



DOCTORAL PROGRAM IN ARCHITECTURAL COMPOSITION

Chair:

Prof. Marco Prusicki

The PhD program is understood as advanced learning, rooted in the history of the architect's craft, of the profession and of the wealth of architectural techniques. The objective is to educate professional architects from a general point of view, in order to give them solid historical/humanistic training and a strong theoretical base, but also extensive knowledge of town planning and construction techniques, so they may be able to carry out architectural design. The training consists of the imparting of organized contents, the sharing of research, and participation in cultural debate. As is the case in the other arts, composition is understood as an ensemble of conceptual and technical fundamentals which precede the design project and to which it refers. The faculty is composed of professors in the fields of architectural composition, history of architecture, restoration and construction.

Contents

The program is based on exchange between members of the teaching staff and external professionals from among those at the forefront of international debate. This dialectic serves as a reference and as a source for research. The course is divided into integrated phases.

The first phase consists of a redefinition of positions and responsibilities with respect to transformation of the territory and to evolution in the profession, in which the PhD candidate is required to participate through research and contributions. It consists, in addition to participation in optional Polytechnic courses and in addition to a two-semester seminar in architectural design, of two specific courses given by several lecturers during two semesters («Architectural History and Design» and «Criticism and architectural theories»).

The second phase consists of a more specific, in-depth undertaking and deals with the problems of composition in relationship to architectural design, on one hand through two courses («Figures of architecture and forms of construction» and «Conservation and design»), and on the other hand by means of a second architectural design seminar. These courses also involve several lecturers and are divided into two semesters.

The third phase consists of increased involvement of the PhD candidates in more specific research and themes, ranging from the theoretical debate in Europe and in Italy to the issue of the old/new relationship, to the topic of settlement- and founded-city structures, to research into the cultural and figurative identities of landscapes

and architectural expression.

The second and third phase involve training experiences abroad, with participation in seminars and research in the universities with which the PhD candidate is establishing relationships.

PhD thesis

Maximum importance is given to the PhD thesis. It constitutes the core and the conclusion of the PhD candidate's study and is attributed a very large number of credits. The subject and the formulation must be defined before the end of

the first semester, with help from the supervisor. During the following five semesters, the thesis is developed as other studies are carried out, taking on a progressively more important role.

The thesis is understood as research and must be characterized by cultural and scientific originality. It may or may not have a design aspect. The PhD candidate is required to report regularly on the progress of the thesis and to attend open sessions, held in the presence of the teaching staff and of the other PhD candidates, at which the thesis is discussed.

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“THE TEACHING OF ARCHITECTURAL COMPOSITION”

Tommaso Brighenti - Relatore: **Prof. Enrico Bordogna**

Relatore esterno: **Prof. Luciano Semerani**

Considering that the objective of architectural education, as Colin Rowe stated, “*is not alone to train a student for a professional occupation, but is above all to stimulate his spiritual and intellectual growth, to develop his intellectual faculties and to enable him to grasp the nature and meaning of architecture*”, this research aims to perform a comparative analysis of some of the main schools of architecture both in Italy and abroad, as well as some of the leading players who have characterized them, starting from the peculiarities of specific teaching methodologies in the compositional procedure. Guido Canella wrote in his essay *Dal laboratorio della composizione*: “*we all know that the general linguistic travail of architecture is matched by a profound crisis in its theory and, consequently, in its criticism and teaching. I therefore believe it is of great use to restore unity to the critical moment and the operative moment of composition*”. The goal of the research is to identify this unity in conformity with a definite idea of architecture, undertaking a path that studies the figures and schools of architecture who have marked their teaching with a strongly characterized, precise and militant point of view. Aldo Rossi, like other architects of his generation, maintained that a school’s task is to direct and

guide students, even at the cost of simplification requiring a methodology that lets them face the complexity and globality of design problems, in order to train knowledgeable architects who can tackle any kind of problem.

This work aims to demonstrate how much a school’s task is not to develop personal research programmes, but to establish a common base, by identifying a well definable trend within an intellectual panorama. The teacher’s goal as regards students must be to transmit a capacity to work, a knowledge of how to direct and “influence”, since the specific nature of a school lies in its own point of view, given the impossibility of transmitting teaching in a wholly objective manner. What differentiates a school and its value in any determined moment of its existence from all other schools therefore comes from the existence of a “cultural project”, as well as the requisite qualities of the persons involved.

Hence the goal of the research is to analyse the training methodologies and objectives of a school of architecture with the aim of verifying how much the growth of knowledge in a determined discipline can also transpire thanks to internal and external contributions, and how the compositional

materials are inextricably and operatively linked to humanistic, historical and construction ones, as well as by the necessity to know the current situation and therefore its historical, structural and cultural conformation, incorporating this in the typological creation and the compositional process. Elements that these days seem to have been neglected, determining that linguistic and theoretical travail that appears to characterize a large part of today’s architecture, which is experiencing a radical change in its theory, criticism and teaching. The five schools of architecture investigated are the Cooper Union of New York, the Valparaiso School, and the Architectural Association of London as well as two Italian examples influenced by the singular thinking of two architects, Guido Canella and Luciano Semerani. All of these experiences can provide a clear model to be examined, not just because of the contents of their teaching, but also and above all because of their attempt to construct a cultural project, which, albeit arising and becoming concrete in different ways, finds its roots in a humanistic sooner than technical-scientific culture, expanding architecture’s experience to dimensions similar to those of other artistic

