

FROM HUMAN-CENTERED TO MORE-THAN-HUMAN DESIGN

Exploring the transition

edited by Barbara Camocini and Francesco Vergani



***Direction:* Silvia Piardi**

Scientific Board:

**Alessandro Biamonti, Alba Cappellieri, Mauro Ceconello,
Claudio Germak, Ezio Manzini, Carlo Martino, Francesca Tosi,
Mario Piazza, Promil Pande, Angelica Ponzio, Zang Yingchun**

The Design International series is born in 2017 as a cultural place for the sharing of ideas and experiences coming from the different fields of design research, becoming a place in which to discovering the wealth and variety of design, where different hypotheses and different answers have been presented, drawing up a fresh map of research in international design, with a specific focus on Italian design.

Different areas have been investigated through the books edited in these years, and other will be explored in the new proposals.

The Scientific Board, composed by experts in fashion, interior, graphic, communication, product and industrial, service and social innovation design, interaction and emotional design, guarantee the high level of the accepted books. After the first selection by the Scientific Board, the proposals are submitted to a double review by other international experts.

LEM - Landscape, Environment and Mobility

Editorial Board:

**Anna Barbara, Giampiero Bosoni, Barbara Camocini,
Annalisa Dominoni, Maurizio Rossi, Francesco Scullica**



Il presente volume è pubblicato in open access, ossia il file dell'intero lavoro è liberamente scaricabile dalla piattaforma **FrancoAngeli Open Access** (<http://bit.ly/francoangeli-oa>).

FrancoAngeli Open Access è la piattaforma per pubblicare articoli e monografie, rispettando gli standard etici e qualitativi e la messa a disposizione dei contenuti ad accesso aperto. Oltre a garantire il deposito nei maggiori archivi e repository internazionali OA, la sua integrazione con tutto il ricco catalogo di riviste e collane FrancoAngeli massimizza la visibilità, favorisce facilità di ricerca per l'utente e possibilità di impatto per l'autore.

Per saperne di più:

http://www.francoangeli.it/come_publicare/publicare_19.asp

I lettori che desiderano informarsi sui libri e le riviste da noi pubblicati possono consultare il nostro sito Internet: www.francoangeli.it e iscriversi nella home page al servizio "Informatemi" per ricevere via e-mail le segnalazioni delle novità.

FROM HUMAN-CENTERED TO MORE-THAN-HUMAN DESIGN

Exploring the transition

edited by Barbara Camocini and Francesco Vergani

D. | . **FRANCOANGELI** OPEN  ACCESS
DESIGN INTERNATIONAL

Cover image by Sara Sciannamè

ISBN e-book Open Access: 9788835132585

Date of first publication: December 2021

Copyright © 2021 by FrancoAngeli s.r.l., Milano, Italy.

This work, and each part thereof, is protected by copyright law and is published in this digital version under the license *Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International* (CC BY-NC-ND 4.0)

By downloading this work, the User accepts all the conditions of the license agreement for the work as stated and set out on the website

<https://creativecommons.org/licenses/by-nc-nd/4.0>

Contents

Introduction, <i>by Barbara Camocini, Francesco Vergani</i>	» 7
1. The Political and Social need for a New Design Culture, <i>by Alessandro Biamonti</i>	» 15
2. Design for urban regeneration: future scenarios and common challenges in a multispecies world for synergistic action-research between design and anthropology, <i>by Barbara Di Prete, Agnese Rebaglio, Davide Crippa, Leopoldo Ivan Bargna, Giovanna Santanera, Leone Michelini</i>	» 28
3. Within the Metabolic Network: studies in Multispecies Design, <i>by Gionata Gatto</i>	» 62
4. A New Taxonomy for Spatial Design in the post-Anthropocene Era, <i>by Giovanna Piccinno</i>	» 81
5. Design materials for the transition towards post-Anthropocene, <i>by Valentina Rognoli, Barbara Pollini, Luca Alessandrini</i>	» 101

6. Post-anthropocentric creativity: new skills for a just digital transition, <i>by Marita Canina, Carmen Bruno, Tatiana Efremenko</i>	» 131
Authors	» 154

2. Design for urban regeneration: future scenarios and common challenges in a multispecies world for synergistic action-research between design and anthropology

*Barbara Di Prete**, *Agnese Rebaglio**, *Davide Crippa***, *Leopoldo Ivan Bargna****, *Giovanna Santanera****, *Leone Michelini****

Abstract

Design and anthropology represent two intertwined disciplines, which historically have found fruitful opportunities for comparison and elements of contact; in light of the social changes that are strongly influencing also the design field, today more than ever these two disciplines are called to question themselves again, with a critical and future-oriented approach, to renew their fields of investigation by enhancing each other's interferences, strategies of collaboration and possible common challenges.

In particular, the paper aims to adopt a projective perspective, investigating the present as a time open to the future, a moving "edge". In fact, more and more frequently we wonder what the perspective is for "the anthropology of the future" (Bryant and Knight, 2019), taking a position similar to those design-oriented approaches promoting "the uncertain and the possibility" (Akama et al., 2018) as well as "fragilisms" as vectors of innovation.

The analysis will focus on the role of public anthropology as a privileged interlocutor to those engaged in design; on the enhancement of suburbs as a territory of "residual authenticity" and creative

* Department of Design, Politecnico di Milano

** Department of Architecture and Arts, Università IUAV di Venezia

*** Department of Human Sciences for Education, Università degli Studi di Milano Bicocca
"Riccardo Massa"

“indiscipline” (Vattimo, 1988, p. XI); on the centrality of a micro approach to urban regeneration, as well as on the examples of widespread and inclusive regeneration that see the inhabitants as co-authors, where individuals are not mere bearers of culture and values, but also creators of new culture and projects.

The goal is to outline a synergy that looks to the future of action-research on the peripheries starting from margins, diversities, hybrids, creativity and the informal. Furthermore, we will analyze the prospects of urban regeneration in a post-anthropocentric era.

The paper, starting from some recent case studies that mainly involved the Milan area, thus intends to underline and enhance the disciplinary links between anthropology and design, but also their “exchanges, entanglements and frictions” (Bargna and Santanera, 2020), and, in a proactive perspective still to be validated, some possible opportunities of implementation – of tools, practices, policies – for a renewed dialogue between these two disciplines.

2.1 Introduction

The essay analyzes the topic of urban regeneration, and more specifically the regeneration of the peripheral territory as an opportunity for innovation, including social innovation, pursuing an approach sensitive to the “micro”, to fragile and marginalized living contexts, to hybrids and the informal. In the following paragraphs – developed as a two-way dialogue on the relationship between anthropology and design, on their synergies and on the still unexpressed potential that could be pursued thanks to a closer collaboration between these two disciplines – the attention is focused, first of all, on the so-called “bottom-up” planning that sees citizens become active interlocutors in the different phases of the design process (first of analysis, then of project and finally of realization and management of the common good). This view is extremely emblematic of contemporary life, that already sees many projects moving in this direction; each best practice obviously has its own characteristics, but for a summary reading we will try to frame the phenomenon through some macro-categories of interpretation.

In the second part of the essay, the analysis moves instead from reading the current situation to framing possible dynamics that will be typical of the near future, debating between *emerging*, *possible* and *preferable* futures.

Therefore, while maintaining this two-voice approach, capable of making us read the disciplinary perspectives of design and anthropology as a system applied to the same field of interest, the essay's structure shifts from an analysis of the dynamics of participation and co-creation by the inhabitants of their living environment, to a broader one, where instead the latter are only one element – one of many, not the only one nor necessarily the main one – that contributes to the well-being and quality of urban space. From a purely anthropocentric perspective, then, the focus shifts to a post-anthropocene era, one that according to many is already underway, in the form of a “Neoanthropocene” (Carta, 2021).

2.2 The contemporary scenario: design and anthropology in dialogue

Design and anthropology now have a consolidated common history, having in recent years increasingly become a tool and action of one another, with a reciprocal use more and more recurring. Many are the fields of shared interest: both pursue a design approach that puts *living* before *building*, through the understanding of its practices and imaginaries. This determines the centrality of the socio-cultural dimension in urban regeneration, as the transformation of *spaces* into *places*, of *built* into *lived*, cannot leave out an active listening, especially of what is often considered marginal, fragile, eccentric or invisible. That is, “peripheral”.

It is, therefore, precisely in the periphery that the challenge of contemporaneity is played out, which must overcome the notion of “peripherality” as an attribute of “peripheralization” (Pezzi and Urso, 2016, p. 2). The periphery is always accompanied by an insulting adjective: far away, abandoned, sad; in reality, 80% of people in a city live in the periphery and it is there that the energy lies. [The periph-

eries] are full of life, they are places of the future, all it needs is for cities to grow to include, not exclude them (Piano, 2015).

The recognition and enhancement of cultural and social diversity, for a widespread regeneration that accepts the inhabitants as co-authors, is the basis of all those now consolidated design practices that act on the place triggering participation, spontaneous appropriation, aggregation and sense of community. It is precisely the awareness that individuals are not simply bearers of culture and values influencing their behavior, but also continuous creators of new culture, what constitutes a fundamental creative lever in urban regeneration projects.

