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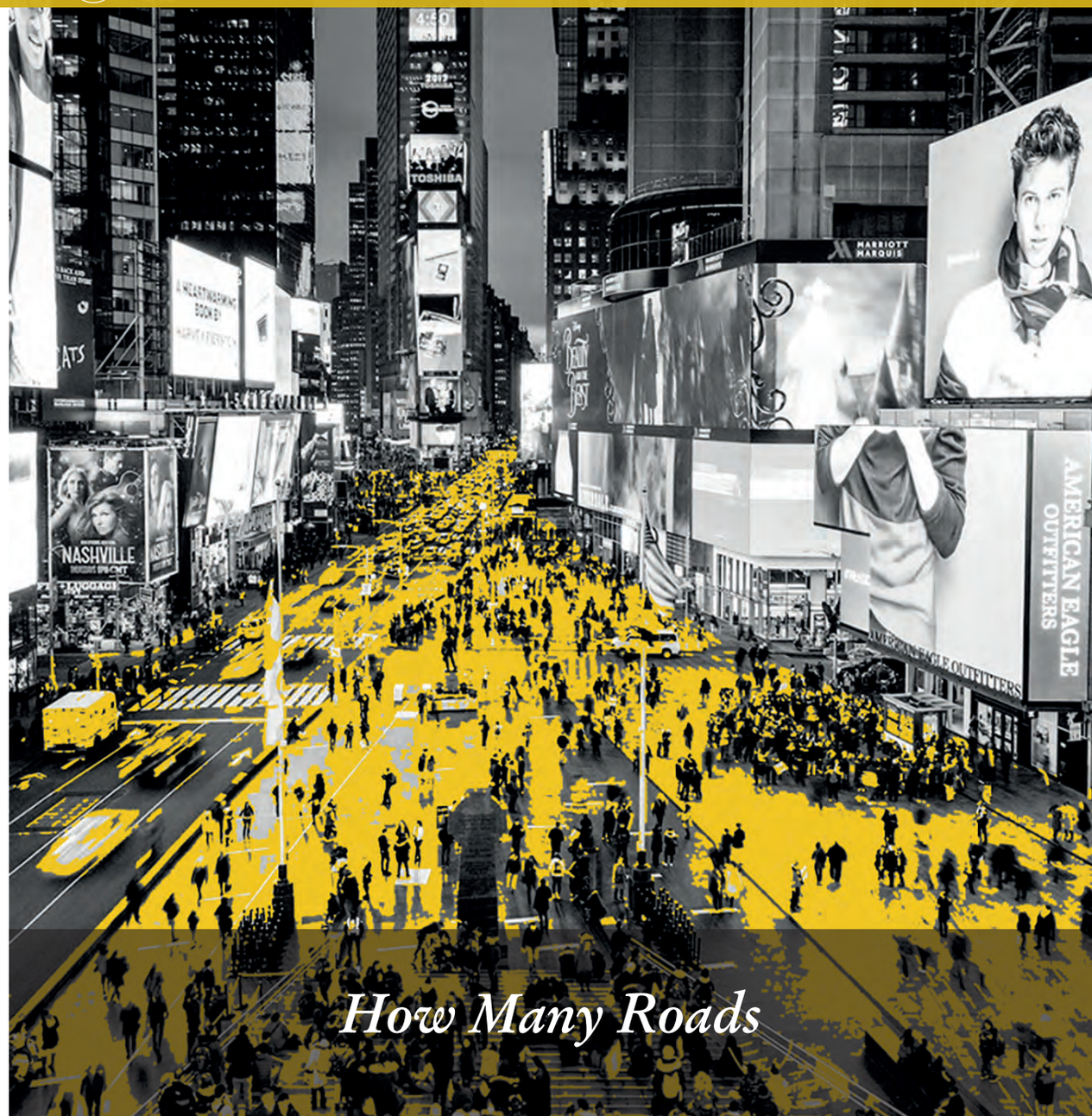

How Many Roads

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How Many Roads

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Healthy Corridors for Inclusive Urban Regeneration

Gonçalo Canto Moniz, Isabel Ferreira

Problem: a City without Streets

The urban structure changed dramatically during the 20th century, when the street as corridor became planned as a viaduct without a direct relationship with the built structures, namely the housing ones. Although Le Corbusier was the great promoter of this idea, the first steps were already given by the urbanists of the Garden City. For the urban planners, the big challenge to solve was the need to expand the city with housing neighbourhoods, in order to give a house to all the people that were moving to cities, to work in industries, commerce and services.

