BASE BUILDINGS

A design process of analysis, experimentation and adaptation.

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Degree of Architecture - Built environment - Interiors
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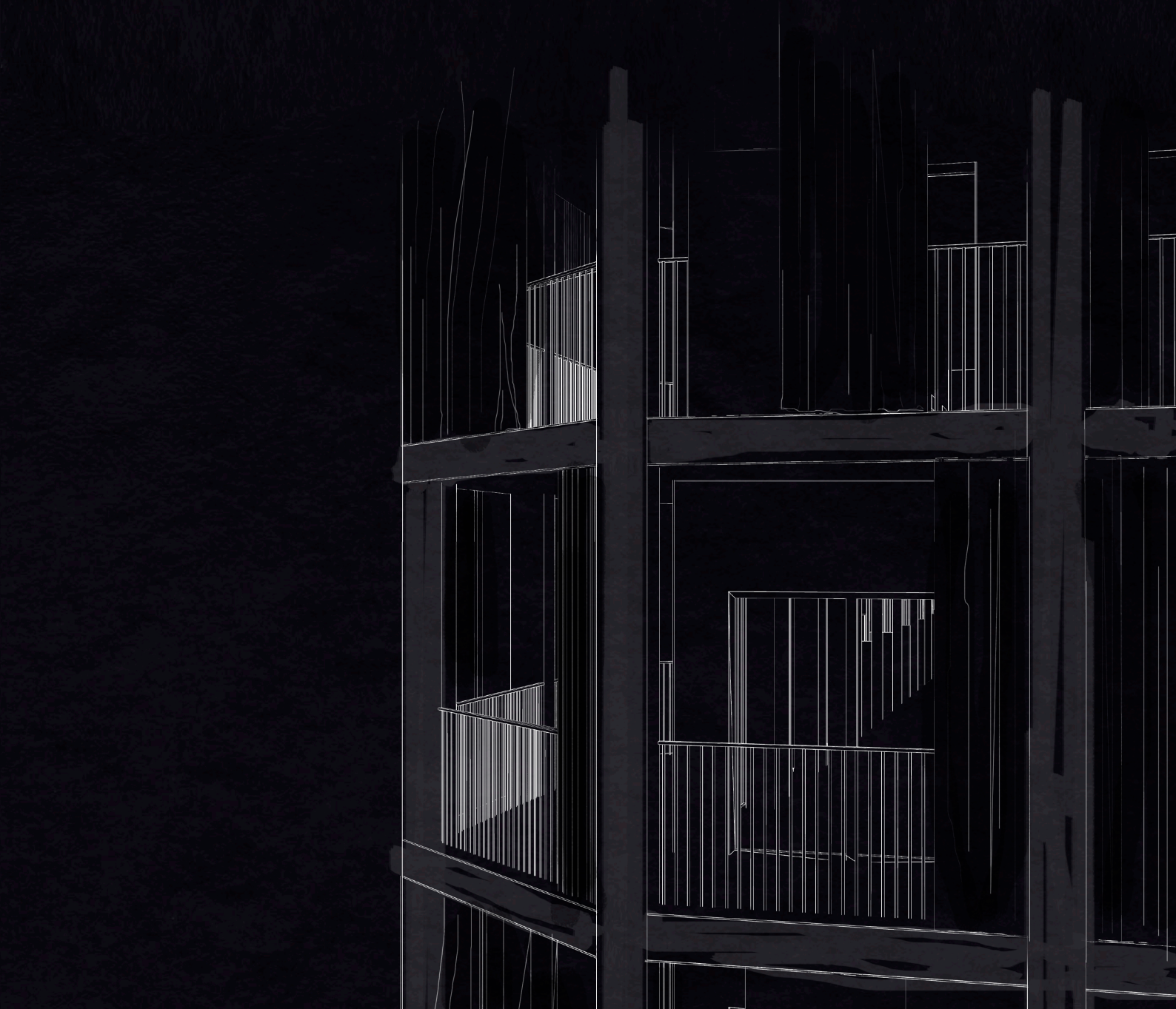

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ABSTRACT

The thesis project arose from the desire of experimenting a different design methodology, other than that of the Polytechnic of Milan, in which I studied since the Bachelor, and then draw critical conclusions based on the comparison of the two.
What began as an Erasmus experience at the Staatliche Akademie Der Bildenden Künste Stuttgart, which proved to be particularly positive, turned later into the development of the thesis project abroad, with the conjunct supervisions of professor Marianne Mueller and professor Marco Lucchini.
The goal of the thesis is the critical experimentation of a method that focuses on the initial analysis of a case study and the related design of a *Base Bulding*,[1] that is a building designed *a priori*, without a context of insertion, which could be flexible and adaptable with a view to the longevity of the construction; the subsequent analysis of the Milanese context decided *a posteriori*, and finally the consequent typological and compositional adaptation of the designed building with the chosen environment, *"ambientamento"*. [2]
Once back in Italy, I carried out more in-depth analyzes on a selection of Milanese buildings associated by analogy with my project, with a view to critical, conclusive verification of this design experience.

La tesi nasce dalla volontà di sperimentare un metodo progettuale altro rispetto a quello del Politecnico di Milano, in cui mi sono formata sin dalla triennale, per poi trarne conclusioni critiche sulla base del confronto.
Quella che è cominciata come un'esperienza Erasmus presso la Staatliche Akademie Der Bildenden Künste Stuttgart, dimostratasi particolarmente positiva, si è quindi trasformata nello sviluppo di un progetto di Tesi all'estero, supervisionato congiuntamente dalla professoressa Marianne Müller e dal professor Marco Lucchini.
L'obbiettivo della tesi è la sperimentazione critica di un metodo che verte sull'analisi iniziale di un caso studio e la correlata progettazione di un *Base Building*,[1] ovvero un edificio progettato *a priori,* senza un contesto di inserimento, che possa essere flessibile e adattabile in un'ottica di longevità del costruito; la successiva analisi del contesto milanese, deciso *a posteriori,* e infine il conseguente adattamento tipologico e compositivo dell'edificio progettato rispetto all'*ambiente* [2] scelto.
Una volta tornata in Italia ho svolto analisi più approfondite su una selezione di edifici milanesi associati per analogia al mio progetto, in un'ottica di verifica critica, conclusiva di questa esperienza progettuale.

[1] The base building normally includes the building's primary structure; the building envelope (roof and facade), public circulation and primary mechanical and supply systems. The "Supports".

[2] Reffered to:
E.N. Rogers, Il problema del costruire nelle preesistenze ambientali, in Esperienza dell'architettura, Torino 1958, p. 314
B.B.P.R., Tre problemi di ambientamento. Chiarimento, in Casabella n° 232, 1959, p. 4-8

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Preamble

The thesis design project has been developed at the Staatliche Akademie der Bildenden Künste Stuttgart, in collaboration with the Polytechnic of Milan, between October 2019 and October 2020.
The work was on the supervision of Marianne Mueller, professor of design, architecture and building typology in the architecture section of the ABK Stuttgart, and chair of the architecture section and thus an advisory member of the Senate; and Marco Lucchini, Associate professor of Architectural and Urban Design at the Architectural and Urban studies department of the Polytechnic of Milan.
ABK Academy has proved to be a very promising field in which to develop a project focused on the themes of Composition and Typological Characters. This context offered to me a great learning opportunity, as well as an excellent chance for the international cooperation.
The aim of the thesis is the critical experimentation of a method that focuses on the initial analysis of a case study and the related design of a Base Building, and its subsequent insertion into the context, with consequent typological and compositional adaptation. Thus, by transplanting a tower building that recalls Anglo-Saxon Modernism, in the Milanese context of the *Ballatoio*[1] building, draw meaningful architectural interpretation and inspiration,.

Base Buildings

In the two semesters I had abroad I attended the annual studio *Base Buildings*, where I developed the thesis project.
The class examined buildings that are not linked to specific functions. The term *"Base Building"* [2] was introduced in the 1960s by the "Open Building Movement" to define differences between structure (support) and infill, in the search for new, open-use building forms.

"In the first place, there is the fact that support structures will have a very long existence." [3]

Today it is an urgent debate.
The theme of the *Base* or *Open Building* touches internationally different movement, from No Stop City by Archizoom[4] to the Open Building Manifesto by Rem Koolhaas. [5] It is an old and contemporary theme, probably not enough discussed.

"Open Building practice is the emergence of a changeable and user-responsive infill (fit-out) level. Infill represents a relatively mutable part of the building. The infill may be determined or alternated for each individual household or tenant without affecting the support or base building, with is th buildings shared infrastructure of spaces and built form. Infill is more durable and stationary than furniture or finishes, but less durable than the base building." [6]

In contrast to the concept of flexibility, these buildings should allow changes and appropriations without physically changing themselves. How can one think of architectures that are no longer defined by their function? How to design when uses are unpredictable, changeable or unspecific? What remains is the examination of the building itself, the focus on its elements and their distribution in space, the special properties of the supporting structure, shell and development and their interactions with potential uses, open to interpretation by others.

"In response to a complex, unpredictable and interconnected world, a relational basis of
form is needed. In this formulation, the role of architecture is to frame relationships – be- tween people and things – that unfold over and through time." [7]

The design studio aim was the case study analysis, recomposition and finally creation of a new Base Building.

Design Process

The studio of design, architecture and building typology I attended, pursued thus a morphological-phenomenological classification of architecture and worked with an exploratory design approach.
Phenomenology literally means the theory of appearance (from the Greek *phainomenon* "visible, appearance"; logos "speech, teaching") [8] It is a scientific methodology dedicated to the description and classification of appearances *(phenomena)* in nature and society. This is a way of working typical of the descriptive science.

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During the winter semester the research component predominates. We took a trip to London, a city full of incredibly durable models, and I was assigned the Economist Building case study by Alison and Peter Smithson, research implemented thanks to the collaboration of Marianne Mueller, the foreign representative of the ABK Academy, with the Architectural Association of London.

Starting from the assigned analysis, the process aims to identify invariant and repeated elements, related to the internal space in order to fix what are the constant and permanent characteristics of the architectural form, which make it an adaptable building, a sustainable architecture with a long life cycle. Once selected, the compositional elements were reworked in a new building. The result obtained is an architecture proposal that allows durability and feasibility to different and possible uses over time, keeping in mind the infill and support characters:

"Supports are part of the public domain and are permanent, while the infill belongs to the individual and is changeable. Public participati- on and freedom of choice of the user is the key objective." [9]

If we consider a building as a "system of places" the character of permanence can be due both to the relationships between the spaces and to their individual properties. In particular, the planimetric development work of the project is based on the relationship between the autonomy of the various singularities (rooms, spatial areas or distribution apparatus) and the whole, (a floor, a part of it or the entire building) characterise the overall figurative value. In fact, space is not isotropic but is crossed by those tensions that Rudolf Arnheim called *"perceptive forces*". [10] Whose properties derive from the relationships between the contours that mark the limits, for example the walls of spatial units or the perimeter of an entire floor. Many of the buildings built correctly in past years have been designed with space organisational models that are flexible enough to allow for even significant variation in use. The thesis project therefore intends to explore the difference between flexibility (the the overlapping of multiple functions on the same space) and adaptability which means changing the organisation and use of space while maintaining the same structural setting.

I designed an high rise skyscrapers, particularly dense, keeping the main fundamental character from the Economist Building: the coexistence of uses, the active perimeter, the differences of height, the 45 chamfered corner, and the structural grid in the facade.

After the developing of an imaginary architecture released by any external input, with the beginning of the semester I stopped the active design, and I started again with further researches.

The studio was divided into teams that had to analyse a city each.

The choices were Milan, Paris, Hamburg or Berlin, and I joined the Milanese group. The analysis was mandatory circumscribed to architectonical examples from XIIX and XIX century. The reason of this chronological selection finds its purposes in the analogies between nineteenth century buildings and urban structures of the industrialisation period, and the concept of *Base Buildings*. Both are designed thinking about a long longevity of the construction, and both are fluid to adapt and resist to different years and uses.

At the end of these weeks of analysis it was asked to select one block, on our choice, for the transplantation of the project. The building needed then to adapt to the context, changing and contemporary keeping its preliminary intentions.

I choose a block of the Isola district, facing piazzale Archinto. For adapting my previous agglomerations of towers, I made a typological hybrid between a *ballatoio* building and a tower type. I changed the scale, but I conserved the fixed themes: the coexistence of uses, the active perimeter, the differences of height, the 45 chamfered corner, and the structural grid in the facade.

At this stage of the design I particularly dealt with the theme of the facade, as first architectonical element of relation between building and surrounding context. In detail, outlining an interesting specificity in the generic system of the structural grid. The large balconies and walkways draw the composition of the façade and reinterpret a purely Milanese theme, playing a fundamental role in the context. They are meant to be living space, specific for every internal living unit, placed into the generic grid.Quoting Frank Bijdendijk in his "De Drageer" movie:

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"individual freedom within a collective frame- work" [11]
Thesis

Summarising the content of the thesis work, I divided the relation following the chronological development of the work.
In the first chapter I am going to explain the fundamental elements of the analysis of the Economist Building, starting point of my project.
The second chapter presents the first step of the practical project, an initial workshop where I developed the main architectonical themes I wanted to work on. It was an imaginary and creative interlude for explore the architectonic potentiality of a free composition.
In the third chapter I explain the choice of the Milanese contest and its analysis.
The fourth chapter presents the final version of the project, the adaptation of the imaginary building of the first step in a chosen context.
The last chapter is the only one developed once back in Milan: it analyses four Milanese examples I selected for analogies with my project. I called it *"verification"* because it aims is to prove the validity of the project proposed, and, even more, of the method utilised.
From a point of view of an Italian student of the Polytechnic of Milan, the Thesis goal is the critic experimentation of a new design process and its comparison with the consolidated one.
Two distinct design processes are clearly compared. The Stuttgart Academy proposes a highly imaginative approach for which an interesting possibility of interdisciplinary exchange with the usual methodologies in the Milan School has emerged, which has always paid more attention to the structural relationships between the project and its context.
Moreover, the methodology that I learnt in Germany start from an existing project. Extrapolating minimal but significant elements, their re-composition aims to an immaginative new design resultant. The Italian process usually starts with the analysis of a case study too, but it is a theoretical reference, not an active starting point of composition. What is usually the real practical beginning of the design process at Polytechnic of Milan is the analysis of the context. Already during the study of the site and its surroundings we have architectural inspirations and aspirations. Probably this architectural and urban attitude comes from the idea of *ambientamento*, [12] strongly eradicated in our cultural and social background. The context is then the fist working tool, that is the first activating phase of the Milanese methodology. Therefore, the Italian process is always subordinated to its surroundings, the environment is the first real reference where finding the design reasons.
In the other hand, for the German methodology, the adaptation to the contest comes in a second step, before it is required an immaginative and compositive structure, free from every context restriction. This process helps to define the architectonical themes of the project, to design and to criticise the architectonical object as it is.
It was a difficult and challenging experience for me, out form my "comfort zone". It is summarised in the following pages, with the final intention to conclude my design experience with a critical eye on two different architectonical process methods.