A micro approach that is attentive to the way in which “locality” is (re)built, the deep knowledge of contexts, the building of trusting relationships, the sharing of experiences, the engagement and empowerment of inhabitants in the making of a common environment are, therefore, fundamental traits representing the basis of both an anthropological and a design approach that is not self-referential; they allow to increase the degree of inclusiveness of urban regeneration projects, rooting them better in local contexts and making them, in a longer-term perspective, recognized, shared and cared for. The “in-the-field” ethnographic dimension of design is thus the hinge between these two disciplines, the area able to combine quantitative and qualitative research to catch, address and then meet the needs and aspirations of the territory.

2.2.1 Multispecies ethnography and the anthropology of things for urban regeneration

In the context of urban regeneration projects, the ethnographic method is one of the main areas of dialogue and exchange between anthropology and design. Designers have long practiced ethnography to comprehend the recipients of their projects and the socio-cultural context in which their projects are implemented. However, design ethnography differs from “classical” anthropological ethnography, due to the marginal role played by participant observation, compared to other research tools, such as video recording, scenarios, mock-ups,

props, opportunity maps, and games (Bargna and Santanera, 2020, p. 28; Gunn and Donovan, 2012; C. Miller, 2018, p. 53). On the other hand, anthropological ethnographic research must rely on some form of “taking part” in the people’s lives, to understand explicit and tacit aspects of culture and social life (Dewalt and Dewalt, 2011). As a consequence, anthropological ethnography takes longer and is less structured than design ethnography.

In urban regeneration projects, this “slow method” requires taking a close look, unlike the panoramic and distant vision, which has often been typical of urban planning. The goal is to discern what city dwellers do, say and feel, and to grasp the “internal point of view”, trying to give an “interpretation of the interpretations” (Geertz, 1973) that the inhabitants give of themselves and of the practices they implement. Thus, very general themes and issues, which other disciplines embrace on a larger scale, are rethought based on everyday interactions. To give a few examples, in green regeneration projects, people’s mobility can be analyzed by starting from people’s paths, motivations and purposes. Meanwhile waste management can be related to the cultural notions of *clean* and *dirty*, *purity* and *contamination*. These affect belief systems and ways of feeling deeply embedded and irreducible to a cost-benefit calculation, to medical and health hygiene or to the “good intentions” of the circular economy. More generally, this approach implies the analysis of the networks of relationships, as societies and cultures gain coherence through the accumulation of these relational activities, which are stabilized in routines and take shape in frames (Hannez, 1998). What is called *culture* and *city* emerges within a multiplicity of situations, though often divergent and contradictory, of which no one has a complete overview. Networks and communities of practices, be them stable or ephemeral, converging or conflicting, design the city as a taskscape, i.e. a set of activities that are at least partly interconnected (Ingold, 1993).

Within this general framework, the possibility of reaching the “hidden population” is particularly relevant for urban regeneration projects. This is possible thanks to the deep knowledge of the local context, the building of trust relationships and the sharing of experiences typical of anthropological fieldwork. The so-called “hidden

population” is made of people who do not participate in formal and organized groups and who are therefore difficult to intercept. They are a “silent” majority of inhabitants who seldom participate in associations, as well as those who live on the margins of society, such as homeless people or undocumented migrants. Including their points of view in the design and implementation of projects is essential to better ground the intervention, thus increasing its chance of success. Yet this does not necessarily lead to the narrowing of the gap between how spaces, services, and infrastructures are imagined by designers and how they are actually used by people. As the design anthropologists Dourish and Bell (2011, p. 73) remind us,

Seeking to close the gap through the application of the ethnographic methods is a contradiction in terms; the gap is where all the interesting stuff happens, as a natural consequence of human experience.

On the other hand, in the Anthropocene age, the hidden population to be taken into account is not only the human one. To design for the post Anthropocene age it is also necessary to take into account the agency of all the other inhabitants of the city, such as animals, plants and microbes, in an ecological perspective capable of imagining new interrelationships and common futures (cf. Haraway, 2008; Ingold, 2011; Tsing, 1995). It is not so much a question of designing spaces of *nature* within the city, but of recognizing the indissoluble mix of “natureculture” (Viveiros de Castro, 1998; Descola, 2014; Latour, 1993), where the human being is entangled with non-humans, in an “interspecies relationship” (Tsing, 2012). The anthropological approach, therefore, goes beyond anthropocentrism (Kohn, 2013) towards a multispecies ethnography that studies how humans and other beings are connected and mutually enmeshed, in the human body living non-human organisms, such as microbes (Kirksey and Helmreich, 2010).

In this process of decentralization of the human perspective, it is also essential to recognize the power of things, which remains “invisible” (D. Miller, 2010) when things are seen as mere tools at the disposal of humans. Instead, they have a certain degree of autonomy and are entangled with humans (and other non-humans) in multiple and unexpected ways, beyond instrumentality (Appadurai, 2013;

Gell, 1998; Ingold, 2013; Latour, 2005). For example, houses do not allow themselves to be inhabited freely, but through their materiality, they “suggest” certain behaviours and lifestyles while inhibiting others (D. Miller, 2010). In a similar way, streets, sidewalks, buildings and parks, through their conformation, allow, prevent or encourage specific possibilities of utilization. They incorporate the stories of previous generations and manifest, within the limits they set, their autonomy with respect to our intentions.

The anthropology of things (cf. Appadurai, 1986; D. Miller, 1998; 2010) addresses these complex interactions. It recognizes a certain agency in the inanimate world and explores how objects and human beings are bound in relational networks.

2.3 The regeneration of the periphery: from latent potential to a new “center” of interests, values and experimentation of design practices

In this paragraph we intend to present some emblematic projects, possible translations in the field of what has been stated above, and particularly representative of a highly participatory approach, where participation is not only listening or sharing, not only mapping or building common platforms of expressed and unexpressed needs but is implemented each time in different operational modalities.

Particularly, in the following section we will report some interpretative categories typical of these widespread methodological approaches, where the anthropological view – implicitly or explicitly – has guided the work of designers. These are macro-categories, therefore necessarily wide ones that can have a summary nature and a value applicable to different contexts. Each one is illustrated using a reference best practice, all of which are extremely recent (one in progress, two just completed and a fourth dating back to 2016) and all selected in the same area – the areas of North-West Milan, belonging to Municipalities 8 and 9 – to facilitate comparison. These are peripheral areas with a non-homogeneous urban fabric; for example, the Bovisa district is characterized by a recent industrial past, whose traces are still strongly visible in the urban voids left by old factories

now abandoned; vice versa, the area that leads from Portello to Ghisolfa shows a dense and distinctive building fabric, that makes the area a potentially attractive pole for different expressions of social life.

As previously mentioned, participation has been a consolidated practice for years, but today it has rediscovered new tools, practices and policies, also attributing multiple roles to “social players”. It is precisely with respect to this role that we intend to propose the following interpretative framework.

2.3.1 UNPark: when participation takes place in the process

This planning dimension, on which the sociologist and economist Saskia Sassen, among others, has long focused its analysis, is at the basis of a “horizontal urbanism” founded on a system of individual actions that manage to flow into collective practices of “urban democracy”, assuming the city as an adaptive and open system (Sassen, 2011).

Here – by way of example – we intend to report specifically the case of a pilot project proposed by Politecnico di Milano, developed thanks to the “Polisocial Award 2019” call for proposals and currently in its final phase. This is “UNPark - Urban Nudging Park”, a project carried out in synergy by the Departments of Architecture and Urban Studies (DAStU), Design, Architecture, Construction Engineering and Built Environment (ABC), the Department of Electronics, Information and Bioengineering (DEIB) and the Department of *Chemistry, Materials and Chemical Engineering* “Giulio Natta” (CMIC); the object of the applied research proposal is in this case the redevelopment of a portion of the Serra-Monte Ceneri underpass, designed by Eng. Silvano Zorzi and Giorgio Macchi and built between 1950s and 1960s.

The topic is considered of undoubted interest for the city of Milan both because of the peculiar context of intervention and because the problem of the areas adjacent to (and specifically underneath) large road infrastructures is a widespread issue; its solution would therefore be replicable and virtuously scalable also in other urban con-

texts. Now in the final phase of experimental application, the pilot project that will be installed on site for a week, following Milan Design Week 2021, will therefore be an important test, especially useful for testing the spontaneous dynamics of “presuming” of urban space that will be activated and for verifying the response of the population to the proposed activities.