The neighbourhoods built in the 1950s, 1960s and 1970s abandoned low-density housing models and opted for large, high-density complexes built first according to the Athens Charter schemes and then according to the neighbourhood units model. The state, municipalities, and cooperatives developed these housing complexes, which can be recognized on the outskirts of European cities. A new urban structure was created, the suburb, and European cities entered the age of suburbanization, where the housing areas, called "oases of order", became places of "feigned spontaneity".[1]

Motorways and train lines were planned to connect these neighbourhoods with the city centre. When the motorway was not built, the neighbourhood became isolated, but when it was built with one exit or station to each neighbourhood, it became autonomous, as a small city. These neighbourhoods are now surrounded by roads and railways, although people living there have limited access to them. On the other side, some of these neighbourhoods were built without sanitary infrastructures, which led, for example, to the canalisation of streams being used for sewage.

The rehabilitation of these neighbourhoods today is imperative not only to physically requalify the houses and the open space but also to offer inhabitants effective integration in the city. This cannot be imposed on the residents by the technicians of the municipality, politicians, urban planners or social scientists. It has to arise from the people on the basis of their interests, motivations and aspirations, reopening some well-known participatory processes abandoned in the late 1970s, like the Portuguese SAAL[2] that was truncated by the imprudence of a young democracy.

Thus, the peripheral areas of large Portuguese cities, as well as European ones, where the various social housing districts are located, have nowadays enormous potential for urban regeneration, environmental projects and social dynamization.

Inclusive Urban Regeneration

The European Commission is promoting an inclusive urban regeneration, in the frame of the Smart and Sustainable cities, that should integrate the environmental approach, through the nature-based solutions (NBS), and the social approach, through the co-creation process. More than research projects, the financing programs, as *H2020*, are supporting innovation actions that move the research from the universities to the communities, creating living labs. These laboratories are activated by communities of citizens, stake-

1. Piano urbano di Porto. Plano de Melhoramentos, 1956-1966. Archivio Storico del Comune di Porto, www.cm-porto.pt/os_planos_do_porto/plano-de-melhoramentos-para-a-cidade-do-porto-1956-1966.

holders, municipality technicians, companies and researchers in order to develop together solutions for new urban challenges.

The URBiNAT[3] consortium, as well as other seven, were selected in 2016 and 2017 to explore these topics in European cities and replicate it in other international cities in the west or in the east, in the north or in the south. Some of these consortiums are facing the urban regeneration of peripheral areas that require alternative design concepts and strategies. The URBiNAT project proposes *Healthy corridors as drivers of social housing neighbourhoods for the co-creation of social, environmental and marketable NBS* to promote well-being for the communities that will use and design together an innovative and democratic public space. Between 2018 and 2023, the project will, on one hand, develop the concept of healthy corridors to face the fragmentation of these social housing neighbourhoods and, on the other hand, explore a co-creation methodology that will support inclusive urban regeneration and social innovation.

Healthy Corridors for the Fragmented Modern City

The case studies are located on the outskirts of seven European cities—Porto, Nantes, Sofia, Hoje Taastrup (Copenhagen), Brussels, Siena and Nova Gorica—in areas of urban expansion planned in the period 1940-1950 and built over the following decades through housing estates, predominantly for the most disadvantaged social classes.

In this way, it was intended to guarantee a set of common characteristics between the neighbourhoods of these cities. On one hand, sharing a strong potential: architectural quality of housing estates, quality of the urban environment due to the rural matrix of the land, strong sense of community, active presence of groups and existence of cultural, social and sporting associations. On another hand, less favourable aspects are also identified: conditioned access to the urban centre, limited access to school, health and cultural complexes, multicultural and aged population, high unemployment in the working population, low level of schooling, high rate of insecurity.

These social neighbourhoods are products of modern urban planning that guarantees a rapid housing process, either for the rural populations that arrived every day in the city at the height of the industrialization process, as in Porto with the Campanhã parish, in Sofia with the Nadezhda district, in Copenhagen with the suburb of Hoje-Taastrup, or for the people who saw their homes destroyed by World War II, as in the case of Nantes, with the urbanization of the Nantes-Nord district. This changing event also created new geopolitical powers, which developed new cities, as Nova Gorica, the new frontier city of the Yugoslav government led by Tito.