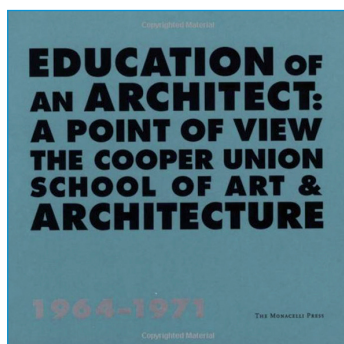
expressions, and focusing on form, space and architectural composition themes. It must be stressed that none of these experiences has ever had the presumption of defining theoretical systematics, but have developed in line with theoretics consisting of formulations that have always been modified *in itinere* by means of experimental praxis. These forms of teaching therefore become attempts to set a fashion, where unquestionably in all cases there is the authoritativeness of a master who, if operative inside a school, can make architecture teachable and transmissible in the fullness of its problematic nuclei, beyond the formulation of a sterile body of precepts. What happened at the Cooper with John Hejduk and his co-workers between 1964 and 2000, at the Architectural Association between 1971 and 1990 under the direction of Alvin Boyarsky, at Valparaíso for more than sixty years, without over-generalizing, may be comparable to the experiences of Milan and Venice. Figures such as Ernesto Nathan Rogers, Giuseppe Samonà and their students like Guido Canella and Luciano Semerani, are charismatic personalities who have contributed to the building of a School of Architecture idea. These experiences, each founded on their own strong

identity, and frequently separate from contemporary academic tradition, assume a fundamental cultural role for the development of research and thinking, demonstrating how the re-

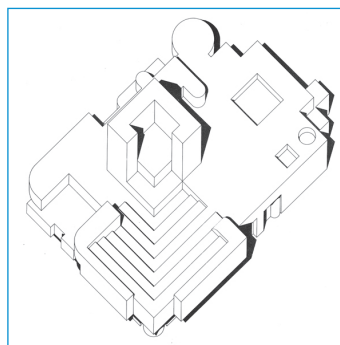
establishment of the sense of an artistic enterprise constitutes a goal rather than a trend, and how this trend appears indivisible from the need for theoretical construction.



1. Poetic act of opening of the land in the *Ciudad Abierta*, 1971. Archivo Histórico José Vial Armstrong, PUCV, Valparaíso.



2. Book cover of *Education of an Architect: a point of view. The Cooper Union School of Art and Architecture, 1964-1971.*



3. Guido Canella, *Didactic prototype of the Theater system in Milan, 1966.*

THE DUTCH CITY: REALISM, CONTINUITY AND EXPERIMENTATION

Maria Vittoria Cardinale - Supervisor: **Prof. Susanne Komossa**

Tutor: **Prof. Adalberto Del Bo**

The interest in understanding the principles of building the Dutch city, to which is dedicated this study, arises from the considerations on the ways and principles at the base of the interpretation and building of the contemporary city. The study of the Dutch city highlights the need for a will to order at the base of urban transformations, the expression of a precise idea of the city and of a clear relationship between building type and urban shape capable of generating spaces and places recognizable. The main reasons for the exemplarity of the Dutch experience, of the continuous rigor and clarity of the urban settlements, are all within its foundational reasons: the Dutch soil, geologically placed below the sea level, is all artificial, hard-won from the water, drained and consolidated to accommodate the row of houses narrow and long (for structural reasons and to optimize the soil), arranged in the portions of ground between the drainage

canals.

The shape of the house and the shape of the city are so inextricably linked. Technology, structure and shape together contribute to establish clear and continuative principles to build the Dutch city, in which the urban plan is the very reason for its existence, instrument of order necessary to settle the land rationally, that has led to put the collective at the base of the existence of the city itself. The Dutch city is a city of homes and the home is the primary, perfect and repeated element, which sets out the shape that, even in its evolution over time, remains unchanged in its constituent features. If it is clear that the close and consistent relationship between the type of building and the shape of the Dutch city is inevitable for reasons inherent to its construction, it is also interesting to investigate the logical process by which these shapes and principles have faced the test of time, the economic,

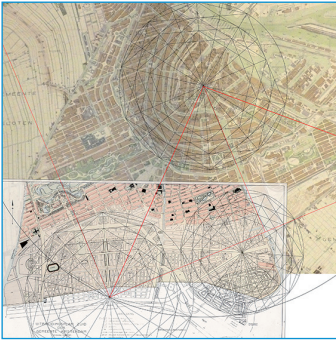
environmental, cultural and social changes and to understand how their continuity and experimentation are shown as two parts of the same act.

So, after the characters of the traditional city, it became important to analyze the fundamental experience of the Hendrik Petrus Berlage Expansion's Plan for Amsterdam South, one of the leading contributions to the planning of the twentieth century. The part dedicated to the study of the plan and the way that led Berlage to its project, is a key point in my research because understanding the principles at its base is inextricably linked to those of the whole story of the Dutch urban planning until the contemporary city and therefore also to the general considerations on the city in our time.

In the third part of the thesis, I analyzed the first experiences of the 1910-1920 in opening the urban block, represented by the



1. Evolution of the Dutch urban block (Reworking starting from a study of Max Risselada)



2. The geometry in the Berlage's Amsterdam Sud Expansion Plan. Personal analysis.

realizations of J. Van der Pek for *Rochdale* and M. Brinkman for *Spangen*, that constituted the antecedents of the main architects' experimentations of the following decades, such as those of J.J.P. Oud in *Tusschendijken*, a prelude to the evolution of his idea of the city towards the opening of the urban block expressed in the admirable example of the *Kiefhoek* settlement in 1926. Here, a new concept of living resulted in finding solutions for perfect minimal affordable housing, the archetype of the modern living molded in the concrete. The ideas about the opening of the block and building a city according to the principles of a rational order, represented the main approach in urban realizations thereafter in the Netherlands, fervently supported

by the rising movement of the *Nieuwe Zakelijkheid* (New Objectivity), at least until the economic general cultural crisis of the Thirties and the outbreak of the Second World War. In the years following the war, the increasing welfare and the spread of the automobile led a gradual departure from the traditional urban principles, following a desire for widespread distribution of space and greenery. The analysis of these experiences, at the end of the third part of the research, was an important step to highlight the changes made by the Dutch planning in recent decades, but also the continuity of certain principles which remained unchanged, due to the strong Dutch urban tradition, even in that historical moment. The last part the research, dedicated to the contemporary city, investigates the direction taken in recent years by the Dutch planning, aided by the current crisis that highlighted the great pressure to which our civilization is subjected, from the economic, social, and environmental point of view. In Rotterdam, for example, in recent years the policies are intended to bring to the fore issues related to the delicate balance between the city and the environment and their relationship with the water typical of the historic city,

