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DESIGNING LANDSCAPES FOR OUR FUTURE

Public space strategies at the time of climate crisis and pandemic

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The first step in building the future is having a project: nothing can be cultivated without the seed of ideas. With no project, indifference is to be witnessed, and indifference leads to degradation, which is the opposite of protection, conservation, and development. In this very momentum, we can no longer afford indifference. Having a project implies plans for the future, even though future and conservation seem antithetical; the future is often associated with change. To change for the better, we must first know where we are coming from, and this means awakening knowledge and a sense of belonging to our territory. Talking about Landscape, the tangible expression of a territory, we reckon how it cannot exist without human intervention and observation; reading a landscape discloses a narrative that, tracing transformations faced by its places and communities, reflects expectations, weaknesses and potential of a specific society. For this reason, we like to say that all our projects begin with a story and keep telling. Since Nature has always been the primary object of observation and intervention, the landscape cannot be conceived as a static element; instead, we look at it as matter in dynamic evolution, "a shaped form that evolves while living," as Goethe stated in his works. On the other hand, nowadays, the landscape is continuously changing, awakening in ourselves the concept of fluidity and the growing desire to interact in sociality and amplify relationships. Therefore, the landscape architect's role goes far beyond the mere design for ornamental taste and environmental recovery. His work starts from the analysis of local culture and from the needs of the people who live there or who will live there; for this reason, designing open spaces

implies developing a vision that involves urban growth, social inclusion, technology and governance innovation, and adaptation to climate change. The landscape architect is a mediator in the dialectic between built reality and cultivated nature, between economic needs and social demands, in a perspective of sustainability and solidarity that considers all its holistic components: environment, society and economy.

A few decades ago, the term Anthropocene was coined to describe the new geological era in which we live, shaped to such an extent by human action that nature is controlled and modified by it. At the climax of the senseless struggle against nature, we are witnessing the rise of a new need for connection with nature. After eradicating nature from our cities and rural areas, today's society claims that urban nature, which can provide benefits from its ecosystem services, can provide physical and spiritual well-being, so stiffened by decades of determinism. In the digital era, the imagination of the deterministic city is overcome by the sharing culture, in which there are no longer rigid and defined boundaries; public spaces become multifunctional, informal and adaptable. They are no longer mere geographical places but hyperplanes generated from trade, mobility, and connecting virtual ties, where the local becomes global and the global local.

In all this turmoil, cities become the main stage for the challenges of the current phase of the transformation of society due to their predominant role in determining dynamics on a local and territorial scale. In cities, the desire for nature becomes a fundamental prerogative for improving people's quality of life. At LAND, we have a mission: "reconnecting people with nature". As landscape architects, our approach to urban landscapes has led us to develop green areas as green infrastructures in the form of curative acupuncture.

Europe is also moving in this direction: the Green Deal launched in December 2019 by the European Commission aims to make Europe the first continent with zero climate impact in a perspective of new development opportunities related to a truly circular economy and biodiversity protection. It is in this scenario that the current pandemic of COVID-19 has crept in, changing everything, or perhaps we should say that it has accelerated changes already on the way by pushing them on top of the agenda. The pandemic has placed us in front of unexpected challenges. Our daily life and how we manage the city and live in open spaces have faced a profound shift towards forced domestic involution. Meanwhile, we started tasting a new coexistence: how we work, meet, relax and consume must be radically rethought to guarantee a comparable – and better – quality of life for future generations. This situation reveals a more radical opportunity to devise a new development model based on social