The project is wide-ranging (starting with the redevelopment of a portion of the underpass, it is hoped to trigger a broader urban and social regeneration), but because of the peculiar perspective characterizing this essay we intend to illustrate this project here underlining the possible short-circuits with the anthropological approach.

a. First, the “photographic look” with which the analysis of the area was conducted in the first instance appears to be interesting: the involvement of photographer Matteo Di Giovanni has in fact made it possible to capture details of the place, bringing out its hidden features and making its “invisible soul” visible. Particularly, some of the shots certainly revealed the barrier nature of the infrastructure, but also the strength of the buildings behind it, which constitute an essential backdrop to the context. Similarly, the most neglected and abandoned areas, those of potential spontaneous aggregation have emerged, as well as the different ways of use and appropriation of space of the two prevailing flows, that of car traffic and that of pedestrians. Thus, transit and parking, speed and slowness, density and voids tell every time about different cities, depending on the time and day of the survey.

b. Second, another key element of the analysis of the area and of the creation of a “common feeling” were the co-design tables, where both interested citizens and stakeholders were invited to offer their contribution both in analytical terms (what is missing in the area, what would be needed, what problems there are, what constraints and what potential could be seized) and in propositional ones (what can be actively – and personally – done to improve the context). These tables, which were repeated on three different occasions to ensure the widest engagement and were conducted virtually to facilitate participation even in the pandemic phase, allowed to collect the wishes of the inhabitants, to encourage knowledge and discussion among them, and to activate the latent potential of the place’s intrinsic resources.

Some design “guidelines” emerged, aimed at creating a multifunctional “square” for easily accessible street sports, also equipped for spontaneous aggregation activities and able to constantly enliven the underpass. With the declared aim of nurturing the centrality of the impact of infrastructures in the city's agenda, these co-design tables have therefore pursued urban regeneration on various levels: fighting social marginalization, fostering intergenerational and intercultural cohesion, promoting active citizenship, promoting physical and social wellbeing and strengthening environmental awareness.

c. The third tool that was proposed, and that can also be considered useful in terms of anthropological analysis, was again a participatory occasion: a “situationist walk” through the neighborhood carried out on 25th April 2020 that represented a further opportunity for discovery and sharing. Thanks to its playful force and its aggregation capacity, this “urban drift” was extremely useful to build a common ground of reading first and intentions later.

After these three moments of listening and collection of the dreams, ambitions and fears of the inhabitants – moments that also made the physical place with its inanimate artifacts “speak” (fundamental elements of the environmental ecosystem in the above-mentioned perspective of “anthropology of things”) – the phase of transformation of all the data collected into a practical application, or rather into a real project capable of entering the local context, was delegated to the team of designers. This group of interdisciplinary experts, who followed all the previous phases step by step, now has almost the sole task of “physically translating” the set of expectations identified.

A first fallout on site was already implemented from 4th to 6th December 2020 with a pop-up event linked to the European call “Furnish” whose aim was testing the effectiveness of some prototypes of urban furniture and their impact on the lives of the inhabitants, particularly on their ability to appropriate the public space. “MUE:SLI - Mobile Urban Elements Sport Leisure and Inclusion”, a modular system of furniture that, thanks to different plug-ins, adapts to multiple functions related to sport, leisure and socialization, while respecting the procedures and rules for physical distancing due to the pandemic, has raised interest and curiosity and in the underpass has been used

by different “urban populations” – even those previously defined as “hidden populations” – without suffering any specific acts of vandalism. It will therefore be repropose in the pilot project to be installed in September 2021, within a more structured program of activities and a more defined design ascribable to the so-called “urban interiors” (A.a.V.v., 2016). This term refers to spaces that are welcoming and hospitable, sustainable, resilient due to their adaptability and socially inclusive. These are places with wide recognizability that intercept passers-by, welcome them, “reassure” them and represent them:

interventions that aim to recover that dimension of the relationship between man, object and space that is proper to the culture of interior design (Crespi, 2018).

In addition, the project envisaged an air monitoring system and the modelling of the data collected by means of control units positioned on the balconies of private homes, to raise citizens’ awareness on Nature Based Solutions environmental protection issues. In conclusion, the implementation and management phases of the pilot project will once again see a strong element of direct participation by the inhabitants, called to “build” and then take care of their living environment as the first co-artisans.



Fig. 2.1 - Work in progress phases of the redevelopment works of the Serra-Monte Ceneri underpass on the pop-up event realized for the call “Furnish”: application of stencils and floor painting. Milan, 4-6 dec. 2020. Ph Barbara Di Prete.



Fig. 2.2 - Redevelopment project of the Serra-Monte Ceneri underpass on the occasion of the pop-up event realized for the “Furnish” call for proposals: in the foreground the graphic area on the floor, in the background the MUE:SLI prototypes. Milan, 4-6 dec. 2020. Ph Paolo Carli.



Fig. 2.3 - On-site installation of the MUE:SLI prototypes, funded by the European call for proposals “Furnish”. Milan, 4-6 dec. 2020. Ph Davide Crippa.

2.3.2 The P.A.A.I.: when participation is expressed in the project

The project we intend to recall here is the most dated one, in fact it dates back to 2015-2016, but still today – for its complexity and for the important recognitions it has received (including the Compasso d’Oro ADI in the “Design for Social” category in 2018) – it seems of great interest for this dissertation. This is the “PAAI - Padiglione Adattabile Autogestito Itinerante” (Adattabile Self-Managed Traveling Pavilion), a project once again proposed and developed by a group of university researchers (Department of Design, of Architecture and Urban Studies, of Management Engineering) within the broader research project called “CampUS - incubation and staging of social practices”, financed thanks to the call “Polisocial - the program of commitment and social responsibility of Politecnico di Milano”. The pavilion, “adattabile” with respect to the different contexts and modes of use, “self-managed” by the partner associations and freely used by citizens, “travelling” in the north-west area of Milan, was primarily designed for what were previously called “hidden populations”, with the aim of improving their inclusion, engagement in the processes of use of the city and mutual understanding with other urban “populations”.

The pavilion particularly addresses those considered to be the most vulnerable, often at the margins of urban life, excluded from the world of work and from the active social fabric: the NEETs, children and the elderly are too often only considered in terms of welfare, and their resources, knowledge and time are not valued. In contrast to this approach where they are regarded as passive participants in the life of the community, the *PAAI* project acts to satisfy their needs at the same time as welcoming their availability and harnessing their potential (Di Prete, 2019, p. 240).

For a complete analysis of this case study, please refer to the monographic text dedicated to “CampUS” (Fassi et al., 2019); here we will instead describe it in brief, again trying to illustrate the tools put in place and that could pertain to what was previously called “design ethnography”.

a. Among the most effective tools used, we must certainly include those used by the inhabitants to “vote” for their favorite proposal among the ideas displayed in an illustrative exhibition of potential projects for the travelling Pavilion. The students of the course of “Scenography and Representation Spaces” of Politecnico di Milano, in fact, had developed some early project options, still to be verified in terms of technical feasibility, financial cost, realization times and durability. On the final exhibition of the course, while not claiming to solve the design phase at the same time, it was however important to present the results of the work carried out and - through “palettes” available to citizens for an open vote, interviews and questionnaires - to collect the first suggestions and feedback from the territory. Following this both informative and operational step, that used some tools typical of the anthropological field, the actual co-design phase began.

b. As in the previous case study the co-design tables had constituted an essential moment of exchange, knowledge and collection of the inhabitants’ desires, so for the planning of the Travelling Pavilion (thought to be installed “temporarily” in some public areas of the Affori, Dergano and Isola districts) the co-design tables played a crucial role. In this case they represented the occasion to implement, “correct” and integrate the initial, most voted meta-project, giving it a more and more executive setup. This effort was carried out in meetings with progressive monthly appointments, so as to gradually guide the planning towards more detailed levels of formal, material and structural definition; this task - having involved people often without any technical-design expertise - was carried out thanks to a scale model of the pavilion itself and thanks to the role played by the university’s researchers, “mediators” of skills, “collectors” of needs and proposals, “synthesis” and “translation” of often imaginative visions. On the study pattern, the citizens were thus able to “write” their own project starting from a non-white sheet of paper, that would have got them in trouble and would not have allowed for the research to progress.

c. Finally, the third tool of “design ethnography” used had the purpose of facilitating the structuring of a calendar for the pavilion’s use and management. Conceived to host events, exhibitions, debates,

games, recreational, sport or cultural activities, this space had to represent an informal place at the disposal of citizens and local associations, that had to organize its management and agree on the services offered. To manage this complex phase, considering the significant number of participants in the tables and stakeholders interested in the use of the pavilion (with over 45 subjects for 87 proposed events), we used a tool now consolidated in co-design practices: an empty calendar, a sequence of customizable post-it notes, a debate mediated by graphical diagrams to represent each potential mode of use. Thanks to these tools and to the audience's large participation, in just one afternoon it was possible to satisfy most of the requests presented by the associations and to build a calendar for shared use, conceived almost seamlessly from May to October 2016. When not in use, the pavilion would have been a free space available to citizens, a place to rest and shade, a scenic device for informal uses, a "gift" to the neighborhood that could then take advantage of an additional public space.

Through these various shared moments, people's participation has led to a well-defined result both in terms of planning and of the service offered; at the same time, it has contributed to raising the interest of the community, to making the players of the territory responsible and, in short, to making this apparently neutral "space" feel like a "place" for everyone.

