Prosuming Public Space: the UNPark project

The role of urban infrastructures in the regeneration of the in-between spaces

Paolo Carli

with contributions by Francesco Bruschi, Matteo Clementi, Davide Crippa, Luigi De Nardo, Barbara Di Prete, Carol Monticelli, Giulia Procaccini, Agnese Rebaglio and Patrizia Scrugli

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Prosuming Public Space: the UNPark project illustrates the experience of the Urban Nudging Park research project, funded by the social responsibility program of the Politecnico di Milano through the competitive call Polisocial Award 2019. The book returns the complexity that characterised UNPark: a research by design project, in the wake of tactical urbanism, on the theme of the role that urban infrastructures could have in the regenerative processes of the in-between spaces.
Indeed, UNPark has been a transdisciplinarity effort which took shape through a temporary urban tactical intervention and a study about the possibility of transforming the current parking under the Serra - Monte Ceneri Overpass, in Milan, into a multifunctional space equipped for social activities, including street sports.
Prosuming Public Space: the UNPark project is a monographic book, with thematic chapters by the members of the work team, that proposes, in addition to recalling the research work phases, reflections on the city during the pandemic, on the co-design, on the multifunctional regeneration of the urban infrastructures, and about the needed transdisciplinarity in any urban design intervention.

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X. UNPark: a trans-disciplinary, multi-dimensional and multi-actor project

Davide Crippa, Barbara Di Prete and Luigi De Nardo

In this chapter, we take up some of the themes that emerged in the UNPark project, depicting a critical perspective of the overall process. In particular, an attempt will be made to highlight the transdisciplinary character of the project, which brought into play multiple competencies, its action on a variety of scales and project dimensions, and the synergetic collaboration between academic, commercial and civil society actors, allowed to obtain results were only desirable at the beginning of the research. Finally, we would like to focus on two specific experiences that UNPark has incubated and promoted: the prototyping of MUE:-SLI, realised thanks to the European call for proposals FURNISH, and the experimentation conducted with ESO, both developed by exploring the technological and aesthetic potential of digital fabrication.

X.1 INTRODUCTION

From what has emerged in the previous chapters, the hybridisation and the convergence of a multiplicity of themes that found in the *UNPark* pilot project an initial experimentation - or at least the seed of future changes - represent its main distinctive feature. This hybridisation is to be understood, on the one hand, as a contamination between different disciplinary areas, well exemplified by the multiplicity of Departments of Politecnico di Milano involved (DAStU, Design, ABC, DCMIC, DEIB) and, on the other hand, as an opening of research towards a very heterogeneous system of external actors. In fact, the project was able to "speak different languages", each time finding in the interdisciplinary collaborations specific opportunities for confrontation and research advancement: in this context, the university assumed the role of promoter - but at the same time also of collector - of knowledge, interests and sometimes imaginative visions coming from a plurality of external actors (companies, makers, ordinary citizens, cultural associations, cooperatives and schools, protagonists in various ways in the various phases of the process of co-designing, co-realisation and co-management). Collaborations with the "outside world" have therefore taken on different faces: companies involved as technical sponsors, volunteers active in the bottom-up construction of a more liveable and inclusive city, third-sector actors capable of animating the space by sharing their social, cultural or sporting contributions outside the "known walls", schools that have acted as mediators to bring a project of the future closer to the younger generations that will live that future. The two cases which, however, are most representative of these collaborations that the *UNPark* project was able to initiate with the outside world, and which in some ways constitute a further specific inheritance

from it, concern two thematic areas which are similar in scale: that of the interior design object and the urban equipment, both punctual devices confronting the market. Although analogue, they assumed two very different roles in the general process: the modular street furniture system developed for the European call for proposals *FURNISH* (which fully responds to those needs of the post-pandemic city that were enumerated in Chapter III) represented a sort of "pilot project of the pilot project", while the final meta-project concerning the circular economy (developed in collaboration with ESO at the end of the field experimentation) identified a sort of spin-off of *UNPark*. In fact, it laid the theoretical and empirical foundations for a fundable line of research that is open to future implementations, not only in the purely urban sphere. In both cases mentioned, the partnerships set up (the various fablabs of the European network, a Milanese fablab that has become an operational partner of the project, citizen-makers, profit-making companies, a research foundation, the political apparatus) demonstrate *UNPark*'s ability to "speak" to different audiences, with different languages, at different scales of intervention and with different aims. This is another starting point for identifying future synergies and other opportunities for experimentation.

