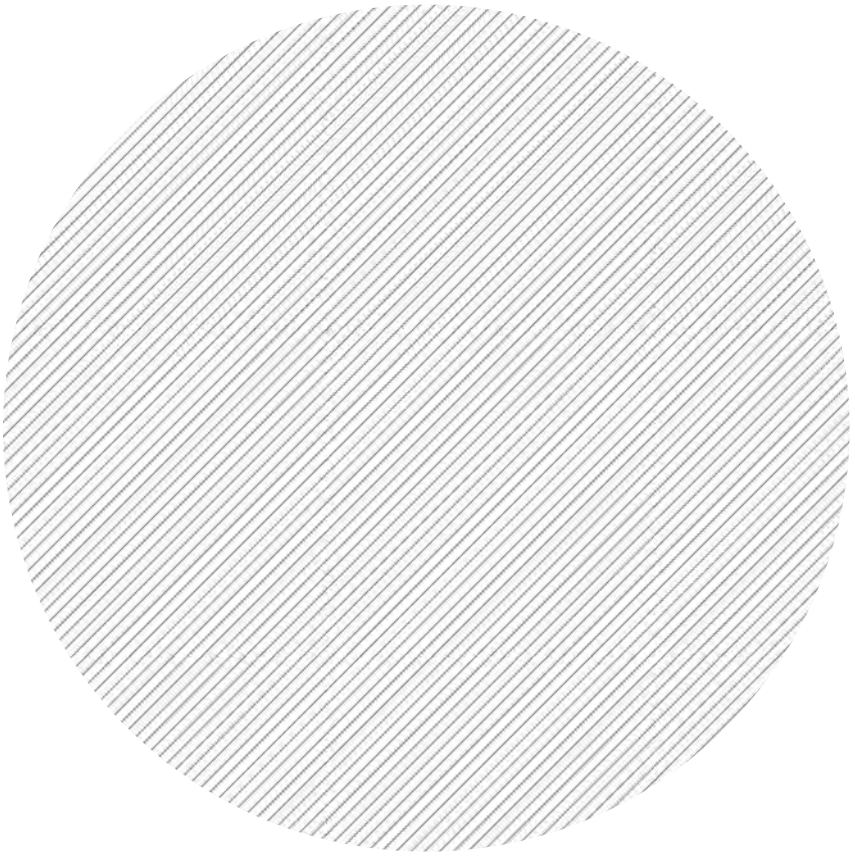

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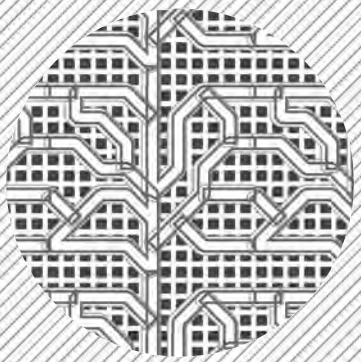

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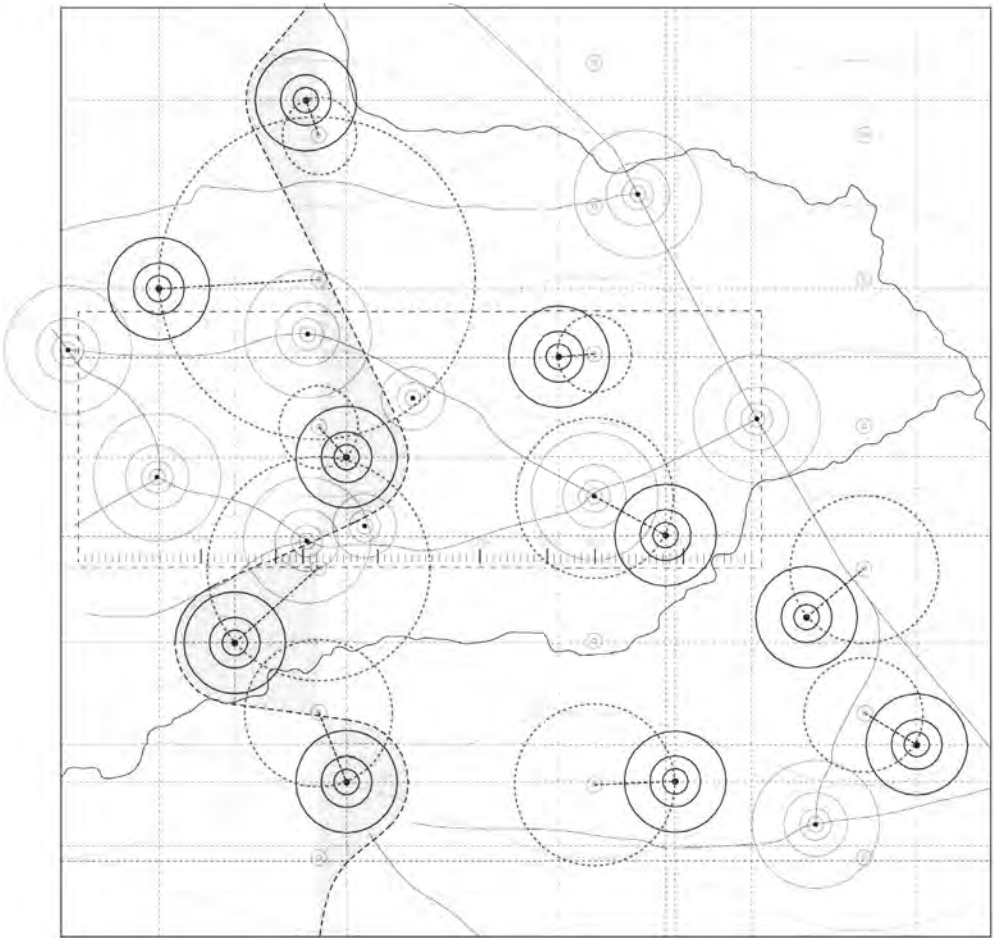


AGOGIC MAPS AND SENSITIVE TERRITORIES

RAFFAELE PE

Raffaele (1985) is an architect and a musician. As a result of his PhD studies in architecture, completed in Milan in 2014, he focuses his research on sound cartography and space design across new media. Graduated in Architecture at Politecnico di Milano in 2009, he gained a second degree at Politecnico di Torino following his Diploma in Processes of Innovation accomplished at the Alta Scuola Politecnica in 2009. In 2012 he was admitted at the Royal College of Art London as visiting PhD student, since 2014 he is fellow of the Venice Cini Foundation. He now holds a position of lecturer in architectural design at Politecnico di Milano, Piacenza campus.

Raffaele combines an intensive musical activity with his ensemble *La Lira di Orfeo* with frequent collaborations on space and sound experimentation at Politecnico di Milano. Among his recent articles, *Audio-guides as Mapping Tools for Moving Territories* (The Visual Language, 2013), *Immersive Maps to reform Sensitive Areas in Informal Settlements*, (NUL, 2013), *Hyper-localism and Parametric Mapping for Collaborative Urbanism* (Wichmann, 2012), *Organized Network and the image of the European Archipelago* (IUAV, 2011), *Gli Strumenti dell'analisi morfologica, i fondamenti della contemporaneità* (Maggioli, 2009).

"The qualitative interval between the two terms of the correspondence cannot be evaluated quantitatively, however we can easily admit the possibilty of a bounce that reaches a sequence of reciprocal exchanges, a sequence in which it is not possible anymore to discern the moment of appearance of the first antecedent, if not to find it again in the memory of an intuition, sometimes proliferating, some other times stagnant, but always detectable in images circulating in the atemporal."

Franco Donatoni

/* Sensitive territories in urban and suburban contexts present a transient formal and immaterial identity which affects their condition of accessibility and livability. Sensible spaces are open to transformation and adaptation according to climatic, topographic and cultural changes. They embed within their configuration the means of their eco-systemic and environmental inclusion, using settling systems that are flexible and somehow unstable.
The need to fix on a map the cartographic extension of such shifting landscapes requires the improvement of our mapping tools in order to respect the ephemeral status of these contexts, while preserving the memory of the fixed elements that originated such built environment.
The use of sound in current mapping techniques enhances the understanding of a space exploiting signals and pulses which provoke our spatial awareness in term of imagination and contemplation of an aural ambience.
Sensible urban sets manifest a peculiar expressivity which needs to be emphasized through media that are both light in the way they "touch" the materiality of such landscapes, and fascinating in relation to the imagery of the place they disclose.
Sound maps reflect on the relevance of immaterial "musical" contents in urban cartography, conveying potential action of material transformation to improve the accessibility of a configured space. Sound maps detect and display through aural images the implicit linkage that interrelates constructions, topographic emergencies and environmental features of the space.

Seeming Informality

1

/* Informal settlements in some of our major contemporary metropolis, demand for the understanding of site-specific spatial practices related to the anthropological images of the settlement that their inhabitants acknowledge as available urban spaces. In order to establish effective operations of architectural transformation and inclusion, the re-configuration in space and time for such congested environments happens according to fluid processes of adaptation and compaction, which are detected among typical inhabiting behavior. Permanence and history in informal settlements are accidental as quite often land

appropriation and actions of micro-colonization develop in the form of self-generated non-linear performances.
However, these sensitive areas assume the quality of urban thresholds between formal and informal morphologies, for which the bond between topography and design can play an important cognitive role, transforming architecture in perceptive maps for the construction of shared and livable landscapes within the urban environment.
Spatial design should always be able to communicate the ambivalence of its immutable and yet fleeting character. If city design can be addressed as a temporal art (Lynch, 1964), but it cannot be treated like music, as it is not a form of art which does not deal with fixed objects, a new epistemological balance should be found in the construction of our mental and physical image of the place in the way the pace and the dynamics of our movements become necessary variables to disclose the deep reason of such configuration. Architecture and city design should embrace more advanced forms of mapping in order to frame the unstable quality of the unfolding landscape in contemporary urban settlements.

2 The Agogic of the Space. Tuning Model and Variations

/* Every form of pondered partition of our reality constitutes a space. But the space is not a static entity. Each space outlines in fact the pace of an inclusive movement, the habitual movement, which happens within the extent of the partition. The pace of the movement is the result of the fascination and attraction that the human body senses proceeding through the space. The pace is the active experience of the partition by means of movement. The temporal articulation of the partition is rendered by the pace, translating the essence of space into what we call rhythm.
The fundamentals of the pace are the rhythm and its dynamics. The experience of a space with a certain pace allows the intuition of the innermost meaning of what could be named the variation of the model.

Spatial behaviors are envisaged in certain forms through a cognitive model. However, only when the model is "activated" by the movement, the measure of the partition becomes rhythm. Model and variation are reconciled and tuned by the rhythm of motion, which represents a relevant reference to manifest the expressivity of things. The expression is the movement that varies the kinetic expectations of the "sensing" body.

The tuning between a model and its variations is said "agogic". Agogic is by definition the "practice" of a rhythm, a practice which explains the variation of a cognitive model in the process of recognition of spatial objects. The variation of the model emerges each time the pace of the moving body changes while meeting the fixed body of the territory. An agogic study of the space aims to define the topographic reasons of such variations, acknowledging their condition of actions for environmental installment.

Let us investigate the meaning of the musical term "agogic" in relation to the experience and the construction of the place. Agogic accents in music represent a rhythmical practice for which the interpreter and the score are coordinated in order to produce variation and expression within the extent of a regular rhythm. The agogic mutation of a homogeneous pulse into an irregular pattern grants the emergence of governable degrees of expressivity in phrasing musical sentences on the basis of poetic meaning or rhetorical instructions. Agogic emerges during the change of pace in the motion of the moving body while approaching the fixed body of the space. Our research on the agogics of the space establishes several interrelations across artistic disciplines in order to detect its tactile essence. Agogic is an imaginative tool, borrowed from other musical disciplines, to understand what enhances the semantic activation of the place.

3 Music vs Communication in Agogic Cartography

/* The space, as a cognitive means to measure the distance between our body and the external reality, is endemically constituted by moving elements, which are relevant as much as other stationary physical references to orient our movements. Sensitive urban spaces present today landscapes which are not able to manifest their meaning and their function with clarity due to a weakness of their linguistic and syntactical equipment. Moving and stationary elements both contribute to shape the image of the city, which is often the most effective cognitive instrument to memorize its articulation and the quality of its inhabitable spaces. On one hand the image of the city embodies the lineaments of its built environment, on the other it retains the elusive traces of recurrent spatial behaviors.

Agogic maps allow to conceive the invariable metrics of spatial models according to perceptive transformations generated by the motion of the body. Spatial behaviors in anthropic landscapes are influenced by anthropological habits as well as by environmental features. The agogic implied within spontaneous spatial movements and habits is interdependent with the formal quality of the space in which movements take place.

The current diffusion of communication technologies and locative media to ease the navigation within anthropic landscapes have significantly augmented our perceptive modes in space and time. Somehow they allow for a deeper sensitivity of the body in relation with emerging territories, as much as they foster within the user a sense of connivance and spontaneous interest for individuals to disclose the contents produced by those media.

Locative media have transformed our environment in a collaborative and acoustic laboratory (McLuhan, 1969). The acoustic space admits participation in information where interactions between bodies materialize according to vibrations at a variable frequency. Within the acoustic space knowledge and awareness become part of a public realm for which contents are material of possibility, available to intrusion and transformation by urban operators.

Sound cartography, as a form of agogic mapping for sensitive territories, propose the development of a type of writing which exploits sonic signals to build open learning framework on the external environment.

Sound maps are not nominal nor descriptive.

They replace the projective two-dimensional cartography with a generative model, a screenplay of complementary layers of urban data, which is multi-dimensional. Sound maps reconsider maps as a performing tool synchronized with the breath of the city.
Sound maps use music instead of plain in-active communication. They guide the percolation of their users toward accessible territories in relation to topographic emergencies and anthropological qualities of the settlement, as if those elements were the variables of a tonal discourse on the construction of an aural immersive environment. They translate the contents of sonic cartography into new modes of space writing, with a medium which is experimental, intuitive and ideographic. Agogic maps foster the awareness of the place adopting spatial expressivity as a means for orientation and recognition. While they assist individuals in territorial immersion, the map records the variations of the size of spatial objects in relation to the speed of motion, reporting an augmented configuration of the perceived space according to the agogics of the sensing body.

Agogic Maps and Protocols: Program, Rendering, Synchronization

4

/* Mapping protocols constitute a form of representation which develops the fixed writing of spatial objects toward the outline of the dynamic interaction of its elements.
Protocols aims to formalize the structure of a new urban development according to an idea of agogic interchange between the built environement and the one experienced. Such method is based on a dynamic recombination of elements and measures that characterize original settlements with the geometric rhythms and the frequencies of the territorial scale.
A protocol ordinates the program of transformation and interaction that each element of the composition establishes with the context. The objective of the protocol is to set the rules to render the agogic of the place, starting from the anthropological imagery of a community toward the transformation that several agents has implied for a settlement within a certain amount of time.
Rendering is a word taken from the artistic vocabulary of Luciano Berio, for whom the restoration in modern times of an ancient artifact requires the work of art to translate

and then render the originating essence of a space through contemporary techniques of transformation.
This operation of space configuration requires that elements belonging to the anthropological image of the place are recognized, selected and employed as recurrent geometric variables of the settlement, indicating precise scopes and functional cycles as spatial behavior. The project is led toward a preliminary comparison between the units that constitutes the anthropological imagery of the settlement with the principal topographic drivers of urban growth and transformation (green infrastructure, water, infrastructural systems etc.). Rendering is a conceptual action of assemblage of the morphologies taken into account during a preliminary survey, in order to establish a semantic interdependency between measures and behavioral rhythms, between forms and their topographies. Through this design procedure a new set of urban elements emerge as fragments of the settlement.
The agogic map protocol traces the chrono-graphic condition of the project in space and time. The development of unstable territories through agogic mapping is imagined as a sequence of immersion, guided by the discovery of a systematization of minimum units of urban meaning along existing path of movement.
Protocols discipline the performance of the images, both aural and visual, which are included in the project sequence to indicate the originating essence of a settlement.
Through the manipulation and the synchronization of these formal variables, the morphogenetic orientation of new urban types is achieved, exploiting the rendering of such images as a memento of the historical and environmental reasons that caused such spatial configurations in conformity with certain topographic features.
An agogic map is a multidimensional map with a direct reference to the geography of the place. The map intertwines the geometric values of the anthropological image of the settlement with the harmonic instances of recurrent urban behavior. The map follows a scenario design approach for which the topography is represented in its kinetic and diachronic condition, as a programmed sequence for immersive orientation. Data and information are translated into a spatial event of signals and pulses for which their tactile quality can be experienced.

/* Sensible and informal spaces in our major cites are examples of shifting urban territories which demand for new mapping tools to organize effectively their spatial development. Informal districts are here considered as a paradigm of urbanism "in motion" according to the rhythm of spontaneous movements and building actions of their inhabitants. These informal settlements represent an original tale of environmental transformation in relation to the natural development of the landscape. They present all the cities before actually becoming cities according to a "modern" acceptation, which means before disconnecting their physical configuration from the environmental and vernacular criticalities of their territory. Modern infrastructures surrounding informal settlements do not seem to able to improve nor to envision the sustainability of their future development, acknowledging geographical and topographic features as design assets. Agogic maps intend to mark this condition, conceiving the formal reconfiguration of this urban scenario using tactile and expressive outlining tools for those ephemeral elements that once were part of the intelligible anthropological image of the settlement (Lévi-Strauss, 1958). The experiments included in this research aim in fact to demonstrate the relevance of an interactive aural-visual mapping model that illustrates the scope of a techno-ecological landscape as a possible future scenario for the recovery of such degraded and neglected territory [https://www.youtube.com/watch?v=RF3ZzyKXsrQ]. The employment of immaterial technologies to trigger spatial reconfiguration considers agogic maps as a musical device to disclose the essence of a "third-space" (Soya), not only physical, nor mental, but that implies the emergence of new spatial awareness and knowledge among its sharers.

In aural-visual agogic maps, we need to choose which sounds are more appropriate to recount of stable and recognizable spatial phenomena in comparison to places that are more sensitive and unstable. The principle of euphony distinguishes between consonances and dissonances in sound material in order to interpret the intelligibility of sound signals. If we analyze a sound that is considered euphonic, it does not present traces of interferences in its spectrum. On the contrary, a sound which expresses dysphonia does present a component of noise in its extent.

1

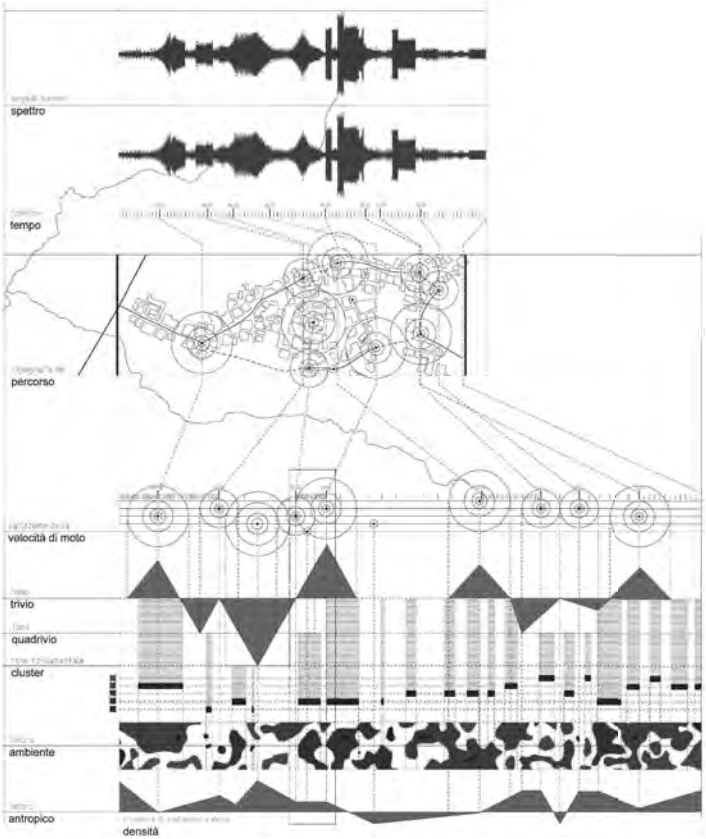
Euphony is a technique of perception used to identify sounds that result more accessible and appreciable to our senses. Among the ancient Greeks, Euphony was considered a common practice for poets and singers, who were used to modify the intonation of sounds according to expression required by the text. The Pythagorean idea of consonance, that is reflected in Alberti's dissertation on the so-called "simple relations" contained in *De Re Aedificatoria*, identitifies aural and mathatical signals that are easily identifiable. Agogic maps exploit consonances in the vicinity of more accessible spaces in order to arouse a sense of security and livability of the place in the ears and mind of the user.

The map uses also sounds that are less intelligible that we call interferences. From a certain perspective interferences and dissonances share an idea of difficulty for the ear to find attractive. Interferences are in fact dissonances. However in this study they are defined according to Arnold Schönberg's principles on harmony. For Schoenberg dissonances are form of consonances that are more complex and so more difficult to retain for our ears.

Dissonances on agogic maps should indicate those places that are more sensitive and unresolved, whose ephemeral identity requires to find a conceptualization within the urban settlement with more urgency. This approach is conceived in relation to informal enclaves in which it is easy to find unstable shifting landscapes with discontinuous morphologies. Those spatial objects that characterize the territory in a temporary way require flexible and adaptive measuring tools. The spatialization of the values of dissonance in this perspective allow to retain such difficult and seemingly inhospitable places as places that are open to revisions and transformation. As aural signals are not nominal nor descriptive, they provoke an imagery, a sensation of the space.

The cognitive patterns produced by agogic maps are informed according to theoretical contributions which come from the fields of epistemology, psychoacoustics, choreography, musical composition and landscape urbanism. In particular the works of Adolphe Appia and Émile Jaques-Dalcroze are examined from the point of view of the construction of a viable scenario for the coordination of spontaneous movements. The theoretical offerings of composer Franco Donatoni, with special attention to his books *Questo* (1970) and *Antecedente X* (1980), are remapped into an extensive exposition which designates "agogic" as one of the most

fertile and profitable research ground for those who intend to deepen the relationships between movement, perception, and topography. Envisaging and coordinating spatial movements within the city, urban territories are qualified in their rank. The tuning between motion and pace is disclosed and enhanced through proximity maps and agogic patterns.


spettro
tempo
percorso
velocità di moto
trivio
quadrivio
cluster
ambiente
antropico
densità

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1 Dar es Salaam agogic map prototype.
Raffaele Pe, Stefano Bovio, Alessandro Musetta

WAVES WANDER THE WALLS: COMMUNICATION AND META-CONTEXTS

RAANA SAFFARI SIAHKALI

1 Preface

/* Today we are witnessing that a lot of our real world activities such as trading, communicating, educating, etc. have been transferred to digital forms and therefore through the virtual spaces. As a matter of fact, these shifting and transforming between the reality and virtuality have influenced their boundaries so noticeable that has forced the researchers and scientists in vary fields to start analyzing the actual situation more seriously. Through these vary disciplines, in fact the evolutions and impacts of this manner over the urban and architectural forms, has been targeted as a start point for the author. In the other words, according to what has been explained lately, the interfere of the contemporary urban spaces, in particular urban public spaces, -as important elements of the urban morphology- with the invisible network of the virtual infrastructure, communication and Media and so the newborn spatial experiences for the inhabitants of the cities can become the initial keyword of this research. In particular, the author, is interested to the setting of those operations which let us define the public space as a more porous space, through the making of a layer, which is used to be called, 'meta-city' (D. G. Shane, 2011), and which once was called meta-space: '*When a part of a city is designated a metaspace, it becomes an Urban Gallery a fluid form of public space that evolves in time, generating different definitions of public space and different ways of participating in it. These definitions yield 'floors' in the spatial structure of the urban gallery. Metaspaces make it possible to bring the dynamic structure of scenarios into the flows of the second skin. A metaspace in the second skin is a public space, a public matrix.*' (Bunschoten, 2003)

Before the late 18th century, when the urban spaces -urban contexts- beside their morphological characters and forms, were representing the main information and orientation of the city for the travelers and strangers about the city structure. For instance the role of *Meydan* in the Islamic architecture or *Piazza* in the occidental ones along with the dimensions of the streets which end to these open spaces or start from them have been always the best elements to keep oriented while moving in the cities and so were the monuments as *Lynch* called them the land marks. Therefore the perception and observation of a pedestrian along the way was related

to the speed of his/her movement and had an essential role of experiencing the spaces while passing through the urban context. In this case, the '*city fabric*' was the most important provider of the spatial information and the monuments, according to Aldo Rossi, were the emblematic image of the whole city's deconstruction- as city's memories of the past. Throughout the time and by the technological developments and industrializations, followed by increasing the movement speed, the role of these elements had been reduced and left just inside the short pedestrian paths.

Nowadays with the invention of the internet and informatics developments, the role of these information providers are shifting to the communication instruments such as smart phones, tablets and etc.
Their presence in the daily activities and their influence on the physical experiences of the space are evident. In fact, it seems that both spaces - reality and virtual - with the same functional aspects and different kind of experiential dimensions are changing the present lifestyles simultaneously. Accordingly, we might realize two ranges of velocity in the urban mutation process: The cities physical contexts mute with a slower speed -measured in Seconds/minutes- compared to the non-physical layer (related to the communicative devices and the narration of information) alteration which is measured by megabytes/gigabytes. Therefore the lack of compatibility between these two speed ranges makes the contemporary urban spaces more intricate to comprehend when '*human sense of time*' - as K. Lynch cited - is gaining a new and different '*biological rhythm*'; still '*what time is this place*?'

Accordingly due to the penetration of communicational achievements into the urban spaces –especially public spaces- are tending towards a new concept of monumentality -distant from the physical context- where the history and collective memory are being manifested and achieved in 'virtual social networks' and human itself -as the conversion point of the two physical and virtual realities. The question of 'new monumentality' becomes more problematic in relation with the public spaces and could be described as a contradiction between the contemporary architectural forms of those spaces and their public image. In the other word, the spatial experience of the persons is somehow losing its physical and

tactile qualities while the 'immaterial dimension' of urban public spaces -related to the communicative devices and the narration of information- is becoming relatively more dominant. In such situation, while the architectural forms, and so the spatial dimensions of these spaces remain the same -or mute slowly-, their Spector is changing fast, As if 'smart device' is being assembled to the built body of urban spaces as a 'prosthesis' that overshadows the physical forms; A new layer, above the constructed environment. Beside the psychological problems of the issue, the problem of contemporary public space, in the architectural and urban design field, is how to think and create forms that will be able to embody the layer of information and communication inside themselves? The mentioned problem relates, as explained before, to the separation of the physical layer and the immaterial layer of these spaces. It means that the main components of the physical dimensions are detached from the immaterial dimension, which are, narration of fluid information, time unit and the simultaneity of presence -which refers to the accessibility to the information of different places at the same time and so being present virtually in more than one place simultaneously -. These two dimensions have given, and will give, the contemporary public spaces a complex essence that needs to be attentively studied.

Based on what has been explained previously, the questions that rise here are: how can we describe contemporary '*good city form*'? and with what indicators can we measure '*vitality, sense, fit, access and control'* within the urban public spaces?

This research could be an opportunity to analyze and re-reading the different passages of the Media and communication development within the urban contexts as an attempt to anticipate the future typologies of the urban public spaces. '*Now we have made e new nature -this technological urbanized region which is the new chaos- but as architects and urbanists we still have the same task.*'

Formative and Informative Space

/* The story goes back to the 16th century, when Italian philosopher, Giulio Camillo dreamed of creating a habitable encyclopedia whose divine components would have been conceived, put together and memorized terrestrially: a 'memory theatre' as a prototype of the materialization of thoughts; reincarnation of science; '*a constructed mind and soul*' (Maguire,1986). A semicircular wooden structure divided into seven sections corresponding to the seven planets known at that time; 'a divine macrocosm'(Yates,1996). Each section was composed of rising stairs coded by signs as subjects that represented the sub-themes of the sections. The hypothetical visitor could either stand at the center of the theatre or walk up the stairs and pass from one section to another and consecutively from one sub-theme to another. Therefore it was possible to create visually and mentally endless narrations between micro/macro realizations of knowledge. In other words, the visitor by walking through the compartments could navigate in a meta-cosmos which its material and immaterial dimensions converged in his memory. An abstract space within a physical one, where the vehicle is the physical movement and the trajectory is the mental narration. What makes this mental trajectory more intricate is the central role of memory, not only in terms of repository or storage but also by means of its active role in creating subjective spatio-temporal stages whose causes and effects intertwine simultaneously between physical (outer) space and non-physical (proprioceptive) space.

Although Camillo died before having the chance of constructing his ideal theatre, his idea of the realization of an interactive memory place as both data incubator and narration generator is considered as the pioneer theory of the future digital networks according to many scholars in the ICT field. Basically we can assume two main reasons for how Camillo's memory theatre would operate like what we know today as digital networks and data management programs: first comes the spatial organization of 'data' in an equally-valued distribution and arboraceous structure where there is no privilege of one theme over another and so it comes with a liberty of choice as in the 'www' where the user is free to navigate without any linear pre-established path. Therefore, whilst the contents are categorized and differentiated, what

activates them is, potentially, in chaotic and unpredictable use (movement/scroll). The second similarity is the act of movement itself through the compartments which takes the visitor from one stage to another, like the act of 'click' in the cyberspace.

Even if Camillo's theatre were not built, the dream of construction and embodiment of thoughts continued by other philosophers and mathematicians. Another revolutionary invention following the same path occurred in 17th century by Gottfried Leibniz's efforts in '*formulizing thoughts in a logical system*' (Gere, 2008). According to Charlie Gere - and many others - Leibniz anticipated the transformation of dialogical language into numerical symbols and therefore pursued the symbolization of language into a logical structure which could represent correctness or incorrectness of a statement. Leibniz's anticipation in creating logical coding for language was finalized by George Boole in 19th century when he created a system based on two algebraic number, 1 and 0 corresponding to 'all' and 'nothing' (Gere, 2008) which based the concept of digital systems in the future.

Progressive Dominance of Sign over Material

/* All of these effort tough remained as abstract ideas with limited implications, among which we can mention also the '*Analytical Engine*' created in late 19th century by Charles Babbage which also made him to be considered as the father of computer [14] and Turing's '*Universal Machine*' invented in early 20th century (Gere, 2008).

Among these different examples of symbolizing machines, perhaps the most influential with widest exploitation range is the telegraph. Invented in the second half of 19th century, telegraph not only enhanced the remote communication but also took the process of symbolization and standardization of 'value' to a commercial and political level especially through its impact on the enhancement of railway system and trading transportation. According to James Cary, the impact of telegraph in the trading in time , occurs in the standardization of product and the circulation of quality receipt prior to the goods arrival to hasten the process of quality control and so taking the trading dynamics in 'time' rather than in 'geography' (Cary, 1989). In other words, the telegraph eased the commerce by making the geographical constrains permeable and so goods before arriving by trains were already traded and valued by means of 'information'. Probably this

was the beginning of the shift of the modern society from the physical context to a meta-context; the information and communication context. It is relevant here to mention the importance of typewriter as another symbolizer device which following the telegraph emphasized the tendency towards the mechanization of social dynamics. Typewriter, as a language materializer could be considered as an abstraction of culture into signs.

What accelerated the process of digitization development towards the telecommunication evolution and network society was the emergence of a new political and economic system that was raising parallel to the scientific evolution whose demands for growing acted as catalyzers conducting the technological trajectory towards fulfilling its appetite for supply: the capitalism and its mass production-based nature. Capitalism in its essential need for benefiting from market and contributing proportional value to the goods with minimum operation and maximum result, created a system that was meant to restore the productive energy, distribute it to the operative hands and wheels and finally transform it into valued product and commodity. Here comes, according to Adam Smith, the first paradigm of information society: '*a self- regulating machine*' (Smith, 1776).

In the Capitalism Tracks

/* Here we return to the capitalism thought and its impact on the emergence of information society and communication technologies. There can be two revolutionary examples of the so called symbolization of value and linearization of production process as a 'self-regulating machine 'during the industrial history: the '*Governor*' invented by James Watt in the late 18th century and the '*Assembly Line*' of Ford in the beginning of 20th century. The first one was designed to work based on the reciprocal performance between centrifugally rotation and steam pressure: the faster the rotation, the higher the pressure and vice versa and so it was the first realization of a machine able to organize itself automatically. The later and maybe the most famous one is the assembly line of ford automobile industry that is comparable and satisfactory to the Le Corbusian Utopia: a geometrical, linear, repeatable and reproducible system. In the assembly line, the ultimate simplification of complexity comes with the rational division of management and labour, process and product and so

metaphorically the separations of mind from body (Taylor, 2002). All of these inventions took the economic society towards a need for 'velocity': the more the speed, the higher the productivity. On the one hand, velocity is enhanced by the minimization of the time from 'order' to 'obey', from 'thought' to 'result' and from 'mater' to 'material'. And on the other hand, to enhance the velocity means to surpass and overcome the limiting barriers and to increase the permeability. - Radio and wired Telephone both invented in the late 19th century were the manifestation of the humans ambition in conquering geographical borders and traversing long distances in short time -. Therefore, the need for velocity - in both temporal and spatial spheres - acted as a catalyzer itself in the acceleration of information and communication technology development and gradually took the industrial society towards the information society, where the speed is measured by 'data throughput' and the geographical barriers are traversed wirelessly.

Parallel to the information and communication technology growth, the need for creating an order for the growing phenomenon was growing. Although the efforts to creating an spatio-cognitive organization for human's knowledge has its roots back in the 16th century -as mentioned at the beginning of this chapter- and even has its traces as long as the history of civilization, there are recognizable transitional thresholds in man's intellectual and technical endeavors in giving shape to the inherited 'known' of his era as well as making place -waiting rooms- to posit the future's still 'un-known'. regarding the information and communication technologies - and the interfacial relation between developmental causes coming from the society's changing economic and political aspects from one side and the impacts of communication technologies, themselves, on the society's changing dynamics from the other side - we can recall the late 20's and 30's -pre-war period- as one of the so called transitional thresholds. What makes those decades stand out is their pioneer character in imagining and creating a spatial and architectural organization not only to situate the knowledge but also to anticipate the construction of network; a globally accessible system for the storage, elaboration and distribution of knowledge which perform, as both, a cosmic miniature -where the multi-disciplinary contents of history could be condensed- and at the same time as a cognitive lens

to magnify the mechanism of relations between different terrains of science: the 20th century memory theatre imagined by Paul Otlet and materialized first by Le Corbusier and then by Maurice Heymans.

More than half a century ago, Belgian visionary encyclopedist, was struggling with several ideas of a physically built encyclopedia where the organization of knowledge and information would be ultimately possible. Four centuries after Camillo, Otlet's imagination of a habitable memory place raised from his invention of a classification system to sophisticate the access method to the library materials: The 'Universal Decimal Classification, 1895' It was a novel way to organize, categorize and disseminate all the material from written articles to subjective ideas to books and encyclopedias in a universal system of access. Like Camillo's macro divisions of the knowledge, Otlet divided the trends too, but the main difference - among the time distance from those two scholars which is important to remind and makes deep differences arise-. Otlet included the geography and time as macro divisions. Having Camillo's memory theatre in the mind, we could say that in Otlet's classification system, the macro compartments are: Material, Relationship, Location, Time, Form and Language (De Tré, Van Acker, 2012). Beside the technical aspects if this classification method, what is more relevant here is its impact in the emergence of a '*universal network of documentation*' [and knowledge] not only in terms of spatialization of accumulated knowledge but also by using communication means of those times. Believing in the liberty of access to the information in a democratic way, Otlet had foreseen the importance of communication devices as bones of the information anatomy. And this was what took him to anticipate a system for information flux. Otlet quotes:

The Network must link together, by whatever means, the centers of production, distribution, and use, regardless of specialization and place. In practical terms, it is the matter of every producer who has a fact to make public, or a proposition to present or to defend; every user who needs information for the development of his theoretical or practical work; and every person, ultimately, being able to get hold of what is available to them with the minimum of effort and the maximum in terms of assurance and reward.

Another important broken edge in the communication development by means of information networks regarding the architecture ambit, occurs in the collaboration between Otlet and Le Corbusier in 30's and after between Otlet and Heymans in the realization if a place for information and knowledge : The Mundaneum. It was in the effort for creating a place -a museum- for the embodiment of universal knowledge that we can trace first aspects of a network diagram, a place of narrations, a spatial realization of subjective navigations. and here again Otlet underlines the necessity of an informative network where free information becomes not only accessible through communication channels but also 'updated', codified, modified, de-codified, and finally disseminate in a 'self-regulating' system; an early concept of Internet; where, offices of data management would have receive the pure data, index them and transmit them through the communication channels.

The mundaneum different concepts and drowings can be interpreted as important efforts of 20th century in anticipating the realization of networks of communication and information. The point here was to focus on the rising complexity that from late 20's and early 30's took the society's dynamics towards a new dimensional sphere were the subjective relations in both spatial and philosophical dimensions were becoming dominant over the single object; when the spatial urban context began to reach a higher level of complexity beyond its physical dimensions.
Moving the focus from intellectual ambits of 30's to other society's dynamics which were parallel growing and contributing to the information technology, It is important to mention here the importance of another catalyzing phenomenon that not only emphasized on the need for communication enhancement but also broadened the implication and exploitation of such technologies to a different level of complexity: the World War II. The impact of that era can be studied in two phases, during and after the war period.

From WW to WWW

/* '*…the proximate cause of their emergence was the War with its unprecedented demands for complex calculation at very great speed [which would be] the embodiment of capitalist modernity, with its emphasis on abstraction, exchangeability and self-regulation... capable of being reconfigured in an infinite number*

of different states,… the perfect, idealized model of capitalism as a universal machine, in which different phenomena, labor and commodities are homogenized in order to be exchanged, manipulated and distributed.'

During the War

/* According to Gere, what made the war period crucial for the communication technology development were the problematic characteristics of radio communication (Gere, 1989). Radio, invented in the late 19 century, eased the context-less communication, transmitting messages via radio waves over the oceans but there was a side effect in its function which was impossible and even dangerous to overlook: its openness and reachable access to everyone among them the enemy. The vital need for keeping sensitive military orders and information in a closed and safe circuit was threatened via radio communication. To avoid the danger of enemy's surveillance, coding and cryptography was used (Gere, 1989) but this method also had its limitations especially in restoring data -as they needed to be restored externally and so could be accessible and exposed to everyone-. Consecutively the emergency for a technological machine able to transmit and restore information internally and via publicly inaccessible channels were put at the center which caused mainly the invention of what -according to Gere and many others- is considered as the first digital computer: 'Manchester MK1' designed by *F. C. Williams* and *T. Kilburn* in 1943 in '*The Royal Society Computer Laboratory*'. This first computer can be considered as a technological respond to the combination of war -as an injected shock- and capitalism system both conceptually and practically. The occurrence of the war acted as a shock whose effects took the social, political and economic body of industrial society to a higher level of complexity and made it react not only to absorb the new complex conditions but also to the cause -war- itself towards two main goals: to deal with the actual effects and to take the maximum advantage of them by predicting their future political and economic resonance. And this, required instruments able to analyze, measure and compute the complex phenomenon in order to anticipate their further impacts and, in short words, to re-take the situation under control. The result of these multi-purpose efforts, as previously mentioned, was the genesis of complex processors and calculating machines or furtherly known as digital computers.

/* As previously mentioned, the war's exigency for safe, anti-surveillance and private storage and transition system, led towards the privatization of information and communication channels. The impact of 'privatization' on the development of communication technology is what can be put into attention here as a reciprocal relation between 'control' and 'information and communication'. On the one hand, the essential necessity to have maximum control over the 'message' requires the maximum security of communication channel and, on the other hand, the more information gathered would bring the more control and power.

This is what transformed the structural order of the industrial and-according to Foucault - the '*disciplinary society*' into what James Beniger calls the '*control revolution*' of the information society- or according to Burroughs, the '*control society*' -that created a different shape of order. In the disciplinary society (Foucault, 1975), the order was structured by functional and organizational divisions, each including their own rules and borders and the hierarchical system was the main component of organization and management; separate micro-societies within one, starting from family , then school, barracks, hospital and so on (Deleuze,1997) and these rational divisions in the industrial capitalism of 18th and early 19th century powered by the cold war ideology, were keeping the system in order towards the proliferation of production of goods, while in the information society, the production of material goods is not the central effort and what controls the new market is the 'information' and information itself is the new 'meta-product'. Deleuze compares Foucault's disciplinary society with Burroughs's control society by means of distinction between '*disciplinary man*' and '*control man*' -by means of an individual who lives in the information society-. The first one was trained to produce 'in line' and obey his superiors while the second one is supposed to produce 'on line' and get promoted by his active participation in the work competitions. And this is how the 'business' took over the 'factories' by creating competition and turning the up-down inspection of factories over their workers to the individuals themselves over each other (Deleuze, 1997). The transition from mono-directional 'in line' mass production to the multi-directional 'online' meta-product took the geometrical order of the classic industrial era to the '*edge of the chaos*' (Taylor, 2002) towards the network era. This multi-

directionality, beyond the economic sphere, can be studied also by means of the enhanced permeability thanks to the development of geographically-independent communication technologies and devices.

Moreover, the human's ambition to overcome geographical and physical barriers has also its roots in his socio-political experiences during the first half of 20th century when another shape of order took over the postwar period: the cold war era. With the development in the communication technologies and the emergence of the central role of information, the political and power system became aware of the need for privatization and taking control of the growing information phenomenon. It could be interpreted as a natural reaction to overcome the rising chaotic tendency and to tame its rebellious effects by simplifying the emergent complexity in order to return to a more controllable stability. This mentality according to Mark Taylor and many others was metaphorically materialized in the 'Berlin Wall' which emphasized not only on the radical and distinctive physical divisions but also was the ideological manifestation of the early control society; division in both physical and social behavior; '*…east and west, left and right, communist and capitalist…*' (Taylor, 2002). Despite the political efforts in regulating the cold was society radically by means of creating 'sharp edges', the technological development in its both hardware context - devices and communication infrastructure - and software context - changing the social awareness and demands- led the society's stream in an opposite direction than the political perspectives and as previously mentioned, the 'edge of chaos' took over the 'edge of walls'. This new transitional threshold occurred, according to Taylor, starting with the collapse of Berlin wall which not only opened a new horizon in physical connectivity but also metaphorically can be considered as the usher of the network society and the emergence of globalization towards the ultimate level of permeability, connectivity and integration: 'WWW'.

3 An Experimental Framework

Research Objectives

/* Referring to the proposed definition of the Meta City, we could explain it wider as an entity that moves parallel with us and within the urban context, but in a non-material sphere. This parallel presence and its undeniable influence on the physical movement - the physical narration, in terms of spatial and tactile relations, within the urban spaces - raise the main questions of this research;

How does this entity relate to the physical space we inhabit?

How will be the next generation of architectural entities and urban spaces affected by the so called Meta City?

What kind of architectural rules will govern such a space and what internal characteristics, forms and images, it will have?

And the most important question is that how the Meta City will converge and interrelate with the urban physical context and how will be its architectural quality and value of the resulting areas after being attached and connected to the physical space?

Which will be suitable instruments and indicators to interpret the contemporary urban spaces, able to reflect their complexities in both material and immaterial aspects?

The objectives of this research are to define answers for the mentioned questions through the architecture and urban design discipline.
Studying the actual communication level in relation to space-use, space publicness, and potential but neglected areas such as historical and cultural heritage, the research aims to examine 'Tones' of continuity, connectivity, permeability and porosity - physical and virtual - of the area to define strategic 'fields of actions' and re-examine the traditional spatial indicators through a process of comparison between their applicability and the new multi-layered characteristics of urban spaces. The final goal is to explore changing dimensions and new characteristics of urban spaces so future urban projects would embrace the communication layer and increase the relational possibilities of use of the urban spaces in both 'user-user' and

'user-environment' aspects. '*What defines a character of a city is its public space, not its private space. What defines the value of the private assets of the space is not the assets by themselves but the common assets. The value of the public good affects the value of the private good. We need to show every day that public spaces are an asset to a city.*'

City as Hypertext

/* The following project is the first step of contextualizing the theoretical approaches of the research. It is, in fact, an endeavor to pursue the role-and use - of Media and communication technologies in the interaction with the contemporary urban spaces as well as public realm and life style in nowadays society.

The project is dedicated to the eastern part of Milan in particular to the city of *Segrate* and *Linate*. A vast north-south territory with around twenty square kilometers of urban and agricultural areas dismissed industrial fields, rail yards, *Idroscalo* and airport. The area is considered as the Milan's eastern gateway for the international event of *EXPO2015*. The area has been chosen not because there are some strong aspects of the Media but -on the contrary- because of its lack of technological interaction. In other words, the aim was to integrate the Media and communication technology to the area's exiting layers.

The main objective is to produce and develop micro-prototypes of the future urban projects within the concept of the Media- scape in order to examine how an interactive design approach could increase the relational possibilities of use of the urban spaces in both 'user-user' and 'user-environment' aspects; '*City as a Hypertext*'.

Methodological Passages

/* The methodological approach starts with a progressive techno-morphological analysis that, starting from the fourteenth century, aims to bring to light the impacts of technological innovations -in both architectural and urban domains- on the transformation of urban context and its consequences into the use of urban spaces till the present time.

Physical Fields of Actions

/* The project regarding the 'physical fields of actions 'is mainly structured by three tasks: *Explore, Extract* and *Enrich*.

I.I. Explore

The project starts with the exploration of layers regarding to the contextual and intellectual evolution of the city, the areas of attraction, natural and agricultural potentials and etc. called: 'ambits' as accumulators in a complex and multidimensional network through which the city will interact with its inhabitants.

I.II. Extract

After the exploration and identification of the 'ambits', 'interface elements' of each ambit were extracted. The so called 'interface elements' intend to be acting as components of a system of 'symbolic inter-mediators' that accompanying with temporal mediators and spatial operations would be able to embody the collective memory, time and spatial experiences.

In order to activate them into a system which embodies their both physical and mental relations, they were categorized, itemized and differentiated based on their geographical, historical and social characteristics and finally arranged in a matrix. Such matrix has basically two major functions:

/*incubator of data related to the so called 'interface elements';

/* the generator of narrations between them. Such narrations will actually make comprehensible the relations between the elements generating paths on the territory.

Virtual Fields of Actions

The project regarding the 'virtual fields of actions' is mainly structured by two tasks: *Acquisition* and *Activation*.

II.I. Acquisition.

The project will be transformed into a storyboard to become interactive, internet based and an experimental application for smartphones and tablets.

II.II. Activation.

The project will be integrated to the web-based platform.

Another group of components of the matrix will be the 'varying data' that user would upload using the multimedia geo-referenced devices. In the other words, the user following the physical paths -generated by the matrix-, and based on his own spatial-virtual experience of the area, he can add some other data to the existing ones that will act as new elements and so will produce new levels of relations which will lead

to the generation of new paths. This in fact, will make the system be participatory in both data production and output actualizing. Needless to say, that all of these processes will be possible through the use of communication devices and internet platform.
In order to distinguish the potential relations between the elements and generate the relational networks, there have been defined three types of contrivances as harvesting data operators in a shifting scale process and according to three different levels of territorial knowledge and experience. Starting from the territorial scale and gradually descending to the local and architectural and finally to the single elements, it will be possible to activate further interaction between the user and territory giving the visitor a chance to experience physically the place, or virtually through technological supports or both simultaneously.
In the final step, there have been foreshadowed some hypothetical paths for an imaginary user, that could become tracks for educational or touristic experiences in regarding to the international event of *EXPO2015* and over time. The final outcome is the visualization of trace paths on the site of the project, along which new public services would be integrated to enhance the possibilities and potentials of the area.

The final results would provide the physical context with superior level of accessibility and permeability not only regarding to the new technological achievements but also according to the emergent and resilient elements resulted from the previous phases.
It is important to mention here that providing the area with new levels of permeability in both physical -spatial and virtual- perceptive terms means that beside the studies related to the communication technologies, we need to deepen also the question of urban development in its spatial senses. In the other word, if the area is going to be highly permeable, first it needs to have flux of people coming to the area and this will be possible only through a careful study related to the mobility, the transportation system and the accessibility to the area that will occur within a well-thought Master plan.
In the previous analysis the main focus was on revealing the relations between physical elements of the area and creating new relations between those elements and communication devices. In other words, the important issue in that project was to re-read the territory and moving through it by using

the communication devices. The main question that rises here is: does that new 'reading' of the territory lead towards the definition of new spatial characteristic for the urban spaces which could consequently address the projects in their physical aspects and lead to the definition of a 'public space agenda'? To find out the possible answers, the next experimental analysis -still in progress- are supposed to focus more on exploring new spatial characteristics of the urban spaces, especially the public spaces.

Step 1. Linear Matrix

The first step was to categorize different groups of conceptual and practical elements that would be taken into consideration for designing the spaces: such as society's different themes, spatial dynamism, user's aggregations, inhabitants/ commuters, and ways of people's interaction with the space, time lapse and the technological devices in a linear matrix.

The first group is, in fact, two main types of communicative devices which would act as catalyzer for re-reading the urban spaces which take to a new kind of relation with the information layer of the city: 'handled devices' such as smartphones and tablets and 'surfaces' such as mega digital screens which are the new generation of billboards.

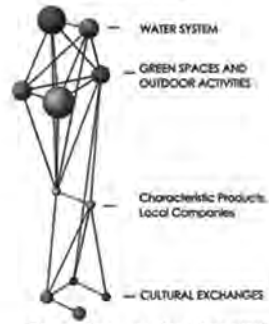
Based on the mentioned two types of devices, in the next category, it has been tried to study the kinds of people's interaction with them within four different situations where 'user' can relate to the device and the information brought by it. '*active-temporary*' relates to the 'subjective' use of device with specific intentions: taking the smartphone to trace an address. '*passive-temporary*' regards to the 'user' being literally forced to use the device: in case of 'massages' exchanges within social networks. The third and the fourth situations occur when the 'mega-screens' are concerned: '*active-nonstop*' relates to the points of attraction which captures the attention of 'user' as the observer and '*passive-nonstop*' regards to the existence of mass media in urban spaces: the famous example of 'time square' in New York City .

The 'users' category regards to the 'urban population morphology 'which - according to Guido Martinotti - could be categorized within four new emerging population kinds: *inhabitants, commuters, city users* and *metro businessmen*, whose different combinations, random intentions and spatial

GENERAL SYSTEM

the scheme above illustrates the previous Bi-dimensional representation reflecting the more direct and immediate real connections. with the difference that in three dimensional space the relations become more complex.

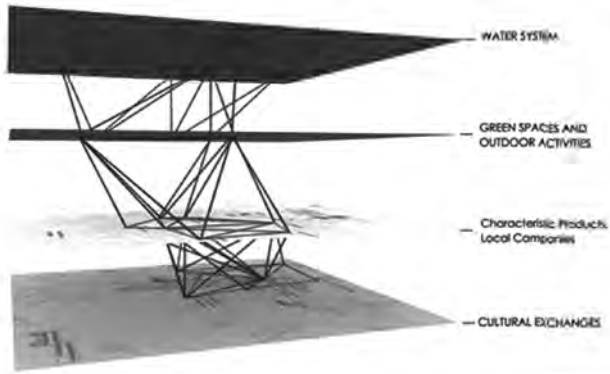
HIERARCHIC SYSTEM



The diagram evolves the previous scheme into a hierarchical system, where the places acquire a greater or lesser importance, depending on thei frequency potentials, their locations and the connections they can generate.

RHIZOMATIC SYSTEM

The diagram represents the same connections as previously observed, but with the difference that they, in this scheme, generate no more linear and predetermined paths, but become preferential according to the user's choice. In this way the space becomes polycentric.



CONTEXTUALIZED RHIZOMATIC SYSTEM
AMBITS INTRA-RELATIONS

All of the diagrams developed above are applied directly on a map in which three-dimensional spatial relations are immediately visible.

CONTEXTUALIZED RHIZOMATIC SYSTEM
AMBITS INTER-RELATIONS

Zoomed in .The diagram shows the specific areas of water and green systems with their internal and external connections.

interactions within the city, - as explained also in the previous chapter- are increasing the conceptual and practical conflicts between urban 'physicality of the spaces' and their experienced 'images'; '*The urban structures in which we walk - or ride - in our daily existence are already radically different from the urban images we carry in our minds, and in our hearts. Thus, I believe that there is urgency for a very profound reconceptualization of the intellectual and empirical tools we need for the study of urban social facts and processes*.'
Since the mentioned categorization regards strictly to the urban sociological structures and the matrix aims to study the elements that should be taken into consideration in architectural and urban projects, the four kinds of urban population have been generalized into two main groups which are: *inhabitants* and *commuters*.