Note

1. Extract from Treccani Encyclopedia:
   ballatóio s. m. [from **bellatorium* "fighting gallery" and "mezzanin", derivation of *bellare* "fighting", mixed with *ballare* "dancing"]. – In the civil constructions: Internal overhang corridor, in projection from the supporting wall, for disengagement or communication between rooms on the other side of the wall. - Continuous external balcony, which gives access to several apartments on the same floor in a popular building type widespread especially in the 18th and 19th centuries, so called *Casa a Ballatoio*, literally: balcony house.

2. From Stable URL:
   http://open-building.org/gloss/bas.html
   "The base building normally includes the building's primary structure; the building envelope (roof and facade) in whole or part; public circulation and fire egress (lobbies, corridors, elevators and public stairs); and primary mechanical and supply systems (electricity, heating and air conditioning, telephone, water supply, drainage, gas, etc.) up to the point of contact with individual occupant spaces.
   Base buildings provide serviced space for occupancy; Supports are base building."

3. J. Habraken, Supports - An Alternative to Mass Housing, London, 1972

4. Referred to: A. Branzi, No-stop city : Archizoom associati, Orleans, HYX editions, 2006

5. Open Building Manifesto
   Stable URL:
   https://barendkoolhaas.com/Open-Building

6. S. H. Kendall/ J. Teicher, Residential Open Building, London, E & FN Spon, 1999

7. Quote of Adam Yarinsky, 2009

8. From Treccani Encyclopedia

9. Supports - An Alternative to Mass Housing, op. cit.

10. R. Arnheim ,Arte e percezione visiva. Nuova versione, Milano, Feltrinelli, 2009

11. F. Bijdendijk, De Drageer, a film about John Habraken, 2018

12. Reffered to:
    E.N. Rogers, Il problema del costruire nelle preesistenze ambientali, in Esperienza dell'architettura, Torino 1958, p. 314
    B.B.P.R., Tre problemi di ambientamento. Chiarimento, in Casabella n° 232, 1959, p. 4-8

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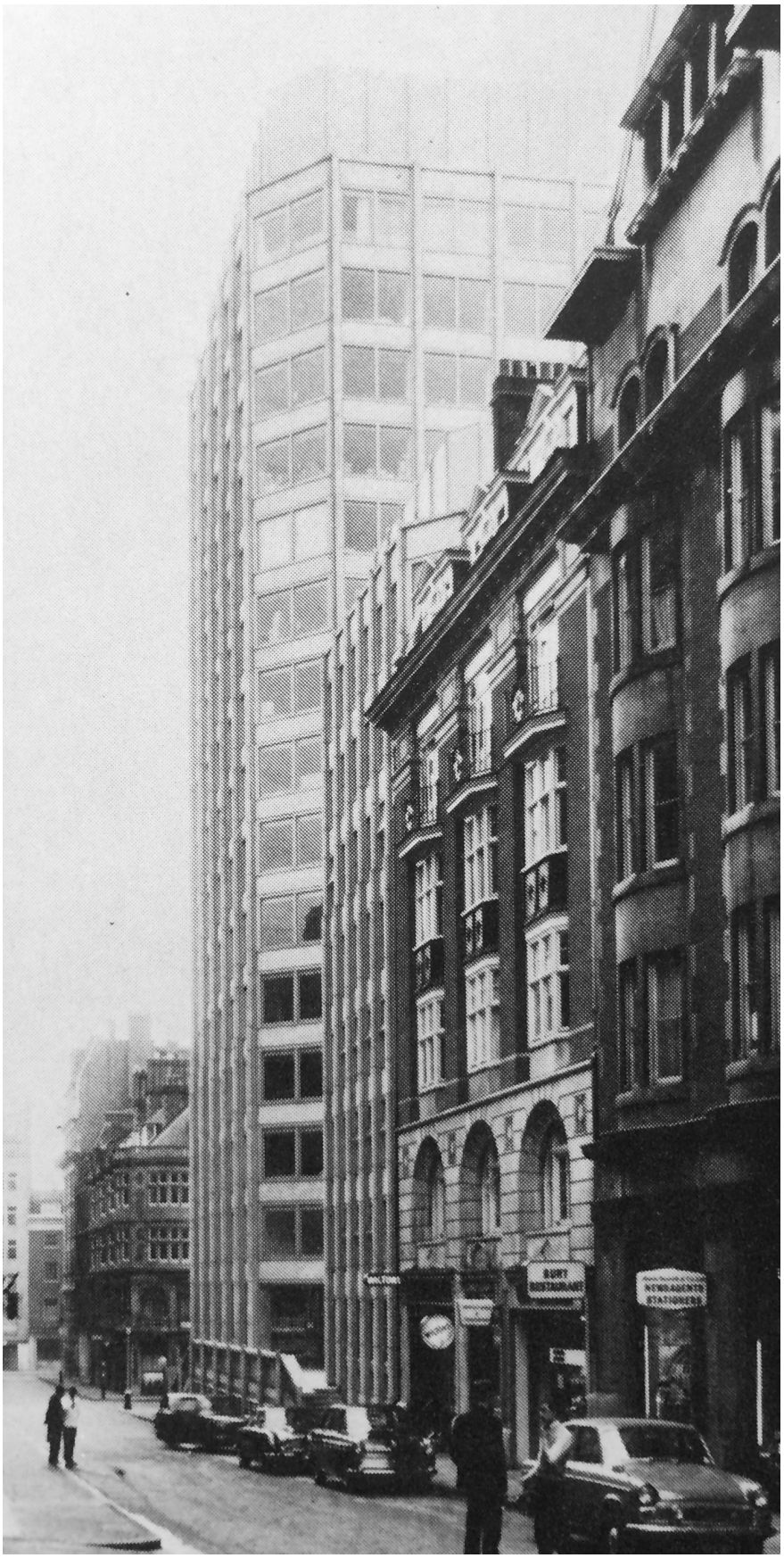
https://www.designboom.com/art/impossible-architecture-by-filip-dujardin/

1. THE ECONOMIST BUILDING

1959/1964

24 St James's Street, London
Alison and Peter Smithson
52,6 m

Pic. 1



1. THE ECONOMIST BUILDING
The Project

Pic. 2

"The Economist building is a didactic building, a dry building - deliberately so. And this seen from seen from two hundred years' time may seem an error, but in our situation, there is no other course but to build and to demonstrate. Not only in what we have done, but in what we have not done lies the lesson." [1]

The Smithsons architectural journey acquired upward mobility with the Economist complex in St. James's Street, the heart of the revived establishment of gentlemen's clubs and traditional luxury shops, far removed from American mass culture. Sir Geoffrey Crowther, who had developed the modern reputation of this long-established magazine, wanted a new Economist headquarter tower, and organized an urban renewal competition. To achieve this within the 'plot ratio' of 5:1, dictating that what was taken in upward thrust of buildings must be given back in terms of lower-level construction on the same site, a larger site was acquired, and the Smithsons were invited, at Leslie Martin's suggestion, along with a more conventional firm, George, Trew & Dunn, to submit proposals. The Greater London Council agreed to the demolition of the existing buildings and rebuilding in terms of spaces, offices and housing.[2] And the Smithsons' alternative to a slab-and-podium scheme was accepted in 1960, and the building was completed in 1964.

Further, it had been observed that there was a present tendency towards tall free-standing buildings seeking natural light above and freeing space below on the ground. The client would here admit to a fusion of social and selfish motives: he believed in going up; he liked the feeling. Inside and outside the architects were given the freest possible hand. The problem facing them was that of urban renewal on a limited site; to continue tradition and respect history; to optimize demands of function, technology, and the changing urban pattern; and to make a convincing new contribution. Some eighteen months were spent on the study of requirements, including the erection of a complete prototype office; from this study emerged the brief.[3]

The Smithsons had chosen to provide a separate building for each use: the tall tower stands away from St. James's Street, onto which a smaller corner building fronts with polite scale. A third separate building in the opposite corner completes the family of objects, with Boodles Club as an elderly guest tucked in to complete the table, but attention is deliberately directed towards the raised plaza (a name favored in the USA). [4]

"Undoubtedly the Economist development does imply a new and valid pattern for the urban renewal of this particular locality, for while it maintains the frontage of St. James's, and hence its cultural continuity as a street, it at the same time postulates, by opening up the site in depth and section, a viable alternative to our current habit of blindly redeveloping piece by piece the solid infill of an existing street pattern, irrespective of whether the piecemeal infilling provides adequate contemporary standards of servicing, lighting and traffic segregation." [5]

The building on St James's Street has four floors, and is composed in terms of a basic module of 3,20 meters. The volume Is reminiscent of the 18th-century buildings that characterize the street and give it its 'square' proportions. The Economist building proper, the tower block, has a height of 14 floors and the same basic module, while on the upper storeys the frame is subdivided vertically to half size, and the residential building adopts the 1,60 meters, module throughout. This progressive reduction and densification of the vertical divisions is concordant with the urban hierarchy of the three buildings, their uses and their dimensions. Vehicle access is routed beneath the Plaza. The

total area is approximately 6000 square meters. [6]

"The plateau of the Plaza before the Economist Building, raised above the surrounding streets, offers a pedestrian pre-entry space, in which there is time to re-arrange sensibilities, preparatory to entering the building to visit or work. The city is left outside the site boundary, another sort of intermediary place is contributed to the city; if – as in the past – many owners contribute these pauses then other movement patterns are made possible; the man in the street can choose to find his 'secret' way about the city, and can develop further urban sensibilities, evolving his own contribution to quality of use." [7]

It is from plaza level that the observer fully appreciates the disposition of the three elements in the design – with all that this implies in the context of an area of London essentially unchanged since the beginning of the century. The pedestrian finds a new freedom in circulating between adjoining street formations and the overall planning concept is wholly satisfactory.Similar application of detail can be found in the balustrade to the plaza, where this is raised above street level,The tower is seen over only relatively short length of the street. The balustrade tends to obscure the feeling of the plaza level extending through to the site perimeter. The pedestrian values the sense of space and freedom when on the plaza and perhaps does not appreciate that in some places buildings are as little as 30ft apart. [8]

"In the centre of the plaza. The "photographic" reduction in scale of the residential bock vis-à-vis the main tower has the optical effect os zooming this block away from the observer, with a consequent dramatic enlargement in the apparent space of the plaza. This perceptual sleight-of-hand is brilliant but not in the last instance felicitous, for the observer does not remain rooted in the centre and on moving around he quickly discovers the decemption. Once the illusion of the whole assembly is open to a theatrical interpretation and this interpretation does not help in sustaining belief in the true monumentality of the major office tower." [9]

The four-storey building at the corner of St James's Street and Ryder Street, which accommodates overall proportions and in the major elevational divisions to relate to its neighbours, generally respecting the roofline of Boodle's Club and the major string course of Dunlop House.

The piano nobile banking hall is another element of continuity.

The vertical ribs fit into the street prospective, but the chamfered corner of the building appear almost elevantionally and tend to jar the flow.

It could be argued that these corners arrest and invite diversion from the street but, in their naked and simple statement of proportion – as in the remaining divisions of this block – they lack the human scale of detail in subdivision which provides the busy incident in the remainder of the street.

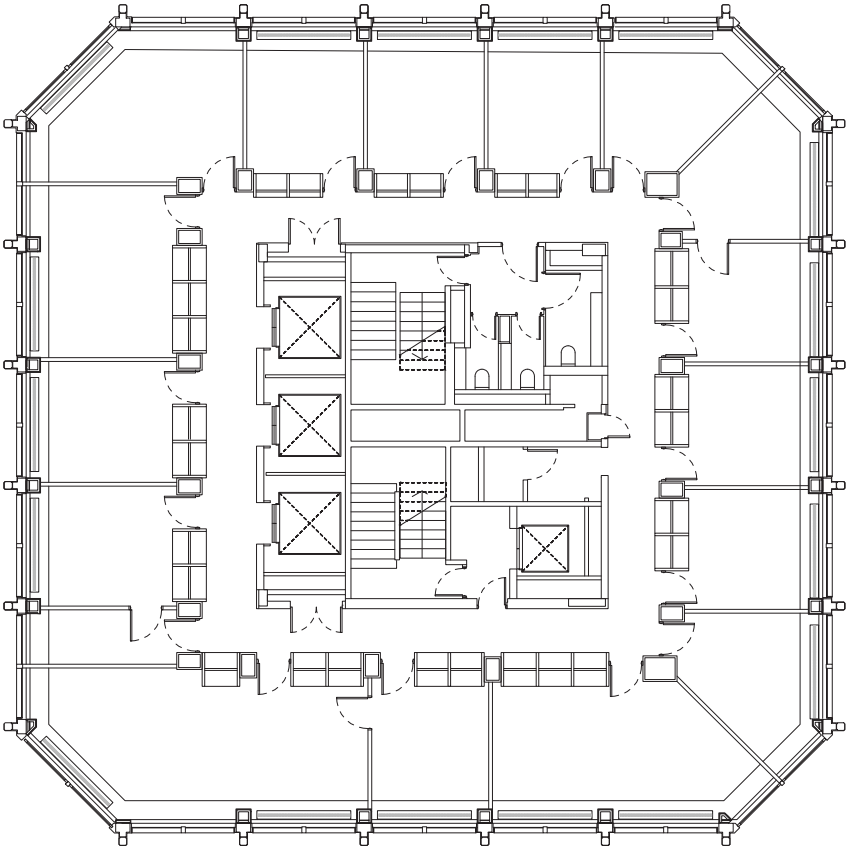
Because to the observer at street level, this block is glazed cage structure, the horizontal soffits – and in particular that over the banking hall – are very significant.[10]

At the north-east corner of the site behind Boodle's Clun and facing Bury Street is a block of eight storeys in height, conceived as a link between The Economist tower and the architecture of Bury Street, which is more intimate and less expensive than that of St. James's Street. As for The Economist tower, its perimeter plan from is square with chamfered corners. Here the planning module of 5ft 3in being half the structural module of the main tower, is more appropriate although it may be objected that this treatment hardly expresses 'residence' as opposed to 'office'. [11]

The tower rises sixteen storeys from street level at the junction of Ryder Street and Bury Street. Taking advantage of the site slope to the south plaza level gives entry to the offices and forms the roof of the first storey which may house a public restaurant. Above the plaza are thirteen floors of offices, slightly less than half being occupied by The Economist. Reception, dining and residential space is provided on the fourteeth- floors are designed to provide a ring of rooms and circulating corridor around a central service core within a square plan with chamfered corners. Of a typical floor area 19 ½ per cent represents the service core and 80 ½ per cent office space (including circulation areas).