In the framework of modern planning, these new neighbourhoods were built by various entities, namely the municipalities, such as Porto and Nantes, the state, as in Sofia or Nova Gorica, and cooperatives, such as Hoje Taastrup and Brussels. Thus, in most cases, municipal management did not address the communication routes, the public spaces of the neighbourhoods, nor the spaces of articulation between neighbourhoods, or even the spaces of relation with the consolidated city. These urban fabrics became a mosaic with incoherent relations between the various interventions, or between the interventions and the previous rural fabric.

The urban regeneration of deprived areas is focused on public space, as the place of the collective transformation. The public space is the tangible and intangible place that supports the everyday activities of individuals and groups, related to leisure, mobility, cultural production, economic and commercial activities, but also to the active citizenship. The public space is the place for interaction.[4]

The Public Space as a Healthy Corridor

The public space that connects and links neighbourhoods can be a corridor or a pathway that integrates nature-based solutions, but it also needs to integrate people, providing a double effect on its health and on its empowerment. It can occupy urban voids or commons that are not being used and can become a linker between different areas of the city, contributing to avoid the segregation effect and to promote the social and urban cohesion. In this sense, the public space is a healthy corridor, that will be activated in several living labs, placed in the city's suburbs, to implement a set of nature-based solutions, co-created with the local citizens.

The healthy corridor is based on the fundamental ecological principle of *continuum naturale*[5] that is imperative to promote biodiversity in rural and urban environments. Continuity, elasticity, meandering and intensification are ecological processes required to frame the *continuum naturale* of the landscape, creating the conditions to develop biodiversity, improve soil quality, as well as water and air within urban spaces and between these and rural ones.

The *continuum natural* is at the bases of many terminologies used across different countries and continents to describe corridors that aim to address the ecological principles in the planning of cities. The concept of greenways, although emerging in the late nineteenth century, was celebrated in the 1990s along with the affirmation of ecological planning.[6] It has been defined as systems of linear spaces that are planned, designed and managed with multiple, compatible and synergetic uses,[7] namely ecological, recreational, cultural, aesthetic and others, compatible with the concept of sustainable use of the territory. They link together large and small non-linear areas, whether natural spaces or urban agglomerations.[8] They are, therefore, continuous spaces that link, along natural corridors, such as watercourses and their banks, gardens or forest areas, urban and rural areas through elements of landscape, architectural and archaeological heritage.[9]

In this sense, the healthy corridor is a "greenway" designed as a pedestrian walkway/viaduct in the public space to integrate neighbourhoods into the urban structure. Healthy corridor will link diverse nature-based solutions developed by the URBiNAT partners, deploying the NBS catalogue with appropriate monitoring and evaluation methods and tools. This will be achieved by focusing on the citizens' well-being in relation to energy, water, food, nature, mobility, participation, behavioural change, digital democracy, social cohesion and solidarity economy. So, as Hammerschmidt[10] proposes, more than the traditional green corridors that cross our cities, the healthy corridor aims to contribute to the overall health of the surrounding community.

The URBiNAT main contribution is the understanding of the healthy corridor as co-creation

2. I partner del progetto europeo URBiNAT. © Progetto URBiNAT.

3. Quartiere di Cerco, 1961. Archivio Storico del Comune di Porto, F-NP / CMP / 7/756; F-NP / CMP / 7/757; F-NP / CMP / 7/761.

process of a public space that will be planned by and with citizens, testing an innovative and inclusive urban model to regenerate deprived districts, specifically within and linking social housing neighbourhoods. Participative-design will be the cornerstone approach in achieving new models of urban development, and design thinking process and methods that will underpin the creation of healthy corridors with NBS. The people-based design will frame the healthy condition of this corridor, designed by and for the citizens.

The High Line Effect

The *continuum naturale* and greenways have inspired recognized projects, such as the New York City High Line (2004-2014), designed by Diller Scofidio + Renfro, that created a long public park built on an abandoned elevated railroad in Manhattan. The High Line became a success due to the possibility of transforming a grey solution into a green one that encourages human mobility in a healthy environment in the middle of a polluted city. Recent monitoring has demonstrated, for an example, that in the High Line there is a noise reduction of 4.6db compared to the pavements below.[11] By improving the quality of life, the abandoned warehouses became new housing and commercial developments as well as cultural initiatives that also promoted it as a tourist attraction. In this sense it became a nature-based solution as well as social and cultural ones, but on the opposite, it also promoted the gentrification of the area, with the increasing value of the soil. The High Line concept, a greenway in a viaduct, is being replicated in several cities in order to support sustainable policies as the Tehran Nature Bridge (2010-2014) designed by Leila Araghian to connect two parks separated by a highway and the Seoul Skygarden (2015-2017) designed by the Dutch MVRDV to create a park in the air, reusing a disused highway.

