forest
transformation – hydro-ecological processes**



The flooded forests of the Tonle Sap Lake are determined by a significant seasonal flood (of up to 13m) and a large gradient of wetness and dryness, where water and alluvia flow dramatically transform the territory. Boeng Chhmar is one of the richest symbiotic habitats of the lake throughout its succession cycle. Khmer's floating communities disperse along seasonal waterways in this landscape, relying entirely on natural cycles for settling, subsistent fishing, and forest gathering activities. The flooded forest has been a vibrant and sustainable living space for floating communities to coexist, shape, and sustain their lives with various water and forest species.

Meanwhile, large-scale developments throughout history have modified the Tonle Sap's eco-hydrology. Most recently, indigenous and local knowledge of subsistence water-forest-based practices has been largely neglected in favor of commercially exploitative practices. Fishing lots have been established, and form colonized spatial orders with massive structures for fish exploitation. In addition, there has been an expansion of hydraulic control structures for agriculture production and road-based urbanization, which is paralleled by large-scale deforestation. All have caused spatial estrangement and ecological degradation, which has been intensified by upstream developments and climate change consequences. However, in Boeng Chhmar, local practices have remained and transformed to adapt to territorial constraints and environmental fragmentation.

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The paper will explain the logic of territorial transformation upon local practices and states development policies and projects, linking local practices to regional crises in multi-scalar hydro-ecological processes and interactions. In particular, the paper will examine how floating settlement patterns have been embedded into the seasonal and life cycles of the flooded forest. It will also track the area's history of massive deforestation and reforestation initiatives, which have altered the Khmer floating communities' daily practices.

The fluid and fluxed transforming coexistence and contestation in Boeng Chhmar will provide insights into potential contemporary forest urbanism, especially concerning community practices and spatial transformation. The water-forest territory will provide clues regarding how to live with/in a dynamic, collective living space of coexistence, resisting, learning, intervening landscape among communities and species.

overgrazing. When the plants mature, they become fog catchers themselves to accumulate water on their leaves and branches. At Pachacamac, we imagined a linear forest to provide shade and enhance the habitat potential of an otherwise inhospitable site. We looked to fog catchers not only as a tool for capturing water to grow the forest but also as a territory delineating “fence.” Over time, an emergent forest would enclose the site and as the need for fog catchers decline so too the need for a fence.

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A Fence that Grew a Forest. A strategy for a linear park at Pachacamac Archaeological Sanctuary.

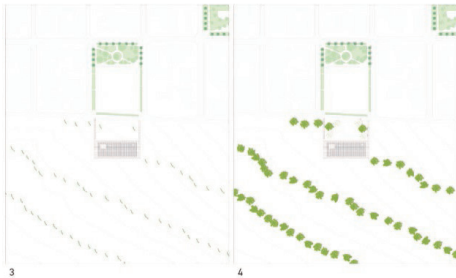
Takako Tajima

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*University of Southern California, School of
Architecture*

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**coastal desert – fog harvesting – huarango –
Santa Rosa Island – seasonally dry forest**



At Pachacamac Archaeological Sanctuary, forty kilometres southeast of Lima, we proposed a strategy to cultivate a new seasonally dry forest by harvesting fog. The cloud forest restoration project on Santa Rosa Island off the California coast served as our precedent. There, handmade fog catchers are utilized to protect, nurture, and restore a vital erosion controlling shrub layer that was lost to

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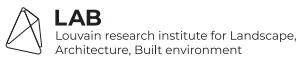
The **International Center of Urbanism** (ICoU) focuses on the most pressing contemporary issues at stake in settlements and environments across the globe. Urbanization continues to gallop ahead in most parts of the world, while massive restructuring is clearly necessary in post-industrial societies. At the same time, business as usual is challenged by unprecedented migration of humans and species and the consequences of climate change.

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