according to the traditional realism of this civilization in urban planning. Become so again primary the continuity with the principles of building the Dutch city, the close relationship between the water and the design of the city, the need to link the shape of the house to technical reasons of the soil, the search for a compact city, not only to save the soil and water for a defense strategy, but also for a reevaluation of the value of domesticity and variety of places of living proper to the historic city. In this sense, the type of the house, its aggregation, its relationship with the water and the public spaces, is the privileged object of interest of the research. The examples in the last paragraph of the thesis, chosen by the criterion of the clarity of the type-morphological relationship and of the evoked idea of the city, demonstrate, despite their diversity, a clear continuity with the principles of construction of the historic city. In this context, it is confirmed the value of the prevailing type of row house through its experimentation, as variation in the affirmed rules, and through its permanence inside an urban order that defines the stable principles of the Dutch city.

HENRI PROST, LES TRANSFORMATIONS D'ISTANBUL.

Architecture and archaeology in the project of the city's urban plan

Elena Ciapparelli - Supervisors: Luisa Ferro, Angelo Torricelli

The aim of the thesis is to show how the choices made by the French architect Henri Prost for the urban plan for the city of Istanbul (1936-1951) find their basis in the matrices of the ancient city.

The research investigates the relationship that exists between architectural design and archeology. Archaeology intended as fragment, immanent memory of a past that, in the contemporary city, struggles to find meaning. Archaeology as a method, analytical study of the city, of its layers, the parties and the transformations that determine the current status. Archaeology as a choice, to renew the relationship with history through the project, at the same time the creation of a new story. In this way, the urban plan for Istanbul proposed by Prost not only satisfies the needs of a modern city but also entrusts the ancient the role of a real engine of the project. The research can be read on a dual register. On one hand it highlights method, tools and analogies that form the elements of the composition of the town planning project; on the other it investigates the specific characters of the city of Istanbul, the original matrices, the archeology, and the urban transformations with which the project faced. The areas involved are

the Historical Peninsula, corresponding to the ancient city (Figure 1), the districts of Galata-Pera, the Asian shores and the coasts along the Bosphorus. The project of the Archaeological Park is present from the first proposes for the urban plan of Prost, who identifies different zones of protection within the historic city (Figure 2).

It is not really possible to understand the reasons that underlie the project's plan, unless considering the travels and researches carried out by the architect in Greece and Asia Minor, which are reflected in the drawing of the hypothetical reconstruction of Hagia Sophia and the city of Byzantium in the sixth century A.D., completed by Prost in 1906 (Figure 3). Between 1905 and 1906, as pupil of the French Academy in Rome, Prost went several times to Constantinople, completing the *restauration* of the ancient *basilica*. In this occasion the architect doesn't limit his research on the building but he also reconstructs the entire area of the Circus and the district of the Imperial Palace. Due to the paucity of archaeological discoveries at the time, his idea of the ancient city is a real project and it will be the foundational matrix of his way to compose the contemporary city and the future one. Prost is to say that the contemporary

urban movement owes much to the *pensionnaires* of the French Academy in Rome.

The study of the city and its historical layers is not an exercise of erudition and has no purpose of historical reconstruction.

Rather it is the city itself that is the search field, the bearer of a hidden order, which shows through the project, which has its merits in the ability to interpret and give meaning to the places.

Through this reading, the plan of Prost for Istanbul can be seen as the elaboration of a method that shows its logical reason and a transmissibility that exceed the chosen case.

The thesis consists of four parts. The first three parts concern the development of the project of Henri Prost for the urban plan of Istanbul. The fourth part is focused on the study of the current city.

In the First Part, *Identity and Character of the City at the Beginning of the new Republic (1923-1950)*, is presented the situation of the city as Prost could see from the mid-Thirties of the Twentieth Century, outlining what was to be the state of act before his project. They are essential to the understanding the characters of the plan some insights on local planning tools, on antecedents urban projects and those that were presented in variant, on

the reasons which led to the designation of Prost as the architect of the new plan for the city.

The Second Part, *The project of the Urban Plan*, analyzes Prost's plan for the city of Istanbul (1936-1951). Here are shown objectives, tools and techniques that the architect uses for the study and the drawing up of the plan. The project includes a general reconfiguration of the city, in many ways. Contrary to what he had planned in the cities of North Africa, for Istanbul the question is no longer to create a new settlement, but rather to act within the historical districts like a surgical operation, according to the same Prost.

The Third Part, *The Reinvention of the Ancient*, is the one where more is put to test the hypothesis of the research. Through the study of the ancient city and the reconstruction of the discoveries of the missions of the excavation, is made explicit the relationship that the town planning project for Istanbul established with the discipline of archeology.

The architect fills the gaps of the archaeological discoveries through the invention project, which he had expressed also in the ideal reconstruction of Byzantium in the sixth century. The interest in the areas of Imperial Quarters is explained through the comparison with Antioch on the Orontes and Milan.

The Fourth Part, *Archaeological Ares and Architectural Design. The Role of the Ancient Center in the Contemporary City*, draws conclusions of the work, by explaining the basic concepts and the starting assumption,

according to which the project is a form of knowledge of the city and, at the same time, a representation of the idea of city of the architect.

The knowledge of the transformations that have characterized the city of Istanbul is analyzed to the present time to demonstrate the foundational role of the ancient city in the future development processes and, therefore, the necessity of the studies of the layers and the formal determinants of the contemporary city.



2. Project of the Archaeological Park. The area of protection is indicated with light color; the areas appointed for new excavations are in darker color. (Author's drawing).



