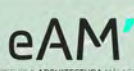


URBAN REPAIR: DESIGNING WITH/FOR MORE-THAN-HUMAN LIFE



BOSQUE URBANO MÁLAGA
31 Aug - 4 Sep '25



URBAN REPAIR: DESIGNING WITH/FOR *MORE-THAN-HUMAN* LIFE

The **Bosque Urbano de Málaga (BUM)** is a citizen-led initiative aiming to transform the former Repsol industrial site—one of the last remaining open spaces in a densely built-up area—into a large urban park with ecological and social value. Located between the Cruz de Humilladero and Carretera de Cádiz districts, the site is under threat from proposed real estate and commercial developments backed by the city council. In response, the BUM platform advocates for the creation of a Mediterranean forest with native species as an environmental, social, and climate-resilient solution for a city lacking green spaces.

This workshop is grounded in the methodological foundation of the SARPe project, which promotes participatory approaches to architectural and urban education. It invites students to understand the city not only as a site of design intervention but also as a space of diverse urban narratives that shape, and are shaped by, those who inhabit it. Emphasizing participatory design, the workshop encourages students to act as co-researchers rather than external observers, engaging directly with local communities to collaboratively envision spatial solutions. The process values the integration of community input into each phase of the project, treating this engagement not as a consultation but as a creative and critical exchange. Within this framework, the city becomes an open classroom, offering opportunities for informal learning through observation, dialogue, and direct involvement. Ultimately, the experience fosters interdisciplinary and cross-cultural collaboration, and invites students to reflect on their roles as designers operating within complex and socially situated environments.

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The SARPe project

The Socially situated Architectural Pedagogies (SARPe) project brings together the concepts of situated knowledge, critical pedagogy, and spatial commons in order to promote collaborative and inclusive approaches to architectural education.

Aligned with the European Education Area, SARPe aims to support the higher education sector in becoming **more responsive to societal challenges** through **inclusive and participatory** activities.

We focus on the **innovation of teaching and learning methods in architectural education**, with a goal of directly impacting curricula in the long term. By working closely with non-academic stakeholders, we foster a socially situated teaching and learning ecology that minimizes the gap between architectural studies and real-world challenges. Our highly collaborative and interconnected approach among partners across four different countries includes interdisciplinary pedagogical methods, experimentation with digital tools and blended teaching environments.

Join us in shaping the role of the **architect as an active citizen** in the discourse of inclusion, participation and empowerment through civic engagement and participatory practices.

info@sarpe.org
<https://sarpe.org/>
 @sarpe_network

"La unión hace la fuerza" Unity is strength



Moruzzi Road, Pavia 2023



OspitiAmo, Brescia 2023



La Casa Invisible, Malaga 2023



Kuştepe, Turkey 2024



BUM, Malaga 2025



Universities and Stakeholders

“Cuantos más, mejor”
The more, The merrier

The SArPe project brings together a multi-disciplinary consortium of experts from the **University of Pavia** (Italy), the **University of Malaga** (Spain), **Istanbul Technical University** (Turkey), and **TU Delft** (Netherlands) to promote collaborative and inclusive approaches to architectural education. This project aims to challenge traditional architectural roles and perspectives by working with people from diverse backgrounds and co-creating architectural knowledge.

The collaboration with the **Zero Discrimination Organisation**, which works to empower Roma communities in Turkey, and **SpazioGioco**, an organization based in Pavia that advocates for inclusive playgrounds, underscores the importance of creating synergies and having a strong impact while foregrounding civic values and ensuring participation.

Check our teams deeply! <https://sarpe.org/consortium/>



ZERO DISCRIMINATION ASSOCIATION
— Everyone is Different, Everyone is Equal —



Stakeholders (or new friends!)

BUM, Bosque Urbano Malaga Since 2016

Main stakeholder whose context is key for the workshop and needs to be deeply understood. Its story will unfold in the following pages.

La Casa Invisible Since 2007

Is a key citizen-managed social and cultural center. It will host the opening of the workshop, giving us the opportunity to gain deeper insight into the reality of the city.

Discover their story in <https://lainvisible.net/es>

Asociación de vecinos “La Cooperación” Cruz de Humilladero

Neighborhood association from the area near BUM that works hand in hand with Bosque Urbano and will host us on the second day of the workshop.

Artefacto Social Since 2022

The proposal comes from the Faculty of Fine Art aiming to implement collective creation as a tool for social impact. It encourages students to embrace group artistic practice as a catalyst for change and social empowerment, strengthening the bond between individuals and their territory.

Asociación los Girasoles de Ara Since 1993

This non-profit association, created by a group of parents to support people with intellectual disabilities after schooling, has specially crafted the notebooks where our ideas will take shape.

Neighbors of Malaga Since “*toda la vida*”

To truly understand the city, you need to talk to its people. Don't miss the chance to have a chat when you come across one — even if it's hard to tell them apart from the tourists!”

Bonus! Sultana Comida Marroquí

A Moroccan food spot that will help us keep up our energy for the days ahead.



Málaga...a brief introduction

"No es oro todo lo que reluce" All that glitters is not gold.

Valé, here we are, in Andalucía. Maybe you know us because of flamenco, toros, fiesta, sangria (not from this region by the way)...and our incredible touristic offer.

I mean... who doesn't know Málaga? It still surprises us, but today everyone, everywhere knows it. But that wasn't the case a few decades ago.

Málaga's tourism model has been shaped through a historical evolution that began in the 1960s with the development of mass tourism along the Costa del Sol. This initial phase, while bringing investment and economic modernization, established the foundations of **speculative urbanism focused on rapid growth rather than sustainable planning**. For decades, while coastal municipalities such as Torremolinos and Marbella flourished as tourist destinations, the provincial capital remained on the margins of this development.

Málaga's transformation materialized definitively from 2003 onwards with the inauguration of the **Picasso Museum**, marking the beginning of an **urban museification process** that converts culture into the primary driver of tourist attraction. This phenomenon, enhanced by over 71 million euros of public investment from European funds between 1994 and 2013, facilitated the rehabilitation and pedestrianization of the historic center, but also triggered processes of accelerated **gentrification**.

Rosa Jiménez, C., & España, K. (Eds.). (2022). *Overtourist city: Estrategias para recuperar la habitabilidad del centro histórico de Málaga frente a la turistificación*. RU Books Recolectores Urbanos.

Volante02. (2024). Editorial Suburbia. <https://www.sub-urbia.es/volante>

Following the 2008 financial crisis, the city experienced **intensive touristification** characterized by the **massive conversion of residential housing into tourist accommodation**, causing a 45% increase in residential rental prices between 2013 and 2019. The saturation of public space by commercially oriented tourist activities exceeds 60% occupancy in certain streets, while the resident population of the historic center progressively diminishes.

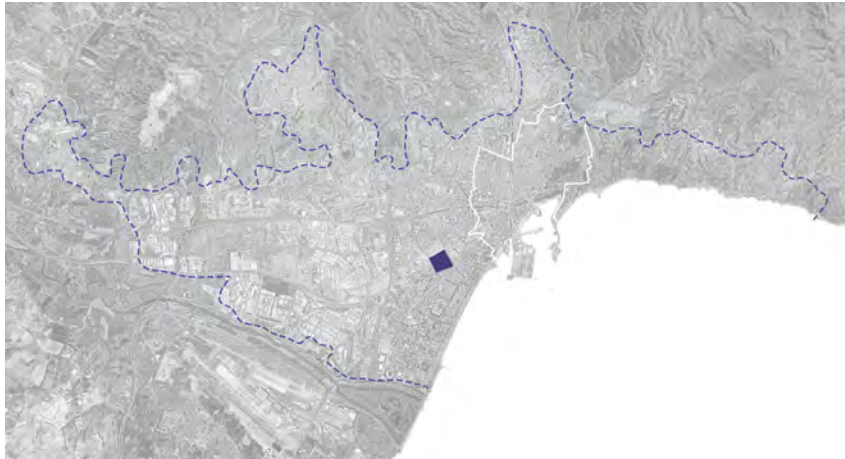
This speculative model generates a fundamental **conflict between the civic use value and the tourist exchange value of urban space**. The city transforms into a consumption site where tourist rent extraction prevails over local housing needs, provoking the emergence of neighborhood movements fighting to preserve the last community spaces, such as the Bosque Urbano Malaga (BUM), against a commodification process that threatens to **empty the city of neighborhood life**.

Manifestación por la vivienda 29J 2025 Foto: Álex Zea Europa Press

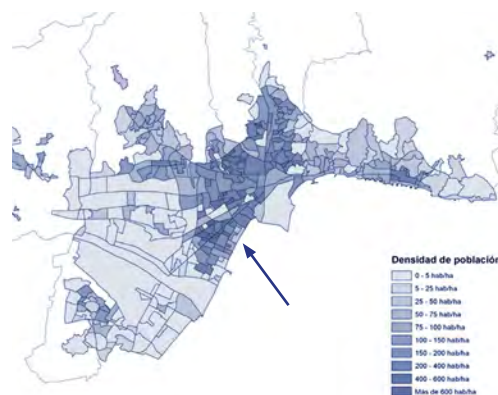


The history of an urban void

"La avaricia rompe el saco" Greed breaks the bag.



This is a map of the city of Málaga, stretching from the sea to the mountains. The historic center is outlined in white. To its right lies a narrow upper-middle-class area that developed in the 19th century, following the acquisition of estates by the Malaga bourgeoisie, alongside former fishing neighborhoods such as *El Palo*. On the left was the industrial zone and housing for the working class, which only began to expand during the tourism boom of the 1960s. Our void is located in this area.



The density of this area is about 600 inh/ha, making it one of the most densely populated in Europe.



OMAU Observatorio de Medio Ambiente Urbano



1958 Expropriation by the Ministry of Housing as a common good

1967 Given in Exchange to Repsol (National Company of Petrol and Chemicals)

First flight in Spain done by Americans 1998. Before tourism boom.



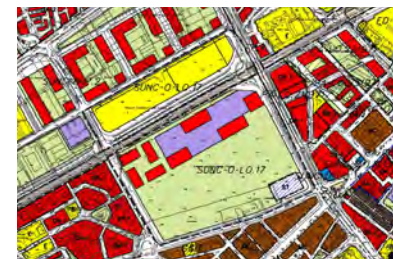
2000 Last tank filling
2001 Tanks dismantled
2005 Attempt to resell the plot by the municipality (not allowed)

Ortophoto 1998 where we can see a first tank already removed.



To mitigate the lack of green and recreational areas caused by uncontrolled expansion during the 60s and 70s, the **1983** General Urban Development Plan (after the end of Franco's dictatorship) designated this area as a large green zone.

PGOU 1983



In 2006, the government cut more than half of the planned green area to build residential skyscrapers and a large shopping mall. Protests soon followed, and the 2008 real estate crisis put the project on hold.

PGOU 2011



Despite public opposition, the 2011 General Urban Development Plan kept the controversial towers, aligned with ongoing patterns of financial speculation. The project has been halted due to a lawsuit filed by the BUM association in court.

Recreation of the Urbania developer's project for the towers. *Diario Sur*.

Bosque Urbano Málaga (BUM)

“El que la sigue, la consigue.” They who persevere, succeed.

The suspension of the urban development project and the lack of real green spaces sparked a neighborhood movement: two Málaga residents, Javier López and Ana Ferrer, launched a campaign on the Change.org platform, and public support was so strong that in just one month, 20,000 signatures were gathered.