The surrounding corridor is 4ft wide, with slightly more generous space for waiting outside lift entrances. Study of organizational requirements and the multiplicity of two-person rooms gave the norm for office space planning; of two-person rooms gave the norm for office space planning; the structural module of 10ft 6in was determined, with window mullions at 5ft in centres, to give, to give additional flexibility in in-

Typical Floor Plan - 1:200



Pic. 3

dividual office size. Half a dozen varied room sizes have been provided; breadth of the vertical risers on the inner side of the external columns allows quite a degree of tolerance in siting cross partitions. Potential for change was a client requirement and demountable unit partitions have been used. Absence of a suspended ceiling will assist the moving operation. Combinations of rooms into departments suggested the extent of the individual floor area.

Space allocated to a two-person room is about 140 to 150 square ft inclusive of areas of working sill, desks, shelving, suspended lateral filling and coat storage. Net area free of furniture is about 80 sq ft, and volume about 1300 ed ft. Work space allowance along the window wall is just over 5ft. With an effective depth from glazing line of about 14ft where there is no abstruction to natural daylight.

Beamless solid ranforced concrete slab floors (2 ½ in thick screed over 8in thick slab for a 501b super load except for first, eleventh, and twelfth floors where they are 10 ½ in thick for a 200lb load) span between central services cores and external t-shaped columns. [12]

1. THE ECONOMIST BUILDING
The Facade

It is surprising how unobtrusive is the tower. Apart from a distant view such as that from the gates of St Jemes's Park, it can be seen only from a relatively short stretch of St. James's Street and from positions immediately related to Bury Street. An element of surprise and interest is thus introduced.

The general approach to external treatment has been rejection of the taut steel and glass solution one more sympathetic to the surroundings – a balanced expression of solids and voids, given by the concrete structure. [13]

"The Uk was extremely slow in adopting reinforced concrete (…). The Smithnson's choice of reinforced concrete for a building that was in so many respects a diminutive version of a New York office tower is striking, and has to be seen in the context of their on ambivalence towards the Americanization of British architecture. While the Economist Building owed much to American office design, in other ways it departed from the U.S. model. The most notable was the chamfering of the corners in order to improve the penetration of daylight into the back of the plot, a feature that would never have been countenanced in an American speculative office building on account of the loss of premium rentable floor area." [14]

Forms are softened by the chamfer and elevational proportions are considerably assisted as well as light angles being maintained. In general, this has been successful, but varying in degree from one block to the next.

It succeeds best when the module is relatively small, and the difference between the diagonal and module on plan is not too great to defeat the flow round from one elevation to the next. For continuity in the elevation is the true expression of the plan of each block comprising central core and perimeter offices or living accommodation. Use of beamless slab from core to perimeter can permit external columns to be freely disposed, but here the square grid masters and controls planning throughout the scheme.

The use of the open textured Roach Bed Portland stone, permits to colour and tone of the facade, to be yet rather raw but in a happy integration into the environment. [15]

"According to Peter Smithson, the Economist Building was originally designed to be made in concrete, but not rough concrete, engineering looking like concrete…but then… probably their clients began to have doubts about concrete in St. James's Street. The result was that the Economist and its related buildings are reinforced concrete, but clad in Portland stone, the sober and specially business attire of most public buildings in London - but the Smithsons subverted this by choosing not the normal close-grained Portland stone, but roach-bed Portland stone from the upper layer of the stone beds, normally at that date rejected for building purposes but rich in fossils and deeply fissured, giving an altogether more luxuriant feel, not unlike Travertine marble. Rather than continue the stone cladding all the way down the columns to the plaza, the dressing stopped a couple of inches short plaza, revealing the bare concrete of the frame beneath." [16]

Aluminum sills are formed in a small gutter designed to keep the Portland stone spandrels unstained.

About the structure: frame – reinforced concrete columns, sundry brickwork and small amount of carpentry work. While, or the upper floors – sin to 12 in thick reinforced concrete flat floor slabs with no beams: 11,822 sq yd, 121s 1d per sq yd.

The main roof to buildings, flat reinforced concrete slab, with concrete parpet walls. Screeds to fall finished with asphalt. Includes rainwater pipes running down inside concrete cores: 1,002 sq yd, 110a per sq yd.

The roof to plaza, reinforced concrete slab, asphalt dpc and finished with 3in art stone paving slabs.

Staircases – Staircases, except those of metal, are in concrete finished with either terrazzo, granolithic or

Pic. 4

stone. Terrazzo stairs have triangular metal glazed balustrades., and granolithic stairs have plastic handrails with steel core and brackets only.
External walls are made with concrete walling between columns under windows, finished with stone ashlar; portland stone projecting mullions full height. Includes small area Portland cement plain face to tank rooms.
The Windows are stove enameled frames glazed with ¼ polished plate glass, with water channel jambs and gutters continued between windows over stone sill panel.
Residential are windows with opening light glazed with ¼ in polished plate glass. [17]