What would be considerable here are the differences between spatial qualities of experiencing the urban spaces of those who have a constant interplay with urban spaces and those who interact with them temporarily. The aim of inserting such category into the matrix is to study the impact of new communication devices on people's spatial interaction with urban spaces which, theoretically and practically, should address towards the urban project's functionality considering the multimedia devices.
The successive category regards the different 'aggregations' moving through the spaces. In other words, while the previous category was about mega-divisions, this category goes in deep to the micro-fluxes of the people completing the previous one. In fact, it would be these so called 'micro-fluxes' to be considered as inter-actors with the physicality and immateriality -in terms of information flows- of the spaces. Beside the literal division, the core of this category is in the scale-crossing issue, from massive population scale to the paths made by individuals and groups of people where of course the modality of using the spaces and, recently, using the communication devise will alter from mass media to the personal communicative devices.

The 'tone' category, relates to the classic spatial division regarding the urban scale: '*intimate*': places physically and/or psychologically close to us, '*collective*': which mediating between 'public' and 'private' spaces would be interpreted as physical and cultural containers of people's life, mentality and social interactions, '*common*' and '*public spaces*': *urban spaces*

that are accessible to everyone in all times; in-between areas that soften the distinct divisions within the urban context. Despite the lexical meanings, what makes such category considerable, is not the net division between individual definitions of such palaces but their coexistence and superimposition within the city that in some cases, especially when the communication issues are concerned, it would be hardly possible to draw distinct lines and borders for such places. In other words, having the wireless internet access which makes any place- where the human body would fit - be a layover place, raises the question of 'spatial dimension', especially public spaces dimension. Beside social celebrations such as concerts, electoral campaigns, street manifests, sports or any collective activities, the public spaces today are, seemingly, restricted into internet spots scattered around the city and even in public parks, the people's concentration would be higher near the Wi-Fi areas called as 'hot spots'. Therefor the question of the dimension of these places and their existence with or without global communication access is mainly the motive of this category insertion.

'Walking as an autonomous work of art, capable of modifying metropolitan spaces to be filled with meanings rather than

things' is an interpretation of the complex spatial and mental qualities of experiencing the places by moving through them; sensing the places not only by physical senses but also by the metaphysical act of 'giving meanings to' and 'being meant' by them. 'Dynamics' is the next category of 'elements' in which it has been tried to imagine different situations where we interact with the places moving through them: different possible viewpoints to observe or react with the spaces.

'Time Lapse' is the category in which the matter of time-spending in the urban spaces -by both inhabitants and commuters- has been considered in the linear passage of time. Of course the real intricacy in defining the spatial interactions raises when the superimposition of the spatial experiences and the time passages are considered; The concept of space-time, - *chronotope*: *'spatial and temporal indicators [as] fused into one carefully tough-out concrete whole [where] time thickens, takes on flesh, becomes artistically visible and space becomes charged and responsive to the movement of time, plot and history'* - studied by vast ranges of scholars from mathematicians and physicians to sociologist, artists and architects; Time as an immaterial dimension unit and an independent variant which ,despite different endeavors made during the scientific and philosophic developments, has been still remained ambiguous. Under the light of such philosophical interpretations, it has been tried to study the concept according to the emerging time unit of information flux and the problematic of measuring its complexities in relation with physical space.
The 'theme' category regards to the mega-terrains of final functional themes in which a project would be addressed; the non-contextualized ambits of metropolitan dynamics.

Step 2. Network of Relations

So far, the previously explained matrix acts as a container of possible groups of conceptual and practical fields where a project can be addressed. it is clear now that the 'linear matrix' could only exist in a 'stable' condition while in the reality, according to the multi-layered totality of today urban spaces, those classified groups will never occur individually and in an absolute condition but through the juxtaposition and co-existence of all of those issues - and more other ones- simultaneously. Such a condition needs to be perceived and analyzed within an organizational and conceptual 'whole'

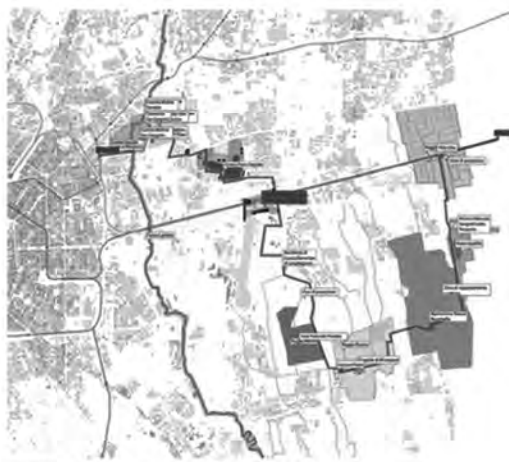
passing through the comprehension of its constitutive layers and their relational dimensions. Addressing to the previous statements this conceptual 'whole' could be broken into the physical and non-physical sub-divisions including the variant concentration of tangible and intangible components and qualities. The mentioned 'whole' is generated from intra/inter relational domains between subdivisions and their corresponding components. The intra-relations domain regards to interaction between layers such as geographical,

NARRATIONS AND HYPOTHETICAL PATHS

New technologies along the green strip' Path

Linear City events on the East

Path of the Expo Site on Waterways



Environmental Path through the Agricultural Park

social, economic, and technological, etc. in other hand, the inter-relations domain of this entity occur through the components of each group. For example, regarding the linear matrix, the intra-relations would occur between 'users' and 'tones' groups, which would be the interaction of inhabitants and commuters within different spatial tones, while the inter-relation happens, simultaneously and continuously, between 'inhabitants' and 'commuters' as well as through the changing 'tones' of spaces in terms of scales, images, forms and etc.

Based on what has been explained, although our today city is generated as a network of more or less independent parts with no consistent and regular pattern; a dispersed urban fabric, But actually this irregular geometry is produced by interactive relations between correlated physical and non-physical layers. Therefore, recognizing the new spatial configuration in today cities depends on the cognition of those layers and their intra/inter relations (Saffari-Golkar, 2012). This association between the contemporary city pattern and its fundamental generator networks lead to the consideration of new spatial configurations as ordering the chaotic tendencies and 'changes-in-process' in the network of relations which define our recent developments and societies.

Addressing the previous discourse, in this step it has been tried to imagine some of the possible relations between the groups of the matrix. It is clear, that the imagined relations are context-less, or better to say, without defined spatial and temporal orders leading to the occurrence of mutations. Therefore, through an expletive representation, it is tried to imagine those relations in a three-dimensional system -rhizomatic system-, potentially capable of represent the evolving and changing.

Step 3. Transition from physical to the non-physical ambit

In this step, the ambit of analysis has been shifted to the non-physical sphere which in our case is the communication ambit due to the fact that the recent urban dynamicity has been mainly intensified by the emergence of intangible components of the communication era, the main focus of this part would be on the cognition of the non-physical layers - with the highest decentralization of tangible components - and their detachment form the urban built fabric. Since the architecture is somehow the physical embodiment of man's

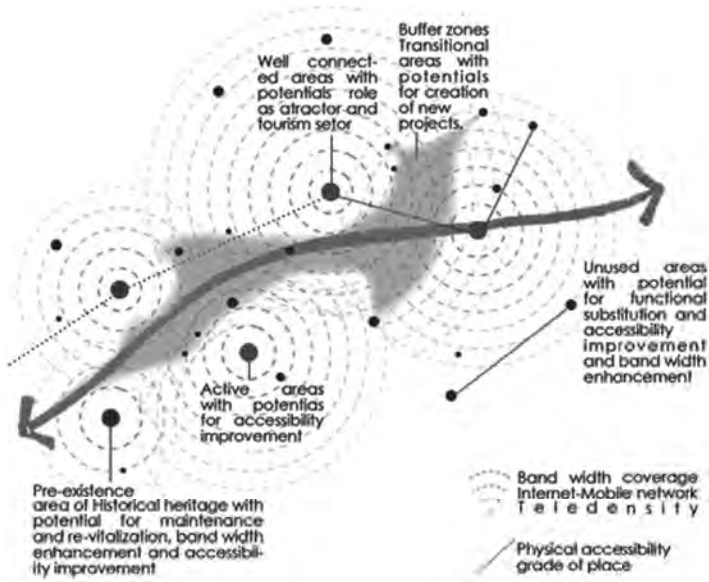
interaction with his environment, such shifting scale, above all other features, have had consequences also in architectural and urban project.

The next step was mapping the floating communication environment (Wi-Fi, antennas, cellular mast, coverage areas, etc.) as an upper level of complexity above the physical urban spaces which is meant to be integrated to the previous elements in order to prepare the basis for the so called: '*Effectives: Qualitative and Quantitative Dimensions of Contemporary Urban Spaces*' through the re- examination and verification progress of the traditional spatial indicators .

I.III. Enrich

Based on the defined matrix in the previous task, a new layer will be hypothesized and overlapped with the existing ones, called the 'prevision map' as a model, where potential areas and strategic actions will be defined.

It is expected that the final results address towards the identification of series of actions leading to project operations which enhance the qualitative and quantitative connectivity and porosity of the areas in local and regional scale as well as their 'being-in-network' in the inter-regional and international scale. Here are hypothetical schemes for expected operations:



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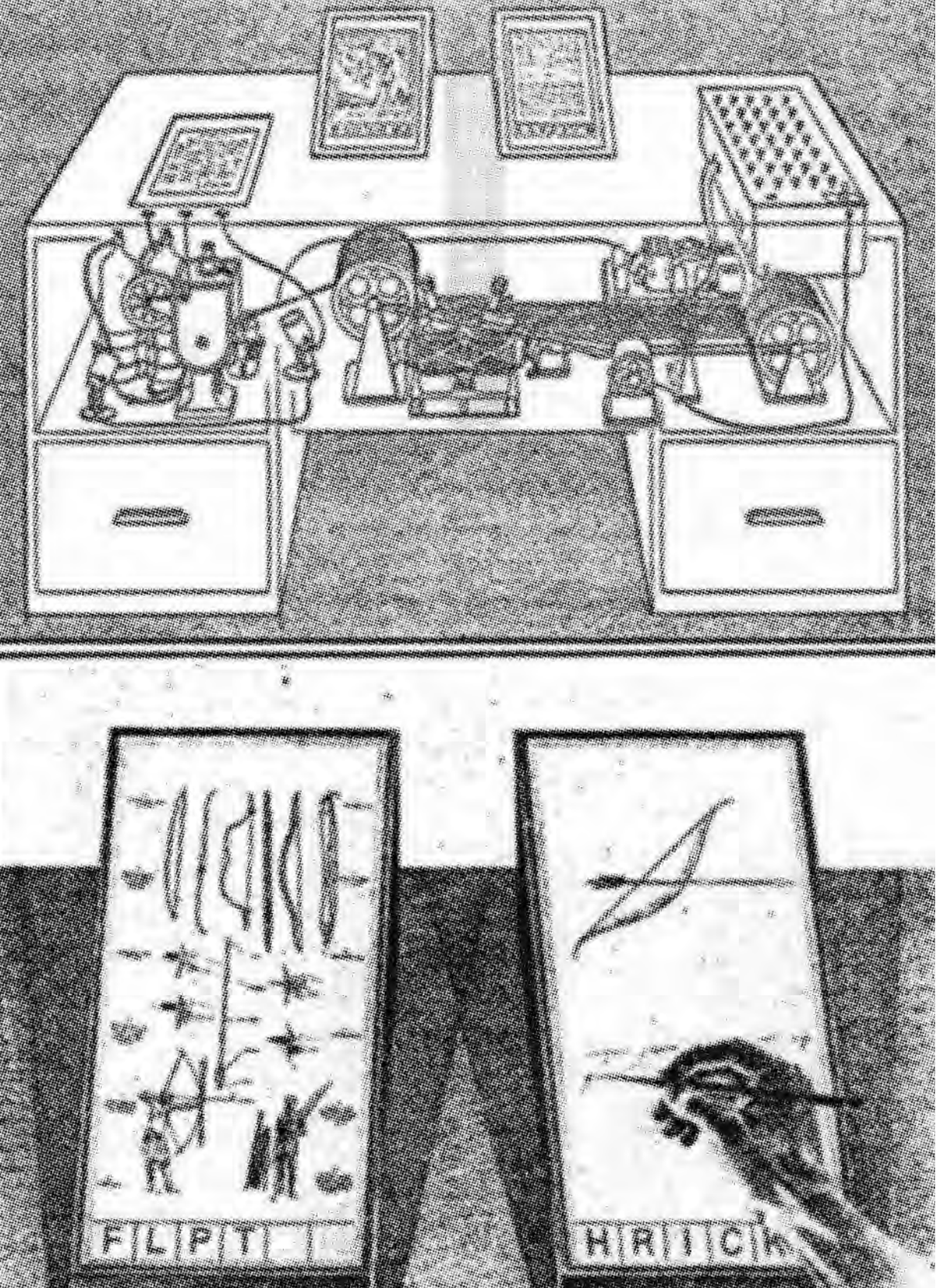
Figures

1 Potential inter/intra relations between ambits of physical context.
2 Analogical relations between communication infrastructure and socio- spatial components.
3 Contextualization of communication and physical morphology.
4 Conceptual diagram of a complex design agenda.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HRIIC

ISSUES OF REPRESENTATION. VISUALIZING, LOCATING, COMMUNICATING THE CITY

ROSSELLA FERORELLI

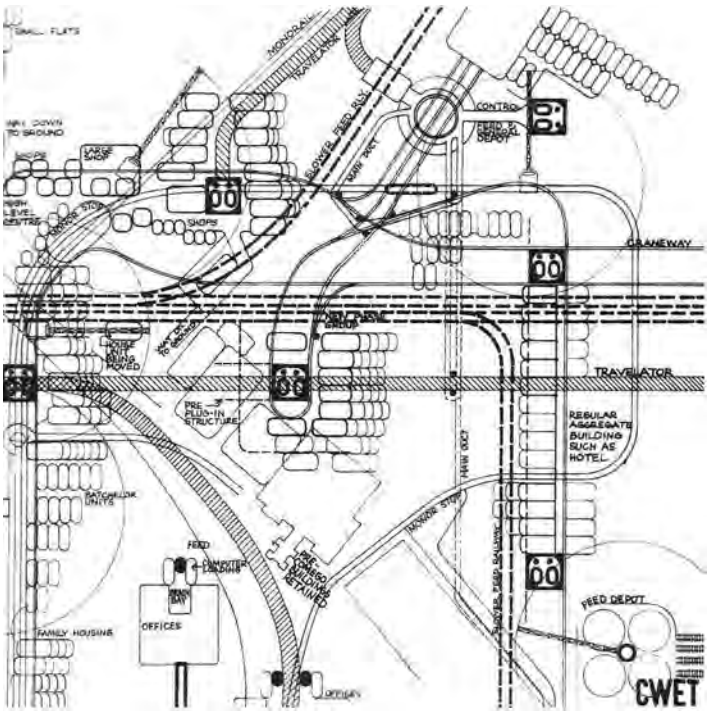
/* In the 40's, Vannevar Bush edited an essay on The Atlantic Monthly whose crystal-clear sharpness would cause its long lasting fortune probably far beyond any expectation. By envisaging the construction of a computational machine called Memex, he gathered the first, although very well-put, reflections on the cognitive turn (still quite long way off) from the classical categorization of subjects and disciplines to a radically new concept of reflexive links based on the human mental structure.[1] It was the first draft of a hypertextual connectivist approach to knowledge.

Now that the first wave of the digital revolution is something we can look at with the eyes of the historians, we can observe how this progress has finally come to involve architectural and urban representation. Even being not quite a pure discipline itself, but rather drawing from a set of different disciplines, the representation of the city is undergoing a crisis, in the sense of a deep self-criticism. But, if this subject is now at the same point where the western alphabetic culture was at the dawn of the internet era, the equivalent of the jump from text to hypertext (and beyond) could be much harder to make for a complex visual culture like the architectural one. A very enduring love story exists between the human brain and the production of images as we know it, indeed much longer than any relationship between human brain and the textual culture. Such a lasting marriage shall probably need a longer period to evolve to new forms; in the meanwhile, the next generations will look at the results of our first attempts of understanding this process with forgiving sympathy. Of course, depicting a phenomenon while it is still ongoing means always taking the risk - or rather the certainty - of producing reflections that are affected by some degrees of naiveté. Nevertheless, this is what is commonly called vanguard, and obviously there is no battle counting the highest number of fallen anywhere else than in the frontline.

What we are talking about is the need for a new set of philosophical and representational tools whose aim is to give us the possibility to portray the metropolitan facts with an unprecedented awareness of the role the networks play deep inside their mechanisms.

The first move of such an attempt should be made to understand what cyberculture was at the beginning of the 90's and why and how deeply it has been affecting the architectural culture of the following years.
The most effective studies on the subject have probably been made in the early 2000's by Derrick De Kerckhove, whose principal focus was to investigate on the mutual interconnection between world, mind and network, considered as three inseparable space domains [2]. Undoubtedly, De Kerckhove's biggest merit is having overcome the classical interpretation of cyberspace as a metaphorical doppelgaenger of the physical world, a double whose spatial mechanisms are little more than symbolic artifices built to tame the philosophical complexity of the linguistic structures that constitute the informational networks.[3] Instead, moving from McLuhan's masterpieces, De Kerckhove understood and depicted a cyberculture whose most important field of influence was not, through naïve metaphors, spatial culture itself - not directly; at least not still, at the time - but, as systematically as neuroscience could testify, the mental structures that are responsible for the cognition of space since the dawn of human history. Then, what became gradually clear was that the change from alphabetic to electronic culture would be radically affecting the relationship between spatial thought and information in the years to come.
One of the possible interpretations of this evolution could be intended as journey towards a closer connection of the processes of *spatialization of information* and *informatization of space*. In other words, a convergence of diagrammatic tendencies in architectural design with the spreading propensities towards a graphic representation of information in almost all the communication media. Nevertheless, while diagram architecture is a mature phenomenon, already with its supporters and detractors [4] -if not even a declining trend-, infographics instead is a rising discipline whose fortune seems destined to a long persistence. [5] This is quite interesting if one thinks of architecture as a science which often absorbs progresses from other fields of knowledge with such slowness that it seems somehow late on the common Zeitgeist. Instead, for a lucky combination of elements, at the end of XX century architecture started a reflection on the need to hybridize representation according with the simultaneous

hybridization of culture and the progressive melting of disciplinary boundaries occurring at the sunset of Modernism. So, in the 80's, scholars like Fredric Jameson stated the urge for «an aesthetic of cognitive mapping» or «some as yet unimaginable new mode of representing» in order to «regain a capacity to act and struggle which is at present neutralized by our spatial as well as social confusion».[6] Those were the same years in which Deleuze and Guattari were evolving their anti-structuralist traits exposed in *Anti-Oedipus* [7] into the theoretical construction of the concepts of "diagram" and "assemblage", respectively described as "abstract machine" and "concrete machine" in *A Thousand Plateaus*.[8]



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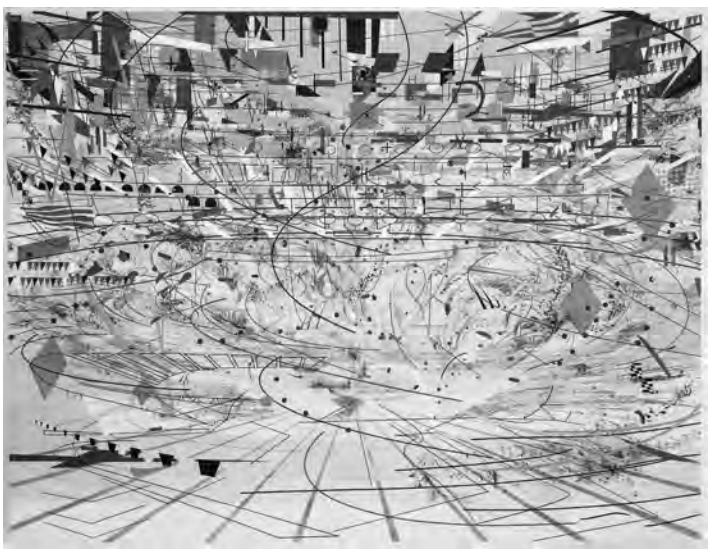
Fathers of the equivalent reflections for the architectural field were, of course, the Italian and the British Radicals, the Situationists and Constant along with independent thinkers like Rem Koolhaas, Cedric Price, Yona Friedman. Each with his capacity and aptitude, all of them widened the territory of architecture enriching it with sociological, economic, political and philosophical issues and, as a consequence, contributed to call the semiotics of architectural representation and communication deep into question. Obviously, the avant-garde scene they worked in characterized their most interesting experiments with a radicalism that would be difficult to apply to the constraints that market imposes on the everyday professional activity of an architect; therefore, the sometimes surprisingly long-sighted researches of all those architecture intellectuals had maybe a minor effect on the common issues of representation - at least if compared with the profoundness of their considerations and the strength of their militancy - and got diluted in the global postmodernist melting pot.

A much more powerful trigger for all those issues to be taken back into account would only come years later, with the spread of the internet and the rise of the culture of hyperconnection. As anticipated in the first lines of this essay, nowadays, the cognitive metamorphose dictated by the shift from the alphabetic to the electronic education are heavily impacting our tendency to understand knowledge itself and to communicate the processes it is composed of. Particularly under ongoing transformation are the classic mental activities involved into categorization and systematization (of concepts as well as objects) under hierarchical structures, and architecture is not extraneous to the phenomenon. Indeed, virtually all of the countless definitions that architecture has been given through the centuries share implications of ordered dispositions of objects into space. The elaboration of such orders clearly responds to the same logical structures that govern the cognitive processes hidden behind classifications and hierarchies; therefore, architecture turns out to be heavily involved in the informational revolution and, moreover, to be part of the story from a cognitive point of view much more than from a technological one.

But where and when can we witness the effects of such an epochal turn?

Again, the answer is to be found where spatialization of information and informatization of space converge, and the most powerful and versatile device to represent this convergence is indeed also a most ancient one. We are here referring to the map, as a graphic as well as cognitive tool whose importance is experiencing a renewal inside the culture of architectural and urban representation in the era of the new information and communication technologies (often shortened in "NICT").
A general reconceptualization of the role of geography inside the frame of global culture has started in the last years, particularly focusing on the heavy limits of the Cartesian approach to cartographic representation and its modern, rational attempts at portraying the territory as an isotropic field with the aim of controlling it politically. [9] But we could argue that the most relevant element of innovation, today, is the simultaneous presence of different elements, like the disciplinary progresses of cartography; a centripetal movement of graphic designers specialized in infographics and endlessly searching for new ways of representation; the birth of folksonomies, collaborative tagging and, in general, crowdsourced construction of knowledge. [10]



2

It is, in other words, the rise of *neogeography*, a discipline whose name has begun to be echoed around the web since approximately 2006-2007[11], to define «geographical techniques and tools used for personal activities or for utilization by a non-expert group of users; not formal or analytical»[12] or «a diverse set of practices that (mostly) fall outside the professional geographic domain» which, however, «is, or should be, broad enough to include urban exploration and its Situationist offspring (like psychogeography), illegal architecture, site-specific sculpture, collaborative mapping, geo-tagging, guided walks, ephemeral cities […], imaginary urban planning […], altered maps, travel writing, place based photo blogging, etc.». [13]

Maps, then, have yet achieved a crucial role inside the current evolution of graphic communication, as they can be fairly considered a complex representational tool, capable of connecting the many faces of visual culture, which involves urbanism and architecture from the most rigorous geographic attitude to pure multimedia storytelling. In the age of the locative frenzy, maps are «the conceptual glue linking the tangible world of buildings, cities and landscapes with the intangible world of social networks and electronic communications». [14]

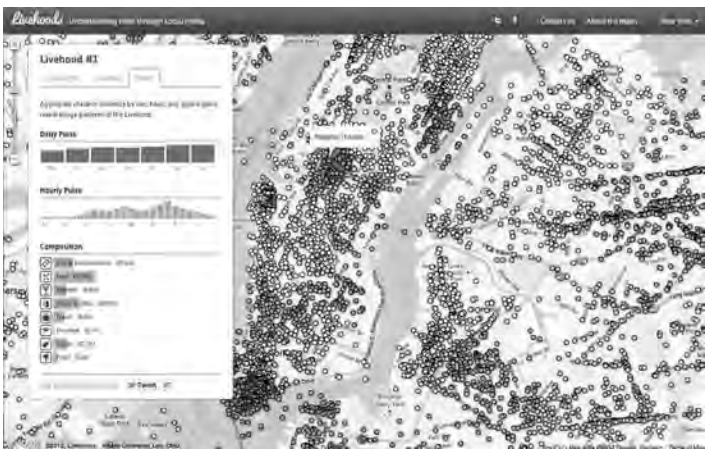
The next steps of such a fast-moving scenario is quite hard to foresee, but some overlook on - it is quite appropriate to say - *where we are* now seems possible and urgent.

On one hand, it appears clear that there is one general evolution ongoing, and that part of it are, at the same time, diagrammatic architecture (or the expressive urge to introduce, among the descriptive tools of the design process, some graphic artifices traditionally foreign to architecture, borrowed from advertising, informatics, logics, semiotics, etc.), infographics (that is the drive towards visualization of any - countable or unconuntable - issue and event into a graphic form) and neogeography (as just said, the rediscovery of the map as a total, interactive, communicational apparatus).

But, on the other hand, considering the three occurrences as perfectly equivalent would be a mistake of ingenuousness. Obviously, the effects of both the purely graphic nature of

the second and the extensively geographical implications of the third will only indirectly act upon architectural culture in the next few years. Yet, at a wider glance, «architecture doesn't have to be stupid after all. Liberated from the obligation to construct, it can become a way of thinking about anything - a discipline that represents relationships, proportions, connections, effects, the diagram of everything», in Koolhaas's words. [15] This means that the whole discipline of architecture is probably near to a new stage of expansion and contamination - even if the global tendencies of metropolitan colonization of the planet are most likely to push the «obligation to construct» violently towards in the next years.

It is undeniable, though, that, disregarding McLuhan's predictions, «we are all becoming visualizers» and able to «combine that language of the eye with the language of the mind, which is about words and numbers and concepts […] speaking two languages simultaneously, each enhancing the other». [16] Also, we have already become *cyberceptors* - to quote Roy Ascott's neologism from the 90's [17] - and the view from the satellite is, today like never before, part of our daily experience of the territories we live in. For seemingly growing communities, this shows up like a totally new language.



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Will this generate any sort of shifts in the forthcoming approaches to urban and landscape design? Should the suddenly appearance of a generation of "Palm Jumeiras" be expected worldwide? Or, in a much more reassuring option, will this bring any lucidity in the lecture (and, hopefully, in the writing) of the many new megalopolises that are being built on the planet in this very moment?

What is highly probable is that the 2010's will be recorded as the decade which finally saw the spread of the consciousness that the web and the physical space of the world are not one the allegory for the other, but indeed a deeply intertwined symbiotic system. Optimistically, this will be a decade which will see the rise of new ways of perceiving, representing and communicating the social meaning of space as a very important common that humanity has the right to experience freely, understand deeply, and live in happily. ○

Notes

[1] The following excerpt clearly demonstrates the smartness of Bush's vision: «The real heart of the matter of selection, however, goes deeper than a lag in the adoption of mechanisms by libraries, or a lack of development of devices for their use. Our ineptitude in getting at the record is largely caused by the artificiality of systems of indexing. When data of any sort are placed in storage, they are filed alphabetically or numerically, and information is found (when it is) by tracing it down from subclass to subclass. It can be in only one place, unless duplicates are used; one has to have rules as to which path will locate it, and the rules are cumbersome. Having found one item, moreover, one has to emerge from the system and re-enter on a new path.

The human mind does not work that way. It operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in accordance with some intricate web of trails carried by the cells of the brain. It has other characteristics, of course; trails that are not frequently followed are prone to fade, items are not fully permanent, memory is transitory. Yet the speed of action, the intricacy of trails, the detail of mental pictures, is awe-inspiring beyond all else in nature».

From *As We May Think*, in The Atlantic Monthly, June 1945, available online at the address: http://www.theatlantic.com/magazine/archive/1969/12/as-we-may-think/3881/ (last visualized on January 11th, 2014).

[2] De Kerckhove, D. (2001). The architecture of intellingence. Basel-Boston-Berlin: Birkhäuser.

[3] Cicognani, A. (1998). On the linguistic nature of cyberspace and virtual communities. in Virtual Reality, 3:16-24.

[4] Among detractors of the use – or rather the abuse – of semantics into architectural design, Pier Vittorio Aureli and Gabriele Mastrigli are probably the most theoretically engaged. Some interesting reflections on the theme are in Aureli, P.V.; Mastrigli, G.; (2006). Architecture after the Diagram. in Lotus International, 127 – Diagrams, Editoriale Lotus, Milano, june 2006 and in Aureli, P.V.; Mastrigli, G.; (2014). Oltre il Diagramma. Iconografia, Disciplina, Architettura. Available at: http://architettura.it/files/20050618/ (last visualized on January 9th, 2014).

[5] Of course, dating infographics as a science means questioning the relationship between drawing and storytelling, something which was clearly born together with civilization. Nevertheless, attempts to decree such a milestone have been made by many researchers lately. Most of them agree in setting the birth of infographics as a self-conscious discipline between 1750's and 1850's, thanks to the work of some pioneers like Joseph Priestley, William Playfair, Florence Nightingale and Charles-Joseph Mainard.
Cf. C. Chen, W. Härdle, A. Unwin (eds.), Handbook of Data Visualization, Springer-Verlag, Berlin, 2008.

[6] Jameson, F. (1911). Postmodernism, or The Cultural Logic of Late Capitalism. Durham: Duke University Press (p. 44).

[7] Deleuze, G.; Guattari, F. (1972). Capitalisme et schizophrénie: L'Anti-Œdipe. Paris: Éditions de Minuit.

[8] Deleuze, G.; Guattari, F. (1980). Capitalisme et schizophrénie. 2: Mille plateaux. Paris: Éditions de Minuit.
For a critical in-depth analysis of this evolution, however, cf. I. Krtolica, Diagramme et agencement chez Gilles Deleuze. *L'élaboration du concept de diagramme au contact de Foucault*, in "Filozofija i društvo", 3, 2009.

[9] Cf. F. Farinelli, La crisi della ragione cartografica, Einaudi, Torino, 2009.
[10] Or, more appropriately: crowdsourced accumulation of *data* (through technology), their turn into information (through selection and communication), then their evolution into *knowledge* (through interpretation).

[11] A rough - yet very interesting - inquiry on the birth of the term is found on David Harden's blog: http://www.d-log.info/on-neogeography.pdf (last accessed: January 24th, 2014).
[12] This is the first known formal definition of the word, as made in Neogeography – towards a definition (http://highearthorbit.com/neogeography-towards-a-definition/), an online post by Andrew Turner, formerly author of A. Turner, A. (2006). Introduction to Neogeography. O'Reilly Media.

[13] Szott, R. (2006)."Neogeography defined". A weblog posting on Placekraft on 26th April 2006. http://placekraft.blogspot.com/2006/04/neogeography-defined.html (last accessed: January 24th, 2014).

[14] Abrams, J.; Hall, P.; (2006). Else/Where: Mapping. New Cartographies of Networks and Territories. University of Minnesota Design Institute. (p. 12).

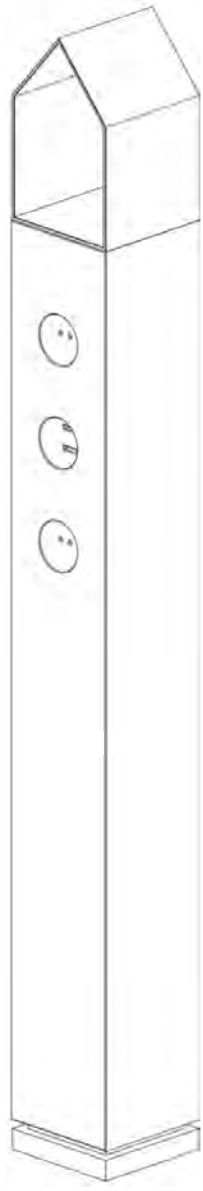
[15] AMO/OMA; Koolhaas, R.; &&& (2004). Content. Koln: Taschen(p. 20).

[16] Transcription from David McCandless's The beauty of data visualization public speech, TED Talks, 2010. http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html (last accessed: december 10th, 2013).

[17] *The Architecture of Cyberception* was a manifesto issued in 1994 by the artist and later published and cited in many essays about new media and technology. The manifesto was dealing with the enhanced possibilities man has been given by technologies related to perception, especially sight from above. The text is easily available online, http://www.cyberday.de/news/ausgabe_100017.htm (last accessed: december 10th, 2013).

Figures

1 City Within Existing Technology, Peter Cook, Plug-in City, 1964.
2 Julie Mehretu, Stadia II, ink and acrylic on canvas, 2004.
3 Livehood map. «Each dot on the map represents a check-in location. Groups of nearby dots of the same color form a Livehood. The shapes of Livehoods are determined by the patterns of people that check-in to them. Livehoods reveal how the people and places of a city come together to form the dynamic character of local urban areas.» http://livehoods.org/



HOW CAN WE HAVE A SMART CITY, IF WE DON'T HAVE PUBLIC SOCKETS?

STEFANO MIRTI

1 What is a “smart city”?

/* Nowadays, we hear and talk a lot about “smart cities”. It has became a buzzword. Everyone talks about “smart cities”, a lot of municipalities and private companies are investing in the idea. A lot of exp and test are being made. Every city wants to be smart. Everyone wants to live in a “smart city”.

The whole thing seems to be fairly glorious, the name is catchy and everyone would agree that it is nicer to live and work in a “smart city” than in a “stupid city”. So to say, the overall concept seems to be good and accepted. No one objects, and there is an overall agreement on the benefit of such concept.

Then, the (big) problem starts.What is a “smart city”? Here we have a problem. Most people (including professionals) do not know. And the one who are knowledgeable about this topic have different ideas on the matter. This is quite a big issue. Design is foremost a language issue: if we do not agree on the words, on the vocabulary and on the meanings, we get in trouble (or, simply: we do not get anywhere). If we say “green city”, there is some kind of agreement. A “green city” is a city where you have a lot of trees, parks, assorted kinds of greenery. If we move from “green” to “smart”, there is a fair chance to get lost.

We could check on wikipedia and see if we can find a sensible and (possibly) accepted and shared definition.

The “smart city” entry starts like this states as such:

Urban performance currently depends not only on the city's endowment of hard infrastructure (‘physical capital’), but also, and increasingly so, on the availability and quality of knowledge communication and social infrastructure (‘intellectual capital and social capital’). The latter form of capital is decisive for urban competitiveness. It is against this background that the concept of the smart city has been introduced as a strategic device to encompass modern urban production factors in a common framework and to highlight the growing importance of Information and Communication Technologies (ICTs), social and environmental capital in profiling the competitiveness of cities.

Arrived to the end of the first paragraph, we are lost. Honestly speaking, we do not understand much. We keep reading, hoping to find some better understanding of the issue. We read the whole entry several times. We went to check the suggested links and we read them with great attention. Now, we are deeply lost.

From deduction, let's move to induction 2

/* We decided to proceed using deductive thinking (top-down process: you start from some general statements and you develop your thinking / projects). This does not seem to take us anywhere. Let's try with inductive reasoning (we start from a detail, trying to climb up the ladder of meanings). We know that with deduction we reach certain truth (if the premises are given, the conclusions are given). On the contrary, induction reasoning never reaches the truth: at least we can reach some possible conclusions, based upon some kind of evidence given.
Anyway, to reach some "possible" conclusions seems better than being lost. In other words, we have nothing to lose.

Let's start from empirical observations.
There is myself and there is the city, its public spaces and activities. The world beyond the door of my house. I left home, I locked my door and now I am walking in the city. If I think to my everyday life, what would be some kind of "smart" service, product that could improve my experience? Is there something I would really need or desire? Is there something everyone could really need and/or desire? In terms of design thinking, let's start from "small" things.

On the relevance of "small" things 3

/* Of course the history of mankind evolves thanks to great inventions and discoveries. At the same time, we should not underestimate the power of small devices.
Thanks to Christopher Columbus, Europeans had the chance to know about America. Thanks to NASA, we went to the Moon. In Geneva we have the mighty CERN where thousands scientists work hard to make our life better.

Here we are talking about something different. We are thinking to these (generally unknown) people who provide fantastic solutions for the "here" and for the "now". Whitcomb L. Judson and the fantastic invention of the zipper (imagine a world where we have only buttons). Marcel Bich who buys László Bíró's patent and start producing (and selling) the Bic Cristal (aka Bic pen). It was 1950 and mankind was liberated from the slavery of horribly expensive (and often staining) fountain pens. One more example: Nobutoshi Kihara who builds a tool for Sony chairman Akio Morita. Morita wanted to be able to listen to his favorite opera during his plane trips. It was 1978 and the Walkman was born. Before that, none of us could listen to music on the go.

Now.
We are in 2014. The big inventions are cared upon by big corporations. IBM, Google, Apple. You know them. Is there any little device that could make our life better when we experience our cities?

If we think to our life, there is actually one missing element. Those big companies are giving us an enormous information and communication power. Every year we get cellphones that are more powerful and faster. The quality and the quantity of the information we can get on the go is actually mesmerizing. Tablets, cell-phones, watches and now even glasses.

There is only one thing that no one cares about: the humble socket. When I am home, I feel like the most powerful person in the history of humanity. Everything is in my hand. Any book, any movie, any piece of music. Games and porn, news and applications. Photographs and social media networks. Everything I might possibly imagine it is in my hand. Now. For free (or almost for free).

This same hubris follows me when I get out. Then, quite soon, another feeling takes possession of my mind. Hubris and haughtiness leaves space to a much simpler question: "How much battery do I still have?" All the arrogance slips away in a couple of hours. After that, I am left alone with a very basic question: "Where do I find a socket?"

It is a feeling that we all know.
To be somewhere and the battery of your device is going down.Where to plug it? This is a big question. And it is a big question that for the time being has no answer.

Why all this smart people working on the "smart city" do not address this kind of problem? Imagine a city where you have public sockets where you can plug all your device.
Wouldn't it be smart? Wouldn't it be lovely? Why don't we start from the small things?

What about a public socket?

4

/* Apart from thinking about "smart cities" and other interesting concepts, in my professional life I am busy designing all kinds of things. In the last couple of years I have been heavily involved in the design for the Biodiversity Pavillion for Expo Milan 2015.
If you think to 20 million people arriving to the exhibition ground, it is quite obvious that one thing will link all of them: how to keep their digital device active for a whole day. Basically we are talking about the personal problem described above (to have a network of open sockets in public spaces), multiplied 20 million times.
We thought to have this feature in one portion of our project. A special orchard where you don't have trees but sockets for the public to use. This part of the project was developed by our friend and colleague Matteo Mocchi (part of BBMDS office). The design brief was simple: make something where people can easily plug to recharge their devices. To make their life easier and to have their eternal gratitude.

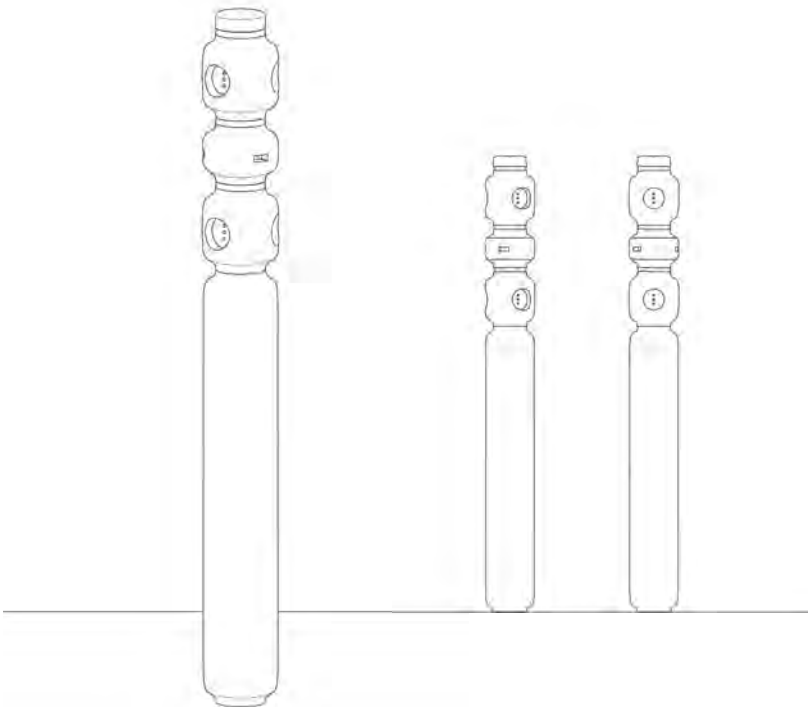
The project was developed. Here a short interview to Matteo.

/ Matteo, can you describe us your idea?*

We can charge cars on the street, but we can't charge our mobiles. How many electric cars are there? And how many smartphones are there? Hence, it is quite a simple idea. A kind of "urban socket" to charge your devices in any moment. It is not a bench or a street lamp with an integrated charger: no other functions are provided but power supply. Just the socket. This is what people need.

/ How did such a concept come out?*

We are designers, always thinking about small and big things to improve people's lives. Expo2015 was the occasion to think about this special need: the Expo ground will be crowded with thousands of people and they will take pictures, will browse the web, will use social networks in a very massive way. And we



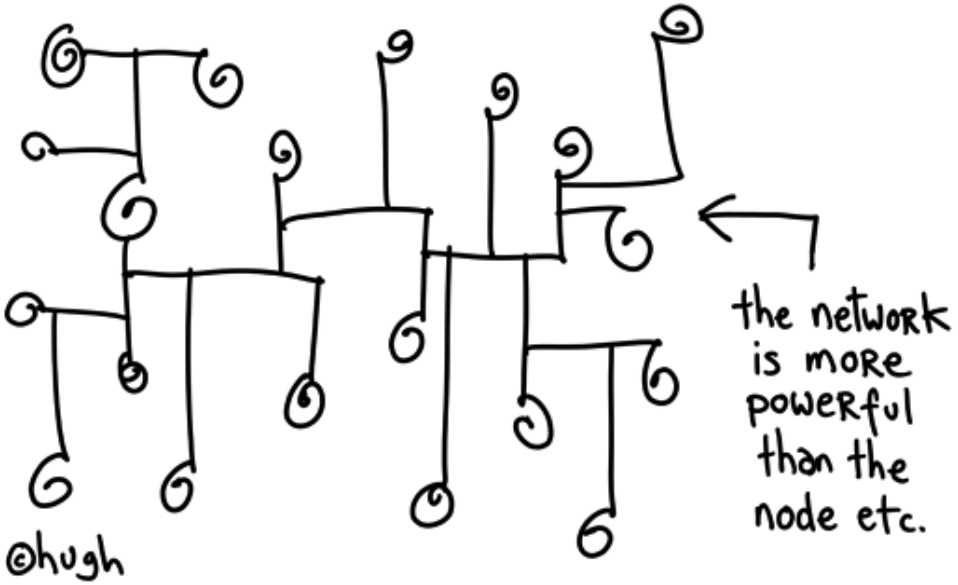
know our smartphone batteries are not so long-lasting. So, why not think about an outdoor socket? And why not use a renewable energy to avoid difficult work in setting up these elements and to have great freedom in placing them? This was the starting point.

/ Are there some similar things on the market?*
What is the specific advantage of your solution?

Yes, the Street Charge by GoalZero and designed by Pensa (moreover they developed another similar concept) is the most interesting example. We discovered it in Rotterdam some months ago. Innovation is never radical, it is always incremental. Furthermore, whatever you want to invent, someone did it before…

/ Absolutely. But, if such a smart thing didn't take the world by storm, there must be some issues.*
How could it be improved?

We are now investigating the wireless charging universe. Induction could be very interesting in order to improve and simplify even more this (already) essential device. Come to the Biodiversity Park at Expo (it opens on May 2015) and you will check it out yourself ! ○


the network is more powerful than the node etc.
©hugh

BACK TO THE TERRITORY. SITUATED COLLECTIVE INTELLIGENCE

DOMENICO DI SIENA

/* There is no doubt my generation is strongly influenced by new technologies. It's the computer, the Internet and the smartphone generation; a very unique one, not to be confused with the younger digital natives. It is a *bridge generation*, which was born in the analog and quickly adopted, (almost) understood and loved the digital and the network.

But, as Gian Luca Ranno accurately said, ours is also a generation that is rediscovering the social and economic balances of its grandparents' era, and one that, without feeling any urge to talk about it, was steeped deep into ecology and commons economy.

Undoubdedly, we also live in an odd historical moment, since the world we inherit is significantly different from what we had imagined.

In recent decades, we assimilated many mechanisms of economic and cultural globalization, thanks to a good dose of entertainment always accompanied by a regular informational hammering. We have witnessed the normalization of a life pattern that is not only unsustainable, but fundamentally alien to the local realities. Our professional ambitions, other than for a certain lifestyle, have become priority, far over any other position and opinion giving more importance to the local relational context.

While knowledge becomes more and more accessible, the relationship between its production process and the places it takes weakens every day. In other words, the production, whether of knowledge or material goods, have gradually structured according to global dynamics at the expense of any local need or condition.

In this development, the role of technology is crucial. On the one hand, it encourages communication and thus the access to global knowledge; on one hand, it promotes a global economy and a culture that has lost the sight of the need of a relationship between the economic and the cultural activities, and between both and the territories in which they are developed.

According to Pierre Levy (1994), we live in an anthropological space that defines the trade flows space, where the

fundamental activities can be contained into three broad categories: production, transaction and communication. In this ecosystem, the identity of each individual is directly affected by the role it plays in one of these three categories. In other words, our social identity is defined primarily on the basis of our work, which in most cases is a salaried job and therefore strongly dependent on economic mechanisms which most people are not called to intervene upon.

We have eradicated the development of our social identity from the *reality* of our territories in the service of a globalized economic production apparatus. In this ecosystem, the universities themselves seem to have lost the horizon, shifting their axis of action towards the neverending search for certifications. The university becomes one more link in the chain of the institutions that, instead of promoting a higher critical sense - therefore balancing our biopolitical condition by introducing elements of escape towards increasing independence and freedom -, ends up promoting a uniformity mechanism with the aim to prepare skilled labor for the "machinery" of production.

In recent years, this procedure has become even more perverse as supported by a heavy progress of economic insecurity affecting right that *bridge generation*, which did not react with the necessary conviction. Indeed, facing the decay of an entire economic and professional ecosystem, many chose further learning experiences, with the hope and prospect of increasing their possibility to get a job in their professional field, in a - more or less - near future.

This generation then, forced to accept just about anything, is projected into living in the "global city" Saskia Sassen was dealing about in the Nineties. Notwithstanding where we are, the important thing is to get a job that is related as much as possible with what we have studied. We are ready to move from our city, Country and continent, if needed. Our social network survives thanks to social media; with Twitter, Facebook and Instagram we keep in touch with the people who make up our social ecosystem, mixing people and situations in chaotic relationship dynamics.
Our activism in favor of change continues despite the distance. We are all connected. We exchange ideas and there we organize to create a great cultural movement as well as

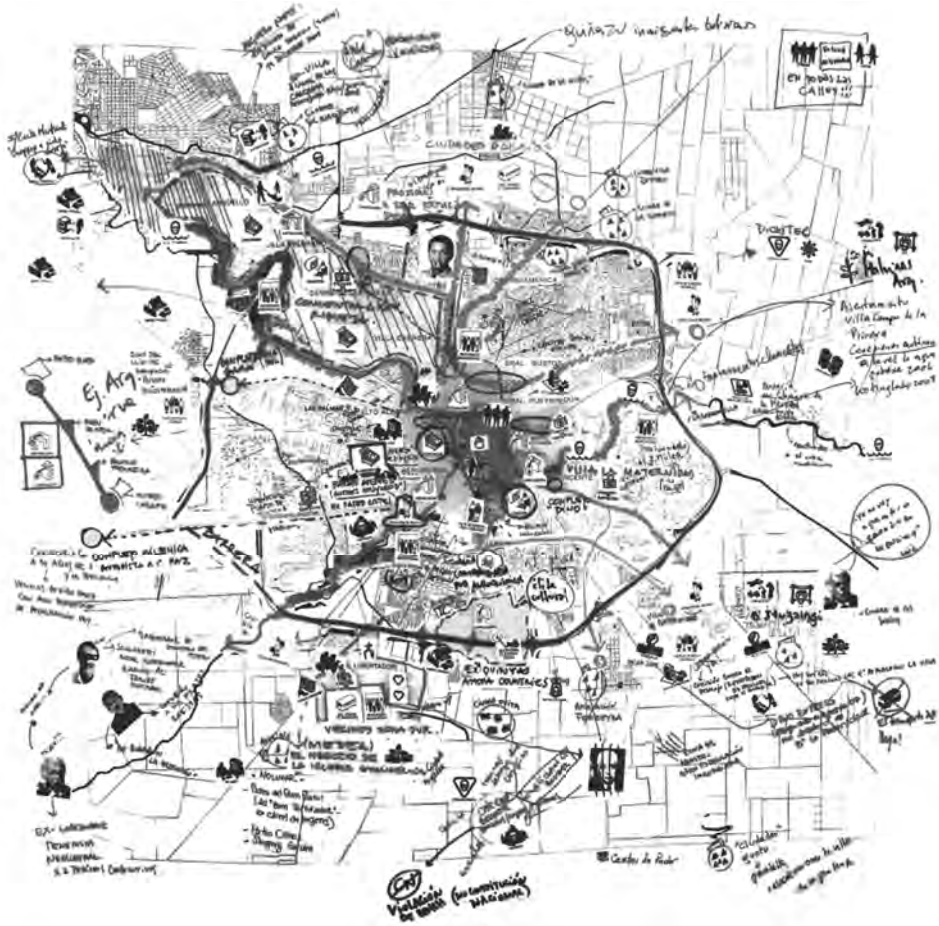
social innovation, opening new scenarios closer to the world of free and collaborative culture.

The communication is open to new models, which do not replace the usual ones but expand them, offering new shades. With the network we are "prosumers" (Toffler, 1980), or producers and consumers at the same time and therefore we consume information produced by friends and acquaintances. Gradually, the media bombing, syncronized with the tv news, stuck with an obsolete type of information, is leaving room for frivolity posted by our friends on Facebook, but also for their political thoughts, and their reflections on what is happening around them. We talk more and more about ourselves, surely with a hedonistic tendency. All connected, each in a different place, we begin to learn more about our friends and ourselves.

The unmediated exchange of information allows us to experience the dynamics of Pierre Levy's collective intelligence firsthand. The social implications of these new mechanisms are incalculable, since they promote a change in the definition and perception of personal identity, towards something now directly linked to knowledge. These are the signs of rupture of the wall of mistrust. The other is no longer a threat, but a knowledge bearer.

Who is the other? He is someone with specific knowledge, and that most likely knows something I do not know. (Pierre Levy, 1994)

According to Levy, we are promoting a new area of knowledge that is activated through the experimentation of new human relations that give regard to individuals on the basis of their actual skills and knowledge, without the need for any classification dictated by social, professional or economic categorisation and - obviously - without the need for any kind of academic certification or training. It is the exact opposite to what the universities are encouraging (and this is just to mention one of the most important institutions of modern society).
Thanks to these principles of collective intelligence occurring on a global level, we begin to develop a new awareness of the different local realities. Something begins to creak, and again, the bridge generation is the one called to bring a new interest in things, territories and people surrounding.



We come across a *kind of return to reality*, a new condition of life in which everyday activities return to be related with the dynamics that characterize the identity of the places we live in. We begin to rediscover the land and the communities we belong to.

In this process, the new communication technologies have played a crucial role. A phenomenon in complete contrast with the dynamics promoted by the technological development of the three industrial revolutions that preceded us. The advent of new digital technologies and telematics made many think that we would continue on the same path, expanding exponentially the importance of what we might call the "digital dimension" at the expense of the physical one. In the 90's and early 00's, there has been much talk of virtual reality and parallel digital worlds. The huge attention the Second Life platform has attracted for some years is just one of the cases.
In fact , today we realize that digital is everywhere and it is more real than ever. Finally, we can talk about one reality composed by a physical and digital hybridization. Opposite to a once (and still) diffused thought, technologies are not generating new walls between people, but rather they are building new bridges between different generations.