Thanks to massive public support, the Bosque Urbano Málaga Citizens' Platform was officially established in 2016, uniting residents and groups to envision the 177,000 m² as a Mediterranean forest. The issue gained political attention in the 2019 municipal elections, and a public referendum was approved, though later ignored by the mayor's government. Initially focused on outreach and advocacy, the platform has recently involved the community in hands-on activities like cleanup, planting, and care, boosting biodiversity. Today, the platform is creating-slowly-the urban forest, hoping that the fait accompli will generate local demand to maintain the project in the face of real estate speculation. It coordinates via WhatsApp, holds regular meetings, and organizes larger events to maintain and promote the forest while fostering social cooperation

<https://bosqueurbanomalaga.org/historia/>



The Main Objective

Transform the 177,000 m² of land into a Mediterranean forest that becomes a green lung in the city of Málaga for the enjoyment of its residents.

In this sense, the Bosque Urbano Málaga project contributes to the achievement of the Sustainable Development Goals (SDGs), particularly regarding health, the environment, equality, and resilience to climate change (Sustainable Development Goals: 3, 10, 11 and 13).

SOCIAL ACHIEVEMENTS → CREATE A CULTURAL SPACE OF HARMONY AND PROGRESS.

- **Promote citizen participation and participatory governance**, encouraging residents to take an active role in decisions about the territory they inhabit.
- **Foster environmental education** and the development of training and cultural activities that connect the community with its environment.
- **Serve as a model of participatory and sustainable development**, demonstrating that it is possible to combine development, social well-being, and environmental protection.
- **Legally defend the project** against *urbanization* proposals that prioritize private interests over public ones, preventing negative impacts on public heritage and health.

Note: “Urbanization” – a Geography term referring to ruthless urbanization that lacks local culture, favoring economic interests over landscape and social identity, often replacing community dynamics with individualistic and asocial patterns.

ECONOMIC ACHIEVEMENTS → CONTRIBUTE TO THE DEVELOPMENT OF THE ECOLOGICAL ECONOMY.

- Enhance the value of degraded urban areas and increase property values in surrounding districts.
- Position the Bosque Urbano Málaga as a hub for “slow tourism” aligned with the tranquility of natural spaces, local culture, landscapes, and commerce.
- Create a friendly environment for local businesses, promoting sustainable growth and retaining wealth and heritage in the area.

ENVIRONMENTAL ACHIEVEMENTS → PROMOTE A SPACE OF NATURAL INTEREST.

- Significantly increase green areas in a zone under high urban pressure (population and building density; scarcity of green spaces).
- Support biodiversity and the conservation of native species, restoring degraded ecosystems.
- Improve citizens’ quality of life by promoting a high-quality environment and healthier microclimate (reducing the urban heat island effect, air pollution, etc.).

<https://bosqueurbanomalaga.org/objetivos/>

Proyecto BUM BOSQUE URBANO
Un pulmón verde en Málaga

Bosque Urbano Málaga es una plataforma ciudadana que aboga por convertir en una auténtica área forestal los terrenos que en su día estuvieron ocupados por los antiguos edificios de Repsol, en Málaga capital.

El mayor espacio natural de Málaga
Poblado con especies vegetales autóctonas mediterráneas, el Bosque Urbano podrá convertirse en uno de los mayores espacios naturales de la ciudad, con un área equivalente a 25 veces el área del Estadio de la Rosaleda.

BOSQUE URBANO 177.000 m²

PARQUE DE HUELIN 65.000 m²

EL PARQUE 60.000 m²

¿Dónde se emplazaría el bosque urbano?
El espacio se sitúa entre los distritos de Cruz del Humilladero y Cameraria de Cádiz, dos de las zonas más densamente pobladas de Europa. La plataforma quiere situar a Málaga en la lista de las grandes capitales europeas, que ofrecen a sus ciudadanos impresionantes espacios de ocio y biodiversidad tales como Hyde Park o el Riego.

Reserva de espacio para una óptima red social, fidei como puntos urbanos o áreas destinadas a espacios futuros.

Máxima permeabilidad arquitectónica.

Cercanía y sentido de pertenencia para vecindades y ciudades.

Integrada e ilustrada por el diseñador Diego

¿Qué especies podrían poblar el Bosque Urbano?

Encino Altura: 25m Hoja: Perenne Fruto: Bellota	Olmo Altura: 10m Hoja: Caduca Fruto: Semilla	Pino piñonero Altura: 30m Hoja: Perenne Fruto: Piñón	Algarrobo Altura: 10m Hoja: Perenne Fruto: Algarroba	Chopo Altura: 20-30m Hoja: Caduca Fruto: Cáliz verde	Jara Altura: 1-3m Hoja: Perenne Fruto: Cáliz verde	Lentisco Altura: 1-6m Hoja: Perenne Fruto: Uña de gato
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BUM Proposal <https://bosqueurbanomalaga.org/proyectos-tecnicos/>

Meanwhile... planting, watering, trash collection, activism...



Homework!

“No hay mal que por bien no venga”

There is not a bad thing that do not comes for a good reason...

We invite you to watch the second episode “Se vende - Cap. 02 / La posibilidad de un bosque” (*The possibility of a forest*) to **deep in the conflict of BUM**. You are also invited to read some or all the texts included in this booklet for better understanding the general context of the workshop and the reality of the place we will work on. **Then you should build up an A3 with your thoughts and reflections to discuss the first day!** You are asked to submit it in pdf format at the following mail **before August 28th**: sarpe.uma@gmail.com



https://www.youtube.com/watch?v=Let3Vllir_k&ab_channel=DanielNatoli

« “Se vende” is a documentary series about the impact of tourism and real estate development on La Costa del Sol and the fight of various social movements for an alternative future.

Throughout the entire coastline of Málaga province, we find numerous urban, environmental, and socioeconomic conflicts, all sharing a common denominator: they revolve around large tourism and real estate development projects.

“Se vende” is an audiovisual mapping of this coastline, an approach to the territory through the eyes of its own inhabitants. Stories of resistance, fight, and hope in pursuit of a different model of city, a different land management policy, and another way of inhabiting the world. »

Discover more at <https://periphemia.tv/>



Goals of the Summer School

“Quien siembra, recoge” *You reap what you sow*

O1 Raise awareness of the project among the citizens of Málaga, as well as other universities and European research communities, fostering the exchange of knowledge and good practices.

O2 Support the claims and objectives for the use of the space, strengthening the arguments and presence of Bosque Urbano in institutional forums.

O3 Provide students with an innovative, hands-on learning experience that connects theory and practice in the management of spaces such as the urban forest.

O4 Generate direct impact on the local community through participatory activities that promote the defense and sustainable enjoyment of the environment.

*At the end of the document we leave you some **reading texts** to better prepare for homework.

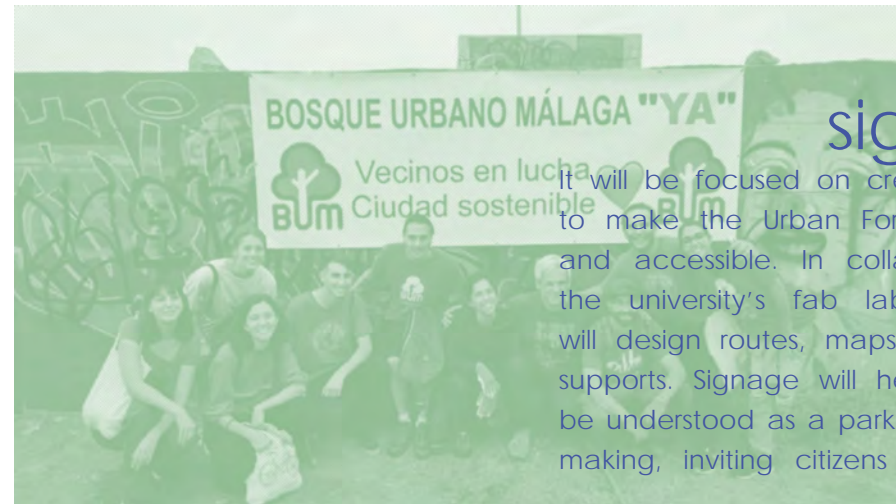


Working Groups

"Del dicho al hecho hay un trecho"

From saying to doing, there's a long way to go.

The Workshop will invite students to engage in reflection and action around the site envisioned as a major urban park. It will be organized into three groups: Advocacy, Signage, and Construction, exploring communication, visibility, and physical interventions. Each participant will choose their group on the first day, according to their interests. The workshop will be a practical and collaborative space to imagine, experiment, and give real presence to the idea of an urban forest. It is understood not only as a future project but as an urgent need for the city of Málaga today.



signage

It will be focused on creating signage to make the Urban Forest site visible and accessible. In collaboration with the university's fab lab, participants will design routes, maps, and graphic supports. Signage will help the space be understood as a park already in the making, inviting citizens to explore it.

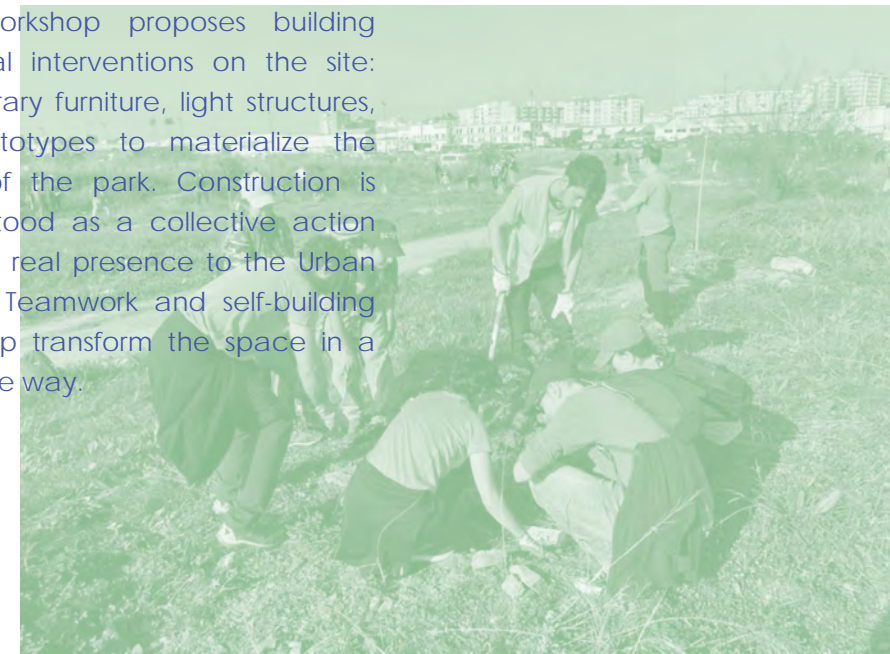


advocacy

This group will explore communication strategies to spread the idea of the Urban Forest. Participants will design graphic materials, social media messages, and maybe physical urban actions, while also engaging in conversations with local residents. The goal is to connect with citizens and spark debate on the importance of a large green space in Málaga.

construction

This workshop proposes building physical interventions on the site: temporary furniture, light structures, or prototypes to materialize the idea of the park. Construction is understood as a collective action to give real presence to the Urban Forest. Teamwork and self-building will help transform the space in a tangible way.