Pic. 5

1. THE ECONOMIST BUILDING

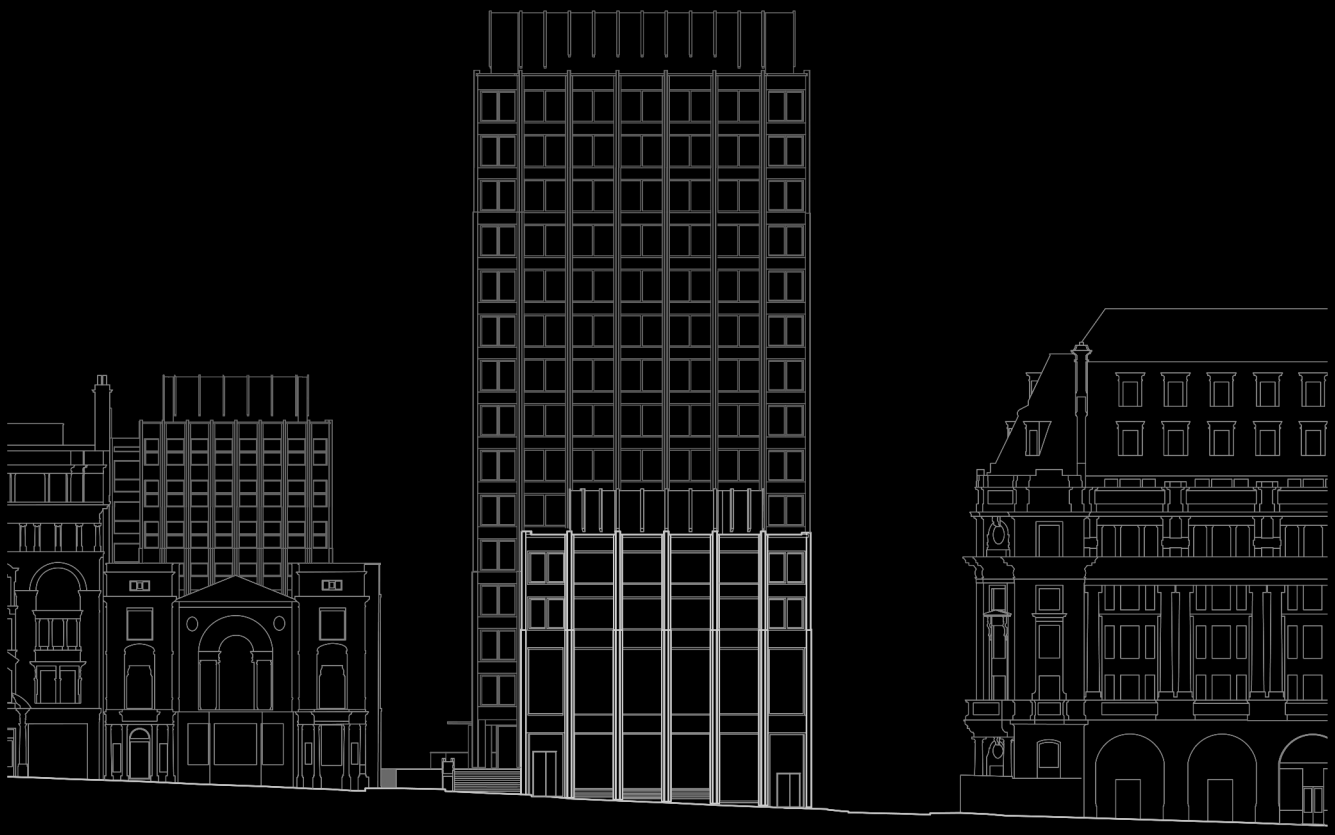
Elevation St James's Street

1:500

1. THE ECONOMIST BUILDING

Elevation Ryder Street

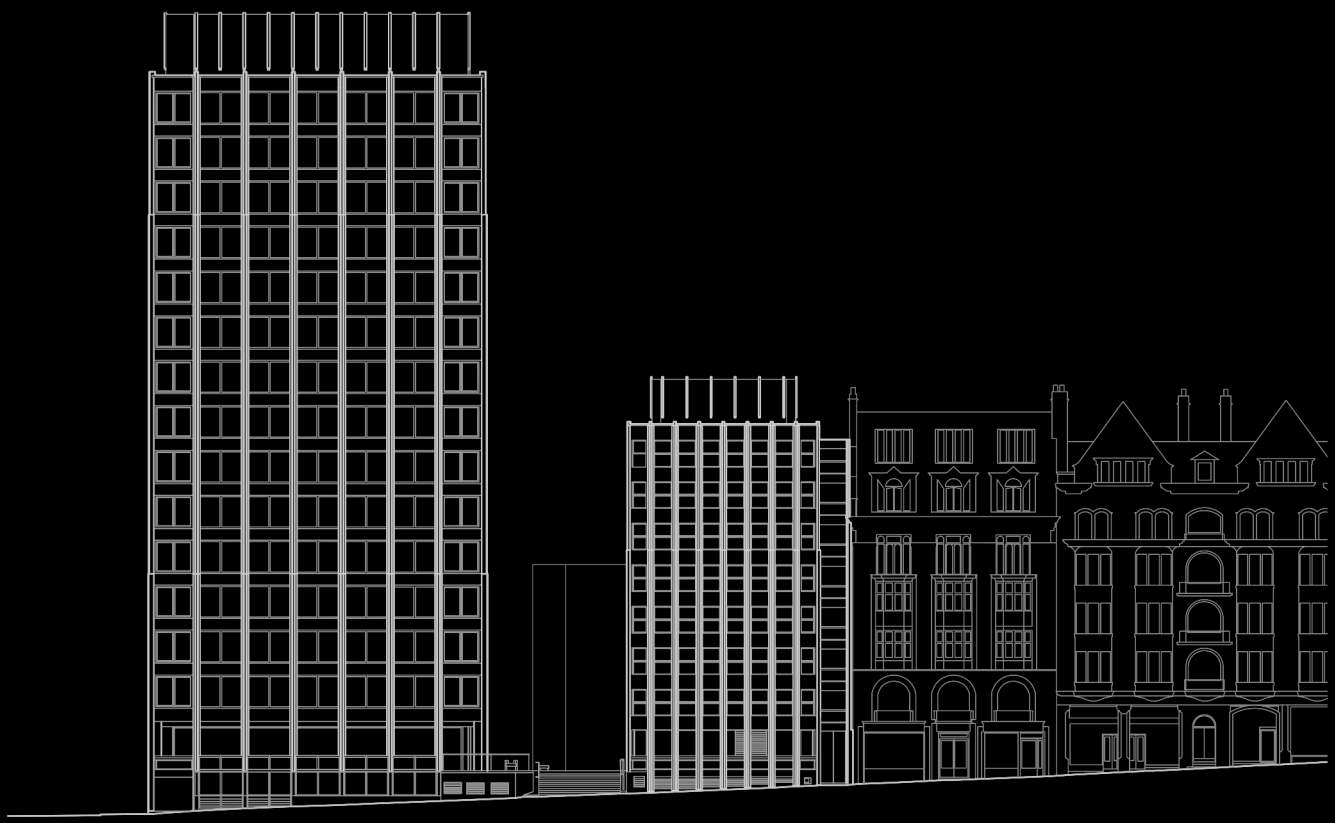
1:500



1. THE ECONOMIST BUILDING

Elevation Bury Street

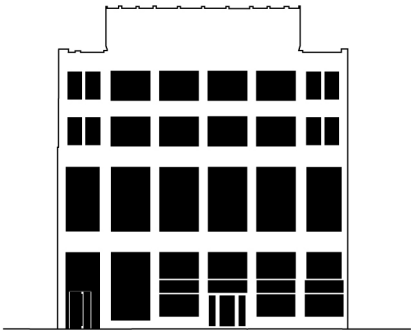
1:500

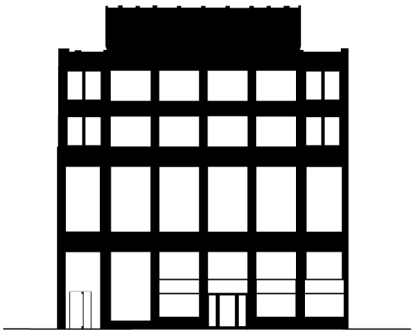


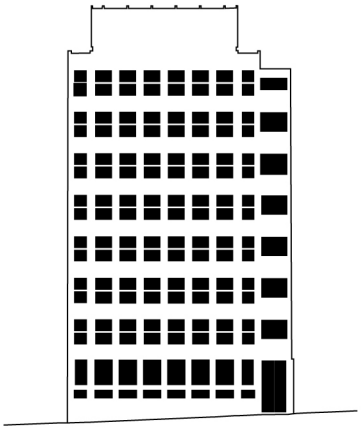
1. THE ECONOMIST BUILDING

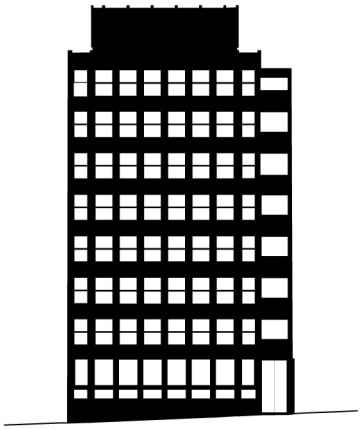
Openings and Closings

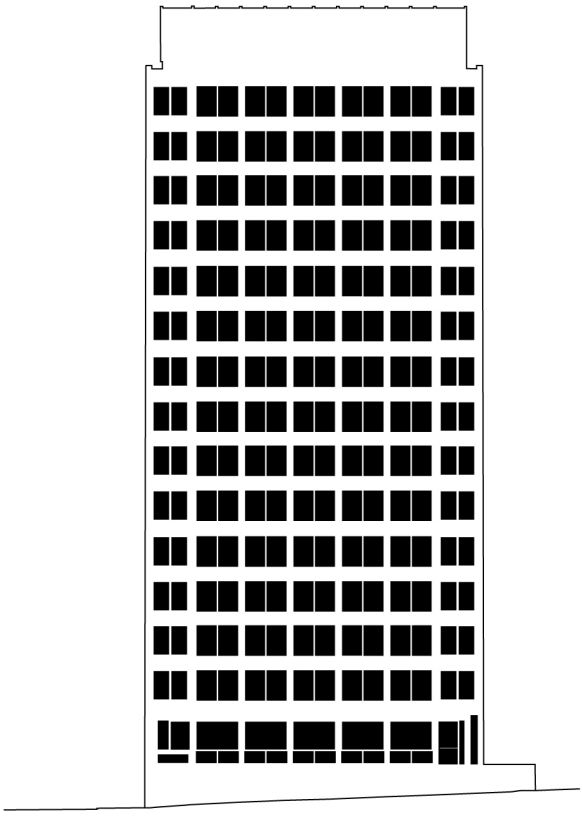
1:500

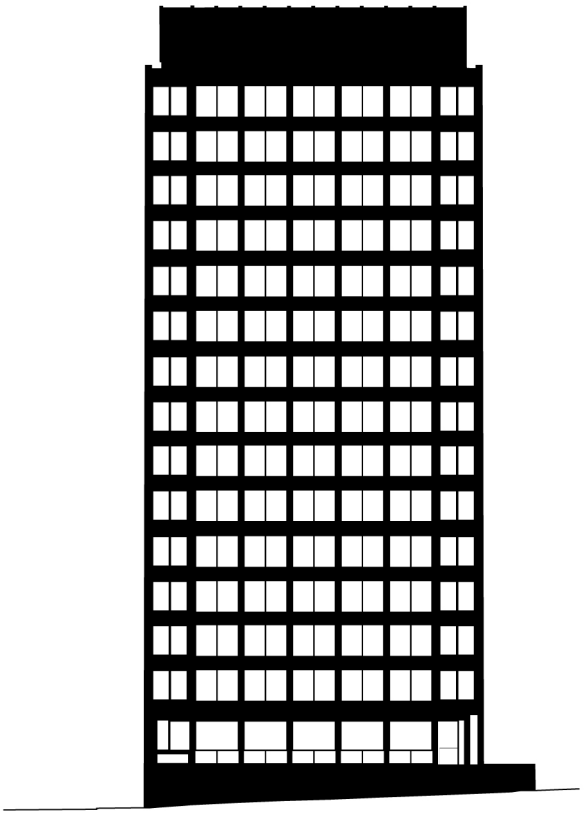








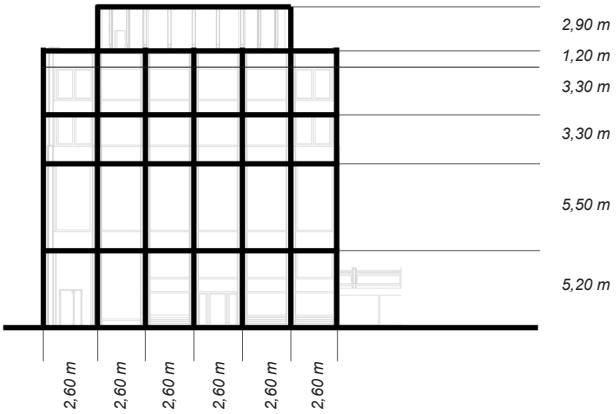


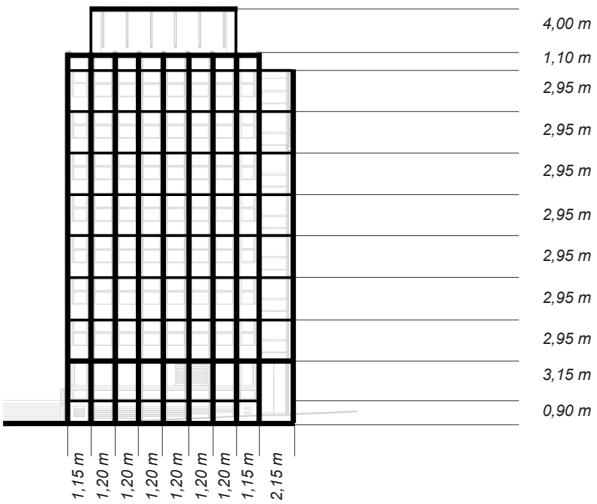


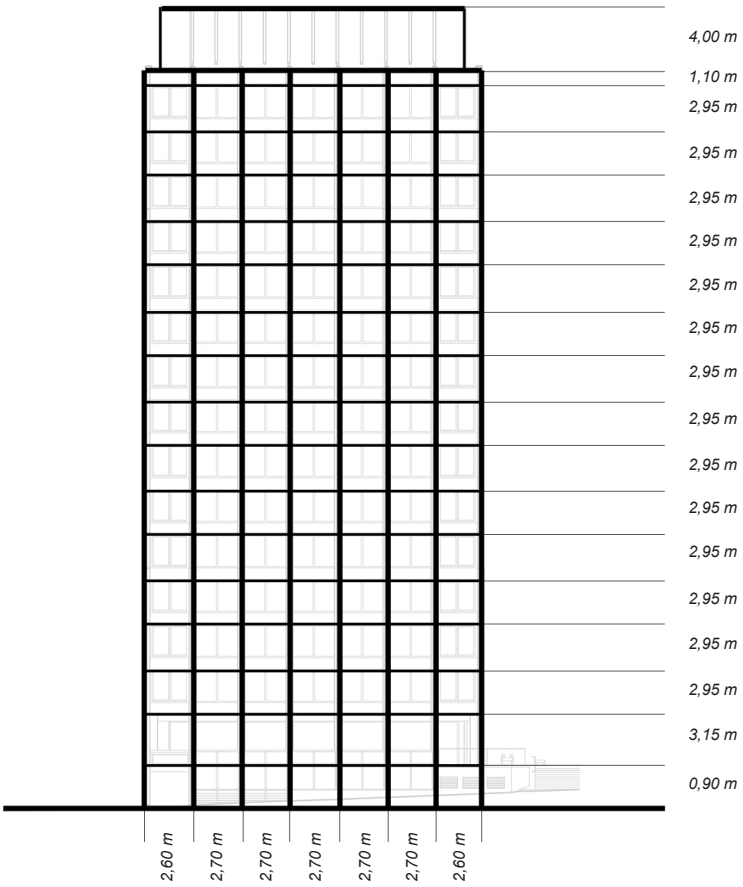
1. THE ECONOMIST BUILDING

Facades Composition

1:500







1. THE ECONOMIST BUILDING

Section

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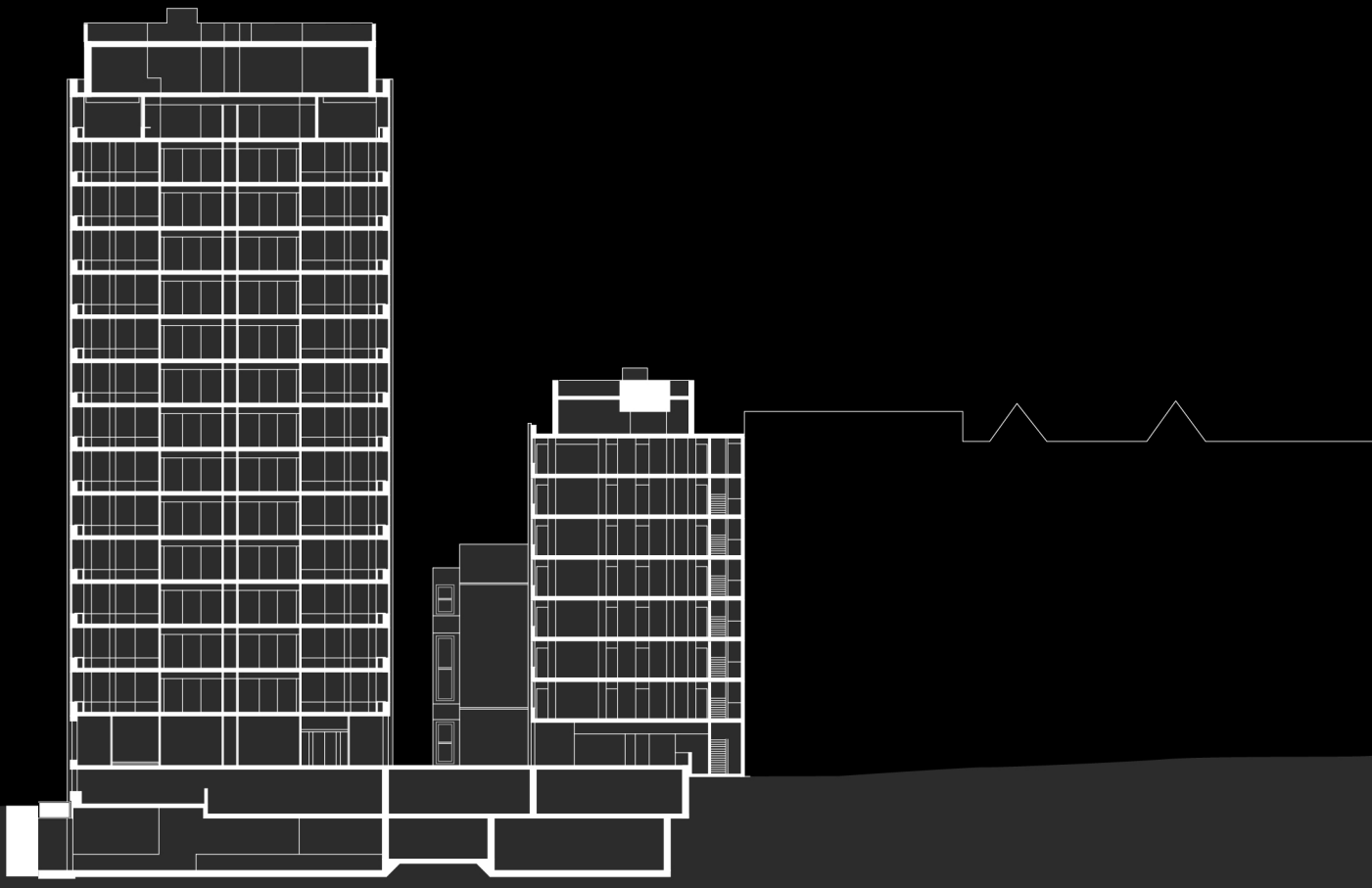


Details

Core areas are well and tightly planned, providing two identical staircases, with opposite entry, natural ventilation shafts, flue stack, all main service, risers, three interconnected sixteen-passenger lifts, a separate fireman's lift and lobby, lavatories for man and women on alternate floors, cleaners' stores, drinking points on every floor, and tea-making points open to the corridor on every other floor.

Office machines are few, and perhaps the only specialist uses are the library employing proprietary continuous rolling storage cabinets, and a number of drawing tables which are fixed to the deep window sills.

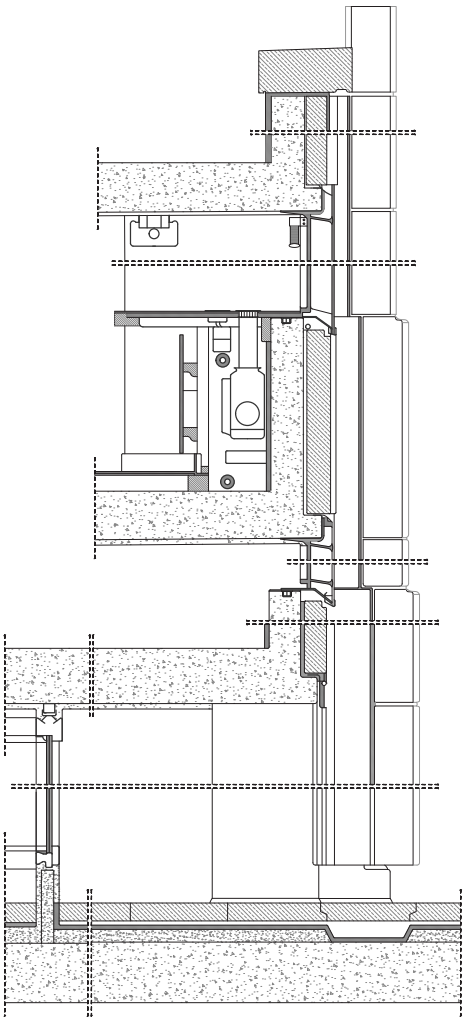
Services are confined to perimeter and core positions, expect for extract air designed to be ducted within a double-glazed continuous borrowed light between offices and corridor. This also integrates fluorescent lighting. And runs above the grey metal wall storage units for suspended lateral filling, with extract grilles over clothes recesses.

Housing formed behind the t-shaped external columns provide vertical ducts for air supply and chilled water. Thes housings are sufficiently deep into the rooms to receive the very wide sills which project over individually controlled air-conditioning units and serve as typing surfaces. Standard office desks – identical for managing director of secretaries – lap over these sills to obtain support. Fluorescent strip lighting is fixed to the ceiling soffit above the sills between vertical risers and will serve to emphasize the form of the block viewed at night.

Detailing to the staircases is sensibly simple: terrazzo, glazed balustrade and flowing grey plastic-coated tube handrail with smooth spigot and socket joints. In lavatories plumbing is well concealed, and lighting and extract grilles are controlled behind lowered ceiling soffits; care has been exercised in selecting equipment such as cantilevered wes and recessed continuous towel holders.