Social Media are the promoters of a new horizontal communication that reduces the importance of intermediaries and supports a new space for discussion and collaboration. The effects of localized use of these tools are amazing. When the collective intelligence processes are developed in a local context, we see a real renewal of the idea of citizenship, able to experience forms of self-organization to directly transform the territories in which they occur.

In other words, we are assisting to the dynamics of Situated Collective Intelligence. The inhabitants of a region, being in constant connection, are able to trigger dynamics of transformation and management that get far beyond the traditional representative structures (such as trade unions or simply neighborhood associations), managing, at the same time, to be more effective, more open and more transparent. This paves the way to emerging citizenships that are capable of taking care of the territory going back to people, local relations and commons. ○

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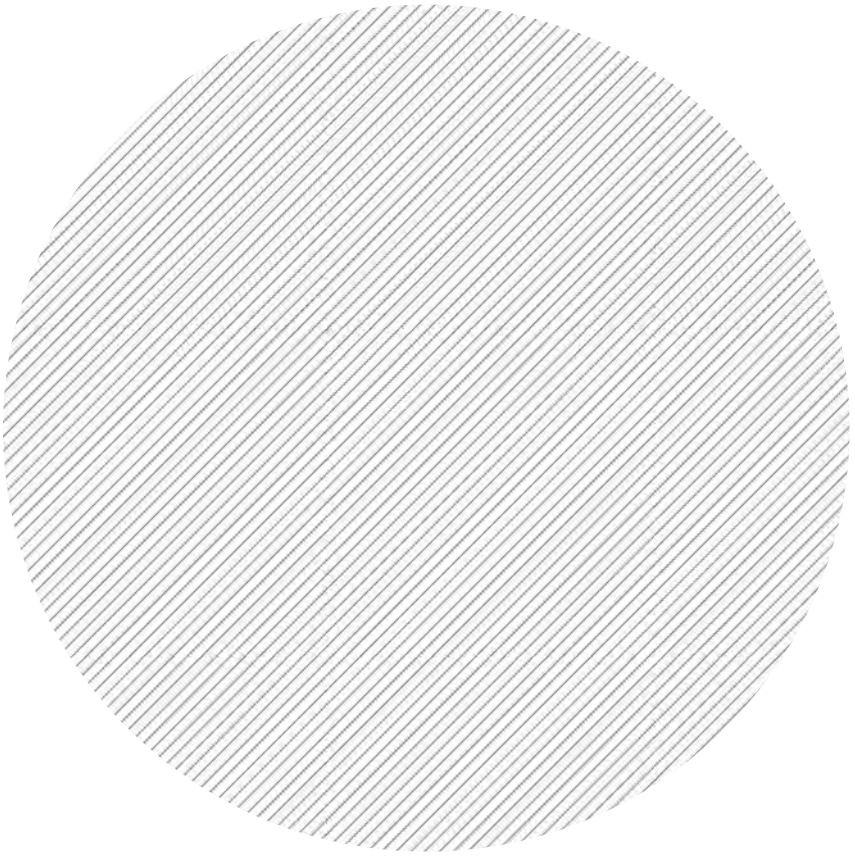
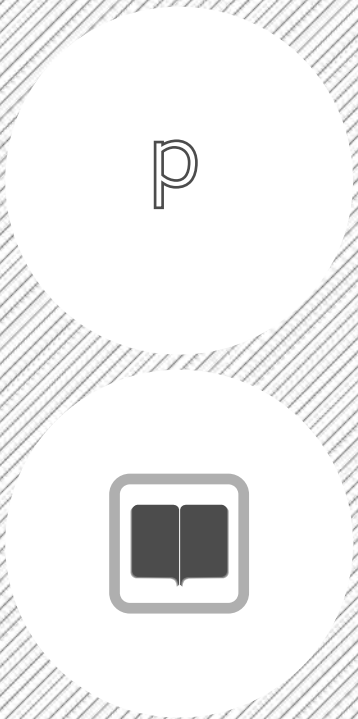
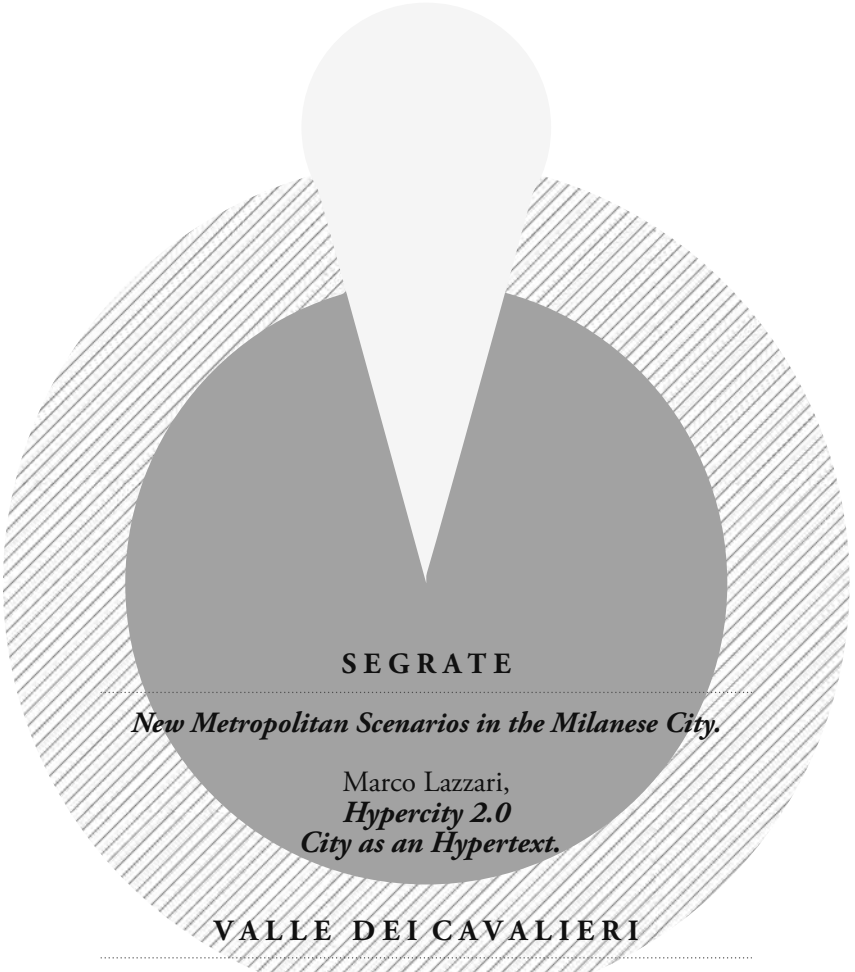






SEGRATE

New Metropolitan Scenarios in the Milanese City.

Marco Lazzari,
Hypercity 2.0
City as an Hypertext.

VALLE DEI CAVALIERI

Reactive Landscape to Regenerate Urban Life.

Lorenzo Fratus,
The Parametric Digital Design Approach
as a New Matrix for the Project.

MILANO

Bocconi Campus.

I T A L Y

SEGRATE
NEW METROPOLITAN SCENARIOS IN THE MILANESE NET CITY*

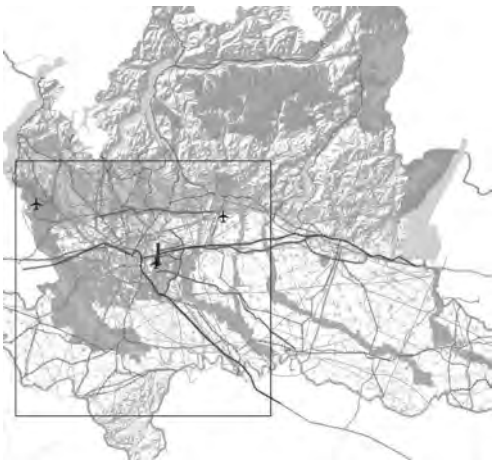
/* The case study of Segrate has meant to be an opportunity to test in the Milanese metropolitan area strategies and ideas of the MSLab on the new scale of the city. From this point of view it is interesting to consider in depth Segrate's particular situation which is not only rich of history, agricultural and landscape fabrics and images, but also is characterized by overlapping infrastructural systems -railways, urban motorways and airport- that make of it a paradigmatic example of a multi scalar territory.
The first approach was taken through the Urban Design workshop held by Prof Simmonds [1] - then developed through thesis and collaborations with the municipality.
The starting point of this research line, was to analyze the deep infrastructural change that this part of the city is going to deal with in the next years due to the construction of the new bypass road *Tangenziale Est Esterna*, a freeway, parallel to the existing *Tangenziale*, linking the two main existing motor ways in Italy and converging to Milan; the Milan-Naples and the Turin-Venice. Such emerging infrastructural change and the realization of a new high speed train connection between Milan and Venice stimulate the idea of a possible new station/infrastructural Hub to be directly connected to the Linate Airport.
Those new elements gave us the possibility to look at our landscape through a new scenario in the metropolitan area -that would go beyond the traditional binomial city countryside- trying to imagine a new synergic system made of landscape, urban fabrics and infrastructural nets.
The infrastructural presence indeed, has been felt as an alien element totally detached from the local dynamics. This point of view aims to go deep in the relationship between local and global, between green and grey infrastructure that must work together and look for the necessary continuity which can generate new possible figures of public space at the scale of a net city giving it a new system of references.

*

Matteo Fraschini, Raana Saffari Siahkali, Luca Carizzoni

Analogy
Morpho-Infrastructural Components

/* Lombardia, a metropolitan region between the tree main airports could be considered within a scale of the net city defined by the infrastructural net, different urban fabrics and the landscape system within a square of 100 x 100 km. In this scenario, The focus on Milan and its Eastern metropolitan area is mostly regarding to the new infrastructural scenario *Tangenziale Est Esterna*, the new high speed railroad ,a possible new Station and connection to Linate airport airport.
The existing motorway ring, for several years had worked first as the border between city and countryside and then as the edge of the compact-dense city towards what we might call sprawl.
Among the fundamental natural and artificial elements that have, and still are, forming the agricultural and urban context of the area, it is important to consider the old bypass road and the *Lambro* River on the eastern side, the new bypass road and the borders of the *Parco Sud* and its preserved areas on the west, the street towards the cities of *Monza* and *Lecco* on the north and finally the railway tracks, *Idroscalo* and the *Linate Airport* on the southern part that on one hand perform as physical barriers surrounding the area and on the other hand, form infra-spatial conditions for the embeddedness of the agricultural system. Such expansion model of parallel streaks will in fact, replace the obsolete concentric model of the urban growth fitting - in a more equilibrated way - into the territorial system and pursuing more effective roles within the global sustainability perspective.



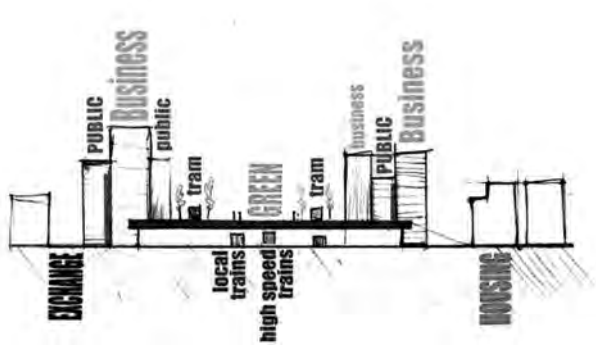
1

A new centrality

The existing rail yard had been for decades a wall that disconnected the southern and the northern part of Segrate. The re-connection of the two parts asks for a sustainable way of dealing with continuity of green and grey infrastructure converging in a dense point of interchange.
The new *tangenziale* might define, 15 km far from the existing one, a new threshold; and by this, a new centrality. This perspective gives an important chance to experiment new possibilities of interaction able to deal with the contemporary idea of identity and sense of belonging to a place.
Natural vacant areas mostly structured by the water system of the territory - as a fundamental feature of the local economy based on the agricultural character of the place - : to be re-valorized as multifunctional green areas within the urban scale able to meet both inhabitants' necessities and sustainability requirements of the place.

Strategic 'switching' location

In an area structured by strong infrastructural systems that bring the area into the light of accessibility in different scales. In the national and international scale, its closeness to the international airport of Linate is the link between the city of Segrate and other European countries especially during the *Expo 2015* events, while within the regional and interregional scale, there is the rail yard that in one hand acts as a strong



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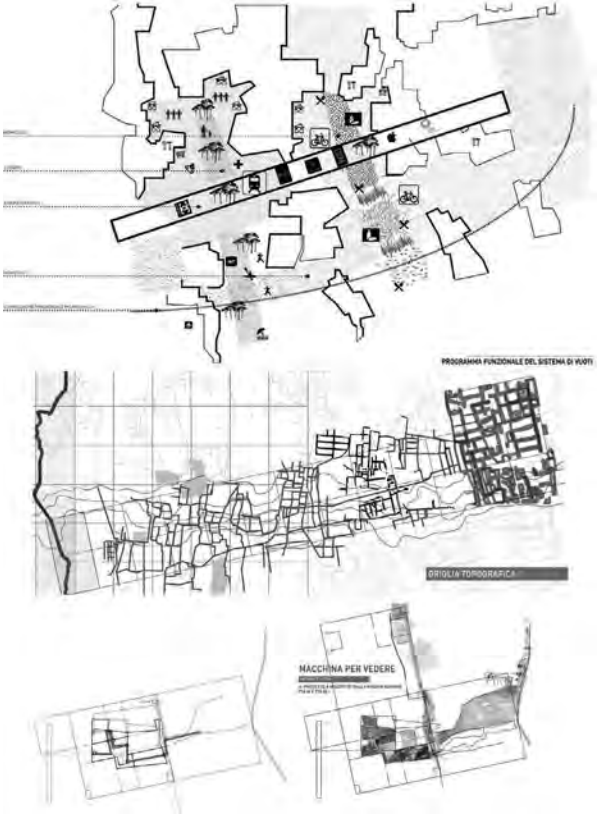
physical barrier cutting the area into two parts and on the other hand, makes it accessible from other cities. The train station located in Segrate and the realization of the metro line number 4 - expected for the Expo, makes the city become an eastern entrance gate to the city of Milan and through that to the western Italy and - as it has been explained earlier- the departure city within the leaner system towards the eastern parts. Coming down the scale into the local one, the transversal parallel longitudinal streets that exiting from Milan and entering, perpendicularly to the city, provide the access in four major point: the *Cascina Gobba* stop of the metro line number 2 on the northern extreme, the *Rogoredo* stop on the extension of the metro line number 3 on the southern extreme, the railway station itself and the *Linate* stop on the future metro line number 4 in the middle.

4 Action
Sustainable growth of the net city

/* In this scenario of large infrastructural transformations attention has been brought to some specific issues which clarify how the local context - mainly characterized by infrastructural networks and natural and artificial fabrics can be re-activated as sustainable new centrality.
To achieve that, it is necessary first to underline the progressive development of the urban fabric in the north-south direction where the conurbation has been evolved by longitudinal parallel streaks interspersing with non-constructed areas.
Four parallel 'streaks' taken into consideration, all in the north-south direction. They are respectively from east:
*/ the one consisting of the *Lambro* River occupied mostly by the old bypass road. In this first strip, there are already naturalistic paths aimed to the re-qualification of some ex-industrial areas such as the park of *ex-InnocentiMaserati*.
*/ the second streak is that of the caves of Segrate that in the southern part includes the *Idroscalo*.
*/ pass through the *Parco delle cascine* and *Parco di Villa Invernizzi* that are actually considered as the access points to the agricultural southern park.
All of these four parallel streaks are traversable, on the East-west direction, by the railway tracks where there is processing the realization of the high speed train that connects the western parts of the city of Milan, and also western Italy, with the eastern parts. In the regional scale, the railway has the role of linking several cities, starting from *Segrate* as

the terminal, *Pioltello*, *Settala*, *Vignate* and *Melzo*, and so will form a sort of complex linear city that perpendicularly connects and overlaps with the parallel bands.
Regarding to the so called model, it is important to consider, that the transformation of the built and non-built areas in these parallel streaks, does not take place in a solid and boundary-making manner, but it is expected to make the bands interconnect with each other and converge gradually from one condition to another. Such gradual transmutation would introduce the theme of the 'Urban Gradient' and the 'Eco-Armature' within the model.
Moreover, the re-qualification of the marginal areas, buffering between natural and artificial context, has to emphasis the unique values of the territory - such as its green footprint of agriculture - and re-activate the historical and genesis identity of the place.



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Notes

[1] Oxford Brooks University, visiting professor at Polytechnic of Milano, The course was entitled as 'Town Planning' held during the fall semester 2011.

Figures

1 Lombardia, the metropolitan region between the tree main airports. Infrastructural anatomy related to territorial and regional scale.
2 Conceptual section regarding a potential multi-functional centrality where the accumulation of activities as can stimulate a sustainable economic and social growth.
3 Milan-Segrate Metropolitan Area: Strategic Vision through Gray Infrastructure. Geographical and geometrical traces become the unit and the references to the different scales of design; tools to manage the relationship between landscape and densification (Graduation thesis MSArch Polimi. Students: Ilaria Ricci Curbastro, Lucia Righetto, 2011).

MARCO LAZZARI

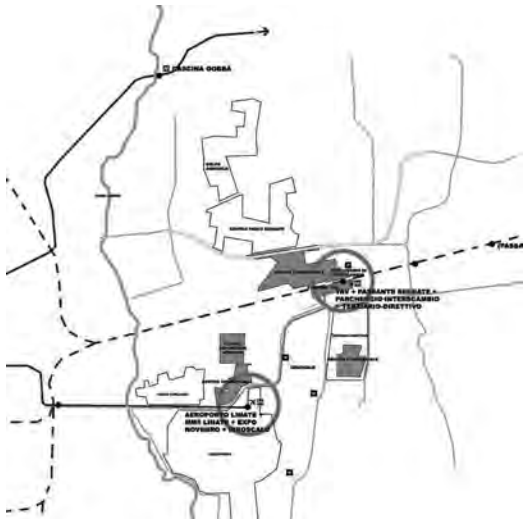
HYPERCITY 2.0
City as an hypertext. Study of the milanese expansion towards East: Segrate as a new gateway to the city for the Expo and beyond. Community development in terms of sustainability and through the use of new technologies.

/* The work carried out with my thesis aims to provide a model that solves the contemporary urban discontinuity both physical and conceptual (problem theoretically faced by F. Choay), through the definition of interaction elements which act like accumulators, and forming a network that intensify the city. In the transformation becomes crucial to safeguard the memory of the previous urban products as intermediaries: temporal and spatial operators, that is a memory of the map of the past, kept like symbols, through new types, that are disjoint, or symbolic. The new maps produced allow us to the mediation.
The study starts from the statement that today's technologies of social interaction and virtual utilities influence the urban life in terms of lifestyle, with a consequent adaptation of the built space. This is demonstrated by a work of collection and reinterpretation of milanese historical maps, highlighting the crucial steps for each epoch, with its influences on social habits and the urban spaces itself. Hence the assumption that the city of today may have deficiencies in terms of functionality and demand, and specifically that the technology that would lead to significant changes is the one of the world of internet. A hypertext is a set of documents placed in relation to each other by means of keywords. It can be seen as a network and it's documents constitute the nodes.

Tutor: Antonella Contin

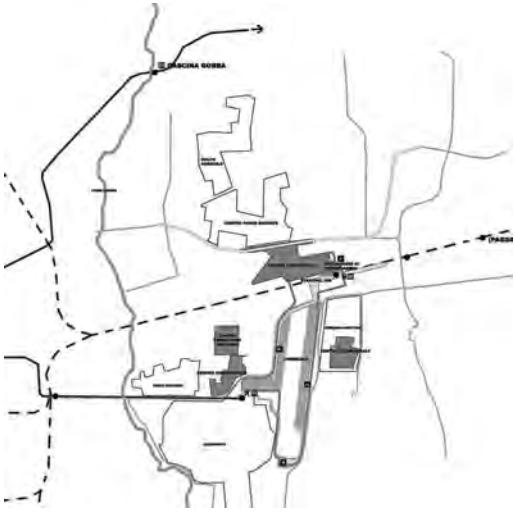
The main feature is that reading can take place in a nonlinear way. Fundamental, in its metaphoric transposition to a urban dimension, becomes the ability to self-control the environment and move around freely, thanks to a dense network of roads and public transport, to choose personal paths among a wide range of elements placed in relation to each other through relations of various types and nature, and managed by a subjective mapping constantly updated.
The relationship between architecture, cities and technology is more and more inseparable, for the increasing presence of a virtual dimension that invades the physical reality. The technologies can be read not only as a matter of "finished" objects, but conceptually as the way to approach the territory, and so as mediators of new practices and lifestyles. The public space can be re-imagined as composed by a network of dynamic meanings that overlap the real ones. The citizen in this way is free to read the space and make a specific use from it; in the urban configuration you can track down a set of elements reorganized as a system and conveyed an interactive software purposely programmed. From this work take place the all the imaginable paths, as new urban "narratives"; intensifing networks between public spaces, and enriching the city. Their use in the central and active, areas but also in the most remote and poor, implements a self-determination of the urban space, and prove the essence of the citizenship itself.
Along with a process of contextualization of the work carried out on the subject of history and technology across the urban development, I went through the same stages for the specific area of Segrate, that in accordance with the teaching, it is considered to be a hub for the future milanese development. Considering the Expo that will take place shortly in Milan (as on the plans of the municipal administration) we have developed a vision of transformation for the area, creating a masterplan that joins several interests, becoming the theorem on which is based the experimental part of my thesis: the "City as an Hypertext". The focus is the permeability supported by internet-driven technologies, realizing the overall vision of making the system of physical resiliencies (elements extracted from the analysis of the territory, and possibly implemented by users), and the interaction with these by the people with ease and freedom, just like on the web.

Approaching the research from this point of view does not mean neglecting the system of canonical elements of urban planning and architecture. In facts in an earlier stage we studied a green parallel stripes system as a model for an environmentally sustainable development of the area; we created a connection between the new High Speed Train Station of Segrate with the existing Linate Airport, and we forecasted its integration with the municipality system of transports. A reference in drawing up the platform to base the development of this extension of the city of Milan, is the theoretic apparat from Grahame Shane in "Urban Design Since 1945", and his vision of "Ecological Urbanism", that consider sustainability and natural areas needs in the contemporary large cities. The themes of the exhibition, eventually, are strongly linked to the territory and its traditions of agricultural use, and all its elements are used as relevant components in the system, generating a virtuous relationship with the conservation and the reuse of the natural and cultural local heritage.
The main part of my thesis consists of three stages. One is the selection of an appropriate number of elements to give to the limited area a wide choice of activities that produce opportunities for visits; generally increasing the interest in this territory. The second is the research on the possible technological interactive ways to propose the elements, so an application as a simple and smart interface for users. Third the foreshadow of possible itineraries on the territory, similar to the ones generating by the software, their application, and their adaptation to people needs, case by case. This way we simulated the use of the tool, and we imagined the development of this powerful networks of elements. Initially they are collected into a database, by the list and differentiation of typical and relevant items of one place and their reference category. We used a matrix that performs both the role of incubator and generator, a system that contains inherently physical elements and the mental relationships among them. In addition to sensitive data, the technological approach has led us to make these implementable by the people who live on site, and whom use the smartphones, through geo-referenced multimedia content, which extend the offering to the virtual context and features, and so to the infinite resources and connections given by Internet.


CASCINA GOBBA
AEROPORTO LINATE +
RMS LINATE + EXPO
NOVEGRO + MALPENSA


CASCINA GOBBA
GOLFO AGRICOLO
TESTATA SUD

Eventually to implement the relationship between the elements we conceived three virtual maps, which operate at three different scales, according to three different levels of knowledge and experience and for a gradual descent to single elements, leaving the person a chance to experience the space physically in the place, virtually, maybe from home and by a smartphone or a tablet, or both simultaneously. The final result is the visualization of the traced paths on the site of the project, along which there will be creating a prosperous urban integration and densification. ○



VALLE DEI CAVALIERI

REACTIVATE LANDSCAPE TO REGENERATE URBAN LIFE*

Design-oriented strategies in the abandoned mountain landscape of the Italian Appennini

/* Few people know the small towns of Palanzano and Monchio delle Corti, and the articulated geography of one of the numerous valleys structuring the undisclosed land of the Aemilian Appennini along the rivers which flood from the mountains to Parma. Yet ages ago, when here knights were trained to be sent as tribute the Pope, salt was carried across the mountains from the Tyrrhenian Sea to the cities in the flat land, sight-seeing towers and castles populated the mountains and myths were perpetrated by ballad singers, these lands knew a florid prosperity and popularity. Nature was a nearby wilderness, both threat and resource, as in the *saltus* landscape (Sereni, 1961), which later on the technological advancement increasingly transformed in a -supposed-controlled environment: first as hunting reservoirs, then, more recently, as areas for exploitation of natural resources. Numerous attempts were indeed perpetrated after the 1st World War in order to sustain local populations through selective forestry management, as the traces of an extensive seeding of chestnut and fir-trees unfold.
Nevertheless a trends of abandonment affects today the small settlements of the mountain, which show little economic attractiveness mostly due to its reduced accessibility. Migrations towards the city in the flat land induced since the 80's a significant decline of the mountain landscape (De Marchi, 1980). Even if some seasonal back-migration still resist when warm climate moves people back to their place of origins, general lack of population causes a reduced environmental management keeps raising environmental issues: neglected pastures turned back into unsupervised wood, risk and scale of natural hazard has increased causing severe land sliding and flooding. Indeed the geomorphology of this part of the Appenini is far from being stable, as the particular rock formation show: the *calanchi*, produced both by water erosion and slipping, sliding and wrinkling of tectonics, are at the same time a spectacular scenario and a hint over slow processes of Mother Nature.

*
Antonia Maria Alda Chiesa

The research, initiated in 2012 by the Misura&Scala Lab - School of Architecture, Politecnico of Milan- proceeds from some considerations. First, as a matter of scale, city and landscape should be ideally considered as part of the same entity when discussing a cultural, energetic and economic sustainable development: the regeneration of the urbanized flat land starts from caring and cultivating the nearby territory. As a consequence, the sanitary role of landscape needs to be re-evaluated as permanently feeding urban resilience. In the historical nature-culture relation of mountain eco-systems, hybrid patterns of agriculture, pastures and forestry, hosted settlements which local knowledge virtuously adapted, by shape and location, to the specificity of the site.

In order to define the unique and distinctive character of the place food ecologies have been recognized as the specific potential of the valley. Strict conditions ruling the production of, among other products, high-quality Parmesan cheese, are easily fulfilled in these lands. Quality of pasture, grass, water, and air are undeniably conditions for food excellence: therefore, in order to guarantee the best product, meticulous preservation, conservation and management of the environmental conditions are prominent actions. The recent public attention driven towards local products as authentic and healthy could be a triggering economic opportunity for the valley; the battle against placeless food implies a discovering experience of the place of its production to improve the awareness of its sowing and growing, from seed to harvest, up to time and place, seasons and soils (Lister, 2007).
It is evident that a renovated sensibility towards food ecologies could be merged to the re-evaluation of the built cultural heritage, by reactivation of abandoned buildings such as castles, monasteries, sight-seeing towers, dairies, ham factories, and entire groups of old houses which populate these lands. The research, thanks to the collaboration and involvement of the municipalities, social actors, and local expertise, identifies therefore a series of hinge points structuring an interpolation of active locations along the valley: the hypothesis lies in turning such abandoned built heritage in places for a dispersed eco-tourism. By means of hosting structures, as niche proposal for increasingly numerous sensible visitors, forms of sustainable experience would be promoted in order to support cultural heritage, food specificity, and environmental education.

Moreover extensive presence of water, by amount of water-bodies, stream capacity, flow velocity and rainwater (over 1600 mm/year), suggests hydrology as a determinant element to be considered in strategies of territorial regeneration with special regard to the production of clean energy. Landscape design, both at the regional and at the local scale of the above-mentioned locations, aims to make sensible use of climatic specificity. Providing room for water, harvesting, filtering, re-using are ways to connect place identity to landscape specificity within a longer perspective of source scarcity.
Developed design proposals therefore interpret isolation as a choice and a chance for a full appreciation of the processes of landscape, as the opportunity for a slow time of experience, and a new relation to nature as an essential part of urban life. The research is today in at an early, promising state. Particularly, it has represented the opportunity for experimentations in parametric digital design as a contemporary, appropriate way to understand and re-interpret territorial knowledge in reading, mapping and design architecture in the landscape.

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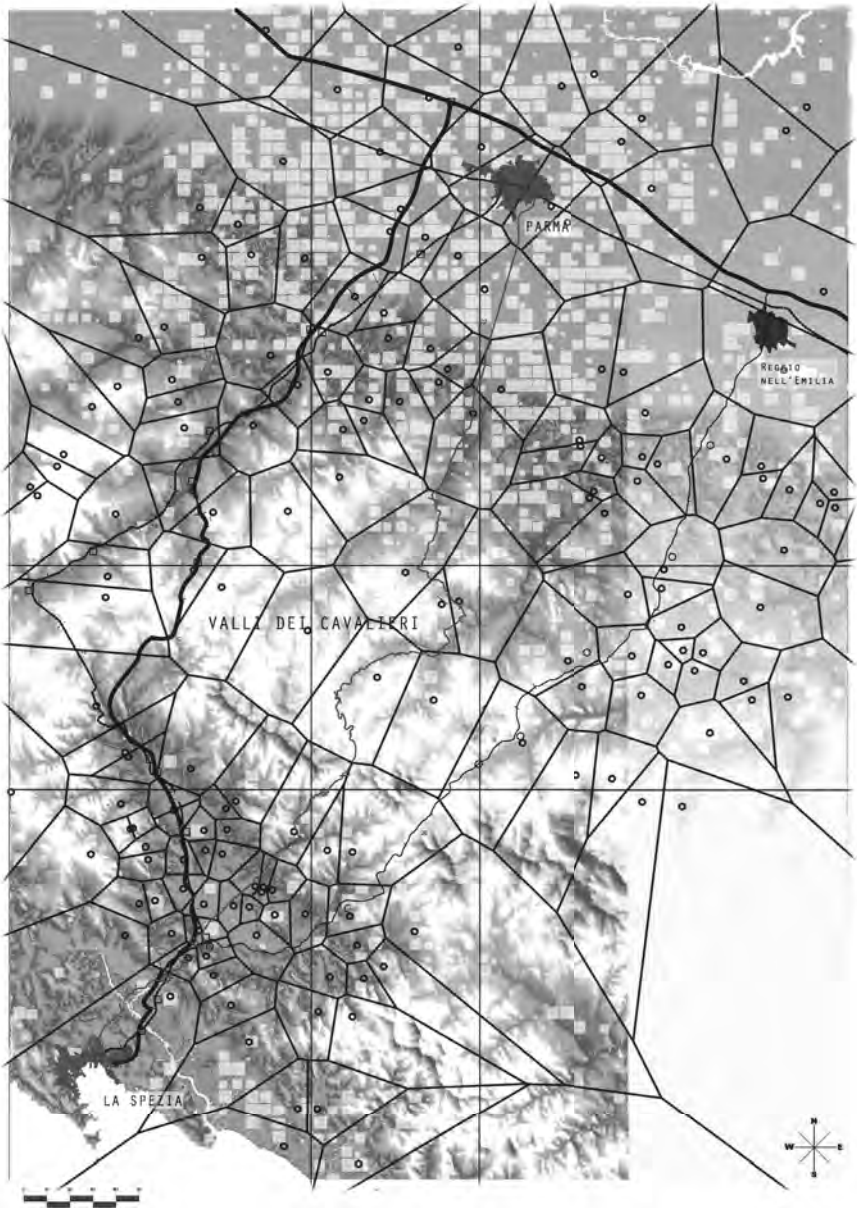
LORENZO FRATUS

VALLE DEI CAVALIERI
The parametric digital design approach as a new matrix for the project.

/* This work is an attempt to reformulate the writing of the landscape in the valleys of the Enza and Cedra rivers. Situated in the middle of Italy, this territory is suspended in a complex system of physical, historical and literary relationships, but it is undermined by the abandonment of the land by the new generations, unable to maintain a bond of identity with their homeland due to the crisis of the agricultural system and the result of the rapid economic and social changes that have occurred in the last decades of the twentieth century.
Through the digital parametric approach the relationship between design and storytelling of the territory is rebuilt, and each micro-array is revived through a design matrix in diagrammatic form, as combinatorial synthesis of analytical data and structure of organization of the identity's themes.
The Story of Milites, the Castellaro and the symbolic power of the "Marca", as emerging point along the rugged terrain of the Valleys of the Knights, are the basis from which the project takes strength. The purpose is the revitalization of the fortified tracks, which, from 1st century become the visual focal points of the territory, symbols of power and autonomy of local society opposed to the central authority of the governments of Parma. In an area where this type of building lives only in memories and in medieval cartography, the idea of the castle takes form along the contemporary landscape through the rewriting of the morphological and visual structure of this historical archetype.

Tutor: Antonella Contin


PARMA
REGGIO
NELL'EMILIA
VALLI DEI CAVALIERI
LA SPEZIA
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Two main directions, vertical and horizontal, are identified: one as a self-determined inside the context, establishes the visual relationships through the presence of a defensive tower; the other as a localized element in relationship with the ground , through its boundary walls.
The Castellaro, the last bastion and refuge of the Knights of the family of Vallisnera, is constructed as an imaginary and fantastical work that combines the theme of the military architecture with the literary vision of the Castello di Atlante in the "Orlando Furioso" poem. The parametric diagram, the final design method, is supported by the combinatory narration applied to the "Orlando Furioso" by Calvino, where the story, in its labyrinthine succession, takes shape beyond the omniscience of the narrator. The vector of this erratic movement is actually not the literary thing , but how it would flow. Once created a mechanism, the diagram, the author can think of a multiple spatial narration, which develops possibly indefinitely, without the need for an external and anthropocentric narrator.

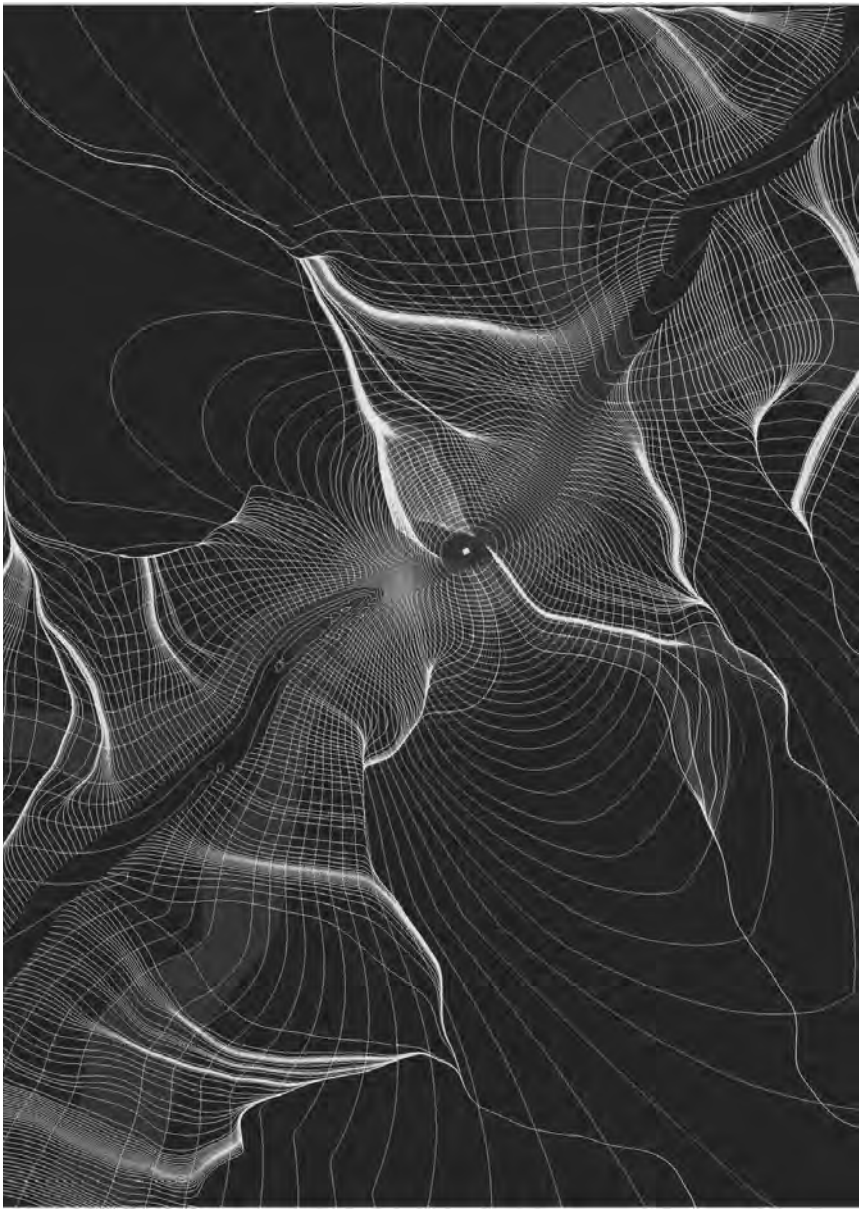
1 Parametric analysis of the ground

/* The orography is decomposed and analyzed through Grasshopper. The analytical operations study the slopes, the curvature of the ground, and the "flow paths" . Starting placing in the algorithm a set of data (Ridge curve and orographic surface), the information are extracted to create the project operators (points on which hang the access roads to the project area - localization of the optimal areas for the construction of the main volumes - localization of the areas subject to forces of tension and compression of the ground from which are generated the break operations - maximum slope of curves that defines the formal matrix and its rhythm).

2 Operators of localized generation

Rift

A strong degree of curvature is interpreted as the maximum surface tension. The ground is such an active membrane, subjected to the accumulation and release of forces along its surface. a series of tension forces along the central area of the



ridge split the surface in two parts . This creates a plain five meters below the ridge, which eliminates the problem of the intense slope without imposing an excessive excavation.

Flow
The second operator builds the ridge in the areas of minimal slope, using the trajectories of the "flow paths": as a binary, the matrix guides the movement of the tectonic plate until it reaches the areas of minimum slope in the proximity of the passes.

Cut
The plaque generated by the flow is cut and rearranged according to a constant height rate (10 meters high). This arrangement binds the formal matrix to the vertical component of the ground, creating the access to the ridge and intersection points. These points are treated as halting-places according to the local tradition of fountains and shrines.

Forcing
An orthogonal grid with a pitch of 30 meters is projected to the project surface. The attractive force exerted by the matrix, splits the grid leaving a orographic trace. This is the landscape mark of the project, adopted for the arrangement of the vegetation.

3 Operators of self-determined generation

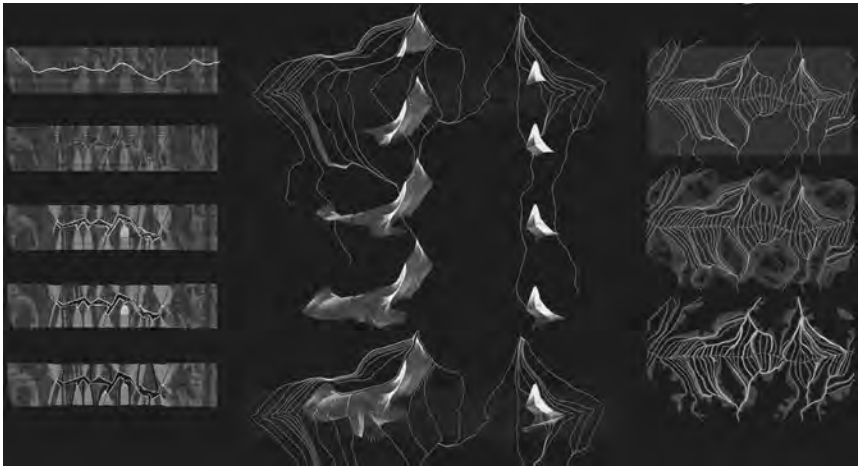
Reconstruction of parameters of visual collimation
Reconstruction of the visual pathways of the map of the castles through the connection of the points identified within the three-dimensional model of the valley. We derive the collimation points that connect the identified landmarks.

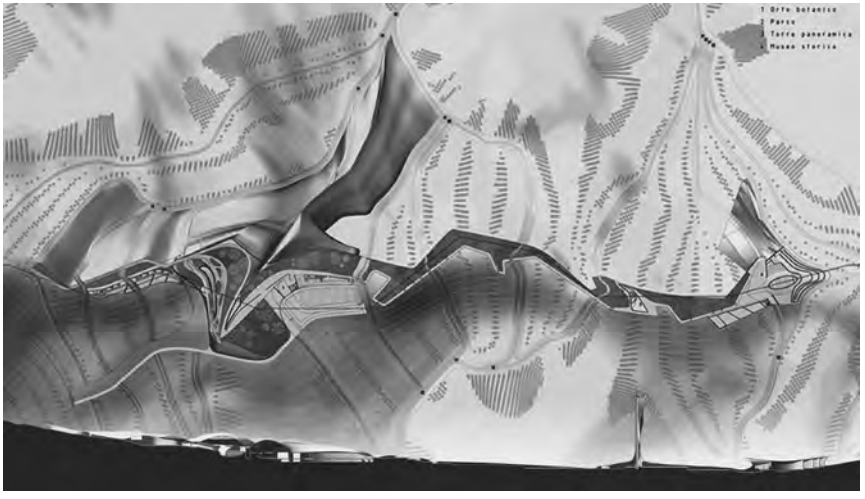
Vertical expansion
Identification of the height from which you can connect with the highest number of surrounding points of sight.

Horizontal expansion
The object is deformed by forces directed to the points of visual collimation. These points attract the tower structure, deforming it. Each point plays an attraction force proportional to their distance and ranges from 0 to 6 meters of movement.

Cut

The vertical element is split at the point of maximum expansion, creating openings facing the landscape, in direct connection with the surrounding castles.





MILANO
BOCCONI
CAMPUS*

/* To respond to the requests made in the competition notice and at the same time add a surplus value to the research project for the Campus Bocconi relative to the area of '*Ex Centrale del Latte*', the group proposes:

*/ analysis of existing plans;
*/ the study of urban elements of the plot (scenes, regulating plan, context, heritage building, ways and intensity of flows);
*/ definition of the Bocconi Campus as a new urban morpho-type and architectural entity that interacts with the local and urban space and also also with the regional scale where the city of Milan is and will be planned regarding to a scale a genetic framework.

At the architectural scales, the group proposes:
*/defining Bocconi Campus as Bocconi Smart Community Campus. Bsc2;
*/ defining Bocconi Campus as Bocconi Vibrant Campus based on the two recognition operations for the functions provided to its residents ,citizens, employees , teachers and students as well as the 'campus users' take advantage of the rare urban services through specific permeability of certain parts relating to the city;
*/ defining the Campus as Bocconi Campus 2.0. regarding the proposed sensitive mapping system, connecting paths: from pattern montage to the exploration of Bocconi Campus 2.0.
What we propose is a project that presents the conception of a new generation of maps that can record, critically analyze the complexity and heterogeneity of new spaces of relationship representing them in a dynamic and renewed manner, to produce 'unprecedented' and 'sensitive' images.

The research questions to be answered are:

Integration and continuity
How to promote the inclusion of the new area of Bocconi Campus -Ex Centrale del Latte- city context, through the definition of an image that represents the institutional figure of the university regarding a new spatial dimension which would be achieved due to new metropolitan relationships

*

Supervisors: Antonella Contin, Giovanni Santamaria
Team: Matteo Fraschini, Giancarlo Tonoli, Michele Moreno, Massimo della Rosa, Mirko Vescio

and processes. In fact the global system of infrastructure, transport and trade, triggers relational mechanisms that place the different urban entities on a plane which could be translated into growth and development for the urban area influenced by the density and size of the new genetic plan: the university Campus. Such mecchanism, however, arises the need to recover the roots of the size and specificity of the local sphere, for a re-launch and a reformulation process that redefines the condition of each involved city and its impact on the territory and the ability to retrieve the new scale as renewed forms of social cohesion and safety (Ravizza Park).
Accordingly, three orders of scale would take shape and clarity:
*/ local / district - contextual (sustainable street network, pedestrian and street circulation, metro, tram, train station, parking);
*/ urban / cities - contextual (techniques for interactive networks, metro, regional and inter-city networks);
*/ region / territory - contextual (high-speed railway, airports, ports).

Effects and impacts on the urban daily life

Operating the urban space- considered as a 'building practice place' offered by individual and the citizen's, as social actor, in the city- would represent a privileged place of common sense, where the mediation of urban forms play a fundamental role. In other words, while from distance it is recognized as 'place of desire', from near, it can be lived as fully viable field of appropriation of public space and communication in 'real time'.

Effects and impacts on the environment

Particular attention will be paid to issues related to the order of magnitude of the project, the paradigms of concentration/ diffusion, in relation to the three tiers of sustainability, entrepreneurship, urban, social and three orders of investments: energy, infrastructure and real estate. The project will focus on identifying/resolving compatibility issues between different instances of sustainability: business, city/ecology, society. Regarding the enterprise, the order of magnitude of the operation-financial business, is essential in international competition.
Regarding the territory and the city, the paradigms of integration of smaller scales into the greater ones are essential to ensure development and protecting the urban identity.

The problem of promoting skills, a variety of talents and development opportunities in the society, especially in Italy requires a very careful balance between preservation, alteration and innovation.

Method of contextual project

The cities we live in, are the outcome of a set of projects that have left their traces where there is a need to investigate the reasons and methods of articulation and re-articulation of tracks and layers. The open question for the current project is concerned with how to select and recruit critically in the theme, such complex knowledge statements: urban growth for sustainable development of urban quality, so as to achieve and maintain a balance between conservation and wise mutation. The design of the new Bocconi Campus will determine the new urban form of the area: renewed urban paradigm, which will encompass and integrate, working on specific sensitive points, the ways of the reciprocal articulation of parts of the city produced over the centuries: historic center, established suburbs, 'oil spot- like' expansion, spreading peri-urban (urban sprawl), linear formations or regional distribution areas (urban archipelagos) ... and will have to build the co-existence of different scale as according to F. Choay, we will call in the Old Town neighborhood scale or the representation scale within the walls of the expansion of the sixteenth century, the nineteenth-century expansion; Thus, the scale of the 'Grosstadt' expansion between the two wars, the scale of the peri-urban metropolis after World War II; knowing that each had their own forms of control and their own models or paradigms of internal structure. Such condition of the present society with its tools of digital connection in real time and its systems that define standards of worldwide accessibility, imposes the problem of global identity.

It's about designing the entire Bocconi Campus as one of the nodes of the map: one of the poles of articulation, its icon designator, and to communicate the potentials for development, to achieve the national residents consent. The project will have to understand and show the way it supports a higher quality of urban life.

We considered those items by studying the ways in which the city has experienced growth according to different temporal paths. Reconstructing the urban biography; the specific ways in which the urban formation has occurred from the primitive urban nucleus (ammunition of geographic foothold) and

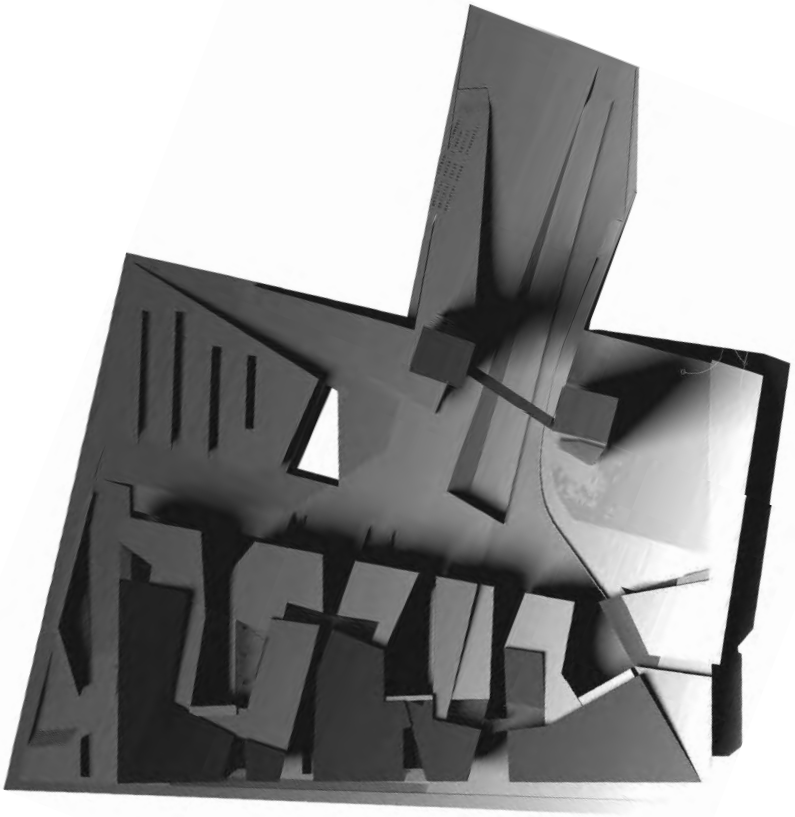
the development, in which critical thresholds required the design of progressive paradigmatic transformations from the original nucleus. Especially today, one must consider the intertwinement of different scales, their eventual unresolved interference and their possible coexistence, as the design capacity. It will be seen then that in the last two centuries, following different degrees of growth, there have been four changes of scale related to the succession of four thresholds of higher order of magnitude and their four paradigms of urban form: four ages of urban biography, each of which has requested the renewal of behaviors and lifestyles, and therefore also of architectural compounds. These paradigms are :
*/ urban planning and regulation;
*/ models Großstad;
*/ forms of urban sprowl;
*/ multi-scale forms of space of flows regarding the global network and 'city of the world' conception which is characterized by the synergy of communications and intercontinental movements of objects, people, information and images that are demanding new urban forms and sizes.

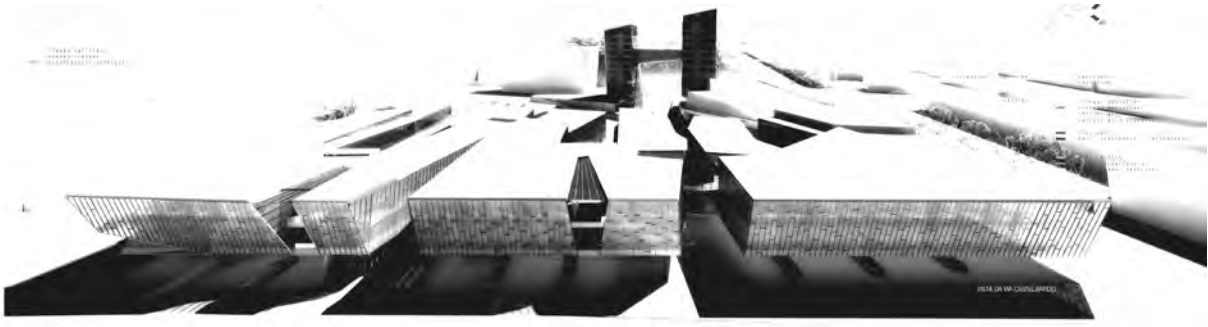
Multi-scale shape of which is emphasized today by the direct connection between the sites with multimedia equipment, stations or intermodal exchange places that operate on the surrounding context joining parts or uncoupling between them, introducing new ones ; connecting them in a different way, establishing new subordination, complementarity and supplementary competition; new hierarchies and inter-operation.
The Bocconi Campus is part of these new 'genetic' plans as they set the scale of the site off to the local scale in the city. We have primarily considered the value of condenser urban functions that from a typological point of view, would lead to new entities (municipal morpho-types) that are poli-thenes of the emerging parts of the city: (for example) a theme park or headquarter of exchange. It equips the space of flows and scales them towards spatial attractors within or outside the campus; complementary condenser functions. It is an urban morpho- type that operates - in the urban context - in the local scale of transformation according to following themes:
*/ polarized the local networks of fast or slow movement;
*/ induces new logistical equipment production/exchange, residential/hotel, new markets.