Program

SUNDAY, AUGUST 31

- 17:00. **Registration**
La Casa Invisible
- 17:30. **Intro to Summer School Málaga 2025**
Urban Repair:
Designing with/for More-Than-Human Life
La Casa Invisible
- 18:00. **Reclaiming the Commons:**
Citizen Action and the Struggle for the Urban Forest
La Casa Invisible
- 18:10. **Conference *Daniel Natoli. Revealing the city.***
La Casa Invisible
- 18:30. **Conference *Javier y Ana. El Bosque Urbano: eje de un cambio innegociable.***
La Casa Invisible
- 18:50. **Student Presentations**
La Casa Invisible
- 19:20. **Debate**
La Casa Invisible
- 20:00. **Dinner**
La Casa Invisible/Patio

MONDAY, SEPTEMBER 1

- 09:00. **BUM Site Visit**
Voices of the Urban Forest and Its Neighbors
BUM (Bosque Urbano Málaga)
- 11:00. **Dynamics Mapping the voices of the forest**
Neighborhood Association's
- 12:00. **Group Formation**
Neighborhood Association's
- 12:30. **Fieldwork**
BUM (Bosque Urbano Málaga) Site
- 13:30. **Lunch**
Neighborhood Association's
- 15:00. **Conference *Basurama In love we trash***
Neighborhood Association's Hall
- 17:00. **Group Work Session**
Neighborhood

TUESDAY, SEPTEMBER 2

- 09:00. **Group Project Presentations & Feedback Session**
School of Architecture (eAM)
- 11:00. **FabLab Safety & Carpentry Demonstration**
eAM
- 12:00. **Conference *Arquitectura Expandida: Urban Negotiations***
eAM
- 13:30. **Lunch**
School of Architecture (eAM)
- 15:00. **Conference *Jesús Bellido López: Beyond the trees: the BUM and its benefits for Málaga.***
eAM
- 17:00. **Group Work Session**
eAM
- 19:00. **Free Time**

WEDNESDAY, SEPTEMBER 3

- 09:00. **Project Work / Assembly**
School of Architecture (eAM)
- 13:30. **Lunch**
eAM
- 15:00. **Project Work / Assembly**
eAM
- 18:00. **Exhibition Opening**
SARPe Exposition
eAM
- 19:00. **Project Work / Assembly**
eAM
- 20:00. **Free Time**
- ## THURSDAY, SEPTEMBER 4
- 09:00. **Final Project Work / Assembly**
School of Architecture (eAM)
- 13:30. **Lunch**
eAM
- 18:00. **Final Presentations & Planting Ceremony**
BUM (Bosque Urbano Málaga) Site
- 20:30. **Workshop Closing**

URBAN REPAIR: DESIGNING WITH/FOR MORE-THAN-HUMAN LIFE
CONFERENCE

JAVIER Y ANA.
**El Bosque Urbano: eje de un
cambio innegociable**

La Casa Invisible
SUNDAY 31st AUGUST, 18:30h.



Francisco Javier López holds a degree in Journalism and a degree in Fine Arts, and works as a Secondary and Baccalaureate teacher at a public high school. A **founding member of Bosque Urbano Málaga**, since 2016 he has maintained his active involvement with this citizens' platform, which advocates for the creation of a 17.7-hectare green area between the districts of **Cruz de Humilladero** and **Carretera de Cádiz**.

Ana Ferrer holds a degree in Advertising and Public Relations, a PhD in Fine Arts, and works as a cultural manager. She has volunteered with social and environmental organizations such as Málaga Acoge and Apariv (Rincón de la Victoria Animal Protection Association). She is a founding member of **Bosque Urbano Málaga**, with which she has been actively involved since 2016.



URBAN REPAIR: DESIGNING WITH/FOR MORE-THAN-HUMAN LIFE
CONFERENCE

DANIEL NATOLI. **Revealing the
city.**

La Casa Invisible
SUNDAY 31st AUGUST, 18:10h.

Daniel Natoli (Málaga, 1987). An architect from the University of Málaga, since 2016 he has been developing documentary and non-fiction projects that focus on the city and its territory, blending urban studies with the possibilities of cinematic language.



His films have been featured in numerous national and international film festivals, such as the Málaga Film Festival, the Sevilla European Film Festival (SEFF), CINEMED in Montpellier (France), ALCINE, Intersección, and the New Andalusian Cinema Festival, among others. In 2021, four of his works were finalists in the 15th Spanish Biennial of Architecture and Urbanism (BEAU). Since 2020, he has been part of the teaching staff of the Master's Degree in Image and Communication of Architecture (MICA) at the Málaga School of Architecture (eAM).



URBAN REPAIR: DESIGNING WITH/FOR MORE-THAN-HUMAN LIFE
CONFERENCE
BASURAMA. IN LOVE WE TRASH

Asociación de vecinos "La Cooperación" Cruz de Humilladero
MONDAY 1st SEPTEMBER, 15:00h.



Mónica Gutiérrez, possibly Simone Weil's niece ;) ... she is passionate about swimming, jam, and broccoli. She studied Environmental Sciences and later completed two master's degrees, one in International Cooperation and another in Cultural Project Management. In parallel, she became involved in the cultural world through music, founding Fikasound (a cultural association promoting Swedish music in Spain) and as part of the collective MaryMuffins DJ SoundSystem. She is currently a member of Basurama, a collective that has been working for over 20 years at the intersection of art, architecture, and the environment. A creator, producer, and cultural manager, she specializes in mediating artistic projects that reflect on processes of production, consumption, and waste, as well as urban construction and design. She was a fellow at the Royal Academy of Spain in Rome in 2022. Her work aims to propose new imaginaries and generate narratives that hybridize knowledge, beings, and places to imagine better worlds for all.

Basurama is an art, architecture, and environment collective founded in 2001, focusing on the city and the complex processes that coexist within it. It uses waste in its broadest sense as a starting point, a means, and an end to envision and create new possibilities. Networked work, active participation, valuing local resources, and creativity are key to developing projects for social transformation. The collective has received numerous awards, including the Daniel and Nina Carasso Foundation's Committed Artist Award, the Curry Stone Social Design Circle, UN-Habitat Innovative Practices on Waste Education, the Graffica Award, the 2024 Ibero-American Design Biennial, and has been a finalist for the Innovation in Politics Awards and the Le Monde Urban Innovation Awards.

Basurama has carried out over 150 projects in 40 countries, including collaborations with Museo Reina Sofia, BMW Guggenheim Lab, Victoria & Albert Museum, Calouste Gulbenkian Foundation, World Design Capital Taipei 2016, World Design Capital Cape Town 2014, Philadelphia Mural Arts, AECID Spain, La Casa Encendida, Zürich Kunsthalle, Casa DAROS Rio de Janeiro, SESC São Paulo, Matadero Madrid, CaixaForum, Museo Thyssen-Bornemisza, Museo Nacional del Prado, Suzy-Noto Triennale, Seoul Design Week, Bochum Schauspielhaus... as well as many self-initiated projects.



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CONFERENCE

ARQUITECTURA EXPANDIDA. Urban Negotiations

Escuela Técnica Superior de Arquitectura de Málaga (eAM).
La Grada.
TUESDAY 2nd SEPTEMBER, 12:00h.

Based in Bogotá since 2010, operates at the intersection of art, architecture, urbanism, activism, and grassroots social movements, focusing on research, exploration, and the creation of alternative spaces for experimental governance, citizen participation, and self-management in public spaces.

Their work has been recognized by the Centre Pompidou (FR), the Royal Academy of Arts in London (UK), the Headlands Center for the Arts in San Francisco (USA), the Mao Jihong Arts Foundation (CN), and the Venice Architecture Biennale (IT), among others.



Guests:
Ana López Ortego
Harold Guyaux

URBAN REPAIR: DESIGNING WITH/FOR MORE-THAN-HUMAN LIFE
CONFERENCE

JESÚS BELLIDO LÓPEZ: BEYOND THE TREES: *the BUM and its benefits for Malaga.*

Escuela Técnica Superior de Arquitectura de Málaga (eAM).
La Grada.
TUESDAY 2nd SEPTEMBER, 15:00h.



PhD in Biology, researcher and project manager, committed to the conservation and restoration of nature. His career spans from marine research to environmental education, the promotion of volunteer work, and project management, always integrating communication as a key tool for change. An active volunteer in eco-social causes, he collaborates with initiatives such as the Bosque Urbano de Málaga (BUM), the Ecosocial Platform Laudato Si Málaga, and Cáritas Diocesana de Málaga, working for a fairer, more supportive world with plenty of nature.



Logistic

"El que busca, encuentra" The one who seeks, finds.

TRANSPORT

How to get around the city

Public transport in Málaga consists of buses, the metro, and bicycles. Bus and metro fares are cheaper if you buy transit cards. A transit card can be used by several people, so you can buy one to share or for personal use, whichever you prefer. You can buy these bus transit cards at various locations throughout the city: at the Empresa Malagueña de Transportes in downtown Málaga (Alameda Principal, 47), from 8:30 a.m. to 2:30 p.m. There are other locations near where you will be sleeping: Avenida Carlos Haya, 61; Avenida Santa Rosa de Lima, 22; Avenida Carlos de Haya, 82, among many others. You can buy the metro card directly at metro stations, at charging points located at the entrance to each stop. You can also find the bus **app (EMT)** and the metro **app (Metro Málaga)**; here you will see waiting times, routes, bus lines and stops.

How to get to...

There are two major interchanges in the city: one is in the city center and the other is the María Zambrano train station. Here are the public transport routes to get to the main points of the workshop.

To get from the **airport** to the city. There is a bus line (A) that runs through the airport, train station, and city center. It has a special fare of 4 euros. Another option is to take the C1 commuter train line.

From the city center to the **Inturjoven Hostel**. The L1 metro line leaves 9 minutes from the hostel. There are several bus lines that arrive nearby: 8, 11, 14, 21, 23 and 31. At night there are two night bus lines that also stop nearby: N2 and N4.

From the Inturjoven Hostel to **BUM**. There are three bus lines: 15, 20

and 31.

To get to the **School of Architecture**. Only the bus arrives here and only some lines: 1, 37, C1 and C2.

To get to the **BUM**. There are some bus lines to get there: 1, 15, 20, 22 and 31. There is also a metro stop (L2) just below the BUM called Princesa-Huelín.

THE WEATHER

Málaga is a hot city in summer; temperatures can reach almost 40 degrees Celsius, and we have many hours of sunshine. It's important to avoid physical exertion or sun exposure during peak hours, and to stay hydrated. That's why we'll be distributing **hats** and **fans** to everyone and recommending that you bring **water bottles** to refill. We've also planned activities to keep us protected from the sun during the hottest hours. And remember to bring your swimsuit; after work, we deserve a swim in the sea :)

Links of interest

Camposaz. "Non-profit association based in Italy that promotes and organizes 1:1 wood DIY workshops."

@sarpe_network on Instagram. Official Instagram account of the SARPe project.



Interactive map

We've created a map where you can find the spots in the city we'll be visiting or working on. We've also marked spots we think are interesting to visit or explore during free time during the workshop.