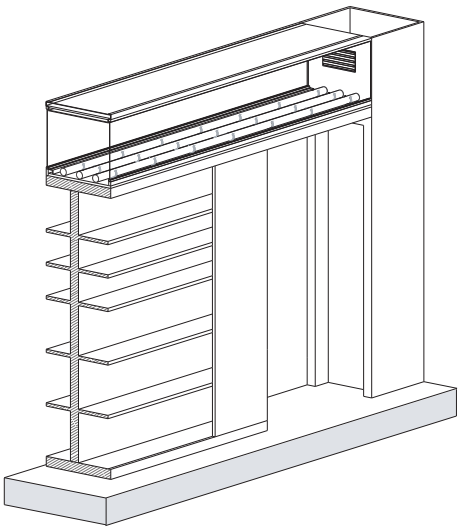
Detailing by change of material or tone, or by the use of plaster casing beads, has sought to avoid all architraves. Colour policy, either natural to the material chose or white to mid-grey, is admirably restrained. [18]

Pic. 12



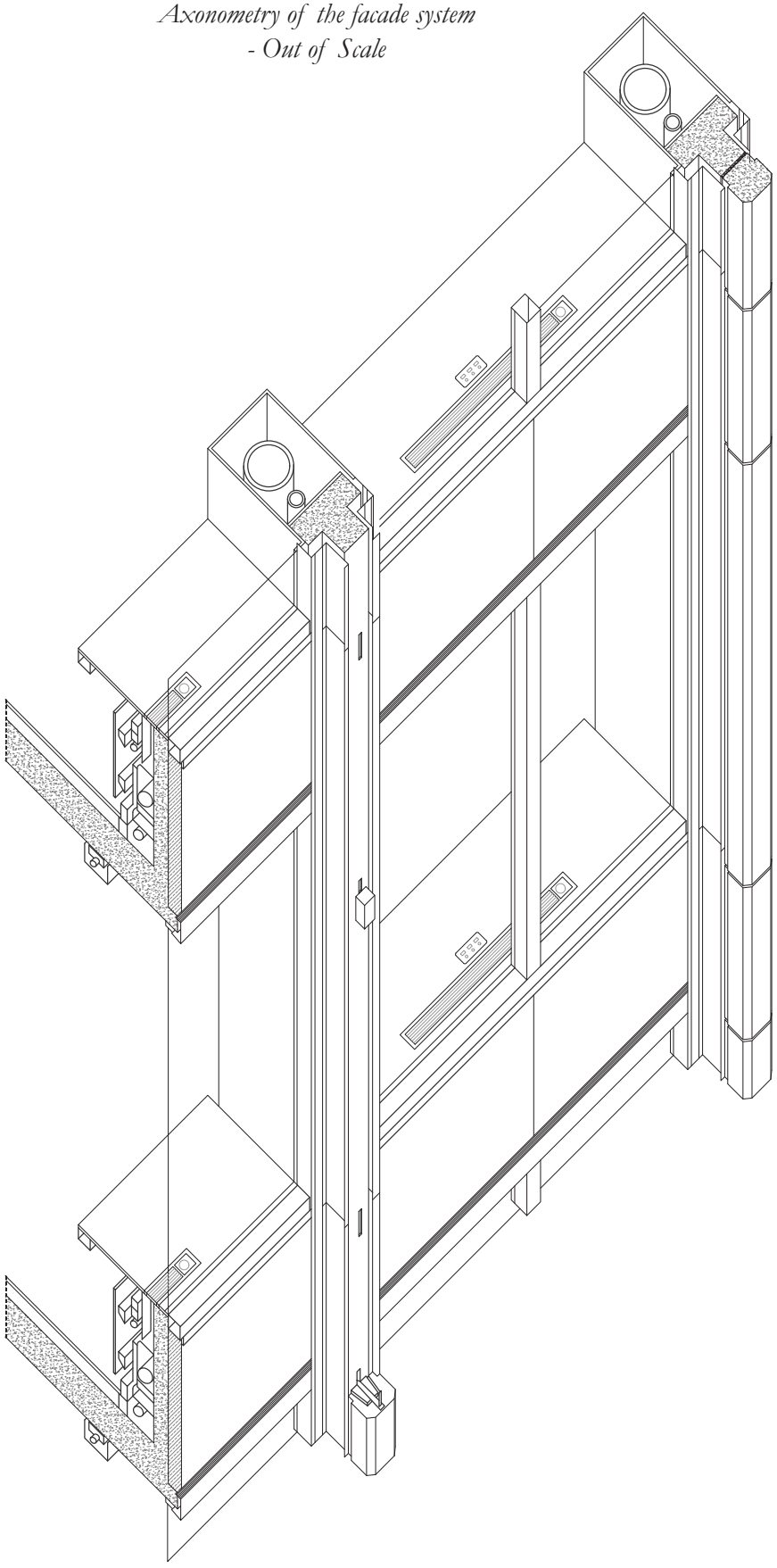
Shelving - Ventilation System - Out of Scale

Pic. 13



Lighting - Archive System - Out of Scale

Axonometry of the facade system
- Out of Scale

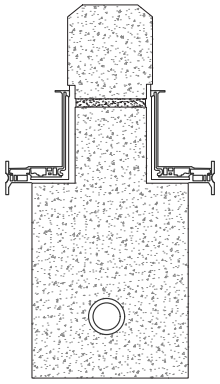


Pic. 14

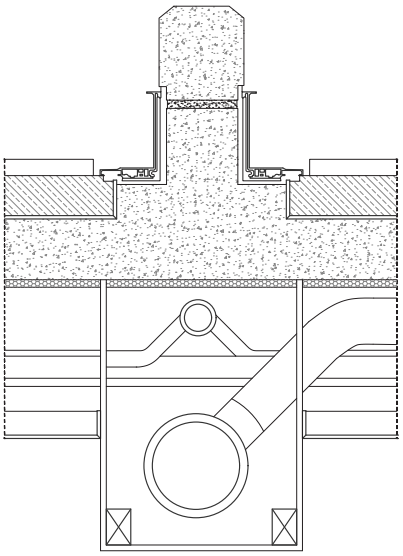
Details

Pic. 16

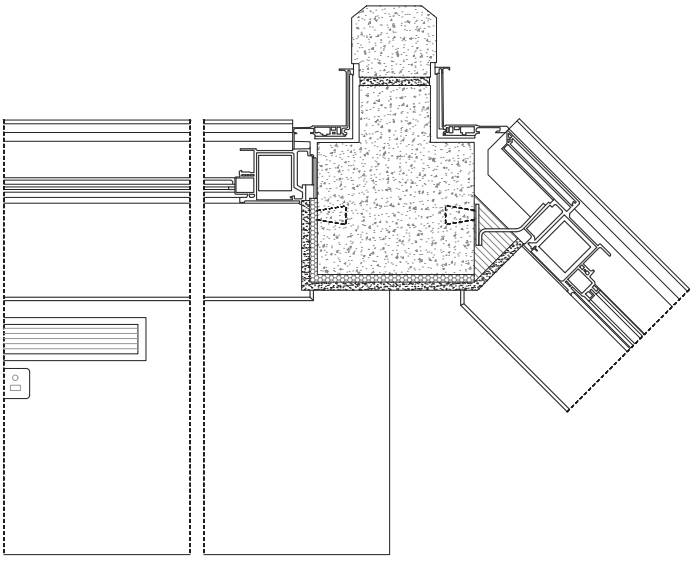
Ground Floor Column Plan
- Out of Scale



Typical Floor Column Plan
- Out of Scale



Typical Floor Corner -Column Plan
- Out of Scale



Gordon Cullen 1965:
"This is an acute and untypical example, but when shapes, planes, spaces and objects are put into relationship through a knowledge of the visual structure, then the atmosphere becomes charged. In the particular example of the Economist Buildings there are two elements which are put into relationship, into stress the one with the other." [19]

Kenneth Frampton 1965:
"These original aims have largely been achieved and the architects deserve the highest praise and credit for realizing such aims on a difficult and restricted site (…). At all events the Economist is a remarkable building. An objective assessment of it can hardly be made by anyone this time. Its stylistic and organizational innovations are beyond question." [20]

1989 About the SOM changes on the project, correspondence between Space and Society editors and the Smithsons:
"The Economist Newspaper was a wonderful client. They had the nerve to commission and to build their own building, without and previous experience of how to do such a thing; allowing their architects to shape their work-space from its presence in St James's Street to its filing systems and tamps in the lavatories.
The first issue of the paper went out from the new building on the 6th of June 1964 (an easy date for our generation to remember because D-day was a 6th of June). The building is twenty-five years old this month. St. James's Street is now a "Conservation Area" and any alterations to a building in that street should be a matter of public knowledge and of informed decision.
In the event the Economist Building was "spot listed" by the Department of the Enviroment, Grade II, starred.
Such listing is supposed to ensure careful consideration of any proposed change. And certainly there will be change (how can it be otherwise when in the current architects' drawing published in Casabella 555 the sun is shining from the north). S&S"
"Juliana, On the longest day I send you the shortest piece about the Economist Building. It is almost as upsetting to have a building altered as to have one designed but not built.
But our house-value is to say nothing negative.
Love, AxPS" [21]

2007 Alan Powers:
"Seldom can so small a space have been invested with such a weight of architectural meaning. In London, where the spaces between buildings have tended to be accidental, it had a special significance in reversing the order of figure and ground, and as a short cut it offers a pleasing progression, recognized by Gordon Cullen, who reviewed it for the Architectural Review, as a perfect demonstration of the principles Townscape, the aesthetic despised by the Brutalists. Banham criticized it for excessive conformity to its surroundings and the cladding of roachbed Portland Stone, writing that 'the Established solutions – even the modern ones – are bankrupt, and we need a new set of principles, not a new set of conventions'. Nairn asked how a space like this was actually going to acquire life. All the Smithsons' good intentions achieved little more real urban activity than the later notorious Paternoster Square, the Economist Building's down-market City cousin, filling the bomb site to the north of St Paul's Cathedral. The American critic Peter Blake criticized the 'papier machè Portland Stone', but Brian Henderson recalls American visitors to admire, and Alvin Boyarsky, a Canadian pupil of Colin Rowe, considered it a 'time bomb ticking away for the moment when it can exert, by its explosive example, a direction for the rebuilding and infilling of a city such as London'.
By the time that Banham's book on the New Brutalism was published in 1966,much of the architecture across the world by the Smithsons' contemporaries, often described as 'the third generation', could be connected to the moves made in the 1050s by a small splinter group in Britain. (…) Was the Economist Building actually the ticking bomb of New Brutalism's demise at the moment when it seemed to have succeeded? Could their visions of social improvement really work on such an apparently shallow grounding, however urgently and wittily delivered in words. (…) Opinions differed. Robin Middleton, reviewing Banham's book in Architectural Design, believed that the Economist Building was 'a perfectly logical outcome of Brutalist doctrine' and that 'Brutalism marches on'. To a large extent, he was right, partly because Brutalism can be extended to cover so many things – the right to be difficult in pursuit of architecture as an art, truth to materials, social engagement and regional character – all of which have assumed increasing importance since the 1950s. In the early twenty-first century, projects like the Sugden House and the Economist Building continue to inspire young architects concerned with such questions." [22]

2010 Conversation between Adam Caruso and Stephen Bates:
"B: There are not many buildings that I would guide visiting friends and colleagues to see and experience upon visiting Lon-

don these days, but the Economist is one of them.
C: The project's quality of not completing the site at the same time as sustaining the continuity of the city is exquisitely achieved. In this project the Smithsons realise ambitious architecture while attending to the fragile tissue of the city, complementary qualities that are all too often characterised as opposites in contemporary architecture. (…)The constellation of four diversely sized figures that articulates the Economist's functional programme enables the scale of the Boodle's Club and of the office tower, of St. James's and of Bury Street, to be reconciled within a dense urban ensemble. (…) I began to understand and appreciate the work and position of the Smithsons and in the particular case of the Economist cluster, the way that buildings, to paraphrase Peter Smithson - could become more than themselves if they charged the space around them with connective possibilities - Something which remains a central ambition in our own work and in which we are indebted to the Smithsons.
B: In contemporary practice we are confronted with the consistent separation of wall from structure and services but the elemental approach made by the Smithsons in the design of the external walls at the Economist remains exemplary in its resistance to such tenencies. In the façades, each of which are composed of similar elements but with no two elevations identical, there is no detachment between frame, cladding and services, instead each are fully integrated forming a conglomerate façade with a powerful tectonic order. (…) The space between seems both connected and yet achieves a separation from the surrounding urban environment. There is anintimacy to the atmosphere of this space and I recognise it as one of those familiar spaces one finds when walking in central London, between blocks, through alleys to quiet open spaces where the sound of the city is everso slightly muffled and the throng of people diminished." [23]

2015 the Economist editors about their next moving:
"Almost no protests were raised when we were told in 2015 that the building would be sold and that we would leave. The sale was linked to a share buy-back as Pearson, an education publisher that had lost interest in newspapers, sold the Financial Times, which had a 50% stake in The Economist. Moreover, the offices suit us less and less well. As The Economist has launched new multimedia products, numbers of staff have risen. New sorts of teamwork can make our two-person cells a bit more of a restraint than they used to be.
We do, however, want to bring something of the Economist tower to our new home in the Adelphi—a modernised Art Deco building that, by coincidence, is close to the offices our bombed-out forebears occupied. A questionnaire sent to the staff asking what they wanted in a new building turned up assorted requests for better bike sheds and yoga facilities. Above all, though, people said they wanted offices much like the ones many have occupied for the past 50 years." [24]

Brief comment of the Authoress:

Through various site inspections and the use of the Architectural Association library, while I was in London, I reconstructed the history of the building and its conformation.

The Economist Building typology is a classic tower building, with a central core and the distribution system around it. What it is uncommon, and I have chosen to deeply analyse with the redrawing exercise, is that between the room and the facade, there are always 6 m, dedicate to offices and corridors. The offices are small and intimate units that run along the facade. The corners of the tower are not at 90 degrees but chamfered at 45 degrees so that every employee can enjoy the same view of London. This element brings a variation of the rule, a more complex composition of façade, grid and structure.

The Economist Building is not only an example of magistral composition, but it was also the first building in London with air conditioning. The integration of this system into the load-bearing structure, the fact that the facade, a representative and formal element, hosts an innovative technological detail did not seem random to me.

The facade also contains the electrical system, as well as a shelf that can be used as desks. The concept of the active perimeter, with the ideas of living the facade, and interfacing, is particularly intriguing.

Regarding the internal partitions, there are two types, the partition walls of the offices and those of the corridor. The walls of the offices are rather simple panels, the walls of the corridors host ventilation, lighting system, and archives. The support of the Economist is therefore composed by structure and details (which are an integration of plant systems and essential furnitures). The infill is given by the internal partition, while the plan gives different office units possibilities.