In a word, such considerations mobilizes and mutes the context, and dissects some of its parts autonomizing and arranging them to connect to each other according to new synergies.
This requires then the design of new integrations or relationships between separate parts, and imposes the problem of producing new forms of connection and living in an urban area caught by the irruption of the new urban entity. We considered unavoidable to look for ways to bring human habitability and problems imposed by the scale of the space of flows (that is the scale of the city we live in).
The prospect of the project arises then a question: how does it fit the Bocconi Campus at the scale of the great features of the area with respect to the manner in which geography has been interpreted by the history that has produced the existing map?
According to the examined local context, how does the project develops the future of that context to combine the space of flows with the identity of the place (Ex Centrale del Latte)?
We're still obviously in the Cattaneo groove of a history marked on the ground, but taught by the most significant concepts drawn from historical geography and from art criticism and theory of architecture.
In particular, we considered the idea of geographical foothold developed by L. Febvre used in any work which strengthens its foothold according to the human presence or habitability of public and private. We also considered the surrealist idea of Aragon, who not only understood the functional dimension but also the psychological one, which can consequently lead to personal/mental mapping that intimately participates in the common sense of urban society and above all, we have assumed the idea of congruent landscape art coined by Focillon - anonymous landscape - which becomes a sign of social psychology. Ideas needed to find the way of integrating artistic and technical dimensions with affective and symbolic operations in the production of urban space. And so that we can address the issue of symbolic mediators in somatic and inter-subjective dialogue between different generations of citizens. Therefore, we need to assess the values of - 'vastly expanded present' - (again Focillon) and 'superimposed' in the pre-existing context, which is a symbolic content and temporal mediator capable of distancing from the immediate daily to the future project.

Multi-scaling and urban biography related to the local signs frame the issue of the landscape in the context where the actual city imposes itself with the theme of habitability and also the theme of in-habitability especially regarding open green spaces, which despite being in the city spots, are perceived as insecure or neglected. The Ravizza park, not connected to a building whose density and size can sustain the scale of the park, in certain hours of the day, becomes a place where it is difficult to experience what Lynch called 'feeling of Adequacy' and Lacecla defines 'ease of space'.
Continuity in its geographical, physical and symbolic connection with the regional scale, is validated - in the urban scale- by the sustainable mobility (the Green Rays) promoted by the Municipality of Milan. The project area, in fact, can also be framed in the strategy of the Green Rays, which has been recently thought of based on the articulation and definition of green spaces in the city of Milan in a centrifugal system according to eight axis. The area of the former Ex Centrale del Latte - belonging to the corridor number 4 - stretches from Piazza Duomo towards Abbazia di Chiaravalle. Having the lack of public green areas in the city of Milan, the project BSC2 intends to renew its relationship with the public open space and to be inserted between green nodes of Ravizza Park and Ravizza district, enhancing the value of the fourth ray.

If the subjective and social experience helped to determine the safety of the citizen to exist within a social organism, the signs actually built in the city at different scales, would be the counselors elements to experience and memorize the space: every activity is designed to be able to return to where there is a place linked to the present time, that can be memorized and become a strongpoint of the mental map of the citizens. The history, therefore, is objectification of memory that can be traced in urban temrs, built-in forms delivered in signs, which represent the reinvention of temporal and progressive tracks by which we can understand our time, what has been and will be.





1 General Themes To Deal With

/* The project of the extension of Bocconi Campus is an occasion to reformulate not only the area where the campus is located but also a new integrated urban nodality where diverse functions, visual and symbolic values would have roles in the local community. The tectonic 'manipulation' lays on the lamination of the ground in different levels that catalyze and re-orient transversal paths and functions, public and private, interior and exterior, the horizontal and vertical circulation and also make them interact with each other. A new central square at three different levels (-6.00, -1.50, 0:00 m) is divided in such a way as to illuminate and visually connect different areas, creating a sort of rhizomatic nodality that permeates new volumes anchoring the new space to the existing ones in the urban fabric according to the dynamically articulated prospective. A roof garden represents a continuity element facing Parco Ravizza identifying an urban public space on a higher level along the avenue Toscana front. The alignment with the main thorough fares - for example in the case of the buildings with central yards of street Castelbarcos which accommodate classrooms and spaces for teaching - (on one hand) allows the transversal permeability through the suspension of the street quota and (on the other hand) consents the rhythm created by the vertical distribution of volumes articulated in individual buildings connecting them to the underground portion of the square. The systematic approach of the project is clearly legible from the organization of a compositional planimetry to the articulation of connective (elements); from a programmatic distribution to the introduction of sustainable strategies such as the realization of the roof garden for collection, filtration and reuse of rainwater, which circulating inside the vertical elements of the structure, ensures the cooling of the internal temperature; the creation of openings aligned (with the airflow) to ensure cross ventilation and higher in parts for a natural ventilation in hot weather; use of double or triple layer facades depending on solar irradiation exposure; use of geothermal energy for heating the pool; energy use resulting from the collection of compost gathered from the accommodation tower and the food on the underground part, as an adjunct to the internal heating. These are some of the strategies that place the new intervention in the ecology of the Milan urban future.

The manipulation of the tectonics of the project site, introducing a higher level of complexity through the development of the section with the formulation of overlapping layers and visual cross-programmatic relations, transfers the permeability of the planimetry composition to the development of elevated elements and internal volumetric relations regarding the posture of the new buildings, as well as the relationship of the latter with the context. In other words, such relations extends the city fabric to the inclusion of the two towers of the temporary residence -as a new spatial reference- creating a sort of transversal interaction between groundscape, cityscape and skyscape.

Innovation in the project design

2

/* The idea that the international research group ais to promote here, sees the project as an opportunity for proposing a non-traditional architectural experimentation: an approach that starts from an overall strategic vision for building a campus which is not only a community but also a strong image of the construction of Milan's future. This is to emphasize how crucial is the role of architecture today in the redefinition of such community through a series of spatial skills and imaginative, scientific and technical tools, experience and specialized knowledge which, for years, we have been trying to seek, train and field test in our group in a completely correlated way, starting from the early years of the Under graduate, through the master's degree, up to PhD. And having such horizons in mind, that rather than presenting the environmental, urban, relational, connective, morpho-typological, functional and executive architectural constitution of the intervention - both as a whole and with respect to individual buildings - we would like to present the integrated project for : BOCCONI SMART COMMUNITY CAMPUS - BSC2.

Bocconi:
The Values.

Smart:
The vision. Sustainability is not on technical efficiency, but on an integrated economic / ecological approach which also defines a life style. 'Smart' means a responsible management of resources, technology, environment and society. For an economic, social, energetic environment that involves people and covers the whole life cycle of buildings: a metabolic sustainable vision.

Community:
People. Each university is the community that represents it and embodies its values. The ultimate goal of the project is to provide spaces of quality that support the building of this community; a network of relationships and knowledge; intertwined Strategies related to the physical space and immaterial layers of information and interaction.
Space. The value of architecture; the construction of a set of osmotic space of knowledge; the campus as open-innovation environment and living-lab; A space that induces a new life-style: responsible and proactive.

The project BSC2 proposes an integrated vision that structures a precise physical, functional, furtive, virtual asset, with respect to cultural, social and experiential styles for the future of Bocconi cosmopolitan community. For a conscious low-carbon life-style that is part of the university experience.

The construction of the smart vision operates on three fundamental axis: social-urban, technological and media, energy and the environment. The general objectives (from the very first concept to the design process) are the promotion of users health and quality of life, the promotion of informal interactions for innovation, optimization of natural resources, reduction of air, water and noise pollution for maximum comfort, promotion of sustainable mobility exploring the role of new technologies and new media, empowerment towards a sustainable lifestyle, attention to costs related to the life cycle of buildings.

Social-urban axis:
*/ Porosity.
The project works for the integration of new areas with existing ones, promoting an idea of urban campus built on the values of relationship and interrelation.
*/ Informality.
The garage of Steve jobs; there would be indeterminate spaces of aggregation-testing for the informal exchange of knowledge and the development of innovative ideas that are put beside the pre-defined functional program.
*/ Access - Equal Opportunity.
The project is careful to ensure maximum accessibility to all potential users.
*/ Reception.
Typological and flexible solutions and indeterminate collective spaces -adaptable according to the needs of the settled community- will support the socializing of users.
*/ Livability and comfort.
Spaces are designed for maximum comfort with attention to natural environmental quality (passive systems: natural sunlight and modulated, internal ventilation, natural control of the temperature, visibility, clarity, distribution, etc..) and those provided by the installations (active systems: microclimate and moisture control, etc.).
*/ Privacy, security, community.
The articulation of spaces in their different vocations is functional with respect to a structured hierarchy of intimacy (or advertising) that helps ensure the privacy or the possibility of aggregation in accordance with the needs of all populations of users and according to characteristics of transformation and adaptability of the space.
*/ Collective and public open space.
The design of equipped collective and public open space makes them enjoyable in different ways in secure and confortable conditions. Such spaces are not transit spaces, but always qualified as potential spaces with attention to the microclimate and environmental quality that can be understood as their own spaces within the mental map of each.

Technological-multimedia axis:

*/ Wiring And Wi- Fi.

The network connection and the connection of the control systems of various services and facilities to the local network are accessible to all users of the community, easily connected with the world and each other. Wi-Fi space and physical space are designed in agreement to improve the chances of use of the spaces. 2.0_ digital campus community will be equipped with a 2.0 multimedia platform informative and interactive and integrated digital services. The definition of sustainable lifestyle promoted by the project depends largely on the accountability of users with respect to their consumption. The communication of the ecological footprint generated by the campus and users real-time help to encourage behavior, sustainable practices and policies on the part of all stakeholders related to the life of the university campus.

*/ Logistics And Logistics Optimization.

A digital platform will help the efficiency of technological systems in terms of safety, equipment, communication by reducing consumption and improving services.

*/ Passive energy gains.

Orientation, shape and composition of the intervention through the use of parametric design contribute to energy efficiency on campus. The ecological role of a landscaped park contributes to the definition of a microclimate.

*/ Active Involucre.

Reduction in the use of artificial illumination thanks to high-tech and smart designed involucres through the use of parametric design software; active -interactive building.

*/ Design and Construction Process.

Phases of design and construction must be geared towards ensuring a low environmental impact: preference to solutions of prefabrication and industrialization - use of materials with environmental certification.

*/ Life cycle of the buildings.

Maintainability and durability, cost-benefit analysis over the entire life span of the building for the solutions chosen in consideration of the process of maintaining, processing and replacement due to deterioration.

*/ Environmental and Economic Sustainability.

Assessment on the white certificates for energy efficiency for lighting (according to regulations); Pay-back of the lighting strategy.

*/ Renewable Energy.
Integration of photovoltaic cells for electricity production, solar panels, green roof, energy from the production of compost and geothermal.
*/ Minimum atmospheric pollution.
Central co-trigeneration to minimize pollution related to the production of heat and cooling.
*/ Minimum water pollution.
Attention to the permeability of the soil, re-entry of rainwater into groundwater after appropriate purification process. It will also enable solutions to reduce water (rainwater harvesting, devices and sensitization). Double circuit and use of gray water, cooling water cycle inside, etc..
*/ Minimum acoustic pollution.
Adoption of innovative solutions and restrictive criteria for the quality of the noise climate. Sound insulation of spaces according to different degrees of protection.
*/ Urban solid waste management
Responsible management of municipal solid waste and compost production.
*/ Functional and characterological Axis.
Understanding the project in terms of its main specificity in its relationship with the surrounding activities and spaces; We believe it is necessary to recognize existing information in order to make new ones, if necessary, to improve and enhance the user's life. For this purpose four different layers were chosen: Administration, education, support services and leisure. These aim to describe the characteristics of the user: for example, who are the users, where they lodge and where they go. It is the task of the architectural design to create spaces that do not determine purely functional roles but rather as a project in a baroque theater, both able to build the scene relevant to the actions that must take place there.
*/ The parametric design between ecology and urban typo-morphology.
Today, we are witnessing the results of a sudden increase of the measures and the scale of the urban settlement, combined with a heavy infrastructure network in the territory and a large formal and functional complexification of its nodal poles. Due to the large size and complexity that characterize the spaces of the contemporary city we face a problem of economy and ecology of the new urban paradigm: the issue of sustainability, now used and abused by countless scholars, however, should not only attribute to question merely

regarding performance and technology. If, in fact, today we are unfortunately forced to deal with a serious environmental problem and a worrying global economic crisis, it is not difficult to realize how critical is the cultural condition: we could even argue that this is precisely the root of the general crisis situation, which affects every aspect of the contemporary world. The urban organism must be , in fact, compared to more sustainable issues: surely the environmental and economic, but also necessarily the cultural one, which means - in the broadest sense - society, politics, institutions and the peaceful coexistence of different people. The feeling of connection that binds one's body to a certain place , since that is where intensifies his time, arises from the renewed need to assign a value and a sense of the relationships between people, places and things. Unfortunately, today's problems are more addressed based on themes purely related to performance and comfort: every area is fragmented into hyper-specialized compartments, each voted only to its legislation, and losing sight of the whole party and its composition.
The sustainable architectural design has a long history which takes its first steps from classical treatises , however today only some of the techniques and methodologies related to the use of sophisticated digital tools - which structure unprecedented design possibilities - come into play. Through the use of programming techniques and computer software for parametric design, the design process can be linked to certain factors, or parameters, which are identified as fundamental and generative: the compositional strategy is structured from a design matrix, an algorithm, which combines elements and operations in an optimized way and linked by a complex network of relationships of cause and effect. The analysis of solar radiation and the fluid dynamics of wind were considered as two fundamental factors in the relationship between the design of the new intervention and the environment. In order to operate these analyzes and simulations, climate data collected by the weather station in Linate airport in Milan were considered:

*/Solar Irradiation.
The average daily solar irradiation in the two extreme situations is rated: the summer solstice and the winter. Accordingly a simulation of the different daily time zones is carried out in order to clearly identify what are the more shady areas and which ones are the most enlightened.

Moreover, values of solar incidence on the surfaces of the facades and roof are also assessed. Such parametric analysis has been set to the design of the facade detail, able to regulate the exchange of heat between the inside and outside.
*/Wind.
In Milan, the two prevailing wind directions are: from the southwest in summer and winter; from the east in spring and autumn. The average annual rate is 3.1 meters per second. From these data, through a fluid dynamic simulating software, a model of wind action is built which shows how wind flow influences on the area of the project in order to structure the new intervention in an organic way. The geometries that compose the new architectural entity supports the passage of these winds so as to allow a continuous flow of air. The permeability of the new complex of buildings is ensured by a system of terraces, sloping floors, patios and transversal walkways that contribute to the complexity of creating spaces typical of the ancient Italian city: an urban landscape built on a number of indoor and outdoor spaces.

Bocconi Vibrant Campus

Problem Statement

We intend to propose the concept of Vibrant Campus for Sustainable Bocconi Campus, starting from the definition of the characteristics of sustainability. The design of the new urban morphotype must meet the characters of energy, economic and social/cultural sustainability. The question we ask is, therefore, the transition from a pure urban home automation using the 'technological efficiency', to the description of new patterns of landscape through the construction of a system of physical and virtual, synergies and osmosis interface, that through new technologies would create a 'high quality environment' with respect to habitability and practice, as indicated by studies on the Information ecology: mastering the information and knowledge environment.
According to Erwin Strauss, there is a need to distinguish between perception and sensation: the feeling of corporeality -the senses- is something instinctive and reflexive . Perception is a 'secondary rational organization of 'primary'; a non-rational experience of feeling or sense is the 'intellectualization of corporeality'.

The size of the geographical area is that of the perceptual world, where things are fixed and unalterable property with the objective concept of space-time. The landscape is the sensory world, a space where the reference point moves continuously as we move. '*We have to produce the necessary telecommunication infrastructure; create innovative places to form intelligent electronic hardware in addition to traditional architectural elements and develop the software that activates those places and makes them useful.. (...) we extend the definition of architecture and urban design to understand virtual places as well as physical ones (...)*' William J.Mitchell - dean of MIT.

Project Operations

*/ Recognition.

Understanding the area in which we are working, in terms of its main characteristics and its relationship with the surrounding activities or spaces. Becoming aware of the existing elements, and to make new ones, if necessary, is a useful operation to improve and enhance the user's life. For this purpose, four different layers were chosen: employment, education, support services and leisure.

*/ Resonance.

The continuous process of relations between different environments and users. It is useful to provide information on how users interact within the university campus and the surrounding environment. For this purpose we considered how users interact with two different layers, which are those that offer activities or services acting as attractors of people: areas for leisure and business support.

*/ Reaction.

Public space is the definition of the quantity and quality of interaction between people. Its open and constant nature makes it an element better able to integrate the multitude of social profiles and personalities that come together in a city. The study of flows becomes a tool to outline our design approach: public spaces and voids, are often used by people in a way that respects their physical form, and the nodes within them, as well as the fact that certain areas are attractive, depending mainly on the occasions in which they find themselves rather than their design. People live in the gaps in their own way and characterize them with new meanings. The project therefore intends to work on the quality of the physical space, considering the actual use of the space.

The Project Themes Regarding the City

It is a rethink of:
*/ new matrixes of landscapes (Paesaggio);
*/ new soil;
*/ new layers;
*/ new modules and measures.

Through a strategy for section that produces grafts of measures, integration of functions, reversibility of use, recognition of the values of the places on the citizens part (both living in the campus as employees and city users, faculty and students). The goal is to create a unified and homogeneous restoration and configuration of the constructional, locational, dimensional and fruition structure through the definition of:
*/ fulcrum areas and centralities at different scales;
*/ landmark: concentration, diversification, expressiveness;
*/ access portals;
*/ ground.

Functional analysis of the field

*/ Planimetry of open spaces according to a logic network;
*/ Measurement of the elements that settle the campus area (not intended as the paddock to the city);
*/ Relation of the campus with sustainable mobility (green rays) and the green areas in the project;
*/ Study of possible urban green materials for the construction of urban voids: urban design and urban interfaces.

Project strategy

Through the synergy between two levels:
*/ functional;
*/ perceptional: symbolic intermediary/attraction; symbolic mediator/witness. The theme is to create a sensational space: spaces that stimulate proactive personal experience of the environment. We start from the consideration that the public realm is now the result of the integration: information systems, movie sets, appearance of space, or the place where to show and / or learn a life style.

Through two design documents:
*/ external recognition: as in functional and spatial terms Campus resonates with the city;
*/ internal recognition: what is Bocconi Campus for its inhabitants (educational or employment), or Campus User. Resonance and Vibrations with the city.

Objective

Democratic space for an temporal equivalence of using the space/campus.

Project - Topics of the dispositive configuration

The competition requires the generation of functional and perceptional hubs: the perception of the centrality through the configuration of the dispositive, makes legible the aggregative function that the shape/image defines within the distributive configuration.

Problem

How to transmit the value of centrality through the dispositive, distributional and technological configuration?

Recognition

Outside. How does campus 'resonates' with the outside world? - In functional and spatial terms -.
Internal. What does Bocconi contain? Current functions and spaces.

Resonance

Lines that connect the campus to the urban road and topological diagrams for internal flows associated with the use of proximity.

General principles of inclusion in the context.
Dispositive Configuration

The first phase of the study is developed through the analysis of existing plans. A first plan that highlights all the key elements of the former '*Centrale del latte*' as an existing buildings (relating to the Bocconi Campus Residences), and a second one that highlights the key elements of the study area, in terms of connections and internal functions to the campus and the city.

Study of the elements of the urban interlacement:
scenes, regulating traces, built heritage
Study of urban scenes

Remarking several functions -established at the design stage-, we described a set of patterns of use, and modes of living the campus which are diversified internally and in relation to the neighborhood. The users were divided into permanent residents (students, professors and employees) and people

"futurist" or ordinary citizens who have taken on as a lifestyle (here is the reference to futurism as a real lifestyle choice) whether to attend the Campus university, as it qualifies and intensifies their time. Each pattern of use was "set" in a scene featuring its specific micro-reality, through the construction of a screenplay by spaces which considers always the local 'moment', identified by a powerful image of its entry point and placed in a wider scene determined by a 'wise play' (Lynch).

Study of the regulating traces and the urban fabric

Study of passable ground. The urban fabric is studied to analyze the accessibility of the campus from the outside and its internal accessibility. The term 'path' is not identified only as a two-dimensional image but also as a way of reading the sections (scenes) of the urban flow analysis -inside or outside the campus- and as itinerary maps: slow , fast, etc. and transformation of these itinerary maps at different hours of the day. We identified accesses closer to dense places both inside and outside the camp. The latter have been identified both in relation to functionally important sites in the existing Bocconi Campus: the bank, the post office, the CUSL, etc. with respect to the area outside the campus where essential functions are located (Shopping Centers , Libraries , Restaurants , Stationery/printing, etc.., subway exits). These will identify emerging places of the project. The flux network is then converted into a stand that expressively, through its form, brings out the fact that if the urban and metropolitan scales are linked to a series of linear paths, when we go down to the local scale of Campus, the proximity relations are converted into a areal, topological and rhizomatous dispositive. The soil, then would be a pure ground which is also considered an element intimately linked to the morphological process of architecture that involves not only a point, but a vast field of space. Through the Bocconi Campus, the city of Milan is contaminated by art; a Study of local micro-forming recovery within plots to larger scale, to verify the places and the needs for the degradation or development. We not only studied the relationship between streets, blocks and building types for regulating a microcirculation in the center of the campus, but also dealt with the relationship between several orders of size between

Campus and outdoor spaces; Identification of the Unity of intervention, of 'what' and 'how' should the intervention be (digits); minimum units (blocks); Study of parts of the project in relation with the context. In particular we have considered the relationship with the residences, facing Bocconi Campus.

Analyzing the site of 'Ex Centrale del Latte' at the regional and urban scale, strengthened the interpretation of Bocconi Campus as a new urban morpho-type to the scale of the net-city, which must be in harmony with the local scale, assuming the role of a landmark regarding the territorial scale.
The new sector of the Campus not only interacts functionally with the oldest buildings, but also visually with the most recent expansion which confirms the relationship with streets where there is also the new internal yard, a transparent one. The place slightly behind the yard allows the view and access to the floor -1.50 in connection with the internal squares, is integrated to foyer and entrance hall. There have been highlighted relations with sustainable street network - planned by Milan municipality - and the green open areas that would address Bocconi Campus as physical, visual and functional area. The towers will provide not only a visual landmark at the regional scale, but also with their physical and functional landmark will stand for the local scale: new Propylaeum from the park Ravizza as a physical sign of the threshold between inside and outside. The base that embraces them, mindful of Ponti's teaching becomes the medium to the context in the anthropometric scale.

General principles of the functional distribution.
Distributive Configuration
We have produced some interpretational schemes concerning the relationship between the functions and density, both in plan and in section.

The project of places "relevant" to the functions.
School of Management, Bocconi University Cafeteria, Bocconi Store
The *Cortina*.
The permeability at the street level is obtained through the suspension of the main volumes of the Cortina on the Via Castelbardo whose structural system consists of large concrete pillars and septa, the first are organized in an

irregular rhythm that follows the contour of the volumes, while the latter are distributed according to a geometric mesh and repeated that identifies modular placement of septa and vertical connection.
The 'Cortina' on the via Castelbarcos was conceived as a series of modules on a continues layer at -1.50, -6.00 and 10.50 level. At the street level the blocks with 'C' form are separated by openings, which act as optical cones of sights to the inner 'piazza' or at the level -1.50 to the 'piazzas'. Each block is functionally characterized and distinguished from others by means of a stairwell that, as it was in Italian culture of the 50/60, does not perform only as vertical cutoffs, but also being strongly an expressively characterized, features perceptually each block different from its neighbor.
Through an analysis of the relationships between spaces and in order to make easier and more efficient functional synergy between the parts (Bocconi Vibrant Campus), we have focused on consolidating the belief that the project of the School of Management is essentially a project of section able to determine the scenario of a renewed university life. The anthropological temporal dimension of the physical space is understood by us as the basis of common sense and must be designed likening it to a semiological system capable of knowing how to influence human in space. The section of buildings for teaching and administrative functions related to it must be able to accommodate public spaces and areas where teachers and the administration can meet even casually. These are obviously fluid spaces: 'General' undifferentiated spaces open to all uses that define a freedom of form that has established itself as autonomous and autopoietic value.

Recreational Center.Configuration and Program

The recreation center, located in the southern part of the project site (Viale Toscana), arises a sort of continuity of the system consisting of the existing green Ravizza Park, through the construction of the roof garden connected by external ramp, as an extension of the current streetscape (via F. Bocconi). The same green roof, contributing to sustainability of the intervention through the collection and recycling of rainwater, therefore, supports outdoor sporty activities such as soccer field and the race tracks, providing an opportunity for more recreation programs that engage and integrate the surroundings community.

The main elements of the program related to the Recreation Center are planimetrically organized in connection with emergencies or selected references to the surrounding urban context and are organized through a comprehensive layered vertical section which interacts with other parts starting from the lower level:
*/ the main volume of the pool at -6.00 m (2400 m^2) oriented along the direction of Via Tuscany and consists of a double glass wall which is perforated in relation to need for privacy and reduction of solar irradiance;
*/ the suspended at +7.00 meters that houses the basketball and / or volleyball (2400 m^2) is rotated respect to the first one in the direction of the university residences designed by Muzio, also directs the basic structural system that supports the entire roof, according to the same three categories of 'Muzian lame';
*/ the roof garden with altitude varying from +12.00 to +16.00m (3850 m^2) which opposes its organic-profile derived from the study of passing flux by binding overlooking the park, to the rigid structure of the new micro-urban plan is derived from the study of the matrix in Milanese '800 blocks;
*/ the two towers with heights of +58.00 and +48.00 m respectively in the south and north: which are modeled upon the guidance of the new headquarters Bocconi, are designed to be temporary residence for students in case of the higher one in the south, and welcome area to teachers and students and foreign researchers, in the north, forming a sort of memory of the 'Gates' of Milan with their bridge structure at the higher plan, where are the environments for collective functions able to put horizontal and vertical interaction according to cultural background and expertise of its guests.

A number of ancillary functions integrates and enriches the complex layered structure with internal functions such as:
*/ foyers: placed at different heights, are connected to each other within the large glazed atrium along the north side of the building towards the new inner square. The entrance hall/main foyer for access to the areas gymnasium, swimming pool and connective vertical element which allows to reach the volume of suspending basketball courts, respectively, are located on Via Bocconi and Tuscany avenue at street level: (0.00 meters) and to the internal piazza at the same level

where is also located the main entrance of the piazza at (-6 m), connected internally to a portion of the mezzanine (-1.5 m);
*/ café volume (2850 m^2) is located just at the entrance to Via Bocconi and following the foyer, intersects the swimming pool area, interacting visually with it.
*/ children's gymnasium on more levels (8000 m^2) that is distributed along the glazed elevation to the new inner square and situates in the last two levels, the placement of "special rooms" suspended from the roof structure where there are spaces for special functions related to fitness (yoga, pilates, etc.), Reached through suspended paths connected to the three vertical blocks that constitute structural solution and together are connected to distribution of the basis level.
*/ the 'trenches' crossing across the entire volume as large beamed living space below the large roof garden, leading to the 'observers' on the city in the southern prospectus of Tuscany Boulevard;
*/ the media center: located in the part where the volume of the Recreational Center intersects that of 'Cortile' on street Castelbarcos, and is accessible at street level through the small square generated by the retreat of the facade on avenue Tuscany, obtained by extending the same direction of road axis. Here, along with the foyer spaces at street level, are placing the radio station and television Bocconi at piazza level (-6 m), and a space for events also open to the surrounding community is located at the last two levels, where it comes from the sloping roof garden (+16 m) accessible from street level via the ramp in continuity with Ravizza Park, via Bocconi;
*/ technical and service spaces: they are localized within the big three 'portals' that constitute the main structural support and where the vertical connective element is also located, while at the pool level (-6 m), are changing rooms and spa areas bellow the foyer.

Structure

The main supporting structure of the big green roof and suspended volume of the basketball courts, operates through a system of consecutive and parallel 'primary portals' (north section of 3x5 and 3x3 m, south with a height of 20 meters from the lower level at - 6.00 m) oriented according to the existing buildings on Muzio via Sarfatti. Three bigger ones,

also include within them the connective vertical element, the emergency exit and some of the service areas, while in the horizontal 'trench - beams' where the basketball volume is partially suspended , we find 'special spaces'. A secondary system of longitudinally oriented beams stiffens the structural grid of the great cover, while exposed beams starting from the major cable-pillars of the vertical connective element, support the suspended volume of basketball area working as 'bridge structures' for the reachability of space to its inside. A metallic structure supports the glass facade on the north side of the square to the new recreational/university core.

External Area

A similar approach to that is used for the Cortina Via Castelbardo and applied to the prospectus oriented to the south of Tuscany Avenue where there is the suspended volume of the basketball courts, within a continuous wall in Kall Wall (46x140 cm) differently oriented to define an articulated pattern with a system of solar radiation shielding with panels of perforated sheet. The same sheet, but with a higher concentration of perforations, is applied to the volume of the pools, ensuring a certain degree of privacy. The north wall of the recreation center, towards the new inner square is made of glazed transparent screen from a heterogeneous texture of metallic louvers, which guarantee a perfect visibility of the interior spaces dedicated to the gym and rooms for special functions.

A high transparent photosensitive surface defines the volume dedicated to basketball courts, leaning on the front of Viale Toscana. In this way, this would record environmental changes related to meteorological phenomena, translating them into qualities of color. The same volume act as a projective surface on one of the most important urban arteries.

Bocconi Cafeteria and Bocconi Store

The requirements of the competition for these areas indicate the demand for places to accommodate the tools and technological systems, to encourage socializing and interaction among people. In addition, the notice requires a store and a bank which of course will have to interface with the new technologies.

What we propose is a sensitive mapping project for the Campus, which presents the conception of a new generation of maps that can record, critically analyze and dynamically represent the complexity and heterogeneity of the new spaces of relationships; to produce images: 'unprecedented' and 'sensitive'. The aim is therefore to disclose ways of accessibility and to predict and calibrate the 'pro-active feedback' of various events inside the campus and in the city. in a time which is free to just in time , turning them into a meaningful process for amending the district, with the value of permanence. This establishes a strong link between perceptual and programmatic specific sites, the entire city, the neighborhood and the Campus, in its various meanings: identity - social, productive - economic, recreational, connective - infrastructure, regenerating and strengthening the entire network of actors involved, from public to private, from the local to the urban.
Creating virtual sensory information and the process translation/filtering abstract data into images with a high value, requires a limited use of resources and a great physical impact (spatial and economic sustainability), by maximizing interactive networks capable to promote simulations and immersive experiences in relevant contexts, known and unknown, within the Campus, neighboring (for example Ravizza Park which is not only Park of the city and district yes, but also deeply connected to the Campus) conceiving these media as an extension of our body in space and time, we can reduce distances and effectively synchronize all the elements of a complex and expanded information apparatus.

We intend to interpret the entropy of trade as a light infrastructure, or as an instrument of upgrading and transformation that the Campus offers to the neighborhood and the entire city, through a process related to a rediscovery of the deep memory of the places, and of knowledge concerning the present condition, as a projection of its potential implementation.
In such way we propose the construction of a "sensitive reactive proactive network of nodes", through the use of alternative mapping tools such as augmented reality, GPS, embedded technologies, fast tracking systems.

The first positive impact of building inside the landscape of the campus is the possibility of walking through its ambient and observe it. Places and meanings are conceptualized only when they are put into a context and connected, so that they can forge a new and larger narrative. Kevin Lynch, recognizes in his travels: 'characteristic elements'. He analyzed spaces of each area, orientation, image in the middle distance, different details at eye level, paving, activities, movements, sounds and smells. The promenade of Campus is composed of nodes and links.

It is possible to conceptualize the campus regarding the urban system, integrating characteristic fragments into paths as a collage of campus aspects.

Using thematic content curated by experts (the history of the architecture of the campus, the history of the various past and present protagonists of the University and also contemporary events, etc ...) and characterizations of spatial and visual analysis of Kevin Lynch we can realize different patterns, modular elements and infinite paths that start from the Cafeteria is the place where you will find interactive devices that allow you to choose the theme of the journey across the campus and across the city. These paths are the narratives necessary to formulate a new mental image within the system of the campus and its both internal and external relationship, depending on the time of year and the day, and depending on where the user will find these, he can interact with contents and suggestions offered by mobile devices (smartphones or tablets) in augmented reality applications or interactive maps.

The proposed scheme called the diagram of 'interactive storytelling narrative', is meant to verify relationships that link users to places to the mental mappings which bind together different elements that characterize the spaces of the Campus. We try to monitor the possibility of interaction between different devices and locations, as well as that of among users. To do so we consider: the ways of the business among people, possible interactions between users, their movements, time of use of the device, different tones of the habitability of spaces from 'intimate' to 'public', users profile, narratives, the artistic operations that can facilitate the communication of the contents of the narratives, etc.

Bocconi Dorms

The residential tower - as requested by the competition notice - is interpreted as a landmark for visual collimation towards the artery as well as a landmark at the local scale as the Propylaeum to the Ravizza Park Campus. Moreover the base of the entire Campus is the very foot of the towers, which is already a reinterpretation of the Pirelli skyscraper by Ponti.

Configuration and program

the configuration aspect related to location and orientation of the two towers: the higher one (14 floors in 60 m) in the south facing Toscana avenue will be used as temporary residence for students, while the lower one (44 m) facing Scarfatti avenue will be used for teaching staff and researchers. We can notice two main axis created by the direction of these two towers : that of the new building Bocconi -at level zero -, and Bocconi dorm of Muzio - at the roof level -, that would determine the complex three-dimensional torsion. The interplay between two important moments in the evolutionary process of Bocconi, assume a powerful symbolic value which screens the institutional nature of the university towards a future perspective and a potential historic continuity. The two separate entities with their divided functions will converge together in a two floors devoted entirely to collective spaces of sharing and informal exchange of cultural approaches , experiences and knowledge.
Regarding the programmatic aspect, the south tower which is composed of four levels within the recreational center (-6.00, 0.00, +6.00, +12.00 m) includes service areas and meeting point between flows levels. The big entrance hall to the residences is directly connected to the roof garden (+16.80 m), this residential building has eight floors for the university residence with 3 apartments per floor , respectively, 4, 3 and 2 beds each (tot 2.500 m^2). These are also two levels of shared spaces in the connecting bridge between the two towers. The northern tower, the lower one, includes service spaces such as laundry and storage in the basement (at -6.00 m) and an entrance hall (at level zero) where two there are 8 floors used for residential units for faculty members and outside researchers with 4 apartments per floor and 1and 2 beds each (total 1990 m^2), the two higher floors plans are meant to be commune and public spaces.
Both towers - cut according to an inclined plane in continuity between the two directional - include solar panels on the roof

for the internal heating and a rainwater collection system that will be supplementary than the gray ones. Similarly, particular attention is paid to the recycling plan for the compost production in the underground floor, whose energy will be reused to heat the public spaces within the tower.

Structure

The main supporting structure of both towers consists of central core made of concrete containing the connective vertical element and service areas which also support insoles of each level. This is supported and stiffened by the steel nest structure and the façade skeleton which is turned on itself.

External Area

The three-dimensional fluid manipulation of the two towers, in line with the northern 'soft wall' and the coverage of the Recreational Center, being live dialogue with the rigidity of the volumetric development of the 'Cortina', declines continuity of the surfaces of the diverse modulations regarding geographical orientation, relations with the environment and visual directionality. The external elevaitons towards Viale Toscana, Via Sarfatti and Via Bocconi are made of solid walls, with regular openings, while the internal elevations among the towers and those in relation to the new square - the hub of the activities of the campus - are light made of stained glass with metallic support structure and double - layer shell made of metal mash, variously articulated and distanced from the glass wall. Such solutions to provide privacy and a differentiated interior lighting in relation to the intensity of solar radiation and the corresponding internal program. Such stratification, defining a kind of slip surface, provides visual and relational dynamism and heterogeneity between exterior and interior, especially in the case of the two internal walls of the towers that face the whole extension of the elevation which follows the deformation.

General principles of inclusion in the context
Constructive Composition

To obtain the expressive composition of the facade we used outputs derived from parametric analysis. The conformation of the facade remains unchanged over the entire surface of the classrooms volumes with the only variant of the type of glass used in the internal courtyards. The choice was determined by the different orientation perception and use of space.

On the side facing the city the façade is more rigid and material while in the more intimate space of the courts, where there is a demand for a greater dialogue between different functions, spaces, and flows, the facade is dematerialized by the use of low-emission double glazing glass with argon interposed and thermo-transmission with a value equal to 1 W / m^2 K. The facade facing the streets is made of solar protection panels of type OKATECH.
There will be a double isolating glass, interposed with a wire mesh; a perforated sheet copper whose manufacturing process determines not only the aesthetics, but also the energy performance: it is configured as an element of technological design.
The mesh enclosed between the two glass surfaces reduces glare and solar radiation leading, in the long term, to a radical reduction in energy costs. The mesh is the only device needed for shielding the sun and ensures in any case, the view towards the city and the courts.
When the sun is high, the mesh fences completely sunlight and the total transmission of solar radiation will become very low, with values of about 7-15%. To lower elevation angles, the total transmission of solar energy increases. When solar radiation affects along the perpendicular vector to the surface of the panel, it will reach the maximum value of the transmission, which involves the transformation of the shell from solid to transparent. This type of glass allows a sunscreen with seasonal contributions of solar heating in the winter and heat protection in summer.
The technological solution of the facade, having a purely aesthetic function, has been studied in detail to permit optimum plant integration and at the same time, reduce heat loss and radiant. Along the the courts, in fact, heating convectors are installed providing environment with pavement heating system, while cooling is via fan coils installed in the ceiling with integrated air hose in the facade.

General principles of inclusion in the context
Landscape Composition

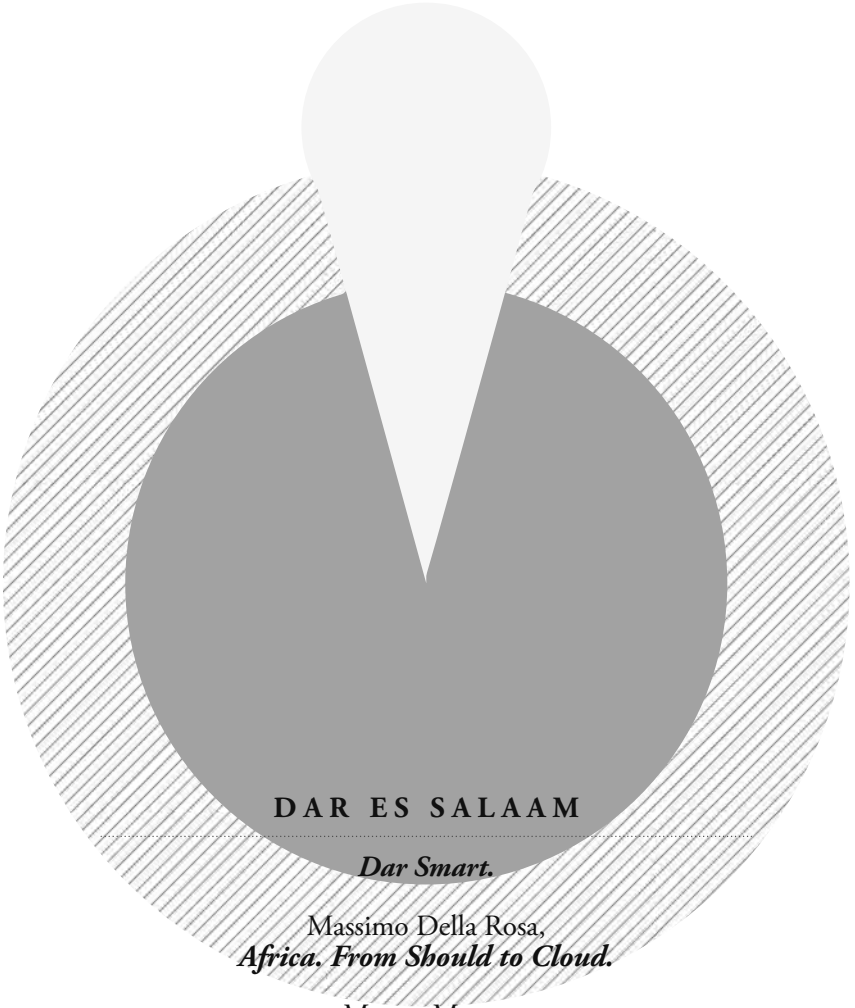
The design of the green areas in the BSC2 project, offers open spaces polyhedral expressions of university life in the. The collection of events hosted in the park and gardens are proceeding according to the time and manner of informal flows as well as spontaneous trajectories on the open space -formal-.

The distinctive character of continuity of green infrastructure has been thought to enhance porosity and fluidity able to connect and strengthen new green areas and the existing one. Moreover it would enhance the quality of urban life and regenerate the sense of comfort in the local context. We also tried to involve the time factor in the design of both green and public space areas.
As Jane Jacobs explains in his analysis of urban parks in the neighborhood, a variety of spatial and functional services would bring to the sense of enjoyment as a condition of survival, care and safety feeling.
Regarding the adaptation of different species to the project site, there will be variety in their color, size, smell and perception during the seasons.
Regarding the spontaneous manipulation of green areas which are treated in a homogeneous way - as in the case of American campuses - they are meant to assume a geometry according to the furrows of repetitive paths naturally generated by the population transiting.
Regarding the passage through the open spaces that offer spaces for different times and manner of passage: walking, running, bike, etc.

Secondly, we focused on different 'sharing' gradient that public space and green area can and should offer:
*/ open sharing and the colors of the Park Ravizza : especially at important academic or urban events, which consists of numerous and large gathering in the central square facing on one hand new buildings and on the other, between the two towers;
*/ selective Sharing the open space: referring to the finiteness of the garden where we applied a more detailed design of green spaces and its equipment which can create possibilities for recreation as well as outdoor gathering for individuals and groups;
*/ the visual and olfactory enjoyment of a green apparatus applied as a spatial ornament and to filter loud noise and also to ensure the sense of safety.

Based on these considerations we chose specific treatments of various green areas according to the fact that their use would have a public dimension -students, professors and city users -. Through the use of a flux condenser basement, a sort of continuity would be created with Ravizza Park, that if looked at the regional scale of the urban morpho-

type, it is necessarily tied to the Campus. In other words, the campus itself reactivates the meaning and function of the park Ravizza and connects it deeply to the city. the fine detailed design of small open spaces refers to the experience of Landscape Urbanism in the great American campuses, and thus responds to the spatial requirements and specific use practices and lifestyles related to the academic demands.
The choice of green species, in particular with regard to the tall trees, is applied in continuity with the floristic richness of the nearby Parco Ravizza, which has a variety of tree species among the most interesting in Europe and is geared towards using resistant plants, characterizing a visual and olfactory perception in a harmonious dialogue with the built environment.
Even the bicycle and pedestrian paths are designed in harmony with those of the nearby green areas and are equipped to provide a satisfactory quality for the park.
The parking entrance for the entire area is along the way Castiglioni - as shown in the flux diagram - so as not to create conflicts with the heavy traffic of the ring boulevard of Tuscany. The extension of the parking is subdivided in the basement underlying the building to the North Tower. ○



DAR ES SALAAM

Dar Smart.

Massimo Della Rosa,
Africa. From Should to Cloud.

Matteo Motta,
Formalizing the Informal.

Serena Maria La Placa,
Temeke, Mtobi.

Danilo Vicente D'Amico,
Urban Regeneration Through Landscape.

TANZANIA

DAR ES SALAAM
DAR SMART*

/* Dar es Salaam (Tanzania) is an urban region with 3 million inhabitants and an exploding growth rate of around 4 to 5 per cent per year (2011). Since the 1980s the high urbanization rates in the context of fluctuating economic growth, compounded by weak institutional frameworks, have contributed to the proliferation and densification of unplanned informal settlements that now host 80 per cent of the population. While the consolidated urban centre in 1945 was confined within a radius of 2 km, the urban area in 2010 reached 30 km from the urban core along its main radial axes. The unstoppable dramatic rise in population has led to an increased demand for basic services and infrastructure. Administrative boundaries have been overgrown, resulting in mobility, environmental, social and governance conflicts.

The geographical structure of the Dar urban region is heavily characterized by the hydrographic system, in which water has carved out the landscape topography. Various alluvial river basins run through the city towards the coastline, the main geographical reference, creating an archipelago of formal and informal settlements kept together by the mobility system. But this apparent abundance doesn't match a proper management of water as vital resource, which is becoming an important issue for the quality of life of its inhabitants. Infrastructural deficiencies and uncontrolled densification make accessibility to clean water a problem and the inadequacy or absence of sewage and solid waste management is a risk multiplier with important health consequences. Moreover, seasonal heavy rainfalls on arid basins represent a great risk for water pollution and flooding, especially where informal settlement disorder invades the riverbeds.

Despite the environmental decline and the massive urbanization, in 2010 urban farming still contributed to 20 to 30 per cent of the household food supply and the lack of planning tools protecting it is causing air and water pollution and climate change issues to destroy this resource, which is fundamental to keep the ecological/economic equilibrium needed to feed growth and welfare.

Our research on Dar es Salaam started in 2011 with the aim of promoting a sustainable vision and strategy that we called DAR SMART. The structure of Dar Es Salaam can be read as orbital-radial and it is currently collapsing with severe traffic

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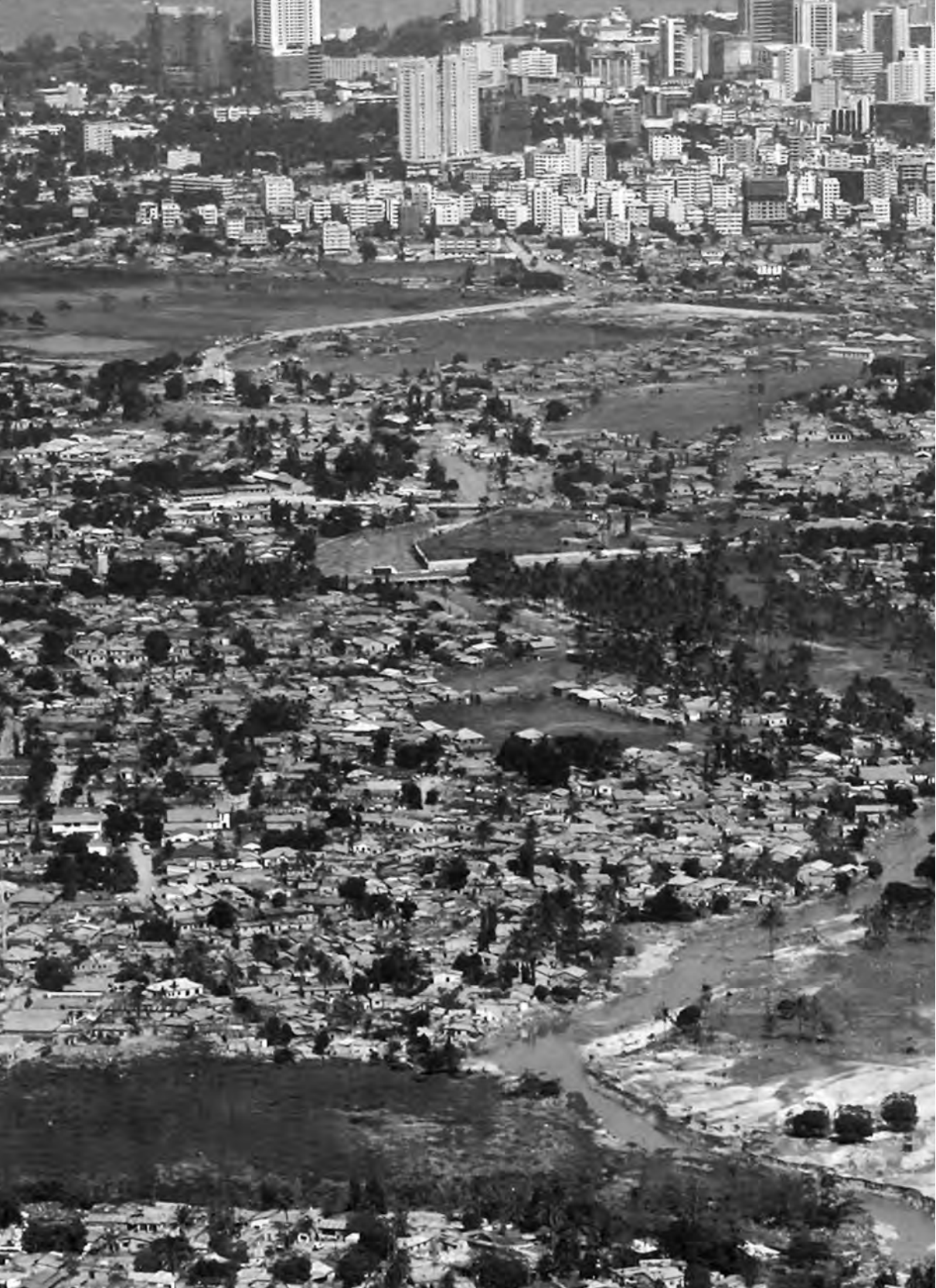
Alessandro Frigerio

congestion and related diseconomies, inter-finger spaces being filled by informal settlements, green topographical armatures invaded by solid waste and uncontrolled sprawl and a demand for public services and space overcoming the urban capacity. The new scale of the metropolitan region, according to urban analysis discussed with Pedro Ortiz, requires driving the planning and investment efforts towards a reticular matrix pattern based on public and slow mobility, ecological improvement and the enhancement of mobility nodes. To withstand the demographic and migratory pressure and the environmental decline our vision acts through a multiple layered framework with high urban potential: an evolving grey net of technological infrastructure providing fast interconnection and a green net of topographical ecological corridors, currently neglected; multi-scalar nodes to be developed as alternative centralities activating densification and controlled formalization phenomena; spongy densification for the archipelago settlements preserving and enhancing porosity, managing informal urbanity, welfare equipment, urban farming. The ongoing public-transportation projects are introducing new investments and formalization dynamics, enhancing uncontrolled developments that could be opportunely driven. Good interactions between the public and private sectors should be fostered to assure an economic balance, making densification pay for welfare. The vision proposes a governance framework and a spatial strategy exploring the link between green and grey armatures and informal settlements at various scales in a synthetic approach.

The presented projects present interscalar analysis focused on understanding the geographical and metropolitan structure as well as the specific local anthropological categories of space; then proposing interventions of urban upgrading in selected nodes. These first attempts arise challenging questions for the future development of the research. As urban history in Tanzania is recent, there's no local metropolitan culture and this, combined with the emerging of a new population, produces the need to look for unprecedented settlement patterns able to demonstrate how high density can maintain the culturally relevant relations with open spaces and nature, slow mobility, urban farming; at the same time setting the basis for economical sustainability and resilience over time through ecological urban models that we called formality gradient frameworks.

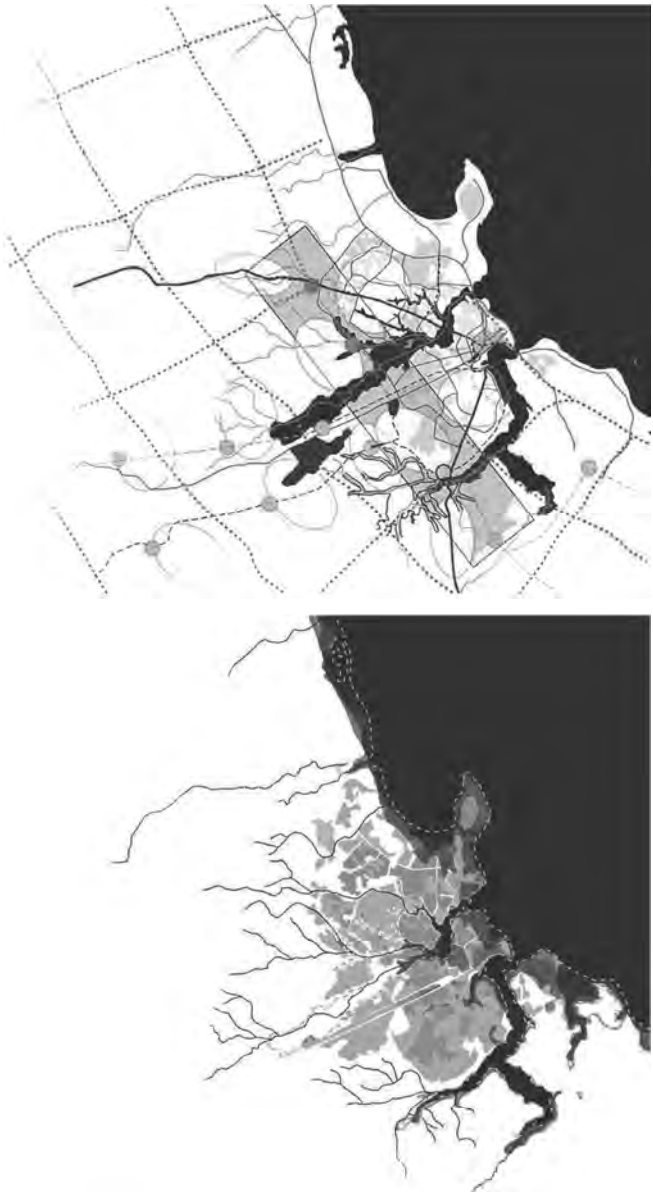


1 Msimbazi Eco-Armature

/* In 2011 the DAR SMART project was presented at the European House - Ambrosetti Forum on Africa with the aim of discussing an experimental urban model based on a gradient of porosity and formality. The overview on the general strategy was examined through a focus on the Msimbazi valley and an experimental approach to the neighbourhood scale design. The project was developed in cooperation with the MSLab by a team composed by architects Alessandro Frigerio, Francesca Guffanti Pesenti, Antonella Contin, Matteo Motta, Danilo Vicente d'Amico, Giancarlo Tonoli, Antonia Chiesa.