Link to map: <https://www.google.com/maps/d/u/0/>

*Reading texts for Homework

TEXT 1. LA DISCONTINUIDAD ARTÍSTICA Y LO SIN-SENTIDO

DE LA DISCONTINUIDAD CONFIGURATIVA DEL OBJETO ARTE EN LA PRODUCCIÓN DE SENTIDO, AL CORTE Y CO-PRESENCIA DE LO SIN-SENTIDO EN EL PROYECTO ARTÍSTICO

Iñigo Cabo Maguregui

PhD Thesis, Universidad del País Vasco, 2017

<https://addi.ehu.es/handle/10810/24227> (Spanish)

[Excerpt from chapter] 9.3.B Co-reality: Welt – Umwelt. (world – un-world) Human / Post-human.

The universal and the particular (co-agency): Third impulse. Third (co)reality.

The relationship between the universal and the particular, as seen by Biosemiotic theory, is like the relationship between the *Welt* (the World and the mental image of the world) and the *Umwelt* (the environmental surroundings in which each species and organism creates its own image or perceptual and sensory relationship to the world based on their respective marks of it, generating different behavioral patterns; established through the interaction between the different individual and biological particularities of each unique organism, forming what is called the *semiosphere*—the co-agency and co-perception of the universal world among particular and different organisms).

This relationship between the universal and the particular can also be seen as—the *ideal and the Real*—(as we previously discussed regarding P. Huyghe’s scenic forest: a co-reality between linguistic and spatial representation with the nonsense imported from the forest and its random routes; then moving out of that symbolic image-architecture and heading—exporting from the subject’s

projection—beyond the indications of language and the defined spatial-temporal orientation, to a non-place—symbolic-projectual, undefined—or a possible real place—open and universal—emerging from each singularity and particular decision); as we analyzed in section 9.1.E, with the work exhibited in dOCUMENTA (13): *Forest (For A Thousand Years)*, by Janet Cardiff & George Bures Mille (2012), where the concepts of the universal and the particular (Schiller) remind us here of a key difference between the movement of that work and *A Forest of Lines* by Huyghe: Nature to the stage (displacement of nonsense—Huyghe) / The stage to nature (displacement of Sense—Cardiff & Bures Mille).

Starting first from the formal similarity of these two works due to their respective audio-voice inserts in a forest, in *A Forest of Lines* by Huyghe, nonsense is displaced towards the stage of representation and performativity to produce a transformation of the given and represented reality. Nonsense is incorporated into the constructed image of the stage and made evident, but it is not suspended, since in that scenic time the living organism performs—in addition to the ephemeral and episodic scenography it constitutes—an ekphrasis or description of its own potential, an indication of its essentiality, being derived to a function or capacity to produce discontinuity in the path and reading of the image and a break in the performative statement—one that is not fully completed as it is absorbed by the indication of the voice and by the ekphrasis of its interpretive role or decided function (even though, as Huyghe attests, the organism grows autonomously from its application: “The entities that inhabit them are partly real and partly fictional, partly signs or symbols, but they are still living organisms, whether it be a human, an animal, or a plant. (...) they are organic living entities—just like the fish in the tanks. They grow on their own. (...) The symbolic ecosystem is growing without a narrative anymore. It’s a physical and mental landscape.” and hence its condition as *Umwelt* as a biosphere of contact with presubjective immanent Sense)—while the real nonsense remains outside—undecided:

being fully nonsense as long as it remains undecidable—outside that stage, awaiting nothing (except sunlight, water, and carbon dioxide) and indifferent to the final outcome of the representation of the *Umwelt*—which occurs in that staged image over what was also once nonsense, but which has already been decided and displaced from its free nature. The Other, external and unsignified, transforms independently, unchanged by the start of the journey or by the opening of the audience-spectators to the freedom that its real nonsense holds.

On the other hand, in *Forest (For A Thousand Years)* by Cardiff and Bures Mille, it is the artistic object and human enunciation, the sound installation and the subject's interpretation, that are moved (as artifice not belonging to a real place) into the natural space of the forest and into co-presence with nonsense, where in this real nature the configurative discontinuity of the discourse and its composition and identification is cut, with the Real transforming—and discontinuously suspending—performativity and ontology.

Since both works construct a situation that transcends formulation into a possibility of co-agency between symbolic performative language and the generation of its image and projection of the self, with the nonsense and evolving existence of nature, they become an encounter and contact between artificial human representation and non-human nature, the construction of a third reality from the co-agential encounter between the symbolic and the natural. It is worth noting here that what is being produced in both cases is—as constructed situations—a landscape:

TIRAVANIJA: (...) Pierre? Maybe this whole project is a portrait of you.

HUYGHE: [laughs] I have been revealed.

TIRAVANIJA: You've been caught.

HUYGHE: Truthfully, I'm not sure that is correct but I love that

interpretation—that we artists never go out of self-portrait. (...)

TIRAVANIJA: It seems like one constant in all of your projects is that you're building a landscape.

HUYGHE: That's true. I've never thought so much about that aspect, but you're right. I've recently done a garden, a seascape, a museumscape. . . ."

And only leaving that same landscape and self-portrait, through the cut that artistic discontinuity produces in representation and performativity, will allow the germination of a time freed from induced representation (from the agency proposed by an author), so that agents can move from their condition as spectators or witnesses, and from their co-agency in an intricate stage of Sense with nonsense, toward a non-configured time and space in which their actions begin their liberation from that post-stage, or exit from a point-0-, given by the cut and neutralization of a priori symbolic systems, with each agent carrying out from start to finish their own co-agential insertion in each respective *Umwelt*, truly particularizing their universal co-existence.

—As Enrique Vila-Matas writes (quoting Franz Kafka's Diaries -1912-): "the gap that the brilliant work leaves when it burns what surrounds us will always be a good place to light one's own small light."

What we are proposing here, from artistic discontinuity, is that the artist opening their work in a liberated project should not always propose a situation over a landscape based on their individual self and their scopic drive, or their social self and its agency; but rather that their proposal could be the real exit from the same landscape of their self through its cutting, to enable human and non-human co-agencies, and liberated constructions arising from having split the self from each situation and its ontology—with its corresponding indication or planning—a cut that cannot be, as

Huyghe investigates, exhausted by discourses:

“RP: I’m thinking of *The Day of the Eye*, *The Forest* at the Sydney Opera House, the piece at dOCUMENTA (13). Do you see yourself as a storyteller?”

PH: I think this matter of narration is entering my work less and less. I was interested in the way an object can exist only through interpretation or commentary about the object, this sedimentation of discourses about it, contrary to the inflated balloon of narratives and the way it has spread in society, politics, products, where everything has to be narrated or a myth has to be invented, the storytelling. Now I’m more interested in the absolute, a truth, a literalness. I’m trying to think about something that cannot be exhausted by discourses.”

This idea of Truth (equal to that of beauty), only objective in the absolute literalness and undecidability of entities, beings, and nonsense phenomena, in whose testimony we observe the beauty of reality (and intuit the Real), is what requires, for its access, the neutralization in both cases of the causal displacement from nature to the stage and the displacement from the artificial to the natural, as we saw in relation to—step 7 of the base methodological procedure of artistic discontinuity:

Step 7. Deconfiguration of the configurative discontinuity. Neutralization.

Transferring natural objects or artificial elements to an artistic space, without further manipulation (a direct *readymade* or a displaced *readynatural*), makes the common nature of the objects and entities more evident, and makes our ontological and especially symbolic presence and gaze more constant and intense.

Transferring an artificial object to a natural space highlights its artifice and reaffirms our ontological vision and the negativity of the symbolic. The change of context manifests the dialectic and

dichotomy between object or entity and symbolic space; symbolic production and ontological culture have advanced to such an extent that any autonomous situation is read and observed as displacement, a differential emission of the configurative discontinuity of the object or entity we observe, a human operation restricted by intention and causality. To deconfigure this type of action it is necessary to sever the anthropological, to sever the subjectivity of the act itself. Whether in a natural space or in a configured artistic space, the experience of the receiver must take place live—again each time—the accumulation and co-presence of objects and entities must be subject to the passage and change of the temporal and the ontic phenomena, as in *Untilled* by Huyghe, where only the direct perception of witnessing a natural moment in which the ontic resizes all that is ontological and symbolic (including the *readymades* and nominalism—as in the dog named ‘human’ and marked as a domestic sign-entity by the gesture of human representation—a displacement of the biosemiotic or a *readynatural*), where bacteria act at their own space-time level, as do insects, pollination, germination, and plant growth, where the day passes with the sunlight, its presence and setting, where our observation is isolated and resized, from an outside that reassigns us as beings, living units, and social collective in the semiosphere, where our meaning is only molecular and co-agential in the biosystem.

Huyghe, attending to this difference between configurative displacement and liberating movement, proposed in *A Forest of Lines* the opening of the work:—from each of the non-linear paths that each subject chooses to take outside of the predefined representation—also leaving the staging of nonsense—for a possible later encounter with the natural, external, and undecidable nonsense (not displaced to representation), or of unforeseeable decision and infinite possible permutations of the subject; the *Open Work* as a proposition of co-presence and co-reality and the beginning of an *Open present* of (other) freed agency and

Sense—towards other free, non-human, or non-personological agencies—the open possibility of the truly discontinuous, the desire for an alternative to proform, continue, and realize an existence also liberated from its natural disjunction (regarding the Sense—and Nonsense—of the same existence):

“AD: And perhaps also open up literal space, because if you go to the end of the journey then...

PH: If you make the journey, the work (open work) starts to exist. For the moment, no one has experienced it. People have seen the prologue, walked through its score. An exhibition is not the end of a process. It is a 'mise en route', as with *The Association of Freed Time. A Forest of Lines* is an opening for something else.”

Opening and freeing time is therefore opening the subject's own displacement towards the general (or universal) representation and opening it from the same work (particular) as displacement of the subject's projection. Situating—as Vila-Matas summarizes regarding dOCUMENTA (13)—artists themselves before their possible separation and that of their work: “Boston (or perhaps Chus Martínez—in one of her discontinuous characters in fiction—) said that she had uttered the key word, since precisely Carolyn Christov-Bakargiev and Chus Martínez's Documenta wanted to deploy all its heavy artillery on the idea of displacement, to place artists outside their usual cerebral domains.” (...) “Kassel had infected me with creativity, enthusiasm, short circuits in rational language, fascination at moments and discontinuities that sought meaning in the illogical to create new worlds.”

Displacement is thus not from the particular (the self or its object of representation) to the universal (both the material and immaterial universe of nonsense and the ideal—human—universe of Sense), nor vice versa, as we have seen in the previous works, but in this very relationship in which collapse and recovery can occur at the same time in a discontinuous way and not in their consecutive

and consequential order—that is, the cut of Nonsense in Sense can occur while both systems are active, suspending Sense and the subject's emission to observe a possibility of co-agency from that co-presence—neutral and independent of both—between the universal and its particularities [here the particle that quantum physics analyzes in its multidimensionality and possibility of a multiverse in which we would only be in one of its physical and temporal realities—also considering the demonstration of Anton Zeilinger's teleportation exhibited in Documenta 13, in which the information of one photon can be transferred instantly to another photon in another space, opening the quantum possibility of transferring the information—non-material properties—of an original entity to another (which becomes the original) in two different spaces, determining that it is observation that creates the identity of an original—, discarding the relationship of quantum physics with biocentric theories of the universe] and the *res* or essential philosophical substance that Descartes distinguished in three classes:—God (or the ideal universal),—*res cogitans* (thought itself as existential substance),—*res extensa* (main attribute of thought which is its extension, treated in this research from the extension of representation and the archive—cultural/documentary—and the subject's scopic projection).