Note

1. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1445
2. A. Powers, Britain, London, Reaktion books, 2007, p. 122
3. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1445
4. M. Vidotto, A+P Smithson, Barcelona, Gili, 1997, p. 104
5. K. Frampton, The Economist and the Haupstadt, in AD February 1965, p. 61
6. A+P Smithson, op. cit., p. 104
7. Ivi.
8. Ivi.
9. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1445
10. A+P Smithson, op. cit., p. 106
11. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1447
12. ivi.
13. ivi.
14. A. Forty, Concrete and culture: a material history, London, Reaktion, 2012, p. 114
15. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1449
16. Concrete and culture: a material history, op. cit., p. 115
17. A. & P. Smithson, The architect's journal, 16 December 1964, p. 1451
18. ivi.
19. G. Cullen, Criticism. The "Economist" Buildings, St. James's, in Architectural Review, 1965, n° 816, p. 114
20. The Economist and the Haupstadt, op. cit., p. 62
21. A. & P. Smithson, What's happening to the Economist Building?, in Spazio e Società, July - December 1989, p. 85
22. Britain, op. cit., p. 122-123
23. G. M. Jenatsch , Avantgarde, aber beständig : zum Economist Building von Alison und Peter Smithson, London 1959-1964 , in Werk, Bauen + Wohnen, Volume 12, 2010
24. The Economist editors, in "The Economist bids farewell to a formative home. Goodbye 25 St James's Street", Christmas Special, December 2015

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Sitography

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Filmography

M. Antonioni, Blow Up, 1966

2. FIST STEP

Design A-Priori

In this chapter I am going to breafly explain the first step of the design process. Not only the exercise of redrawing of the Economist was preparatory to the subsequent design process but in my case, it was also the starting point for the development of some fundamentals project's themes.

I overnight how we did not have any given context of design. All the following design is made free from any kind of ambience superimposition. This is the reason why the case study was so important, it was the only key element fixed as a starting point.

The most relevant results of the analysis are the concept of the **active perimeter, living the facades** (where functions and uses run along with the profile of the room while the center is filled with the core), the **coexistence of different uses** in the project of the Economist Plaza, and the **variations of height** in the volumes, and in the plaza, upper than the street level, especially how they can manipulate the use of the space. These different heights give functional and compositive clarity to the project and direct view between the passer-by outside and the shop activities. The change in heights, therefore, creates interconnection. Other fundamental theme is the **45 degrees corner** and its variation of the volumetric rule.

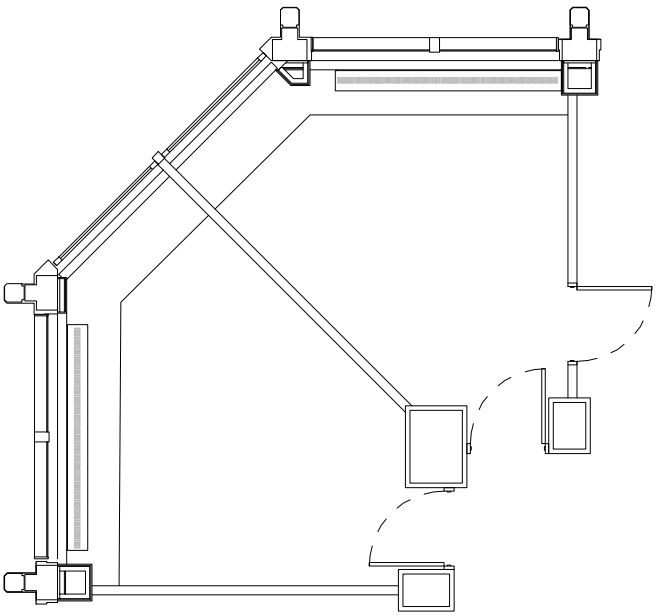
After the various argumentation about the case study, we had the first design workshop. It was required to select two fundamental elements of our analysis building. Once I Selected two **"base units"** (a sort of synthesis of the Economist Building), it was asked to explore different possibilities of addition, repetition, multiplication, and editing of them. It started then a process of design speculation, exploring typological and compositive variations.

Initially, I developed homogeneous compositions: only with the first element (first on the right) or only with the second element (seconf on the right), and I focused on closed and open systems. Then I explored the combination of them, developing heterogeneous systems.This emptiness generated funny corridors and central spaces. The idea of a strong horizontal distribution fascinated me.

I decided to keep only the element at 45 degrees as a generic unit of living, while the second (that I edited), the rectangular one, as a space of service.