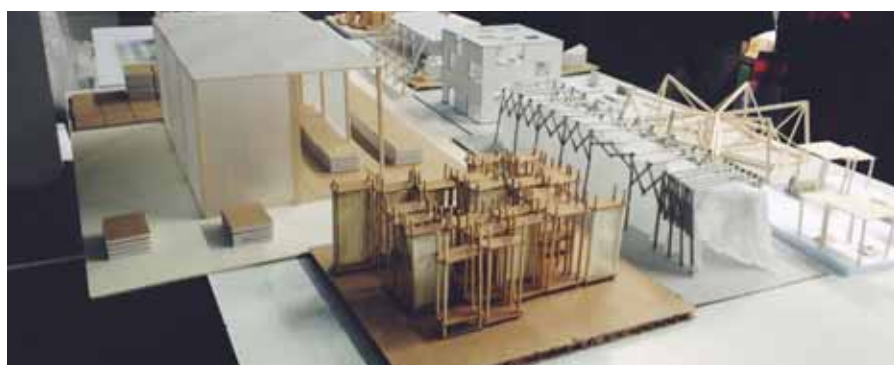


Fig. 2.4 - Final exhibition of the course in "Scenografia e Spazi della Rappresentazione" (Scenography and Representation Spaces) at Politecnico di Milano, that exhibited the first design ideas for PAAI. Responsible prof. Pierluigi Salvadeo. Ph Barbara Di Prete.



Fig. 2.5 - Study maquettes for the PAAL, representing the different project advancements, presented at the co-design tables on November 28th and December 10th, 2015. Ph Barbara Di Prete.



Fig. 2.6 - The Adaptable Self-Managed Travelling Pavilion in its final configuration, during the opening on May 8th, 2016 in Savarino Park. Ph Barbara Di Prete.

2.3.3 Via Toce: when participation takes the form of implementation

In both the previous best practices, citizens' participation was also translated into their direct action in the implementation and management phases, but this action represented almost an inevitable consequence, seeing the involvement of citizens as key players in the analytical-process phase or in the more specific planning phase. On the other hand, in this interpretation category we intend to recall some projects promoted by groups of creative people or local associations that in the implementation phase availed themselves of the contribution of much larger segments of the population. These are actions of urban regeneration that could be framed into the broader phenomenon of the so-called "Tactical urbanism" (Garcia and Lydonm, 2015), a redevelopment strategy that acts both in terms of social reactivation and territorial animation, connecting the physical space of living and the symbolic one of experience. These are practices that convey the value of the ephemeral and the intangible as tools for urban regeneration; in this sense, they are actions that express a transient image of the city but build a long-lasting imaginary in the memory of the community.

In particular, to make these projects possible – generically included in the "Piazze Aperte"¹ system – the City Hall of Milan set up the so-called "cooperation agreements". They are the operational tool of a policy aimed at pragmatically and easily giving concrete form to the several proposals that constantly reach the municipal tables "from below": in exchange for the commitment of a group of citizens signing the deal to create, give life and oversee the project, the City Hall offers free use of racks, playful devices such as ping-pong tables or paint to graphically decorate the urban area. Paint is a fundamental material for these projects, since all the "open squares" have a necessarily temporary, ephemeral, prototypical character, designed to test in the short-term different uses of public space with cheap and strongly graphic solutions. Indeed, in most of these cases the strategy is to subject the project "to a trial-and-error dynamic" (Zappulla, 2015, p.105) and experimentation is useful to assess its impact on a

¹ Available at: www.comune.milano.it/piazzeaperte

physical-perception level, but also to verify its ability to integrate into the local value and symbolic fabric. This is a kind of “guerrilla urbanism”, sometimes also called “pop up” urbanism or “urban hacking”, that is:

actions able to interfere with the consolidated organization of spaces and times of the city and thus suggest, trigger or guide unprecedented paths of transformation (Arras et al., 2017, p. 56).

Among all the many initiatives launched in recent years and framed in the phenomenon of “tactical urbanism”, we will mention here only one of the last finished in chronological order in Milan: the redevelopment of a road section of Via Toce, located between the Bruno Munari Garden and the gardens of Via Cusio/via Toce in the Isola-Lancetti area (Municipality 9), inaugurated in October 2020.

The street divided the two parks, but following a collection of signatures, the City of Milan included in the project “Open Squares” the request for applications to temporarily make pedestrian and redevelop that part of road, reconnecting the two gardens with a sort of equipped square, an environment designed specifically for recreational use and aimed primarily at children. The project of tactical urbanism in this case intended to test the new dynamics of use in the idea of making the green space of that urban portion a single one. The Isola Association and the Repubblica del Design Association responded to the City Hall’s call with two different expressions of interest. They then signed the “collaboration agreement” and worked on a unified proposal that should have been, in the original plans, the result of a participatory process conducted with workshops in the area, but that, due to the pandemic, was finally translated into a project signed by the Ghigos studio.

The project obviously reflects on the issue of green as an occasion of urban mending, even if metaphorical, and pays tribute to Munari, thus further enhancing the character of the surrounding area. For this reason, the protagonists of the design, organized in a sort of “urban fairy tale”, are some symbols taken from Munari’s experience that invade the public space making it a big “page” of an open book, to “flip through” step by step. As you walk through the square, you will come across a human silhouette taken from the text “Da cosa nasce

cosa” (One thing leads to another), Munari’s own face, an amusing “Little Green Riding Hood”, the ever-present wolf at the entrance to the gardens in Via Cusio/Via Toce, some frogs, the “Falkland” lamps interpreted here as trees, and the drawing of a rich vegetation that evokes the workshop “Disegnare un albero” (Drawing a tree) to recall the dimension of the garden and the forest. Among these graphic elements, acting as a narrative background, the usual urban devices made available by the City Hall of Milan have been installed: ping-pong tables, picnic areas and seats aimed at encouraging sociability, playful enjoyment and opportunities for aggregation.

The realization, despite the difficulties of the pandemic context, was carried out thanks to the crucial contribution of the inhabitants, including many children of the neighborhood. Such a massive participation of young children can be explained both by the presence of the neighboring Bruno Munari Garden, already very lively and attractive for the presence of several children’s games and by the engagement of the nearby Toce Municipal School, and by the specific theme of the project, as this “tactical square” is conceived as a narrative park, almost an “urban fairy tale” that inevitably caught the interest of children. Furthermore, it should be considered that, prior to the construction phase, Isola Association had started an on-site preliminary phase communicating to teachers, to its members and then to curious passers-by the meaning of the initiative thanks to a constant presence during the works. This moment of knowledge and “engagement of the population” gave rise to a spontaneous word of mouth that contributed to the success of the operation and to the strong participation of children in the implementation phase.

The outcome of the urban prototyping appeared immediately very good; it was verified through the usual “design ethnography” tools, namely direct interviews and questionnaires carried out by Isola Association to people intercepted on site and to inhabitants registered with the association itself. Even the institutional steps conducted in Municipality 9 have given positive feedback, further demonstrating the satisfaction of the citizens for this urban transformation and in general the effectiveness of the intervention, so much so that the City Hall now intends – exceptionally with respect to the practice of “Open Squares” – to maintain the project, that will no longer have a

temporary and prototype dimension, but will become a “permanent” element of the urban image.

Additionally, we intend to implement the proposal shortly by also including some urban devices that could fully belong to that post-anthropocentric vision that was already mentioned above. The neighborhood, in fact, has decided to focus on biodiversity, starting with the “biodiversity of the small”: that of small urban green spaces like gardens, vegetable gardens, but also terraces and balconies; on the other hand, it should not be forgotten that Isola is an area full of parks and has long developed a very strong sensitivity on the issue (think for example of the successful project of the “Library of Trees”). In line with this vision, bug-hotels, shelters for useful insects, kits for urban beekeeping and tools that can encourage this ecosystem approach will be installed in Via Toce to complete the urban furniture that will be provided in the two gardens. The aim is to protect and encourage the variety of living forms and urban environments, enhancing diversity within species, between species and of ecosystems and – again acting on the minute, residual and “peripheral” – committing to the general maintenance of the ecological balance.



Fig. 2.7 - The new “tactical square” of via Toce during the inauguration, with games and readings with the children of the neighborhood. Ph Davide Crippa (picture on the left) and Davide Stanga (picture on the right).



Fig. 2.8 - Overall view of the part of Via Toce between the Bruno Munari Gardens and the small gardens of Via Cusio, redeveloped with a strong graphic-narrative imprint. In the foreground, the wolf from “Little Green Riding Hood”. Ph Davide Stanga.

2.3.4 Illumina-Mi: when participation takes the form of representation

This last interpretation category is probably the most elusive, being certainly the least codified in formal practices and policies. It is, in fact, a participation that becomes a work itself, that turns into communication and representation of an entire community.

An emblematic case, in this sense, is the project “Illumina-Mi”, promoted and implemented by Astronove and La Repubblica del Design, two associations operating in Municipality 9 of Milan, thanks to the contribution of the City Hall itself under “Bando Quartieri 2019”. “Illumina-Mi” started with a call aimed at collecting “words” donated by the citizens themselves, called to tell their stories and reflect on

the issues of #Future and #Hope, two particularly delicate topics in a difficult period like the one experienced in lockdown.

The contents of two site-specific urban installations were thus built, two dynamic luminous devices that became a community storytelling, a self-representation of the “dreams” and “hopes” of the neighborhood, a nocturnal multi-voiced tale developed thanks to a collective participation; the collection of everyone’s words served, in fact, to build the story of all and the luminous installations were designed as an authentic expression of the community. The result is a collective message addressed to unaware passers-by that has transformed the streets into social spaces with a high ritual potential, in a continuous metaphorical dialogue between the “inhabitants-writers” and the “inhabitants-readers”. The city, avoiding the risk of falling into self-celebration, has thus found in the sum of the narratives of everyone the opportunity to become the representation of a collective imaginary.