well-being and environmental quality, conveying the impetus of the last decade towards climate resilience and urban regeneration. Open space steps at the core of the public, but also of the private sphere; digitisation had already led to an extension of the public sphere through the virtual and interconnected dimension of public space, but also to individualisation of civic life, as German journalist and author Hanno Rauterberg reported a few years ago. The current situation urges us to recover outdoor sociality and desire a more widespread presence of urban greenery as a safe haven. Squares, streets, and parks will increasingly become an extension of restricted private residences, workspaces, and privileged places to carry out cultural and social life. Since 2013, the European Commission has identified in Green Infrastructure a strategy for planning multifunctional urban and rural green areas capable of providing certain environmental, social and economic benefits, the so-called ecosystem services. In recent years, various research projects have been focusing on measuring these benefits by implementing natural solutions (nature-based solutions), which are increasingly specific to the context in which they are implemented. Therefore, bringing nature back to the city reveals a structural and functional resource for urban management and people's well-being. From an ecosystemic perspective, urban green becomes a device for managing rainwater, controlling the microclimate, reducing pollutants and providing healthy and biodiversity-rich spaces. The American landscape architect Kristina Hill, starting from the evidence reported in the Global Risk Report 2019 of the World Economic Forum, pointed out that the worrying increase in cases of human-animal infection in recent decades is linked to the growing loss of biodiversity in urbanised environments and this leads to situations of intense socio-environmental stress. Among the strategies to be undertaken are strengthening the fundamental role of indigenous habitats in the prevention of various diseases, the commitment to generate public investments for socially balanced and culturally inclusive green spaces and the promotion of a new culture of the project regarding the spaces of nature. Even the Italian Carolina Giaimo, professor at the Politecnico di Torino, underlines how some researchers have highlighted the correlation between air pollution and areas of greater spread of the virus and how urban green can become a collective multifunctional infrastructure for the well-being of communities in a post-COVID plan coordinated between public and private. A similar approach to regenerating the contemporary city can be nothing but current one year after the outbreak of the most significant health crisis our globalised society has ever known and the launch of the European Green Deal.
The conjuncture between the great attention of contemporary society for quality of life, well-being and climate resilience and the accelerated transformation forced by the current emergency of the pandemic led to a unique moment when it is necessary to rethink our way of living and designing the city. Many cities are speeding up the process towards a more solid sharing economy, promoting sustainable mobility, participatory planning and the use of digital infrastructures: Melbourne, New York, Copenhagen, Rotterdam, London, Paris, Berlin, Vienna, Turin, and Milan, among others. However, we must not forget the fundamental role that urban vegetation must play to avoid an unhealthy compartmentation of open space and a loss of urban quality. LAND, within its Research Lab, is developing an adaptive design strategy for the new challenges we face based on some principles for creating more liveable urban landscapes, which apply to several areas of landscape design and are embodied in the following milestones.

Streetscape

Streets represent a considerable percentage of open spaces within the city; their primary function has traditionally been mobility, but they also provide space for business, recreation and socialising. Nevertheless, they are often the most underutilised areas; now more than ever, they need a radical rethinking due to the climate crisis and the current effects of the COVID-19 pandemic. The goal is to transform the streetscape into a shared ecosystem that works with nature to deliver environmental, social, and economic benefits for people. Trees and vegetation can significantly reduce the urban heat island effect through evapotranspiration and shading, improve air quality, mitigate noise and wind and increase stormwater drainage. Moreover, working with nature will help re-establish the

1. Gae Aulenti Square, Milano, designed by LAND. © Nicola Colella

2. Parco Leoni, Milano, designed by LAND. © Nicola Colella

human scale in the urban environment through the positive effect of its seasonal variations on psychology and physical health.

Urban forestation

According to FAO, the strategic placement of trees in urban areas can cool the air up to 8°, whilst landscaping can increase property value by 20%. Cities are the climate crisis's core, as they are the most significant environmental polluters and the main economic and cultural hubs. Many cities are developing urban afforestation projects to tackle societal challenges like heat waves and air pollution. Melbourne set an ambitious programme to double the city's canopy cover by 2040, Cardiff has an innovative green infrastructure project involving the local water management company, Madrid is planning a metropolitan forest around the town to mitigate HIE and pollution, Milan conceived a similar project (ForestaMi) aiming to plant 3 million new trees by 2030 with the support of a dedicated fund-collecting donation from private stakeholders and citizens. Common elements of these success stories are long-term maintenance visions, participated business models and multi-stakeholder engagement; trees can save our future by providing liveable places in our cities, but we need to develop new approaches and strategies taking into account systemic relations of urban ecosystems and social appeal of urban green infrastructure.

Water sensitive design

Our cities have been working with water in the wrong way for too long, and the climate emergency is changing our relation to this

3. Water basin in Krupp Park, Essen, designed by LAND. © Ralph Richter

element whilst we are paying for those mistakes with severe floods and poor environmental conditions in urban and periurban areas. Water-sensitive design couples ecosystem-led measures with circular processes, thus improving resource management and involving different planning sectors. New wet ecosystems support urban drainage and provide novel animal and plant biodiversity habitats, strengthening their resilience to diseases and sudden meteorological events. We need to make space for the rivers, unsealing as much as possible impervious underutilised areas such as parking lots and flat roofs, and creating parks to manage rainwater and tie people up to its cycle. Our strategy, Adaptive Design, deploys rain gardens, floodable parks, bioswales, retention ponds and other nature-based solutions to implement vibrant multifunctional open spaces that collect, harvest, treat and reuse stormwater in urban and rural landscapes.

Digital landscape

The digital landscape is a new dimension of the public sphere that deploys data-driven processes to tell new stories and share information about our environment. For instance, we can explore an area using an app with virtual content or forecast the performance of trees we plant in streets and parks in reducing air pollutants and local temperature. The great potential of the Digital Landscape is re-establishing the human scale in our cities: data and technologies provided by the digital revolution and sharing economy are at our disposal to gain the lost relation to other people and nature.