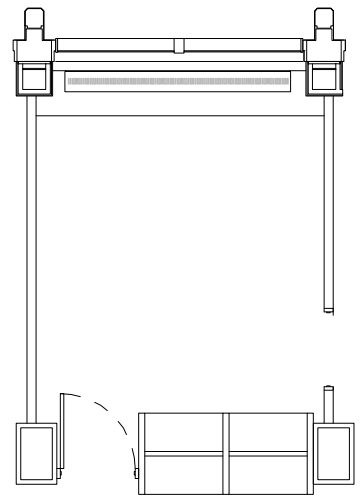
Element 1 - Out of Scale

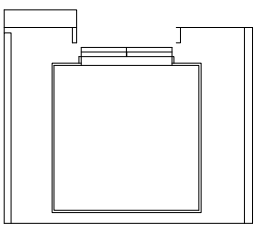
Pic. 17



Element 2 - Out of Scale

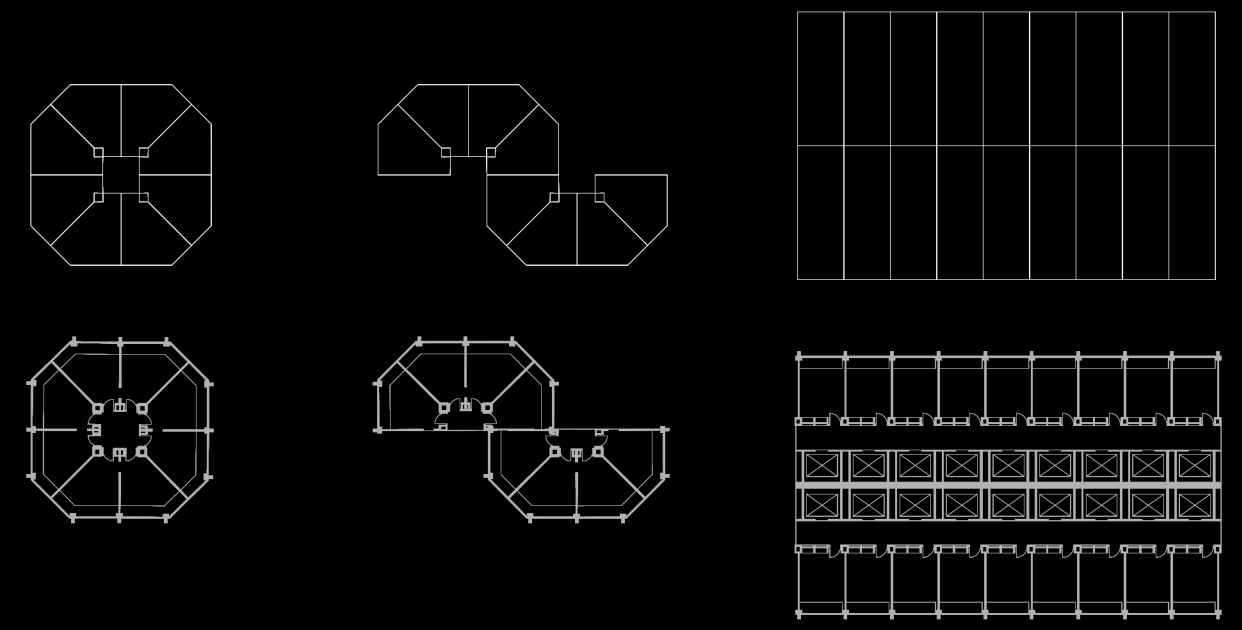
Pic. 18

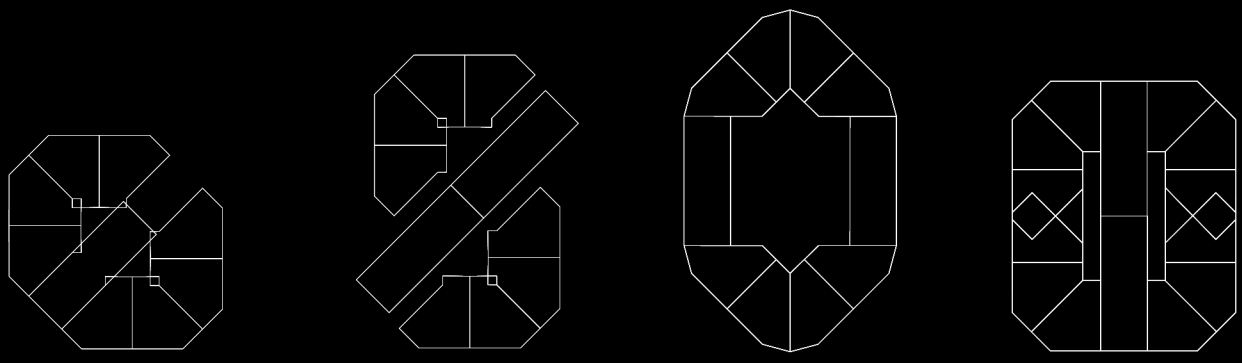


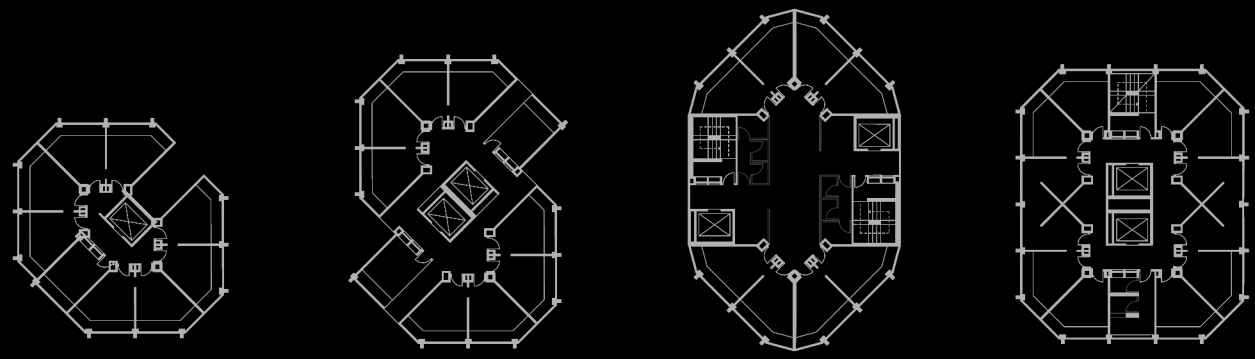


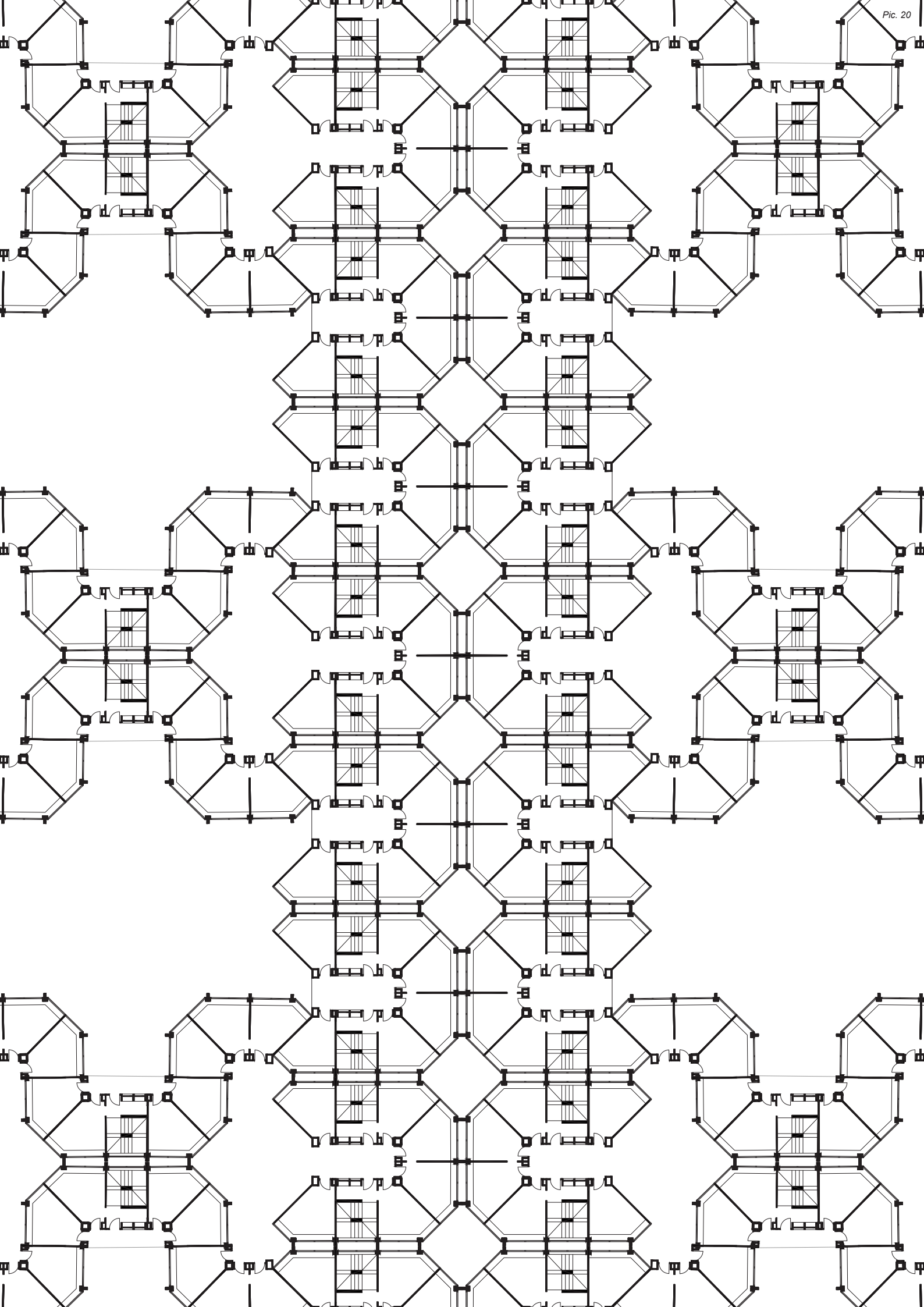
2. FIRST STEP

Compositive Speculations
Out of Scale





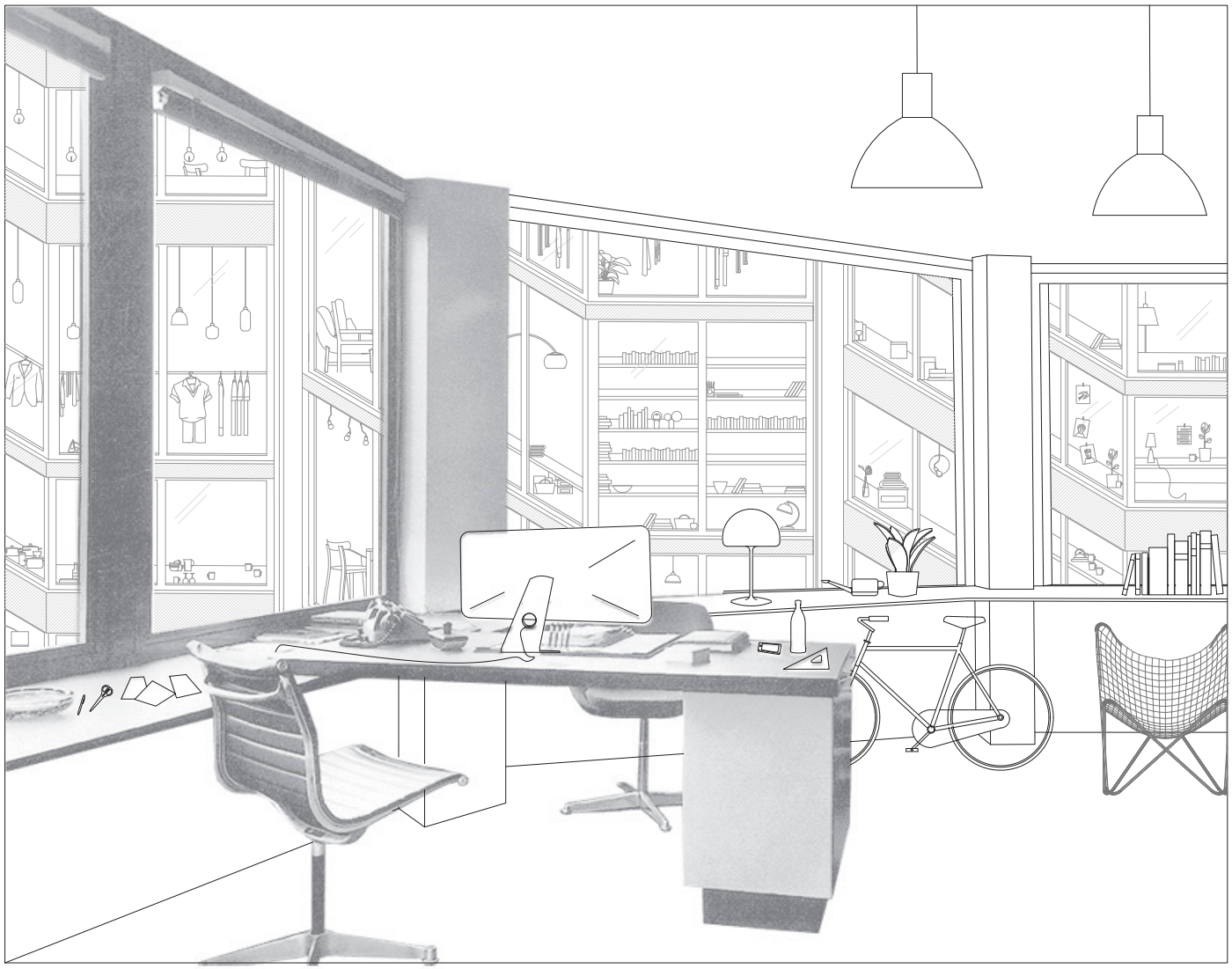




2. FIST STEP

Manifesto

Pic. 21



As the next step, I worked on the possibility of having a system opened to **repetition**, and based on corridors, centrality, generic units, and service units. At the end of the workshop, I designed my idea volumetrically. Inspired by the research of the Metabolist Movement, I translated the plan in volume. The infinitive repetition in plan equaled high density volumes.
At this point the challenge was to keep the intimacy character of the Economist in a gigantic tower building. To design a sort of "Gently Skyscraper" that I ironically called the Hedonist Building (neame kept only fot this first step of project). For keeps in mind the themes of the project I made some rules, these manifesto statement helped me to direct the research.

The Hedonist building is a gently and intimate skyscraper.

The Hedonist building is a giant addition of intimate spaces.

The Hedonist building allows and Encourages the coexistence of uses.

Element 1 is for living.

Element 2 is for service.

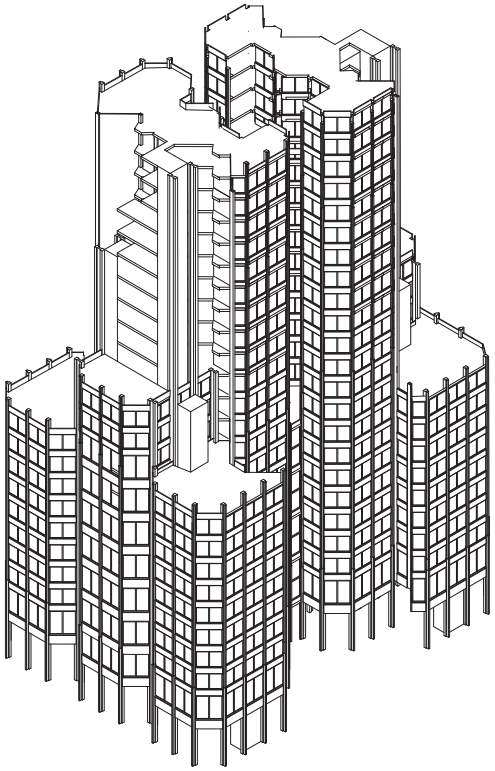
*1+2 * n*

Repetition in plan equals density in volume.

2. FIST STEP

Tower Typology

Pic. 22



Two Towers Option Axo - Out of Scale

Pic. 23

One Tower Option Axo - Out of Scale

There is interaction in the density

There is life in the facade.

The straight line is the place for the pillars.

45° angle lines are free from pillar.

45° give an open view.

The facade is multi-purpose.

The facade gives the Perimeter.

The Perimeter is an active line.

The Perimeter functions follow the actual uses.

But! The Perimeter does not follow the actual Uses.

The Perimeter is open to interpretation.

The materials of the partitions are open materials.

The material of the structure is fixed.
The space between Element 1 and Element 2 is a common space.

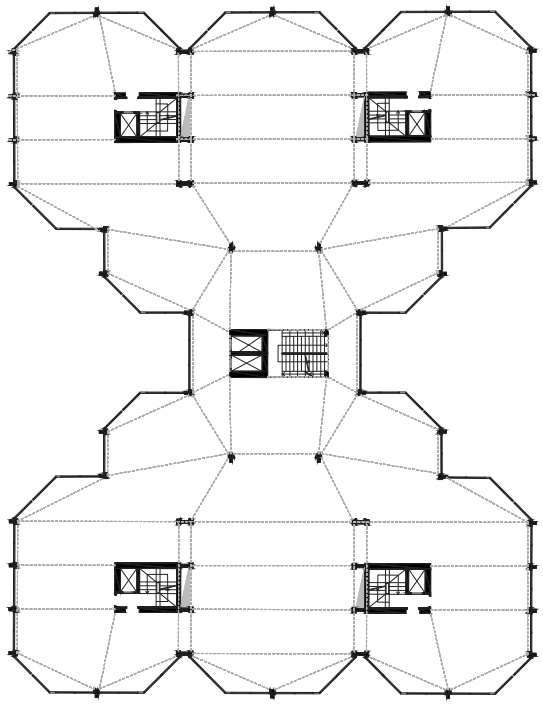
The common space is always central.

Variation of Heights gives interfacing between floors.

The Building is the addition of Modules.

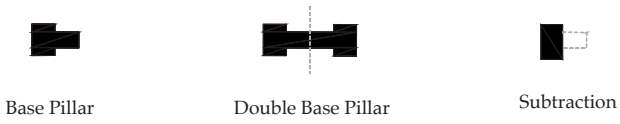
The first option developed looks like a two-tower building. In this case, however, there was an overabundance of cores and pillars. The process was, therefore, to delete the needless until reaching just the essential structure, the synthesis: the base plan (facade, columns, and cores). The final option is then a one-tower building.
The ground floor is divided into five lobbies, the four

Pic. 24



Base Plan - Out of Scale

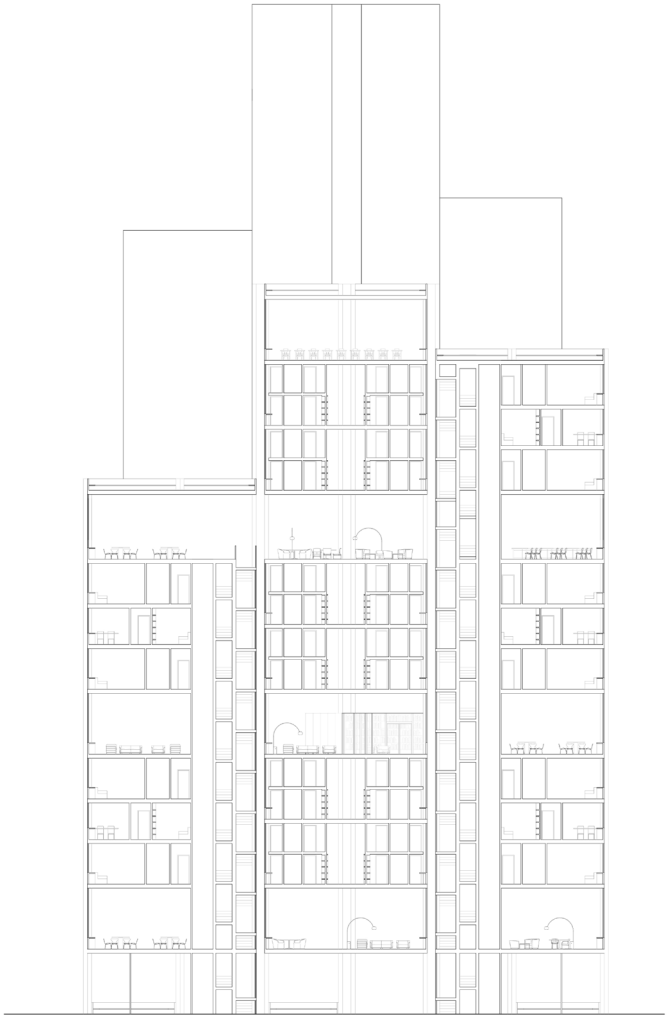
Pic. 25



Pillars Genesi - Out of Scale

externals for the neighborhood and the central one for the public.
Although the detail of the interior walls of the corridors of the Economist (the partition system with archive, ventilation, and integrated lighting) is not part of the "base", it is still an important design element. These ventilation ducts can be used as uprights for walls or furnishings, depending on the necessities.
In the typical floor plan is clear the relation between "base" and "infill".
The project is the sum of several modules with different shapes and possible conformations. With the differences in height and the consequent variation of the facade, these modules can interact with each other.
I choose to keep the idea of the expressive **grid** that distinguishes the Economist Facade, it was a good architectural thought made explicit the reality of the construction. But I have to admit that not having a contest in the fase of the design of the facade was particularly difficult form me, as well as the choice of the material. And I guess this is the limit of utopian design process.
The following collage is showing the central double-height space, the mezzanines, the living units, and the facade.
For the materials, I adopted a structure in reinforced concrete, while the ventilation ducts is in steel and aqua-panel for walls. For the pavement, I wanted to delimit the common spaces and the distribution areas, which, although there are no physical barriers, are distinguishable with different floorings.

Pic. 26



One Tower Option Section - Out of Scale

2. FIST STEP

Interiors

Pic. 27

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3. CASE STUDY ANALYSIS

The Research Method

After the definition of a design concept, it started a phase of analysis focused on the phenomenological features of the dense neighbourhoods of four European cities with their characteristic perimeter blocks. The aim at the end of the study was the localisation of a block for the project insertion.

In particular the research was circumscribed to XIX century examples of Milan, Paris, Hamburg and Berlin. The time around 1900 was the time of an architectural transition. The Belle Époque still looks clumsy, but is full of enthusiasm for experimenting with the new materials glass, steel and reinforced concrete and stands between a historicist era and the objectivism of modernity with its technical achievements of industrialisation.

Moreover, the facades of the block perimeter buildings of the 19th century and the early modern age have a number of special features. As a type, these facades are often richly decorated and yet represent a kind of background architecture in which the individual parcels are blurred and the homogeneity of the street scene comes to the fore. Despite their great coherence, the individual facades are only homogeneous at first glance or are repeated. A closer look reveals an unexpected variety of details and the possibility of reacting to special situations. Special situations can represent space, rear, courtyard or corner as well as the lower and upper end of the facade (base and attic). Different functions such as living, working, production, sales or hospitality are often not shown at all or only hinted at in the facade. The facade hides the variety of uses that is behind it. Their elements are often formulated in a sufficiently general manner that various uses can be taken up. An important criterion for this is the grade of perforation, which reflects the relationship between open and closed areas and can vary across the facade. The edge of the nineteenth century block with all its properties has survived many urban upheavals and theories. It is still controversially discussed today, and sometimes the issues are aesthetic, sometimes hygienic, sometimes about urban or social aspects, but the appropriateness of this urban element is always emphasised. The edge of the block absorbs everything, functions are mixed and condensed in it. Here people live, work, meet, celebrate and produce. In this sense, the edge of the block is a *Base Building* on a larger scale and more complex city building block.

After some weeks of research, the investigation of the block edge brought to light consideration about density, geometry, volume, exposure, materiality, colours, perforation and use. It has revealed a diverse wealth of topics, forms, places and situations. The block edges show up in squares, in side streets, sometimes as a large coherent area, sometimes again fragmented in their individual parts. They show us sides and backyards, narrow and pointed corners.

After a preliminary overall study, I decided to work in the Milanese research group. We compiled a comparative atlas of selected examples types represented with drawings that are following next pages. The atlas includes considerations about the facade in terms of structure, elements and materials.

The *Base Building* from the fist step had then to be adapted to the chosen context, the new project had to be found and established using an analysed block, with its entire, partial or fragmented re-design.

