

International Summer School
Campus Arata
Piacenza, via Scalabrini 76
August 29th - September 14th, 2018

2018

INTERNATIONAL
SUMMER SCHOOL
PIACENZA 2018



9TH EDITION 29 AUGUST / 14 SEPTEMBER 2018
Piacenza Campus Arata

Guya Bertelli

edited by
Michele Roda
Martina Sogni

OC



POLITECNICO DI MILANO
Scuola di Architettura, Urbanistica e Ingegneria delle Costruzioni
Polo Territoriale di Piacenza
Via Scalabrini 113 - 29100 Piacenza - Italy

OC - Open City
INTERNATIONAL SUMMER SCHOOL
WORKSHOP IN ARCHITECTURE AND URBAN DESIGN
LANDSCAPE 4.0

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Landscape 4.0. Sharing spaces for the future city.

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Piacenza 2018

*from ecological landscape
to architectural design*

LANDSCAPE 4.0

Sharing spaces for the future city

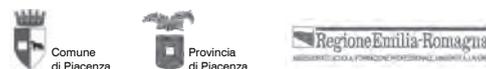
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POLITECNICO DI MILANO, PIACENZA CAMPUS
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Every year since 2010 - between the end of August and the beginning of September - OC OPEN CITY International Summer School means a fantastic collective experience. Students (the main characters), professors, lecturers and tutors are involved in a great adventure where architecture and design build a common ground.

This happened, with astonishing and surprising results, also in 2018.

Landscape 4.0 - the title of OC 9th edition - sounds as a very promising direction. Landscape 4.0 is the landscape of sharing: sharing people, sharing ideas, sharing cultures, sharing experiences.

This catalog book tries to do a not simple nor trivial action: to integrate and to condensate a such strong and dense experience in some pages.

We hope to succeed communicating you the passion behind the event, the efforts behind the program.

OC is possible thanks to the commitment and involvement of dozens of people and institutions, from the management of Polipiacenza Association to the employees of Piacenza Campus of Politecnico di Milano.

The gratitude of the curators goes to those who made it possible by dedicating time and enthusiasm with the unique goal to build an experience.

From the 2018 edition we'd like to stress the trip to Venezia, at Biennale di Architettura: OC left Piacenza and its Campus for one day, bringing its experience and its vitality in the core of architectural culture.

And it was also a sort of test for 2019 when we're celebrating the 10th anniversary of OC OPEN CITY International Summer School: it's a special occasion we're living in the best way, looking our history but also opening new perspectives towards the future.

Guya Bertelli, Michele Roda, Martina Sogni



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Summer School

Summer School

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29 AUGUST - 14 SEPTEMBER 2018
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29th
Sharing

Once again, Politecnico University offers Piacenza the precious opportunity of an international, highly competent and fresh perspective on its urban layout. "Landscape 4.0 – Sharing spaces for future cities" is an inspiring title for the 9th edition of the Summer School, an event which our city is particularly proud to host and support, welcoming students from different Countries and well-known tutors, professors and lecturers who enrich public debate with their insightful approach.

The main focus will be on three areas that may offer key solutions for the urban planning policies to be carried out in the next few years, bearing in mind the concepts of sustainability, quality of life and contrast to the decay of abandoned settings. The dismissed military areas that you will be studying are considered very important elements in the overall strategy of urban renovation that Piacenza – as many other cities in Italy and Europe – is undergoing or wishes to achieve.

The choice of such a relevant subject highlights more than ever the deep bond that Politecnico has established with its territorial basis, not to mention the fundamental role that University plays in giving impulse to innovation, guaranteeing an invaluable technical and cultural point of reference for the Municipality and for the whole community. The Open City Summer School represents a perfect example of this.

As a councillor in charge for Research and University policies, I particularly appreciate the constant effort that Politecnico makes in linking its workshops and seminars to the urban context, taking into account the existing problems and analyzing possible solutions that combine the highly creative power of architecture and the essential requirement of feasibility. I am eager to learn about the ideas and projects that will be developed during the next few weeks, giving further contributions in this direction. Certainly, this will be a bright, challenging and intense experience for you all.

Whilst giving you – also on behalf of our mayor, Patrizia Barbieri – the heartiest welcome, I must take the opportunity to thank the Piacenza branch of Politecnico and prorector Dario Zaninelli, along with professor Guya Bertelli, the board of directors and the coordinators of the Summer School, not only for the hard work and engagement they put in organizing this prestigious academic event, but also for the topic they have decided to address this year.

In the key words, chosen to present this edition of the Summer School, lies the new vision for the future of Piacenza: sharing, innovation, sustainability, resilience, creativity. They enclose a promise that goes beyond politics and opinions; they speak of principles, of environmental and social awareness, of imagination and desire to improve and enhance the beauty and liveability of a city. Our city. This is the also the mission of your future profession, which I am sure will find, in Politecnico's Summer School, a positive and fulfilling experience to be cherished in building your careers. I wish you all an enjoyable stay in Piacenza and fruitful working sessions. Thank you.

Elena Baio, Vice Mayor of Piacenza

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Sharing spaces for the future city

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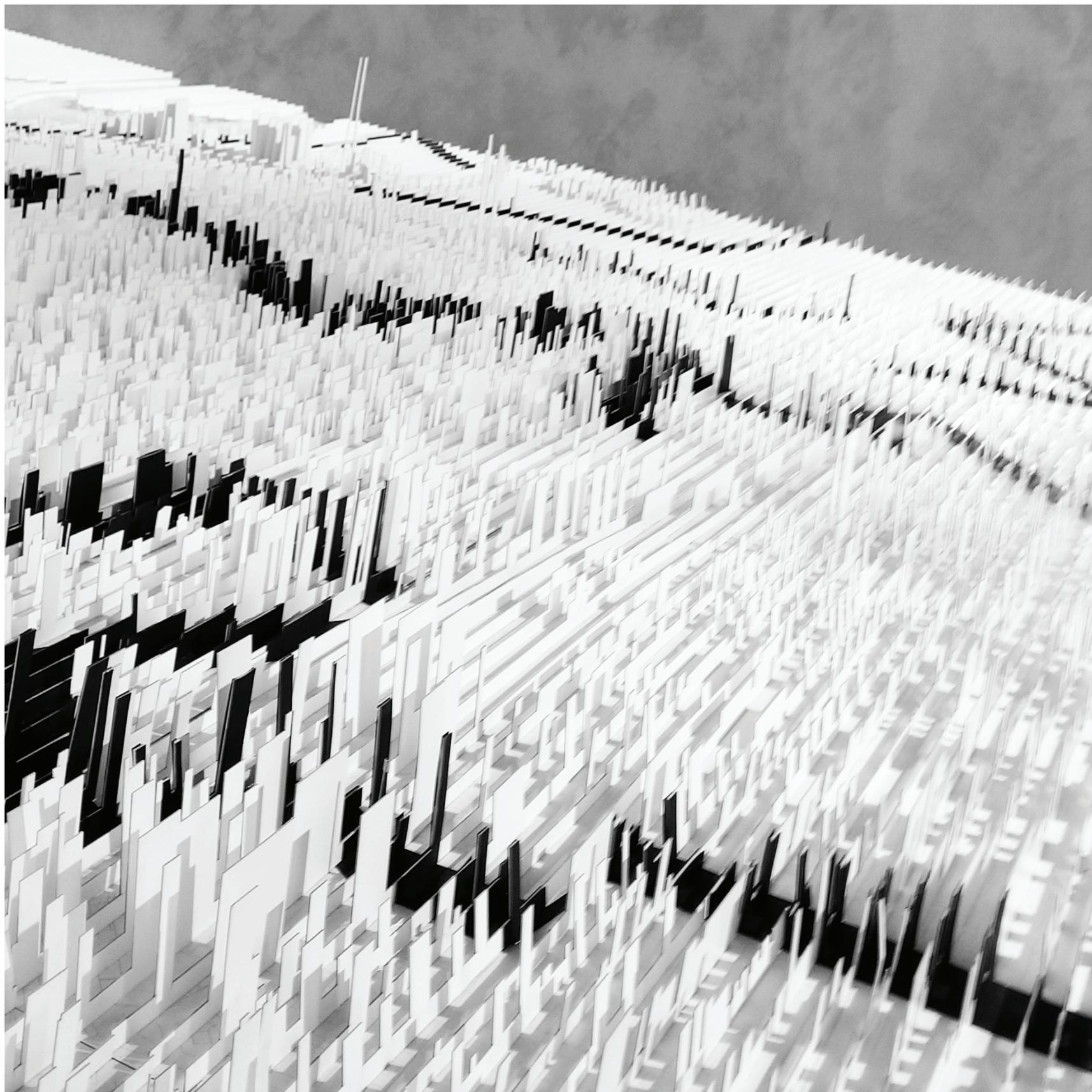
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OC INTERNATIONAL SUMMER SCHOOL - PIACENZA 2018



Landscape 4.0. Visions towards the future

Guya Bertelli, Sara Protasoni, Carmen Andriani, Carlos García Vázquez

An international summer school

The creation of the International Summer School OC OPEN CITY is an important initiative promoted by the Master course in "Sustainable Architecture and Landscape Design", with a strong international vocation, oriented to the design the "open spaces" in different

scales of intervention, from the landscape transformation to regeneration of public areas until the study of specific architectural components.

The school is open to students attending the 3rd year of Bachelor Degree Courses and to students attending a Master in Architecture, Design, Engineering and Planning, as

well as to PhD research students in disciplines of architecture and urban planning, which will work together in team with a big number of tutors.

The workshop aims at maintaining an open dialogue among the different design specialities needed to face the problems arising from architectural, urban



and environmental actual transformations, becoming a discussion forum and a brainstorming workshop, where issues on the general development perspectives of contemporary habitats can be discussed.

The wide consensus this initiative has received during the last 8 editions, both inside and outside the academic scene, is the result not only of the scientific reputation of Politecnico di Milano but also of the innovative format and the fascinating history of the host city.

Piacenza is the ideal venue for an initiative focused on complex design problems, both for the

quality of its landscape, artistic and monumental environment and for the wide range of case-studies, as well as for its solid traditions in the building sector. Located in the fascinating buildings and pavilions of the campus Arata, an ancient recovered former slaughterhouse, the International Summer School OC OPEN CITY hosts each year tens of students, tutors and professors coming from different parts of the world, gathering to discuss issues of architectural, urban and environmental design.

The School high scientific value is confirmed by its intense schedule of lectures and public

conferences with speakers of international renown in the field of architectural and urban design.

The program 2018

The Summer School is composed by a lot of parallel initiatives, coordinated by the directors and coordinators, having congruent goals aimed to a closely coherence with the general issues proposed, according to an integrated, interactive and inter-scalar architectural-urban-environmental concept:

1 – A daily workshop oriented to develop innovative projects and proposals, in relationship



PREFACE *Landscape 4.0. Visions towards the future*



to the spatial, cultural and social requests of the host city;

2 - A series of conferences and panel discussions held by designers and scholars of international renown, with illustrations of projects and discussions on current architectural design issues, supporting basic lectures given by internal professors;

3 - Some scientific and educational contributions orientated towards the understanding of the city and the major transformations in urban context and in the territory;

4 - Three critical reviews (two mid-term and one final) with the participation of an International Jury.

The daily workshop is applied to specific issues typical of urban and environmental architectural design on different scales, aimed at the quality and sustainability of habitat transformation processes. This workshop has been conducted in workgroups, under continued supervision of tutors. The program includes three interconnected sections referred to three different scale of intervention:

- a- Landscape
- b- Urban Space
- c- Architectural Design

The city and the context

The choice of Piacenza as seat of the International Summer School rises, among other things, from the analysis of its territory, an extraordinary case-study in terms of issues and topics related to architectural design and construction of public spaces in contemporary cities. Using as essential references the architectural and urban planning projects being developed and drafted, the International Summer School is discussing some of the most significant urban themes according to the important problems of the transformation of the city. The lowest common denominator is the architectural design of open spaces, which can be seen as a multidisciplinary practice, affecting several interconnected and closely related architectural scales: from landscape architecture to planning; from the architectural design of public spaces to architecture of connections; from the design of architectural components to the study of contemporary aesthetic scenarios.

The attention to environmental and open space issues is part of a theoretical-operational debate, focusing on the promotion of architectural, urban and territorial contexts in terms of sustainable resources and environmental impacts, in order to reach high levels



PREFACE *Landscape 4.0. Visions towards the future*

of consonance, congruence and integration among the architectural requirements and the distinctive traits of the locations. This is achieved through a trans-scalar procedure, simultaneously drawing attention both on the whole and its individual components, enhancing their environmental value. This value

also results from considerations on the concept of landscape as the product of a specific human attitude towards nature. The physical elements defining the environmental character necessarily interact with the history of the built-up areas, where we can see how man has manipulated spaces, shapes and environment in some specific

contexts, drawing this proposal of architectural design, starting from the relation between areas and material forces.