In accordance with the aim of withstanding the demographic and migratory pressure the project acts on a sustainable spongy densification to improve infrastructure and welfare endowment in the informal settlements. The project proposes a replicable model of urban bud that can behave as flexible stem cell introducing in the urban tissues original regeneration elements to adjust uncontrolled gentrification or decay phenomena. Stem cells work to solve a particular problematic lack in one of the vital functions of the system adapting to various contexts according to their particularities. Integrating existing settlements, the new bud-neighbourhoods act for social integration, welfare provision, infrastructure development, enhancing land-care dynamics. Welfare poles - thanks to their scale and public realm - are the urban adaptive flexible element among different scales, grains, landscapes. They must be designed as open and flexible architectonical systems to match different conditions and various functions. Their role is to witness the presence of public being engine of transformation.

The project explores the multiscalar link between green and grey armatures and informal settlements facing the mobility, urban farming, formality gradient, water management issues in a synthetic approach. The placing of the new buds depends on the presence of mobility nodes setting a new centrality, able to support the new settlements in terms of economical and social sustainability, but at the same time introducing the need to avoid social inequalities and forced relocations. According to this strategy the new neighbourhood provide a spongy multifunctional tissue. The proposal focuses on three possible budding operations along the Msimbazi eco-armature and then concentrates on the Nyerere one.



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2

The stem-cell strategy at the local scale is seen as the occasion, at the metropolitan scale, to contribute in building the green ecological armature as new landscape public realm.

Mobility

The various grains of the settlement imply a complex mobility system integrating public and private transportation with informal micro-scale transports and slow mobility, which remain the only way to move along the green armatures and to live the low-grain spongy patterns.

Urban agriculture

The need to provide an effective water management system combines with urban agriculture in the definition of a new landscape for the low-grain zone of the development. The farming activity has an important role for the neighbourhood starting economical and social resilient cycles.

Sustainable infrastructure

The project sets an almost self-sufficient system through a sustainable cycle linking waste and energy management and food production. Water supply, drainage and depuration are managed by a network of canals, wells and fountains according to low-tech solutions. Energy is provided by solar panels displayed on welfare buildings and great public spaces canopies; microclimate issues have been considered in the urban design to minimize energy consumption.

Building typologies

Traditional typologies have been studied and re-interpreted according to their space relations and flexible structure which consent to expand in time. The density gradient has been designed and controlled thanks to associative design, applying algorithms deducted from the analysis of the cultural and physical context. The elements concurring in setting the residential pattern are the traditional rules and uses, topographical conditions, climate control, water system,.. The resulting urban structure is able to be built in various phases and with the participation of different actors (public, private, self-building).

Natural hazard

The project works on the topographical cut proposing to solve the sea-level rising, floods and farming-ground drying through its integrated water management system and specific urban design solutions.

Figures

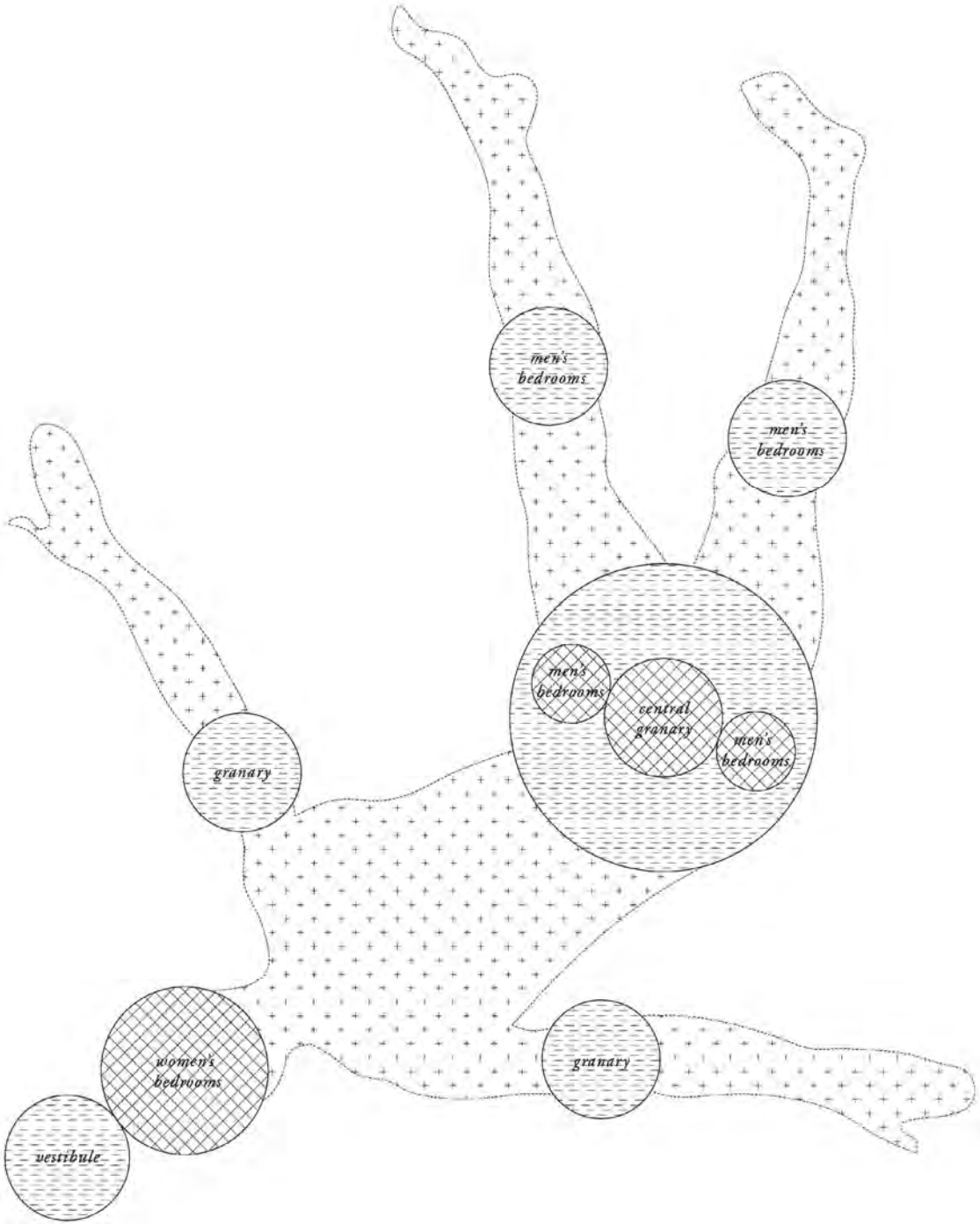
1 Dar es Salaam geographical structure, MsLab, Milano 2009.
2 Dar es Salaam metropolitan strategy diagrams, MsLab, Milano 2009.
3 Dar Smart. Msimbazi eco-armature, parametric design rules and Nyerere budding operation, MsLab, Milano 2011.

MASSIMO DELLA ROSA

AFRICA.
FROM SHOULD TO COULD.
The parametric digital design approach as a new matrix for the project. New model of planning practice required addressing the increase in migrations. How to integrate informal mechanisms into the urban management of the African culture (The uncontrolled independence of Peter Pan's shadow)

/* Human densification within urban territories happens because of processes of transmigration between productive sectors; the "*aspirazione all'occupazione*" [1] (aspiration to employment), which presses towards the overcoming and the detachment from subsistence economies based on rural models, becomes the factor in human flows within the fringes of the city, which frequently can't be assimilated to the consolidate socio-economical host system. Consequently, we assist to phenomena of non-resonant [2] coexistence, in which the separation between the active part and the not-participant one becomes clear, leading, indirectly, to processes of peripheral urbanization often solved without continuity with the existing fabric. In urban contexts characterized by a high rate of growth, the emergence of a threshold of discontinuity between Center and Periphery can turn into Informality, a phenomenon that nowadays demands a deep Formal investigation. Time-Factor, as well as the fickleness in planning, often contributed to the lack of Armatures able to direct the growth of informal tissues; the result was the co-presence of two systems, discontinuous and reciprocally dissipating, which required new and contemporary factors of coexistence: the challenge that we

Tutor: Antonella Contin


men's bedrooms
men's bedrooms
mens bedrooms
central granary
men's bedrooms
granary
granary
women's bedrooms
vestibule

now face is therefore related to the achievement of a total resonance of the "Urban Fact", which might be possible just by starting from a *tabula rasa* of previous Urban Models.
For this reason, if on one hand it is necessary to draft a new design-Paradigm, on the other one, aware of the unsustainability of ready-made models to be in an unspecific way inserted into other realities, we must conceive it just by relating to the whole Palimpsest of local meanings, both formal and informal: only from their interdependencies, in fact, it is possible to structure a way to "feel" and cross the territory, a factor of recognition at different scales.
The following experimental project, applied to the city of *Dar es Salaam* -Tanzania-, is part of the research activity of *MSLab* and results from the document of strategic modeling proposed by Pedro Ortiz; the project, last of the proposals within the Tanzanian context, doesn't directly focus on the design of the UDE [3], but rather, through a specific analysis of the existing environment, aims at suggesting new ways to contextualize the interventions at metropolitan scale within informal tissues.

1 The Methodological proposal

/* In order to solve the line of demarcation between formal and informal, and equip it with services able to support and connect the two Domains [4], is here proposed a method of reading and interpretation of the existing environment, based on the italian Morpho-Typological tradition: through this, it then could be possible to highlight the Systems that structure the Territory, able to behave as "*strumenti della progettazione (a partire) dalla cognizione del "processo tipologico" attuatosi a livello di coscienza spontanea*" [5] (design tools, -which come from- the interpretation of the" typological process" that takes place as the result of spontaneous-consciousness).

Architecture is the reaction of a "Need of Form" able to respond to a specific necessity; in other words, it is able to convert into a shape the need of a Place where to run a specific activity. This occurs only through the resolution and the translation of the similarities that lie between the archetypes of human behavior and the shape of the material world: the architectural Form that has been obtained from this process, structures then the activities through the imposition of rules that are manifested in ritual behaviors and will act as the

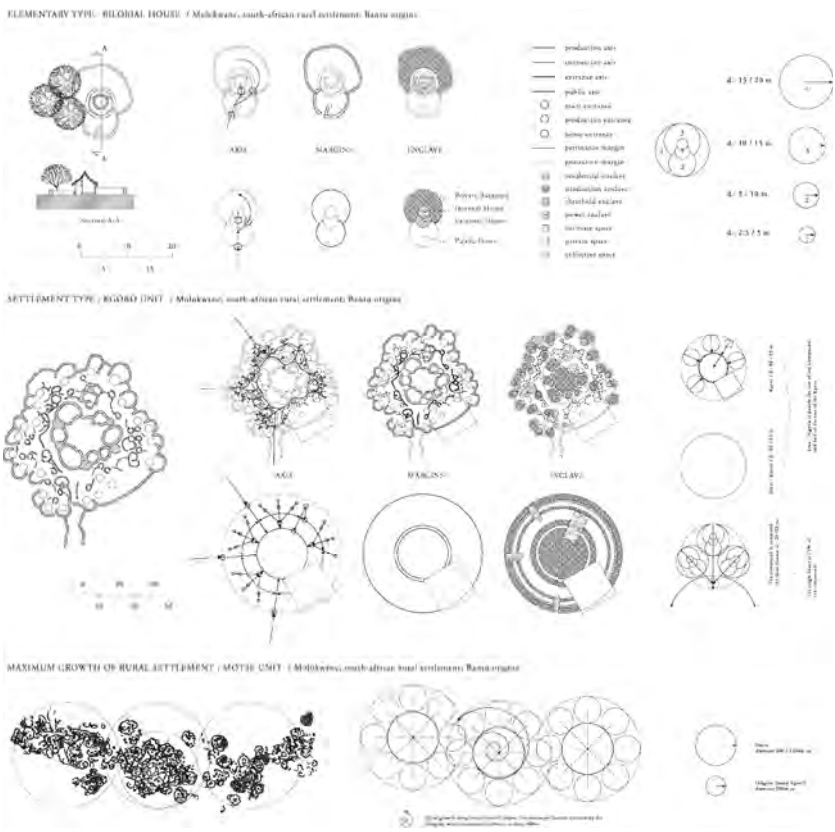
guarantor for the applicability of the *modus vivendi* of a given society. Therefore, the act of foundation is not just about shaping the physical appearance of a Space, but also deals with its mental definition; [6] the first process comes from the connection of both the physical elements and the materials that compose the Space, while the second one it is possible thanks to a system of perceptions that the observer translates from the constituent physical elements: their interpolation will then produce orientation. [7]

According to *Lévi-Strauss* in *Anthropologie Structurale*, the anthropological Image of a Territory describes a mechanism of control of this, and reveals itself through a physical translation of established behaviors and social systems that lead to the appropriation and transformation of Space detected to become anthropic. An important example is the case study of the *Bororo* village -Brazil, by *Lévi-Strauss*: this case study describes how the physical layout of a settlement follows the hierarchy of existing social roles, enabling the inhabitants to recognize their own role/place, as well as the right space for action. What lies outside of it, it is *chaos* [8], and it is characterized by other rules and relations, and, therefore, it is defined by a different topographical dimension.

The first part of the procedure of analysis aims at reading the physical dimension of informal settlements in *Dar es Salaam* by identifying the anthropological Image that lies in it.
People who live now in these areas were originally living in rural environments: when they reached the peri-urban areas in search of a new place to settle in, they shaped the territory by applying specific measures and rhythms that belonged to their previous tradition -the rural one-, therefore, inferior in scale; the model they applied on the new environment, as generally mentioned by *Huffman T.N*. and later validated on our project area, is the typology of the *central cattle Pattern*.
The starting point of the following project is to identify the new Values that the rural spatial dynamics assume within the peri-urban environment: for this purpose, the first step is about identifying the Signs, and their degree of influence, that structure the rural typology, and then verify their presence, possible continuity and interdependence in the relation of the actual connivance that they set with the "Urban Fact", which operates at different scales and speeds.

In order to evaluate just the Sings that fully contribute to the definition of the informal settlements in *Dar es Salaam*, the analysis focuses on the selection of those Signs that, because of their complexity of specialization, are able to endure the leap in scale, which goes from the elementary type -the *Bilobial* house- to the (maximum) Territorial Unit - the *Motse* unit, which is *Fundus* [9] - ; these are the Signs that overcome the relation Space/Time and contribute to the resilience of the whole System.

Considering that the typological process is structured as a sequence of scalar quantities that change and endure along the leap in a type to the following one, this phase of selection turns out to be necessary because there's a need to work only with those Signs that, although they evolve, remain specialized structures able to contribute to the Image of the Territory: we can call them "symbolic Mediators".



For this purpose, we proposed the use of a Territorial Matrix: by bonding the main physical elements of the territory, the matrix is meant to identify a sequence of Sets of figurative landscape Unities that, thanks to their anthropological value, help to define the typical Figure of the Territory through the relations that occur between new typological units -Scenarios-.
The qualities of the Sets of figurative landscape Unities are determined by:

Essential and Complementary Signs.
*/ Margin: Protection Margin and Pertinance Margin;
*/ Axis: Entrance Axis, Public Axis, Connection Axis and Production Axis;
*/ Density: Threshold Enclave, Power Enclave, Residential Enclave and Production Enclave.

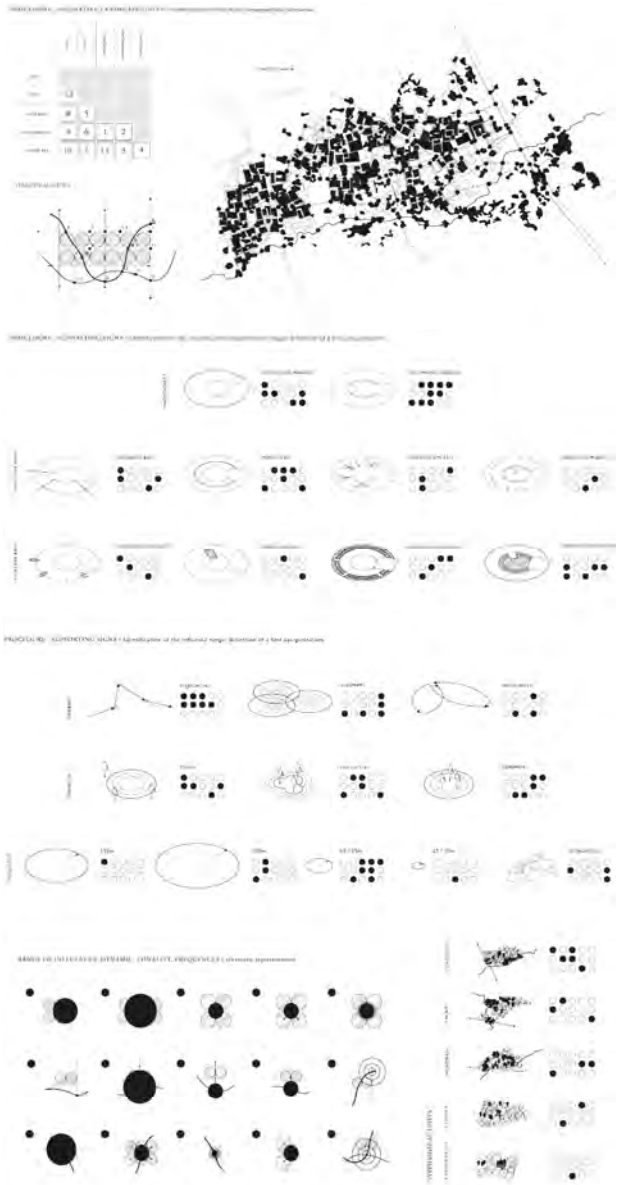
Range of Influence.
*/ Dynamic: sequential, resonant and recursive;
*/ Tonality: public, collective and common;
*/ Frequency: 150m, 200m, 60/65m, 25/30m, topographic.

The Scenarios will then inform about:
A way to cross the Territory;
A way to "feel" the Place where to settle in;
A way to locate the main functions.

The process of "subjectification" of tangible elements, which the user interprets according to specific social and cultural criteria, helps to upgrade the concept of Territory -i.e. the result of the dynamics of human relations- into the one of Landscape -which owns an emotional and sentimental dimension-; the Image of the Territory becomes therefore element of Memory, a Palimpsest from which to arrange, albeit considering factors of utility, what is going to come next.

Once the elements that shape the Informality have been identified, and their degree of relation has emerged, it is now necessary to understand in which way they can deal with leap in scale. As mentioned above, the systems that are more likely to relate to a bigger scale are those that support a high complexity, qualitative and quantitative, of functions within their boundaries. Each Set of figurative landscape Unities is

then traced on the ground and superimposed on those who share its values: informal settlements is therefore rebalanced through the interdependence of the different Scenarios, a procedure that allow to highlight specific portions of complex-territory, which are defined as Hinge Points. The dynamics, the *décalage* of tonalities and the existing sequences



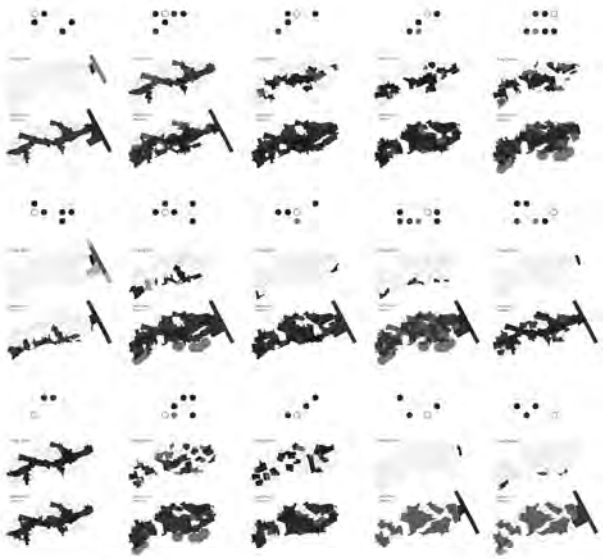
of functions within each point, will be the key factors for allowing the resilience of the bigger System; these spatial systems, being them necessary and spaces of performance, will in fact contribute to the robustness of the Image of the total System and will allow the comprehension and the orientation in case of leap in scale.

Conclusion 2

The risk that can occur from the disconnection between the informal and the formal models is a spatial imbalance able to sharpen the socio-economical distance between them; the attempt, therefore, to solve the line of demarcation without taking advantage of a new design paradigm will be ineffective. This paradigm requires awareness of the value of the instructive property of Informality, simply because it represents a spatial knowledge [10]; if we consider then the extension of this phenomenon [11], that is for many reasons uncontrollable, we are forced to consider it as a "territorial emergency" able to inform us on how to determine the new Image of the City.

Therefore, there's the need to understand how the new metropolitan scale can move along on existing dimension/ dynamics, and later be determined by them: the identification of the informal resilient Scenarios turns useful for two reasons:
*/ to reconsider the cultural meaning of informal settlements in *Dar es Salaam*, which is not just the result of urgency for residential areas;
*/given that Informality is strongly rooted on the territory, to understand its role of design-indicator because it informs about dynamics of both symbolic and scale mediation.

The next step, which is not part of this research, will focus on the translation of the resilient Scenarios within the proposed areas of intervention, from the arrangement of the new urban infrastructural nodes to the design of the *UDE*. ○



Notes

[1] Fuccella, R.(1973) Forma e struttura della città moderna. Napoli: Giannini Editore. p.18.

[2] It is possible to talk about Resonance when a Set of Urban Systems, which share a relation of proximity, turns able to follow both a specific frequency and an interval that allow it to adapt and merge within the existing Territory. In other words, Resonance is here intended as a way of adjustment to the existing relational dynamics, the necessary step for the complete balance of the Total Urban System.

[3] Unities of balanced development.

[4] With the concept of "Domain" we intend here the System of environmental levels organized along a micro-macro structure; these levels compose the "Urban Fact" and, according to local specificities, are endowed with both a specific physical measure and a bunch of anthropological meanings, rather than just with functional ones. In other words, the Domain is the System of different densities (residential, commercial, natural…) that can be perceived through a direct experience of the Territory, and that refers to a continuous leap in scale.

[5] Caniggia, G.; Maffei, G.L. (1979). Lettura dell'edilizia di base. Venezia: Marsilio. p. 260

[6] It is a semiotic process; it is about interpreting the Physical Signs able to suggest a meaning: intellectual appropriation.

[7] According to *Merlau-Ponty*, Space is constituted by the human-being and the context of action: between the human-being and the context it is therefore required a continuity of Sign, as well as a relation/measure; if this relation is kept, it is possible to prevent the *Heimweh* and build Architecture of Identity. Considering *La Celca*'s studies, the orientation is the repetition of the act of foundation, in which crossing the Space is possible just by using mental, symbolic and cultural Maps: therefore, as *Salvatore Zingale* says, orientation is a spatial consciousness, in other words, it is about being aware of the Space, of its Image.

[8] According to *Mircea Eliade*, the passage between *chaos* and *kosmos* happens when the Dialectic of the Sacred is able to turn unstructured and fragmented phenomena into structured, meaningful and coherent ones.

[9] *Fundus* as the portion of territory that hosts a *Podere*, which is at the same time a residential system and a productive one.

[10] The concept of "spatial knowledge" wants to underline the importance of the physical extension of the human-being, even at metropolitan scale: it asks for the design of spaces able to respect the human volume.

[11] As mentioned by Alexandra Hill & Christian Lindner in the 45th ISOCARP Congress 2010 (p.2), "*Kironde (2006) reports about calculations based on property tax databases which support that even more than 80% of all buildings in the city of Dar es Salaam are located in unplanned areas*".

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MATTEO MOTTA

FORMALIZING THE INFORMAL

/* This research analyzes the issue of the fast-developing cities, whose explosion may only be contained by facing the theme of the informal and of the regional infrastructure. The aim of this research is to define a "gradient of formality" that may allow the formalization of the informal by legalizing it through a change in the urban structure, starting from the regional scale, and rethinking new dimensional patterns that would make it part of the city. As it is stated by William Cobbett, "formalizing the informal" can be obtained by the rethinking of the entire city, by connecting spatially, economically and socially the people with the urban resources, in a way that would make them present and future citizens.

Mike Davis's work, *The Planet of Slums*, pointed out that 90% of the urban growth over the next thirty years will take place in the developing countries, especially in Africa and Asia. The most concerning aspect is that these areas will also be characterized by the world's greatest urban poverty level and by a massive spreading of slums constituted by informal settlements. The Third World's urbanization is to be intended as a structural transformation that cannot be defined neither rural nor urban, but that should be considered as a combination of both, connecting big urban centers with their regional surroundings.

The starting point in order to give structure to a system is always to measure the regional dimension by a space/time criterion. Dar es Salaam is a city in the process of undergoing very fast transformations in a short period of time and, in the words of Pedro Ortiz, "time is what growth

Tutor: Antonella Contin

does not respect. Growth will take, is taking place". This is why it is extremely important to face the emergency of the city through a structuring of the entire urban system. The building of a city on a regional scale includes a sequence of space/time sceneries which, taking the coastline as a primary point of reference, create a sequence of progressive scenes towards the inland. The regional scale strategy, destined to the organization of the city's sustainable growth, is structured on big urban elements responsible for the management of the masses and the intensities generated by the different kinds of mobility. This "grey" approach has to be met by a "green" one, concerned with the management of waters and flood emergencies, the structuring of urban porosity and the encouragement of urban agriculture. Each of these two systems needs to have its own structure ("alternative greeds" concept developed by K. Lynch) and the ability to communicate with the other one. Nonetheless, it is very important for each system to have its own characteristics, times and measures: a "fast" mobility measure, able to handle certain levels of intensity, and a "slow" one reserved to water, floods, seasons, footpaths and every day life.

The combination of these elements generates a spatial strip that imposes itself as scenery within the regional strategy.

The project researches the identification of a pattern that would allow the definition of a "gradient of formality" between a heavy infrastructural "grey" system and a light infrastructural "green" one. Each of these systems sustains weights and activities that need to be reciprocally related in a design of "mixed use patch".

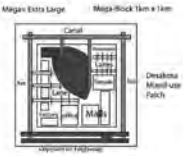
The concept of "gradient of formality" has the aim of making what is now "illegal" a part of the city ("formalizing the informal" by William Cobbet) and of relating itself with both the weights and intensities of the "grey" and the elements that create the landscape through the "green".

The project focuses on the issue of "formalizing the informal" through a multi-scale system that unites the big regional dimension, supported by the "grey" element, with the small dimension of the "green" element and the informal.

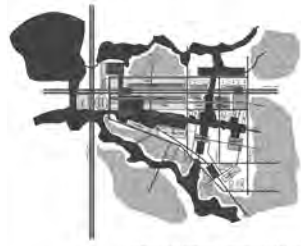
A porous connective system centered on welfare poles develops from the big scale elements up to the informal neighborhood and allows the organic connection of the different scales, with the objective of making the informal a part of the city. Within the big scale element all the systems

tie together: the porous connective system takes up the role of public space and tries to communicate both with landscape and infrastructural elements through a continuity between the openings on one side and the closures on the other, so as to define a path of continuity between interior and exterior. Formalizing and legalizing the informal, connecting it socially, economically and spatially to the city, and enhancing the environmental system, become the instruments needed in order to build a "gradient of formality" and a model for the inclusion of the informal settlements into the city, making them part of it through a rethinking of the entire urban system.

GREEN AND GREY INFRASTRUCTURE COMBINED IN A GRADIENT OF DESACOTA PATCH MODEL



MEGABLOCCO MODEL, WITH MIXED-USE PATCH
1 X 1 KM



BAR MEGABLOCCO MODEL , WITH MIXED-USE PATCH
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GREY STRATEGY

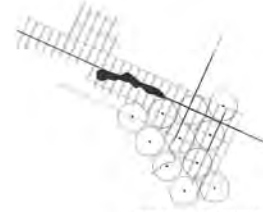
GREEN STRATEGY

PROJECT SYSTEMS OF GREEN, GREY AND MASSES DISPOSITION

SLOW TIME OF WATER FLOW, SEASONS, PEDESTRIAN TRACK

HANNA NASIF PLANTATION GRI

HANNA NASI
INFORMAL SETTLEMENT OVER THE GRID STRUCTUR



GREEN MEASURE: WELL AND PLANTATIO

THE FLOOD HAZZARI

SERENA MARIA LA PLACA

TEMEKE, MTOBI

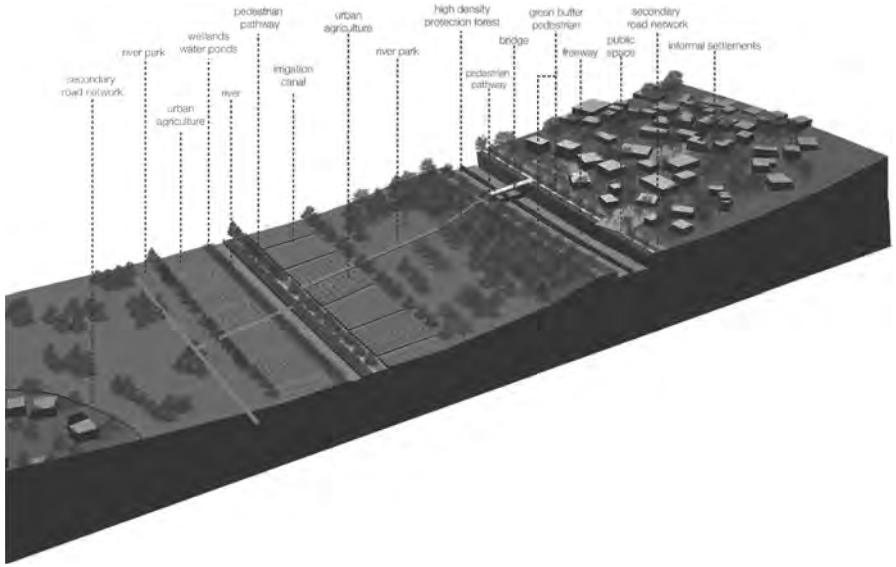
/* The main purpose of this work is to analyze the situation of the African city of Dar es Salaam in Tanzania, whose population, mostly living in informal settlements, has grown from 60,000 units in 1970 to 4 millions today.
The research is grounded on the theory expounded by Pedro Ortiz aiming at developing a system of infrastructures in order to turn the actual circular structure of the city into a net-like one. The present work aims to upgrade and develop the informal settlement of Mtobi, in the southern area of Dar es Salaam.
Mtobi is included within the larger district of Temeke. Since the mid-twentieth century urbanization has rapidly and steeply spread. The Mtobi settlement has grown in a chaotic and irregular way that makes it now quite difficult to legalize and settling the existing situation. It is not unlikely to assume that the process may potentially take several decades. Dar es Salaam is characterized by a mono-centric urban and administrative structure. The informal city has firstly occupied the existing space between the main roads, and later it has spread to the outskirts, following no rational pattern.
In Temeke district there are more than 18,000 houses and more than 800,000 inhabitants. The area is characterized by an extremely poor quality of both buildings and infrastructures due to the rapid increase in human and physical urbanization. The attempts to turn what it is now an unregulated settlement into a sustainable and well-run modern city, as well as to optimize the use of urban land and to prepare the ground for social cohesion, are deeply affected

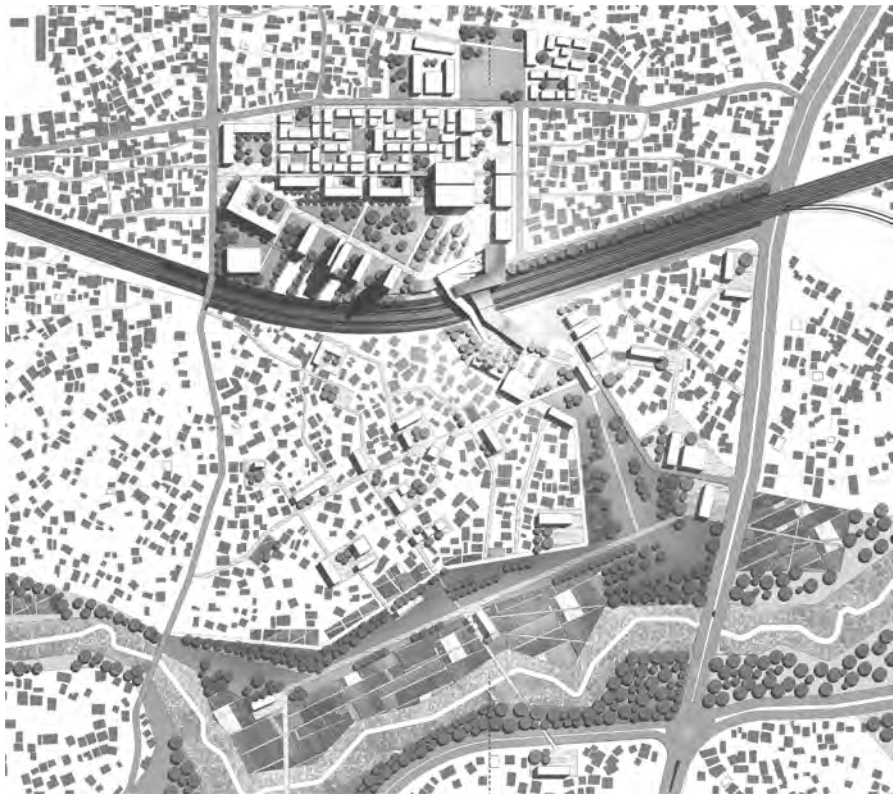
Tutor: Antonella Contin

by the fact that the informal sprawl has developed with no plan and today we use to work within a "non-existent maps context'.

Pedro Ortiz argues that the metropolitan territorial system consists of two main layers on which one may intervene. The first one is the Metropolitan layer, which concerns the metropolitan system itself and the integration between the structure of the city and the structures that operate on a regional and national level. The second is the Urban layer, which concerns the fabric of the metropolitan system and is conformed to the BUD.
The present work aims to investigate the possible ways to develop the centrality of BUD, drawing on the model elaborated by Grahame Shane for the Desakota Megablock. Shane's model is based on the integration of local culture, mixing agriculture and urbanisation practices within the city. Rapid rural-urban migration causes an hybrid state of affairs where traditional and rural features combine with typically urban ones: far from being prevented, such a urban mode should be encouraged and supported in its sustainable development.
This work focuses on the project of a new railway station as symbolic and practical central core that may positively foster the development of the area of Mtobi by creating a highly profitable connection between the urban area and the creek. The revaluation of the link between the agricultural economy, the water-based ecosystem and infrastructure system is a crucial asset for the area, as it represents an invaluable resource and potential means to develop the new Mtobi's centrality.

The present settlement shows a complex mobility system that combines the informal scale transport with the main roads (i.e., Kilwa rd., which runs through the Temeke District and connects it to the city center). In line with the idea of enhancing the local and existing elements, the commuter train system is constructed along the existing commercial railway, which is today used as pedestrian zone by dwellers, that far from being a barrier to the fruition of the area, would rather increase its potential. The railway station would be located between the two main infrastructures in order to integrate public and private transportation within the informal slow mobility.


secondary road network
river park
urban agriculture
wetlands water ponds
river
pedestrian pathway
irrigation canal
urban agriculture
river park
high density prosection forest
pedestrian pathway
bridge
green buffer pedestrian
freeway
public space
secondary road network
informal settlements



It is our contention that the only possible way to operate in this context is by creating a continuous network of the green and grey infrastructure system, thus connecting and integrating the urban and the natural environment.

The urban agricultural activity and an effective water management have a crucial role within the economical and social structure of the informal community. Thus, the relation between green and grey system is fundamental to improve the settlement conditions.
By observing the project area one may easily notice that the Mtobi river's basin represents its main feature and resource: it follows that the first step must be the consolidation of its borders, along with the preservation of the green area and the existing agricultural activities. Building on a study of the agricultural measures adopted in Dar es Salaam and after checking them against the International Agriculture Standards, we have created a sort of pattern - or scheme - to be followed in order to organize agricultural activities and to enable the transition from the green system to the grey system.

In parallel, a study of the grey system has been carried out. The macro-scale infrastructures, the railroad and one of Pedro Ortiz's Matrix Lines may grant access to the area; at the same time they are used to consolidate the informal settlement's boundaries in order to control its expansion towards the green zone and to regulate its combination with the urban agriculture, thus defining a new complex landscape.

The railway station is the central element of the present study: it represents the synthesis between green and grey systems, and permits to the green system to penetrate into the urban fabric creating a connection with the cultivated fields and, thus, a new spatiality. The informal area presents two different types of development: the older part north of the railway presents a more linear development, while the newer settlement near the basin area displays a circular developing structure.
By analyzing the green structure within the two informal settlements it is possible to identify the potentially exploitable spaces, and use them to create the connection between the settlements placed on the northern and southern side of the

railway. The green system, as well as connecting the different parts of the area, improves and organizes the informal settlement, thus endowing the project with an overarching and integrative perspective.

Similarly, the station is the main result and flagship of this research: the building represents the interaction between the two systems, the synthesis between the functional and sustainable features of the infrastructure to be created.

DANILO VICENTE D'AMICO

URBAN REGENERATION THROUGH LANDSCAPE

Dar es Salaam is a multisided city, specially due to the fact that it is located strategically within the west African shore, better known as the Swahili coast. Its identity is defined by the mix up of diverse ethnic groups and cultures that happened through the centuries, which determined different aspects of the urban form. From its birth on the Oman period, through the German colonialism, to the English governance, until its independence, Dar es Salaam has known many ways of urbanization and urbanity becoming a particular melting pot of different kinds of knowledge regarding the making of the city and its surrounding landscape.

Dar es Salaam presents innumerate landscape resources due to its location within an even wider and richer context. In fact, the Tanzanian territory is abundantly articulated in terms of hydrography, from its inland great lakes to the infinite net of rivers and canals that run directly to the shore. The most important rivers that flow through the city region are the Mbezi, located on the North, the Kizinga on the South and the Mzimbazi in the middle of the two. These represent the last segment of naturally channelized water before flowing into the Indian Ocean. In addition, the whole hydrographical system defines great part of the territory featured by creeks and gullies.

Unfortunately, Dar es Salaam's policies of urbanization and the accelerated demographic growth led to an underrated view of parks and green reserves, in exchange for maximum use of territory for the city expansion. This generates

Tutor: Antonella Contin

significant problems once combined with monsoon period high rain rates that happen twice a year, drawing to the flood of the many canals and resulting in sizable damages.
During the last century, Dar es Salaam met a really strong urban expansion requiring a tangled connection system, developed as in its territorial scale as in its local one. Therefore, infrastructure assumed a considerable role of attraction around which many settlements were born, in most of the cases informal ones. Thereby, an even thinner and wider connection was made, mainly featured by precariousness, and a very frail balance was established within slums. On the other hand, the so called regular infrastructure became the main protagonist of urban division and discontinuity within the process of urban sprawl.

The landscape system present in Dar es Salaam's region has always been seen as a far away background of a scenario of massive urbanization phenomena. Nonetheless, it never stopped being a really high potential resource. Therefore, the suggestion of a landscape strategy on a territorial level started from an obvious necessity of a green infrastructure development capable of supporting landscape resources in such fashion it could (re)structure urban centralities.
This work begins with recognizing the most important elements, like inland green cores, as well as the hydrographical system, and connecting them along a green wide strip parallel to the shore. It should be able to define new landscape/urban paradigms and simultaneously (re)saw the different parts of the city.

In terms of infrastructure, since always Dar es Salaam presented a centric structure that has its nucleus in the natural harbour of the city. The constitution of the connection system is still defined by natural limits of the territorial topography. But then, this viability organ continues to overrate the city's centre at the expense of peripheral neighbourhoods development and generates a mechanism of urban collapse which is really hard to handle nowadays. The collapse is due to the discontinuity between formal urban fabric and informal, which, by the way, has a much rapid expansion rate all over the city.

In order to overcome the centric urban model and allow the diverse resources to regenerate themselves, the suggested strategy involves the development of a reticular matrix that is adaptable to the territory and gives power to the specific knots to become new centralities that serve all different territorial scales.

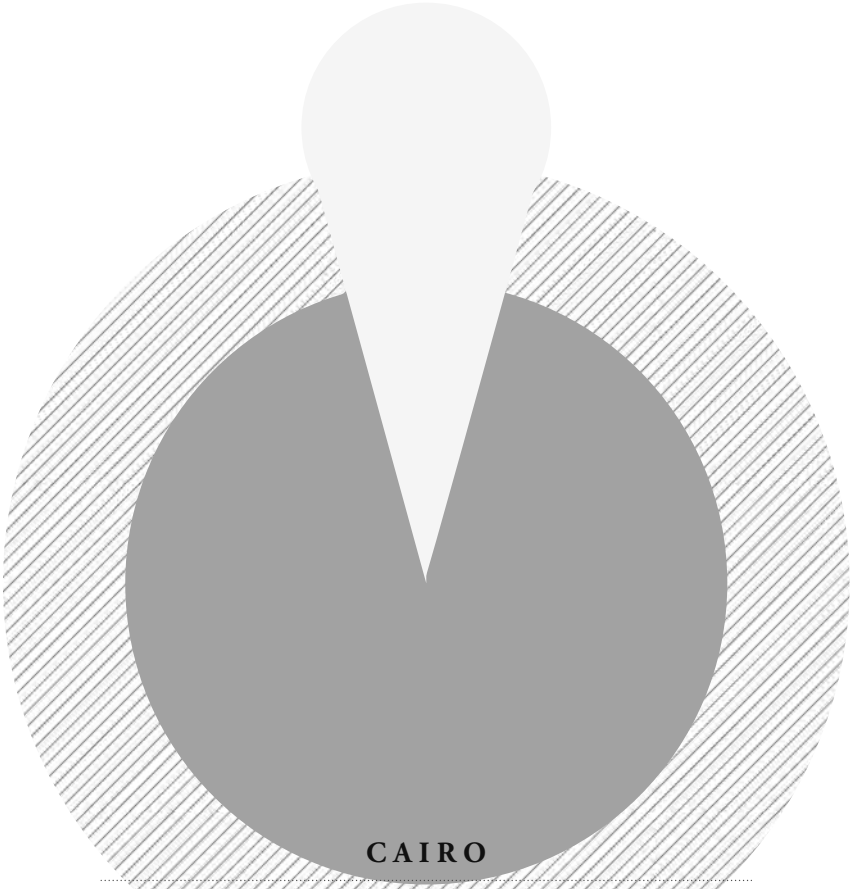
The project that was finally developed is located strategically within Dar es Salaam territory, once it follows landscape criteria as well as infrastructural ones. In fact it features the intersection between two main territorial resources: the railway tracks and Msimbazi river. In addition, the chosen site presents high flooding levels during the mentioned monsoon periods which leads to a very frail situation all over the surrounding informal settlements.

The main idea was to develop a diffuse centrality based on an infrastructural element that serves landscape, able to channelize the excessive amount of water in different directions, protecting the informal urban tissue simultaneously to exploiting water in advantage of cropping activities, which happen often all over the city.

The suggested centrality would also be reinforced by an hypothetical railway station established in a metropolitan scale. It would be used as the urban infrastructural attractor, essential to drive up the slum in social economical terms, serving the domestic reality as well as the future tertiary and commercial one.

Once all above has been said, is important to recognize that the projects main aim is the regeneration of the informal system bringing it to a formal level through a plural set of scales: from the great regional dimension of landscape and infrastructure, to the local one of slums. In order to achieve this goal is crucial to develop a connection between urban fragments and elements throughout plural systems, which are able to assure all benefits and synergies brought by real

estate investments even where the context is many times marginalized and forgotten. So the problem consist in trying to give harmony between these great capital investments of real estate project with slums informality.
One possible solution is represented by the development of a welfare net system that brings essential services and regular infrastructure within precarious settlements, which would become connected referential elements assured by the typical porous structure of the African spatial form. From those great scale urban knots to the informal neighborhood, the suggested system would link in an organic fashion different urban scales transforming slums in included and connected parts of the city. In addition, the welfare pole system must put itself out not only as a basis services net, but also an instrument of order of the neighborhood, specially in terms of spatiality. In fact, in the urban borders as well as in the river bank, it becomes a great opportunity of urban dialogue between the porous connection system and landscape.
The landscape resource, specially the hydrographical system, must act as a main role in the project since it is the one element that can go back to be used to its full potential, participating in flooding control and being able to give urban cropping even more value. In few words, (re)transform landscape in active part of infrastructure, protecting as well as connecting parts of the city.
Within the great knot of the centrality all elements should tie: the porous system embraces public spaces, like squares and gardens, dialoguing with landscape elements as well as massive infrastructural ones, through continuous opening and gaps on one side and enclosures and patios on the other. The river bursts into the main block giving space to green elements and allowing occasions of public interaction. On the other hand it also operates as a diaphragm between landscape void and the urban volume.
To formalize and to legalize the irregular settlements connecting them socially, economically and, last but not least, spatially to the city simultaneously to the enhancement of the so called green infrastructure in order to manage flooding issues and giving real value to urban cropping, become all manners of development of formality gradients and a new urban model which does not push back city inhabitants from the city itself but bring them in, making them active part of the city as a whole. ○



CAIRO

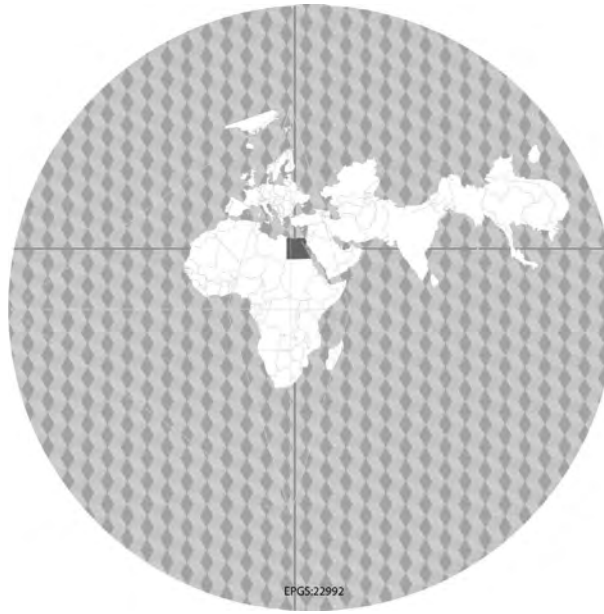
Ard al Liwa. New Centrality Project.

Giulia Frittoli, Filippo Fratti, Maria Beatrice Bianchi,
Inside Rural Informal.

Guerzioni Eliana, Gobbi Amanda,
Informal Re-Generation
Through Intensity of Re-Actions.

Riccardo Rossi, Luca Verderio,
An Urban Armature for Informal Cairo.

E G Y P T



CAIRO
ARD AL LIWA NEW CENTRALITY PROJECT *

/* In the framework of the second year Master Thesis Laboratory course, pursuing our collaboration with Grahame Shane from Columbia University and Pedro Ortiz, senior urbanist consultant of the World Bank, we decided to organize the Cairo Workshop on *Cairo Ard al-Liwa New Centrality.* The project involved the transformation of the informal settlements, which are at the fringed edge of the Cairo metropolis, constantly changing and characterized by a variable degrees of informality. That part of the city is a place where we have energy loss in every sense of the word: electricity, water and *cultural* energy. The public administration needs to know how much energy is available, how to add benefits and achieve a multiplier effect on the complementarity of both the formal and informal system, using them for optimizing their effective performance in the context. Such perspective is not only a possible aggregative outcome, but also, indeed, achieving synergies and multiplier effects can be the outcome that will benefit the city, the metropolis, the region, or the country (Ortiz, 2012). According to Pedro Ortiz, without denying the final objective of the formal realm, informality can be seen as an intermediary stage that should not be interpreted as the enemy of formality, but as a stepping-stone to the more desirable stages of formality. In this respect, informality can, and/or, should be fostered, having the necessary controls in mind, instead of being denied or persecuted. The objective then is to establish harnessing processes to avoid the flagrant breach of human rights and social duties informality could hide, and to establish the procedure for an incremental path towards formalization in an undetermined time horizon. The approach is no longer to prosecute and illegitimatize informality. It is a real change of paradigm. New technologies can help us improve it in two ways: as an analysis tool, and as an instrument that allows for the production of a more porous city, improving informal dynamics and new metropolitan relations.

Cairo is a metropolis that has missed the middle phases of urban evolution. It was built along the Nile Valley, but now the city is eating (consuming) its fertile soil, crossing the Nile toward the desert. The territory in between is disappearing as

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Antonella Contin

it has been covered by informal settlements. The *Ard al-Liwa New Centrality* is meant to be a new 'center' for the western area of Cairo where the integrated infrastructural scale of the metropolitan net-city will appear. Accordingly, the whole city of Cairo has to be considered as a 'brand' and the new railway station for the national and regional trains will be an emblematic big project as a vehicle for redeveloping the centrality of the west. We studied a way to regulate its growth: the evolution in scale of the informal settlement of *Ard al-Liwa*. This consists of a design method that allows us to describe and design urban phenomena related to the change of scale, which determines the mutation of types of urban space morphologies and landscapes. It is a paradigmatic reform of the city shape: the new paradigm for growth is not linear but a net. We started studying geographical and historical situations, considering the scales of the metropolis in relation to its potential uses of time. Then we selected various topics:
*/ the design of integrated functions;
*/ the design of a city fabric at different scales;
*/ the issue of 'time thickness' in the urban biography;
*/ the scene of the public realm as a section of landscape.

In short words, our research concerns the study of cities, which grow in size with a view to establishing a clear synergy between the parties, considering the moments of crisis and the strengths. So we define potential scenarios, through a Vision - a moral idea for the city. For this reason we consider the importance of the genotypes of the city fabric as a system that determines a state:
*/ sampling of agricultural land (urban theme): built in the field, or the field built into the city, to define some geographical units of the past, and geographical units today;
*/ sampling of the urban landscape (environmental issues), so the relationship between public spaces.

We consider, first, the invariable backbone of the city: mobility, services, spaces, as a dorsal figure, as a support of the city, on which to verify a problem of scale. Then, we add the theme of the new presence of a culture that interprets the image as a vehicle for a new urban interior landscape. To do so, we intend to use new technologies. One of the main

issues of the project is the continuity of a network of public spaces through different types of green voids, which creates a movement from the inside out and vice versa, determining a network of continuity, facing a public but not social space.
The *Ard al-Liwa New Centrality* is between the ring-road and the railroad, where the city should be thicken (to get density) to express the importance of what is happening there: a new urban articulation. The question of the project is how to get this side of Cairo back into the game involving mainly the informal parties: an integrated junction of the parties by adequately equipping the area. In fact, we think that everything can be put back into the game through a new rule of the form. The net allows for the continuity of the network in the territory through a precise engagement for rebalancing while the grid of the water system becomes a new form of writing the soil, as it is rich of programmatic intentions and figuratively undefined. All this, determines new *nuclei* that are oriented in a net and are capable of attracting, while the old poles are changing their use and enhancing their symbolic value. There are points between the different landscapes, which establish a new way for urban dynamics: the metropolitan dynamics that re-connect the broken sides of the territory through the design of the areas of transition.

We approach the issue of density as a qualitative one. Actually, we speak of *epicentres* as potential qualities distributed into the city and which constitute the basic structure to which the atmosphere, the landmark and the fabric quality has to be added. The informal is considered as body art in motion: temporal and rhythmic quality of experience that defines the deep sense of belonging to a place of citizenship which stimulates the creativity of generations at the present time and the memory of the past. This is what quality of life means: cultural identities, social solidarity, which in fact, are factors of productivity and efficiency for a society as a whole. Its exchange value is not an economic value linked to the promise of becoming the city, but a value in use: the familiarity between places and people, able to share aesthetic issues as well as shared symbols. We need, then, to improve a micro-project through new devices.