These two installations were staged, respectively, on the terrace of La Ribalta brewery in December 2020 and at the Headquarters of Municipality 9 in via Guerzoni 38 in January 2021; operationally the words were collected using a dedicated website², a subscription form, and a collective engagement pursued through newsletters addressed to members and wider-dissemination press releases.

Before these two installations, the “Illumina-Mi” project had its first operational fallout on the territory at Nuova Armenia in September 2020. In this case, children from four schools in the area were involved, who had described the neighborhood through their personal photographs; then the photos were turned into 8 bits and made “luminous images” projected onto the installation. Once again, it is the city as a physical urban artifact that here has allowed for different interpretations, that is discovered and finally enters its own storytelling, in a sign and semantic short-circuit that belongs both to visual anthropology (for the ethnographic use of photographic investigation) and to the anthropology of things (for its ability to trigger actions, thoughts, behaviors).

² Available at: www.illumina-mi.it



Fig. 2.9 - The “Illumina-Mi” lighting installation installed in Milan at La Ribalta brewery and at the Headquarters of Municipality 9, between December 2020 and January 2021. Ph Repubblica del Design.

All the cases mentioned here, despite the heterogeneity of the approaches and results achieved, ultimately pursued a common goal:

Requalifying anonymous urban fragments, poorly recognized and often excluded from the inhabitants’ daily paths, “occupying” them with prototypal solutions that aim at physically and socially redeeming the environment, even in the finiteness of the temporal horizons and in the temporariness of the physical means put in place (Crippa and Di Prete, 2020)

The challenge is to redeem precisely the “residual”, because as Stefano Boeri also highlights in the conference “The new urban peripheries: the challenge of global cities” (Boeri, 2019), peripheral areas are certainly marked by contradictory dynamics, but they are also full of exchanges and “urban intensity”, offering an intrinsic “social capital” (Putnam, 1993) and favorable conditions on which to start any policy of urban redemption.

2.4 From “emerging futures” to “preferable futures”

As can be seen from the previous chapter, anthropology and design interpret the idea of the present in a dynamic way, considering it not a static time, but one projected into the future, almost a moving “edge”. The ridge between the reading of the contemporary and that of the near future is, therefore, particularly indefinite, also because the future is not a time completely unrelated to the present, but in

some way is contained in it, already existing in people's dreams, hopes and ambitions.

Design creates culture, culture shapes values, values determine the future (Peters, 2021).

In this framework anthropology and design can be used not only to know the existing, but also to explore the coming tomorrow, to co-design a positive change together with local communities and to integrate in the project all those non-human components of our ecosystem that are increasingly recognized as active and essential parts of it. Indeed, as will be shown below the pandemic, also the result of the environmental emergency, has made this awareness more urgent and has imposed a speedup towards a not merely anthropocentric design of the city and its suburbs.

In times of Covid-19 taking its toll on almost every industry on this planet, we all must finally embrace the lesson on what's at risk if we continue to overstep Earth's environmental boundaries. Or, to use terms originating from human-centered design: what's at risk for all living beings if we, humans, continue not to address Earth's needs, limitations and preferences (Sznal, 2020).

Although it is now clear that the simplification of habitats and the reduction of the variety of living forms populating them constitute an imminent threat to the survival of our planet, man – who is both cause and victim of this simplification – still struggles to find different scenarios of life.

For this reason, one of the first and priority challenges for anthropology and the design of tomorrow is to consider the animal and plant world, but also the built environment, as parts of a single ecosystem with which to interact and to “use” in design to improve the overall structure of cities, making them more hospitable, welcoming, inclusive, but also sustainable and rich in biodiversity.

Many cities hold the keys to open the doors of the different present to enter the possible, sustainable, creative, fair and solidarity-based future. I call them “Augmented Cities” of Neoanthropocene, a new era in which humanity returns to taking care of urban space, returns to generating beauty, returns to being an ally of nature (Carta, 2020).

2.4.1 Anthropology of the future, peripheries and the Anthropocene

The intersections between design and cultural anthropology have contributed to shift the focus from space to time, from past and ethnographic present to future (Bargna and Santanera, 2020, p. 31). The future can become an integral part of the research field even if it has remained a foreign time to anthropology for many years: “an allochrony” excluded from the domain of History and of “the cultural” as well as the exoticist atemporality to which “primitive” societies were confined (Fabian, 2000). It is precisely on the basis of the “anthropology of the future” (Appadurai, 2013; Smith et al., 2016; Salazar et al., 2017; Bryant and Knight, 2019) that it is possible to outline trajectories of collaboration between anthropology and design for action-research in the peripheries.

Studying the future as an object of inquiry does not mean trying to predict and to control possible scenarios, but rather looking at the future as a plural time extending into the present. “Futures” already exist, *hic et nunc*, as expectations, ideas, phantasies and projections embodied by individuals and social groups. The future affects the contemporary world by shaping human actions according to individual and collective aspirations and goals: it is a “cultural fact” (Appadurai, 2013) constantly re-produced in different ways in the very act of living in the world. The present, likewise, can be conceived as an open flow on the future, a constantly changing reality; a time of “uncertainty” (Akama et al., 2018) in which different, multiple and divergent ways of imagining and building futures emerge and conflict. Insofar as “there is no script for social and cultural life”, the everyday becomes the field of a continuous work of “cultural improvisation” (Hallam and Ingold, 2007, p. 1), of an uncertain, relational and future-oriented designing of life in which cultural and dwelling forms are ceaselessly reinvented.

Cultural anthropology thus makes it possible to grasp the complexity of social reality, which goes beyond any form of reduction and planning, and to consider alternatives from the inhabitants of the periphery point of view, questioning a linear and one-dimensional vision of the present and the future of the city. First

and foremost, it is about understanding expectations, fears, hopes and ideas that local communities share towards their neighborhood and the metamorphoses of urban scape, in order to actively involve them in the processes of transformation even before they occur.

Different futures can be negotiated and discussed to act in the present. Making “anthropology of the future” in the context of urban regeneration means, moreover, considering the margins not as fragile and deprived environments, but as places that create culture, where practices of resistance, resilience and re-appropriation take place. The insights and experiences that anthropology is able to explore allow, with the aim of designing urban settings together with communities, to work by intercepting and developing the capacities to aspire. As Arjun Appadurai (2013) points out discussing the concept of “aspiration”, the possibility to aspire to alternative and better futures is a “cultural capacity” that is not equally distributed among human beings and that can be reduced, if not annihilated, by poverty and by an uncertain and precarious living on the margins. Only through active participation, as much in urban planning as in imagining different ways of living in the periphery, could we achieve a culture of dwelling able to give voice to “the right to the city” (Brenner, Marcuse and Mayer, 2012), i.e. the freedom to participate with full rights in the urban. The task of an “anthropology by means of design”, as defined by Caroline Gatt and Tim Ingold (2013), is not reduced to ethnographically representing reality and intercepting voices and needs of territories but is embedded in a transformative perspective. Exploring “emerging futures” (Smith et al., 2016) through long-term fieldwork gives the opportunity to work by identifying and building, together with inhabitants and planners, scenarios of change and “preferable futures” (Dunne and Raby, 2013) towards which to target transformations and actions in the periphery.

At the same time investigating alternative futures signifies framing the action in the contemporary “anthropo-scene” (Lorimer, 2017) and in the Anthropocene debate by moving the focus from an anthropology *in the city* and *in the design*, to an anthropology *of the city* and *of the design* (Low, 1996). The recent pandemic resulting from the unprecedented impact that humankind has on the Earth has

highlighted the need to rethink building, designing and dwelling in the city in a post-anthropocentric way. Even considering that, in the light of the increasing urbanization, it seems appropriate to speak of an “urban Anthropocene” (Swilling and Hajer, 2016).

The Anthropocene represents not only a problem but also an “opportunity” to reshape human beings’ relationships with the natural habitat and with other life forms (Tsing, 2015; Latour, 2017). The fact that human agency has become the main force shaping the entire ecosystem suggests, in fact, an overcoming of the classical categories that have dominated the thought of modernity, making a clear break between Nature and Culture, Human and Non-human and removing the existing interrelations between cities, natural environment and humans (Descola, 2014).

Instead, in an anthropological perspective, the environment is not simply the material background of human action, but the dynamic result of a work of co-production and mutual shaping between human and non-human agents. Consequently, new ethics and practices are required in order to think about animals, plants and natural elements not as entities existing “outside the space of the city” (Van Dooren and Rose, 2012) but as life forms that actively participate in the urban social life. They have to be included in the multi-species cohabitation needed to build the future of dwelling on a damaged planet (Tsing et al., 2017).