This consideration is even more actual referring it to areas experiencing radical changes over the next decades and where the potential of the development is huge as huge are the criticalities in



terms of densely populated areas de-structuring. In this sense Piacenza territory is an interesting research laboratory to study and to apply operational models related to sustainable development, both in terms of the housing sector (consisting of heterogeneous residential systems) and the design of the public and natural places, such as the territory along the Po river. Therefore the International Summer School aims at becoming, in the medium term, a privileged partner of stakeholders, administrators and technicians as well as of the common population. In fact, the workshop's weeks become, with the active cooperation of the largest possible number of operating institutes and associations on the territory, an extraordinary occasion for the whole city to debate and discuss about its future. A debate not merely internal, but enriched by the creativity and competence of young students and the experience of lecturers, critics and professional figures involved at different levels of competencies.

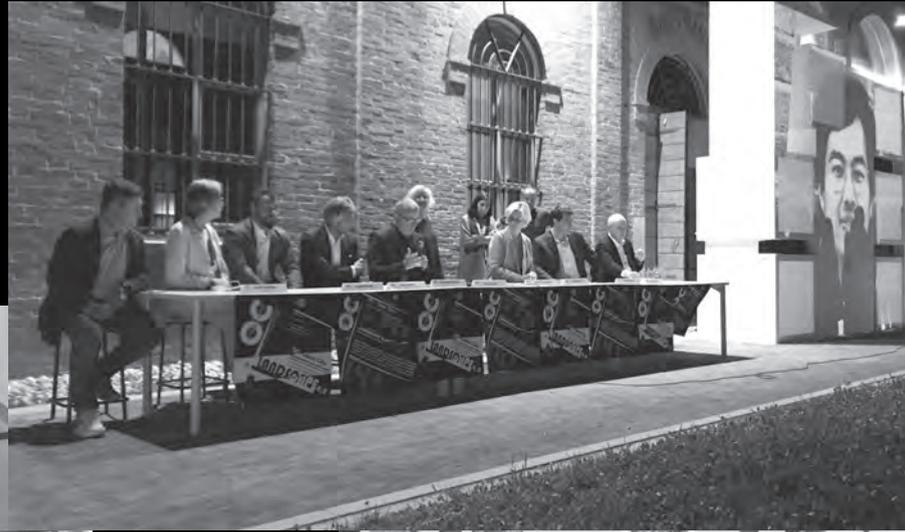
The Theme

The OC 2018 edition focuses the attention on the multiple and complementary forms of integration between landscape and society.

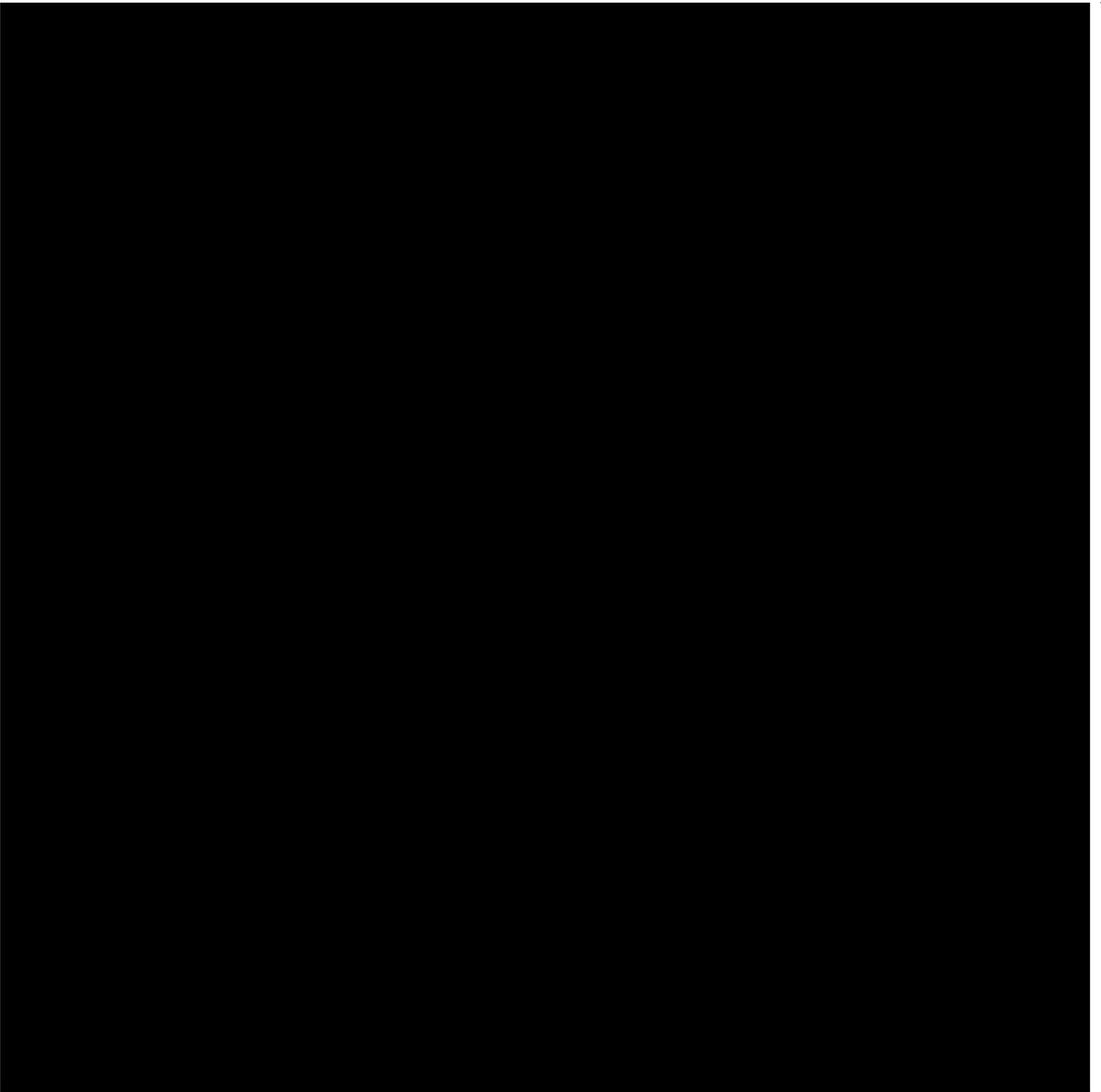
Sharing is proposed as a key word for the transformative processes of contemporary landscapes and territories. Only a careful research for identities of places, where local communities can recognize and rediscover themselves, allows us to reach a quality that integrates spatiality with the sense of sociality. Along this background, the direction of the workshop identifies some paradigmatic places in the enlarged territory of the city of Piacenza, taken as an exemplary case-studies of contemporary conditions.

Deeply, the landscapes that are proposed to students as a basis for discussion and comparison - complex and interdisciplinary - and as object of the design experimentation, correspond with some abandoned military areas of the city that build an interacting and multi-scale sequence along the axis of Via Emilia Pavese. They are intended as huge potential in terms of regeneration, reuse and recovery of urban quality.



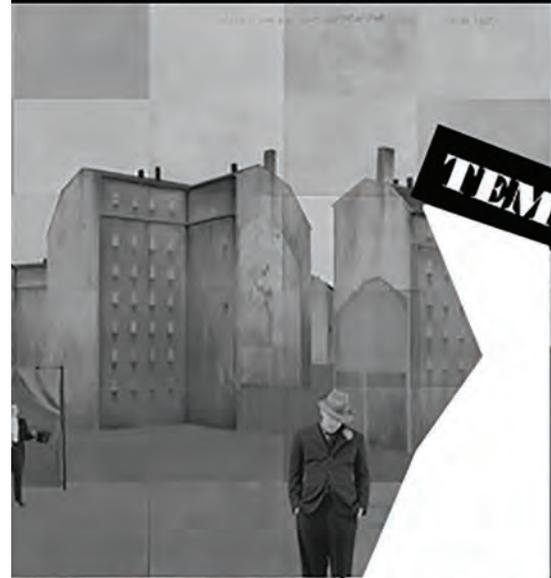






TOPICS AND CONTEXT

BACKGROUND



TEMPORARY PLACES



SHARING PLACES



RECYCLED PLACES



FUTURE 4.0: "THE LANDSCAPE OF TOMORROW"

Guya Bertelli, Carmen Andriani, Carlos Garcia Vazquez

1. A POSSIBLE REFLECTION ON THE FUTURE OF OUR LANDSCAPE

Guya Bertelli

Introductory notes

Perhaps never as in our time has architecture found itself in front of a cultural scenario that strongly challenges the very foundations of the discipline, attacked and made obsolete by the emergence of new models of living.

It is also true that the framework in which we move and that joints our everyday experience of the inhabited space, seems very far from the consolidated parameters that the historical-critical tradition has handed down to us and corresponds to a profound modification both of the physical orders and of the social and cultural practices.

This unstoppable modification corresponds to an equally rapid variation of the scientific positions of the discipline, which for various reasons are preparing to interpret the phenomenon, orienting themselves towards a prevalent tautological ascertainment of the present condition.

This double shift - of the observed framework and of the assumed point of view - implies a loss of unequivocal references with respect to what has always been one of the most specific elements of architecture and urban design: the landscape as an indisputable result of this dual "power of the gaze", the one represented and the lived one.

This is evident on several fronts:

- On the one hand, the "formal" categories are put into crisis by the process of embrittlement of the physical space, now evident on all fronts. This is evidenced by the fact that today the 'social place' is no longer decipherable as the place of a recognized collectivity, which in the meantime seems to have become increasingly fragmented and multicultural. A fact that is also witnessed by the growing process of de-localization of the social towards places that are now disconnected from the principles of belonging or rooting;

On the other hand, those cultural categories that seem more connected to the characters of the architectural form, are questioned in relationship to their qualities of persistence and variation. These qualities in fact normally need a lapse of time to establish themselves, crystallize and codify themselves in recognizable forms; Topic which today seems to be made impossible by the strong acceleration of the ongoing processes.

Finally, the categories most connected to the technical and infrastructural processes of public space, increasingly involved in a market that tends to make the technical contribution arbitrary as a 'constructive principle' and to delegate the process of architecture construction to an exclusively product of management and production.

A question

At the breaking of the coincidence between these three aspects, a legitimate and disturbing question arises:

We are faced with a 'fatal loss' of history, as it had already been predicted at the end of the nineteenth century in the face of the inevitable turning point advocated by the epochal transition, or the current destitution of values precludes to a possible 'restart' and reconstruction of meanings, as it has already happened in other closer historical periods?

In the first case "the temptation to abandon oneself to the pathos of prophecies and epochal formulas" (C. Magris, 2001) precludes to a cultural regression in which the only anchor of salvation seems to reside in a possible return to the origins, even at the cost of an annulment of historical time within an apocalyptic vision of the universe. Position that, in its broadest sense, admits within the framework of hypotheses also its opposite, that is, the unconditional adherence to a technological mythology that today can be homologated to the triumphant ideology of innovation.

In this perspective, already appeared cyclically in other periods of history, they would seem to obtain justification also those orientations that try to reconstruct an area of operation of architecture within the circuits imposed by fashions and the market, often outside the decisions and even the competences of the architects themselves. And this phenomenon often happens defining a pseudo-disciplinary apparatus of categories, concepts and parameters borrowed from other fields of knowledge, which often manage to construct an a posteriori judgment of the phenomena, without being able however to overcome the purely ascertaining level of the "observation".

This entails the obvious risks of a shift of the architect's specific skills towards other disciplinary sectors, which not only fail to limit the boundaries of the 'craft' ('metier') within the new galaxy of skills that come into play, but often take away space from the same

discipline to transfer it to areas that are culturally accredited as areas of competence.

In the second case, the use of the 'new' as a value cannot be separated from the resistance and defense of a historical memory which, even if destined to disappear, re-emerges every time in the traces and signs of an urban process that still recognizes in the landscape the valid matrices to anchor the urban transformations. In this case the 'constructive' principle will linked to the structural modification of the existing one cancels and prevails over any destructive procedure, even when the latter preludes to a new 'beginning', understood as social and civil compensation for something that has been lost .

In this sense, the two positions lead us once again to the divergence already known between the 'long life' of a cultured and thick architecture and the 'short duration' of a temporary and 'soft' experimentation, now involved in an irreversible way in the accelerated circuit of media and globalizing experiences.

The landscape of "tomorrow"

To paraphrase the title of the latest book by Carlo Ratti, 'The city of tomorrow', we could therefore say that 'the landscape of tomorrow' not only becomes more complex moving towards the numerous' landscapes that contemporaneity is giving us back in its different forms (social, cultural , economic, political), but also opens up to a 'tomorrow' that is less and less defined in its borders and increasingly fragile in its configurations.