This opening of displacement—not in its two previous paths from one system to another but in the joint movement of both with their respective discontinuities—is thus the natural movement that the project with artistic discontinuity enables in the art object and in thought as representations, the cut in all orders of displacements that stage configurative discontinuities, and likewise the cut that allows the co-presence of the universal Nonsense (physical dimensions) with the universal Sense (deferred infinity), both made from their respective particularities, as we said with Mladen Dolar:

“I have this conception of art, which is that art has to do with universality and infinity. It introduces something into the continuity

of being, into the continuity of our survival. A break. Which is a universal break. A break to universality. It can speak universally. What is important in art is not a question whether it is an expression of a certain individual or whether it is an expression of a certain ethnic group or nation or of a certain age. I think that the break is such that it makes the universal out of particularities. (...) The question of drawing a line, making a cut (artistic discontinuity) in the continuity of our animal or social being (*Umwelt* or biosemiotic co-agency in the *semiosphere*), of our finite being, that this is what defines humanity. I'm not saying that art is the only way to do this. I think thought (*res cogitans* and its *res extensa*) is something which does this also, it breaks with the conditions of its own production (cut in the very production of the work as idea or image of the open work)."

The treatment of the universal and respective particularities, the freed time in the space of performativity and representation, which is distinguished from free time or leisure episodically and configuratively indicated by the cultural time of economic production (including symbolic postproduction), moving in a non-displacement towards the open present of each of the particularities of each of the singular subjects who build the undefined and co-existential nature of freed Sense and free Nonsense; we can observe this, with its similarities and differences with respect to *A Forest of Lines* by Huyghe and *Forest (For A Thousand Years)* by Cardiff & Bures Mille, in the first part of the artistic project of this research—*Artists Working: Crossover Atxabiribil*—a constructed situation (and living situation) in which displacement to the open space of nature is not carried out here with the intention of directing the viewer towards a performative encounter between the artistic object and its evocation of Sense with the nonsense of another living organism, but rather the original idea of this first *Artists Working* project was to place as artists...

TEXT 2. WHO DESIGNS WITH US? THE FUTURE OF DESIGN ALSO SPEAKS NON-HUMAN.

Laura Traldi. 27 May 2025

Interni <https://www.internimagazine.com/features/interviews/progettare-con-la-natura-e-lai-il-futuro-del-design-e-more-than-human/>

What is meant by Design More Than Human?

Elisa Giaccardi: «More Than Human is a design approach that extends the concept of design to non-human agents, both from the natural world - such as microorganisms, plants and animals - and from the technological world, such as algorithms or forms of artificial intelligence. This approach recognizes these agents as an active part of the design process: entities capable of producing effects that must be analyzed, understood and integrated into the work conducted by human beings. In fact, More Than Human pushes towards overcoming the anthropocentrism that has traditionally characterized design.» And rightly so. Design was born to respond to human needs and desires, often in contrast with industrial logic. But today, faced with the complexity of current challenges, anthropocentrism is a limit to be overcome» Especially in the context of sustainability, where nature is often considered a resource to be managed, engineered and optimized exclusively for the benefit of humans.

But in an ecosystemic world, every agent - human and non-human - has a fundamental role, not in terms of subordination, but of interdependence.

An example is bioengineering, which often treats life forms such as microbes or plants as tools to achieve human goals and, by privileging short-term optimization over long-term resilience, neglects their agency, their ecological relations and their well-being.

Similarly, nature-based solutions are often appreciated for the

benefits they offer to human infrastructure, such as flood control or urban cooling. However, this risks reducing ecosystems to simple services, ignoring their intrinsic value and their nature as cohabitants.

To go beyond this limit and free the project from an anthropocentric vision, it is necessary to codify a new approach and teach the change of mentality and method that it entails.»

What is the first necessary step to design in a More Than Human perspective?

Elisa Giaccardi: «Putting healthy and non-extractive relationships at the center of the design process.

Instead of man as the measure of all things - as in the Vitruvian model - we need to place the interdependence between the parts. This is also the approach proposed by the philosopher and cultural ecologist David Abram in his 1996 book *The Spell of the Sensuous*, where the concept of More Than Human was codified for the first time: decentralizing the human perspective and recognizing that our senses, our consciousness and our very lives are rooted in a larger world - made up of animals, plants and natural forces - with which we live in constant relationship.

Some call this approach life-centered or planet-centered. The focus is no longer on the human being at the center, but on life on the planet and our coexistence as the fulcrum of the project.» Isn't there an incongruity in the fact that, despite recognizing interdependencies, it is always humans who make design decisions?

Elisa Giaccardi: «Yes, there is. But precisely for this reason the challenge is to learn to listen to other forms of intelligence and give them a voice. It is not an easy task, but it is crucial. And the fact that these issues are at the center of attention today — even of the Architecture Biennale — demonstrates how urgent and relevant they are.»

TEXT 3. KOOZARCH MATTER MATTERS

<https://koozarch.com/interviews/an-intimate-relationship-olga-subirs-jia-yi-gu-kate-yeh-chiu-on-the-curation-of-process>

Jia Yi Gou

It was meant to challenge the idea that designers primarily engage in product-based work, shifting instead toward methods borrowed from media studies or histories of science — where procedures and operations are just as significant as the final material itself. As designers conduct these experiments, we wanted to examine the sequences involved — how do we differentiate between feeding a material and animating a material?

The process is the product. They emphasise that a feminist approach is deeply rooted in practice rather than fixed end results. Shifting away from viewing built work as the culmination of architectural knowledge allows us to focus on the operations, conventions, and ways of knowing that enable material exploration.

If you think about it, a new material doesn't simply emerge from a thought experiment — it moves through experimentation, testing, and moments of failure. Whether working in a laboratory, a yard, or in collaboration with knowledge workers in agriculture or biotech, these engagements happen in highly situated spaces and networks. We were keen to test new ways of understanding materials by reframing them as verbs. We've been calling this approach beyond the authored material, beyond the authored object— where material itself can be an event. How does material instantiate the many events that precede its presence in your hands? These are the kinds of questions we are still working through.

Olga Subirós

For example, Cris Noguer works with wood in a way she calls dissident matter — using timber that the industrial furniture sector rejects due to stains, cracks, unusual colours, or humidity changes over time. Rather than discarding this material, she embraces its evolving nature, crafting furniture that interacts with

its environment. People who own her pieces often find that they become integral parts of their homes, adapting and transforming over time, creating kinship. She resists the idea that varnishing should define material value — once something is coated, it loses its essence.

Kate YehChiu

Another approach — something I hadn't fully appreciated until this conversation — was the formatting of the labels themselves, where we foregrounded processes over objects. Each label was curated by our team, and prioritised a deliberate pairing of matter and action. For example, an object on display would be presented primarily as "laminated bimetal" or "machine-knit dreadlock," and secondarily as an artwork. By reframing objects through verbs, we challenged the typical museum setting, which often privileges completed works over dynamic material transformations. It was a unique way to redirect focus toward movement, agency, and embedded systems of change.

Exhibition views of Material Acts, Craft Contemporary, Los Angeles.
©Marc Walker/Courtesy Craft Contemporary.

OS

In my case, it's less about process and more about recognising that what the audience is seeing is an emergent moment of materiality — something that originates somewhere is moving somewhere else, and is happening now, in relation to other objects.

My strategy was not just to rely on texts on the walls but to situate each group of objects within a small narrative. There are 65 narratives, each functioning like another thing within the grouping of things, marking a deliberate transition from "thinking" about static objects to "thinging," as Tim Ingold proposes, emphasising active relationships and ongoing transformations.

I wanted visitors to shift their attention away from conventional

categories and instead engage directly with the physical presence of things.

The disaffection we collectively experience has led us to structural inequalities and the climate emergency. Re-engaging with affection means embracing the right to repair, understanding how design fosters communities, and recognising how collective narratives shape emotional heritage.

JYC

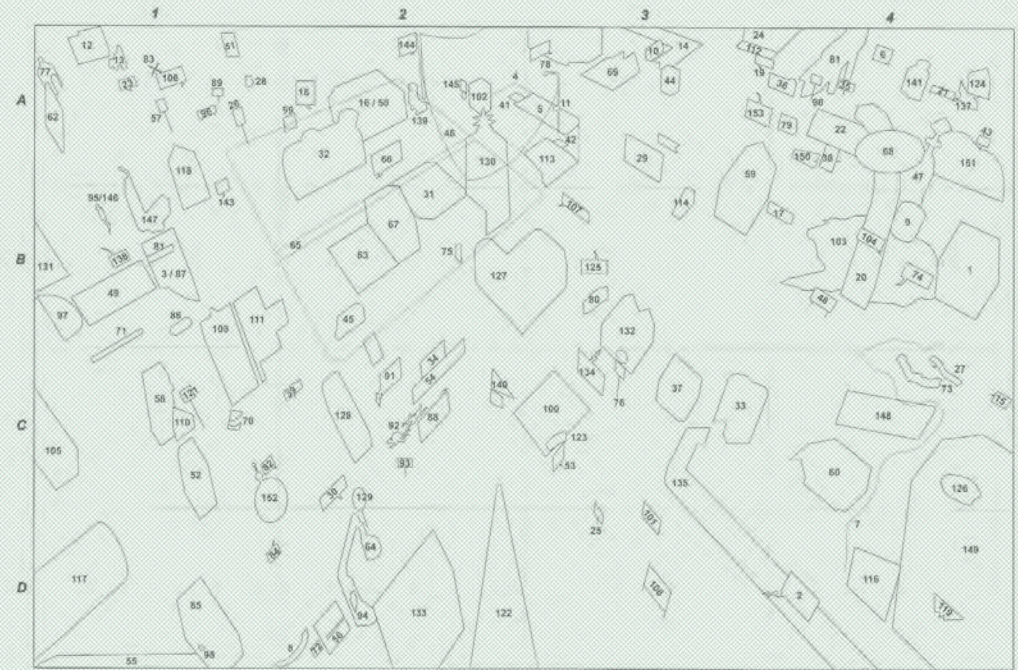
What is being made invisible? What are we failing to notice? How can we reorient our position in relation to the object of study so that we ask different questions? These questions also connect to philosophies of science, particularly the concept of the knower and the known — where we assume ourselves to be the knowers, and materials as the known. If we shift that assumption and interrogate what else we don't know, it can fundamentally change how we engage with materials.

TEXT 4. THE ARSENAL OF EXCLUSION & INCLUSION

Who gets to be where?

The Arsenal of Exclusion & Inclusion examines some of the policies, practices, and artifacts that have been used by planners, policymakers, developers, real estate brokers, community activists, and other urban actors to draw, erase, or redraw the lines that divide American cities. The aim of the project is to inventory these weapons of exclusion and inclusion, describe how they have been used, and speculate about how they might be deployed (or retired) to create more open, accessible cities.

The drawing above depicts all 153 weapons that are included in the current Arsenal. These weapons include everything from major infrastructures to small objects. They include policies that were once explicitly designed to enforce urban inequality, and policies that continue to shape the American urban landscape today. They also include smaller, more tactical attempts to restrict access to urban public spaces in subtle ways, without too much fanfare. Featured here are a few examples. This small sample includes rules (Sidewalk Management Plan) and artifacts designed to explicitly ("No Loitering" Sign) or implicitly (Armrest) control behavior in public space; objects related to past policy (Wall) and to everyday practice (Hoop); some tools targeting very specific people (Park) and some only perceptible by other specific people. You can find the full range in the book.