In a different approach, the Luchtsingel, in Rotterdam, designed by ZUS, develops a viaduct/bridge with a new wood structure, implemented through a participatory method of crowdfunding. This bridge links urban voids (common spaces) with the potential to implement nature-based solutions. These places of opportunity are in-between mobility infrastructures—roads, railroads, highways—and

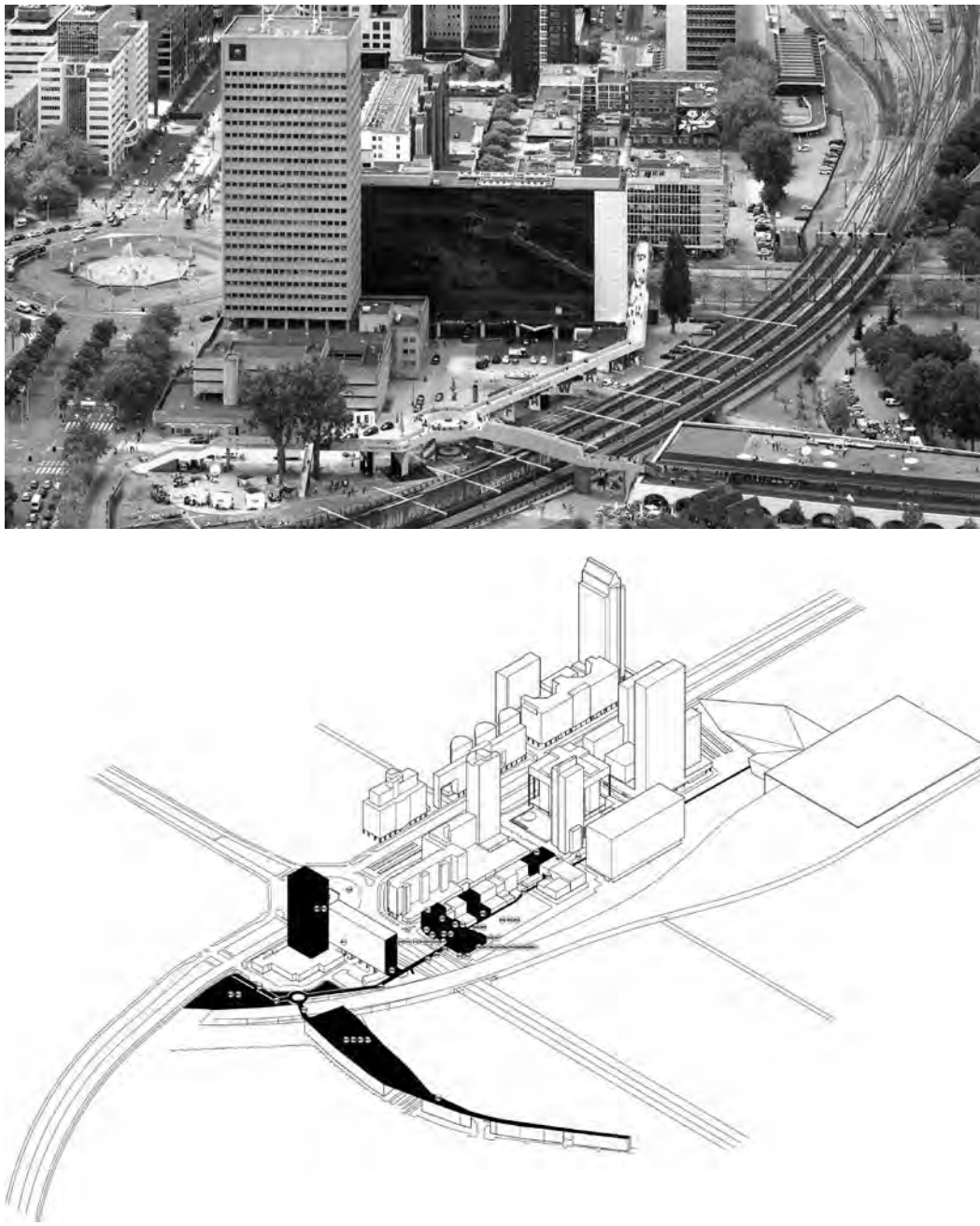
4. Tehran Nature Bridge, 2010-2014, progettato da Leila Araghian per collegare due parchi separati da un'autostrada. Foto G. Canto Moniz, I. Ferreira.