Probably indeed, faced with the historical divarication mentioned above, we are no longer obliged to choose for one or the other solution, but only to accept a weaker, less definitive condition, more tied to the temporary nature of the events that each time they follow one another.

This 'shift' also legitimizes the acceptance of new 'narratives', capable of working not so much with definitive categories, but with different paradigms each time, no longer referable to the first 'landscape' opened by the great era of modern industrialization, still referable to the Fordist matrix dictated by the machinist aesthetics; nor to the second computer revolution, the result of the sudden and accelerated change originated by the sudden progress of the telematic networks, already reread by Mc Luhan as the rediscovered condition of a "global village" founded on the connections (still unidirectional) of the new communication flows.

But not even the third media revolution, which has already entered the era of 'post-information' and is all projected towards the digital world, today seems to guarantee a decisive turning point with respect to the great urban transformations in the world, especially those linked to the environmental, climate and environmental emergency or at the war, still present on most of the inhabited territories. There are those who have read in this passage the passage

from a strong and centralizing Modernity to a "weak and widespread Modernity", as Branzi said a few years ago, a Modernity founded on the "possibility of imagining a future for an architecture not figurative", an architecture that is capable of becoming itself an interface, a fluid, a transition between different formal possibilities; possibilities that can no longer be transcribed through the traditional codes of language, which have always been 'weighed down' by the authentic materiality of construction, but perhaps bearers of new grammar forms, new 'narrations,' we would say today, made more and more vain by the resounding of the numerous circuits' dictated by fashions and consumer markets.

In the strong collision between inherited urban models and new contemporary paradigms, however, a new alternative emerges, a '4th landscape' with more fragile and insecure borders, fluctuating among the new environmental aesthetics, (which have become privileged experimental grounds for different sectors that ranging from urban sociology, geography, photography, to land art, design and 'domestic' architecture) and the courageous objectives of the followers of a new 'futurecraft', a kind of innovative appeal to a 'do it yourself' that he promotes the citizen to an interpreter and actor of environmental transformations, 'the main actuator of urban development' of his own landscape, according to Ratti, to whom he is allowed to access through 'macro' and 'micro' digital interconnections.

It is precisely this double movement that seems to allow working with different materials and paradigms, each time linked differently to the multiple and discontinuous processes of urban transformation.

First of all, the paradigm of the "contamination", which re-reads the complex spaces of the new territorial borders, as authentic intermittent borders, where the different elements involved in the ongoing transformation processes are confronted and sometimes collide.

So the paradigm of 'sharing', which re-reads the great 'enclaves' open in the city (consolidated and not) as possible 'productive' resources, where the interaction between citizens and 'operators' seems to outline development scenarios that have been unpredictable up to now.

Finally, the paradigm of 'resilience', the only one able to 'absorb', by reacting positively, the deformation produced or producible from the great movements that promote environmental imbalance, from those most connected to geological factors, to those more closely linked to social changes, cultural, political.

Of course the three categories mentioned are neither exhaustive nor unique; however, they tend to witness a 'change of course' that is now visible to everyone, towards which and for which we cannot avoid, especially ourselves as architects, to reflect profoundly, even though we are aware of belonging to a 'history' that more than once has disproved our 'forecasts'.

Reference projects supporting the idea of Landscape 4.0:

Lagunage de Harnes, France, recycled landscape and Val d'En Joan, Spain, landfill regeneration



2. BORDER LANDSCAPES (AND HERITAGE)

Carmen Andriani

In 1974 Enrico Job produced the Mappacorpo. It's a work composed by almost 1 thousand of photographic images reproducing the skin of the artist's body by dividing it into squares of different sizes. What is constantly moving in space-time coordinates it is frozen in the two-dimensional surface of a carpet. The prevailing view is the zenithal one, the modeling is forced in the tissue of a geometric layout determining orientation and measure. The reference to the geographical map, as conventionally interpreted, seems immediate. The one-dimensional grid is an abstraction tool, analogous to the tool used in the representation of the territory and its physical phenomena, the same tool which regulates the soil and which contains the conflict between geography and geometry. We are in a moment of a deep rethinking of the interpretative and linguistic parameters. Not just in art.

Applied to the reading of the territory, the phenomenology of postmodernism denies the metaphor of the body as a harmonious whole of parts connected to each other. The view from above is the one that best catches the sense of this transformation, the non-geometric set of scattered topographic pieces, the loss of local identities recognition. It is the disintegration of clear borders, the undoing of the unifying principle, dictated by the Modern, also on the physical reality of the territory and consequently in the interpretation of the landscape. Overlapping and never closed perimeters generate spaces for difference, stratified in the concept of palinsesto so well described by Corboz in the last century last decades. The surface is deep, Deleuze had said some time before, it has a significant thickness. The meaning of limit then changes radically, what was formerly residual or negation takes on new sense: the interstice, the void, the absence; we begin to describe the urban dust that is generated around strong centralities. It's a Copernican revolution. Turning the point of view upside down seems to be a necessary step to understand the new phenomena of transformation, also from the point of view of architects and urban planners. We can understand how the coasts, the territory of uncertainty and drift, can become the privileged field of investigation to control transformations that are no longer controlled and that, due to a lack of knowledge, are often delegitimized. The coasts form a landscape of its own. A body separated from the backcountry, more influenced by the culture of the sea and its condition of non-permanence than by the permanence of the mainland.

The coastal landscape features a different and at the same time identifiable urbanity. In the over seven thousand kilometers of Italian coastline, we can get the long abacus of hybrid city variations. Defined in many ways (infinite, generic, diffuse, fine, porous city) the city of the

coast is a conurbation without a center, compressed in a narrow stretch of territory between the mountain ridges and the sea, held together by a bundle of parallel lines (roads, railways, houses, trees, isolines ..). An alternation of agricultural plates, industrial platforms, pieces of degraded naturalness; disused structures and active ports, towns with inhabitants intense seasonal variations. We find it on the Adriatic side and on the opposite side, the Tyrrhenian one; we recognize it in the Ligurian context, an extreme and fragile coastal landscape: in the analogous topography, compressed between the sea (deeper) and the orography (denser); in the list of heterogeneous and contradictory materials. A continuous bass of a widespread urbanity that alternates with the extraordinary solo of the harbours and infrastructures densities.

It's the manifesto of the artificial landscape measured on the horizon large scale, of the boundary line with the water, of the linear infrastructures that replicate it. The city of the coast has frustrated the traditional tools of planning and, as had already happened for the spread city, the narration has taken the place of the analysis; direct experience has replaced cartographic simulation; the journey to the inspection. Describe to understand, document to learn, narrate to design: the city of the coast is ideal to be traveled, photographed and to be narrated.

The concept of landscape (and heritage) of the boundary therefore does not refer only to a condition of geographical marginality (the coast, the valley, the periphery); nor exclusively typological (from the industrial complex to the infrastructure lines, to viaducts, to bridges, to railways); nor only to the community as a whole (of which we find the condition of abandonment and the absence of representatives).

Landscape (and heritage) of the border is simultaneously and synthetically all this; it is recognizing, and putting into value as a common good and a resource for everybody, the complex of shared signs and behaviors. It means resuming contact with neglected places, starting an accomplished process oriented to census and knowledge; understand what the residual energy of degraded or abandoned soil can be transformed in; it means regenerating contexts. It is a priority to reconstitute a map of resources, shifting the attention from the built-up to the landscape (and heritage) materials, intended both as a process and as a tool, in the most extensive and inclusive sense.

Finally, giving a new meaning to the existing means producing works that are "the set of traces of all the completed acts" (R. Krauss). Not "construction in places, but construction of places", where it is necessary to point out every time the inclusive meaning of the concept of place as a set of artificial and natural assets but also of values, ideas, belonging, sedimented uses, private and collective meanings, of political and cultural strategies, also detecting possible conflicts.

3. THE THREE Rs OF THE FUTURE LANDSCAPE: RESPECT, RESPONSIVENESS AND RECOGNITION

Carlos Garcia Vazquez

Conceptually, the origin of the contemporary landscape can be dated in the decades of 1920s and 1930s. It was then when it went into crisis the nineteenth century romantic idea of landscape, identified with a pastoral environment gifted with high ethical values. It had been defined like that by a generation of intellectuals that used this idea to fight the industrialization process, still on progress. But in the first decades of the next century, this battle was finally lost. From then on, the modernization of the territory would not be something to be discussed, but simply organized.

Interestingly, from its very beginning the twentieth century landscape was outlined as the result of a huge territorial transformation implemented with mega-infrastructures, and with the aim of channeling enormous flows of persons, materials and energies. In *'Planning the Fourth Migration'*, an article published in the magazine *The Survey* in 1925, Lewis Mumford announced 'the fourth migration', when thanks to the expansion of the automobile, the telephone, the radio, and the electricity, a big part of the population would be able to leave the congested metropolis and disperse along the territory.

The challenge, which he had assumed in 1923 when founding the Regional Planning Association of America (RPAA), was to proceed with this relocation of people and functions without squandering human and natural resources.

To achieve this, the territory should be rethought as an unity made of landscapes, sources of energy, industries, and people; should be re-defined through new infrastructural networks (mainly highways); and should be re-colonized with people and economic activities coming from the urban areas. The nineteenth century consideration of landscape as an ethical and aesthetic reference had given way to a strictly technical issue.

In the last four decades this situation has reversed.

The mainly technical and infrastructural conception of the landscape has been demonized by the ecological ideology, that started to take shape in the 1970s and gained universal recognition in the 1980s and 1990s. In those decades the fascination for technology, that characterized the twentieth century modernity, gave way to a distrust for it, suspicious of being a crucial component of the industrialization process

that was in the origin of the climate change. Associated to this techno-relativism was the return of the ninetieth century ethical consideration of the landscape, in this case not linked to aesthetic values. On the contrary, the landscape started to be represented as something deteriorated, spoiled, even massacred, the most striking representation of the ecological crisis.

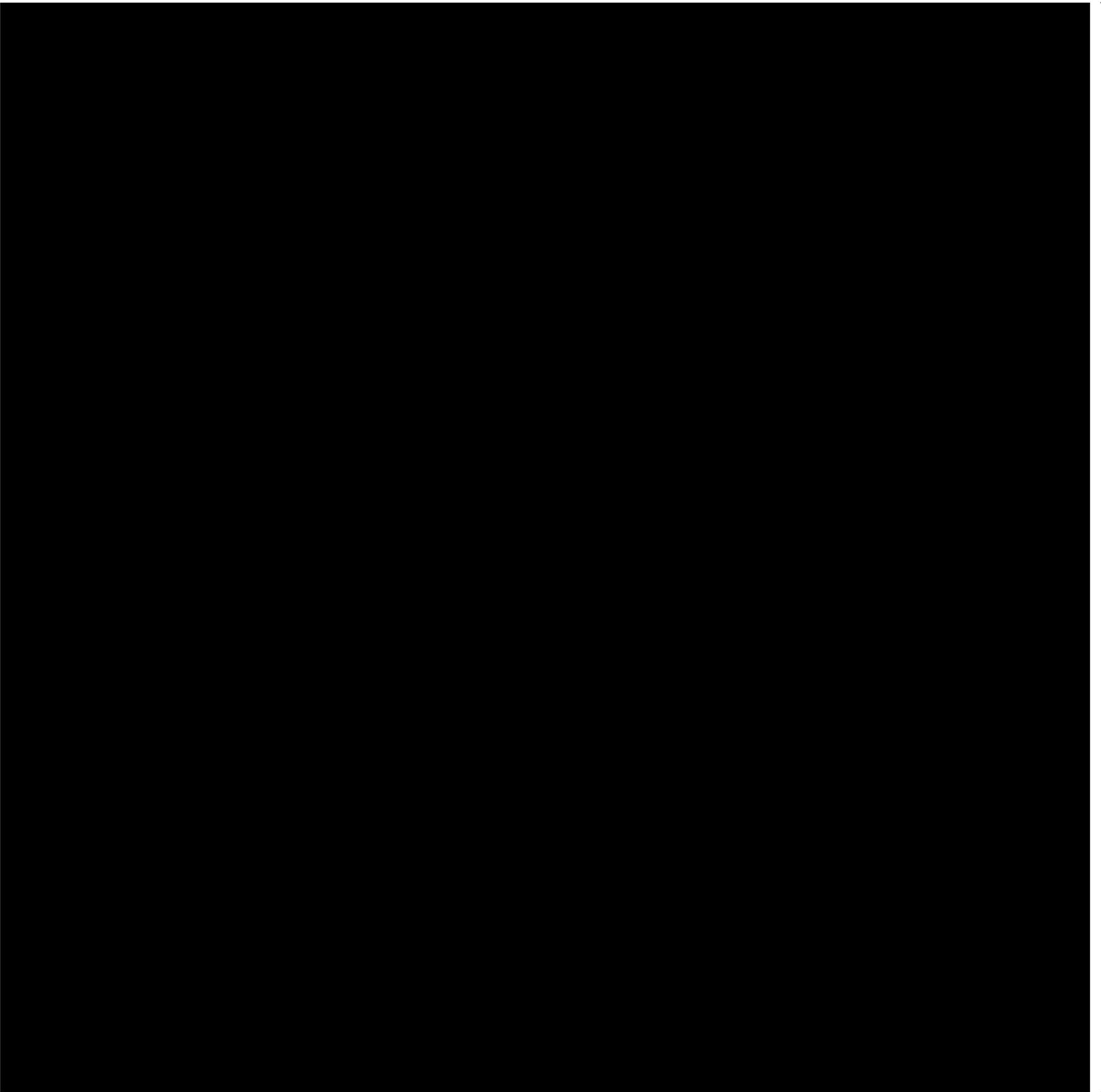
It explains that UNESCO elevated it to the category of World Heritage, an endangered treasure that had to be cared and protected.