See III by Carli and Rebaglio

X.2 THE PROJECT AS AN ACT OF MEDIATION BETWEEN DISCIPLINES, ACTORS, LANGUAGES AND TOOLS

Mediation between disciplines

One of the difficulties the designers encountered during the *UNPark* experience, but at the same time also one of the most satisfying results achieved, concerns the multiplicity of languages, themes and actors invol-

ved in the process. It was, in fact, a multi-disciplinary project not only because of the heterogeneity of the Departments of the Politecnico di Milano that promoted the research, but precisely because of the repercussions on the field and the project scales that were addressed. On the one hand, *UNPark* consisted of a spatial design of an unresolved urban fragment and, as such, brought into play competences first and foremost of architects and designers, but the peculiarity of the location - at the centre of a high traffic artery such as Viale Renato Serra - also required, at least in the initial meta-project phase, the consultation of engineers for potential mobility variation scenarios. The design sphere itself was articulated in different areas, ranging from urban design themes to those of environmental graphics, from the co-design component for the management of participatory processes to the more technical component aimed at improving the acoustic and micro-climatic conditions of such a challenging context, both in terms of noise and air pollution. As already mentioned in the previous chapters, in fact, this attention to environmental sustainability has declined in the project in the use of textile structures with performance oriented to minimise acoustic impact, but also in the constant monitoring of fine particles through electronic control units. Further, *UNPark* also explored the scale of the furnishing object, in particular the theme of urban supply; it did so - with that spirit of research and innovation that should guide every academic project - by turning to the world-makers and the principles of digital fabrication, thus not to the already codified industrial serial production, but by experimenting on the furniture itself with new forms, new gestures, new technologies and new aesthetics. Finally, UNPark also provided the opportunity to bring together communication aspects and social sensitivities in the project, which allowed for the involvement

See IX by Procaccini and Monticelli, and VII by Clementi and Bruschi

in the initiative of a multiplicity of citizens, local third -sector associations and stakeholders. In this sense, two significant actions are worth mentioning: both the City walk conducted on 25 April 2021 for exploratory and cognitive purposes, a sort of urban drift with a situationist flavour (Careri, 2006), and the schedule of events and activities (games, workshops, exhibitions) that animated the underpass during the days of installation of the pilot project, had the fundamental role of launching a path of social innovation whose effects will be assessed over time. These are the disciplinary areas, whether priority or tangential, that have contributed to the realisation of *UNPark*; as mentioned, these have often been internal competences of the Politecnico di Milano's multi-departmental working group, but there has been no lack of trespassing and involvement of other actors. In particular, anthropology - perhaps due to the very nature of the project, which already in its initial intentions intended to activate a network of environmentally and socially aware citizens - took on a significant role, finding an initial declination (the ethnographic reading captured from Matteo Di Giovanni's photographic point of view) and a final relapse (participation in *World Anthropology Day* 2021, where the processes of engagement and placemaking adopted in the area were recounted). This disciplinary interference between design, architecture and anthropology should not be surprising, because "design and anthropology represent two tangential disciplines, which historically have found profitable opportunities for comparison and elements of contact; [...] today more than ever these two disciplines are called to question themselves again, with a critical look and turned to the future, to renew their fields of investigation" (Di Prete et al., 2021, p. 28). For this convergence of thematic areas and contributions from heterogeneous subjects, the case of *UNPark* can therefore fully testify, if ever it were nee-

ded, to the role and value of design as an act of mediation: "the meaning of the term design [...] is obviously very broad, but there is a specific discipline - design - that codifies and defines it as a field of action between art, science and technology (Findeli, 2001) capable of combining transversal knowledge through, above all, the application of skills that pertain to the "knowing how to be" of the designer" (Rebaglio et al, 2016, p. 919).

Mediation between actors

The system of interactions and collaborations set up can be described as a constellation of variable relationships composing a multifaceted whole with blurred boundaries, because it has always acted in inclusive and collaborative terms, facilitating the inclusion of new contributions right up to the end of the project.

With the aim of structuring a fruitful synergy and optimisation of individual efforts, the map of involved actors can be summarised as follows:

- individual volunteer citizens interested in the "bottom-up construction" of a more liveable and inclusive city, especially in its most problematic areas.
- local third-sector associations who shared their expertise and contributed to animating the space of the underpass by organising a calendar of actions (mainly socio-recreational, cultural and sporting) outside their premises, often adjacent to the project area.
- the political and institutional apparatus, i.e. Municipality 8 and the Municipality of Milan, which supported the initiative by framing it within the *Open Squares* programme, but above all the local primary and secondary schools (Rinnovata Pizzigoni, Dante Alighieri, Puecher), which 'questioned' the youngest children to propose

FIGURE X.1 - The exhibition with the design visions of local school children set up under the flyover on the occasion of the UNPark pilot project, Milan, 2021 (Source: UNPark)

X.1

scenarios, dreams and design visions for the underpass of the future to the community.