1. Henri Prost's projects for the Historical Peninsula. (Author's drawing).



3. Byzantium in the Sixth Century, as represented by Henri Prost in the drawing presented as fourth *Envois* for the French Academy in Rome, in 1906. (Author's drawing).

THE CITY OF DELHI 1912-1962. CONFLICTS OF CULTURES, QUEST FOR DESTINY.

Pilar Maria Guerrieri - Supervisor: **Daniele Vitale**

Every megacity in the world in some way or form encounters the subject matter of cultural exchanges. How each city deals with such exchanges, moreover confronts or accepts them is altogether unique to each. This thesis uses the city of Delhi, one of the largest of megacities, as a case study. It is especially peculiar since it has been influenced by a multitude of cultures whilst being ruled by different reigns and dynasties; it was capital to the Delhi Sultanate, the Mughal empire and finally the British empire. Delhi as of today is one of the most densely populated cities in India, influenced by multiple forces of globalisation and is subjected to the on-going process of internationalization. It therefore, proves to be fertile ground to study the perennial and recurring process of hybridisation between cultures, in this particular instance through the perspective of its local architecture and urbanism. In this thesis, said process of hybridisation, essentially the negotiations and re-negotiations between cultures, has been examined from an historical perspective. Using history as marker and using past occurrences as parameters, effectively any matter of culture or diversity can be assessed or reviewed with less envelopment, bias or value judgement. In

this case, a conscious effort has been made to study the transformation of the city of Delhi, focusing on the metamorphosis in architecture and urban planning during the period of 1912, when the British Town Planning Committee for New Delhi was formed, to 1962, when the first master plan was in fact implemented. This transition period, when the megacity was born, is particularly interesting because it has often been neglected by scholars and gives opportunity to investigate the current phenomenon of globalization from a more detached and cognisant perspective. The research work involved, originates directly from primary material, predominantly unpublished documents, which have been collected from public and private archives such as the Delhi State Archive, National Archives of India, Institute of Town and Country Planning Organization, Municipal Corporation of Delhi, Central Public Works Department, The Royal Institute of British Architects and The British Library in London, and the Ford Foundation Archive in New York. This material was used to understand how foreign models and influences may have been adopted in Delhi and to what extent resistance to these was encountered or how much

adaptation local conditions demanded. From the documents obtained, the research goes to consider the transformations of singular architectural elements during the period in question; these being: in what ways the city plans, neighbourhoods, types of residential or public buildings and architectural styles changed over time. The first element to be addressed was the plan brought forth in 1912, during the colonial period, which was compared to the master plan, approved in 1962 after Independence, whereby both bear distinct foreign influences, firstly British, thereafter American. The second element of analysis goes to examine the singular neighbourhoods, effectively the colonies through which the megacity grew, to ascertain British, American, for that matter, even Japanese influences and the local reinterpretations of these. The third element to be studied is resident typologies and their variation from bungalow plots to house plots, which clearly demonstrate significant local changes and adaptations of foreign models. The fourth element under scrutiny is the sphere of public buildings, where the quest for "Indianness" together with the search for modernity, recurrent pre- and post independence, is a

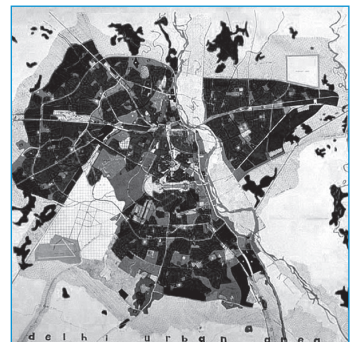
common denominator in most structures. The fifth and final element assesses the plethora of styles present in the capital. In particular, the Palladian style was imported and, through the course of its journey from Italy to Delhi, gradually changed its meaning, its form and has undergone noteworthy compromises with the culture and inclinations of the sub-continent. Herewith, defining yet another influence, the Italian on this occasion, which has been absorbed and become an integral part of the city of Delhi. In investigating Delhi's architecture and planning, scholars usually tend to consider the period before 1947 as subordinated and attributable to Western-British ideas and the period after independence for the development of purely Indian nationalist ideas. However, herein lies a fundamental flaw. Cultural exchanges are often mistakenly seen as a one-way process, where this research has established that Delhi has played an active role in the process of hybridization, developing its own character as opposed to merely accepting what was brought from abroad. Both periods have been characterized by a resilient and very interesting compromise between indigenous and foreign elements and thus

the period after 1947 cannot be construed as more "indigenous" than the previous one. The research conducted raises questions on broader aspects, which do not only apply to Delhi alone but also relate to the Indian context as a whole, such as the meaning of the term "Indian-ness", "Tradition" or "Identity". Often the concept of "Indian tradition" has been an ideological invention that served political purposes; by simplifying Indian culture the Western Orientalizing current has purported a static idea of it, inadvertently sacrificing its beauty. This thesis with Delhi as a case study validates that each city of India has developed a distinct history and distinguished tradition that cannot be assimilated with any other. Indian cities have to be studied as autonomous entities, where scholars usually try to compare them. The identity of each city exists, but varies from place to place; it is the result of the opposition and resistance that the local culture had towards external influence. This approach of studying cities and their architecture with an appreciation for historical relevance and a keen sensibility towards cultural exchanges has not been developed effectively in the academic world, especially not in India; it does,

however, remain imperative in order to develop a critical point of view on contemporary urban matters.