It is interesting to see how each one of these reconsiderations of the concept of landscape was associated to a different stage in the process of industrialization. The romantic idea of landscape to the First Industrial Revolution, the one of the steam machine; the technical and infrastructural landscape of the early twentieth century to the Second Industrial Revolution, the fordist one; and the ecological approach of the 1970s to the Third Industrial Revolution, the one of the computers and telecommunications. Presumably, the landscape of the near future will be linked to the emergence of the Fourth Industrial Revolution, the one of the industries 4.0.

The title of the 2018 Open City Summer School, *Landscape 4.0*, is pointing in this direction. Without neglecting the gloomy premises inherited from the last decades debate, it has tried to imagine the landscape of the near future as something full of potentialities. The challenges seem to be similar to those of the 1920s: rethinking the territory as an unity of landscapes, sources of energy, industries 4.0, and people.

But there are pieces of hope that seem to hint that in this case the goal can be achieved. The industry 4.0 is mainly a non-polluting one, which will allow it to cohabit and be respectful with the landscape; the social responsiveness to the voices that warn about the dangers that threaten the landscape is today bigger than ever; and its consideration as World Heritage shows that the contemporary society has started to recognize the landscape as a representation of itself.

Respect, Responsiveness and Recognition, the three Rs upon which architects, urbanists and urban designers can start to define the 'Landscape 4.0'.



RESEARCH PILLS



A NEW DIMENSION FOR REGENERATED LANDSCAPES

Michele Roda

This text is a synthesis of a research activity, by the author in 2018, about possible interactions and integrations between agriculture and landscape architecture. Territories along Trebbia River, from the mountains of the high Trebbia Valley to the river mouth in the Po River, so in the same urban sectors where military areas are investigated, are the case-studies selected as references to discuss great changes and transformative potentialities of contemporary agriculture. The contents of the research were developed by the author under the scientific direction of Guya Bertelli and in close collaboration with the group of colleagues at the Piacenza Campus of the Politecnico di Milano and in particular of the professors and researchers who are members of the OC Research Laboratory, Department of Architecture and Urban Studies. The research was supported by Fondazione Piacenza e Vigevano. The research consists of 3 main parts that correspond to the steps of a progressive focus on the topic, defined by alternative tools, which do not hesitate to practice interdisciplinarity:

- 1. a critical essay as a construction of the theoretical background;**
- 2. an abacus of experiences and exemplary references as a possibility of comparison with other places;**
- 3. the proposal of design strategies in a procedural logic.**

Premise

There has never been much talk of agriculture. There has never been so much discussion about agriculture. Never before agriculture has been read and interpreted as a key and extraordinarily contemporary element of social, economic and political structures. Becoming, in fact, a virtual and emblematic place of the complexity that characterizes our time.



The topic, at a general level, is interfered by a plurality of components. Technological developments profoundly innovate agricultural practices; new sensitivities push production towards renewed frontiers; together with the crops, the figures involved in the processes are also significantly modified. This research deals with the theme from a precise point of view, wanting to investigate the ability of the contemporary agricultural fact to be a topical factor in the construction of contemporary landscapes. The work identifies in the section of the Trebbia River, from the springs to the confluence with the Po River, an emblematic and significant field of action. Pieces of agricultural lands - with varying intensity and different productivity - are combined, overlapping with villages, infrastructures and natural elements. It's a wealth of situations and conditions that takes root in a plurality of altimetric bands, from the plains to the mountains, returning precisely the complexity that is an inescapable concept of the research itself.

Part 1 – Landscape, an innovative vision

The first part of the research aims to build a framework of theoretical background referring to the most questioned themes. In particular the oriented view that the research adopts identifies in the agricultural fact one of the determining factors of the transformation of the contemporary landscape. The critical essay moves in the area of the concept of landscape as an unavoidable key to understanding our contemporaneity.

(...) The assumption that underlies this research appears almost banal, in its being taken for granted: today the agricultural fact is intrinsically linked to the quality of the territories and of the landscapes (on which significantly impacts). So the sciences of the territory itself and of its transformation (architecture, planning, landscape) look at agriculture as a determining factor, material of design, component of the dynamics of evolution and progress of the territory. This is an absolutely central conceptual leap, cultured and developed by our contemporary sensibility, only in recent years. As an ideal starting point for this path of theoretical evolution, we can assume a publication that is a milestone in the cultural development of our country, the Einaudi Encyclopedia, 1977. The word "Agriculture" is included in the first volume, occupies about 30 pages and has been significantly assigned to an economist and an expert in the history of economics such as Paul Bairoch. 40 years ago, when the text was written, agriculture is mainly a factor of economic and social nature, which nothing seems to share with the quality of the territories it occupies, which transforms, which modifies. In this distance we already find one of the elements that guides this research: only our contemporary sensibility (which we can assume to have developed after 2000) sees in the forms - even typical - of agriculture an element endowed with its own quality formal and aesthetic. Landscape, one might say, even in their visual and perceptive dimension:



the terracing of the Italian hills and mountains, the rice fields of northern Vietnam ... these are just a few examples of images that our age gives back, multiplies and spreads and that contributes to making agricultural places a symbolic emblem of our imagination. (...) Belonging of agriculture to the field of contemporary concept of landscape comes from a process of progressive widening of the concept itself. The contemporary landscape expresses a plurality of dimensions and facets. There is an image, taken exactly 50 years old, that helps us to grasp the deepest meaning of this complexity. The Planet Earth appears for the first time photographed from the Moon, therefore from a position of extreme externality, in its extraordinary beauty but also in its disarming fragility. It is paradoxical that this shot - so powerful and disruptive to the history of humanity - takes place precisely in the months in which, in the United States, 2 computers located in Los Angeles and Washington begin to exchange information at a distance, creating the conditions for the network, a figure that today unmistakably characterizes our time, our thinking, our actions, marking the coincidence between object and mind. In a dizzying, local and global way, they begin to overlap and merge, laying the foundations for a social and political revolution that takes the name of globalization and that will characterize the world with increasing intensity starting from the 1990s. (...) The contemporary landscape is a factor capable of overcoming traditional limits, with a renewed relationship between local and global scale and with innovative interferences, involving all the environments of our cities and our territories, without exclusions and without quality assessments and yes builds over time, in a continuous cycle that does not stop. These are all elements that place the landscape at the center of contemporary attention, as shown by a series of events, even very recent ones, which contribute to defining the actuality and centrality of the theme. One of the most appreciated installations of the last Biennale di Architettura di Venezia / Freespace, was certainly that of Dorte Mandrup capable of communicating the project underway for the Icefjord Center in Greenland, through a play of lights aimed at bringing the visitor within an extraordinary and unique landscape. Also this project communicated through the installation at the Corderie of the Arsenale helps to highlight the actuality of the perceptive aspect in our age, capable of modifying and directing the same process that regulates the architectural project. The landscape replaces the perception of the program. (...) These suggestions and these references can only put us in front of the awareness that our contemporaneity has conquered a broad vision of the concept of landscape, no longer just nature, not only environment, not only ecological. But complex dimension capable of absorbing all these components. And to absorb - simultaneously - the transformations. In this the landscape can and knows how to express an important dose of resilience that makes it a conscious factor of contemporary spatiality, also accepting the fragility that contemporaneity itself puts on the table.

RESEARCH PILLS *A new dimension for regenerated landscapes*



Part 2 – Landscape and Architecture, an integrated approach

According to the statement of a progressive widening of the contemporary concept of landscape, including agriculture, the second part of the research is oriented to present some of the most impressive international case-studies. They're deliberately not homogeneous neither coherent, precisely because they are aimed at expressing the complexity of the issues and opening up a field of possibilities. They belong to disciplinary experience in the field of architectural and landscape design, as well as to events and initiatives that are placed in similar disciplinary fields and that share only limited aspects with the physical-spatial sphere. Here is a brief of the abacus:

1. *Bern, Paul Klee Museum* | Fruchtländ is an experience of a continuously changing agricultural landscape, strongly related – both as location and as program – with the museum designed by Renzo Piano. The vocation is to mix nature and culture with agriculture, intended in its ability to produce fruits and its possibility to improve sensitivity about the topics.

2. *Chur, School Building* | The new School complex designed by Pablo Horvath is an L-shaped building with a collective courtyard in the middle. This open space specific quality is innovative and astonishing with a sequence, within a very rigid and geometric urban design, of agricultural products. It's a choice oriented to push the attention of children.

3. *Mulan, Primary School* | Designed by RUF (Rural Urban Framework) the project for a new extension to the existing old school in the Mulan Village (China) works with the collective spaces in rural areas. It extends the courtyard and organizes the site through a series of linked open spaces with a series of steps forming a new public space and outdoor classroom, then becoming roof, before dropping down again to form a ground plane.

4. *Rosignano Marittimo, Facility Pole* | The project of optimization of the facility Pole "Lo Scapigliato", by MCA (Mario Cucinella), has the goal of transforming the whole complex system of waste disposal in a new center of circular economy strongly linked with the territory. The series of terraces integrate the intervention with the surrounding hills and the green roof system on the roof ensures a pleasant view from neighboring detect.

5. *Berlin, Tempelhof* | Tempelhof Park is a former airport in Berlin, closed in 2008. Raumlabor pioneered new design strategies. One of that concerns a large urban gardening programme offering affordable agricultural plots for local gardeners. The approach is a long-term transformation based on social needs and requests.

6. *Montreal, IGA shopping center* | The shopping center IGA is integrated with an agricultural field on the roof. It isn't just a demonstrative action. Fruits and vegetables (garlic, tomatoes, salads, but also aubergines, radishes, cabbage and basil) produced, locally, there are sold in the market. It's an architectural test of green roof oriented also to push and to transform customers' sensitivity.

Part 3 – Agricultures, a long term process/project

The third part of the work opens instead to the operative perspectives of intervention. The territorial auction of the Val Trebbbia is interpreted as an abacus of different possible conditions where to operate through the project for an overall, complex, environmental requalification. In this sense architectural and landscape design and instances of agricultural production come together and overlap to give shape to a specific and innovative field of experimentation, which appears increasingly necessary. In particular, in the area under investigation, 5 alternative sections have been identified (which read orographic conditions and the relationship with the river) where these strategies can be applied in different ways. (...)

Agricultures, a plural noun

Pierre Donadieu, in the book "Orditure del terzo spazio. Dal consumo di suolo al riciclo delle aree produttive agricole" (edited by Paola Misino and Michele Manigrasso, Aracne, 2014, Series Recycle 7), writes about a series of possible contemporary forms of agriculture: conventional, intensive or agro-industrial, precision agriculture, rational agriculture, ecologically intensive agriculture, integrated agriculture, organic agriculture, local peasant agriculture, biodynamic agriculture, agroecology, urban agriculture, durable agriculture. Beyond the specific aspects related to production, it is important to underline how contemporary agriculture has significantly expanded its field of action, thus overlapping in a decidedly wider manner with the forms of the territory and of the built-up shapes. The plural dimension of the agricultural fact, even in territories of small dimensions, implies the need and the request for a complex and multi-layer vision, with hybridization and contamination processes. In this sense agriculture and architecture can build integrated models of advanced sustainability capable of guaranteeing economic efficiency, social equity, protection and enhancement of natural resources and of landscapes.