To sum up, our concept for the informal settlement project is the gradient of formality. This means starting from the infrastructural hinge where we have to face the real estate development; we have to go down to the different grain size of the informal settlement, where we improve the water and waste chain system, the energy system and social mobility. Then, we act on the section of the tiny streets. We thought about a flexible infrastructural system that can transport all the energies, defining a sort of "natural interchange" to support the traditional market along the informal street, and delineating small basic urban services as *stamina* cells within the informal settlement. Such an agile structure is produced by a set of components but as Alexander said: '*We create a structure that emerges complete, but lightly, which gradually strengthens, but that remains flexible. And only at the end it becomes quite strong and robust*' (Alexander, 1977). New technologies are part of this project. We try to consider the public realm within the net, this means that, for example, considering Wi-Fi as a space, the public space has to be re-thought considering new topological relational geometries, new functions, and then is possible to integrate the informal mechanisms into the urban management of culture inside the informal/illegal settlement; following Pedro Ortiz, we named it "*the uncontrolled independence of Peter Pan's shadow*" and we have to be able to analyze it, and express its potentials to the rest of the city.

The complexity of the project will be clear if we consider different issues related to the various points. First of all we have to take into account the resolution of the inner urban structure of the settlement and the need for structuring the urban fabric and provision of utilities and facilities. The metropolitan centrality, between the formal and informal settlement, has a huge potential of creation of jobs for the inhabitants. The border of the urban fabric, between informal and the countryside requires the creation of a desakota metropolitan fabric able to contain the uncontrolled sprawl that eats up the valuable agricultural land and reduces the sustainability of the Cairo structure. And finally, in relation to the intersections among those structures we have to create hybrid projects of relation between these different urban structures.

Following Ortiz we can say that the local requirements are: social facility locations such as: health, education, parks; productive facilities: industry, offices, commerce; public transport accessibility; urban centralities and links to neighborhood communities. The metropolitan requirements that define the new role of *Ard El-Liwa* in the metropolitan context, actually, are: a commuter station; the station accessibility; BRT's, Buses routes and a metropolitan centrality. Therefore, our project for *Ard al-Liwa New Centrality* defines a NORTH-SOUTH strip (between formal and informal city fabric) where we have a big interchange system: a national, regional and local railway station linked to a BRT system. From this point we build an infra-city fabric interconnection with the metropolitan architecture project able to give new services and new symbolic images to the existing poor city fabric. The character of such strip is quite urban.

Our metropolitan architecture project, also, defines another EAST_WEST strip whose character is quite metropolitan. It unifies the main railway station with a metropolitan point close to the ring road: this one will be a well-connected window for a metropolitan function (university, hospital). This point builds an infra-intra-city fabric interconnection; it is in fact in-between the formal/informal and the informal city fabric and the countryside. Therefore, it needs to work closely not only with the informal, - with *stamina* welfare cells – but also has to define a system able to defend the agricultural field from any other occupation dealing with the ground section.

Pursuing the metropolitan dimension scale, we also used the *Locast* platform developed by prof. Casalegno of the mobile Experience LabMIT, and Paolo Patelli arch. PhD. of the Politecnico di Milano: a mapping project within several universities, a powerful tool for engaging the Cairo community with our students work. Moreover such a platform can design a way to facilitate this process.

The background of the project lines is the growing production and availability of cultural information with geo-references, generated by non-professional web users and supported by technologies commonly known as Web 2.0. Citizens are now capable of producing cultural localized knowledge and to contribute through local engagement and by using new,

widespread technologies such as mobile phones for sensing and monitoring aspects of the urban environment. Hence, ICT technologies can be deployed to integrate data-sharing platforms into the spatial dynamics of the city. ICT technologies can then be deployed to integrate data-sharing platforms into the spatial dynamics of the city. As the spaces and places of twenty-first century cities provide contexts for communication-serving not only to shelter and protect their inhabitants, but also to ground and sustain meaningful interaction among them, and to construct community. Emerging critical practices have proposed new models to describe the city that stress the collaborative, constructionist dynamics of the mapping processes. Web 2.0 applications, the growth of online mapping tools and the development of networks of "sensors" capable of recording and geo-referencing a variety of signals can turn human beings into potential "sensors" that not only have the intellectual ability to process and interpret what they "feel" but also to geo-localize the information (sometimes involuntarily) and spread it globally through the Internet. The combination of these factors produces and disseminates an immense amount of geographical information which can be: voluntary/conscious and involuntary/unconscious. The first type stems from web mapping activities, while digital footprints generate the second type. Web users in cyberspace, in fact, leave these traces, without being aware they are producing geographic information. Traditionally, experts and institutions have produced geographic information: so certain types of information have been preferred and other types ignored or marginalized. VGI (Volunteer Geographic Information) represents a powerful shift in sources, content, characteristics, and modes of data production, mining, sharing, dissemination and use.

In particular, these could allow for an awareness of the presence of renovated cultural opportunities related to the sound and music in the Mediterranean area, reinforcing the need for new professional figures such as cultural private and public administrators, curators, and producers. The possibility of finding meaningful ways to investigate citizens' patterns of use, cultural spatial experiences and related perceptions of the urban environment brings in fact many important promises to the fields of urban design and planning. Starting

from the historical physical manufacture and passing through instruments, sounds and performances, the project focuses consequently on the contextualization of cultural heritage. Through natural language and network analyses, the project identifies a cultural behavioral and semantic background for the entire city, related to the sound, rhythms, music of a place, making it possible to extract and depict specific patterns of subjective perception and use. In this way the proposed digital platform would also help the whole range of stakeholders involved in decision-making processes related to planning activities, urban design and urban policies, in order to improve the responsiveness of urban systems to the cultural requirements of citizens and customers. From this perspective we consider cultural heritage from being defined as a 'product of time' to 'a process for future city life'. The heritage and the landscape are the Common Good: an environmental issue that transcends the immediate interest. Finally, this project aims to define new visual paradigms able to determine infective effects on the informal settlement, through the new map image conveyed with new devices. It is a way of defining the art of blending: to change, to attend, to transform the existing city through recoding languages and to define cities such as experiential territory. The metropolis, then, becomes a set of interchangeable possibilities. ○

GIULIA FRITTOLI,
FILIPPO FRATTI,
MARIA BEATRICE BIANCHI

INSIDE RURAL INFORMAL

/* Is it possible to improve so-called informal areas in Cairo, while at the same time protecting agricultural land?
This was the research question embarked upon in 2012. The informal areas of Cairo, whose growth is not legalized/ controlled from government, should not be forgotten, but -in our opinion- we need to find a solution for their development and improvement.

This project's geographical focus is in the West of Cairo. We're working in that part of Cairo, the West side, in which urbanization is rapid, consuming the agricultural land. This is a big problem for the entire city of Cairo, because agriculture represents a very strong sector of the country's economy.
The investigation on the principles of informal fabric construction has putted the focus to the close relationship between informal buildings and the agricultural landscape: the informal rapid development generates different relationships among urban spaces and rural land. To better address the variety of scenarios encountered, the project is divided into five operations, design strategies with different roles and purposes depending on the context to which they refer:
*/ in the area of contact between the urban and rural reality, for the large-scale production, is identified a solution concerning the installation of a system of cultivated terraces defended by a continuous pedestrian path, sometimes container of spaces and services for the community;

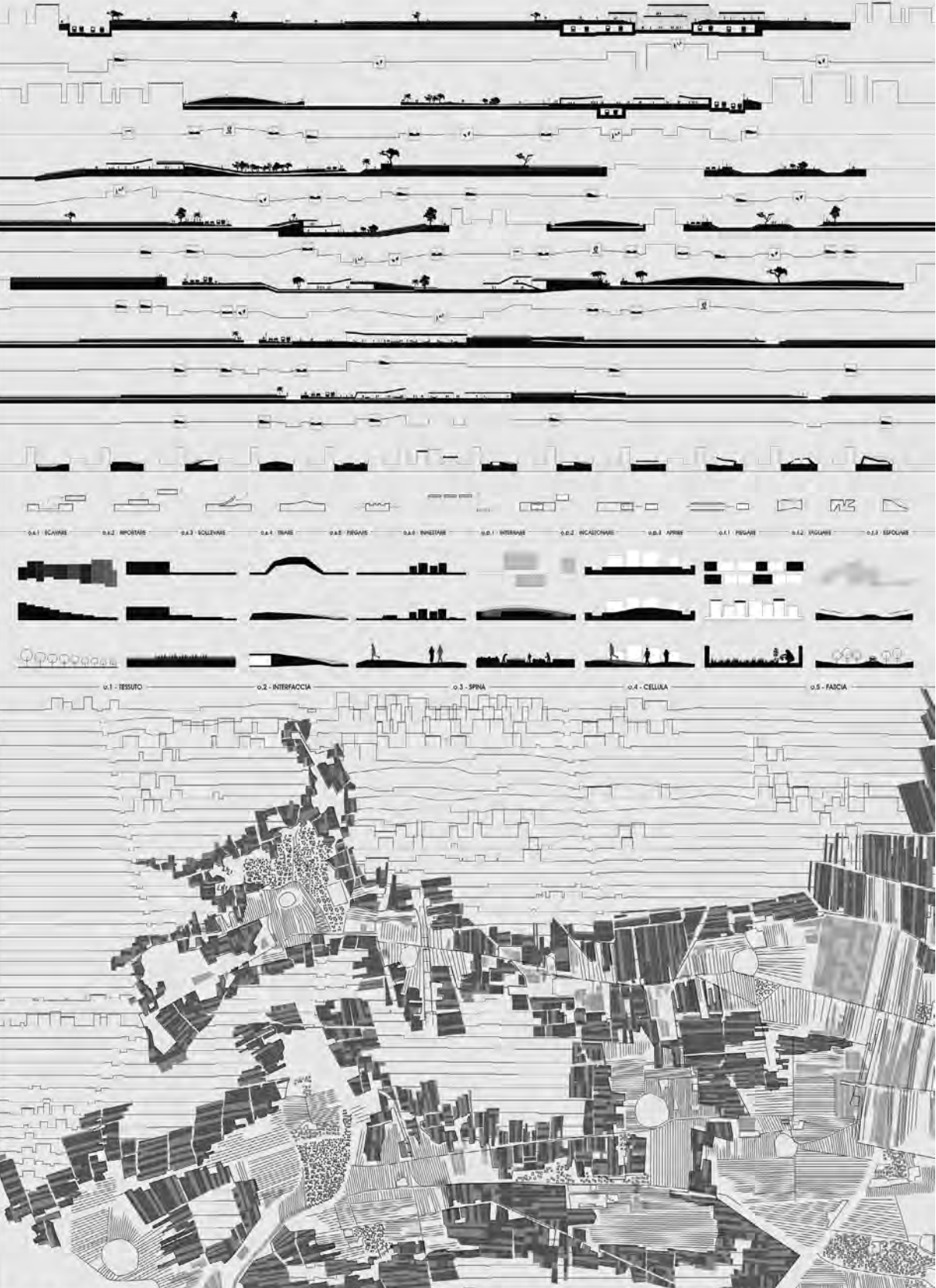
Tutor: Antonella Contin, Antonia Maria Alda Chiesa

*/ in the urban settlements, it is proposed , on the one hand , the preservation of green areas as new social and recreational spaces such as urban parks; and secondly through an ad hoc operation of transformation of the roof of informal buildings in private gardens.

Choosing the movement of soil as the main tool, we decided to represent the project idea by sections: the method allows the identification of a number of operators, indicators of actions capable of shaping the soil and create different spaces and landscape scenarios. This approach is supported from the deepening of green operations, which are fundamental to achieve a sustainable and concrete hypotheses of intervention. This is the essence of the project method, whose final aims is the maintenance of a connection between urban and rural tissue thanks to improvement strategies.

For that reason, the proposal attempts to find a way to bring service provision into the informal areas (culture, health, education, public transports) supported by a green economy system. Following are some of ideas:
*/ fulfill the inadequacy of the infrastructure system by increasing the public transportation and generating new urban centralities: that's important to achieve widespread distribution and homogeneous services;
*/ preserve the rural land working with the height of soil, in order to deter people from building in rural land: this strategy can be suitable for an ecological system, concerning the underground water catchment and the variety of cultivation;
*/ use agricultural terracing systems, green pedestrian path as points of view towards landscape, parks, urban orchards, green roof top garden;
*/ engage micro architecture projects in the informal areas, using natural and local materials, as wood and vegetable fiber, in order to conserve a landscape drawing.

Every solutions we propose it's the result of a careful analysis of the document published by FAO organization, and lots of them have been already experienced in Cairo, successfully.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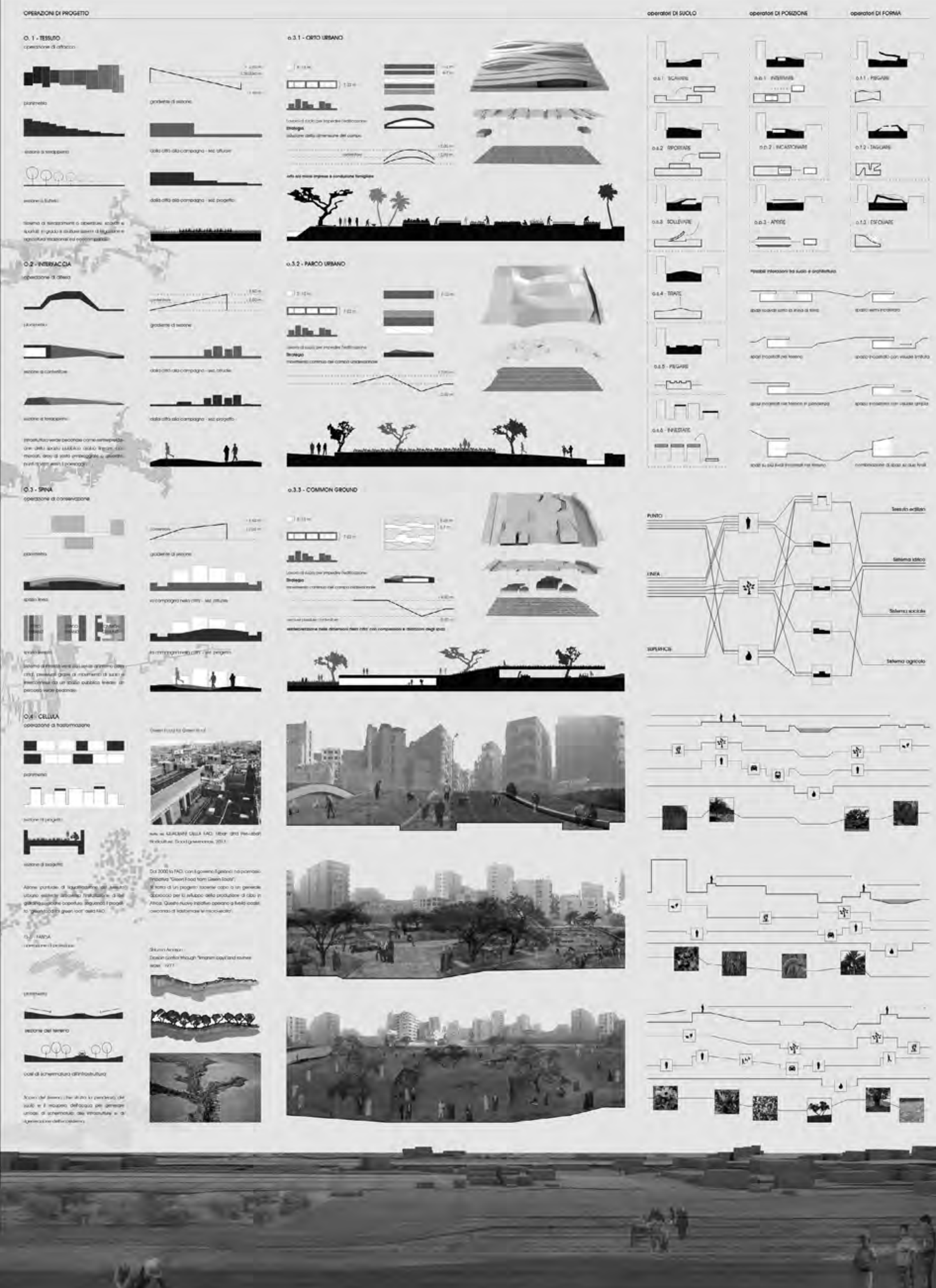
0.4.3 - ESPOLIARE
0.1 - TESSUTO
0.2 - INTERFACCIA
0.3 - SPINA
0.4 - CELLULA
0.5 - FASCIA



OPERAZIONI DI PROGETTO
operatori DI SUOLO
operatori DI POSIZIONE
operatori DI FORMA
O. 1 - TESSUTO
operazione di attacco
planimetria
gradiente di sezione
dalla città alla campagna - sez. attuale
dalla città alla campagna - sez. progetto
O.2 - INTERFACCIA
operazione di difesa
O.3 - SPINA
operazione di conservazione
O.4 - CELLULA
operazione di trasformazione
o.3.1 - ORTO URBANO
o.3.2 - PARCO URBANO
o.3.3 - COMMON GROUND
PUNTO
LINEA
SUPERFICIE
Tessuto edilizio
Sistema idrico
Sistema sociale
Sistema agricolo

ELIANA GUERZONI,
AMANDA GOBBI

INFORMAL RE-GENERATION THROUGH INTENSITY RE-ACTIONS

Intensify - Escalate - React - Valorize - Reinforce

*The density of the lines represent increasing stress concentrations (*Alexander, 1977). The study of analysis and interpretation of Cairo Ard-al-Liwa informal district starts from the identification of the characters of the informal phenomenon in Cairo metropolis to identify its constitutive rules. The strategy of intervention involves the *intensification* of the identified characters as a *reaction* to the context. The elected strategic mode is synthesized by a graphic in which the reagent operations thicken proportionally according to the represented *gradual zoom* of scale and to the followed logical procedure. Therefore the aim is to outline a *semantic storyboard*, that through a process of intensification of the gaze proposes appropriate reactions in order to *give value* to the identifying features of the site.

Evolution - Elasticity - Reversibility

Transformation is the core of modern culture, time lapses embrace change and rapid, fast, and speedy have become today's premises. Time rules and to experience it, to experience duration is to experience plasticity, dilation, flux, movement. The city changes its shapes and forms according to the needs of hinabitants (Iaac, 2010).

Redemption - Palimpsest - Armor - Refund

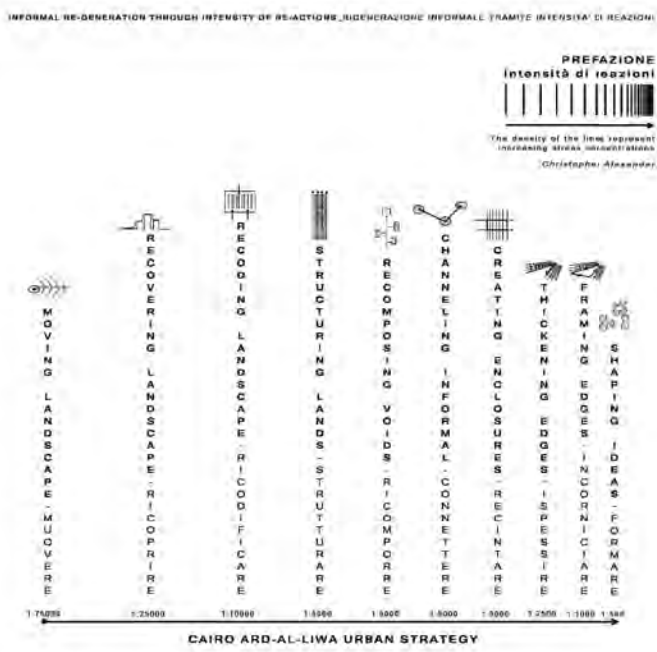
In such an infinitely unstable environment, architects must throw away their Ruskin- When we build, let us think that we build forever - in favor of new goals: resilience, adaptability,

Tutor: Antonella Contin

and transformability. Resilience is the capacity of a building or a system to absorb change in medias res without resisting it; adaptability relates to the components and their influence on resilience over time; and transformability is that which enables survival.

Read - Decipher - Reinterpret - Rewrite

The length, the province, and the tone, being thus determined, I betook myself to ordinary induction, with the view of obtaining some artistic piquancy which might serve me as a key-note in the construction of the poem - some pivot upon which the whole structure might turn. In carefully thinking over all the usual artistic effects - or more properly points, in the theatrical sense - I did not fail to perceive immediately that no one had been so universally employed as that of the refrain. The universality of its employment sufficed to assure me of its intrinsic value, and spared me the necessity of submitting it to analysis. I considered it, however, with regard to its susceptibility of improvement, and soon saw it to be in a primitive condition. As commonly used, the refrain, or burden, not only is limited to lyric verse, but depends for its impression upon the force of monotone - both in



*sound and thought. The pleasure is deduced solely from the sense of identity - of repetition. I resolved to diversify, and so heighten the effect, by adhering in general to the monotone of sound, while I continually varied that of thought: that is to say, I determined to produce continuously novel effects, by the variation of the application of the refrain - the refrain itself remaining for the most part, unvaried (*Poe,1846).

Infiltrate - Drip - Vary - Rotate - Produce

The bidonvillage that is able to secure its own existence, its own food, that has its tools, its handcraft is no more a bidonvillage: it represent, perhaps, the future of our planet (Friedman,1984).

Porosity - Percolation - Semantization - Multeplicity

Make all the outdoor spaces which surround and lie between your buildings positive. Give each one some degree of enclosure; surround each space with wings of buildings, trees, hedges, fences, arcades, and trellised walks, until it becomes an entity with a positive quality and does not spill out indefinitely around corners (Alexander, 1977).

Services - Flows - Accesses - Nodes

One of the first objectives of the thinking concerning a sustainable metropolis could be to look at the ways in which the space of a metropolis might be shared by all. To do this, it is necessary, in order to take them into consideration, to highlight the feelings of "banishment" that, in a number of different ways (employment, housing, transport, relationship to the city's life), undermine the cohesion of the territory and the concerned society. It also demands that the concept of suburb has to be integrated into the city. A metropolis with several million residents is unable to offer a shared centre to all those living in it. It is therefore better to think in terms of multipolarities to locally generate a sense of urban wellbeing able to provide the foundations for human wellbeing (AS. architecture-studio, 2009).

Perpendicularity - Columns - Crossbeams - Internal Contrast - Gradation of ambits

The Islamic architectural enclosure is ritually hierarchized by indications of the second surah of the Koran that, on giving the direction (qibla) of the position of believers towards Kaaba, implicitly gives the position of the mirhab (niche in the main outside wall towards which they pray) in the crossing direction and opposite the enclosure entrance. Therefore indications are given of an axiality, whose progressively centralizing and

TEMPORAL LANDSCAPE_
ACCRESCIMENTO DEGLI INSEDIAMENTI INFORMALI

ANALISI MORFOLOGICA DELLE TIPOLOGIE
DI INSEDIAMENTI INFORMALI
Il costruito_ Le giaciture_ La densità

hierarchizing function can be considered the central, albeit not unique, theme of the cyclic process of type mutation: from an absolutely sequential origin towards upshots of progressive organicity (Strappa, 2000).

Visibility - Accessibility - Gradient - Directionality - Intervals

Edges take effect if: are visible from a certain distance; mark a vivid gradient in the character of the area; connect delimited or opposed areas.
How to orientate along the length an edge: determine a gradient of directionality that shades; identify points detectable at intervals; characterize one extreme over another (Lynch,1960).

Influences - Correspondences - Measure

Encourage the gradual formation of a promenade at the heart of every community, linking the main activity nodes, and placed centrally, so that each point in the community is within 10 minutes' walk of it. Put main points of attraction at the two ends, to keep a constant movement up and down (Alexander, 1977).

Mimesis - Development - Contraction - Expansion

The network of learning has established the importance of a whole society devoted to the learning process with decentralized opportunities for learning. The network of learning can be greatly helped by building a university, which treats the learning process as a normal part for adult life, for all the people in society. Establish the university as a marketplace of higher education. As a social conception this means that the university is open to people of all ages, on a full-time, part-time, or course by course basis. Anyone can offer a class. Anyone can take a class. Physically, the university marketplace has a central crossroads where its main buildings and offices are, and the meeting rooms and labs ripple out from this crossroads- at first concentrated in small buildings along pedestrian streets and then gradually becoming more dispersed and mixed with the town (Alexander, 1977).

RICCARDO ROSSI,
LUCA VERDERIO

AN URBAN ARMATURE FOR INFORMAL CAIRO

/* The project proposes the infill of a regenerative hard structure inside the informal settlement. The space is planned to accept a multi-centric structure designed to have a dynamic development inside the urban tissue in analysis. Through the addition of a system of Architectonic-cells with the ability to transform their shape depending on the elements with which it interfaces every cell interact and shape itself in connection with the preexistences of the area, bounding itself not only in matter of "form" but especially over the social activities and relevancies of the life of the settlement.
The project define a new layer of the city, that radically divide the connecting system, the commercial activities and the residencial settlement, generating on the soil level a highly permeable system that gives order and hierarchy.
Over the first layer a continuos foil of soil shade and melt landscape with the new construction armature of the city. It is conceived as a single blade of soil which, starting from ground, rises and bends, creating a new fertile soil at the base of the residential towers capable of ensuring shadow areas highly necessary to below it and green and public areas above.

1 Macro Strategy

/* The project of Ard Al liwa is part of bigger plan supported by the World Bank, for the development of informal areas. The idea is to create new centralities in order to attract people and activities. The creation of a new net of transports and infrastructure is crucial to connect the different fragments of Cairo city.

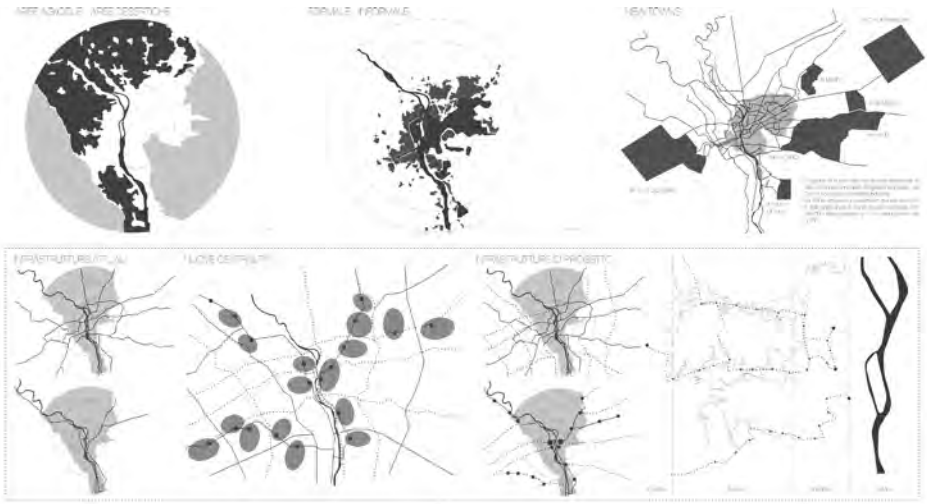
Tutor: Antonella Contin

At a local scale, the project deals with the border of the city, defining a new balance between green and gray structures.

The structure

2

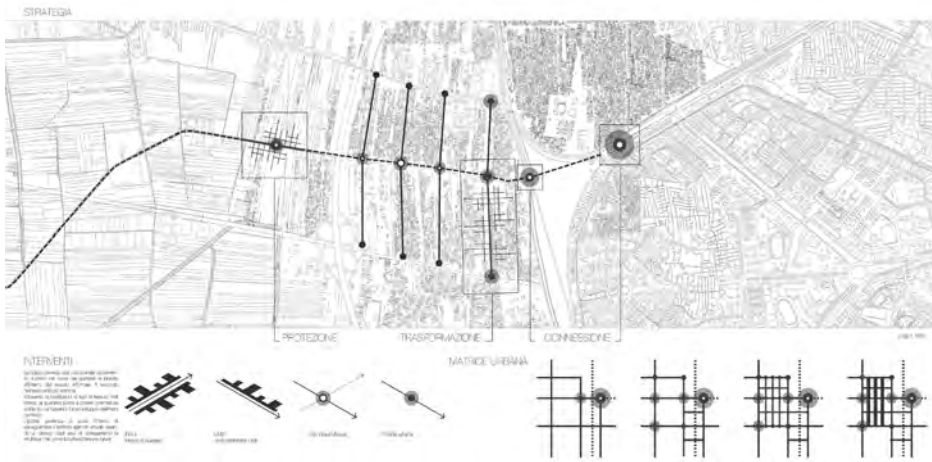
/* The masterplan propose the infill in the informal tissue of a solid structure based over a cultivated linear field. Along this green axis the static infrastructure developes a grid of connection that generate spaces and pathways.
The geometry and the measures of the intervention are the reinterpretation of the local tradition in construction and landscape patrol.
The temporal development of the project is planned in several phases guaranting a slow but costant change in the urban tissue.



3 Connective system

/* The project establishes three different levels of mobility in order to regulate and enhance the inner permeability of the high density settlement:

*/ main axes, for vehicular circulation.
These axes are the structure of the settlement, linking the new tissue to the pre-existing road network and regional scale.
*/ internal circulation roads.
Are placed every fourtyfive meters in both orthogonal directions, have a section that allows the tok-tok transportation system to work, facilitating the porosity of the fabric.
*/ the walkway web.
These pathways are detached from the grid system, going to intervene on the pedestrian circulation and thus on the porosity of the block, creating a continuos walkway that connects all the innercourts, commercial activities and public spaces. This strategy stresses the importance of the pedestrian in a colture that is strongly rooted in public life on the streets.



4 Porosity

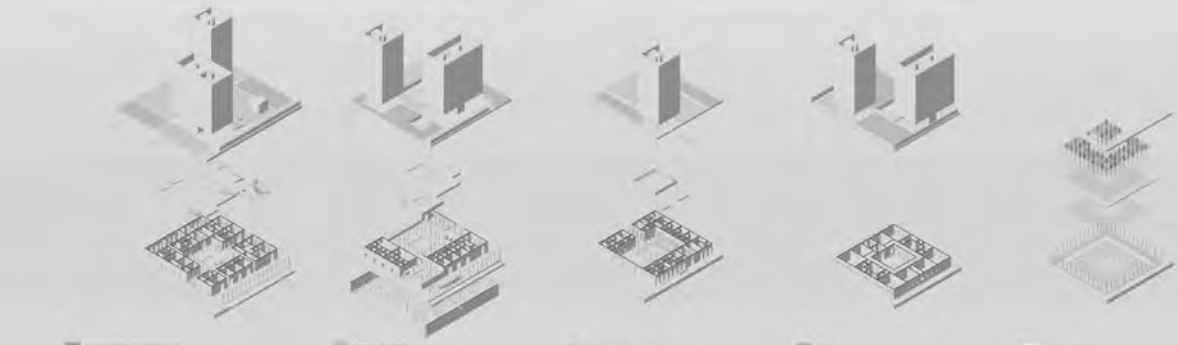
/* The high porosity of the ground layer intend to incentivate the use of the street as a common space, generating a net of open spaces, narrow passages, gardens markets workshops and public space.
The accurate use of openings for the sunlight define and enhance the identity and shape of the areas.

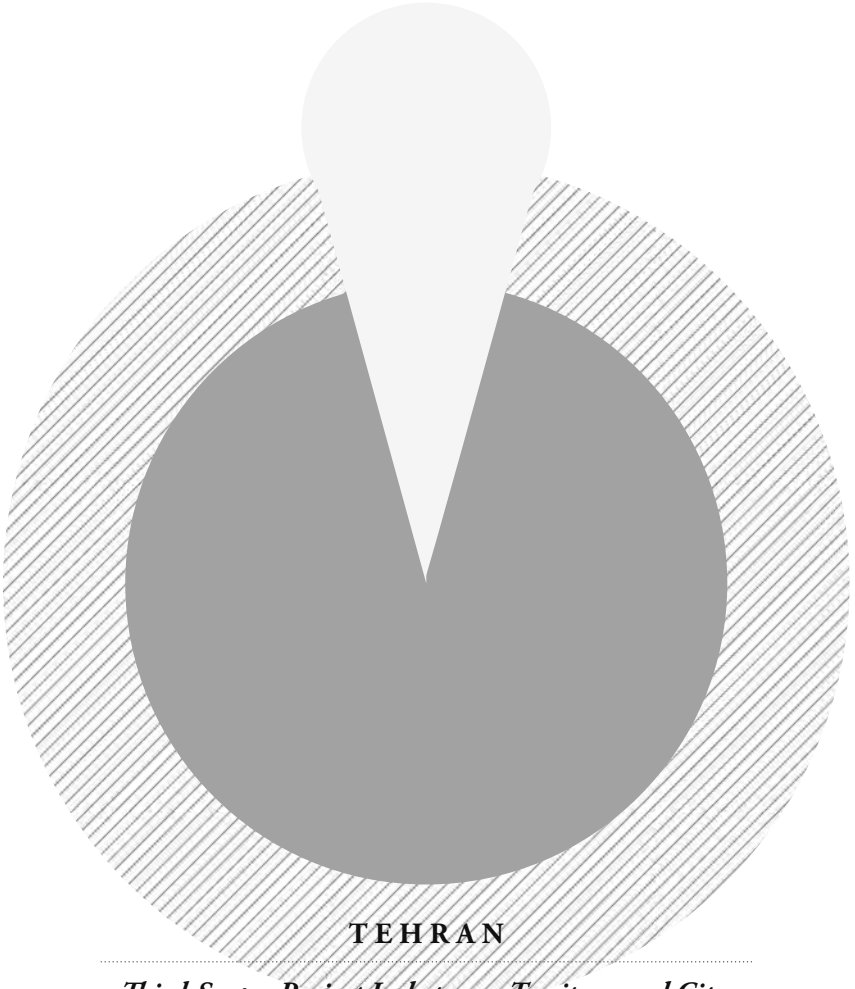
5 Activites and Services

/* The ground floor of the intervention involves the development of activities related to services for the community. The functions respond to the context, following the rules and principles of settlement arising from the strategy.
The “heads” are services on a regional scale, as positioned on-axis with large-scale markets and concern, space for storage and recycling plants and cultural spaces.
The interface of the project and the areas between the axes of connection, will be managed by a rising trade, so as to relate to and blend in with the commercial side of the ground floors of the buildings of the informal, creating that continuity with the context that makes possible merging of the new settlement.
The faces that make up the edge of the central spine of farmland, will be more space to make possible the intended use on overnight deposits and agricultural schools formations craft.
To tie the project to the informal context, the interface will be put services on a local scale, as clinical and school; elements able to interact even more the two different fabrics.

ARMATURA URBANA

CELLULE TIPOLOGICHE





TEHRAN

Third-Scape: Project In-between Territory and City.

Golshid Saham, Golkoo Hooshmand
Charging the Void. A Design Strategy for Regenerating the Urban Counter Spaces.

Ali Shariatpanahi, Seyedmorteza Farazandehmehr,
Metropolitan Area River Duality, Contrast Between Void and Mass. Case of Eslamshahr.

I R A N

TEHRAN
THE CHALLENGES OF BEING A METROPOLIS

/* Appears as a fragmented metropolis and extending over a vast territory, Tehran is a meso-condition, in-between Alborz Mountain at the north side and Iran's central desert at south. The image of Tehran over the history and due to the several extreme transformations and renovations has entirely changed; it is truly the reflection of sovereigns' commands, demolished and rebuilt over and over. The today Tehran is a giant metropolis with inappropriate perception of its territorial dimension and qualities. While it has been decades that the city has become regional and touched its external territories, it has not yet properly faced the challenges of 'being a metropolis'.

Among the new emerging metropolises in the third millennium, Tehran is one of the most populated and largest metropolitan areas. It remains a provincial metropolis of some 12 millions of people, with street chocked by 4 millions vehicles and air pollution that kills 3,600 inhabitants per months.

Based on World Urbanization report- UN, by 2050 Iran's predicted population will reach to 100 million. Considering the fact that around 85% of this population will concentrate in the urban agglomerations, Tehran Metropolitan area, as the capital with almost more than half of the services and industries, is going to be one of the largest and most dense metropolitan regions in the World. As many current metropolitan areas, Tehran suffers from the lack of vision for heading to the future. Confronting with many difficulties such as air pollution, water shortage, traffic, lack of public facilities and civic spaces, beside unstable socio-political condition, Tehran's future seems ambiguous.

Tehran has never been observed through the scope of a meta-project, which is able to propose a contemporary formulation of 'project for the city'. In fact, the city has being always treated with episodic and remedial strategies, which due to the absence of a collective and clear vision from the city and its essentials, rather than solutions turn to the new difficulties for the city.

The territorial expansion and inappropriate perception of being a grand metropolis has generated many difficulties and problems such as lack of territorial connectivity, social

*
Narges Golkar

segregation, unequal distribution of economical facilities and a drastic environmental degradation. In last three decades many agricultural and productive lands, particularly in Tehran's south plain, due to the lack of proper urban management and policies and more importantly the absence of public awareness, has gone under uncontrolled urbanization.

In fact, the lack of public values and absence of a proper territorial vision are the main engines of those neglects and mistreatment regarding to natural resources, which heading the city toward an environmental catastrophe.

In 2001, for the first time the plan of 'Greater Tehran', taking the city and suburban lands as a whole, was prepared. The new plan entails the construction of major infrastructural line to be funded by the government of Tehran province. Though, the absence of an administrative organization was problematic to such a project in the scale of the Greater Tehran. But, the conception of this extended scope mainly shifted the perception of Tehran in the last decade. However, most of the current regional policies and strategies, while focusing on the agglomerations of urbanized areas and their transformation to new urban centralities, do not present an effective vision and collective conception of city in relation to its territorial capitals. ○

NARGES GOLKAR

TEHRAN THIRD-SCAPE: IN-BETWEEN TERRITORY AND CITY.

An Integrated Design Strategy for Tehran Territorial Metropolis

1

/* While today the generic condition of urbanity and powerful process of *de-territorialization* situate the architecture in *non-landscape* and detaches the city from its geographical contexts, the perception of a new mode of design, which is able to provide a 'collective' meaning between both matter (context) and manner (form) of urbanity, become critical. This dual aspect would describes the project of architecture primarily as a project of intermediation, intending for a *critical thirding* (a generative whole) between the tangible value of territory (landscape) and the intangible quality of city as the art of *collective creativity*.

On one hand, starting over from territory and its landscapes diversity (physiognomic, cultural, socioeconomic,etc.) would provides a 'spatiotemporal depth' or 'sense of rootedness' to the project of architecture to mainly find its value in suspension between 'authority' and 'totality', and maintain the position to be strategically designed.

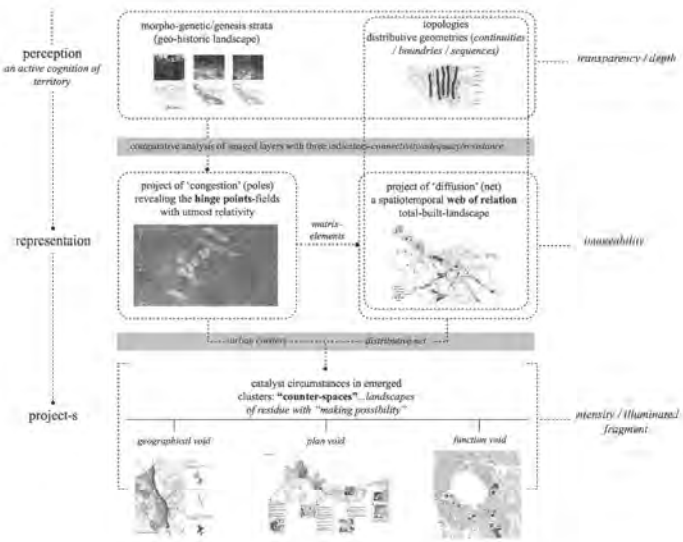
On the other hand, linking the territorial landscape and its 'sense of deepness' to the present life of cityas *re-assembling* with/in *shared spaces* generates an augmented awareness and common sense (through these public-landscapes) in which the 'public sphere' of our contemporary city would be restored. [1]

The promise of integrated design strategies [2] to construct a 'third-scape' between geographical landscape (territory) and project of public space (city) might unfold a new field of possibility for architecture *to become involved in larger dialect* between multiple scales, times, values and forces; and

rather to be a picture of order, to serve as a model for order. Based on this vision and by means of a contextual study, the case of Tehran metropolitan region due to its unique geomorphological and topological characters has been selected to be studied for this hybrid and integrated means of design.

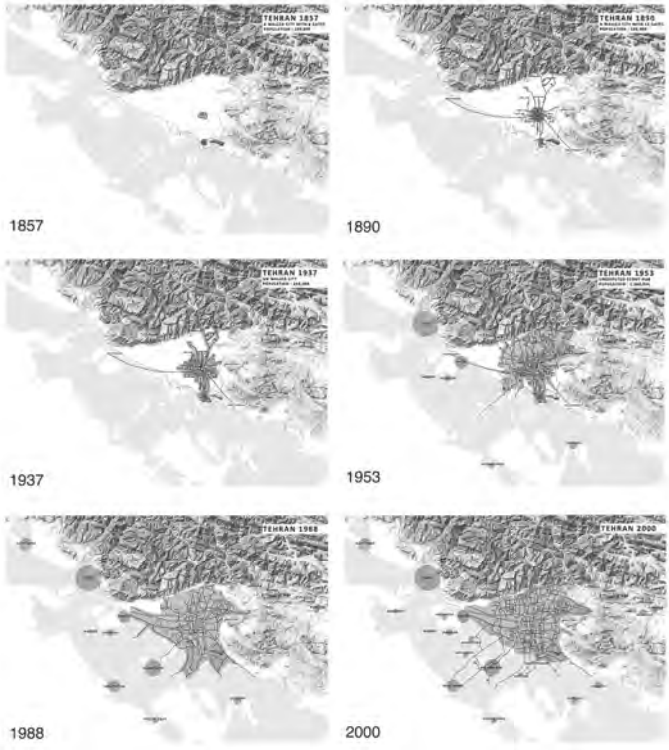
Tehran's condition significally recalls for a new perspective of growth, based on public and social values which city can relay on their collective meanings for a sustainable development. In fact, while Tehran's sprawl increasingly threats its city-being and collective qualities, the conception of new urban centralities with strong *cityness* meanings - socio-economic and environmental complexities and possibilities - seems to be the inevitable need of city. The shared meaning of these new *collective spaces* can re-orient the city toward its social as well as environmental qualities for reinvention of 'public realm' in the present moment of city.

By this perception, the integrated design project for Tehran, instead of accepting the form of urban sprawl, argues for an archipelago of *collective spaces* with contextual and legible



1

urban compositions that sharply confronts the existing satellite cities and their therapeutic plans. These spaces are realized through a territorial 'active cognition', together with a 'site-oriented representation' of territory, based on the morphological traits, landscapes descriptions, and socio-economical subjectivities of the territory. Thus, the appearance of open territory is elaborated to become the positive and constructive value, which informs the projects of architecture and proposed urban models.
Through the extrapolation of these landscapes with 'collective making' possibility, and their intensification with new civic meanings, the 'integrated design method' seeks for an intermediation inbetween territorial matter (geography of space) and city's manner (geography of mind). The integrated strategy thus proposes a hybrid urban praxis and based on a profound relation between 'perception', 'representation' and 'project'.



2

Tehran water corridors. *Due to Tehran's geographical condition, sitting on the skirt of mountain, several waterways are passing through the city in north-south direction. The city had primarily evolved in the axis of these waterways, becoming its spinal cord before it sprawled into a territory seven times its size in a short time span of thirty years. Between seven north-south river-valleys of Tehran, which has been cut off by highways lines, just three rivers -Jajroud, Kan and karaj- continue to the southern plain and others are limited to the uplands area, and disappear even before reaching to the center of city. These river-valleys are the main natural corridors of the Tehran's ecological landscape.*

Tehran agricultural plain. *The agricultural plain in south-east and south-westdirection is the major ecological corridor of Tehran territory, a fertile habitats that support a variety of vegetation and natural species. Most of the historical landscapes and farmlands in last three decades have extremely changed as theyvanished due to the uncontrolled urban growth. The fragmentation of agricultural landscape particularly those crossing by infrastructural lines, put the continuity and resilient of landscape in danger, and threat the biodiversity and ecological quality of territory.*

The transportation network in Tehran metropolitan region. *The urban structure of Tehran, as a cellular metropolis, is essentially determined with the lines of mobility. The urban grid system, made by north-south roads -in the river-valleys direction-intersecting with east-west highways, which cut off the city all along. Tehran relates to its surrounding region by three main freeways and several highways, beside three railways, which start from the center of city and go toward the region in west, south and east directions. Tehran suffers from the lack of connectivity between metropolitan urban poles, and thus a low level ofterritorial porosity.*

Urban congested poles in Tehran region. *Tehran urban pattern and distribution is highly fragmented and unless many sprawl metropolis in the world this dispersion leads to several problems such as socio-economical inequity, heterogeneous distribution of urban facilities and drastic degradation of natural resources. Tehran metropolis includes several small and medium sized surrounding cities, which their populations have increased while most of public facilities and jobs are still concentrated in Tehran center. These result large number of commuting trips both within the city, also to and from these nearby cities.*

2 Perception
Geomorphologic and topologic layers

/* The first module of practice entails a particular notion to the geomorphological and topological features as connotative matrices of Tehran territory, to perceive those formative orders and meaning, which are fundamental to the future urbanization and growth of the city. Adopting the disjunction strategy and conception of 'imaged territory' the project first intends to describe those territorial systems that currently support agglomeration and growth. The intensity of deep interrelations among these systems then reveals the 'hinge points' as basic 'fields' for those collective/making possibilities of Tehran metropolis, which through their socio-public values could support the sustainable future of city.

3 Representation
A site-specific depiction | the web of relation

/* The second module of integrated design for Tehran territory includes the two correlated parts:
First, the study considers a 'relational' overlapping and comparison between those territorial strata, which have been portrayed in the primary analysis. This means to reflect the 'fields' with utmost relativity among all layers, the most 'hinging points', where demonstrate spaces with high collective value as new dimension of 'urban clusters'.
The second section, by taking those 'hinge points' as matrix elements, represents a 'web of relation', producing a physical and tactile communication between reflected sites, designating a 'structureterritory', as *total build landscape*.

4 Site-specific depiction: 'fields' with utmost relativity

/* Approaching the first part of 'representation', the project assumes several indicators, which support the relational description of those spaces of plurality and diversity, and have a common value between all layers.
Since each of these three referential values, implicitly reliant on different time-space meanings of city, they permit the project to remark the landscapes and places of 'poetic plurality', in which past, present and future of the city come together in an consistent dialogue. These metropolitan 'fields' due to their multi-referential values take the meaning of *civic complexes* or 'intense images' in new territorial environment of city. These *illuminated fragments* from one hand have

the potential to construct the *symbolic inter/mediators* that mediate between those local and territorial orders, on the other hand, they indicate those 'matrix elements' for new measuring of territory.

Continuity/Connectivity

The first indicator would be seen as intersections among transportation and environmental corridors, termed as *gray and green armatures*. These are places where the crossrelation between two dynamic meanings, 'daily' and 'evolutionary' life of city, in its present-being happen. At the same time as these places are the meeting points between two 'continuous' features of territory they can define the tangible matrix elements for the landscape's backbone.

Capacity

The second value or implication explains the socio-economical adequacy and capacity of site to provide the needed essentials due to the future development. Those are highly potential sites where relate to the multiple meanings such as infrastructural nodes, fertile lands, commercial cores, or socio-cultural centers.

Resistance

The third value would be related to the resilient meaning of those landscapes, indicative to the reflection of those poetic fields. Although, this perception would not necessarily corresponds to the archeological values within places, as every place or landscape narrates a certain history, being filtered by the memory of city. In fact, this quality describes a durable meaning with place, which hold with it a sense of rootedness and belonging.

/* The projects of 'congestion' (poles) and 'dispersion' (net) in metropolitan landscape are truly inseparable. The common conception of infrastructure, as interruption and division in 'conservative approaches' to landscape, then would be re-oriented and supports the role of infrastructure for the operation and livability of landscape.

Infrastructure as endows a constructive dialogue between metropolitan dynamics, from one side reveals a perceptible effect of those intangible values, and on the other side, in its totality expose a single system within territory. The peculiar variations of landscape over territory that describe the identity of places then interconnect through the objectivity of infrastructure.

By this perspective, the project searches for a tactile relation meaning between those previously realized spaces as 'fields with utmost relativity' in Tehran metropolis. Therefore, this study adopts a linear spatial organization: the 'Reticular Matrix', which significantly entails the re-orientation of growth and expansion, based on geographical feature of territory.

The 'Reticular Matrix' is a model of spatial distribution, proposed by World Bank Institute as an alternative plan for metropolitan democratization through a balanced spatial growth.This model, which has been termed as CiTi method as well, through a deliberate simplification, intends to introduce 'a producible system' of spatial planning within different metropolitan context. [3]

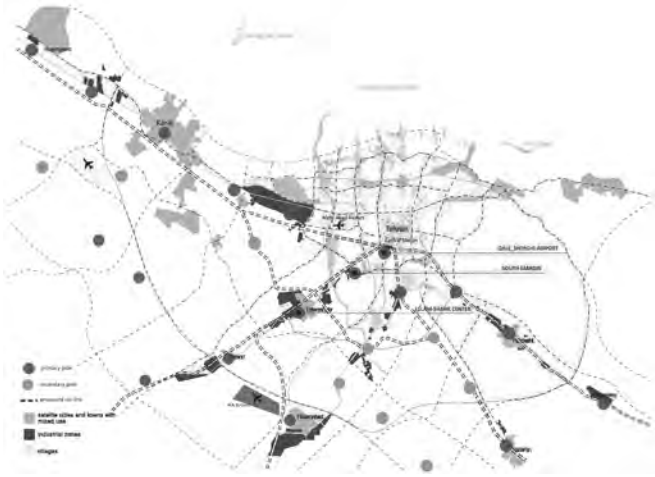
This simplification, does not propose a generic mode of infrastructuring, since it departs from the geographical and topo-morphological features of territory, as the distinct identities of city. [4]

The infrastructuring in this method describes a matrix and distributive network, approaching the territorial facilities and meanings rather than simply imposing a compositional concept. Therefore, this web of relation performs as synchronizing structures, supporting allocation of urban condensed poles in a balanced and equilibrium urbanization over territory. They reconcile the city with its geographical characteristics while conforming to the topo-morphological structures of territory. Recalling the imaged layers of territory, then the model in accordance with geographical

directionalities, existing transportation corridors and urban congested poles, represents an open infrastructural system. This appears as a 'Reticular Net', which becomes the backbone of a *total built landscape*. By this, the territorial environment becomes an illuminated and 'imageable whole' composed by both distributive 'Net' - diffusion effect - and multiple 'Poles' - congestion effectinterrelated by topological and topographical systems. [5]

Therefore, based on primary reflected fields with *general relativity*, also the territorial topologies and directionalities the project in association with CiTi model proposes an alternative web of relation for Tehran territory, illustrating an open matrix of urban extension and growth. Those sites of collectivity then reveal the *fix points* and noticed elements of this territorial open matrix. This site-specific representation provides as well an *intense image* of Tehran territory as a landscape of relation and communication, to fix in the metropolis the standards of centrality and orientation.

The compatibility of grey armatures -transportation lines- in meeting the natural and geographical features is a looked-for concept in this territorial infrastructuring, since the continuity of environmental corridors is essential to the biodiversity of metropolitan regions. So, the primary reticular matrix subordinate to the ecological order of territory, as it is 'tamed by nature'. By this, the matrix describes a tridimensional concept of relation over territory, which demonstrates the role of soil/ground as a fundamental component in our contemporary territorial urbanism with its new open and landscape oriented patterns.



4

6 Project
Three 'counter-spaces', three urban centralities

/* Following the distinction of those differences within territory -the 'hinge points'- the project assumes the concept of *counter-spaces* [6] as catalyst circumstances for those fields of plurality.
Adopting the concept of *counterspace*, the practice investigates for those spaces of suspension or voids, which due to their *underutilized* aspect are able to cohabit those pluralities and diversities, and more importantly to create a productive relation among them. [7]
The study here refers to *counterspaces*, as those marginal territories which are external to the dynamic of metropolis, while in addition they expose a counter-being effect to the deficiency of context for 'collective making'. [8]
Based on these premises three counter-spaces, as different types of void, have been underlined in Tehran territory. Each of those local areas reveals a unique alternative to the concept of *collective making*, being perceived in connection to the various landscapes or eco-tonalities.