- companies, involved as technical sponsors or as project partners, sensitive to the themes of sustainable urban regeneration and social reactivation: some for a previous interest in developing research on the recycling of urban objects and materials (e.g. ESO[1], whose experience will be discussed later in this chapter); some for a position particularly close to the project area and therefore more involved in the area's regeneration dynamics (e.g. Decathlon, the local branch, which acted as technical sponsor by providing prepaid cards for the purchase of sports equipment); and some, finally, for their affinity with the target users and the reflections stimulated by the project. The local branch of Decathlon, which acted as a technical sponsor by providing prepaid cards for the purchase of sports equipment); and finally, those who are particularly close to the target audience and to the reflections stimulated by the research (e.g. Koh-i-Noor Italia, which offered drawing items to support the creativity of children, or Volverup, which provided designer bags made from old truck tarpaulins to stimulate reflection on the potential of second life of materials).
- the fablab system of the European network, and in particular the Milan Ideas fablab, which became an operational partner of the project; specifically, the fablab was involved in the numerical control production of the furniture, installed on site with a prototype and demonstration value, thanks to funding from the *FURNISH*[2] call.

The coexistence in the same project of this multiplicity of actors - obviously bearers of different sensitivities and interests - certainly represented a challenge

[1] www.eso.it

[2] www.eiturbanmobility.eu/furnish-the-project-that-is-reconfiguring-public-spaces-across-europe/

and a difficulty for *UNPark*, which finally succeeded in 'speaking' to different audiences and at different scales of intervention, making this success one of the greatest values of the initiative.

The role of the University

As previously described, *"neighbourhoods today can be seen as incubators for the design of spaces and services thanks to the proactivity of many civic realities that act at the centre of the design of those common goods (public spaces, streets, squares, pavements, parks, etc.) that do not have a voice but with which they interact, which they share and which they design their daily lives"* (Fassi, 2020, p. 77). Within this territorial dimension, which appears to be the foundation of a new, ever closer living (Manzini, 2021) (Tajani, 2021) - close to the citizens and capable of meeting their physical and relational needs, both in terms of services offered and in terms of liveability and spatial quality - the university also plays a central role. This is an internationally studied dynamic, to which a monographic volume published by Springer (2020) was recently dedicated: *"specifically, the publication posits and analyses the fundamental role that universities can play in guiding, fostering and testing scientific research in the context within which they operate. Indeed, there are already several examples of virtuous relationships between the spaces and skills that are present on university campuses and the local (physical and social) context in which they are situated"* (Fassi et al., 2020, p. V). As early as 2011, the European Commission had already focused on the importance of recognising universities as *"activators* [and] *actors with a significant role in urban and social issues"* (Jiusto et al., 2013) (Mitrasinovic, 2015), but since then *"the influence of university campuses in the surrounding social context*[3]*, as advocates and disseminators of sustainable practices*[4]*"*

[3] *European Commission (2011) Connecting universities to regional growth. A practical guide. European Commission, Brussels. https://ec.europa.eu/regional_policy/sources/docgener/presenta/universities2011/universities2011_en.pdf*

[4] *See ISCN, https://www.international-sustainable-campus-network.org/*

(Rebaglio, 2022, p. 94), has progressively increased. This is a significant paradigm shift, which still sees resistance, fortunately residual: "some nations and cities have long histories of functional separation between government, the private sector and academia. [...] It is rare for a municipality or a regional council to turn to an academic institution for an experts' opinion because of an existing prejudice that the academic approach is too theoretical. However, certain co-creation projects at the city level - in Lyon, for example - show that this silo mentality may be changing" (Agusti et al., 2014, p. 2). This reading also finds full correspondence in the *UNPark* experience; the Politecnico di Milano, in fact, for some years now has been taking on the role of promoter of social innovation and urban regeneration, acting as a collector of knowledge, interests, visions and different skills, but also as the first trigger of change in the territory close to it. In particular, it is since the launch of the *Polisocial* initiative, the *@Politecnico di Milano Social Commitment and Social Responsibility Programme*, that this focus has been enhanced: there are numerous projects, already financed and accounted for, that have opened up Campus spaces to third parties, exported academic practices to an external productive context, used culture as a lever for territorial innovation or become collectors of interests of an extended community, always embracing the challenge of new social responsibilities.