Taking care

So, in the contemporary reality, the idea of a multi-functional agriculture emerges that, in parallel with its primary function, is also able to provide other services to the community. With a deeply integrated role, close to the architectural design one, agriculture can "also design the landscape, protect the environment and the territory and conserve biodiversity, manage resources, contribute to the social and economic survival of rural areas, guarantee safety food". This recent definition by the Agriculture Commission, which is certainly stimulating, does not seem to take into account that to carry out all these tasks agriculture needs a project - architectural, urban, environmental - capable of directing it in a systemic and interdisciplinary perspective. The reading of 5 territorial sections along the river Trebbia valley gives an abacus of agricultural areas absolutely diversified: some closely related to

the inhabited area, and therefore often fragmented and residual, others larger in the flat areas well connected with roads, some finally in constant "struggle" with the natural and orographic elements: the mountain, the forest, the river. This framework requires integrated and interdisciplinary policies and projects that are also capable of intercepting innovative needs such as those mentioned in the "Stati Generali sul Paesaggio" (chapter dedicated to agriculture): "(...) the concept of multi-functionality, or the development by the farm of a series of services deriving from a different use of the land patrimony: for example the ponds for irrigation use are used for the sporting fishing, the rural roads for the trekking, the stables are converted in agritourism, in order to open to the tourist. The farmer no longer has the unique goal of producing in the fields but of welcoming and therefore conserving and qualifying his own business territory, making it a recognizable landscape".

Scratches and engravings

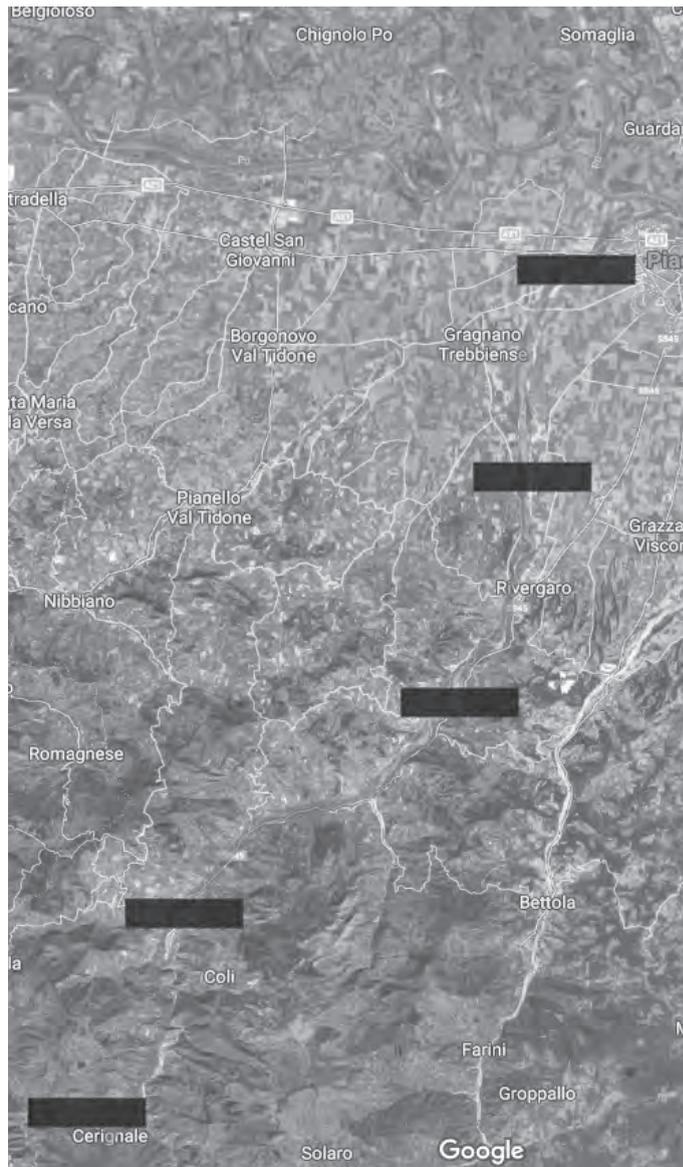
This recognizable and accepted dynamic must also be brought in the field of architecture and of design. The role of agriculture in helping to design the territories is consolidated and finds an effective description in the words of Emilio Sereni (1961): "The agricultural landscape is the form that man, in the course and for the purposes of his productive activities agricultural, consciously and systematically imprints on the natural landscape". The innovations described and the potential greater overlappings imply the ability to go beyond the simple "scratches" on the landscape. The agricultural lands, with their thickness of productive soil, become the site of the project: the lines of the crops derive not only from productive reasons but also from the specific relations that they can generate in the landscape, the alternation of the productions will be verified also on the basis of the characteristics and of the heights of the agricultural plants, the transition points have particular relevance of margin and threshold between different environments and between different natures. The buildings supporting agricultural production could take on an architectural importance, artifacts worthy of being designed and designed. This is a change of sensitivity, more and more important where contemporary agriculture expresses this ability to infiltrate built-up and natural environments, finding unexpected dimensions.

An holistic view

Trebbia Valley sites dedicated to agriculture, subject of the research, express different characteristics and consequently its impacts on physical territories are different. In general, we can see - especially for hilly and mountainous terrain - a progressive significant contraction of the cultivated areas in favor of a natural reforestation process: an enormous phenomenon that contributes to substantially change our landscapes. This means also, on a local scale, a progressive loss (or temporary cancellation) of the heritage made of traditional artefacts and techniques that agriculture has spontaneously used to recover lands suitable for cultivation

RESEARCH PILLS

A new dimension for regenerated landscapes

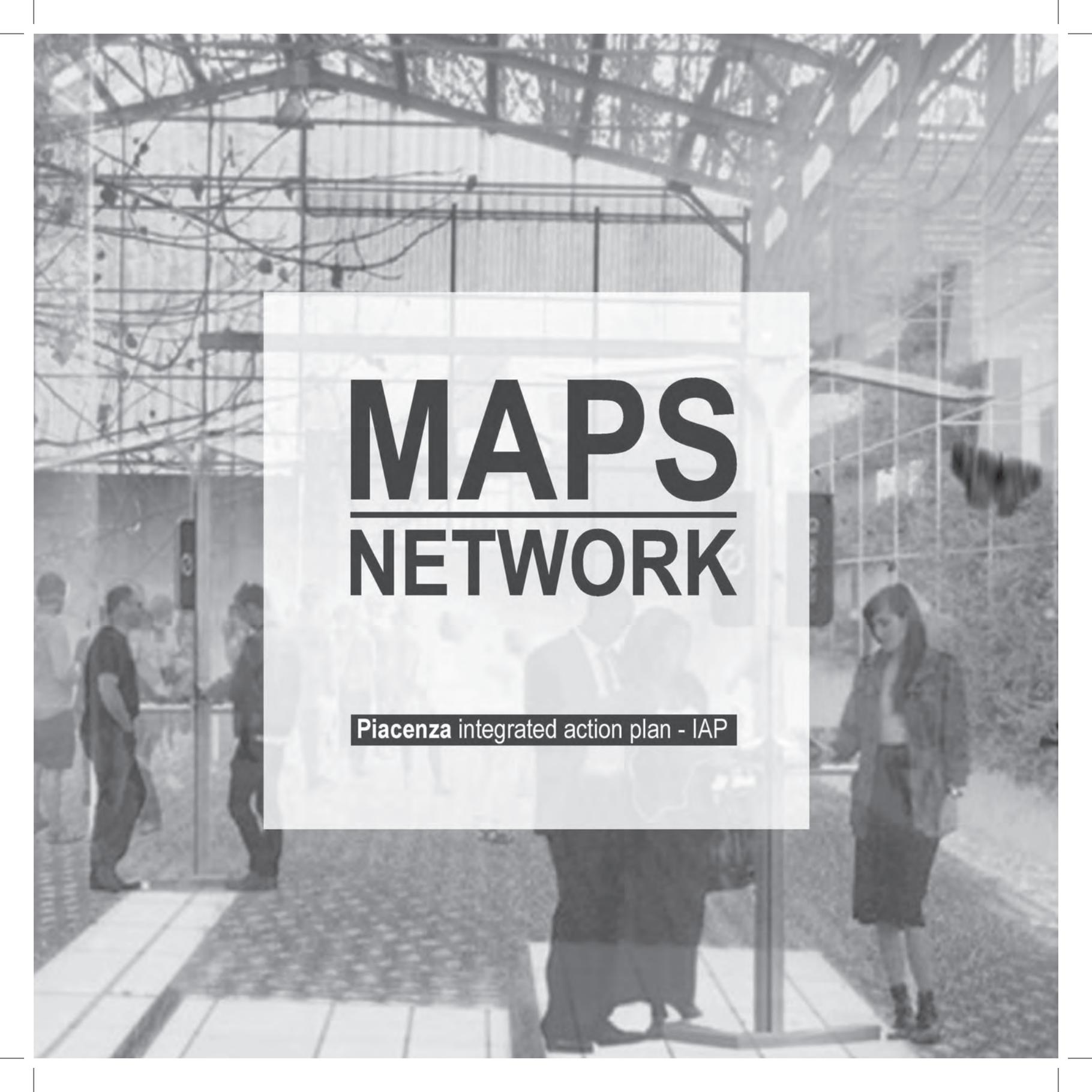


in hill and mountain slopes. There is a third element that equally has important impacts on the recovery projects/processes, or rather the fragmentation of the properties of agricultural fields, often small and very small, which - exactly as it happens in built-up environments - makes difficult the organic regeneration processes. This framework means that bringing agriculture (a designed agriculture) to the center of territorial policies and practices is a gradual process, which takes a long time and intercepts urban, ecological and landscape themes.

The agricultural design

The agriculture and landscape project - beyond the possible definitions we want to give (the neologism of agri-tecture or Andrea Branzi's researches) - needs an organic series of conceptual and operational jumps, which can also be experienced at the small and very small scale:

- 1. Renewed land use regulation tools capable of integrating the various components (urban, landscape, production) in a single synergic logic;**
- 2. Recognition of the identities of the different crops, their gradations and their potential impacts;**
- 3. Verification of the possibility of overlapping and contamination between the components, also with a view to the development phases;**
- 4. Drawing, in plan, of the reinforcement of the crops, as territorial and landscape, as well as urban directives;**
- 5. Drawing, in section, of thicknesses and heights, also in relation to the changeability of the main material, according to the seasons and years;**
- 6. Design of transitions, perimeters, boundaries, thresholds of agricultural fields, even in their interferences;**
- 7. Proposal of coherent and identifying techniques and materials for artifacts and buildings ancillary to production;**
- 8. Creation of recognizable communication tools for the production activities themselves;**
- 9. Integration of agriculture and architecture in complex and extensive processes, such as those related to the sustainability of cycles and innovative uses of space.**



MAPS

NETWORK

Piacenza integrated action plan - IAP

MAPS PROJECT

Pasquale Mei

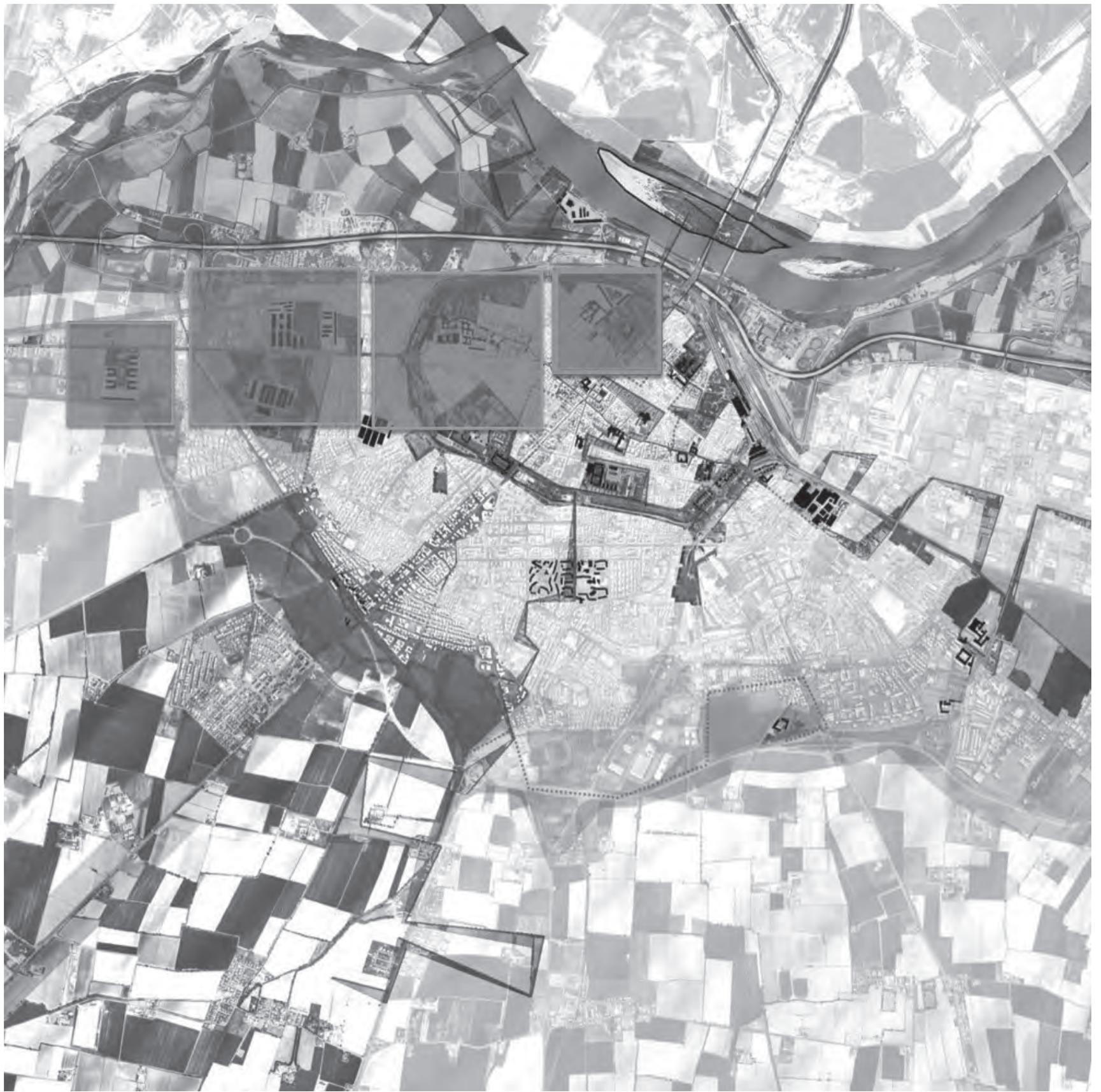
From 2016 to 2018 OC OPEN CITY Research Group of Politecnico di Milano / Dastu Department was involved within the European Program MAPS (acronymous for Military Assets Public Space), part of URBACT, financially supported by the European Union. The program was leaded by the Municipality of Piacenza, as city leader of a group of 10 European cities which shared the architectural and urban topic of neglected military assets' regeneration.