4. Bike lanes in Krupp Park, Essen, designed by LAND. © Ralph Richter

Slow mobility

The COVID emergency has shown us more and more evidently the relevance of a short-distance and walkable urban model. Some cities have undertaken a more radical path to reduce emissions and traffic and increase the well-being of citizens: the "15-minute city" pattern was developed by Carlos Moreno, professor at Panthéon Sorbonne University in Paris, and now adopted by several metropolitan realities to face the new challenges arising from the pandemic. Riding a bike or walking lets us explore the city in a new way and live streets and squares instead of just transiting through them. Finally, integrating vegetation and recreational areas makes streetscapes more attractive and liveable.

Restarting from the landscape: the urgency to act

The struggle to keep or make our cities liveable, which we are dealing with in the era of digitalisation, pushes us to seek immediate solutions within this epochal transition. For 30 years, LAND has been building landscape stories to regenerate urban communities and territories through a sustainability approach based on reconnection with nature. The LAND Research Lab interprets these needs and expectations by translating them into innovative approaches inspired by the goals of the 2030 Agenda and fuelled by involvement in European research, for example, through the network of Horizon projects UNaLab and T-Factor. The European Green Deal provides a path and tools to take advantage of the opportunities of this transition through cooperation at the European level that goes beyond finance, customs, economy and laws and has landscape as its core. Collaboration had already been encouraged at the time by the European Landscape Convention 20 years ago, and

4. Parco Portello, Milano, designed by LAND. © Nicola Colella

it continues to be implemented through several research and innovation projects supported by European funds for climate resilience and biodiversity restoration.

This total paradigm shift offers the chance to create new productive landscapes. Just as suggested during the presentation of the New European Bauhaus in January 2021, the need to undertake the change towards a green transition must be seen as an opportunity that generates beauty, culture, resilience and cohesion at multiple levels. An opportunity capable of providing services for the well-being of citizens and efficiently managing climate and urban environments while acting as a driver of economic and social development. Landscape architects are called to participate in this ambitious cultural process to establish a balanced synergy between ecology, economic and social development by creating a "cultivated" nature to heal our ecosystems and feed future generations.

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Andreas Kipar landscape architect, urbanist,
CEO and co-founder of LAND Group

Global warming is a multifaceted issue requiring a systemic approach that combines climate adaptation and mitigation. What role can architectural and landscape design play in addressing and resisting climate change?

First of all, we need to be more radical. Let's break it up – that means we need to break the surface up and return to our relationship with the underground soil. Only in the urban soil, in the underground, do we have a high level of biodiversity. So it starts from our surface because we always worked on the surface only, which is a very one-dimensional space. Now, we need to work in a multifunctional and multidimensional space in our cities. So we move from that one line to break it up, dig down, and come up again; we have a minimum of three levels. That is what we need to do to break it up in our cities. In other words, we must overcome the one-dimensional approach and go for multidimensional spaces. That is what nature-based solutions ask for: water and soil; at the end, we will have our new green mix. This act needs to be done in the inner cities, where there is a desperate need for biodiversity and mixture, not outside. And what does it mean when we say, „Let's break it up" in environments people already live?

What are the main impacts of the current polycrisis condition, in which environmental, social, and economic domains are under constant stress, on your practice?

The actual situation we are experiencing enhances the urgency to act.

Regarding the obstacles: We are our own limit. We have only one limitation: we know in detail what we need to do, but we miss being radical enough – to open our space, to convince our clients. And the main issue is the word "no". It doesn't work. No. It is not anymore in our time, and it doesn't make sense for the next generation. We have to act now.

Could you provide the best practices you consider to be a manifesto for addressing climate adaptation, mitigation, and resilience through design?

It has already been five years since we promoted a new BIM level, called LIM, Landscape Information modelling® system. It develops the potential of Building Information Modeling (BIM) to support the design of nature-based solutions to make our cities greener and healthier through a data-driven design and decision-making process. It assumes increasing relevance within corporate sustainability strategies as it allows the quantification of different performance indicators and makes case studies and design scenarios comparable in terms of environmental and climate performance. And now, we need to start with a new dimension of quantification. A new approach the United Nations defined in March 2021 and called Nature Capital Accounting. The United Nations adopted a new statistical framework to better account for biodiversity and ecosystems in national economic planning and policy-making. It "allows countries to use a common set of rules and methodologies to track changes in ecosystems and their services." The new framework goes beyond the usual statistics of gross domestic product. It ensures that the natural capital account – the contribution of green and blue infrastructure, forests, oceans and other ecosystems – complements the existing economic account. NCA is the only way to formulate goals and justify planning measures that form the basis of all action in the ethical sense of good, right and valuable.
So, please remember, Nature is always dynamic. Unfortunately, our culture tends to be conservative and static. But now is the right time to learn from Nature. Not as something apart and in front of us but a part of ourselves. Using these tools eventually helps to measure the value of Nature and, thus, enhance it because it becomes an asset. And what can be probably more exciting than seeing numbers underlining the performance of our approach in landscape architecture?