FIGURE X.2 - The MUE:SLI device made for FURNISH and set up for the first time under the flyover as a preview of UNPark, Milan, 2020 (Source: UNPark)

FIGURE X.3 - The MUE:SLI device made for FURNISH and set up for the first time under the flyover as a preview of UNPark, Milan, 2020 (Source: UNPark)

X.3 PROJECTS WITHIN A PROJECT: THE CASE OF FURNISH AND ESO

Of all the collaborations undertaken, there are two that - due to the recognisability of the results achieved - are almost configured as "projects within a project", with their own research autonomy: *UNPark, the an-*

X.2

X.3

X.4

ticipation: as illustrated in Chapter VI by Agnese Reabaglio, *UNPark* has in some ways incubated a demonstration urban furniture project; the partnership with Ideas and the participation in *FURNISH* 2020[5], a European call for proposals to redesign the city's public spaces, have in fact enabled the realisation of *MUE:SLI (Mobile Urban Element: Sport, Leisure and Inclusion)*. The call specifically called for thinking about urban devices capable of meeting the challenge of social distancing in times of pandemic; the answers provided by the seven selected groups took the form of virtual workshops and innovative prototypes in *digital fabrication* to be temporarily installed in the project areas. Proposals from the network of European fablabs and universities were manifold: some groups reasoned mainly on the size of the event and on elements for its "amplification"; others transformed a courtyard into an urban interior in the centre of Budapest thanks to sets of furniture and graphics

[5] *FURNISH is a project financed by the European Institute of Innovation & Technology (an agency of the European Union) with its EIT Urban mobility section, managed by a consortium led by CARNET (Future Mobility Research Hub), together with UPC-Barcelonatech (Technical University of Catalonia), Elisava (Barcelona School of design and engineering), IAAC (Institute for advanced architecture of Catalonia), the Municipality of Milan and AMAT (Milan Agency for Mobility and Environment).*

that could be replicated and implemented from below; still others preferred to explore the object scale, envisaging multi-purpose stations with integrated audio, or the architectural scale, imagining an itinerant device that would allow continuous experimentation of informal appropriation of urban space. Still others - including VORA, proposed by ELISAVA, *Open Terrace*, developed by IAAC, and *MUE:SLI* itself - have instead preferred to adopt modular and adaptable systems of urban elements that can be quickly relocated in space for the recovery of vehicular areas for pedestrian use. The project developed by the Milanese team, which was actually installed in December 2020 in the underpass, consisted of a seating system that could be implemented, if necessary, by punctual plug-ins dedicated to play, sociability, food consumption and communication (tops at different heights, board games, vases, graphic panels). These *plug-ins* were prototyped in a limited number, but the project envisaged a much broader abacus of functional possibilities that could have enriched the base-module potentially ad infinitum. At the construction level, *MUE:SLI* was realised exclusively with a CNC milling machine and laser cutter, exploiting a technique - the so-called *sectioning*[6] (literally "slicing"), a typical expression of digital production - with which one is able to interpret any shape, even a complex one, and generate two-dimensional interlocking geometries to reconstruct it with flat machining. The solution thus exploited both an open system logic with constant implementation and the technologies inherent in the digital fabrication paradigm. All the projects were eventually published on the *Open Innovation Platform* and made freely available for use anywhere in the world, trying to give substance to the open-source philosophy that was described in the previous chapters.*UNPark, the "spin-off"*: a second significant collaboration is the

FIGURE X.4 -
The MUE:SLI device made for FURNISH and set up for the second time under the flyover during the UNPark pilot project, Milan, 2021 (Source: UNPark)

[6] *Sectioning: "slicing a form into layers, fabricated from planar materials, well-suited to laser-cutting and/or CNC machining. These layers are often then assembled by stacking or intersecting, exploring also manipulation of non-planar components" (https://www.sporteimpianti.it/wp-content/uploads/2020/09/FURNISH_BriefSDA_Booklet.pdf)*

See VI by Rebaglio, and VII by Clementi and Bruschi

one established with ESO-Società Benefit, a company active since 1999 in the sector of office waste management and environmental consulting, which today manages 11 platforms in Italy dedicated to circular economy projects aimed at *"responsibility, transparency, ethics and the implementation of solidarity actions for man and the environment"* (ESO, 2020, p.4). ESO, which has already established fruitful collaborations with international brands to initiate recycling processes of their production waste (including Burberry, Gucci, Louis Vuitton, Amazon, Oviesse and Coin), participated in the *UNPark kick-start* by illustrating some of its latest experiments, *Il Giardino di Betty* and *La pista di PIETRO*. Both are part of the esosport run research, the first and only project to collect and recycle esasuste sports shoes in Italy and Europe. In *Il Giardino di Betty*, a children's playground realised on several occasions, most recently also inside the Campo dei miracoli in Corviale, and in *La pista di PIETRO*, a 60 m itinerant athletics track built as a tribute to Pietro Mennea, the company was