Together with associations and citizens, Politecnico di Milano research group worked on ideas and visions for reuse of Laboratorio Pontieri area (one of the case-study of OC2018) with an open and participatory approac as player of ULG (Urban Local Group).

For the conference final presentation (in Serres, Greece, at the end of April 2018), Politecnico was asked to collaborate editing the IAP (Integrated Action Plan), the final report of MAPS / URBACT Program.

Politecnico research group was leaded by Dario Zaninelli (Vice Rector of Piacenza Local Campus of the Politecnico di Milano), Guya Bertelli (Coordinator of the course of studies in Sustainable Architecture and Landscape Design and director of OC research group), Vincenzo Zucchi and Pasquale Mei. Worked on the program: Paola Bracchi, Chiara Locardi, Mario Morrica, Michele Roda, Anna Solimando, Matteo Tagliafichi. The IAP editing was also possible thanks to: Carmine Attini, Fabiana Freschi, Stefano Nicoletti, Erik Raffaini.

Considering the similar topics and case-studies, we present here some brief parts of the research developed within MAPS program.



Introduction: why an URBACT project

Piacenza is partner in a URBACT project aimed to improve the knowledge on collaborative and shared processes for the urban development, thanks also to the exchange of experiences and know-how with European cities featured by similar conditions and challenges. Since the beginning, those who are the current stakeholders, as well as those who will be the future stakeholders, have been involved in the development process, in order to attenuating possible conflicts, enhancing future achievements, activating cohesion processes. Thanks to the MAPS project, Piacenza will be able to draw some important strategic elements for the development of the city, by creating a reference framework (Integrated Action Plan - IAP) useful for the assessment of the proposals that will be sent to the Administration in relation to the properties involved as well as the neighboring areas. The IAP will allow to support coherent actions, to find and activate synergies, to effectively drive regenerative activities, albeit at different times.

Moreover, experimental programs such as URBACT represent the future of the European funding policy and the experimentation itself will give the Secretariat clear guidelines for structuring the new programming beyond 2020. The actors directly involved in the experimentation will be favored in using the available funds for the future public programming. The strategic idea defined by this path can be used as a guideline and as a reference framework for implementing - albeit at a later stage - a urban regeneration activity referred to other urban areas than those concerned by the MAPS project, by aggregating public funding from various sources (European, national, regional) as well as private resources, to implement coordinated and systematized actions. The Integrated Action Plan can be also a relevant opportunity of dialogue and collaboration between the different actors of the urban area, those belonging to cultural values as well as those related to economic aspects, in order to develop a more integrated and cohesive city, able to manage the various forces with their capabilities into a single and common idea of future.

Notes for a Design Strategy

In line with the guidelines of the European Project, the IAP has taken as its guideline three fundamental topics, involving the urban design as the privileged tool to face urban challenges:

1. the first refers to the issue of the re-use of military areas today, in the face of an obvious change in physical, social and environmental conditions;
2. the second concerns the role that these areas can assume within the transformation processes in the Piacenza urban and territorial system;



3. the third consideration is more connected to the specific, morphological, environmental and infrastructural aspects of the sites, which are essential for the preparation of a strategic program of control of the project in the different temporal phases envisaged. Against the backdrop of major contemporary urban transformations, military areas are certainly an important resource not only physical, but also social, cultural, economic and infrastructural.

Years later from their birth, some conceptual errors and functional inadequacies emerge clearly. The two main reasons for these inadequacies are deeply interconnected: mono-functionality and urban self-referential design (almost always with a fence defining the internal space).

This explains the reason because most of the first-generation barracks are still abandoned or reused with fragile and merely temporary results, still suffering today from a lack of evident of urban life within and of effective relations with the outside world. This phenomenon has been the result both of the planning of the cities during the last century and of clear errors in urban planning, which has always looked to the military fences as 'external' cornerstones to the cohesive urban habitation. In fact, many of these enclosures, as in the case of the three Piacenza areas considered here, were on the edge of non-built spaces located far from urban nucleuses often intended as "introflexed heterotopies". When they were built, they were almost always placed in the suburbs and with connective layout disconnected from the urban surroundings. The result of this gathering of 'mono-functionality', of misconceptions of planning and of errors in urban planning, led to the disconnection from the cities, to the lack of collective life and to an often precarious life system.

(...) In the specific case of Piacenza, this concentric growth is still evident today in a radiocentric urban structure, consisting of recognizable historical thresholds: Roman castrum, Spanish growth, Farnesian walls.

This model has cracked / changed in the contemporaneity due to the leaps in scale of infrastructures and territory that have contributed to differently orient the shape of the city.

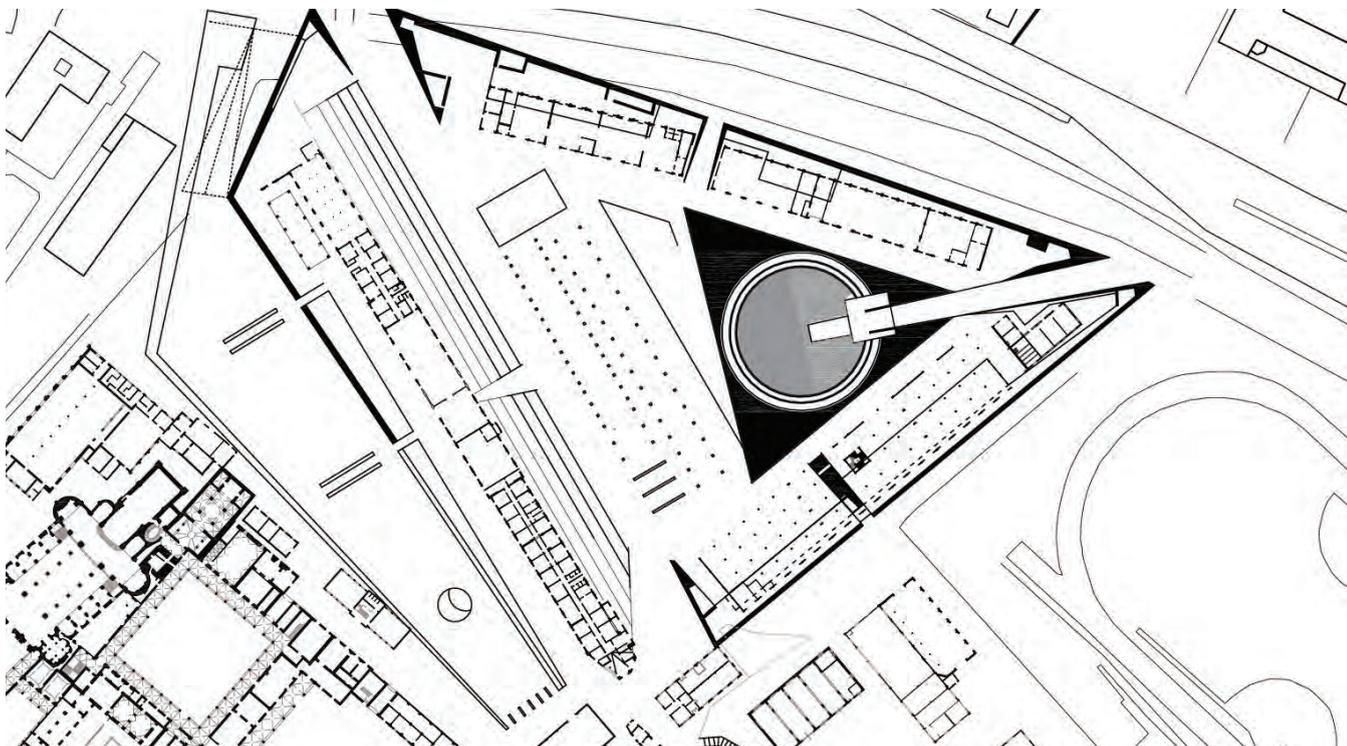
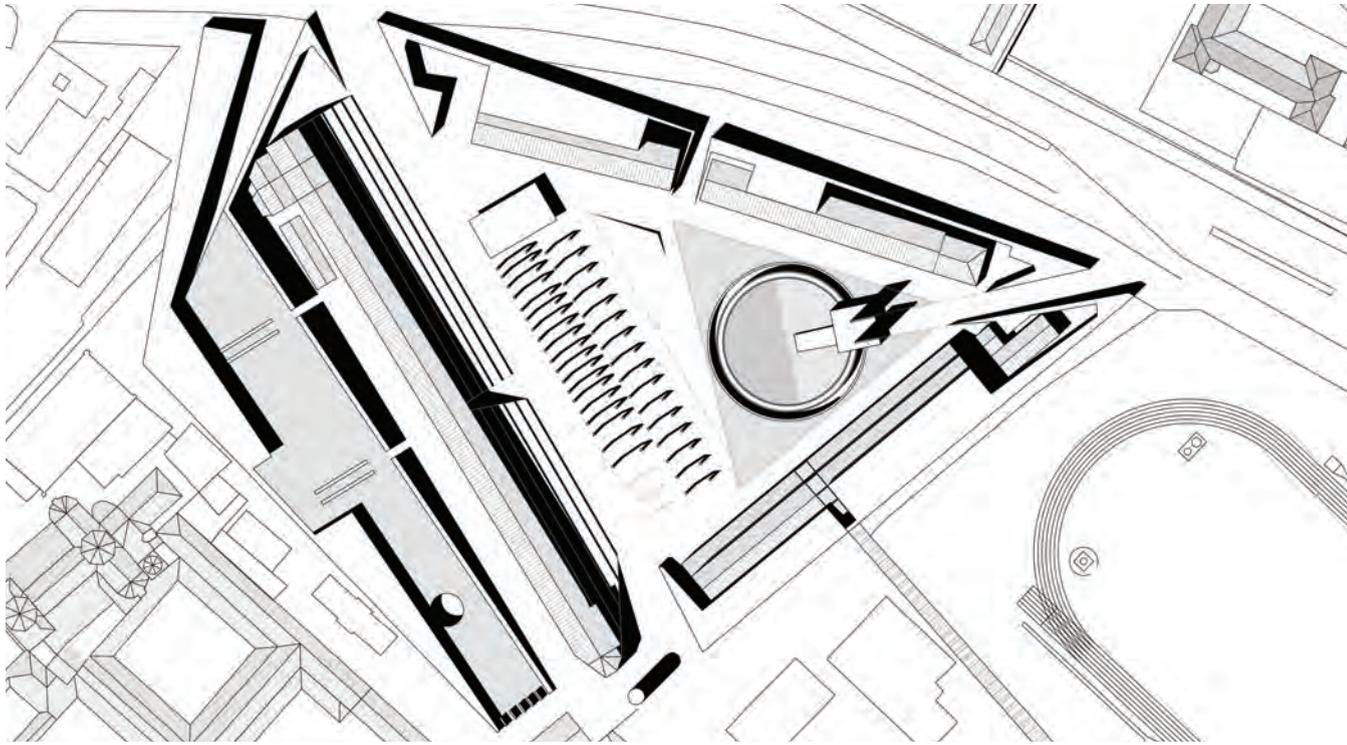
In the definition of the project strategies two working directions are then offered:

1. Re-naturalization of abandoned areas and integration into renewed landscape designs
2. Reconstruction of a renewed and rediscovered piece of the city, with involvement within the multi-scale urban dynamics

Objectives of the project: sustainable spaces, shared and in relation with the context

Faced with an awareness of the new vision opened by the possible regeneration of the system along the east-west line, the design approach has thus brought attention to the

- > These landscape elements overlap with internal Pontieri settlement rules and visual cones
 - > From a dispositive figure to an urban and territorial vision, with a new system of connection river, nature, city



remarkable sites arranged sequentially: Laboratorio Pontieri, Pertite and Lusignani, trying to focus, precisely through an open and dialectical vision, the relationship between critical areas and intervention objectives, according to a program aimed at simultaneously restoring formal quality, symbolic value and functional significance to the complexity of the spaces considered. This program starts from the observation that the configuration of the three areas today arises as a paradox: although surrounded by transport lines and road arteries linked to great mobility, they are in fact paralyzed, isolated and precluded to an active urban role.