1. Delhi Guide Map. Surveyed 1939-42, Delhi State Archive.



2. Master Plan for Delhi prepared by Delhi Development Authority, vol. 1, Government of India, New Delhi 1962.

IDEA AND DESIGN OF NEW TOWN

Young Dal Lee - Supervisor: **Pellegrino Bonaretti**

The design of a new city, in principle, should assume that revolutionary nature of its architecture defined by Guido Canella as commemorative project of a society that guarantees rationality, justice and equality. But currently, the new city seems to ignore these values to find in the systemic model addressed only to the economic and technological environment, where the procedural aspect of the design is entrusted to manuals or guides, who presumptuously coding objective have excluded the liability of architects and planners. The urban environment based on cultural and traditional city has been replaced by the value of the market and entrepreneurial capitalist society, producing an urban model dictated by the needs of individuals with the consequent impoverishment of the variety of types and spatial segregation in the new cities. This study helps to clarify the general problem of architectural space linked to the modern new city, and mainly deals with the current condition of the design of the new city, in order to reconcile urban quality and utility maximization. The approach to the study starts from a descriptive phase of the phenomenon of new settlements, for quantitative and for qualitative aspects,

which is entrusted with the general definition of that model (most common for the new city) circumscribed by the ratio apparently interdisciplinary, in which politics, sociology, the economy of the market and design work together and intertwine actively to ensure the operation of the project. Moreover, the thesis describes the structural reasons for which the design is in a state of confusion between the design approach tending in solemn form of the great masters and the attitude of surrender in the face of a given cycle for "indispensable system" which business logic has replaced the rational design (which constitutes a constructive logic and formal diversified work depending on the context) with the system characterized by a formal technical. This system is not interested in the context where it should be born from the idea of the problem but part of the intervention as an action that defines the shape sorter and universal civilizing things (in part the very idea of the city "new" push designers to ignore the contest) In the last century, the design of the new city was a field of studies and experiments for many rationalists' modern architecture and urbanism. The most popular models currently

remain technocratic models that interpret the project as an intellectual work replaced by a series of different actors in search of a feature-exasperated project. Removal of the idea of the city from the project of new settlements is not a matter of trend or failure "subjective architectural", which presupposes a choice already possible.

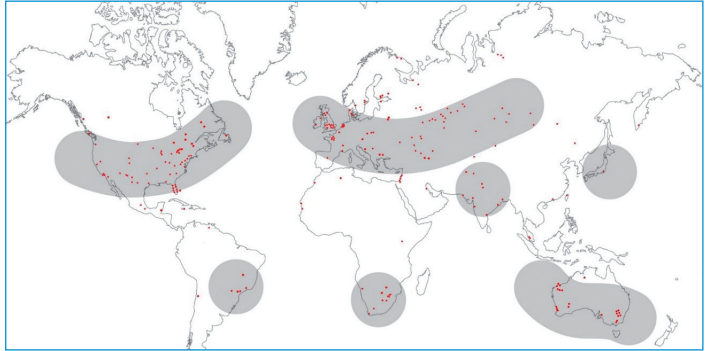
But it is largely due to the change of the project but not procedural intervention which assigned a priority not to the idea of the whole or to the unitary character of the urban body but the aspect of the case to the Executive that competes developer, general contractor or corporations architecture qualified for their entrepreneurial skills in completing the work. The case studies examined were dictated by my choice to focus on the period in which it occurs the process of urbanization of the modern city, that is when the new cities arise in relation to the industrialization and urbanization phenomena that prefigure total territory. In this period, which covers more than a century, countless experiences have occurred on the international scale, also accompanied by numerous imaginations of new cities, especially after the war, fueled by many ideologies of utopian

So I looked at the plans of the countries that have contributed, in some way, to build culture of the founding of new cities that through their projects allow us to reconstruct the general characteristics for proposing the problem and the conditions of their realization.

The reference to mass urbanization linked to the phenomenon of the new city, led the study on the experiences of different countries to work on a heterogeneous material. The historical conditions have produced an evolution that has developed in stages, and the existence of filiation between the various international experiences. The few cases examined provide a partial reading of the new phenomenon of the contemporary city, increasingly popular for a massive urbanization, increasingly sensitive to new development models, spatial and social, related to dynamic capitalist who denies the common architecture and social.

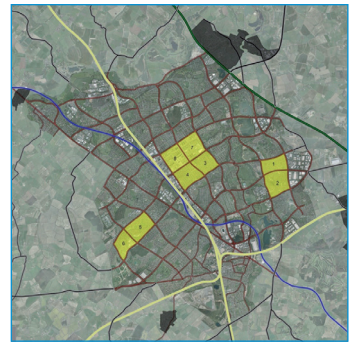
During the evolution of the new city, the planned unit, it is stated in parallel entrepreneurial ideology of urban development and housing market, gradually abandoning any reference to the city, and becomes the object-monument context independent losing the ability to generate and to impose meanings to the place, identity.

It is a condition that stems from the alleged objectivity (reality, plurality) that replaces the subjectivity (ideals, singularity) to the project, to support playback of new contemporary city and to formulate answers to the questions that arise from the impossibility of knowing the

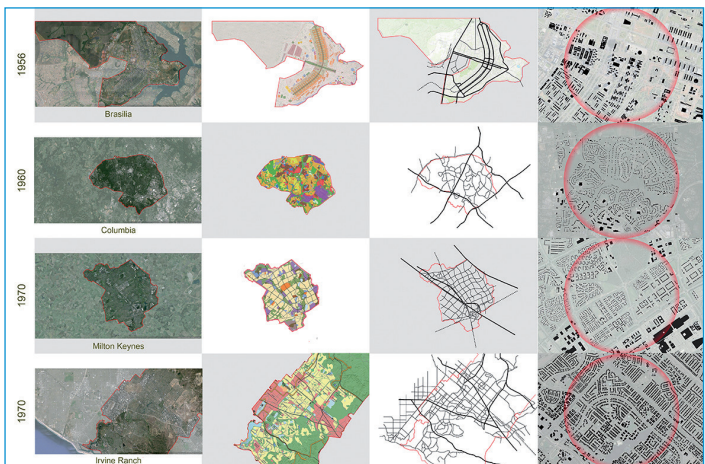


1. Location of New Towns 1940-1979

result and inability to propose new solutions. The project entrusted to objective criteria, which consider only a limited number of elements on the fact of settlement, removes responsibility from the architects and planners from their role as alternative search. Affirm the necessity of architecture for the new city, does not mean you want to play the characters of the ancient city, but groped to define spatial relationships and lost values compatible with the practices of today.