2.4.2 Design in a “more-than-human” scenario

With respect to these “possible futures” it is interesting to analyze the way design can establish a dialogue: with which “actors”, what tools, what policies and taking what role, in a design and cultural context that increasingly investigates the scenario of “more than human” (A.a.V.V., 2021). From this perspective, a worth-reading book is the one recently published by Maurizio Carta (2021), who talking about “Augmented Cities” and “Neoanthropocene” has identified ten “barrier gestures” – an expression derived from Bruno Latour (2020) – useful to face with planning awareness the social, urban and environmental challenges that await us.

The Neanthropocene for me is an era in which humanity becomes aware of being responsible for climate change and accepts the challenge of being responsible for its solution, acting in an active and collaborative way to the mitigation of ecological impacts, but above all to the design of new spaces, forms and modes of living able to reactivate the powerful generative energy of the urban environment: an environment of care, justice, rights, coexistence, plural and fluid space and never again a segregated space in perpetual conflict with nature (Carta, 2020).

In light of these “barrier gestures”, identifying models and practices that every designer should adopt during the work phase, setting them down every time in the relevant local context, we can reinterpret the best practices analyzed in this essay. Here below are seven of the ten proposed “gestures”, the most representative for this dissertation:

1. Towards a city that “feels and reacts”, making intelligent use of data and sensors. “Unpark” in this sense appears paradigmatic, having chosen to install sensors to monitor air pollution directly in private homes, to also increase the direct engagement and awareness of citizens on a critical environmental issue.

2. Towards a “more open and collaborative” city, that establishes a synergy and collaboration between the civic and technological dimensions. From this point of view, the case of “Illumina-Mi” is particularly emblematic: a call open to the city, an installation in an institutional civil seat, a sum of stories that becomes itself “civic sense” and finally a dynamic luminous LED installation. Here the graphic-communication element is not only a visual representation of the desires of a community, but also a system of signs that triggers value short-circuits (building a “long-distance” dialogue between the designers, the “authors” of the words displayed and the passers-by who receive them and make them their own).

3. Towards a “smart and innovative” city, that combines the “hardware” of spaces, infrastructures and services with the “software” of an active citizenship, added to a renewed institutional capacity. With respect to this dimension, all the four cases analyzed are consistent, all the more so because the City Hall of Milan has been able to “listen” to the demand and planning approach coming from the territory, channelling it through the tool of the “collaboration agreements”, through demonstrative interventions and

accompanying placemaking processes, in an innovative model based on multi-authority and co-responsibility of the proposed actions.

4. Towards a city that “creates and communicates”, to facilitate the structuring of new cultural and creative districts. This fourth “barrier-gesture” can be interpreted as a direct consequence of all those interventions – like those described here – that arise from below and activate local resources; in particular, however, it is interesting to notice that “La Repubblica del Design” association was founded with this very purpose, also reported as a mission in its charter.

5. Towards a “resilient and ecological” city, capable of combating the climate crisis and placing ecological sensitivity at the heart of the project. This is an ambition that all projects, in this post-anthropocene era, should now implicitly consider. Among the cases described, this focus emerges as a priority, especially in the via Toce initiative (that provides for the installation of hotel-bugs and, in general, of devices to host bees and other insects useful for the biodiversity of the environmental ecosystem) and in UNPark (that implies the application of textile systems to reduce the impact of pollution in a particularly challenging context due to heavy car traffic).

[The project UNPark pursues] the development of multi-purpose textile systems for the collection of fog/humidity – with collection of natural grey water from the air, reduction of noise pollution and filtration of air pollution particles – that represent an example of a circular approach to the use of resources (Crippa et al., 2020).

6. Towards a “circular and recycling” city, that gives opportunities for reusing materials, spaces and knowledge. In the project realized in Via Toce this aspect is considered essential, so much so that the above-mentioned equipment for the reception of insects will be made entirely with recycled plastic, according to an innovative die-casting technique allowing to reuse even residues of different materials (aluminum, tetrapak) without the need for prior selection. The process, developed by Design Differente, is the result of the project “One thing leads to another”, based on the idea that a given number kilograms of plastic waste collected in the

neighborhood will be transformed into as many kilograms of street furniture for the community, in a virtuous process of territorial recycling.

7. Towards a “reticular and polycentric” city, able to enhance neighborhoods, metropolitan areas, urban and suburban portions welcoming their diversities. In all the cases we have mentioned, the regeneration of the suburbs started from the resources of the territory, systematizing the skills of local players. Particularly, for example, the university has taken a proactive role on several occasions (in UNPark, in P.A.A.I., but indirectly also in the regeneration of Bovisa and in the foundation of La Repubblica del Design), becoming the engine and collector of many actions of urban regeneration and social reactivation.

In view of this reading, therefore, we discover that “the future” is really already written in the present, and in some way, it influences and shapes it, bearing witness to what was observed in the previous paragraph: in fact, the sensitivity to the ecosystem element is already part of the actuality of the project, sometimes in a more implicit, sometimes – more and more – in a conscious way.

The challenge, now, is precisely that of awareness: to consider all the players (human and non-human) in the design phase, codifying new tools, practices, policies that make them non-accessory parts of the process and of the outcome.

2.5 Conclusions

The dialogue between anthropology and design can thus develop in two directions. On the one hand, by focusing through the anthropology of the future on the capacity to aspire of those living in the periphery, one can engage in an urban regeneration that examines different, inclusive and alternative futures for the city. On the other hand, by addressing the issue of cohabitation in the age of the Anthropocene, the foundations can be laid for a non-anthropocentric approach to urban surroundings that extends the “right to the city” to non-humans. The aim is to establish practices which can avoid the dominant logic of exploitation and which can operate in a context,

that of the suburbs and urban margins, where the impact of climate changes is experienced most violently. The climatic, economic and social damages caused by the Anthropocene are unequally distributed, feeding the geographies of inequality between centers and peripheries. Urban regeneration, then, has to work within the framework of “environmental justice”, analyzing how the exposure to Anthropocene’s consequences is not fairly spread across space and human populations (Nixon, 2017).

Some tools for a so-called “Environment-centered design” (ECD) approach have already been codified, such as the actant mapping canvas, that help to map all the human and non-human stakeholders (“actants”), but there is still a long way to go to make these tools widespread, commonly used in the design phase and recognized also at the regulatory-institutional level.

If the goal of human-centered design is to maximize empathy felt towards the people we design with or for, then the goal of environment-centered design is to extend this empathy towards both the human and non-human stakeholders of our designs (Sznel, 2020).

Ultimately, environment-centered design requires that the tools commonly used in a user-centered design framework (i.e. in a strictly anthropocentric perspective) are paired – not necessarily replaced – with new tools and new holistic exercises, that promote greater empathy towards the “other” (species, landscapes, water, air, soil, viruses) and eventually towards ourselves.

References

- A.a.V.v. (2016) *Urban+Interior*. IDEA Journal 2015. The Journal of the Interior Design / Interior Architecture Educators Association. Queensland University of Technology.
- A.a.V.v. (2021) ‘More-than-human-futures. Reframing design knowledge provotyping for human-non-human ecologies’, *cycle of conferences by Design PHD Summer School 2021*, 23-25 June.
- Akama, Y., Pink, S. and Sumartojo, S. (2018) *Uncertainty & Possibility. New Approaches to Future Making in Design Anthropology*. Bloomsbury.
- Appadurai, A., (ed.) (1986) *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge University Press.

- Appadurai, A. (2013) *The Future as Cultural Fact. Essays on the Global Condition*. Verso Books.
- Arras, F., Ghisu, E., Idini, P. and Talu, V. (2017) 'Trasformazioni tattiche per garantire e promuovere la qualità della vita urbana di bambine e bambini. L'esperienza di ricerca-azione di Tamalacà'. In Bazzu, P. and Talu, *Tactical Urbanism Volume 5: Italy*. TaMaLaCà, pp. 56-57.
- Bargna, I. and Santanera, G. (2020) 'Anthropology and Design: Exchanges, Entanglements, and Frictions'. *Antropologia*, 7, 2, pp. 25-44, doi: <http://dx.doi.org/10.14672/ada2020168425-44>.
- Boeri, S. (2019) 'Le nuove periferie urbane: la sfida delle città globali', *Conference in Palazzo Clerici*, Milan, 24 January. Available at: www.ispionline.it/it/eventi/evento/le-nuove-periferie-urbane-la-sfida-dellecitta-globali (Accessed: 8 July 2021).
- Brenner, N., Marcuse, P. and Mayer, M. (2012) *Cities for People, not for Profit. Critical Urban Theory and the Right to the City*. Routledge.
- Bryant, R. and Knight, D. M. (2019) *The Anthropology of the Future*. Cambridge University Press.
- Carta, M. (2020) 'Città aumentate del Neoeantropocene'. In Perricone, R. (ed.) *Etnografie del contemporaneo: gentrificazione e margini*. Edizioni Museo Pasqualino
- Carta M. (2021) *Città aumentate: Dieci gesti-barriera per il futuro*. Il Margine.
- Crespi, L. (2018) *Da spazio nasce spazio. L'interior design nella riqualificazione degli ambienti contemporanei*. Postmedia Books.
- Crippa, D., Di Prete, B. (2020) 'Il progetto dello spazio pubblico tra transitorietà e persistenza'. In Crippa, D. (ed.) *#Regeneration*. Maggioli, pp. 48-69.
- Crippa, D., Lonardo, E., Rebaglio, A. (2020) 'The "re" factor: re-cycle, re-use, re-think'. In Bonoli, A., Cossu, R., Fava, F. and Lavagnolo, M. C. (eds.) *SUM2020 - 5th Symposium on urban mining and circular economy*, 18-20 November.
- Descola, P. (2014) *Oltre natura e cultura*. SEID.
- Dewalt, K. and Dewalt, B. (2011) *Participant Observation: A Guide for Fieldworkers*. AltaMira Press.
- Di Prete, B. (2019) 'The background of the P.A.A.I.: a research between spatial marginality and social activation'. In Fassi, D., Landoni, P., Piredda, F. and Salvadeo, P. (eds.) *Universities as Drivers of Social Innovation*. Springer International Publishing (Research for Development), pp. 239-256.
- Dourish, P. and Bell, G. (2011) *Divining a Digital Future: Mess and Mythology in Ubiquitous Computing*. MIT Press.
- Dunne, A. and Raby, F. (2013) *Speculative Everything. Design, Fiction, and Social Dreaming*. MIT Press.
- Fabian, J. (2000) *Il tempo e gli altri: la politica del tempo in antropologia*. L'Ancora del Mediterraneo.
- Fassi, D., Landoni, P., Piredda, F. and Salvadeo, P. (eds.) (2019) *Universities as Drivers of Social Innovation*. Springer International Publishing (Research for Development).