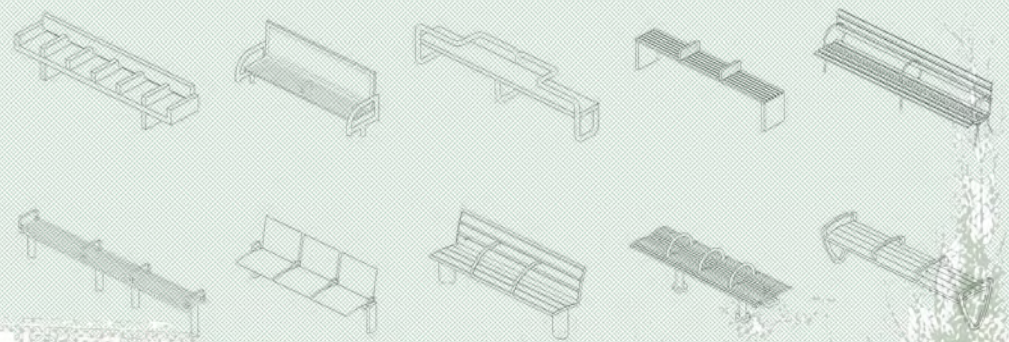
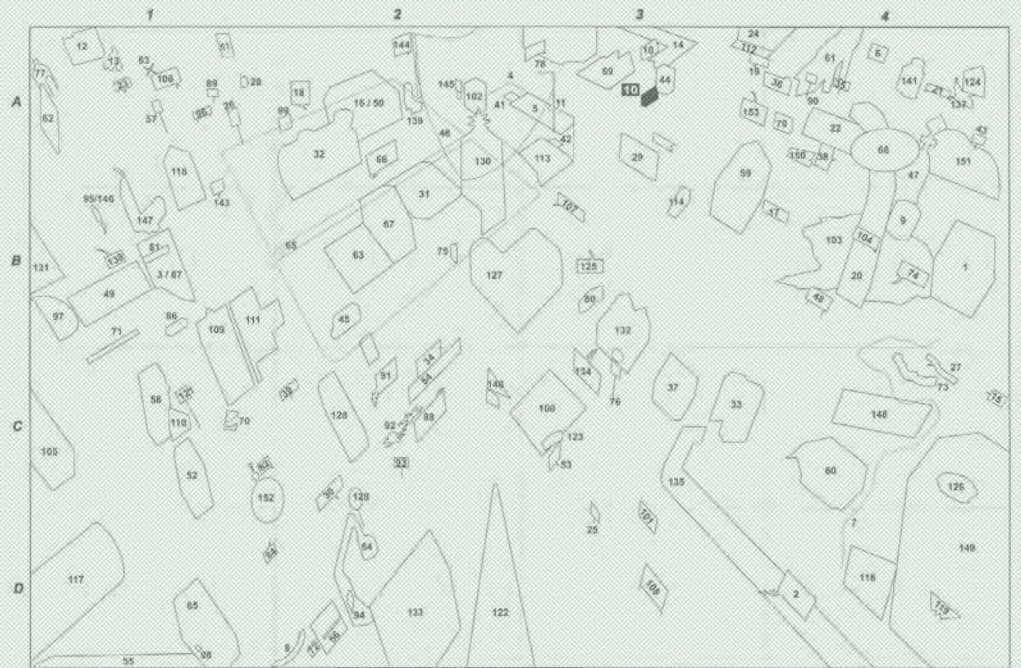


1. Accessory Dwelling Unit	B4	52. Farmers Market	C1	103. Public Housing	B4
2. Adverse Possession	D4	53. Feeding Ban	C3	104. Public Landlord	B4
3. Age-Segregated Community	B1	54. Fence	C2	105. Public Library	C1
4. Aging Improvement District	A2	55. Fence 2	D1	106. Public Trust Doctrine	A1
5. Americans with Disabilities Act	A3	56. Fire Truck	D2	107. Questionnaire	B3
6. Animal Zoning	A4	57. Fire Zone	A1	108. Quiet Zone	D3
7. Annexation	D4	58. Flat Fare	C1	109. Quota	B1
8. Anti-Snob Zoning	D2	59. Frat Ban	A3	110. Racial Dead Restriction	C1
9. Apartment Size	B4	60. Free Speech Zone	C4	111. Racial Steering	B1
10. Armrest	A3	61. Freeway	A4	112. Racial Zoning	A3
11. Audible Pedestrian Signal	A3	62. "Garage"	A3	113. Raised Crosswalk	A3
12. Beach Tag	A1	63. Garage Sale	B2	114. Ramp	B2
13. Beach Wheelchair	A1	64. Gate	D2	115. Redistricting	D1
14. Bike Lane	A3	65. Grid	B2	116. Regional Contribution Agreement	D4
15. Blockbusting	C4	66. Halloween	A2	117. Regional Tax Base Sharing	D1
16. Blood	A2	67. Home Value Insurance	B2	118. Rent Control	A1
17. Bomb	B4	68. Hoop	A4	119. Reservation	D4
18. Book	A2	69. Housing Court	A3	120. Residential Occupancy Standard	C2
19. Bouncer	A3	70. Housing Voucher	C1	121. Residential Parking Permit	C1
20. Bridge	B4	71. Immigrant Recruitment	B1	122. Residential Security Map	B2
21. Business Improvement Districts	A4	72. Inclusionary Zoning	D2	123. Residents-Only Park	C3
22. Busing	A4	73. Incorporation	C4	124. Right to Shelter	A4
23. Building Ban	A1	74. Insurance Redlining	B4	125. Saggy Pants Ban	B3
24. Buzzn'	A3	75. Jim Crow Laws	B2	126. Sanctuary City	C4
25. Camping Ordinance	D3	76. Juan Crow Laws	C2	127. School District	B2
26. Campus Shuttle	A1	77. Lactation Room	A1	128. Seating for Ticketed Passengers	C2
27. City-County Consolidation	C4	78. Laundry Ordinance	A3	129. Sewer	C2
28. Classical Music	A1	79. Lavender-Linn	A4	130. Shabbat Elevator	A2
29. Clean Zone	A3	80. Letter of Recommendation	B3	131. Sidewalk Management Plan	B1
30. Code of Ethics	C2	81. Limited Equity Cooperative Housing	B1	132. Single Family Zoning	B3
31. Cold Water	B2	82. Local Preference	C1	133. Single-Room Occupancy	D2
32. Common Interest Development	A2	83. Map	A1	134. Street	C3
33. Community Benefits Agreement	C3	84. Methane	D1	135. Skywalk	C3
34. Community Care Facilities Ordinance	C2	85. Mitchell-Lama	D1	136. Smoking Ban	C3
35. Community Land Trust	A4	86. Municipal ID	B1	137. Sprinkler	A4
36. Contract Selling	A4	87. Naturally Occurring Retirement Community	B4	138. Stop, Question, and Frisk	B1
37. Cottage Zoning	C3	88. Neighborhood Order of Protection	C2	139. Stroller-Free Zone	A2
38. Covenants, Conditions, and Restrictions	A4	89. "No Loitering" Sign	A1	140. Tax Increment Financing	C2
39. Cuddle-sac	C2	90. No-Cruising Zone	A4	141. Tenant Union	A4
40. Cultural Preservation	A2	91. Nuisance Property Ordinance	C2	142. Thirty-Day Limit	A1
41. Curb Cut	A2	92. Off-Leash Dog Park	C2	143. Traffic Island	A1
42. Detectable Warning Surface	A3	93. One-Way Street	C2	144. Ugly Law	A2
43. Dune	A4	94. Open Communities	D2	145. Ultrasonic Noise	A2
44. Elevator	A3	95. Parental Escort Policy	B1	146. Unaccompanied Adult Rule	B1
45. Eminent Domain	B2	96. Park	A1	147. Urban Renewal	B1
46. Erup	A2	97. Planned Unit Development	B1	148. Wall	C4
47. Exclusionary Zoning	A4	98. Pet Door	D1	149. Wall 2	D4
48. Expulsive Zoning	B4	99. Poster	A2	150. Water	A1
49. Fair Housing Act	B1	100. Privately Owned Public Space	C3	151. Wet Sand	A1
50. Family Definition	A2	101. Property	D3	152. Wetland	C1
51. Famous Person's House	A1	102. Public Bathroom	A2	153. Youth Curfew	A3

ARMREST

While a somewhat hackneyed example, the armrest on the park bench remains a straightforward illustration of how access to space can be controlled without much ado. The armrest is all the more insidious for how subtle it tries to be, masking its exclusionary intent as a utilitarian or decorative element of the bench's design.

Granted, for some armrests make benches more accessible by providing firm support for sitting and rising. Additionally, by creating a small buffer between bench sitters, armrests can produce a sense of Privacy Yet decorative armrests, specifically when installed at the midpoint of benches, can also fulfill a more sinister purpose: deterring unhoused People from sleeping in public spaces. Ubiquitous in urban parks and at bus stops, such armrests make benches impossible (or at the very least unpleasant) to lie down on.