7 Function void | Qal-e-Morghi post-military airport

/* Qal-e-Morghi is a shut down airport in the south-center of Tehran, a strategic location, which exposes the switch point between Tehran's urban and regional systems. Locating at the intersection of Navab highway - one of the main urban vertical connections in the extension of Darakeh ecological corridor- and south-west railway, this enormous dismissed void (2km x 2km) demonstrates a specific condition and potential to the future development of Tehran.
Located in a congested and dense urban fabric, while surrounded by multiple infrastructural lines, Qal-e-Morghi appears as an inaccessible, inward, and isolated field, detach from its surrounding context. Though, the vicinity of Qal-e-Morghi to the main commercial center -Bazar- and several historical zones in the core of Tehran, beside its position inbetween the central station of Tehran and Mehr-Abad national airport, specifies this giant void

as a meaningful urban location which indeed reflects the contemporary concept of 'place as plurality'. On the other hand, the proximity to the agricultural lands at the south part provides a contiguous relation between this void and Tehran territorial landscape.

Due to these difficulties and capacities of this 'external territory', the project takes this field as the reflection of *general relatively*. This is a collective making possibility, calling for reinvention of contemporary concepts of urbanity and architecture within Tehran metropolis.

5

8 Plan void | Tehran South margin

/* The second counter-space has been realized in the peripheral area of Tehran city and along the first ring - Azadegan freeway. The area initially was including several industrial activities, specifically chimney and storage yards, which their proximity to the rural and agrarian landscapes had a direct effect on the land degradation and desertification in Tehran's agricultural plain. Although some of these industrial activities has being removed form this marginal area, other factors such as illegal land occupations and uncontrolled urbanization has continued the destruction process of those natural landscapes. In fact, the primary interface between the city and its territorial landscape appears in this locality, while it seems in contrary to the idea of integration the urban patches has been grown sporadically inside the green areas.
Despite those negativities, the presence of this linear and interstitial field in-between the ancient city of Ray at the east part, and the largest industrial zone of territory at the west side, also being crossed by the main railway line of region, this apparently *panorama of zero*, seems to provide the multiple capacities, to the future development of Tehran.

9 Geographical void | Eslam-shahr New Town

/* The last point of project's track has been realized in relation to the fast urban sprawl in the suburban landscapes. Sited at the heart of Tehran's agricultural plain, Eslam-shahr city was initially formed in connection with several little villages along the north-south railroad. It was planned in respond to Tehran decongestion policy, and particularly advancing the removal of industrial activities from the center. Over the fifty years this new city has expanded with a sporadic and irregular pattern, without a comprehensive vision regarding to its growth. This process destroyed a vast dimension of agricultural landscapes and farmlands with an irreversible manner.
The location of Eslam-shahr along the main transportation corridor of region, and a strategic position between Tehran's central station and IKA airport, at the edge of desert, explains the area as a significant territorial node. Beside

the transportation value, this area is crossed by one of most important waterways of territory - Karaj - that pass right through the central area of city. Being the field of intersection between two major ecological corridors - Karaj River and agriculture plain - and the main transportation line of region, Eslam-shahr represent a density of values, or to say a *particular intensity*.

The perception of interstitial space and void in-between urban patches has been understood as a counterspace, capable to deliver a *collective making* alternative to the fabric of dispersion and sprawl. Working at the crossscape, where cohabits either landscape and infrastructure features, then this collectivity provides the conception of a new centrality, which can stimulate the sense of identity and *cityness*, in this new suburban town.

10 The new grammar of territorial public spaces

/* Reflecting the concept of public space in relation to new geographical context of city, and project of urbanity as project of landscape, needs the experimentation of new grammar that is ancient and new at the same time. Recovering the urban patterns intimate to the natural landscape and territorial resources the project of public space primary become a cognitive process and re-elaboration with those environmental and natural resources - hydrological systems, quality of soil, agricultural fields, and wood lands, etc.
In fact, anticipating the metabolic attitude in current design experiences -conservation, rehabilitation or transformation of the landscape- describes the project of urbanity and public space in territory as a mode of resource management. This landscape aspect then demands new architectural and compositional patterns for public spaces, being compatible to current environmental and natural characters of city. Layered and performative ground, productive landscape, gradual design strategies, hybridization, flexible urban forms, are some of those design and architecture concepts being supportive to current territorial public spaces.
The research has addressed this new geographical and environmental dimension of public space, by adopting a collective design concept, which initiates from a deliberate *extrapolation* of territorial strata, and following by a projective approach. Narrowing down to the urban scale, and intending for those new architectural lexicon and concepts, essential to the geographical aspect of public spaces, the assigned projects, has investigated for more open, flexible, and operative strategies, illustrating the new design toolkits of territorial metropolis.

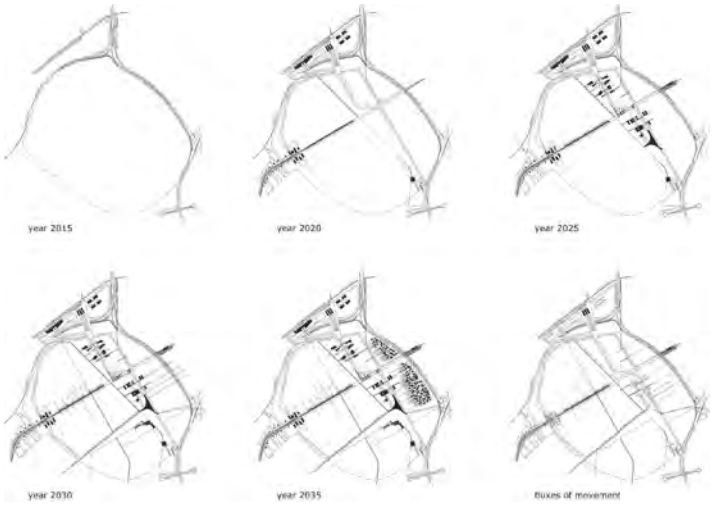
11 Design attributes for a strategic urban void

/* The congestion and simultaneity of infrastructural systems, ecological landscapes and urban settlements in metropolitan context, recalls for the new architectures and spatial articulations that are mainly hybrid and multi-layered, communicating each other in an open and dynamic relation.
By this view and based on strategic value of Qal-e-Morghi Airport, which is surrounded and passed by several

infrastructural and urban elements, the research specifically studied this area in collaboration with students. Therefore, the study adopts some spatial implications to be considered as the key concepts in the process of design. These are the spatial meanings and architectures, which might be described as new design toolkits of territorial metropolis.

Open/procedural plan

The necessity condition for flexibility of design projects in current metropolitan cities primary to a spatial adaptability refers to a temporal openness, and to being procedural due to the implementation of plan. This recalls then for an alive and organic quality with design, to act as an informative and narrative due to those potentials and opportunities rather than an imperative and static depiction of future.
Based on this perspective, the project of Qale-Morghi proposes a time-open plan, progresses through several steps of configurations, while being flexible to change, it maintains a collective narration and continuity due to synchronization among those primary realized possibilities within context.



7

Layering/performative ground

The concept of 'soil' in the contemporary urbanism find a significant role, which associates with multiple urban qualities such as continuity, flexibility, permeability and integration. The concept of 'tridimensional urbanism' which portrays a shift with urban interactions from horizontal to vertical relations, it is indeed a reading of the city that acknowledge the complex and multitude condition of current metropolis. The city today takes place above, blow, and within the urban ground. This mutually changes the composition of urban ground, extends it to new deepness and mix of layers. In fact, today the architecture of the city rather than being concerned with the figurative meanings and forms is about 'constructing the ground' or to say the architecture of soil. The 'deep section' of contemporary city, more than ever recalls for architectures capable of a profound understanding of complex site dynamics.

With this vision, then the project of Qal-e-morghi has a specific notion to articulation with the vertical layers and depth of ground. The multi-sectional representations of project is intended to explore those infrastructural aspects of soil; defining the urban ground as a mechanism which could entails those structural meaning and translate these performative attributes to a representation and image on the surface of city.

Intensification/hybridization

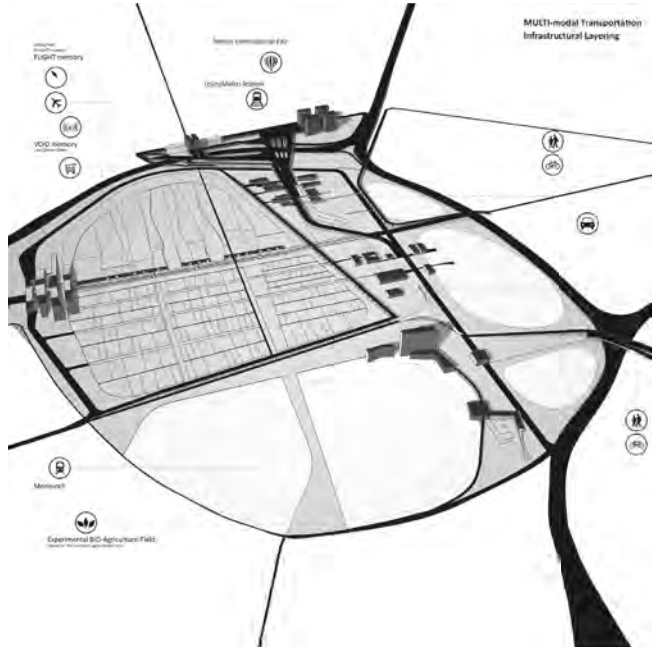
The diversity and juxtaposition of numerous actors, interests and dynamics in current collective/public spaces of metropolitan cities, which constantly interact and exchangefor a new form of being, contrast with those previous zoning and restricted function plans. The new condition of simultaneity and dynamicity produces a hybrid conditions with current city, and to understand the complexities that characterize these emerging hybrid spaces, we need to adapt more inclusive, open, flexible, integrated and holistic design and analysis.

The project then put specific notion on integrated and dense urban configurations and producing a constructive dialogue among the plurality and diversity of programs. In fact the combination of various infrastructure, landscape, and urban meanings in sustainable manner and representing the spatial translation of their conjunction is the major aim in current design project.

Connectivity/permeability

The strategic position of Qal-e-Morghi at the intersection of urban and territorial corridors, define this giant void as the hinge point between two continues transportations corridor of city. The project specifically aims to establish a new dialogue between two systems, bridging the gap, which is present to the current condition of city, not merely with the infrastructural elements but also due to the medium urban-region nodes and programs. This provides the connectivity between north-south urban system and south-west territorial railway.

On the other hand the highly isolated condition of Qal-e-Morghi site contrast with any meaning related to urban porosity and permeability, as those needed qualities to the flows and continuity of city. The project then considers the access to the site and its deliberate integration with surrounding context as an opportunity to enter the city's dynamic and life to this dismissed void. Adopting the concept of 'axiality', two urban strips or bands infiltrate the site, passing through and affecting each other and continuing to the other side of void space and lastly integrating with the urban fabric. The continuity of these strips (both explicitly and implicitly) then provides urban porosity and openness, which is absent to the current condition of site.

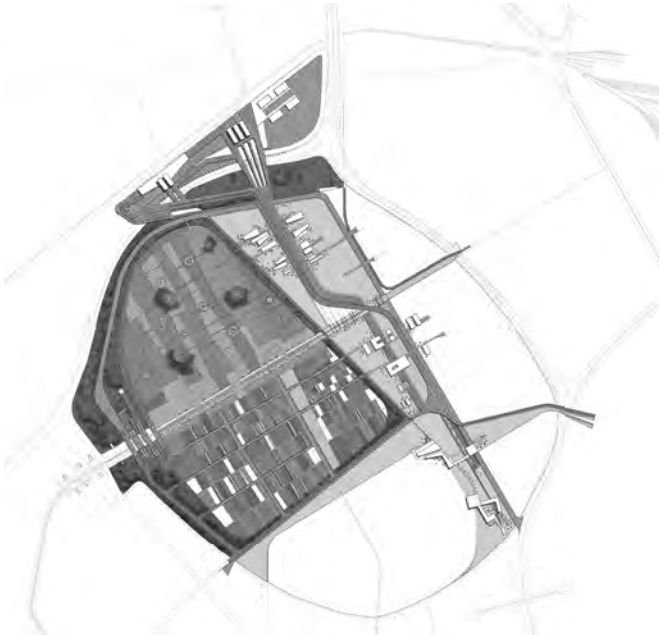


12 Conclusion

/* While the current territorial urbanization with continuous paradoxical effect of de/re-centralization, in an overall view seems to reject any spatial consistency and certainty with today cities, a deeper observation of this process might reveal some of those passive and potentials lied in our contemporary urban environment. The shift in nature of city and its spatial paradigm rather than refusal of its logic, might indicate the emergence of a new order or reasoning, which calls for new ways of thinking to perceive it, alternative models to represent it, and different devices to project it.

The hybrid condition of city-territory, despite its uncertainty and complexity, would represent the possibilities for new mode of urbanity and ethic of design, capable to provide a 'collective' meaning or 'project intermediation' between both matter and manner of urbanity (tangible and intangible values).

In fact, the integration in sense of *critical thirding* between the physical quality of territory and met-physical dimension of city, as an art of re-territorialization, while today the powerful process of generic urbanity detaches the cities from their geographical values becomes the matter of urgency.



Notes

[1] Both 'geographical landscape' and 'public space' due to their collective and shared value are the two relevant concepts for the 'project of intermediation'. This perspective thus maintains that any 'project of urbanity' today is the project of public space/landscape, which due to their common meanings are capable to define an 'intermediate space' between the reality of territory and actuality of city.

[2] Integrated design strategies have been particularly noticed in some recent urban disciplines such as landscape urbanism. For more on this see: Waldheim, Charles, Landscape Urbanism Reader (New York: Princeton Architectural Press, 2006).

[3] The CiTi method has been studied in several fast growing metropolitan regions such as Madrid in Europe or current controversial cities in Africa.

[4] The deliberate simplification in this model has been addressed as a way of achieving to an abstract and primary mode of operation within new massive dimension of metropolitan context. By this, the model does not refuse the complexity placed in current urban environment, instead concerning those new circumstances, reclaims for a primary organization which support the sustainability of potential and future spatial realizations over the regions.

[5] The 'Reticular Matrix', through the representation of structure-territory then demonstrates a spatial module as the 'digit unit' of expansion and growth. This unit covers almost 5km x5km as a feasible dimension to assign an urban centrality. The unit has been termed as BUD –Balance Urban Development-, which proposes a self-sufficient unit within metropolis and contains several regional facilities. Thus, within this module the method outlines the location of regional functions respect to infrastructure network in a conceptual manner. By this digit unit, the method also intends for a simplification strategy similar to the conception of regional scale. Although it seems due to urban spatial organization, which it defines by 'proximity' rather than 'continuity' the method is not as effective as regional alternative imagination.

[6] Ignasi de Solà-Morales describes the concept of counterspaces in his famous essay: "Terrain Vague", in refer to the spaces which are excluded form the spatial patterns, organizing logics and the dynamics of metropolis, but simultaneously present the new opportunities for its future imagination.

[7] This refers to "the possibility of making" concept, which Sassen describes as reflective characteristics of city or the "DNA of urban-cityness".

[8] For example when the 'field of plurality', appears as a context of 'fragmentation', the counter-space which is perceived as interstitial void in-between patches, acting as collective space, particularly in keeping the void as a 'space of relation' rather than accumulation.

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Figures

GOLSHID SAHAM,
GOLKOO HOOSHMAND

CHARGING THE VOID. A DESIGN STRATEGY FOR REGENERATING THE URBAN COUNTER SPACES.

1 Introduction
VOID by discharge,
Qale-Morghi post-military airport

/* The primary site, Qale-Morghi, a shutdown airport in the south-center of Tehran, is a strategic location, which exposes the hinge point between Tehran's urban and regional system. Locating at the intersection of Navab highway, one of the main urban vertical connections - in the extension of Darakeh ecological corridor - and south-west railway, this enormous post-military camp, appears as a specific potential to the future development of Tehran.
The vicinity of Qale-Morghi to the main commercial center-bazar- and several historical zones in the core of Tehran, beside its position in-between the Train central station, and Mehr-Abad national airport, indicates his giant void as a meaningful urban location which certainly reflects the contemporary concept of place as PLURALITY. On the other hands, the southern part of the site has a proximity condition to the agricultural landscape of territory. This quality creates a more openness and porosity in the southern edges of this isolated VOID.
Being sited in a congested and dense urban fabric, while surrounded by multiple infrastructural lines, Qale-Morghi appears as an inaccessible, inward, and isolated field, detach from its surrounding context.

Due to these difficulties and capacities within this external territory, the project takes this field as the reflection of "general relatively". This is a collective making possibility, calling for reinvention of contemporary concepts of urbanity and architecture within Tehran metropolis.

External to the city Internal; with the idea of axiality 2

/* The intersections of the axis generate different kind of integrations that we can term them as "EVENTS"(Bernard Tschumi). The events become PULSES which can recover this ZERO SPACE, to bring it back to the life of the city. The events or the pulses create some kind of clusters means as a coming together which works as a NUCLEUS of a bigger "HETEROTOPIA".

The act of penetrating the VOID; buildings as gates 3

/* Defining the VOID as an isolated area, surrounded with infrastructures, needs a vast research and analysis in order to find different points, calling them the hinge points, working as gates which lead us to enter to the VOID. The idea of these hinge points is the result of the contextualizing the historical, geographical and spatial reading on Tehran Metropolitan Area.
Defining four different hinge points as symbolical gates to enter to the site, each of these hinge points has their own character which can works with their context:
/* the infrastructural node with high-rise buildings as an emblematic elements and multi modal transportation system in north of the site, making the connection with Tehran railway station, new metro line and Azadegan highway connecting to Tehran Margin and regional area;
/* the Anti-polutional garden, a green building in the western point of the site, is locating as an entrance connecting the regional market to the site, working as an in between space between the regional landscape and urban landscape;
/* the educational center located in the southern point, is collecting the cultural and educational activities coming from the educational complex located in the south-east of the site. This gate works as a starting point of the technology park coming in the future;
/* the local-commercial pedestrian bridge is connecting the eastern point of the site to the urban dense fabric, by passing over the Tondgouyan highway, working with the Tehran railway station at the end.

The act of connecting the gates; producing network: the AXIS, the inner mobility.

The four hinge points as urban gates attached the site to its surrounding context. In the next phase, these hinge points are going to connect to each other which need to produce a network inside the site between each two of them. To produce the network two main axes is taken from the urban context reading:
/* the north-south axis is connecting the technology gate from the south to the infrastructural node in the north;
/* the west-east axis is connecting the agricultural fields and regional market, passing through the anti-pollution garden as a green gate in the west to the eastern urban landscape gate.

These two axes have their own character; the north-south axe is a programmatic one with the idea of gap and events which is full of institutional functions and fairs an events combining with the in-between landscape as the gap. The west-east axe is a commercial armature which connect the regional market to the site and then to the station. The idea of this linear axis is move and pause, coming from the idea of traditional Bazar, meanwhile the armature is creating a movement inside the site, it produces a linear Bazar beside its movement which gives you a commercial pause.

The SKIN, inner border.
After connecting the gates through two main axes, the skin will be created inside the void, which has two different characters, on the border where there is a dense urban fabric outside the void, the skin will be denser with the idea of the "built", and in the part close to the regional area, the skin will be more prose and open with low density. The main idea for this part is the idea of "keeping the void", in order to the idea of urban memory.
From these two different types of connection, the axes and the skin, the four hinge points, symbolically calling them the as gates, are connecting to each other and bring the life from the external to the internal of the void.

4 Idea of keeping the void

/* Being such a huge void for several years, as a shutdown airport, the idea of keeping the void appears in order to

respect the concept of the urban memory, since the act of erasure or voiding is not and never be complete; there is always the residue of something that is no longer there, and the expectation of something that could be there. According to the concept of keeping the void, the new void as a new green area with a very low dense green is located with the relation to the infrastructural node and the new statin and the new Tehran international fair which can provide green landscapes for these fresh inner spaces. In this part again it has been tried to keep the idea of FLIGHT, since before there was the airport, different filed of aircraft sporting such as kitting and balloons training, and also a new aircraft museum is allocated in this case which provides a leisure landscapes in the very dense part of Tehran.

The void as an ECO-City

5

/* In the southern part of the new void, which is attached to the technology events in the programmatic axis, creates an ECO-CITY which provides experimental agricultural fields for the Bio-agricultural institutions of the technology parks in order to experiment new Bio-Products related to the real agricultural fields and regional markets located in the south of Tehran, close to our site.

Image making through Tehran City Life Style

6

/* Cell-footprint in city fabric :

GRAFTING the URBAN FOOTPRINTS of SIGNIFICANT PLACES to the ZERO SPACES, from MEMORABLE PLACES to NON-PLACES (Secchi).

According to the idea of DIMENSION in the city fabric, it is tried to define the character of the ZERO-Spaces, which are now created by the idea of the AXIALITY in the VOID, by putting these CELLS in several different part of the city fabrics in TEHRAN, calling them as the SIGNIFICANT and MEMORABLE places such as Historical zone, old North VILLAGES that nowadays are parts of the city, new urban design of the MARGIN, and some central zones.

ALI SHARIATPANAHI,
SEYEDMORTEZA
FARAZANDEHMEHR

METROPOLITAN AREA RIVER DUALITY, CONTRAST BETWEEN VOID AND MASS. CASE OF ESLAMSHAHR.

/* This research is studying Tehran Metropolitan Region as a case study, and experimenting a Paradigmatic design methodology for the Metropolitan Architecture due to the new scale and value of urban projects in metropolitan context.

The research process was started by analysis of Tehran City in territorial scale to achieve a coherent spatial vision. Furthermore, the arrangement of geographical, environmental, regional infrastructure and land allocation has been studied and examined in collaboration with Pedro Ortiz, senior planner consultant of the World Bank organization. In this phase of examination, the potential areas of Tehran territory have been chosen due to its territorial qualities, such as geographical landscape and regional transportation. The research highlights the importance of the existence of Alborz range area in the northern part as the main nucleus of Tehran and green corridor in the south of Tehran. So the south of Tehran including green corridor has been chosen for new development. The three urban projects were assigned in an essential track between 'IKA airport' and 'Tehran Central station', starting from Eslamshahr city, passing from Tehran margin along Azadegan Free-way and finishing with the strategic location of Ghale-Morghi site (ex-airport of Tehran.)

Tutor: Antonella Contin

This project is studying Eslamshahr city, a new industrial city which has been appeared since 1960 due to industrialization of Tehran.

Eslamshar and some cities like Nasimshahr and Golestan are cities which have been grown like formal urban sprawls adjacent to main regional infrastructure of the state of Tehran. The city's firs nucleus is Karaj River which comes from Alborz range areas. The river shaped and oriented the city context and infrastructure. On the other hand, industrial characteristic of these new cities caused pollution for the river and the uncontrolled grown of sprawls threat the southern green corridors badly.

In the process of analyzing the area, the research group has noticed the importance of remained voids around river. The hypothesis based on how to revive and characterize the void. The phase of planning and defining strategies for voids focused on new methodologies to achieve a new morphology and new definition for the ground to identify the area. Furthermore, new centrality is located juxtaposed to the river. The new identity of the city is characterized by the duality of "mass and void". The centrality is shaped by the mass in the built-up area on one side of the river and the void new low-dense landscape on the other side of the river (in the void area).

The proposals for the project follow two main strategies. The first one adopts studying of Luis Kahn for project of Philadelphia and the second one adopts the idea of band by Rem Koolhaas in Melun Senart.

In Eslamshahr, we have specified infrastructural nodes based on 'regional functions' and 'urban functions'. The production of new nodes, illustrate infrastructural transfer zones and the location of new centrality.

To achieve more complex identity for new centrality, infrastructural, environmental and functional bands have been proposed. New centrality is defined by bands and interaction of them while they are crossing each other.

1 Theran Metropolitan Area

/* Tehran is a historical city with a short memory. It was a village close to the ancient city of Rei, and it is located on the foothill of Alborz mountain range. In the ¬first stage of its growth, it expanded toward the north and later in 1964 and according to the master plan by American architect Victor Grown, expanded in the east-west axis.
Tehran has gone under some explosive growth in population since the white revolution at the end of 60s, and then due to move of refugees and immigrants from border cities during the imposed war between Iran and Iraq. Being the most populated city in Iran and also one of the largest cities in Western Asia, Tehran is the center of cultural, economic, political and social activities with area of 730 square kilometer and roughly 13.4 million people.
Tehran metropolitan region (TMR) is one of the largest Metropolitan in western Asia's which hosts one seventh of Iran's population, the region extends over a surface of 1247 square kilometers (491.9 square miles).
Applying the policy of decentraliziation by government, several new towns were formed mostly as industrial cities along the main infrastructure lines and in the southern part of city to reduce the central congestion in Tehran. The problem mainly regarding to this policy was the location of these satellite towns growing over the main agricultural corridor from east south to northwest. With the lack of territorial comprehensive vision this policy over 30 years caused the phenomena of 'sprawl' in the south of Tehran. Now these scattered sprawls appeared around the territory of Metropolitan region of Tehran and this question arises that;

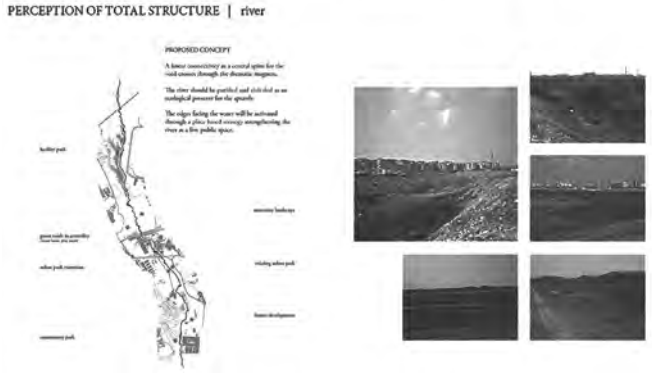
How could a strategic vision can approach the future growth of Tehran and respond to the demands due to inhabiting a double population over 30 years?

Regional design (Reticular Matrix)

The analysis of Metropolitan region of Tehran adopted the Reticular Matrix, proposed by Pedro Ortiz, a senior planner in World Bank Organization, which particularly approaches the fast growing cities, "The Laboratory of Misuara e Scala" in DATSU prepared a strategic system of growth for Tehran Metropolitan Region. Reticular Matrix, based on geographical and historical matters of the territory, suggests

a linear infrastructure matrix to recentralize the metropolis concerning its environmental and economic qualities. The result is a linear matrix with a constructive unit of 5km x 5km, each one contains a new metropolitan centrality. This strategic plan initiates with decomposing and categorizing the formative layers of the territory, geographical structure (blue and green), gray infrastructure (as the linkages) and existing settlements patterns and finally by deliberate re-composing primary layers, aiming the harmonized expansion of metropolis.

In definition, contemporary metropolitan centralities are places, which have simultaneously collective and dispersive identity. Solà Morales says that they are places of co-presence of multiple meanings and differences. So to say, they have the sense of rootedness and locality and at the same time the meanings of globalization (international mobilization).



In Tehran, three existing infrastructure lines connect the city to the territory. In fact, the north south railway makes itself more important than the two others which is an essential track between 'IKA airport' and 'Tehran Central station'. New important points for new centralities have been chosen alongside this essential track, starting from Eslamshahr city (after sprawl void), passing from Tehran margin along Azadegan Free-way (a gap between external and internal which has no integration) and finishing with the strategic location of Ghale-Morghi site (an ex-airport of Tehran, a post-industrial void). All these three urban projects were chosen in undefined and undetermined areas to develop (which are actually out of the current dynamics of metropolis).

Set of landscape

After defining three centralities alongside the main track of railway of Tehran, this project deepens in the case of Eslamshahr City. One of the most important territorial aspects of this city is the existence of the river and its intersection with gray infrastructures like, railway tracks, and two main important free-ways of Tehran. The river like most blue infrastructure of Tehran starts from the North of Tehran and it ends in small lake in the south of the territory.

To analyze and understand the relation between these various infrastructures, the set of landscape of the city have been studied. The sections and plans of this set highlights the intersection of blue and gray infrastructures as the most critical and potential points for new development of new centralities.

Alongside the river, the city of Eslamshahr and some smaller cities have been grown like sprawls. Industrial development since 1960, the existence of the river, and important gray infrastructures in the territory caused an uncontrolled growth of these sprawls.

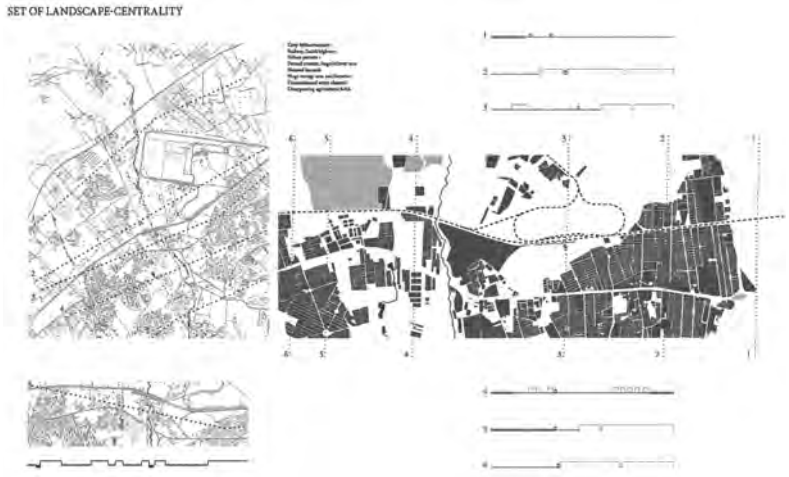
Geographical elements

To understand the territory deeper, geographical elements including natural elements, connections and regional functions of the site have been studied and some points have been highlighted.

Water channels made the first core of the cities and they can be strong identity of the area. Agricultural lands are surrounded the cities, and they have been watered by water channels. However the agricultural lands are endangered by further development of the cities.

Main infrastructures of Tehran, like railway lines and main freeways made the connection of the sprawls of Eslamshahr, and Golestan very strong. So these cities are well connected in regional scale.
Beside residential areas of the cities, some industrial areas have been appeared and these industrial sites are scattered in the area. The dominant wind of Tehran which blows from the west to the east can carry the contamination of these sites to residential parts.

On the other hand, the pattern of urban context and scattered agricultural lands around the city, have been studied. The typology, the scales and the orientation of the urban context showed how they have been influenced by the orientation of the river. The river runs on a predominately north-south axis, and urban texture is oriented along an east-west axis parallel to free-ways and perpendicular to the river axis. The orientation of the urban context however could be influenced by the sun light. In Iran the buildings in the most of the cities are oriented along east-west axis to provide more favorable façade like north and south facades. The orientation and the scales of the agricultural lands are usually different. But in the most cases the orientation follows the orientation of the river.



2 Proposing Strategies

Perception of the total structure of the River

First proposes for the site based on the natural nucleus of the sprawls, Karaj River. A linear connectivity as a central spine for the void crosses through the thematic magnets.
The river should be purified and revived as an ecological preserve for sprawls. Thematic magnets as potential and alive nodes can activate the edge of the river through a placed based strategy, which strengthening the river as a live public space.

Perception of the total structure of the Void

Alongside the river, scattered sprawls caused a potential and critical void. A territorial void caused by spontaneous urbanization, originated from an industrial new towns, seen as alternative to urban sprawl. This vulnerable agrarian fields as one of the landscape of conflict, is the scene of "intersection" between Tehran main railway, longest watershed of region, and agricultural corridor in the south plain of Tehran. Our main envisioned strategy for this city would be outlined as "compactness" and "land scape resilience" due to conservation of agricultural-lands. Thus, we consider this void as a potential to approach those visions.

The strategies for the void become more essential and tactical when we study the history of growth of these sprawls. Historical maps since 1960 demonstrate uncontrolled growth of sprawls, and the tactic to preserve the landscape of the void could be a strategic way to control the developments.

For the void alongside the rive five territorial bands have been defined to give meaning to the void. These bands are related to potential points that have been recognized and discovered during studying of the set of landscapes. From north to the south alongside the river these five bands are:
*/ *Band of leisure*. This band is influenced by existing hills around the river. these hills could be interesting areas for leisure activities;
*/ *Band of education*. This band is located near the existing university of Eslamshahr. The aim is to highlight the potential of the educational site of the city. So the development of the university in this band is considered;

*/ *Band of centrality.* This band is located in the center of the river over intersection of Blue infrastructure (River), Gray infrastructure (highway as a connector spine between sprawls and Green infrastructure (scattered agricultural lands);
*/ *Band of Local food production and Machinery expo*. The existence of x-large scale factories in this area close to the river could contaminate badly the river. On the other hand these areas could be potential sites and building for sustainable and cleaner activities related to the agricultural lands of the void;
*/ *Band of community center*. In this area two lateral cities (sprawls) are becoming close. A civic center or nodes like community center offer more interesting activities in this band.

Strategies for the band of centrality

Strategies for the band of centrality considered studying of project of Philadelphia by Louis Kahn and project of Melon Senart by Rem Koolhaas.

Strategies for transfer zones

In Kahn's analysis the issue of urban mobility has been studied in details. According to the Kahn's project urban quality is achievable by giving order to the movement and distinction between fast and slow traffic. Furthermore Kahn specifies infrastructural nodes and transfer zones. These nodes are located where there are various types of transport, accessible by vehicles, bikers and pedestrians.
In the project of Eslamshahr the highway and rail lines are categorized as 'fast traffic' and secondary streets are categorized as 'slow traffic'. The rail lines and highway are parallel to each other and they are running along northwest-southeast. Secondary streets connect perpendicularly two 'fast traffic' infrastructures of rail lines and highway. The interconnection between primary and secondary infrastructures are infrastructural nodes or transfer zones. On the other hand rail lines are the main public infrastructure that provides accessibility for all the territory of Tehran. So they have 'regional potential'. Secondary streets however could be potential urban public transportation which provides accessibility for the city. By this strategy we could provide 'regional nodes' (regional transfer zones at regional

transportation of rail lines) and 'urban transfer zones' (at the exit/entrance of highway). These nodes define the site of the projection. The potential of the existence of the river, the potential of the void and the existing and new proposed gray infrastructures (Regional and Urban transfer zones) could specify main four nodes and main project's site.

At this time, we highlight the strategies for preserving void, and strategies for new development of existing urban texture of the cities (sprawls). These two different strategies illustrate the contrast between void and mass.

Strategies for bands

Adopting the strategies of the band proposed by Rem Koolhaas in Melon Senart, four bands have been proposed to define and shape the centrality.
The bands follow major infrastructures (blue infra, railway). They are defined in different sizes, shapes, locations and their relations to environment. They overlap with each other and create hybrid conditions, new complexities and combinations (hinge points). Four proposed bands:
*/ *Band of 'Void'* (Green Infrastructural and continuous band);
*/ *Band of the 'River'* (Blue Infrastructural and continuous band) For the river one side is going to be urbanized and the other side (in the void) is going to be naturalized;
*/ *Band of the 'Train'* (Gray Infrastructure and continuous)
For this band a linear park has been suggested. This linear park has the landscape of the forest. The existence of the river could be a water source for trees. The types of trees are chosen to provide a sound barrier to protect the cities from the noise;
*/ *Band of the 'expo' or 'Regional Band'* (Gray infrastructure and non-continuous) Existing oil storages in the site near the river can contaminate the river badly. Nowadays most of these storages are not used and they have been left, furthermore we have proposed to transform this area to new proposed Machinery Expo. The central train stain's location is suggested near this site.

New 'centrality' is defined by bands and interaction of them while they are crossing each other.

Band of 'Void'
Green Infrastructural and continuous band

4

/* This band locates between existing cities (sprawls) and it is next to the river. Most of agricultural lands are located in this band. We proposed different grids in scale and orientation. The proposed scales and orientation follows existing ones.
The duality between high and less density in new center is proposed. An agripark is suggested in the void, in front of the new center of the city.
The agricultural fields in front of expo are in big scale to adopt the scale of the expo on the other side of the river.

Band of the 'river'
Blue Infrastructural and continuous band

5

/* River band is a continuous band and it is a major environmental infrastructure and natural source of agricultural corridor in the south of Tehran, flown down from Alborz range in the north of Tehran. The river is the city's first nucleus, shaped and oriented the city's context and infrastructure. The band is characterized by the idea of contrast between urbanized and naturalized parts alongside the river. Furthermore the section of the river is shaped by 'stepped urbanized part' and 'ramped naturalized part'. On the urbanized part the built-up area is formed by stepped platforms and buildings and water puri-fication system as a new technology is suggested alongside the river to purify the gray water of the built-up areas. On the other hand, on the naturalized part new channels are proposed to retain the water, and the puri¬fication system is possible by particular plants.

Band of the 'Train'
Gray Infrastructure and continuous

6

Railway band is a continuous band, de¬ned by the major infrastructure of the state of Tehran. The north south railway is an essential track between 'IKA airport' and 'Tehran Central Station', passes from Eslamshahr. The band is characterized by the idea of hybridization of green and gray infrastructure.

A linear and continuous park is formed by green hills which surround the railway track to protect from the noise. The park provides a public land with new infrastructure (tram lines). The main theme of park is come from the identity of industrial city of Eslamshahr, but corresponding to the environmental protection and noise protection light industrial facilities are proposed for spaces. Since ancient times Iranians considered craft as particular art and business. The light facilities for the railway park, has encouraged us to provide facilities for this type of activities to make the park more alive and more vital.

7 Band of Expo or 'Regional Band' Gray infrastructure and non-continuous- Ribboned Band

/* This band has some sub-bands which we called them ribbons. These ribbons include Green spines, Ribbon of Expo and ribbon of residency.

Ribbon of Green spines

Green spines are one of the main axis that connects all the bands with their different landscapes. The spines start from new squares which connects the city of Golestan in the West of the void to the city of Eslamshahr in the east side of the void. They pass agricultural lands in new agri-park with different scales and production. The spines in agri-park (void) are furnished by planted pathway and let people experience various agricultural plots and products. The spines later pass the river band by a bridge which connects naturalized part to the urbanized part. The green spines finally flow toward a new garden and then penetrate into the city.

Ribbon of Expo

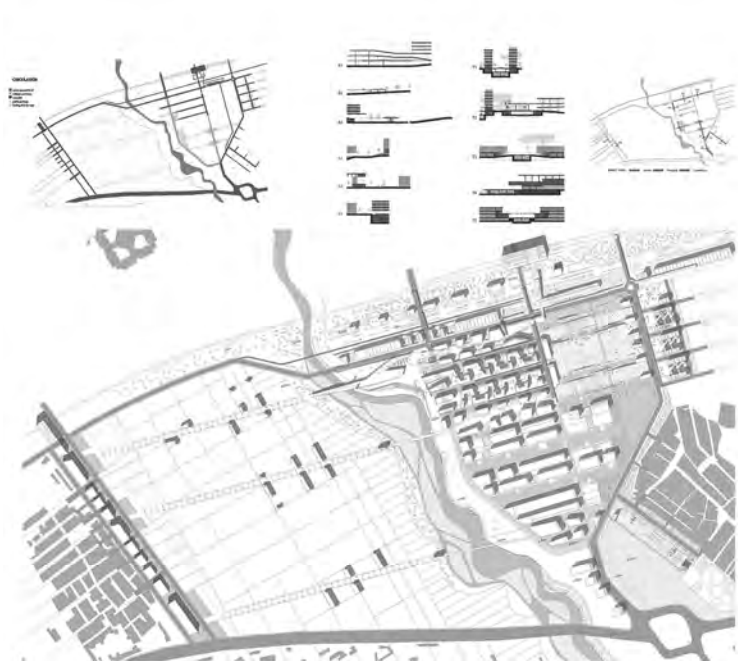
Existing buildings of storages along the river and railways caused pollution in urbanized part. The idea is transformation of theses spaces into new expo related to the new identity of the area. New additional buildings provide public spaces and activities at different times. New pedestrianized streets are suggested with the orientation of storages and toward into the river.

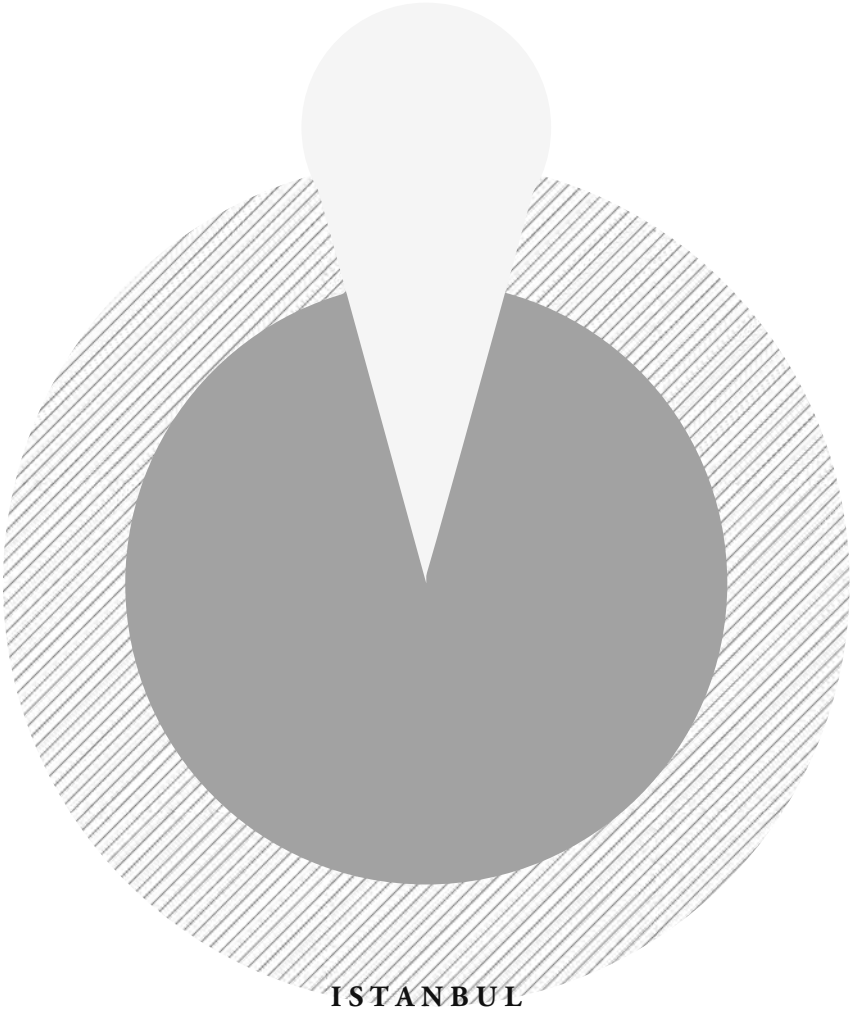
Ribbon of residency

New social buildings are suggested alongside the river to provide spaces for living. The buildings are formed to make public, semi-public, and semi-private courts. The ground floor is occupied by shops and some light public activities. The courts are not occupied by greenery and they are only planted by light trees such as spreading shaped or vase shaped trees.

Tree Organization

The trees are organized by characteristic of bands and greenery structure. The railway band has forest and the trees are columnar and pyramidal shape, high and always green trees like “Pine”, “Spruce”, and “Poplar”. The gardens are mixture of various species of trees. So in different seasons the colors of gardens and shapes of trees can be different. The greenery on the riverside includes weeping shaped trees like willow, mulberry and pistachio. The weeping and vase shaped trees can give maximum views to the river. The axis of green spines and planted squares is planted by full crowned shape “Platanus”.





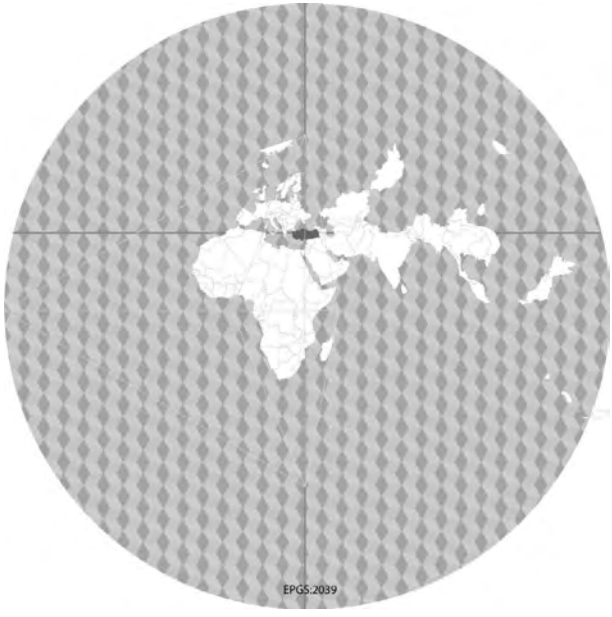
ISTANBUL

Yenikapi.

Alessandro Frigerio,
YNKP! What Time is this Place?

Aiça Özbank,
The Future of the Past of Yenikapi.

TURKEY



ISTANBUL
YENIKAPI*

/* Istanbul is an urban region with 12 million inhabitants, centered on the Bosphorus and stretching linearly on the axis linking Sofia to Ankara, Asia and Europe. Its strategical position makes it an ever-changing centre of gravity for the relation between continents, countries, ethnic groups, religions. Its historical peaceful interaction among diversities is structured on original urban solutions joined to social archetypes transposed in recognizable spaces. Istanbul is a city of diachronic and synchronic intersections. The Marmaray project belongs to a long-term strategy that expresses the effective dimension of the metropolitan archipelago and considers it as a net to enforce with intermodal nodes of urban intensivity. The Bosphorus railway tunnel, that in Yenikapi has one of the most important hubs and epicentres, links for the first time the two shores and worlds in alternative and synergy with the bridges. The Yenikapi area is for Istanbul a great symbolic operation, medium of urban regeneration. The roman city, the ottoman city, the modern city, the archaeological heritage coexist in an unbalanced hierarchy which currently puts modernization and infrastructure above all the other values and which at the contrary has the potential to foster unprecedented urban relations: a dense grain based on a layered thickness of signs (geographical endorsement, urban biography, infrastructural net) with richer symbolic interactions.

Our research on Yenikapi started in 2007 and was presented to the public during the Yenikapi International Symposium and Exhibition in September 2011. The analytic and design efforts reveal how Chronicle of the present, History, Archaeology of the out-of-time need a synthesizing spatial operation to foster the interaction of their specific values in order to build a new powerful identity and image. The envisioning operation brings to the spatial evocation of a multifunctional heterotopia that qualifies the archaeological presences, integrates the anodyne space of the mobility network, builds the spatial pattern of a new public realm and finally localizes it as a landmark in the metropolitan landscape. Yenikapi requires the design of a public space able to transform a multiscale and multifunctional hub in attractive place, endowed by an affective value not only for inhabitants, but even for city-users, linking real and surreal according to new metropolitan lifestyles.

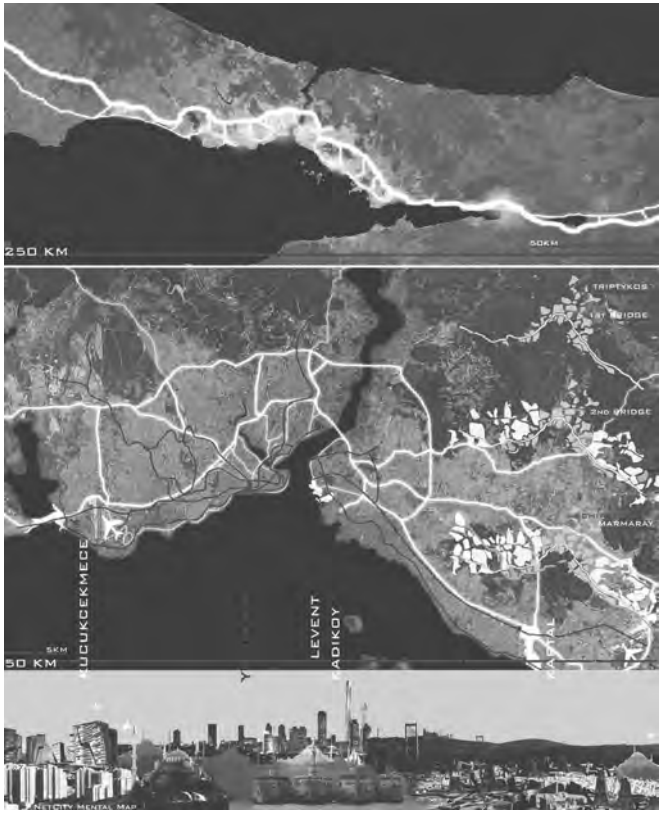
*

Alessandro Frigerio

This complexity required a proper methodology for the urban analysis. It focused on urban morphology and syntax according to a landscape dimension that neglects the common relation insula/plot, deconstructing the dense matrix of the city. The morphological analysis reveals the deep and constant topographical roots of the urban structure, set in a definitive and enduring way by the Roman culture and still nowadays recognizable in measures and rhythms of the contemporary city. The transition between uses of space and lifestyles expressed by different civilizations have preserved the main geographical relations that clearly appear looking at urban scenes and mental images. The roman metropolitan structure produced a clear vision of power and society, which was totally subverted in the ottoman period, but preserved and interpreted as large-scale framework. The ottoman conception of the city was based on the aggregation of private cells according to a spongy system able to host the informal expressions of urban life. This informal system was gathered around multifunctional symbolic nodes - similar to the fora and often built directly on the fora - which were expression of the religious power as welfare guarantor: kulliye. The ottoman urban model was based on a special equilibrium between formal and informal spaces managed through different spatial devices (mahalle, naihye, kulliye) strengthening the polycentric structure of the city. The kulliye, in particular, as religious and social welfare complex, highly charged with symbolic value, represents an interesting precedent for the study of urban genetic systems able to integrate rare functions at the net-city scale. This typological study led to the attempt of verifying the possibility of interpreting this archetypal welfare node in its authentic role of founding device to build new urban settlements. This attempt was possible interpreting the model through variations of relational intensity especially thanks to the multiplication of soils (layering) and the reinvention of building typologies.

The studies on the roman and ottoman urban biography offered a clear vision of the polycentric system of the city as an archipelago built by the welfare nodes and their local urban fields, a hierarchy which we can refer to the contemporary definition of quartier d'echange. Therefore, the design of symbolic multifunctional nodes firstly required the definition of the urban transformation field depending on it.

Our projects start from this metropolitan operation and then refer to local archetypal typologies to give a strategic answer to the contemporary neglecting of urban space of contact and its physical and mental features, investigating its relation with the urban and metropolitan issues by plan, sections and models at different scales. ○



ALESSANDRO FRIGERIO

THE FUTURE OF THE PAST OF YENIKAPI

/* The YNKP! project (2009) moves from the Lynchian question: what time is this place? and tries to address the complex interweaving of spaces and times related to the expected transformation process in Yenikapi through multiple resonances, echoes, references and contrasts. The morphological analysis of the metropolitan and urban structures produces a design framework driving the fundamental spatial decisions. A progressive scale focus leads from the analysis of the regional geographical relations to the urban structure and biography investigation, to the local archetypal typological issues, passing through the consideration of technological nets of infrastructure, needs and desires. Each scalar focus contributes to the development of the project suggesting directions, measures, intentions.

At the regional scale of the urban archipelago, the key-point is the relation between built and un-built space: the important linear parks preserved by the urban sprawl thanks to the geographical topographical conditions have to be seen as fundamental spaces of relation among urban islands at the local scale and in an ecological network perspective at a wider scale. The linear park going along the Marmara coastline, which coming from the western side of the city heads to Yenikapi, represents an important landscape relation interlocking with the dense tissue of the historical peninsula. This means for the project exploring the design of a new attractive waterfront, a vibrant waterscape providing unprecedented interactions between land and water,

Tutor: Ernesto d'Alfonso, Antonella Contin

buildings and harbour in a multiple symbolic reading of the historical identity of the place. The new waterscape recalls the presence of the ancient port of Theodosium, restores the original relation between the harbour and the Yenikapi village, nestling it in a renewed powerful image, and sets the urban weave for the new waterfront neighbourhood.
The metropolitan scale analysis moves the attention on the north-south axis, which is connected physically and virtually to the new financial centre in Levent and to the road-circulation system that links the principle urban nodes with the Yenikapi transformation area. The project relates to this system choosing to locate in specific points, linked with this north-south articulation, high-rise buildings and public services, transcultural metropolitan landmarks.
The morphological analysis on the roman and ottoman urban structures and fabrics defined the urban field of action of the regeneration plan, concentrating the project in a squared sector measuring half a roman mile per half a roman mile. This urban sector is ruled by a contemporary interpretation of ottoman welfare enclaves (kulliye), metropolitan spatial devices concentrating physical, social and symbolic issues and robust public anchors for the growth of the city. The historical genetic code of kulliye has been recognized in producing at the same time a fenced recognizable space and precise directional physical and visual crossings; thus becoming a high symbolic reference and landmark and simultaneously entering in the daily life of citizens according to a gradient of accessibility related to a precise social order. The qualities of that space have been distilled in measures, positions, proportions with the aim of investigating the primary anthropological spatial experiences as a fundamental element to deal with while designing. This process has the aim to stress the importance of becoming aware, through urban analysis, of rhythms and measures of intensivity, expressions of an archetypal density of physical and mental perceptions. Symbolic values are built in spatial relations as signs of primitive semiotics expressions: an authentic modern approach that permits to different times (chronicle, history, archaeology) to stay together multiplying meanings and spaces, allowing different people coming from everywhere through the worldwide net to meet and interact without feeling lost and at the same time understanding

local specificities. In this perspective the projects combines - through the logical model extracted by the typological-morphological system of the kulliye - transportation lines, public spaces, waterways, sun-light porosity, multiple-pockets liveable spaces in a multi-scalar built form type controlled by the architectural section, synthesizing the topographical, archaeological, technological, functional layering in an intense inner landscape. The potential of this approach aims at synthesizing various categories of urban spaces so that the project could preserve the contact experience peculiar of the mediterranean urbanity while granting the efficiency of the mobility transcultural nets and at the same time could propose an urban intensivity able to represent its contemporary character and image. ○

AIÇA ÖZBANK

THE FUTURE OF THE PAST OF YENIKAPI.