2. Milton Keynes, UK (1970)



3. Comparison table of New Towns

STRUCTURAL TYPES AND ARCHITECTURAL TYPES.

Reasoning the static through the form.

Antonella Marzi - Supervisor: **Adrian Sheppard**

The story of the ancient settlements, the urban transformations, the social and economic conditions that characterize the city, and construct new identities of landscape are all closely related to the development of historical memory and cultural transformation of its architecture. Architecture with its morphological characters and ideological influences built the city. This leads to the questions: how is a building able to modify settlement patterns and the social culture of a city? How is it able to relate to or disengage from the constructive logic and find its own identity, through which to express the character of the composition in a meaningful way?

Given the vastness of this topic, the thesis focuses on the aspects that are more specifically related to the role of the building as a fusion of static solutions and architectural space. In previous architecture, the division or conflict in the relationship between the point of view of composition and point of view of structure did not exist as it does today. Divisions and conflicts emerged in the middle of nineteenth century, with the advent of new materials and new construction techniques. In the light of this rift it is useful to reconsider the instances that have always represented the

architecture in its most coherent and conscious productions.

The relationship between architectural form and the structural component provides an important "reading key" for a better understanding of the building's architecture.

The ability to control the structural components, to shape them to have completeness figurative and to establish a connection between its formal order and its static principles, turns out to be a dominant factor in the making of architecture. The structure can become a poetic language that represents the closest connection with Art. It manifests itself in the boldness of the masses, in the beauty of forms and in reaching maximum fulfilling mastery and building experience.

This research project investigates the relationship between structure and architecture, in an attempt to take the structural changes and structural components as a key for the choice of composition and contemporary typology.

Following the development of the research, the proposed analysis is divided into three parts:

The **first part** seeks to analyze different attitudes of engineers, builders and architects, and comparing multiple approaches of structural composition.

A **second part** investigates the role of concrete in architecture, retracing its passages and intellectual productions from its birth to the development of the material. This part of the thesis examines technical and design considerations that led to its present development, highlighting the coming of today's challenges related to the research aspects of innovation. Finally, it analyses the production cycles and reinforcement efforts (during the building site) as well as those specifically concerned with the appearance of durability of the material, the recovery and rehabilitation of structures.

The **third part** verifies, by means of an experimental design, the possibility of a relationship between structure and architecture (not as a constraint but as a true resource) resulting in opportunities for use of innovative technologies where the transformation of the material often plays a role of primary interest.

The thesis analyzes developments, innovations and applications of technologies and the role of structural concrete in the design of spaces and in architectural forms to illustrate an understanding of the architectural project, taking in its architectural form and structural section the new solution and new technological resources.

The attempt to explore the structural types through case study will provide an explanatory analysis and a more comprehensive search, where the concepts expressed in the theoretical part will be verified and applied more directly. By way of different methodologies and analytical techniques the thesis will propose an analysis of compositional languages, rebuilding social-cultural periods and image of the architect-builder.

The common ground on which science and art have their roots is the Renaissance. The two disciplines had a strong relationship, enough to read them as a single inseparable whole. In the recent history the disciplines of architecture and engineering collided. This research proposes to reconstruct the integration that has always characterized the architecture of the far past. The aim is to reach the merger between structural and formal ideas as a just premise of architecture.

When one talks of structure, one means a physical system consisting of a set of elements that make up a space. It is important to think about these elements in their unity although during the calculation phases they are often considered individually.

Depending on how the elements are placed, the structural system,

changes generate different static actions. From a typological point of view we tried to bring these actions to three structural models, in which, through a rough classification, we can identify the different architectural types binding it to a precise distribution of loads inside the "structural system".

The structural system performs a precise function, and to properly fulfill its tasks it must necessarily be able to control the tensions to which they are subjected. Although it is clear that all the structures working in space are three-dimensional, the classification (which is carried out below) binds to the dimensionality of the main direction of action that prevails in the specific architectural type so that the static scheme proves to be a key element for the typological detection.

Using a conceptual analogy, such as taking as a conceptual scheme the Cartesian reference system, the thesis attempts, with the same organization's logic, to identify the characteristics of each classification. The choice of the Cartesian model in order to conceive the perception of the physical space, generated by measuring points, distances and lengths allows one to identify a number of references such as: coordinates, directions, orientations and measurement units. Focusing one's attention

on the term "direction" one can see how it is modified depending on the complexity of the element. Trying to translate this situation in the proposed structural classification, it is possible to establish a tri-partite reference system as follows: mono-dimensional systems, two-dimensional and three-dimensional systems. As such, the type inserted in a simple and wise classification of this nature, can help to identify the many examples of architecture and engineering taking the essential aspect of each case, without precluding the study of the meaning of each form and seeking the project idea is not an imitation but in the awareness and knowledge of the structural concept.



1. Place Victoria, P.L.Nervi e L. Moretti, Montreal, Canada, 1960-65

FIGURATIVE INVENTIONS. THE CITIES BY ALDO ANDREANI

Stefania Monzani - Supervisors: **Angelo Torricelli, Richard Allan Etlin**

The research starts from the compositional study of some works by Aldo Andreani (Mantua, 1887-Milan, 1971) and through a *critical analogy* it adds a set of images and references – taken as interpretative categories – which allow the reader to understand the meaning and the goals of the project. This case study highlights some *themes*, which define the existing relationship between the single artifact, and the overall architecture of the city as well as the link between the monument and the urban fabric, that are fundamental matters for today's architectural research.