also in the rooftop of office buildings. Citizens claimed for a solution and together with the office ZUS co-designed and co-implemented the wooden bridge, the urban farm, and the vegetable gardens in the rooftop.[12]

Alongside with these best examples, URBiNAT adopts a strategic urban project approach based on Manuel Solá-Morales[13] principles of the territorial effect, the intermediate scale or the collective use. Together, natural, social and cultural features of public spaces form the healthy corridors, an urban, ecological, social and cultural structure, strengthening the physical articulations between neighbourhoods separated by misused, abandoned or simply underused areas. The redesigning of these interstitial areas can result in the creation of leisure areas, feature amenities and facilities that provide and reinforce the dynamics of social interaction. Natural, stimulating and healthy micro-environments have been shown, in the right circumstances, to reduce social tensions and to have beneficial effects on the individual's psychology and behaviour. In addition, the reinforcement of urban cohesion through such redesigning also takes place through a diverse set of actions involving public, private and third sector actors, which are fundamental to achieving transformations.

Solutions for the Public Space

The healthy corridor is a public space constituted not only by a walkway but also by a set of solutions inspired by nature and by the human being, called nature-based solutions (NBS), that will impact on citizens wellbeing, measured by health, cultural, social and economic indicators. In accordance with their own expertise, URBiNAT members have compiled an initial set of solutions to be available for application in cities. These solutions form the URBiNAT NBS Living Catalogue, a fundamental tool to (1) discuss with communities which are the solutions that answer to their needs and dreams, (2) serve as a basis to inspire the development of new solutions during project implementation, (3) integrate the urban plan of each city, and (4) feed the Observatory's knowledge sharing activity. In this sense, each city will be able to choose and tailor the NBS according to its own reality, needs and ambitions.



5-6. Luchtsingel, Rotterdam, foto aerea e assonometria, progetto di ZUS, 2011. © ZUS.

URBiNAT NBS catalogue challenges the conventional nature-based solutions definitions by not only integrating solutions inspired by nature, as the territorial and technological solutions, comprising products and infrastructures, but also including the participatory and social and solidarity economy solutions, comprising processes and services, that put in dialogue the physical structure and the social dimension of the public space. The goal is to bring these two levels of the public space to a living interaction, building collective awareness on commonalities, both material and immaterial and, by raising the collective understanding of the human and non-human urban dimensions, promoting

7. Catalogo URBiNAT NBS, NBS territoriale, ristrutturazione di un canale d'acqua di Asprela, Porto, CIBIO. © CIBIO.

the co-creation, co-development, co-implementation and co-assessment of solutions inspired by nature and in human-nature.

Living Lab to Activate the Public Space

Today innovation is not only inside of the research labs nor in the academia. Innovation is also in the street in the sense that it emerges from communities and groups of citizens that want to contribute with their experience and expertise to co-create ideas that might find local solutions for complex problems. It's a bottom-up initiative that might be supported by public, third sector and private institutions working together on the iterative development of innovations in their real-life use context.[14] These living labs are oriented to research and can also be combined with communities of practice that have a strong identity, share a concern, and are more practice oriented.

The URBiNAT project will encourage the complementarities between these two social platforms in each neighbourhood of the partners cities, supporting the communities to identify their problem or concern, and to develop the activities of research and practice. Results should also be achieved in short, medium and long term to be sustainable and promote social cohesion.[15]

The cities join the project according to three different and complementary roles. Frontrunner cities with experience in the implementation of nature-based solutions, take the pilot activities through the four main stages—co-diagnostic, co-design, co-implement and co-monitoring—in order to design and test the methodologies and the solutions. Follower cities with interest in nature-based solutions and inclusive urban regeneration will coach and share the process in the pilot cities and replicate it to develop an urban plan. The observer cities will bring their expertise and experience, as well as their environmental and social context, to prepare the replication of URBiNAT strategies. However, all cities are learning and sharing with each other, so that follower cities may lead some tasks or activities, depending on the spread of specific expertise, experience and resources. In this sense, URBiNAT activates living labs and an inclusive community of practices.