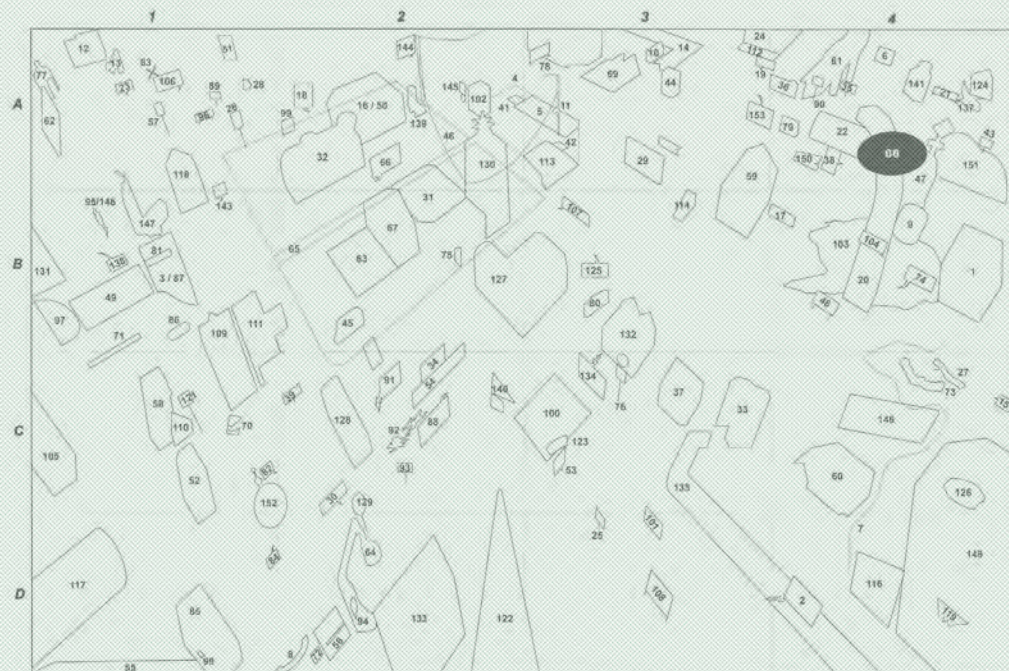


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|---|----|--|----|--------------------------------------|----|
| 1. Accessory Dwelling Unit | B4 | 52. Farmers Market | C1 | 103. Public Housing | B4 |
| 2. Adverse Possession | D4 | 53. Feeding Ban | C3 | 104. Public Landlord | B4 |
| 3. Age-Segregated Community | B1 | 54. Fence | C2 | 105. Public Library | C1 |
| 4. Aging Improvement District | A2 | 55. Fence 2 | D1 | 106. Public Trust Doctrine | A1 |
| 5. Americans with Disabilities Act | A3 | 56. Fire Truck | B2 | 107. Questionnaire | B3 |
| 6. Animal Zoning | A4 | 57. Fire Zone | A1 | 108. Quiet Zone | D3 |
| 7. Annexation | D4 | 58. Flat Fare | C1 | 109. Quota | B1 |
| 8. Anti-Snob Zoning | D2 | 59. Frat Ban | A3 | 110. Racial Dead Restriction | C1 |
| 9. Apartment Size | B4 | 60. Free Speech Zone | C4 | 111. Racial Steering | B1 |
| 10. Audible Pedestrian Signal | A3 | 61. Freeway | A4 | 112. Racial Zoning | A3 |
| 11. Audible Pedestrian Signal | A3 | 62. "Garage" | A1 | 113. Raised Crosswalk | A1 |
| 12. Beach Tag | A1 | 63. Garage Sale | B2 | 114. Ramp | B3 |
| 13. Beach Wheelchair | A1 | 64. Gate | D2 | 115. Redistricting | D2 |
| 14. Bike Lane | A3 | 65. Grid | B2 | 116. Regional Contribution Agreement | D4 |
| 15. Blockbusting | C4 | 66. Halloween | A2 | 117. Regional Tax Base Sharing | D1 |
| 16. Blood | A2 | 67. Home Value Insurance | B2 | 118. Rent Control | A1 |
| 17. Bomb | B4 | 68. Hoop | A4 | 119. Reservation | D4 |
| 18. Book | A2 | 69. Housing Court | A3 | 120. Residential Occupancy Standard | C2 |
| 19. Bouncer | A3 | 70. Housing Voucher | C1 | 121. Residential Parking Permit | C1 |
| 20. Bridge | B4 | 71. Immigrant Recruitment | B1 | 122. Residential Security Map | D2 |
| 21. Business Improvement Districts | A4 | 72. Inclusionary Zoning | D2 | 123. Residents-Only Park | C3 |
| 22. Busing | A4 | 73. Incorporation | C4 | 124. Right to Shelter | A4 |
| 23. Busking Ban | A1 | 74. Insurance Redlining | B4 | 125. Signage Paints Ban | B5 |
| 24. Butzer | A3 | 75. Jim Crow Laws | B2 | 126. Sanctuary City | C4 |
| 25. Camping Ordinance | D3 | 76. Juan Crow Laws | C3 | 127. School District | B2 |
| 26. Campus Shuttle | A1 | 77. Lactation Room | A1 | 128. Seating for Ticketed Passengers | C2 |
| 27. City-County Consolidation | C4 | 78. Laundry Ordinance | A3 | 129. Sewer | C2 |
| 28. Classical Music | B1 | 79. Livestock Lining | A1 | 130. Shabbat Elevator | A2 |
| 29. Clear Zone | A3 | 80. Letter of Recommendation | B3 | 131. Sidewalk Management Plan | B4 |
| 30. Codes of Ethics | C2 | 81. Limited Equity Cooperative Housing | B1 | 132. Single Family Zoning | B3 |
| 31. Cold Water | B2 | 82. Local Preference | C4 | 133. Single-Room Occupancy | D2 |
| 32. Common Interest Development | A2 | 83. Misp | A1 | 134. Siren | C3 |
| 33. Community Benefits Agreement | C3 | 84. Methane | D1 | 135. Skywalk | C3 |
| 34. Community Care Facilities Ordinance | C2 | 85. Mitchell-Lama | D1 | 136. Smoking Ban | B1 |
| 35. Community Land Trust | A4 | 86. Municipal ID | B1 | 137. Sprinkler | A4 |
| 36. Contract Selling | A4 | 87. Naturally Occurring Retirement Community | B1 | 138. Stop, Question, and Frisk | B1 |
| 37. Cottage Zoning | C3 | 88. Neighborhood Order of Protection | C2 | 139. Stroller-Free Zone | A2 |
| 38. Covenants, Conditions, and Restrictions | A4 | 89. "No Loitering" Sign | A1 | 140. Tax Incremental Financing | A2 |
| 39. Cui-de-sac | C2 | 90. No-Cruising Zone | A4 | 141. Tenant Union | C4 |
| 40. Cultural Preservation | A2 | 91. Nuisance Property Ordinance | C2 | 142. Thirty-Day Limit | C2 |
| 41. Curb Cut | A2 | 92. Off-Leash Dog Park | C2 | 143. Traffic Islands | B1 |
| 42. Detectable Warning Surface | A3 | 93. One-way Street | C2 | 144. Ugly Law | A2 |
| 43. Dune | A4 | 94. Open Communities | D2 | 145. Ultrasonic Noise | A2 |
| 44. Elevator | A3 | 95. Parental Escort Policy | B1 | 146. Unaccompanied Adult Rule | B1 |
| 45. Eminent Domain | B2 | 96. Park | A1 | 147. Urban Renewal | B4 |
| 46. Erve | A2 | 97. Planned Unit Development | B1 | 148. Wall | C4 |
| 47. Exclusionary Amentiy | A4 | 98. Poor Door | D1 | 149. Wall 2 | D4 |
| 48. Expulsive Zones | B4 | 99. Poster | A2 | 150. Water | A4 |
| 49. Fair Housing Act | B1 | 100. Privately Owned Public Space | C3 | 151. Wet Sand | A4 |
| 50. Family Definition | A2 | 101. Property | D3 | 152. Wetland | C1 |
| 51. Famous Person's House | A1 | 102. Public Bathroom | A2 | 153. Youth Curfew | A3 |

HOOP

In 2012, the majority white town of Springfield, New Jersey, nearly voted to dismantle its outdoor basketball hoops on the grounds that one of its parks was attracting out-of-town players-primarily young black males-who were allegedly monopolizing the courts, swearing, and harassing locals. "People are intimidated," one resident complained. "I used to look out of my window at a beautiful park with parents and kids playing soccer, now it looks like Rahway State Prison yard."

After some heated town hall debates, Springfield chose to keep its hoops. But a number of white suburban communities around the country have opted to remove theirs as a way to reinforce race, class, neighborhood and municipal divides. For example, numerous Illinois suburbs have torn down their hoops to "fend off fighting and swearing... curb noise... and limit violence" among visiting players from the South Side of Chicago who "don't pay for the parks." On the outskirts of Cleveland, the towns of Euclid and Lakewood-fol lowi ng neig h borhood complaints about disorderly non-residents-have removed every public outdoor basketball hoop. Although nearby Cleveland Heights hosts a handful of courts, they can only be accessed with a pass from the town's recreation department.



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8. Anti-Snob Zoning	D2	59. Frat Ban	A3	110. Racial Deed Restriction	C1
9. Apartment Size	B4	60. Free Speech Zone	C4	111. Racial Steering	B1
10. Armrest	A3	61. Freeway	A4	112. Racial Zoning	A3
11. Audible Pedestrian Signal	A1	62. "Garage"	A1	113. Raised Crosswalk	A3
12. Beach Tug	A4	63. Garage Sale	B2	114. Ramp	B3
13. Beach Wheelchair	A1	64. Gate	D2	115. Redistricting	B3
14. Bike Lane	A3	65. Grid	B2	116. Regional Contribution Agreement	D4
15. Blockbusting	C4	66. Halloween	A2	117. Regional Tax Base Sharing	D1
16. Blood	A2	68. Hoop	A4	118. Rent Control	A1
17. Bomb	B4	69. Housing Court	A3	119. Reservation	D4
18. Book	A2	70. Housing Voucher	C1	120. Residential Occupancy Standard	C2
19. Bouncer	A3	71. Immigrant Recruitment	B1	121. Residential Parking Permit	C1
20. Bridge	B4	72. Inclusionary Zoning	D2	122. Residential Security Map	D2
21. Business Improvement Districts	A4	73. Incorporation	C4	123. Residents-Only Park	C3
22. Busing	A4	74. Insurance Redlining	B4	124. Right to Shelter	A4
23. Busking Ban	A1	75. Jim Crow Laws	B2	125. Saggy Pants Ban	B3
24. Buzzer	A3	76. Joint Grow Laws	C3	126. Sanctuary City	C4
25. Camping Ordinance	D3	77. Lactation Room	A1	127. School District	B3
26. Campus Shuttle	A1	78. Laundry Ordinance	A3	128. Seating for Ticketed Passengers	C2
27. City-County Consolidation	C4	79. Lavender-Lining	A4	129. Sewer	C2
28. Classical Music	A1	80. Letter of Recommendation	B3	130. Shabbat Elevator	A2
29. Clear Zone	A3	81. Limited Equity Cooperative Housing	B1	131. Sidewalk Management Plan	B1
30. Code of Ethics	C2	82. Local Preference	C1	132. Single Family Zoning	B3
31. Cold Water	D2	83. Map	A1	133. Single-Room Occupancy	D2
32. Common Interest Development	A2	84. Mathano	D1	134. Siren	C3
33. Community Benefits Agreement	C3	85. Mitchell-Llama	D1	135. Skywalk	C3
34. Community Care Facilities Ordinance	C2	86. Municipal ID	B1	136. Smoking Ban	-
35. Community Land Trust	A4	87. Naturally Occurring Retirement Community	B1	137. Sprinkler	A4
36. Contract Selling	A3	88. Neighborhood Order of Protection	C2	138. Stop, Question, and Frisk	B1
37. Cottage Zoning	C3	89. "No Loitering" Sign	A1	139. Stroller-Free Zone	A2
38. Downspouts, Conditions, and Restrictions	A2	90. No-Cruising Zone	A4	140. Tax Increment Financing	C2
39. Cul-de-sac	C4	91. Nuisance Property Ordinance	C2	141. Tenant Union	A3
40. Cultural Preservation	-	92. Off-Leash Dog Park	C2	142. Thirty-Day Limit	-
41. Curb Cut	A2	93. One-way Street	C2	143. Traffic Island	B1
42. Detectable Warning Surface	A3	94. Open Communities	B1	144. Ugly Law	A2
43. Dump	A3	95. Parental Escort Policy	B1	145. Ultrasonic Hoop	A2
44. Elevator	B2	96. Park	A1	146. Unaccompanied Adult Role	B1
45. Embankment	B2	97. Planned Unit Development	B1	147. Urban Renewal	B1
46. Eruv	A2	98. Poor Door	D1	148. Wall 2	C4
47. Exclusionary Amenity	A4	99. Poster	A2	149. Wall 2	D4
48. Exclusionary Zoning	B4	100. Privately Owned Public Space	C3	150. Water	A4
49. Fair Housing Act	B1	101. Property	C3	151. Wet Sand	A4
50. Family Reunification	A2	102. Public Bathroom	A2	152. Wetland	C1
51. Famous Person's House	A1			153. Youth Curfew	A3

TEXT 5. Fitopolis, la città vivente

Stefano Mancuso

Editori Laterza

Selected excerpts from the book

Life in the city guarantees our species increased functionality in many areas: from energy consumption to transportation, from education to healthcare, from job opportunities to cultural opportunities, everything in an urban setting works more efficiently. At the same time, our distancing from our natural home is the main cause of many of the problems of modernity. To resolve this seemingly irreconcilable conflict between cities and nature, the cities of the future, whether built from scratch or renovated, should bring nature back into our new habitat, transforming cities into phytopolis, living cities where the relationship between plants and animals is closer to the relationship we find in nature: 86.7% plants versus 0.3% animals (including humans). This would mean allocating a large part of a city's surface area to plants, the exact opposite of what happens today. I cannot think of anything more important for the future of humanity than this: readjusting our relationship with other living beings. First and foremost, our relationship with plants. Animal life depends on plant life.