Aldo Andreani was a shy and reserved person who preferred to stay out of the political debate and the artistic trends of those years because he believed in the ideal of the architect-artist, according to which an artistic project comes from the right balance between poetics and building science. He used to take materials for his compositions directly from the city and from his memory so that he could create a new order through the sublimation of those materials in his projects. His work features a set of elements that reflect a strong individuality and it mirrors the modernity through a deep reinterpretation of the historical city in original shapes; the "pieces" he took from the

ancient times are the linking elements of the artifacts that build his "cittadella sognata" – the real architectural expression of his memory.

In his architecture, Andreani keeps on dealing with two key principles: *rule* and *transgression*.

He combines a compositional rigor – which verifies the opportunities of the *typology* towards new configurations – with new figurative results, in which the linguistic experimentation is permeated by juxtaposed figures coming from the classical vocabulary.

The definition of the *character* – that is the specific quality of a place and architecture – is the key element of Andreani's design research. Through a meticulous study, he integrates the pieces of his imagined city with the real urban texture, adjusting and checking every single piece of architecture with a design plan; in this process, the introduction of a new architectural work generates an innovative description of architectural landscape, where buildings stand as characters in a narrative sequence, telling a new story.

The aim of the research is to highlight the continuity of a compositional method according to which the linguistic reflections and the study of the *organismo architettonico* are essential

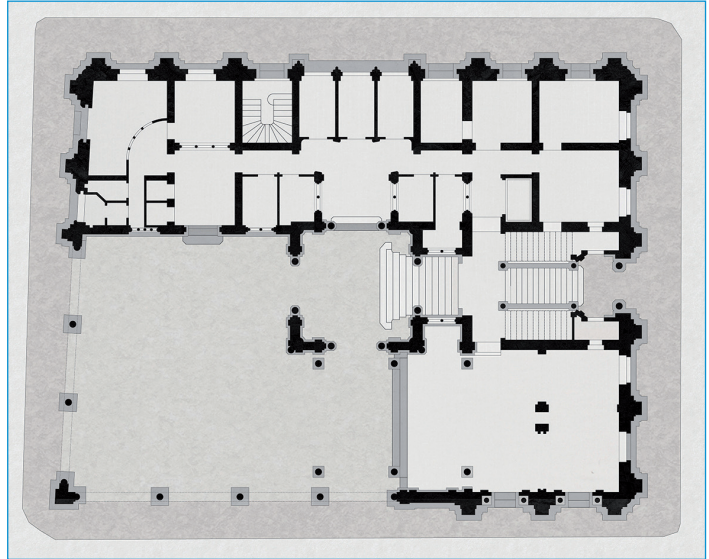
requirements to build new architectures with identifiable character whose original shapes can reveal the tradition and the identity of a specific environment.

The research investigates the workflow of the project by applying a method that starts from the compositional analysis of the single architectures and the interpretation of images and references, and it ends with the examination of the urban scale and the relationships established by single artifacts.

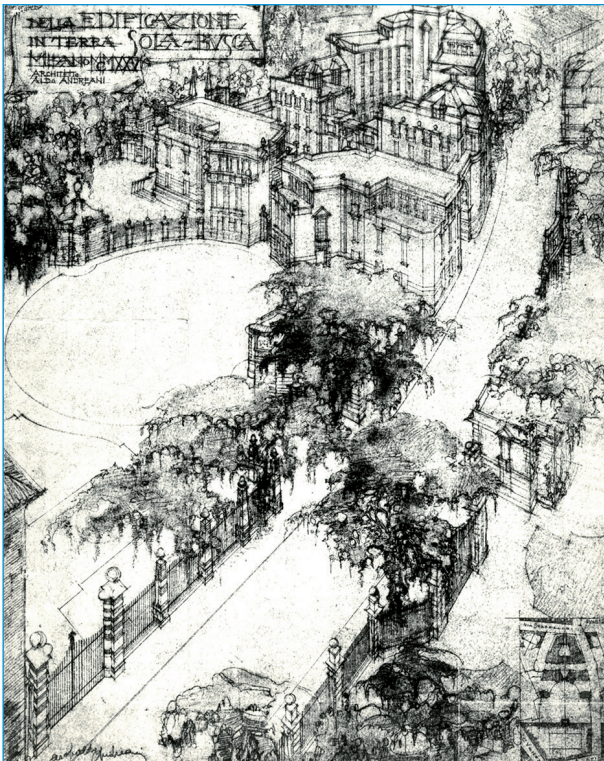
The development of the research requires to split it into three parts that correspond to Aldo Andreani's masterpieces: Palazzo della Camera di Commercio and Loggia dei Mercanti in Mantua (1911-1914), Palazzo Fidia included in the "Edificazione in Terra Sola Busca" plan in Milan (1929-1932) and Palazzo Toro in Milan (1934).

These works link the single artifact to a larger study related to the city. Though they are different buildings as regards their use and the target audience, all of them can reveal Andreani's idea of the project, which is not limited to the definition of the building itself, but it expands to calibrate the bonds with the surroundings, blocks and monuments as far as reopening the whole question about the pieces of the city. Andreani's work of molding the

shapes leads to the creation of pieces of architecture that are both unique and identifiable in relation to the tradition of the place they belong to. The study of these architectures generates many ideas about the contemporary architecture and the progressive loss of identity of our cities, where architectures are mainly self descriptive rather than being intended to tell their story.



1. Camera di Commercio e Loggia dei Mercanti, Mantua, 1911-1914. The building and the public space inside. The plan of the square between the rooms.



2. "Edificazione in Terra Sola Busca" plan, Milan, 1929-1932. View of the scalar composition for "Isola".



3. Palazzo Toro, Milan, 1934. The corner and the connection to the San Carlo neoclassical church.

ARCHITECTURE BORN IN VIOLENCE:

Creative dilemma in post-urbicidal reconstructions.

Experiences of belgrade in the aftermath of 1999 war.