Starting from a set of clear objectives, the project proposes to act for successive steps adopting a procedural methodology that on one hand interprets the contextual conditions (physical, social, economic-productive) as important points to anchor the choices of the intervention, on the other it overcomes the adoption of prefigured or a priori models for an action that prefigures a close participation of the social actors present (bottom-up). In this sense, the project prefigures the reconstruction of the whole area, through the unitary design of the different complementary areas and competing to the redesign of the area: built spaces, spaces for relationships, free spaces, underlining the dynamic principle of progressive training, flexibility in response to needs, increase and change over time. Secondly, it focuses on the Pontieri Laboratory Barracks as the backbone of the regeneration process (physical, social and productive) of the entire area taken into consideration.

Strategies and Actions: towards an open, dynamic and integrated project / process

Three are the main strategies involved in the process-design able to address and focus the urban design actions oriented to give an answer to the defined challenges:

The strategy of regeneration: the re-use of the existing

The strategy of integration: an incremental process

The sharing strategy: a relational process

Vision and Scenarios: connections and relations with the context.

Starting from the strategies outlined, the local project on the Pontieri Laboratory area proceeds to the identification of a project-path articulated around the sequence of vision-scenarios-actions paying great attention to the requests emerged from the study on participatory planning in the activities of the ULG . In this perspective it identifies some specific themes (in relation also to the proposed functions), which constitute the main references for the identification of the actions themselves. In fact, this flexibility / transformability is considered one of the potential elements of success within such significant urban and territorial plans-programs: a strong shared image as a strategic horizon and at the same time a capacity for transformability between elements and

> Laboratorio Pontieri new masterplan (Guya Bertelli, OC research group, April 2018)

> The ground floor plan of regenerated military area develops innovative connections within the urban framework

operators, even at to read the complex and fluid socio-economic reality we are experiencing in our contemporaneity.

Pontieri Area as a regenerated urban gate between city and river

The occasion, in recent years, to rethink the model of development and transformation of cities, dictated by a greater sensitivity in terms of environmental resources and the economic crisis with consequent abandonment phenomena, today determines a new opportunity to redeem areas that, like the Pontieri, can be rethought not so much in terms of urban surfaces to be recovered, but as potential recognizable centralities within urban transformation systems. In this sense, and overcoming a radiocentric urban vision, the sequence of the 3 barracks can in fact be recognized as an important generative section along the real/virtual axis of the Via Emilia Pavese, determining in fact the premises for the construction of a new morphological order of a multipolar nature capable of integrating strictly urban themes with landscape and eco-systemic ones and claiming its new destiny of centrality within a wider and wider system, capable of reinterpreting the development model of the whole city of Piacenza towards objectives of a new spread meaning.

INSIDE: the regulation figure

In this perspective, the dispositive structure was designed paying great attention both to the network of relationships able to establish within it, and to the degree of interrelation with the external environment. It is able to suggest, in its dynamic layout along the traces of the existing, the organizational matrices of the future development of the area, projecting its arms towards the complex system of reference elements to the context. By imposing a close correlation between the tensions already present in the field and the lines of force coming from the outside, the figure determined by the open triangle and the circle acting as central pivot would seem to be the most suitable to generate a dynamic movement, capable of becoming the knot propeller of all the tensions that converge here and from here they depart. Recognizable as a new internal square, the nucleus defines together the place of being, a space common to the different scenes that face the four sides, and the place of going, the space of crossing, the terrain of the different routes, in a state of rediscovered balance, even within a progressive redefinition.

Starting from the regulatory figure, the project has therefore set itself the goal of setting:

1. an organic and coherent process of redefinition in section of the existing buildings, through actions / modifications of composition able to reconfigure - even in the maintenance of site and dimensions - the buildings insistent in the Pontieri Laboratory. These actions can be briefly described through processes of realization of new enclosures

(with light materials) that can establish a dialectic relationship with existing walls and roofing;

2. new directions constituted by an alternative model of usability of the former Caserma space that identifies points of accesses, development of routes largely defined by the axially of the buildings and proposes a point of convergence in the central space;

3. the set of natural/artificial sections composes the overall design of a large unitary collective space but formed by paved and green corridors and a system of lightweight modules (which maintain the structure of the 2 central buildings).

In this way, relations with the context are guaranteed not only by existing accessibility, which are confirmed and strengthened, but also by the opening of new pedestrian and cycle accesses and by the new permeability defined by the progressive dematerialization of the walls.

OUTSIDE: the settlement principle

In relation to the modification of the area within the urban system, the project reinterprets the relationships between what is inside the historical city wall and the external fabric through three fundamental principles:

1. the reinterpretation of the urban margin as a succession of generating sections;

2. the proposal of a sequence of thresholds that create a complex spatiality and therefore susceptible to alternative uses and configurations;

3. the recognition of artificial sequences built along the edges.

In this sense it redefines the entire range by operating through a settlement principle in section, able to identify the strategic places where to operate a close correlation between interior and exterior. The section is adopted not only as a principle of reconstruction but as a strategic tool to rediscover a new settlement principle which, working by cutting, closely links the slopes according to generative transversal sections and on the other identifies different settlement intervals, capable of returning to the ground the role of an important connection principle. Each section defines the significant threshold of the transition between inside and outside and works different relational scales at different scales of interaction: local, urban and territorial.

RELATION local-global

Finally, the inter-scalar relationship is guaranteed by the presence of the system of buildings destined to the service sector, services and research, which on the one hand identify the precise rooting to the place of the project, on the other hand, in the regeneration of existing buildings, a specific correlation between the various strategic areas of the northern urban front, confirming, in sequence, a new front of the interacting urban and territorial forces.

Project description

This project aims at overcoming the traditional concept of “first generation” barracks by reinterpreting them as a new public space. The etymology of the Italian word for “barrack”, that is “caserma”, derives from latin word “quaterna”, meaning “fenced yard for 4 soldiers”. As a consequence, the term implies a closed and well-protected space. “Caserma” is reinterpreted from an antithetical standpoint, in this project. As a consequence, barracks must be open and well-accessible spaces, gathering and joining the interrelated numerous landscape parts and identities (productive areas, educational spaces, working spaces, cultural spaces, sports spaces and retail spaces).

Such general and abstract vision is concretized by picturing 3 interrelated and complementary landscapes:

The landscape of knowledge and innovation

First of all, the project identify the public space Pontieri as a “complex node” , linked to enterprises, schools, university, research institutions, production spaces, so to establish fruitful dialogues. The culture of innovation is promoted by sharing, collaborations and interactions among different actors. Public space Pontieri is a reality that promotes close-knit community by integration of research institutions, productive areas, and local ‘creative’ activities so to allow for new enterprises based on innovation and knowledge cross-contamination.

The landscape of creativity and production

Secondly, the project proposal reinterprets the fenced Pontieri open space as a gathering space for groups and individuals, capable of fostering and sustaining the development of the Pontieri public space itself through creativity and culture, responding to local needs. This is achieved by direct citizens and stakeholders’ participation activities and through the launching of the concept of “cultural tourism” so to build international relationships linked to entrepreneurial environment (including city users).

The landscape of technology and complex interconnection

Lastly, the project proposal depicts the barrack (caserma in Italian) as a productive “node”, capable of realizing a strong and long-lasting relationship with science, applied research, industry-ready solutions, technological development and innovation. This is particularly pursued in the field of biotechnology applied in agriculture, so to allow constant local/global and territory/city relationships. The objective is to realize organized systems capable of attracting entrepreneurial initiatives within the barrack’s walls and to promote research activities related to sustainability and energy efficiency.

The vision: renovated Piazza Pontieri’s system: a sharing and interconnection hub

Within the system of the Caserma, the new triangle-shaped plaza becomes the generating

core of a novel urban pattern. A new central square is defined, as a wide, paved, open-air space, that host internally a circular water pond, so to cover the cavea, capable to becoming a new source of renewable energy and potentiate internal functions.

At the back, the frame of the two small barracks (called "casermette"), highlights the importance and presence of the buildings. Only the structural frame of the "casermette" is maintained and repurposed as greenhouses, markets, shops by renovating them with the use of glass to complement the structural frame.

The alternate pattern of 'hard' squares and 'soft' trails within green spaces, represents a system of self-evident public spaces that damps shocks and tension given by different sources, becoming welcoming spaces for collective activities by all users (students, teachers, researchers, citizens, tourists, workers).

Suggestion from the design strategies and actions





THE 'TECHNOLOGICAL CONTAMINATION' AS A NEW PARADIGM OF THE LANDSCAPE 4.0

Martina Sogni

"For thousands of years, the elements of architecture were deaf and mute - they could be trusted. Now, many of them are listening, thinking, and talking back, collecting information and performing accordingly. (...) A Faraday cage will be a necessary component of any home - an electromagnetic shield offering a retreat from digital surveillance and preemption."[1]

"Soon, your house could betray you."[2]

This essay is part of the PhD Thesis "*Landscapes and forms of 'modification': the contamination as a new paradigm of the contemporary*" by the author under the Scientific Direction of Guya Bertelli at the Politecnico di Milano. The theory and praxis have been experimented also across the efforts and the diligence of the OC Research Laboratory, Department of Architecture and Urban Studies, through the theme "Landscape 4.0", generated by the OC - Summer School 2018.

Introduction

The thesis assumes the centrality of the concept of 'contamination' into the design, as implicated in the physical, cultural and technological transformation of contemporary landscapes. This statement starts from the awareness of the obsolescence of categories and instruments for the interpretation of the landscapes. Facing the crisis in which we live today, the research fixes a theoretical examination of the 'contamination' as a paradigm of the architectural design. A term that in its positive sense, is presented both as a conceptual tool, necessary for the reinterpretation of the role and meaning of the



Ceci n'est pas une Landscape

project, and as an operational tool for the regeneration of contemporary landscapes, within a general reflection linked to the rapid transformations in progress.

The aim of the research is to answer three main questions: today can contamination emancipate itself from its negative value and become a paradigm for the reinterpretation of places? What is the role of the architectural design in our contemporary landscapes? Can contamination become an operational tool in the 'modification' of contemporary landscapes?

In this perspective, it is possible to read the research itinerary through three separate but interfering phases within which the research is formulated: firstly, 'Thinking contamination', is aimed to fix the boundaries of the problem in the multidisciplinary literature review; secondly, 'Interpreting contamination', developed by exploring case studies and interviews to important figures within the contemporary architecture debate to specify the project paradigm; and, finally, 'Experimenting contamination' aimed to developed the paradigm into a series of design experimentations.

Whether the existence of a 'spatial contamination' appears to be undeniable (the reused Roman amphitheaters for medieval houses, the classical rules reformulated in the Renaissance or even the case of the Palladian Basilica of Vicenza, literally 'enveloped' by a new graft), both the 'social contamination' (which is always contemplating cultural differences and mixture of identities) and the 'technological contamination' (the coexistence of self-referential elements introduced by Ian Nairn's Subtopia) are equally evident.

In this sense, the essay traces a synthesis of this technological dimension as 'nature' of the contamination, trying to understand the spaces that it generates and how it could change the landscape in the 'digital era'.

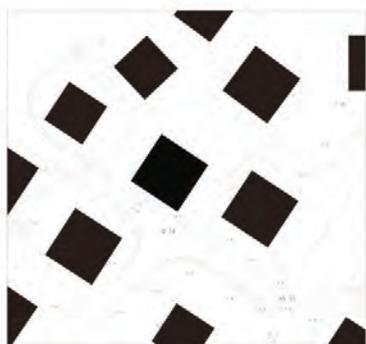
Terminological and conceptual background: 'contaminatio' and landscape

The 'formula' contamination seems to be "*a new slogan destined to have a good fortune in the next years*"[3]. However, until now few studies seem to have privileged an aesthetic-figurative aspect, derived from its linguistic value. For this reason, the research has tended to focus on the investigation about the physical-spatial value primarily.