Much of what makes us human comes from trees. Not only because for millions of years our ancestors lived among their foliage, shaping their bodies in response to this green environment, but also because wood enabled them to build their first shelters and tools. Humans co-evolved with plants and have always lived in environments where plants represented practically the entire ecosystem. In evolutionary terms, the breaking of this bond is very recent.

In short, our relationship with plants is by no means limited to simple food or energy dependence, however you want to define it, but

is much deeper and involves a strong influence of plants on every aspect of our lives. Even when it comes to building or changing the way we understand cities, listening to those 20,000 generations that preceded us and for whom a forest was home can prove to be fundamental.

In a period of such drastic change, in which resilience and adaptability become fundamental values, imagining our cities as widespread organisms in community with the rest of the living world, in short, imagining our phytopolises built as if they were plants, could bring enormous benefits to our species and to the planet. The concept of the human being as the measure of all things—despite having no biological or scientific basis—has spread so widely and has been so important to our species that it has shaped almost every aspect of our civilization. In a sense, what is most striking about this idea is that it is based on completely false premises, yet our belief in it has truly shaped the reality around us.

In our rush to create everything in our own image and likeness, we have neglected to observe the functioning of countless other organisms, often much more effective, robust, and creative, that evolution has produced and tested over hundreds of millions of years.

As a rule, we always assume that the more choices there are, the greater the chances of finding the solution that best matches what we are looking for.

The enormous number of other living beings, non-human, that share the planet with us is something that can overload our brain's capacity to process data in an unsustainable way, so it is understandable why we do not see plants, fungi, or even animals, even though they are so similar to us. If we do not see their organizational models, those that have been successful from an evolutionary point of view, it is because our brain, thanks to a

simple and economical binary scheme, tends to simplify reality to fit within the confines of its limited computing capacity.

We apply the same predatory rule to other humans that we apply to every other living being: no one is our equal, and anyone outside ourselves is nothing more than a resource to be possessed without limit. This is a view that we do not share with any other living species.

Why are we interested (albeit only slightly) in the paltry 0.3% of biomass represented by animal life, while we consider the approximately 87% of life represented by plants to be unworthy of interest? Yet, in purely selfish terms, our lives depend on plants, not animals.

The Vitruvian Man is, in fact, man as the measure of all things.

“Biology! The big new word in architecture and urban planning”¹
He was right; biology really is the new buzzword in urban planning.

¹Le Corbusier, *My Work*, The Architectural Press, 1960, p. 155.

Thus, designing cities becomes a true genre, and from the Renaissance to the present day, every architect who holds his ideas in high regard cannot refrain from designing his ideal city. The fact that they all tend to resemble each other, as real cities do, does not seem to bother anyone. Take a look at the maps: the shape changes, which can be a square, a star with or without points, a polyhedron, or any other regular and symmetrical geometric figure; for the rest, symmetrical streets branch out from a center where the government building, the church, the barracks, and possibly services are located. That’s it. In the most refined of these representations, the areas of the city are specialized in particular functions: cultural, industrial, health, etc. In short, the good old organization of our animal body, re-proposed in different ways, but without any significant variation: always a center/head,

around which specialized areas/organs revolve, on which the survival of the city depends. The fact that they are theoretical creations produced from the only model of organization we are familiar with makes them all mere variations on the theme of the animal body.

Ultimately, every ideal city or building seems to be nothing more than an exercise in power: a perfect but unnatural city that conceals a desire for domination. It is precisely for this reason that animal organization—centralized, hierarchical, and delimited—finds its peak utilization in these ideal cities. A city in which the organs of government are grouped together at its center and specialized is in fact very easy to control: it is enough to have control of the few organs of power and decision-making to govern the entire city. The fact that it is enough to remove those few organs of power to destroy the entire government of the city concerns the inherent weakness of any centralized organization such as the animal organization. And it is precisely the issue of the extreme fragility of our cities that is of the utmost importance to all of us today.

The idea that cities can be studied as living organisms subject to the rules of life and evolution is an old one, dating back at least to the second half of the 19th century, when Patrick Geddes, a Scottish botanist born in 1854 and one of the founding fathers of urban planning, began to theorize that cities and their planning should be treated in evolutionary terms.

In his 1915 work *The Evolving City*, he develops the idea that the city should be conceived not as a collection of inorganic structures assembled by man, but as an organism whose development is determined by the environment in which it lives and which, in turn, has a direct influence on the environment around it.

“Urban planning has become obsolete. It must be replaced by urban biology,” architect and urban planner José Luis Sert

declared in 1942 during the Congrès internationaux d'architecture moderne.

[...] the emphasis Geddes used to theorize the importance of cooperation in the development of cities, as opposed to the struggle for existence, which was considered one of the fundamental driving forces of evolution [...]

In his book, Aleksevich Kropotkin puts forward an intriguing thesis that is of fundamental importance to urban theory. He writes that in his numerous travels to some of the most inhospitable areas of the planet, he has almost never found behavior among the plant, animal, and human populations of those areas that could be described as competitive or, in general, consistent with the idea of an arena in which the most fearsome survive. On the contrary, what seemed evident to him was that there was a widespread and conscious attitude of mutual support and that in extreme environments, such as Siberia, the only chance of survival for any living organism lay in full and unconditional cooperation with all other individuals of its own species and, often, with those of other species as well.

[...] cooperation is a fundamental driver of evolution.

The city, which we have so far compared to a living being, is actually an ecosystem: an ecosystem made up of all the organisms that live there (including humans) and the physical environment of streets, buildings, wasteland, water, etc., whose characteristics, regardless of where it is geographically located, how it is built, or how old it is, are always fairly constant.

Plants are essential to ensuring our cities' chances of survival in the coming years.

It may seem strange, but the urban environment, due to its high

degree of fragmentation, is very similar, in evolutionary terms, to an archipelago, consisting as it does of thousands of small or very small urban islands (think of a flower bed or a small neighborhood garden) separated from each other by roads, buildings, and barriers of various kinds that prevent mutual contact and the flow of individuals.

This result demonstrates a fundamental truth: the distinctive characteristics of cities, wherever they are located geographically, whatever their history or current appearance, are much more similar to each other than they are to the rural environments that surround them. Or, in other words, Florence and Johannesburg are much more similar to each other than Florence is to the countryside that surrounds it.

The fact that these urban ecosystems are growing rapidly and are potentially very difficult for most living species should give us pause for thought. So far, we have only discussed the effects that the urban environment has on individual species, whether animal or plant, but the influence of cities is much deeper and more pervasive, because it acts directly on the set of relationships that unite the species of an ecosystem.

But we do know some important things. For example, that studying and understanding evolution in urban environments is essential; that facilitating the maintenance of genetic diversity within urban populations helps adaptation and has positive effects on the stability of communities and ecosystems; that greater genetic diversity leads to greater species diversity at multiple trophic levels and promotes resistance to invasive species and greater primary productivity. All of these are concepts that we should use to create cities that are more resistant to environmental change, through the use of management and design practices that aim to promote the persistence and expansion of populations.

When the vast majority of a species lives in such a unique

environment as the urban one, characterized—I remind you—by factors such as high temperatures, lack of vegetation, impermeable soils, air pollution, population density, and dozens of other equally important factors, and when it behaves much more effectively within this same environment than it could elsewhere, then the close interaction between the urban environment and our species' ability to thrive can only be described as that of a specialist species. Being aware of this is therefore essential to protect ourselves from the dangers inherent in this specialization.

If the best way to understand a city is to study it as if it were a living being that is born, develops, and dies, and is subject to the laws of evolution, then in order to understand how it works, it is essential to analyze its metabolism. Metabolic reactions can be described as catabolic when they involve the breakdown of compounds and anabolic when they involve the construction (synthesis) of compounds. In the first case, catabolic reactions usually release energy, while anabolic reactions, i.e., the synthesis of new compounds, usually consume energy. Together, these reactions allow living beings to grow, maintain their structures, and respond to their environments.

Geddes realized that the metabolism of cities, unlike the actual metabolism of living organisms, is incredibly inefficient. The difference is that the flows of energy and materials in a city are mostly linear: they arrive in the city and leave it, leaving huge amounts of waste on the streets, while real biological processes are always cyclical, meaning that they have evolved in such a way that every fraction of the energy and materials that enter is used, without any waste.

Imagine a spider sitting in the center of its web: this is how we could represent the city at the center of the region on which its survival depends. A web as large as a soccer field, with the city occupying

only the center circle.

Therefore, in order to survive and grow, cities rely on ever-increasing resources, the origin of which we do not reflect on enough.

However, precisely because this furnace is growing exponentially in many respects, it must find the resources to do so. If the source of resources were always the same, such growth would lead to metabolic collapse. So where do these additional resources come from? Bettencourt suggests that they arise from innovation, the main source of which is the city itself. This is what prevents collapse.

But how long will it be possible to use innovation to compensate for the insatiable need for resources of these furnaces that are our cities?

In any case, nothing can be achieved without innovation, not only technological, but above all social. We need to innovate by imagining forms of global governance that are capable of minimizing the consumption of common goods before we approach critical thresholds, which, once crossed, cannot be recovered, or can only be recovered at great sacrifice. Devising a way to achieve this in both the social and technological spheres is the challenge of our future.

It seems clear that no serious solution to the problems associated with our impact can be imagined without an urban revolution.

What can we do to make cities more resilient to these now inevitable changes? And above all, what is being done? In the vast majority of cities, nothing is being done.

Almost always, it is simply a matter of planting as many trees as possible, making as much of the city's surface area as permeable

as possible.

That said, as with every other aspect of our strategies for responding to the environmental crisis, studying how other living beings are adapting could provide us with some illuminating insights. So, what are all the other inhabitants of our shared home doing? How are species responding to the problems of global warming? If we had to give a straightforward answer, it could only be: through migration.

Every species, whether animal, over the course of its life, or plant, generation after generation, will tend to move from the most hostile places to those most suitable for survival. This is a general rule with no exceptions: when environmental conditions deteriorate, living beings migrate in search of better conditions.

These enormous shifts in species have unpredictable outcomes. When one species migrates, all the others that depend on it migrate too. Thus, entire food chains can shift—and indeed are shifting—with unprecedented consequences for our societies. The redistribution of species, both regionally and globally, affects the functioning of ecosystems, the production of natural resources necessary for food security, and a whole host of other fundamental processes such as the spread of disease and CO₂ absorption. This is something we would do well to start thinking about.

In short, trees are the model that cities should aspire to. So let's take a look at the characteristics that make trees so long-lived and resilient, and see if a city could adopt some of them.