Aleksandar Staničić - Supervisors: **Marco Prusicki** and **Ivan Rašković**

Phenomenon of organized, premeditated destruction of architecture in order to transmit political messages and achieve long-term ideological goals emerges as direct consequence of development of high-tech weaponry systems and contemporary methods of warfare. One could argue that there is nothing new or unusual in destruction of buildings in wars, since those two concepts mutually influenced each other from the beginning of time. However, it is undeniable that every conflict produces its own method and philosophy of destruction of architecture, which became particularly evident in the most recent wars on Balkans and Middle East. New phenomena always brings with itself innovative terminology and formation of new scientific disciplines; the ones specially coined to explain the infliction of violence on built environment and its consequences are *urbicide*, *warchitecture* and *architecture of violence*.

It is the calculated, highly organized and politically motivated nature of destruction of buildings that makes it urbicidal. Architecture became a medium for transmitting, while its destruction became a way to create ethnic and spatial divisions, claim a right to a certain territory, modify historical

facts, extort political decision, provoke violent reaction, etc. In contemporary conflicts, buildings are condemned not only as pure casualties of violence, but as a tool for infliction of violence, used equally fierce as any other weapon of choice.

The true danger of this phenomenon lies in fact that the craft of reshaping the space slowly slides from the hands of architects into the hands of military experts. The sophisticated art of creation of spatial forms deviates and mutates into its antithesis - the art of creation by destruction. The destructive event interferes with good architecture, and unmistakably, it overtakes the primacy in our perception of urban spaces. What can architecture do to regain the intrinsic right to be the primal sculptor of our habitat from destructive forces?

Historically speaking, post-war reconstructions were always used as an excellent opportunity to redefine and improve urban experience of damaged cities. But more importantly, reconstructions after violence are a fertile ground to provide cultural response to destruction. The argument of this thesis is that critical and ideological stance is always demanded of architecture, and especially after urbicide. Symbolic destruction demands symbolic

reconstruction in order to preserve memory and increase the resilience of the cities, since the omitted lesson from the past is usually the most expensive one. Hence, the scope of this inquiry is to broaden and amplify the discourse on destruction of architecture by pointing out the cultural implications of architectural redesign of space that was previously altered by urbicidal violence. The post-urbicidal reconstruction should be understood as architect's mission to regain his true-born right to be the sole sculptor of built space, and the only way to do that is by developing a specific language of 'architecture of violence'. Close investigation of current condition of some notable buildings in Belgrade that got damaged in 1999 War gave us an excellent picture of understanding of urbicidal destruction in Serbian architectural practice, and in some most successful examples, it even provided a hint of what language of 'architecture of violence' might actually look like.

Belgrade as a case study was chosen due to its rich history of urban destruction, but more importantly, because it was a victim of urbicide only sixteen years ago, during the war between NATO and FR of Yugoslavia. Even before this conflict Serbian capital

suffered from chronic lack of appropriate and thorough post war urban reconstructions, which combined with fierce and multiple annihilations of built tissue left irreparable consequences. During its entire existence Belgrade successfully cherished the tradition of discontinuity, where damaged legacy of previous regimes was harshly erased or left to decay under influence of new ideologies. In recent years, however, many designs were presented for reconstruction of these sites. In some more successful cases, reconstruction of buildings damaged in 1999 War went through much faster due to favorable circumstances, but still, methods and approach of their reconstruction varied significantly from case to case. The complex case of *Generalštab* (Army General Staff Building) was segregated to demonstrate the full spectrum of influences that are inhibiting the proper post-war reconstruction of buildings in Belgrade today. Combustible mixture of intrinsic semiotics, ideology, architectural theories, architect's political background and symbolic of destructive event, makes the violated space almost impossible to read unambiguously, and it deprives future reconstruction of its 'authentic' sense. However, this lack of adequate design proposals was used to theorize about possible development of language of 'architecture of violence' using the damaged edifice of *Generalštab* as proving ground. On the basis of previously exposed theoretical frame, and using the experiences of earlier reconstructions, a series of different design proposals was offered, and

for each of them was given thorough description and further theoretical implications. The intended purpose of this inquiry is to be a starting point for further investigation on 'writing' of the disaster and architecture's response to it. Overall conclusion is that there is evident lack of awareness among architects in Serbia about the actuality of the subject, and lack basic conversance with urbicidal theories to begin with. Further on, there is no attentiveness about social responsibility that understanding the mechanisms in which violence is changing our built environment bears. Consequently, there is no proper response of the architecture as profession to the issues of purposeful, politically motivated annihilation of buildings. Same happened after 1999 War: destroyed buildings were seen rather as leftovers of unwelcomed ideologies than as valuable products of its own (architectural) culture. It could well explain the lack of scientific inquiry on repercussions that destruction enforces on architecture and development of cities in Serbia – a sort of cultural darkness that lasts still. Rare are the designs that may be characterized as positive response to destruction, and they came mostly as mere coincidence and not as a result of thoughtful, theoretically based action. More often they just 'happened' by applying the safest and the simplest possible solution – total erasure of traces of violence and restoration 'as it was'. Ultimately, by analyzing those few successful examples, it was possible to extrapolate some

directions in which architectural design after uricide may go. What all of them have in common is that they reappropriate the language of disaster and turn it into a critical response to the violence. The first of them is usage of empty space as an equal component in constructing the architectural forms, followed by the similarly-based preservation of damaged building in ruinous state. Third and the most controversial approach would be the succumbing to the urges of visual extravagance, which may well lead into decadence, and later on even into a farce. On the opposite end, introduction of new forms next to the old ones could carry more or less appropriate symbolism, although it inevitably changes the original architectural composition. Finally, emphasizing the contrast between old and new on reconstructed building, where damaged and then repaired section of the edifice is clearly distinguishable from the old, undamaged part, proved to be a very successful method in post-disaster renewals. No doubt that despite everlasting presence of violence in everyday life, we are just starting to understand the ways it changes our built environment and what should be our response to it.