The 'contaminatio' finds its etymological origins in the ancient Roman comedy where it immediately denotes a 'compositional technique', a "*phenomenon of viral aggression*" (Franco Purini, 2008) able to modify an initial state through the contact with others conditions, which present a different DNA. However, if 'contaminating' implies a

RESEARCH PILLS

The 'technological contamination'



并非一个物体
而是一片关系场

Not an Object,
But a Field of Relationships



'nature' of architecture called "*catastrophic*" (R. Thom, 1972; C. Benincasa, 1978) or still "*uncanny*" (A. Vidler, 2006), this expression today could be different from those considered until now. In this sense, as a possible 'tool' for the transformation of contemporary landscapes, the contamination can get back a value no longer negative, but also positive.

Even if the concept of landscape has been considered as ambiguous, dynamic and multifaceted and already variously developed by the disciplines, today a continuous reformulations and terminological extensions seem to be necessary deep (as already warned by the two Frenches geographers Blanche Pannard and Raison in 1980).

Today it would thus be of interest to learn how deep changes induced by the critical situations lead us to reflect again on some fundamental passages that have marked the meaning of the term: from the literature of Virgilio to Calvino, from the philosophy of Montaigne and Goethe to the aesthetics of Assunto, from the artistic production of Cézanne and Panini to the film production of the Italian Neorealism of Fellini, De Santis, Rossellini and Visconti, from the Italian 'morphological' School of the second world war to the French Geographical School of L. Febvre up to the most contemporary reflections of G. Clément, M. Desvigne, P. Courageu, 'descendants', of the positions of O. Dollfus, G. Bertrand and P. Gouzu and also of the Italians L. Gambi, E. Sereni, A. Sestini, E. Turri, M. Vitta and, of the explorers of the eighteenth and early nineteenth centuries such as A. Von Humboldt and E. Viollet-Le-Duc, interpreters of the numerous 'tableaux or ansichten' re-elaborated in 'Viaggi in Italia' and anticipators of the 'Guides' in 'bourgeois style' of the Italian Touring Club.

Several voices, within our disciplinary fields, have stimulated us to follow different parallel trajectories: from the closest discussions about "*contrazione*" / "*dispersione*" opened by B. Secchi to the problems of "*Sprawl town*" by R. Ingersoll; from the "*collage city*" of Rowe and Koetter to the "*analogous city*" of Aldo Rossi, taken and reinterpreted in the "*elementary city*" of P. Viganò, from the "*dialectical city*" of M. Ungers and S. Vieths to the "*shrinking city*" of Oswald and Cantz closed to the main interpreters of the Landscape Urbanism (S. Allen, J. Corner, G. Shane, C. Waldheim, M. Mostafavi).

'Landscape', therefore, as this synthetic review testifies, has become a very extended term, with degrees of abstractness that produced a complex polysemy into different disciplinary connotations and sometimes contradictory definitions supported each time by multiple meanings linked now to the city, now to the territory, now to the

© Sou Fujimoto, Not an Object but a field of relationship, 2014

© Edith Roux, Série Euroland, 100x120 cm, tirage lambda, 2000

© RAAF | Atelier de Lyon + Rietveld Landscape, The Bunker 599, Culemborg, The Netherlands, 2010

© Nikola Gjorgjievski, Wireframe landscape, Neometabolism

The product and the 'digitally enabled lean manufacturing' in agriculture

RESEARCH PILLS

The 'technological contamination'



leaving Southampton



the intervening



400 miles

arriving at Carlisle



powered by sunlight, wind and energy induced mains electricity, mobile phone signals and wireless network EMF

buoyancy maintained by varying air density and temperature in the floatation sac allowing them to float like floatam in the wind

they expand and contract to change altitude... if one waters along near you, grab a mere moment of solitude

the myth of public space is that it is a space open to all... public space has always implied limited access -- limited to particular members of a community, particular citizenships, particular genders or particular income groups.

on the other hand, in a data-saturated environment how do you find privacy?

all space is public, our data shadows follow us around, leak out of buildings, seep out of our devices... what is needed is a truly private space... a space of absence

no phone calls
no emails
no sounds
no smells
no warm seat left behind by the previous visitor
no eye contact and no security cameras
no GPS signals
no 402 Hz wireless networks
no microwave emissions

the idea of HOME no longer needs to be tied to a particular location... it is simply a space of absence

Jellyfish cluster

buoyancy structure

EMF detection

float control experiment

environment. Precisely this terminological 'breadth' has semantically weakened it. In this context, the research advocates the existence of a significant link between two distinct and non-homogeneous conceptual categories: 'landscape' and 'contamination', whose relational connection would reside in the 'project', in its multiplicity of scales and contents.

The 'technological contamination' as a new paradigm of the Landscape 4.0

Leaving aside the 'formal' and 'social' dimension of contamination, the 'technological' one seems to generate a different condition and management for the Landscape 4.0, introducing some research questions: what is the 'space' that characterizes the landscape in the digital era? Can the 'digital space' coexist with the 'physical space' and its 'traditional models'? How does technological contamination become a tool for landscape regeneration?

We're not talking about Fritz Lang's *Metropolis* or the Smithsonian's *House of the Future*. We are discussing a technology that cannot be seen or heard, as Mark Weiser already stated in the nineties: "*the most profound technologies are those that disappear*"[4]. His definition of "*Ubiquitous computing*" then merged into the "*Internet of Things - IoT*", introduced by Kevin Ashton, seems to represent a new Landscape 4.0 configuration[5], whose physical dimension is intrinsically weaved together with the digital one.

Within the present Anthropocene geological era, strongly influenced by human action, studies discuss the coexistence of physical and digital elements: Marshall McLuhan elaborates the controversial metaphor of the "*global village*", Antoine Picon uses the formula "*contemporary digitally-structured landscape*"[7], Aldo Bonomi prefigures the recipe "*Smartland*" and Carlo Ratti the applicable "*Senseable City*" instead of the previous Smart City. Three point of view for three terms of interest that generates an unclear idea for the field of project (environment or territory or landscape[8]).

It would seem, therefore, that further investigations are needed in order to clarify again a new concept of landscape in the digital era. However, assisted probably by the 'infiltration' of the landscape discipline into the architectural one, the mentioned theories proceed towards the important evolution of a new spatiality: among all the "space of flows" of Manuel Castells and the definition of A. Dunne and F. Raby of the "Hertzian space".

Theories, ideas for an intense debate that has nevertheless encountered conflicting opinions (from the "*death of the distance*" of the economist Frances Cairncross to the "Etopia" of William J. Mitchell) and raised problems related to the project as pointed

out Antoine Picon: *"For the first time perhaps, architecture has to confront itself with a deeply non tectonic reality"*[9]. Someone called it 'data-scape', *"every-ware"* (Adam Greenfield, 2006): a virtual reality integrated within everyday objects and activities for which the information is collected and processed in Big Data implementing the development of a product rather than the strategy of a process.

In conclusion, a 'complementary space' that combines physical and digital elements that *"go into a strong collision coming out of both enhanced"*[10]. 'Technological contamination' is not negative!

A landscape full of information that, however, seems to lack interaction with the landscape itself and needs to work through a structure regulated by three components as clarified by Carlo Ratti: the *"instrumentation (of) omnipresent sensors that regulate environmental conditions and flows human and material, (...) the analysis (of) urban data to understand the present and predict future scenarios, (and finally) the actuators: digitally controlled devices capable of reacting to data in real time affecting the physical space"*[11].

As it is already happening, the 'technological contamination' could be inserted and applied from the development of agricultural production to an entire portion of the urban tissue, defining strategic paths that weave nodes, reserves and resources. In this sense, all the actors would be activated along a 'supply chain' of a *"continuous productive landscape"*[12] capable of recognizing specific data (collected by IoT devices) and organizing within a 'digitally enabled lean manufacturing'.

With the global crisis of 2008, we need other instruments and strategies for a new form of the Landscape 4.0. Until now, 'technological contamination' has been discussed from a linguistic point of view, but this essay focuses the attention to the spatial point of view: the digital technology cannot be longer limited to the design of an architectural 'object' but it needs to be quickly integrated with the essential physical components of the landscape. Some examples have been already developed: devices, sensors and systems have been used for the regeneration of entire urban sequences like in the *Digital Mile* project in Zaragoza in Spain or for the construction of portions of cities such as *Masdar City* in the desert of Abu Dhabi and *Songdo* in South Korea, (not forgetting problems and critical issues still to be solved for the inhabitants and their fear to live in such a place!).

In those realities, a social profile through which the Landscape 4.0 could be interacted with is a combination of the digital culture of the *"Network Society"* (Castells M., 2004) and the pastoral culture represented by the *"Retournees"* to the land (Bonomi A.,

2015), to better govern reserves and resources. New subjects to inhabit the Landscape 4.0 and new roles involved into the project for the Landscape 4.0: not only architects or landscaper or urbanists but also engineers of computer companies with not only the power of managing the Landscape 4.0. But also, the power of generating a different relationship between memory and landscape in a renewed and more secure way[13].

"As historians and theorists like Simon Schama or Sébastien Marot have convincingly argued, memory has always played an essential role in landscape culture. Landscape almost always appears as a complex imbrication of immediate reality and remembered elements. But the non-linearity of the interaction between what happens beneath the eye and what is recreated by the mind, using culture as a reservoir of visual and emotional references, has seldom been acknowledged. Hence the recurring confusion between memory and history plagues many reflections on the question. Although many of the features of digital culture seem to be adverse to memorial aspects, beginning with the impression that it bathes in the everlasting present of online sociability, digital culture can actually throw a new light on how memory interacts with the other dimensions that shape landscape."

A 'new realism' aware to be - even temporarily in this transitional period - in a "*space of dislocation*" (Foucault M., 1967) in a sense of being simultaneous, juxtaposed and dispersed. A possible space for the Landscape 4.0 where the poetics of the "*spazio epifanico*" (Assunto R.,1994) works within the interpenetration, participation and sharing, (rejecting that of the "*absolute space*" of Isaac Newton, without any relationship with the outside).

If the architectural discipline today would seem to leave behind 'finished figures' in favour of interrupted signs and "*intermediated natures*" (Desvigne M., 2009), densities instead of 'zones', differences and discontinuities instead of isotropic or panoptic spaces; thanks to the paradigm of 'contamination' and its 'technological' dimension within the idea of the Landscape 4.0, a structure to 'manage' the whole interrupted system could be represented.

Notes

[1] Koolhaas R. (2005). The smart landscape: intelligent architecture, Artforum: <https://www.artforum.com/print/201504/the-smart-landscape-intelligent-architecture-50735>, (10.05.2019)

[2] Ibid.

[3] Gregotti V. (2006). L'architettura nell'epoca dell'incessante, pg. 113. Bari: Laterza. Translation by the author. As underlined by Vittorio Gregotti, who together with Franco Purini and Alberto Ferrari recently discussed the importance of the notion of 'contamination' within the writing process of architecture.

[4] Weiser M. (1991). The Computer for the 21st Century, pg.94, Scientific American, Sept.

[5] See Castells M. (2004). The Network Society. Edward Elgar

[6] See Crutzen P. J., Stoemer E. F. (2000). The Anthropocene, IGBBP NewsLetter, No.41 - May, pg. 17-18

[7] Picon A. Substance and Structure II: The Digital Culture of Landscape Architecture, No.36 - Landscape Architecture's Core?, Harvard Design Magazine: <http://www.harvarddesignmagazine.org/issues/36/substance-and-structure-ii-the-digital->

Rafael Lozano-Hemmer, Amodal Suspension, Relational Architecture 8, 2003, © ArchiBiMing



culture-of-landscape-architecture (03.05.2019)

[8] See Assunto R. (1980). *Paesaggio, ambiente, territorio: un tentativo di precisazione concettuale*, *Rassegna di Architettura e urbanistica*, No. 47-48, pg. 49 - 51

[9] Picon A. (2008), *Digital Minimal*. ARCH'IT:

<http://architettura.it/extended/20060225/index.htm> (20.05.2019). Previous Italian version 2006.

[10] Ratti C. with Claudel M. (2017). *The City of Tomorrow*, pg. 16. New Haven and London: Yale University press

[11] Ivi.

[12] See Viljoen A., Bohn K., Howe J. (2005). *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, Routledge

[13] Picon A. (2008), *Substance and Structure II: The Digital Culture of Landscape Architecture*, No.36 - *Landscape Architecture's Core?*. cit.; See also Schama S. (1995), *Landscape and Memory*. New York: Knopf; Marot S. (2010), *L'art de la mémoire: Le territoire et l'architecture*. Paris: Éditions de LaVillette

Songdo, South Korea. The unfinished smart city where technology is 'ubiquitous'