FIGURE X.5 - A study of surface decorations made by digital fabrication on recycled material from the soles of sports shoes. The aesthetics of the material change depending on exposure: when exposed to direct light, the workings on the material are barely perceptible, while against the light the texture becomes evident. Research commissioned by ESO, 2021 (Source: Ghigos)

FIGURE X.6 and X.7 - A study of engraved (left) and cut (right) surface patterns on recycled materials from the soles of sports shoes. At low laser power values, it is possible to engrave the material without burning it; at higher power values, the laser burns the material and the texture becomes more perceptible even in situations of direct light exposure. Research commissioned by ESO, 2021 (Source: Ghigos)

able to put the rubber soles of old, worn-out sports shoes back into play, generating a new raw material used as flooring. This was the first step in the collaboration between ESO and *UNPark*, which then continued at a distance throughout the duration of the project and finally resulted in research, commissioned by ESO, aimed at investigating the potential, also aesthetic, of recycled materials from sports shoes. We worked, again, in *digital fabrication* - exploring the technique of low-relief laser *engraving*, with

a thick engrave because it was applied to a non-homogeneous material such as rubber - thus attempting to reveal the "hidden narrative" enclosed in each specific supply lot (implicitly telling the story of the individual *trainer*, the way it was used and the sport to which it was dedicated). The result was a small prototyping, organised by decorative scenarios, of objects with sound-absorbing properties designed primarily for the domestic sector.

In conclusion, we could say that this research has been able to explicate "scenarios and back-stages", in which decoration has become an aesthetic and narrative occasion. It is precisely in the exploration of the possibilities allowed by digital fabrication, in this case laser-cutting, in the attention to sustainability and the instances of the circular economy, and finally in the translation of sport into a project dimension, that we can identify the points of contact and recurrence between ESO's research and that of UNPark.

X.4 CONCLUSION: WHAT LEGACY

The two cases illustrated above already constitute a specific and recognisable legacy of *UNPark*; they concern two thematic areas that are similar in scale but have pursued very different intents and results. As we have tried to illustrate, the element of continuity between them is nevertheless explicit and concerns the desire to explore the potential, both technical and expressive of the new production methods promoted by Industry 4.0: *"in addition to proposing a new aesthetic, the self-producers bet on a specific business model. They work on limited series* [...] *with an innate vocation for excellence and tailoring"* (Micelli, 2011, p. 128); and again: *"Fab Labs, and in general*

the Maker mode, operate in a context of advanced technology finally made accessible, of collaborative and democratised design, of revolutionised and re-organised manufacturing by continuous and open research" (Menichinelli, 2016, back cover).

Both of these experiences have left two tangible, decidedly innovative legacies: a "programmed distance" urban "supply" system and a system of decors applicable to multiple product types. In particular, the metaprojectual research on the circular economy that that involved ESO at the conclusion of *UNPark* represents a long-term legacy: with it, in fact, the theoretical and empirical assumptions were identified to initiate further research that opens up to unforeseeable future spin-offs, in the urban sphere but not only. In addition to these two easily describable outcomes, there are at least two other legacies that the installation realised in the underpass gives us, perhaps less easily recognisable because intangible, but no less important for that. One thinks, first of all, of the project's ability to act as food for the inhabitants' imagination, a vehicle and representation of their "possible dreams" which they would often be unable to visualise without a trigger. Giving citizens the opportunity to shape a desired future, and consequently allowing them to find the motivation to ask *policy-makers* for a concrete change in the collective urban space, appears to be an important success that a prototype and demonstration project such as *UNPark* could achieve.

In the second instance, consider that the choice was sometimes made to pursue certain apparently risky solutions (above all in functional terms, because the activities installed were decidedly anomalous for the area that would host them), but this choice had precisely the objective of unhinging certain project customs, of drawing attention to the inadequacy of

certain technical-legislative constraints, and of demonstrating the potential impact on the territory of possibilities of use that were perhaps unheard of, but not utopian.

In summary, it can certainly be said that the visionary and futuristic charge of *UNPark* has in turn constituted a valuable legacy of the project, however intangible: describable in both symbolic and factual terms, this legacy probably still has to settle in order to fully enter the imagination of the inhabitants and to overcome the scepticism of politicians. The first seed, in any case, has been laid.

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