- Garcia A., Lydon, M. (2015) *Tactical Urbanism. Short-term action for long-term change*. Island Press.
- Gatt, C. and Ingold, T. (2013) 'From description to correspondence: Anthropology in Real Time'. In Gunn, W., Otto, T., Smith R. C. (eds.) *Design Anthropology: Theory and Practice*. Bloomsbury.
- Geertz, C. (1973) *The Interpretation of Cultures*. Basic Books.
- Gell, A. (1998) *Art and Agency: An Anthropological Theory*. Clarendon Press.
- Gunn, W. and Donovan, J., (eds.) (2012) *Design and Anthropology*. Routledge.
- Hallam, E. and Ingold, T. (eds.) (2007) *Creativity and Cultural Improvisation*. Berg Publishers.
- Hannerz, U. (1998) *Cultural Complexity: Studies in the Sociological Organization of Meaning*. Columbia University Press.
- Haraway, D. (2008) *When Species Meet*. University of Minnesota Press.
- Ingold, T. (1993) *The temporality of the landscape*, *World Archaeology*, 25(2), pp. 152-174.
- Ingold, T. (2011) *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. Routledge.
- Ingold, T. (2013) *Making: Anthropology, Archeology, Art, and Architecture*. Routledge.
- Kirksey, S., Helmreich S. (2010) 'The emergence of multispecies ethnography'. In *Cultural Anthropology* 25(4), pp. 545-576.
- Kohn, E. (2013) *How Forests Think: Toward an Anthropology Beyond the Human*. University of California Press.
- Latour, B. (1993) *We Have Never Been Modern*. Harvard University Press.
- Latour, B. (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press.
- Latour, B. (2017) 'Anthropology at the Time of the Anthropocene'. In Brightman, M., Lewis, J. (eds.) *The Anthropology of Sustainability*. Palgrave Macmillan.
- Latour, B. (2020) 'Immaginare gesti barriera contro il ritorno alla produzione pre-crisi'. In *Antinomie*, 9 April. Available at: <https://antinomie.it/index.php/2020/04/09/immaginare-gesti-barriera-contro-il-ritorno-alla-produzione-pre-crisi/> (Accessed: 24 June 2021).
- Lorimer, J. (2017) 'The Anthro-po-scene: A guide for the perplexed'. In *Social Studies of Science*, 47, 1, pp. 117-142, doi:10.1177/0306312716671039.
- Low, S. M. (1996) 'The Anthropology of Cities. Imagining and Theorizing the City'. In *Annual Review of Anthropology*, 25, pp. 383-409, doi: <https://doi.org/10.1146/annurev.anthro.25.1.383>.
- Miller, C. (2018) *Design + Anthropology: Converging Pathways in Anthropology and Design*. Routledge
- Miller, D. (1998) *Material Cultures: Why Some Things Matter*. University College London Press.
- Miller, D. (2010) *Stuff*. Polity Press.
- Nixon, R. (2017) 'The Anthropocene and environmental justice'. In Newell, J., Robin, L., Wehner, K. (eds.) *Curating the future*. Routledge, doi: <https://doi.org/10.4324/9781315620770>.

- Pezzi, M. G. and Urso, G. (2016) 'Coping with peripherality: local resilience between policies and practices'. In *Italian Journal of Planning Practice VII*, pp. 1-23
- Peters, R. L. (2021) Junior Lab ADI Design Museum
- Piano, R. (2015) 'La città del futuro è la periferia, intervista con Francesco Merlo'. In *La Repubblica delle Idee – Repldee2015*, 7 June. Available at: <https://video.repubblica.it/dossier/la-repubblica-delle-idee-2015/repidee-renzo-piano-la-citta-del-futuro-e-la-periferia/203523/202595> (Accessed: 2 August 2021).
- Putnam, R. D. (1993) 'The prosperous community: social capital and public life'. *The American Prospect* 13, pp. 35-42.
- Salazar, J. F., Pink, S., Irving, A. and Sjöberg, J. (eds.) (2017) *Anthropologies and Futures: Researching Emerging and Uncertain Worlds*. London: Bloomsbury.
- Sassen, S. (2011) 'Urbanistica Open Source'. In *Domus*, 29 June. Available at: www.domusweb.it (Accessed: 10 August 2021).
- Smith, R. C., Tang Vangkilde, K., Kjaersgaard, M. G., Otto, T., Halse, J. and Binder, T. (eds.) (2016) *Design Anthropological Futures*. Bloomsbury.
- Swilling, M. and Hajer, M. (2016) 'The future of the city and the Next Economy'. In Brugmans, G., Van Dinteren, J. and Hajer, M. (eds.) *The Next Economy*. Rotterdam: IABR.
- Sznel, M. (2020) *The time for Environment-Centered Design has come*, 5 May. Available at: <https://uxdesign.cc/the-time-for-environment-centered-design-has-come-770123c8cc61> (Accessed: 20 June 2021).
- Sznel, M. (2020) *Tools for environment-centered designers: Actant Mapping Canvas*, 25 May. Available at: <https://uxdesign.cc/tools-for-environment-centered-designers-actant-mapping-canvas-a495df19750e> (Accessed: 20 July 2021)
- Tsing, A. (1995) 'Empowering nature, or: Some gleanings in bee culture'. In Yanagisako, S. and Delaney, C. (eds.) *Naturalizing power: Essays in feminist cultural analysis*. Routledge, pp. 11-143.
- Tsing, A. (2012) 'Unruly edges: Mushrooms as companion species'. In *Environmental Humanities* (1), pp. 141-154.
- Tsing, A. (2015) *The Mushroom at the End of the World*. Princeton University Press.
- Tsing, A., Swanson, H. A., Gan, E. and Bubandt, N. (2017) *Arts of Living on a Damaged Planet*. University of Minnesota Press.
- Van Dooren, T. and Rose, D. B. (2012) 'Storied-places in a Multispecies City'. *Humanimalia*, 3, 2, pp. 1-27, doi: <https://doi.org/10.52537/humanimalia.10046>.
- Vattimo, G. (1988) 'Preface'. In La Cecla, F., *Perdersi. L'uomo senza ambiente*. Laterza, pp. VII-XIV.
- Viveiros de Castro, E. (1998) "Cosmological deixis and Amerindian perspectivism". *Journal of the Royal Anthropological Institute* 4(3), pp. 469-488.
- Zappulla, C. (2015) 'Libellula vs Tirannosauro? Activating city: non è la specie più forte a sopravvivere'. In Carta, M. and Lino, B. (eds.) *Urban hyper-metabolism*. Aracne, pp. 103-107.

Authors

Luca Alessandrini. PhD candidate in Design at Politecnico di Milano. He is a designer with a training in engineering and a strong inclination to sustainability-oriented innovation. He is a lecturer, a speaker and a consultant in the field of sustainable materials and circular production processes. He is also an entrepreneur and an innovator in the field of acoustics.

Leopoldo Ivan Bargna. Full Professor of Antropologia estetica e Antropologia dei media and President of the Master's Degree Course in Scienze Antropologiche ed Etnologiche at Università di Milano Bicocca. He is a member of the scientific committee of MUDEC and carries out his ethnographic researches in the Cameroonian Grassfields, studying their artistic productions, visual and food culture. He is curator of exhibitions and author of various publications about the interference between anthropology and design, including *Anthropology and Design: Exchanges, Entanglements, and Frictions* (2020). His currently research interest is the relationship between art and anthropology in the field of participatory practices.