Designing Healthy Corridors Together

Given the widespread stigma that communities suffer from in these neighbourhoods, it is intended to reverse the decision and design process for the physical regeneration of the neighbourhoods and the city, contributing to the consolidation of social cohesion. That is,

8. Catalogo URBiNAT NBS, NBS economia sociale e solidale, Hrankoop Sofia, mercati degli agricoltori. Foto E. Dimitrov.

to develop mechanisms that ensure inclusive urban regeneration "by and with the people," with effective participation that offers citizens control and cooperation, and abandoning the "for the people" as a pseudo-participatory process based on assistencialism and domestication.[16] A new understanding of community participation is "focus on broader community-driven processes in the construction of the public realm provides a critical perspective with which to transcend the binary relation between professionals and users and the limited model of participatory design."[17]

This process, now called co-creation, aims to involve and empower citizens and local actors in four stages of dialogue: local diagnosis (co-diagnostic), characterizing the area of intervention in territorial, social and economic terms; the project (co-design), involving citizens in the process of building ideas and strategies, as well as in the design of solutions; construction (co-implementation), inviting citizens to participate in the production of solutions, through volunteer work or exchange of working hours; evaluation (co-monitoring) by challenging citizens to convey the benefits and harms of the implemented solutions. In this sense, people are no longer a subject, they are evolving towards becoming a genuine partner.[18]

It's not a question of excluding the usual political and technical decision makers from the urban planning and the design of the cities, but of including other actors who can bring objective contributions to these processes that guarantee the effective success of the process of transformation. Peter Blundell Jones, Doina Petrescu and Jeremy Till[19] in their book *Architecture and Participation* underline that "participation is not just a catalyst for the transformation of the role (and eventual lives) of users, but also for the transformation of architectural practice." In fact, Citizens, with their empirical knowledge, culture and experience, have the skills to bring social innovation to the design process, adding human capital, human-based solutions, and new domains of collective creativity. This collaboration can be developed in three stages: involvement, for diagnostics, preparation, learning culture and motivation; integration, supporting the validation, systematization, and purpose process; interaction, to create space for users' dialogues, activation and connectivity.[20]

The process of co-creation of urban spaces is itself a promoter of well-being, in the sense that it strengthens the people who contribute

with their ideas, their knowledge and their experiences for the construction of a better future. It also guarantees that the construction of new urban areas or urban regeneration will not only serve the interests of the state, municipalities or large companies but will also be at the service of people, their needs, expectations and desires.

Thus, the aim of the project is to contribute to the collective construction of alternative design methods and concepts, which integrate citizens' knowledge and experience, in particular in the process of urban regeneration of the communities who inhabit the areas, enhancing their right to the city, in terms of their experience, and also in its reconstruction through humanistic, democratic and environmental principles. In this sense, the space of healthy corridor is a democratic space opened to experimentation and to dialogue between the community, the urban planners and the decision makers.

Notes

[1] José António Bandeirinha, Luís Miguel Correia, Nelson Mota, "Editorial: The European City as a Place of Coexistence," *Joelho: Revista de Cultura Arquitectónica*, 8 (2017), pp. 5-19; Irina Davidovici, "Tafuri on Hous-'Ing': Housing History as City-Making Praxis", *Joelho. Revista de Cultura Arquitectónica*, 8 (2017), pp. 36-51.

[2] José António Bandeirinha, *O Processo SAAL e a Arquitectura No 25 de Abril de 1974* (Coimbra: Imprensa da Universidade de Coimbra, 2007).

[3] This research is developed in the context of URBiNAT project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 776783. The NAT project is a consortium of 28 partners coordinated by the Centre for Social Sciences, between 2018 and 2023. More information at www.urbinat.eu. This text is based on the URBiNAT *Handbook on the theoretical and methodological foundations of the project*, Deliverable D1.2, November 2018, coordinated by Gonçalo Canto Moniz, Isabel Ferreira, Beatriz Caitana Silva, Nathalie Nunes, with chapters from 50 URBiNAT researchers Gonçalo Canto Moniz et al., *urbinat Handbook on the Theoretical and Methodological Foundations of the Project, Deliverable*, URBiNAT Deliverables (Coimbra: Centre for Social Studies, November 2018).

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[15] The concept of Living Lab and Community of Practice was developed by Américo Mateus, Susana Leonor and Sofia Matias in the URBiNAT "Handbook on the theoretical and methodological foundations of the project", Deliverable D1.2, November 2018.

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