/* Yenikapi is situated in the Historical Peninsula of Istanbul and started to be attracting for two reasons: modern transportation solutions like infrastructural projects of Marmaray and Metro and the archeological excavations which have begun during those infrastructural projects. Yenikapi has strategical importance according to the city's structure. It is considered as an intersection point between north and west parts of the city. For this reason it is expected that Yenikapi becomes one of the most important transfer points of the entire public transportation network of Istanbul. Due to the archeological excavations which are related to the 8000 years old city history, Yenikapi has become a site of cultural heritage as well.

In its visible and invisible thicknesses, Istanbul includes an extended group of information about the city idea and human history. The city of Istanbul has a very complex and rich structure which contains elements from the city of Byzantine, Roman, Ottoman and Modern Turkish. Yenikapi itself, reflects all these thicknesses of the city that Istanbul offer. Studying Yenikapi means to study about the historical structure of Istanbul which is composed of variety of cultures and times. The area that I focused in my project is the area where the archeological excavations have been done since 2004. The intention is to create an archeological park which can help to develop Yenikapi area in order to transform to a new important center for Istanbul.

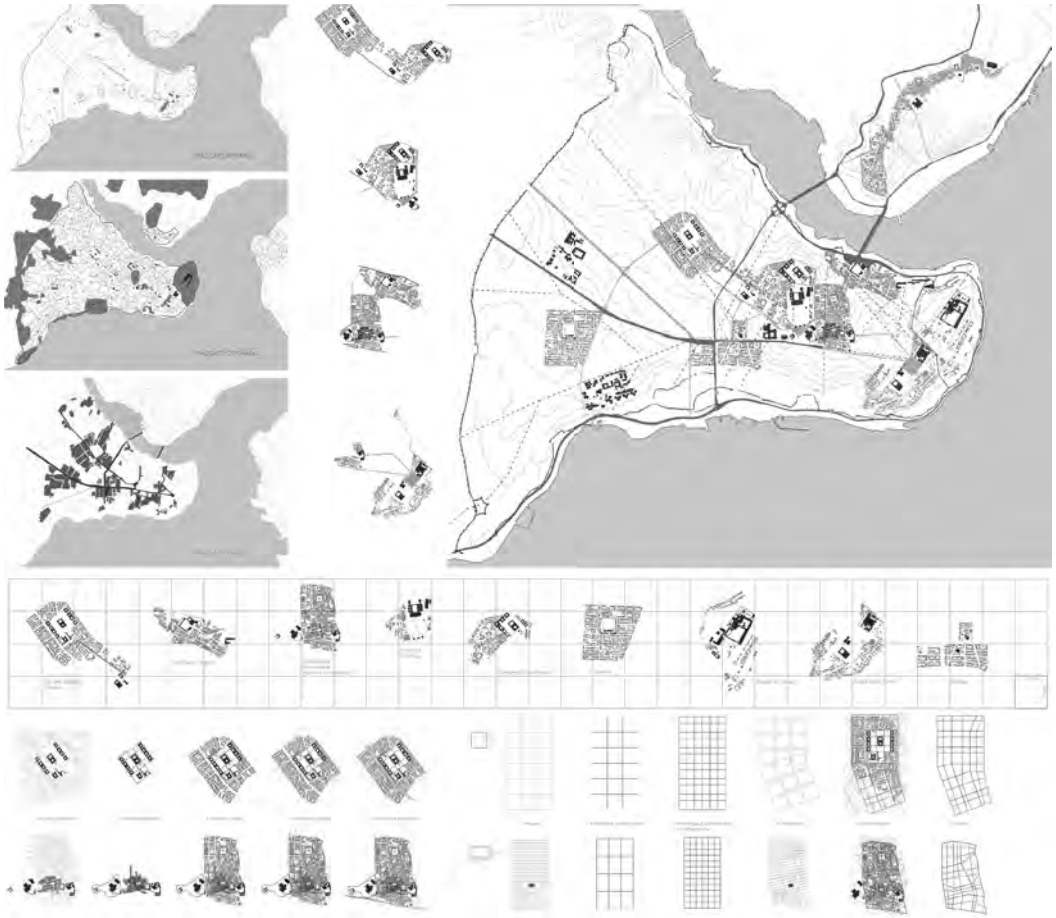
The purpose of my project was to find a way to relate aforementioned area with the new infrastructural transfer point, the existent city morphology, the historic quarter protected by UNESCO and the coastal park. I analyzed the

Tutor: Antonella Contin

existent structure of public space of Istanbul and I tried to identify reasons of not having a proper model of public space and its transformation since Roman time until Ottoman even Modern Turkish time.

The peculiarities of Istanbul which make it unique, are originated from its geography. Generally, the Mediterranean cities are founded on the mountains and they can be reached by rivers. However, in the case of Istanbul, a different type of geography is apparent. The city has hills instead of mountains, and it has a Bosporus instead of rivers.

In consequence of these geographical and topographical characteristics, the city has been built in three parts, which are the Historical Peninsula, the Pera side (known as Galata as well) and the Asian side. The lack of a mountainous



topography and the presence of the Bosphorus induce an urban extension which grows in three directions, north, east and west. In this way, the historical peninsula stays in the intersection of these three development axis and the urban extension. However, the Historical Peninsula gets isolated from the rest of the metropolitan area because it's separated with a boundary created by Bosphorus and Golden Horn. Till today, this issue helped preserving the morphological structure and the importance of the Historical Peninsula as an important point of interaction on city scale.

The Bosphorus is a very interesting urban element; it's too far to reach one side from the other, and it's too narrow to create distinct interactions in between the two sides of the city. For this reason, overtime, urban extension created a structure with various subcenters around the urban areas of Pera, Topkapi-Bakirkoy and Uskudar-Kadikoy. As a result, the Historical Peninsula was not affected by the urban growth which happened outside the Peninsula preserving the magnificent historical skyline.

Thanks to the Marmaray project, presently it's possible to have a direct public transport connection between the three metropolitan areas. The new transfer point which has been created in Yenikapi, is becoming a new hub and one of the interaction point of megacity of Istanbul. During this process, it's possible to notice a new centrality with a linear characteristic. This linear centrality gets its starting point from Yenikapi and it arrives to Levent which is situated in the north side of the city. On the axis created between Yenikapi and Levent, there are several centers that each have remarkable importance, different type of characteristic and speciality.

The aim of this study is to describe the historical image of Istanbul in physical, social and cultural contexts.

The relationship between human being, place and art product becomes a very important tool which helps to understand the city. The essence of urban story has been formed with union of experiences and the physical structure.

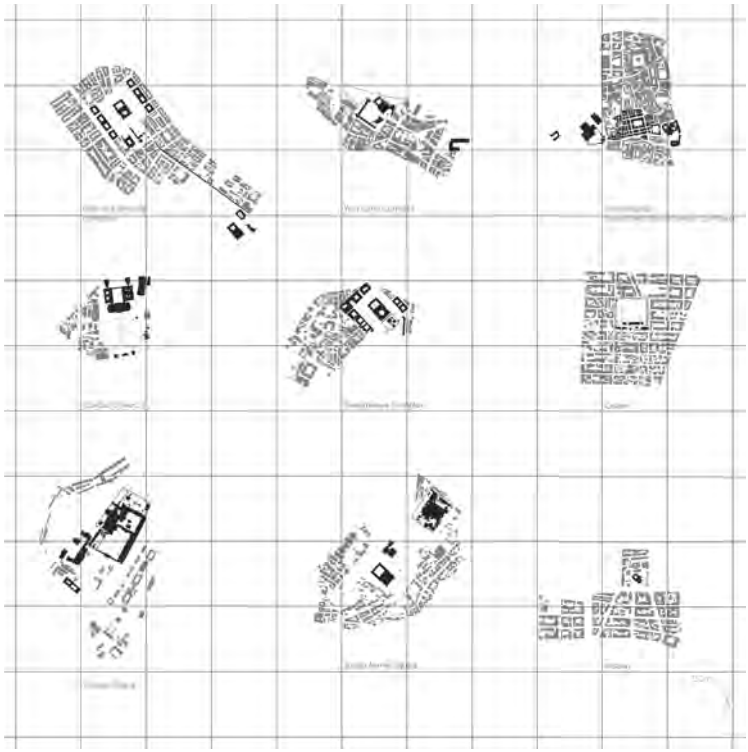
Cities like Istanbul, stay in memories not by facts but by imagery. Accordingly, Istanbul is perceived by its citizens not as its physical presence, but instead as its urban images.

During analysis, I studied four historical periods of the city; Byzantium, Costantinopoli, Ottoman Istanbul and Modern Turkish Istanbul. I tried to highlight the social structure of these four periods through the public spaces; how they

have been created, how they have been repeated and how they disappeared overtime. In order to simplify the process of reading of the city, I used the method of Recombinant Urbanism of Graham Shane. This method helped me to highlight the fundamental elements which form the historical city. Then, I did some decompositions from these studies in favor of making the lecture more clear.

According to my study, the transformation of the public space of Istanbul has three phases. During the Byzantine times, on the main axis of the city, known as Mese, there were forums which were main meeting and hangout places. These places belong to the Roman culture. For this reason, they were empty, wide and monumental, which made them easy to notify. On the other hand, during the Ottoman times these places have been preserved but they have assimilated the characteristics of Islamic Culture.

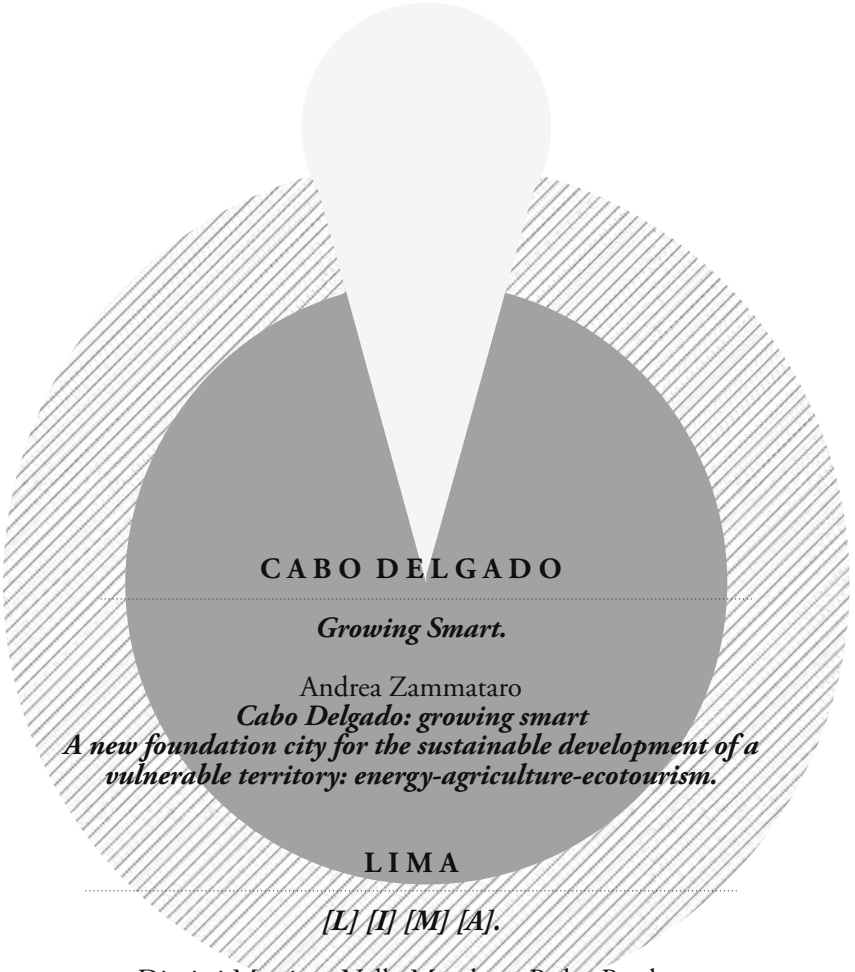
In Byzantine forums, the characteristics of the public space has been described through the analogy of flower blooming, opening from its core towards outside. In the



Ottoman counterpart, while still staying monumental, with the influence of the religion the same public space becomes closed and walled. The mosque is situated at the core of the space and its inner courtyard becomes the new main meeting and hangout place of the city. Unlike the Byzantine public space, the Ottoman model is like a flower bud which forms from outside towards inside.

The Modern Turkish model of the public space tries to preserve the characteristics of the previous one but at the same time it tries to adapt to the modern, by making it more open, widespread and reachable.

Under the section of "Archetypes of Istanbul" in my thesis, I also studied form and functions in the Ottoman complexes, the case of Grand Bazaar, the kulliyes of Mimar Sinan, sultan pavilions in the imperial mosques and the Turkish House. The reason that I studied these is that, according to my opinion, all these elements have had a very important influence during the formation process of the public spaces of Istanbul and I tried to reflect this influence to my project. ○



CABO DELGADO

Growing Smart.

Andrea Zammataro
Cabo Delgado: growing smart
A new foundation city for the sustainable development of a vulnerable territory: energy-agriculture-ecotourism.

LIMA

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Dimitri Martino, Nelly Mendoza, Pedro Peralta,
Landmarks of an Integrated Metropolitan Architecture.

NEW YORK

New York: Metropolitan Architecture and Climate Change.

Giulia Barazzetti, Elena Fumi,
Green Infrastructure as Living Landscape. New York. Gowanus Canal.

CABO DELGADO GROWING SMART *

/* The project promotes a multidisciplinary, cooperative and inclusive framework for the sustainable urban growth of the Cabo Delgado Region with a long-term cultural programme. The expectations related to the development of the energy industry, the rising of the tourism sector, the fragile environmental conditions require the definition of an overall strategic framework able to guide public decisions, private initiatives and governance issues to promote economic redistribution, consensus building and a fair development. The attractiveness and competitiveness of the regional growth has to be developed through spatial, environmental, cultural, energetic, productive investments for an elevated quality life, accessibility and economical resilience.

General strategic framework: the territorial vision

1

/* Fostering a smart growth for the coastal region between Pemba and Palma requires innovative interpretation and planning-designing tools. The integration between the productive, transformative, exchange and distribution functions (agro-alimentary and energy) into a new metropolitan system between Palma and Pemba makes necessary to rethink local identity and global inclusion between rural and urban economy, reducing and reconverting the expenditure of energy.
Taking the move from an in-depth analysis of the region at the metropolitan-urban-local scale the project will produce a territorial vision for the energetic self-sustainment with the preservation of a common cultural and historical identity. The project proposal will outline strategies of integrated planning, capable of positively directing the socio-economic impact and in parallel aims at tailoring specific focus-projects in cooperation with involved stakeholders.
The purpose of delineating a network of the two cities and their territory, in fact, is achieved even by planning specific points catalysing urban functions and modifying the articulation of the city structure in relation to the geography and its economic structural data. Growth is analysed in relation to: the ground (geography-geology-uses), pre-existence (history), and resources (environmental - energetic - economic), from a metropolitan scale (large), to an urban scale (medium) until a local small one, in relation to the metabolic operations of maintenance-substitution-transformation. ○

*

Antonella Contin

ANDREA ZAMMATARO

CABO DELGADO: GROWING SMART

A NEW FOUNDATION CITY FOR THE SUSTAINABLE DEVELOPMENT OF A VULNERABLE TERRITORY: ENERGY-AGRICULTURE-ECOTOURISM

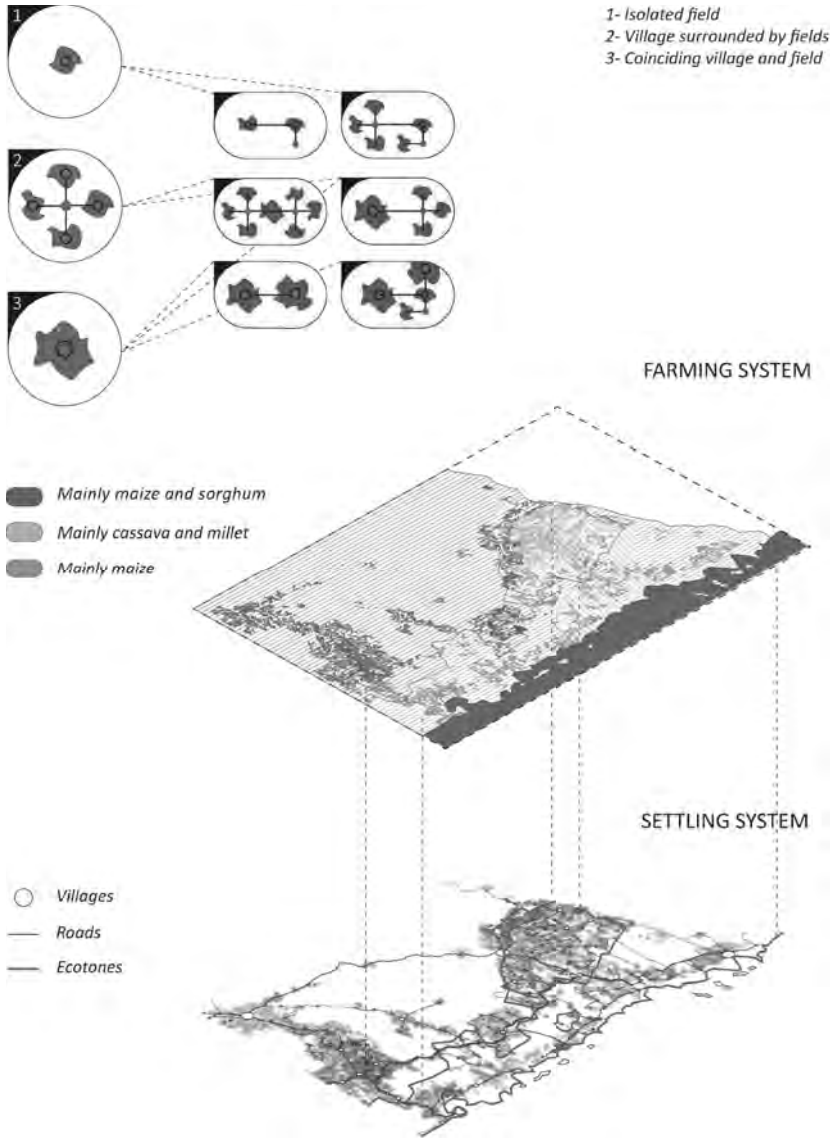
/* Cabo Delgado is a territory in northern Mozambique whose vulnerability is due to the inadequate means to face disadvantageous climatic conditions. Investments following the discovery of huge gas deposits will represent an opportunity for development which, on the other hand, if not properly managed, could constitute a risk of settling congestion and environmental degradation. The proposal for promoting a sustainable development consists of a global strategic framework which works as an open and transitive armature able to engage the present spontaneous settling system into a mechanism characterized by an overarching scheme at the new metropolitan scale. The openness and the transitivity guarantee that the different temporal horizons of the action will follow one another without expensive operations of substitution and that the informal dynamics will not fill the open space which is necessary for the robustness of the new settling dimension.

The armatures have been deployed according to an in-depth analysis which reveals a scattered settling model characterized by a constellation of small villages in the inland and few cities on the coast. This double-striped situation will evolve into a triple-striped model which takes form under three related

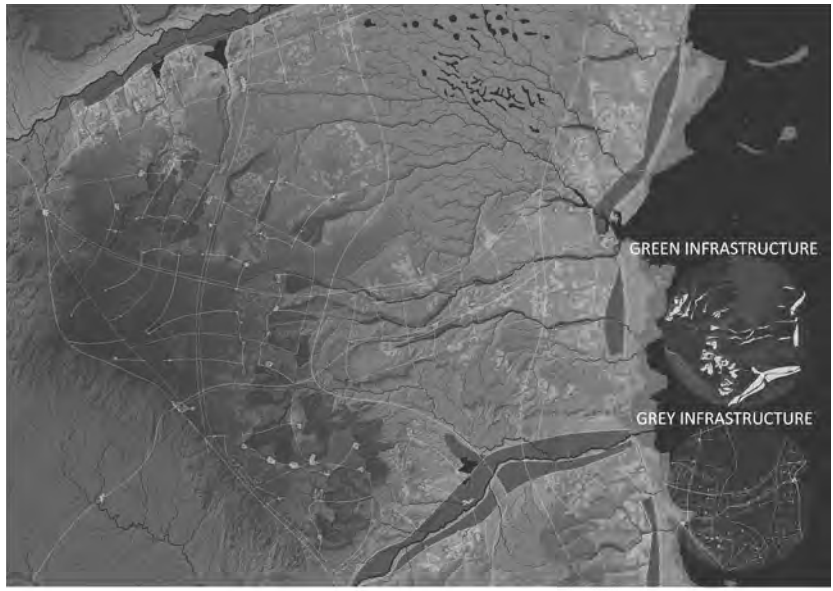
Tutor: Antonella Contin

parallel lines devoted to specific activities and connected by penetrative axis to integrate the inland and the coast. Indeed in our proposal tourism and gas extraction will be made compatible in the coastline, while inland will be devoted to agro-alimentary production and food processing to feed the coastal cities too. The new third axis will be located between these two stripes and it will be the main infrastructural facility for transport of energy and goods. Because of its accessibility, it will be suited for industrial activities which will benefit from logistic services.

Therefore the new settling system is a reticular model which provides more flexibility than a radial one and guarantees the continuity of the ecological network crossing each regional block defined by the armatures. The regional block is the digit of the plan which accommodates the discontinuous infrastructure of productive activities, services and housing whose strategic importance is enhanced by an interchange node associated to the block. The settling congestion inside the digit is prevented by protecting the open space with uses which are relevant for the community in different phases, such as agricultural land providing food for the new inhabitants during the first stage. The reference for the block design, then, is the desakota hybrid model, which links urban processes related to infrastructures to rural space and agriculture, setting out the necessity of a global framework for the management of metropolitan growth together with necessary resources to foster it. ○


1- Isolated field
2- Village surrounded by fields
3- Coinciding village and field
FARMING SYSTEM
Mainly maize and sorghum
Mainly cassava and millet
Mainly maize
SETTLING SYSTEM
Villages
Roads
Ecotones

1



Farming system
Design phase

Cultivated surfaces: permaculture

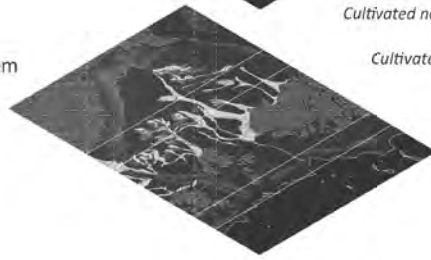
Cultivated nodes: cooperative system

Cultivated lines: intensive system

Ecological basin

Ecological network

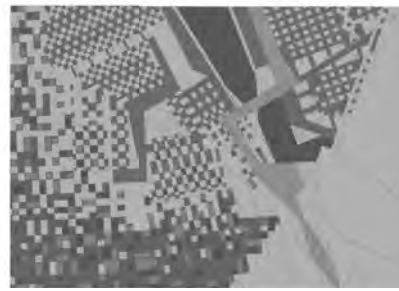
Environmental system
Design phase



2

Environmental system

Green-grey gradient



3

Figures

LIMA

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/* The thesis is the first one that we have done in the Latin American context. The basic data of the project is related to the particular orographic and hydrologic conditions of the ground that influenced the birth and the future expansion of the urban space. The Metropolitan Architecture, here, must work closely with the ground that is a very intrinsic part of the relationship between the types of buildings and the plots.

The Rimac River and the two cerros constitute the natural masses, which the project has to face while South America quadricola, the damero, constitutes the size and the shape of the intermediate scale. The nature of the place, measured and organized, becomes artificial and configured to switch from a geographical dimension to a local one. This ground, in fact, allows us to think of an architectural and urban design that plastically is inlaying in it: it builds terraces, side shoulders, elevated bridges and paths, in order to define a geographical project, or, a metropolitan architectural project precisely localized in a site. The Metropolitan Architecture, in fact, is for us a geographical skin required so that the two elements form the continuous structure of the metropolitan city. The green and grey infrastructures can coexist without cutting through each other. Architecture, here more than anywhere else, should work to reveal the landscape: this is the sign of the identity of the story of the place and often must also rebuild it at the regional scale to recreate a typical cultural landscape.
It's not only necessary to do a project that stimulates a physical redevelopment of the site considered, but also we have to design his daily life practices, through an exploration, which is a representation so that a mental map. Therefore, the architectural and urban design should enable the citizen or the city user or the city commuter to produce its own original mental map, which is possible by storing highly expressive architectural images. Its expressiveness, its energy, is achieved when architecture and place come together in an event -moment, creating a third and more intense reality.

*

Antonella Contin

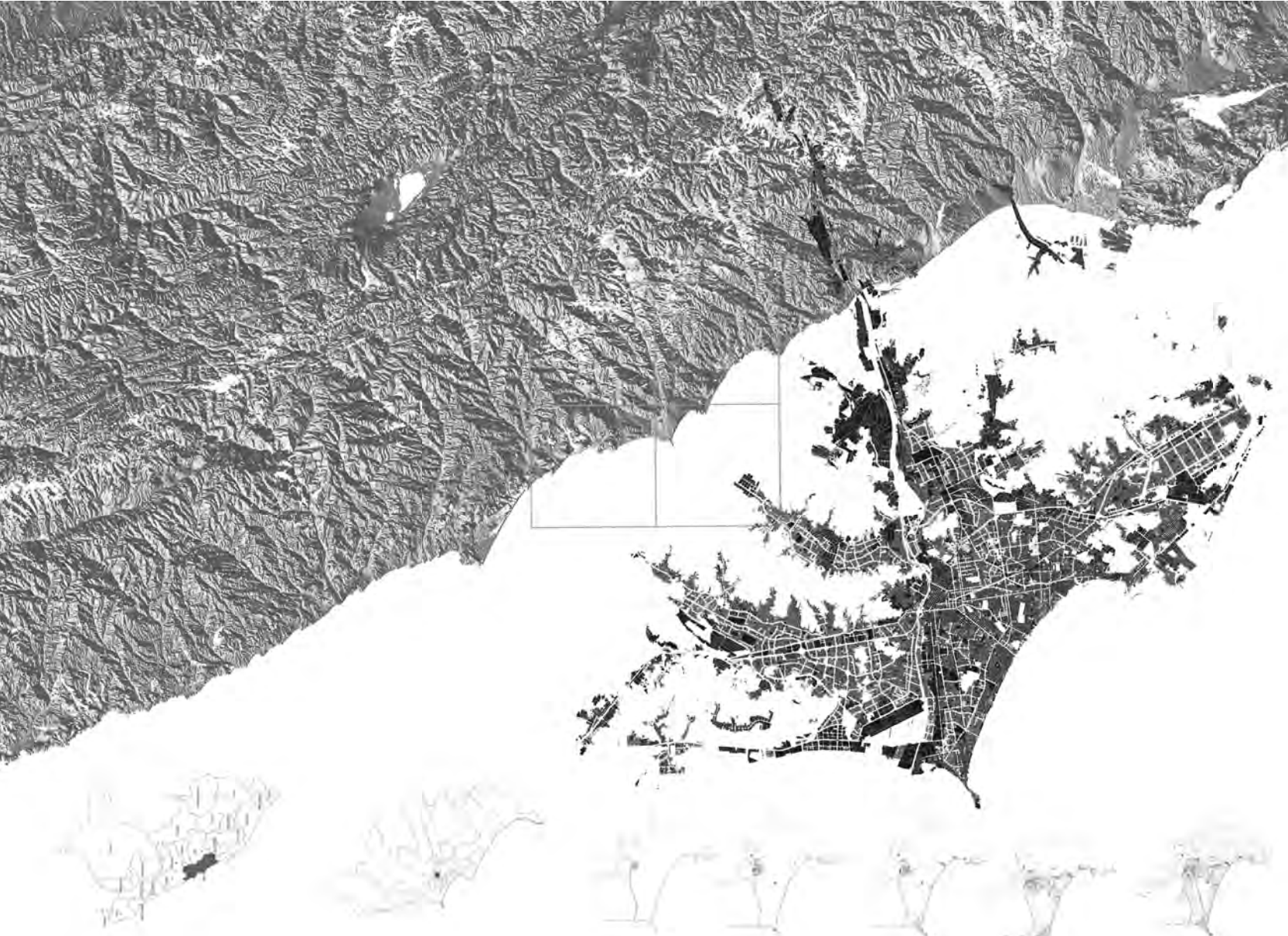
Then, the project has to build a precise topological point through a geometric/mathematical operation, but also must understand the different temporalities, which are essential to comprehend the human works that have contributed to define that site, through also an affinity with art. The project builds different concentrations of density: rarefaction, dispersions, and distances. The project finally proposes an interface between the scales that allows a fluid interchange through systems integrators of scales, designed interstices, -not just negative spaces-, so that to switch between the different designed parts. Definitively the project conceives interfaces that make up the project with the invention and an aesthetic intention. ○

**DIMITRI MARTINO,
NELLY MENDOZA,
PEDRO PERALTA**

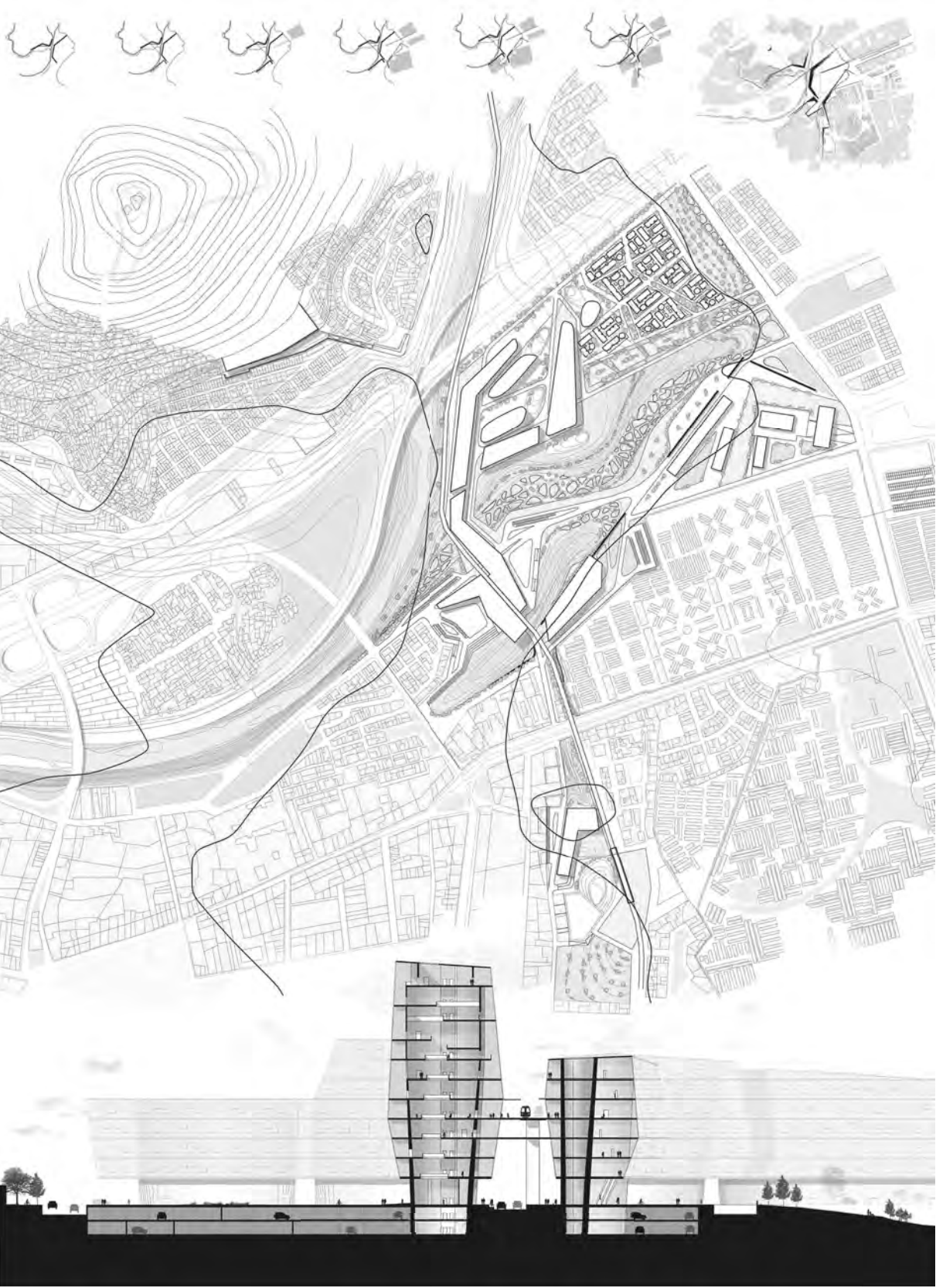
LANDMARKS OF AN INTEGRATED METROPOLITAN ARCHITECTURE.

/* Lima is an exponentially growing city for economic development, in line with the other capitals of the South American continent.
The metropolis is spread along the Pacific Ocean coast behind the great Andean cordillera. The orography and hydrography are natural elements that have influenced the birth and the subsequent development of urban space expansion. The built environment is supported by an infrastructure network with links to different scale, with all the problems related to the urban sprawl over recent years.
Our attention is focused on a precise area of the city which results interesting in terms of orographic and strategic position: it is placed in a network of green that grows inside the built unevenly and discontinuously.
This space is currently occupied by heavy industry and it is located along the Rio Rimac south bank, the main river which crosses the city lengthwise. The space is affected by the strength of two large masses: the Cerro San Cristobal which is pushed to the limit marked by the bed of the Rio Rimac, a second Cerro parallel to the first which ends as well, close to the Rimac river.
The project area is placed between these two orographic tensions.

Tutor: Antonella Contin



The task is to propose two shoulders, one which fits into the first side and the second symmetric levees. The shoulder of the embankment is treated as a tectonic plate, with the lifting due to the tension generated by the collision of the masses. In the meantime the containment is treated as a graft that has the task to curb the tension.
The architectural design is marked by the insertion of the green, which has the aim to re-establish the context of the project with the area.



The renovation of the Rio Rimac green banks and of residual spaces between the infrastructure and the built environment are the main focuses expected from this project.

The land morphology was stressed with various relevant heights that longitudinally go throughout the whole intervention; that way it creates a green fluid element that is modelled by architecture. It emerges in height in the eastern, until getting to the Rio Rimac on the northern axis while the southern axis is characterised by a large lowering of the level. It thus creates a large space usable for all types of outdoor event. The jump of highness brings out the podium which is the foundation, the uniform element throughout the whole project. It becomes a figurative shoulder and creates a shelter with the other part of the project that is inserted and contains the cerro San Cristobal. The walls of the podium that contain the green system are, as well, a landmark.
Over this uniformed podium arise structural plastic elements. Large volumes are modelled by the green flow. Hollow as they are, become functional to the vertical distribution. The architectural element develops horizontally through large open spaces with different function and use.

NEW YORK METROPOLITAN ARCHITECTURE AND CLIMATE CHANGE*

/* New York City doesn't need any presentation, as its powerful image is stacked in the mind of everyone thanks to movie industry, media and famous deliriousness. But what if this image would need to radically change, once again, in a recent future? In 2012 Superstorm Sandy, the second-costliest hurricane in United States history, hit the city flooding streets, tunnels and subway lines, cutting power and producing damages for billions dollars. In the aftermath of the disaster the debate on the urgency of rethinking the interface between city and water gained more and more relevance.

Since 2007 the NYC Plan set the objectives and actions to address long-term challenges including the forecast of 9 million residents by 2030, changing climate conditions, an evolving economy and aging infrastructure. And in 2010 the Rising Currents exhibition at MOMA presented a wide range of experiments in dealing with the issues of climate change as an opportunity to design new livable waterfront landscapes. But only after Sandy this long-term visions revealed to be short-term needs: a metropolitan plan for resiliency was required. The City released a new comprehensive plan named "A Stronger, More Resilient New York" with actionable recommendations to protect the city's coastline, buildings, infrastructure, and communities from future climate risks. Concurrently the U.S. Department of Housing and Urban Development and the Presidential Hurricane Sandy Rebuilding Task Force sponsored "Rebuild by design", a competition dedicated to envision fundable, implementable solutions for new resilient urban landscapes. The significance of this process lies in the scale considered when looking at NYC metropolitan structure: a geographical framework with its center in the inner bay and the water network as its backbone. The envisioning efforts didn't focus on specific singular pieces of landscape design, but coped with a comprehensive understanding of the interlace between grey and green/blue infrastructures and metropolitan body-space. Sharing this framework, our research on New York faces the challenges of climate change and sea level rising investigating landscape urbanism methodologies and a new generation of manhattanist hybrid buildings responsive to the environment.

*
Alessandro Frigerio

The focus on Red Hook and the Gowanus Canal in Brooklyn depends on this area being one of the most damaged by Sandy and most vulnerable from an environmental and social point of view. The presented projects show the first results of the attempt to design green infrastructure as remedial and living landscapes. Interscalar analyses illustrate the geographical relations pointing out the metropolitan role of the area. Then a specific strategy is developed in the relation with water, designing for attack, defense or withdrawal according to urban and ecological needs. Detailed interventions of urban upgrading and transformation are proposed in selected nodes in which grey, green and blue infrastructure intersect. The typo-morphological inventions in this case find the urban architectural section as main tool to generate new scenes, spaces and practices. The hybrid super-green building (S.Holl) evolution arises challenging questions for the future development of the research. ○

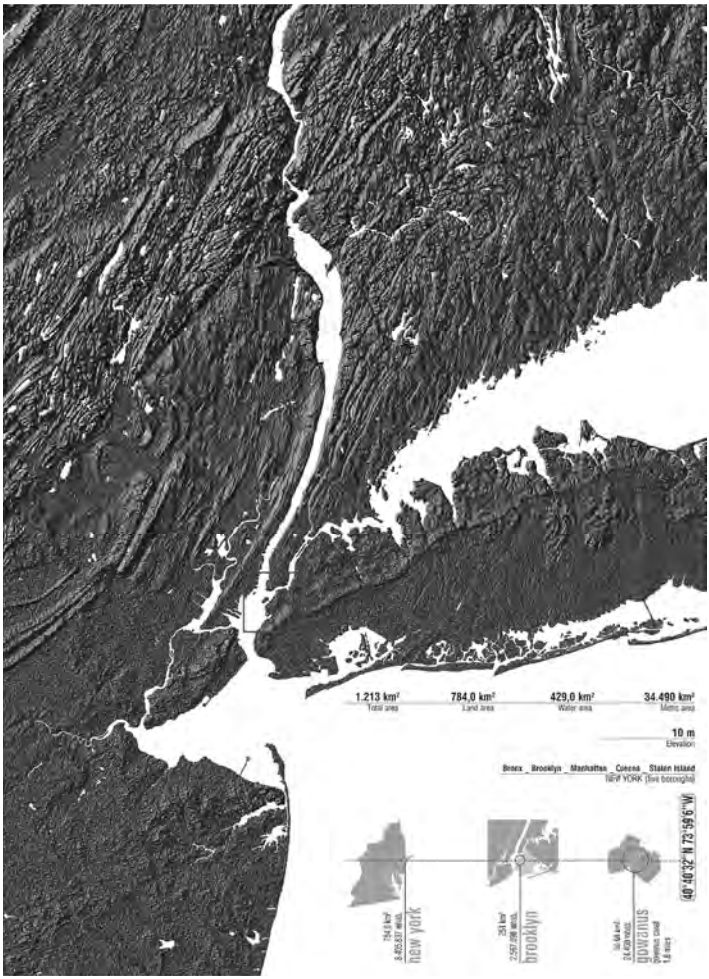
GIULIA BARAZZETTI,
ELENA FUMI

NEW YORK. GOWANUS CANAL. GREEN INFRASTRUCTURE AS LIVING LANDSCAPE.

/* New York is a city shaped by water and in its recent past it has been hit by catastrophic events, such as Hurricane Sandy, that have led to invest more and more resources in testing new solutions to face the issues related to flooding and sea-level rising. Our thesis aims at studying climate changes transforming coastal landscape and the relationship between city and ocean. The re-design of the Gowanus Canal area, in Brooklyn, gives us the opportunity to reflect on how architecture and urban design can contribute to the solution of the identified issues, creating infrastructure for both long-term and immediate response to catastrophic events.
The NYC plan is trying to encourage large-scale projects to make up for the lack of connections within the green system to set resilient infrastructures. Expressways and abandoned industrial sites along the coast outline a clear break between water and the city causing inaccessibility to the waterfront and danger in case of flooding. It is not enough to protect the existing green areas, it's necessary to redevelop degraded areas with the potential of creating new habitats and relations. Dealing with coastal resilience, two conditions must be considered: the first one is the increase of the level of water and tides, and the second one is the event of storms and floods associated with them. The research shows how floods follow contour lines that are biomorphic and do not match the physical structure of the urban lines formed by a grid system.

Tutor: Antonella Contin, Alessandro Frigerio

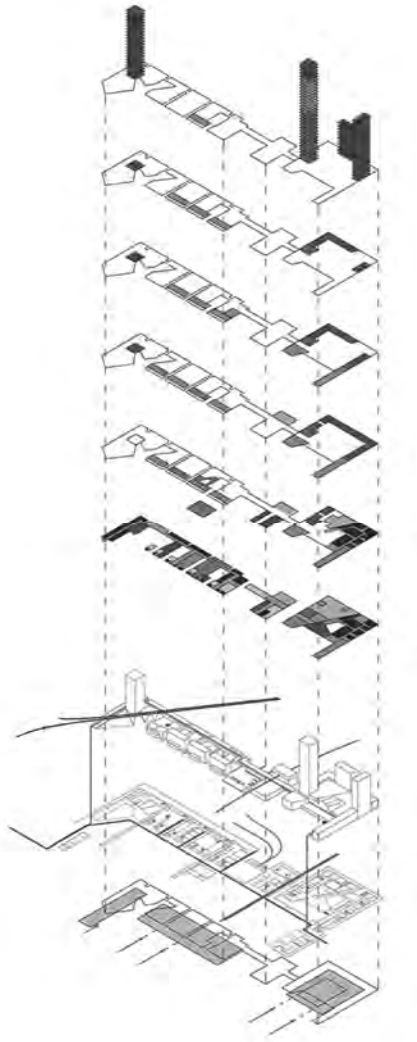
The intention of the project is to explore the redevelopment process and to redesign the banks of the Gowanus canal according to the projections of future floods and the historical geography of the water. The first step is to create a non-interrupted park from Brooklyn Bridge to the commercial harbor of Brooklyn. The park would return a vast equipped public area to the city, at the same time reducing the contamination of the water and mitigating the impact of storms on the coast.



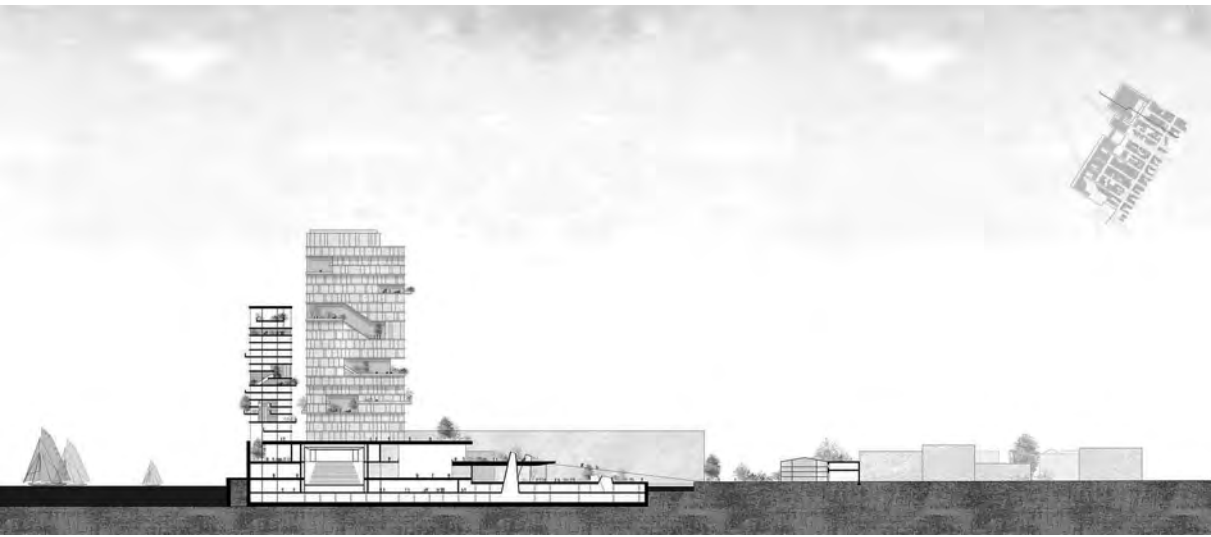
In accordance to the strategies proposed at the exhibition Rising Currents at MOMA in October 2010, our first general strategic approach is designing the retreat, consisting in moving back the line of the built-on-areas and allowing the sea to flood the areas previously built on. But in the case in which retreating is not possible, as it is necessary to preserve the functionality of the present infrastructures, how can the city defend itself?

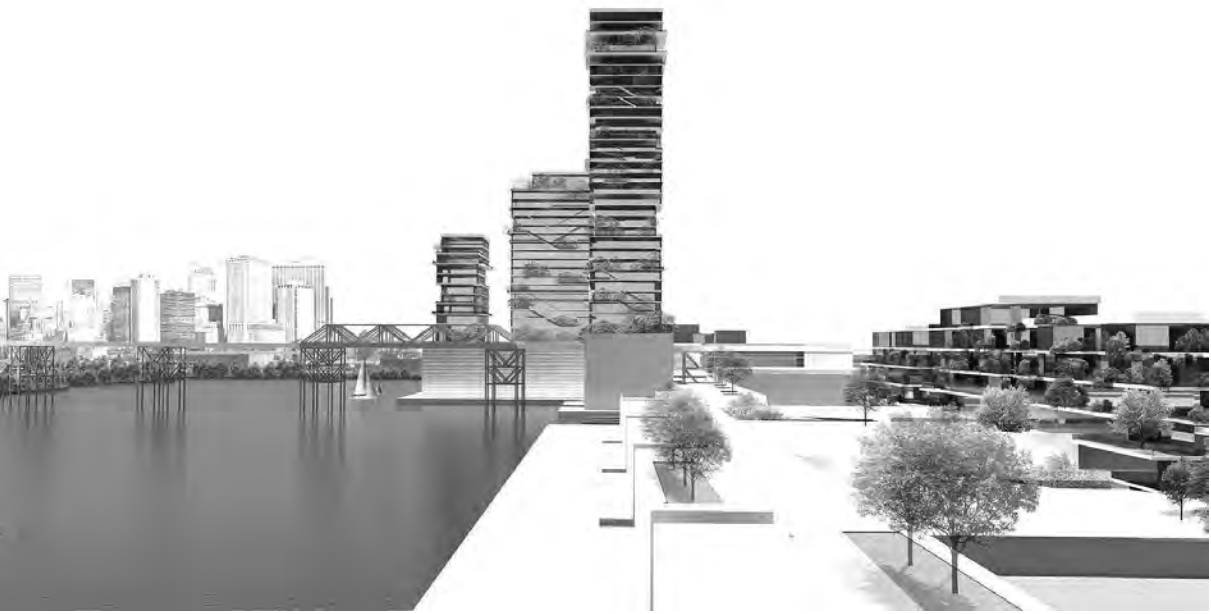
In these areas we propose to build a hard embankment, outlining a straight border between water and urban fabric to produce new livable urban landscapes reinforcing the edge of the city, guaranteeing continuity to the green system, social relations and accessibility to the spaces even in case of strong rises of the water level.

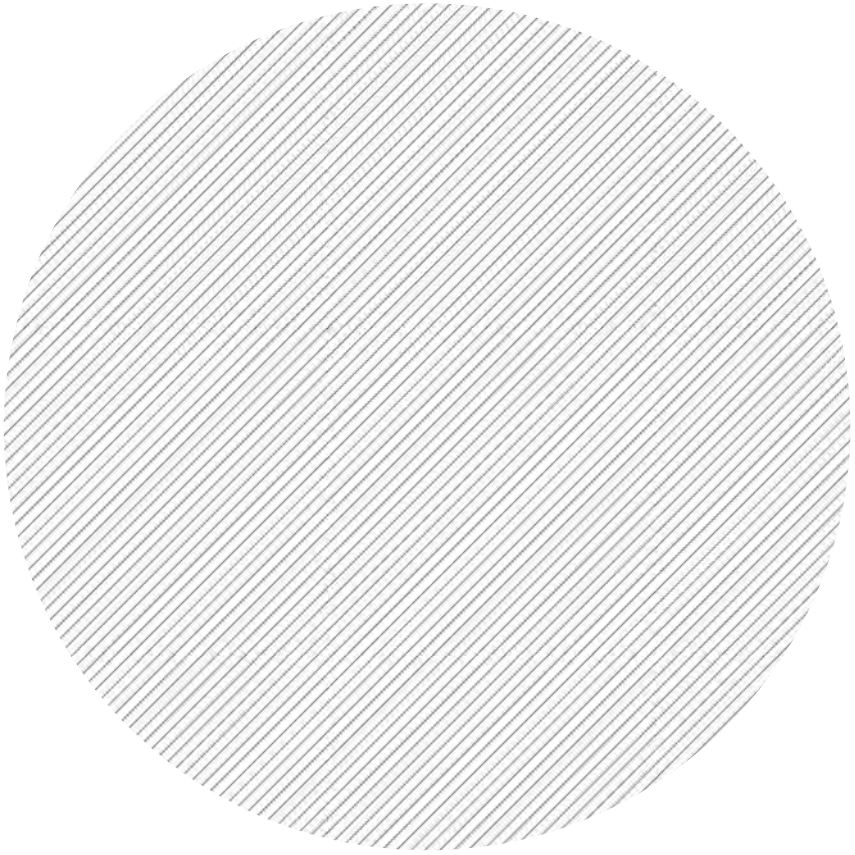
Identifying the point of maximum accessibility to be preserved in the Gowanus East bank, between the tube station and Gowanus Expressway, the project acts on this part of the waterfront reinforcing the edge of the city and returning visibility to the canal in a perspective of eco-systemic regeneration. The intervention is divisible into two key areas: the Northern area surrounded by the water has the dimensions of a square that takes up three blocks, while the Southern one is developed through six blocks, getting directly to the structure of the city. The Brooklyn grid acts



as generative frame for a waterfront hybrid megablock, which expresses through its urban architectural sections the complexity of the program and the evolving relation with water. The coastal metropolitan linear park extends above the barriers to water-rising, crossing different levels of the built-on-areas and maximizing the public green areas. The functions of living, working and leisure are condensed and hybridized through densification due to the high public accessibility of the area. The final result is an architecture mindful of the environmental problems as well as integrated into the metropolitan system in a fusion between architecture and landscape. ○







ANTONELLA CONTIN

Architect Ph.D. is Assistant Professor in the School of Architecture and Society at the Polytechnic of Milan. She is the Group Coordinator of the Laboratory Measures and Scales of the Contemporary City at Department of Architecture and Urban Studies and she is member of the board of the PhD in Urban and Architectural Design. The Milan team MS [lab] (Measure and Scale of the Contemporary City Research Lab, DASTU Department) is still exploring the world opened up by Foucault's heterotopias of illusion, a new world of networked multitudes, new collective associations and individualities, formal and informal, whose urban future is uncertain and multi-dimensional. She is scientific and full organizational responsible of international seminars. She gives lectures at many international universities. In particular her research deals with Metropolitan Architecture, new sustainable model of the urban growth, smart sensitive city, new technologies and urban design mapping.

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