Alessandro Biamonti. Architect, PhD in Industrial Design and Multimedia Communication, deals with design, with particular care to the anthropological aspects of the discipline. Associate Professor at Politecnico di Milano (Department of Design), Visiting Professor at TMU University of Tokyo (Japan), member of the Faculty of

Design KTU of Kaunas (Lithuania), visiting researcher at DML of Ritsumeikan University (Japan) and member of the Scientific Committee of the Center for Design Studies of UEMG (Brazil). Coordinator of the Research Lab Lab.I.R.Int., Honorable Mention at the Compasso d'Oro for GRACE_lab project. Creator of the 24H-DesignConversations Marathon and the Milano Design PhD Festival. Author and editor of several essay and books.

Carmen Bruno. PhD in Design, researcher and designer at IDE-Activity Center. Her research focuses on investigating how digital tech influence the creative design process developing methods to empower the human factors of creativity within the design process. She merges a human-centred perspective, design thinking and co-design methodologies to facilitate radical innovation. She took part in EU and national projects collaborating with relevant companies. She is co-author of several scientific publications.

Barbara Camocini (editor). Architect, PhD in Interior Architecture and Exhibition, Associate Professor at the Department of Design of Politecnico di Milano where she is also member of Lab.I.R.Int., Lab. of Innovation and Research on Interiors. Her research topics concern the contemporary human environment, changing through Adaptive Reuse processes, and the resulting strategies upon urban evolution and ultimate interiors, reconciling the distance between their original uses and emerging needs. She cooperated in design and research projects at an international level, with a specific perspective on meta-design approach. She is also interested in the History of Design with reference to the Italian culture.

Maria Rita Canina. Associate Professor in Design at Politecnico di Milano. Scientific Director of IDEActivity Center, she coordinates various research, including the latest Erasmus+ Digital Creativity for developing Digital Maturity future skills (2020-2023), Polisocial 2019 project ACCEPT. Adaptive Climbing for CErebral Palsy Training (2020-21) and EU project Digital Do-It-Yourself (2015-2017) guiding the team also in other national and international projects. PostDoc Associate at MIT (2006), contributing to a wearable tech re-

search for an EVA spacesuit. Current research is focused on developing activities that combine research in design, studies on creativity, and a people-centred approach to creating methods that enhance the creative design process.

Davide Crippa. Graduated in 2002, he follows a PhD in Interior Architecture and Design in 2007; since then, he has been teaching at the Politecnico di Milano and at the Nuova Accademia di Belle Arti in Milan. Responsible for the designer commission ADI until 2012 and Research Fellow at Politecnico di Milano, he writes articles and publishes books on the theory and criticism of the project, always projecting his attention towards ever changing scenarios. In 2004 he founded Ghigos studio with Barbara Di Prete and since then he has carried out both theoretical researches and projects which have been awarded prizes in international competitions.

Barbara Di Prete. Researcher at the Department of Design of Politecnico di Milano. With the DHoC (Design for Hospitable City) group she pursues the dissolution of traditional disciplinary boundaries and investigates – in the perspective of increasingly narrative environments – the relational and emotional aspects of projects. She writes articles, publishes books and participates in researches and conferences comparing the role and opportunities of design projects in contemporary scenery, ranging from interior design to urban design. In 2004 she founded the Ghigos studio with Davide Crippa and since then she has designed exhibitions, installations and projects for institutions (including Maxxi, MoMA, Expo2015, Triennale di Milano, and Venice Biennale). From 2015 she coordinates the Master in Urban Interior Design provided by POLI.design.

Tatiana Efremenko. PhD candidate in Design at Politecnico di Milano. She is a researcher with an academic background in Anthropology and Urban Development, and professional experience as a consultant in the area of urban and social circular economy and future thinking in Europe and Central Asia. Her current research is focused on creating methods for citizens to envision and design the future of circular neighborhoods with a bottom-up approach.

Gionata Gatto. Italian designer, working between Italy, the UAE and The Netherlands. After a bachelor's degree in industrial design from IUAV and a master in Social Design at Design Academy Eindhoven, he opened his own studio. In 2019 he was awarded a PhD in Design from the University of Loughborough, UK. A continuous experimentation with materials and production processes, mediated by the use of emerging technologies, are fundamental aspects of Gionata's research. Winding between multidisciplinary collaborations, his work emerges as a result of participatory, post-human and speculative research methods. He is Assistant Professor at Dubai Institute of Design and Innovation, where he curates the Product Design curriculum.

Leone Michellini. After a three-year course in philosophy, Leone Michellini graduated with honors in anthropology at Università di Milano Bicocca. He is part of the AnthrodayMilano working and research group. His research interests focus on urban anthropology, on the regeneration processes of peripheral areas and on housing practices and policies.

Giovanna Piccinno. Architect, Associate Professor at Politecnico di Milano, Department of Design - School of Design. President and coordinator of the BSc in Interior Design and of the MSc in Interior and Spatial Design. She investigates and develops project, carrying out experimental and applied research, and teaching in the field of Interior and Spatial Design. She works internationally. In 2019 founds PERISCOPE_International Research HUB, a methodological perspective for future spatial projects of the Earth and TIS_Thesis Incubator Studio, international design group, that develops strategic design driven research for Companies, also related at territorial marketing actions. Selected for the Compasso d'Oro Design Award (Research project 100 Virtuous Cities, 2010). She was part of the Sistema Design Italia-SDI.

Barbara Pollini. PhD candidate in Design at Politecnico di Milano. With a master in Ecodesign and Eco-innovation and a MA in Computational Design, since 2010 she deals with sustainable design

and materials as a designer, educator and researcher. Since 2014 she investigates sustainable materials, focusing on the relationship between materials and design for sustainability from different perspectives (circular materials, biomaterials, made in waste materials and growing materials). For her PhD research, she is dealing with biodesign - an approach arising from the intersection between design, biology and technology – with a specific focus on how living matters can redefine key sustainable aspects for future productions.

Agnese Rebaglio. Designer and PhD in Interior Architecture and Exhibition. Researcher at the Department of Design of Politecnico di Milano. Member of DHOC - Design for Hospitable Cities research group, she develops design research and projects around innovative processes and forms of “hospitable” places, with particular focus on design for the enhancement and transformation of urban places; the design of setting and furnishing systems for hybrid and experimental spaces and services; the design of processes, spaces and communication to protect marginal situations and for social innovation. She is director of the international Master Design for Public Spaces provided by POLI.design.

Valentina Rognoli. Associate Professor at the Department of Design of Politecnico di Milano. Here, she began her academic career focused on Materials for Design. She has been a pioneer in this field, starting almost twenty years ago and establishing an internationally recognised expertise on the topic both in research and education. For her PhD, she undertook a unique and innovative study on a key but a little treated topic that is the expressive-sensorial dimension of materials of Design and their experiential aspects. At present, her research and teaching activities are focusing on pioneering and challenging topics as DIY-Materials for social innovation and sustainability; Bio-based and circular Materials; Urban Materials and Materials from Waste and food Waste; ICS Materials; Speculative Materials; Tinkering with materials, MDD method, CMF design, emerging materials experiences, and material education.

Giovanna Santanera. PhD in Antropologia culturale at Università di Milano Bicocca and at Ecole des Hautes Etudes en Sciences Sociales in Paris. She collaborates with the Museum of Cultures of Milan (MUDEC) and she is Professor of Antropologia della comunicazione at Politecnico di Milano. She carried out her ethnographic research in Cameroon, Nigeria and Italy. Her research interests include media and visual cultures, urban anthropology and the anthropology of migration as well as the intersections between anthropology and design.

Francesco Vergani (editor). Interior and Spatial Designer and PhD candidate in Design at Politecnico di Milano. His PhD research is focused on More-than-Human Design to trigger participation between human and non-human agency in situated urban contexts. He is a member of Polimi DESIS Lab where he collaborates in research activities about the reactivation of local communities in urban contexts such as Vocabolario di quartiere (2019-ongoing), a situated dictionary in the NoLo neighborhood (Milan) developed within OFF CAMPUS - Il Cantiere per le Periferie, an initiative promoted by Polisocial. Since 2018, he is teaching assistant at the School of Design of Politecnico di Milano and, since 2019, at Università Cattolica del Sacro Cuore.

The environmental emergency of the last century, highlighted by the pandemic, has led to an urgent need to reformulate the predominant role of human beings on the planet by undertaking a less anthropocentric design approach. This urgency has been especially outlined by a re-evaluation of the concept of the Anthropocene, which can be defined as a geological era characterized by the significant human impact on the geology and ecosystems of the Earth. Within this theoretical framework, the book explores the role of Design as a multifaceted discipline capable of exploring the complexity of a changing world, and reconsiders the human being's position in a pervasive relationship with the contemporary environments (physical and abstract) through a More-than-Human approach.

This volume illustrates reflections, analyses, and interventions guided by or intersected with the concept of the post-Anthropocene, and traces two different scales of observation. The first, explored in the two starting chapters, highlights how the complexity of the topic requires a large-scale analysis perspective in order to be fully understood. The concept of the post-Anthropocene does not exclude the human being as a fundamental component but takes the latter as a departing point to frame wider contemporary needs and issues and to support a call for action to envision and shape the future. The second part of the book instead explores the possibility to include, within this broad discussion, the theme of More-than-Human applied to specific disciplines – linked to the culture of Design – analyzing different aspects that move from taxonomy, application, and creativity.