3. CASE STUDY ANALYSIS

Milanese Context

The contemporary Milan was born as a productive city, in particular referred to the years of the economical boom, when the productivity growth generated an explosion of the city with historical borders, the creation of large peripheral areas, and the conurbation of neighbouring urban centres and the creation of the vast Milanese metropolitan area, still defined today as a widespread city. [1]

Currently, the population of the metropolitan area constitutes seven times of the inhabitants of the entire province, in an urbanized area that occupies only the 12%. [2] Milan stopped to grow, but from the last century it started to rapidly transform into the inside. This current situation is the result of an urban regulation process started in the XIX century.

Historically, the Milanese city gates are eleven and are located around the walls of the historic center; these construction date back to different eras, from the Roman period up to the Spanish domination, even if, for the most part, they were rebuilt in the Napoleonic era. Today there are only six surviving: Porta Garibaldi, Porta Nuova, Porta Romana, Porta Sempione, Porta Ticinese and Porta Volta. [3]

The changes happened between the XIX (when the industrial revolution started), and the XX century (the economical boom), are the reason of the actual Milanese urban connotation.

Historically, the center of Milan can be traced back to the area bounded by the medieval walls, which have now become streets that form the fast ring road that runs around Milan. The city was born in the Celtic era, to be subsequently remodelled following the Roman occupation. From this moment on, the urban center continues to evolve with a certain constancy, passing through various historical periods, including the government of the Visconti and Sforza and, subsequently, the Spanish and Austrian dominations. However, today's urban form is the result of transformations dictated by a series of urban plans.

The impulse of economic development and the advent of industry generate an urban growth that requires a form of regulation. In this period, Milan will adapt to a perspective of urban deregulation, a process whereby governments cease most of the controls on the real estate markets and eliminate restrictions on an economic level, favouring a mechanism still in place, in which the administrations bring hundreds of variations to a Town Plan which is kept alive only by law obligation. [4]

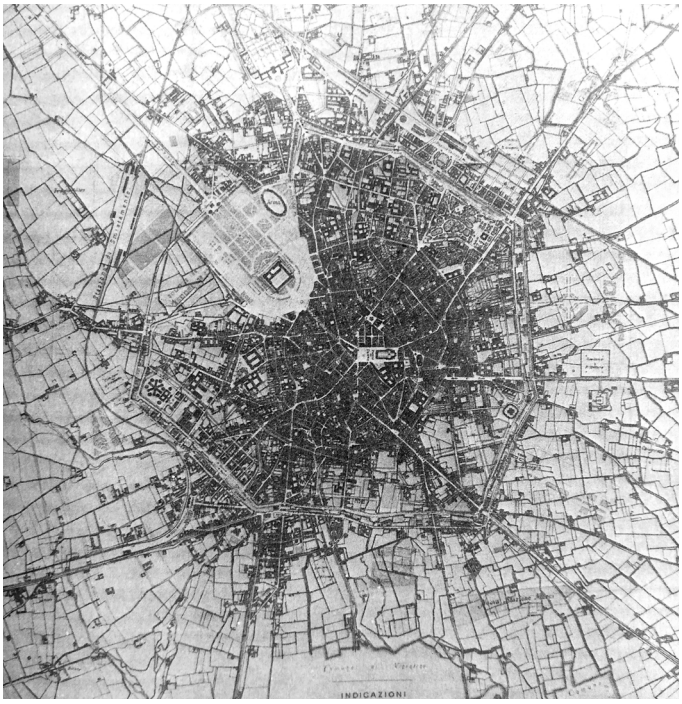
The term "Regulatory Plan" refers to the tool used by European cities to govern the problem of urban growth after the first great industrial revolution of the nineteenth century. At the gates of the contemporary age, it is considered necessary the regulation of a new process, expression of a constant expansion, that could break the medieval walls in direction of the countryside. The first significant plan from the point of view of the management of industrial expansion in Milan is the Beruto Plan, presented in two versions, one from 1884 and one from 1889. During a seminar at the IUAV in Venice, Aldo Rossi spoke of it as a 'work of "general mediocrity", underlining its main features. [5] At the time, the city was slightly larger than the boundaries of the Spanish walls and expansion was planned for about 1900 hectares, of which 1250 were intended for new residential and industrial settlements, where the main public services remained concentrated in the city center. More than a mediocre town plan it can be defined a modest one. [6] Thanks to the Beruto urban plan Milan got urban axes, railways implementation and breach in the walls we benefit now. Providing for the instrument of evisceration to create new city axes, aligning itself with the strategy adopted in the great European capitals rather than with the Italian tradition, it has indelibly conditioned the appearance of the city; the strong outsourcing of the historic center, still in progress, has transformed the heart of the city from a predominantly residential area to an economic space. Tertiary concentration, demolition, industrial and productive expansion towards the outside: these are the main ingredients of the first modern plan adopted in Milan. In it, the intention is clear not to create a "building collage", but an organic vision of city development, so as to be able to perpetuate it over time. [7]

In 1912 the Pavia-Masera plan was approved, mostly taking the form of an extension of the Beruto Plan that would keep its characteristics unaltered. It is an "organic" growth model consisting of a circular band around the city, with radial roads and new ring roads. Excluding the central area, whose traces today are ine-

Pic. 28

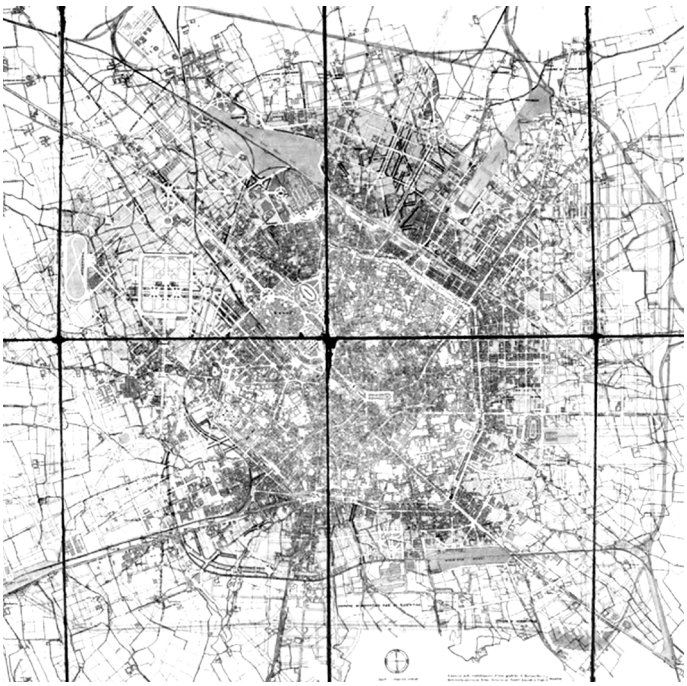
First Beruto Urban Plan, 1884. Source: Boatti A./Canevari A./Erba V./Oliva F./Venuti C.G., Un secolo di urbanistica a Milano, Milano, CittàStudi, 2003

Pic. 29



Second Beruto Plan, 1889. Source: Source: Boatti A./Canevari A./Erba V./Oliva F./Venuti C.G., Un secolo di urbanistica a Milano, Milano, CittàStudi, 2003

Pic. 30



Masera Urban Plan, 1912. Source: Boatti A./Canevari A./Erba V./Oliva F./Venuti C.G., Un secolo di urbanistica a Milano, Milano, CittàStudi, 2003

Pic. 31

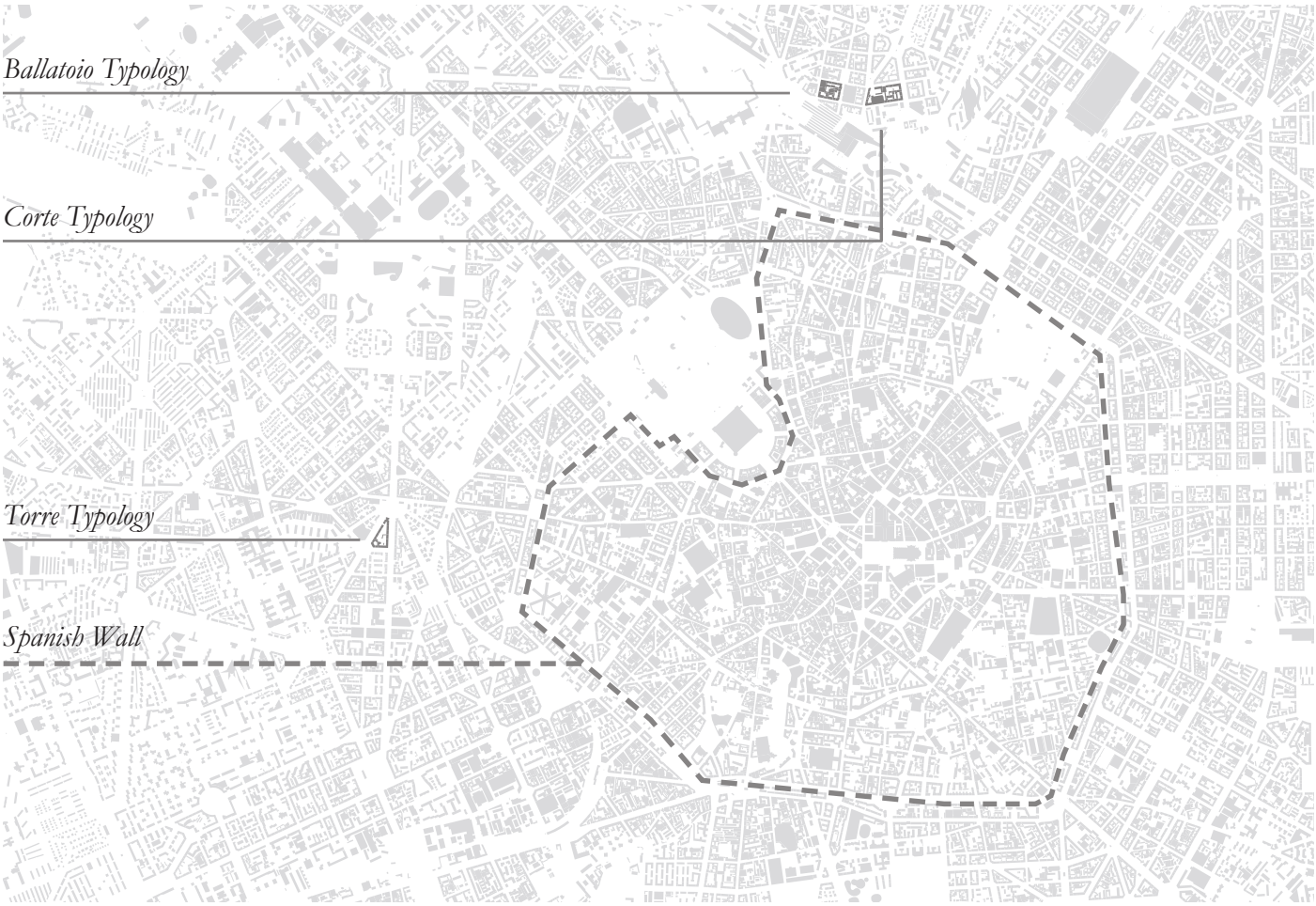
Albertini Urban Plan, 1934. Source: Boatti A./Canevari A./Erba V./Oliva F./Venuti C.G., Un secolo di urbanistica a Milano, Milano, CittàStudi, 2003

vitably influenced by Beruto, the surrounding parts were deeply affected by the changes made in 1912. [8]
Firstly the population increasing and the immigration are constantly growing as well as the industrial assemble. In other hand the city centre grows with the tertiary and the stately home, where the popular neighborhoods are located on the edges, next to the production spaces. With the passage of time, this periphery will become more and more indistinct and disqualified; twenty years after the Beruto Plan, Milan had largely exceeded its limits, where construction activity had also invested in unplanned areas and the city showed the first signs of the incessant growth of the contemporary capitalist metropolis.
Lastly, The Albertini Plan, dated 1934, represents the regulation of the initiatives taken by the regime's policy in the course of previous years. The development of the city continues beyond the economic crisis and the upsurge of the construction sector, defining further growth with the aim of densely urbanising almost all of the municipal territory. [9]

3.1. CASE STUDY ANALYSIS

Three Building Typologies

Pic. 32



We chose to divide the analysis into three Building Typologies: the Courtyard (Corte), the Balcony *(Ringhiera or Ballatoio)*, and the Tower (Torre). The first one is an ancient type, interesting in its economical version. The Balcony Building can be useful for the understanding of the meaning of type itself. It is the evolution of the Courtyard Building, this brings interesting thought about the transformation and adaptation of the type through years. The last type, the Tower Building, was chosen because it is exactly in this period that in Milan we are starting to build high, concurrently with the rising of a new type of bourgeoisie. In particular the analysed Courtyard and *"Ballatoio"* buildings are placed in Isola district.

"A differenza del quartiere attorno alla Porta Garibaldi sorto su iniziative e piani di lottizzazione promossi dai privati, l'Isola si sviluppò in modi più evidenti riferiti alle indicazioni del piano di ampliamento redatto dall'ingegner Beruto ed approvato in via definitiva nel 1989. Questo comportò un po' più di chiarezza nel disegno dell'impianto urbano, soprattutto nella formazione dei due gruppi di isolati distribuito attorno a piazzale Archinto e via Volturno e una maggior costanza nelle forme e nelle dimensioni, più evidente negli isolati attorno a piazzale Archinto, ma lasciò in sostanza che anche le nove parti si formassero più seguendo la casualità o le occasioni o gli elementi preesistenti che la chiarezza e le direttive di un disegno." [10]

There is therefore a lack of continuity and homogeneity in the dimensions and morphology of the lots, as well as different ways of articulating and building them. This determines completely different blocks without any of them coming to determine the shape of the whole block, so that, in the end, this is always a sum of building types and incongruent facts. [11] Only uniform heights remain. and the continuity of the curtains to form a binder and to bring the island as a whole back to a certain unity. [12]

3.2. COURTYARD TYPOLOGY

Description

During the IX and X century, through the development of the Beruto's urban plan, we can see the spread of the nearest city-areas close to the Spanish Walls, a reminiscence of the XVII century. The urban plan gave the rules for the development of new productive areas, economic residential buildings (especially in the North of Milan), and middle-class rising bourgeoisie districts. For the first economic buildings was chosen the Court typology. These types of buildings permitted, with the central courtyard, good control on the overpopulation and on the high density issues, those were suffering the European city of the period. The vertical connection is always the key for the internal distribution, the flats are double exposed in the arms facing the street, but not the same for the other sides of the court. This brings problems of natural aeration and illumination, and this is one of the reasons why the Modern interpretations of this typology are often the design of an entire block, with only one Courtyard Building, rather than a part of the block.

"La tipologia a corte nasce da un modo di occupare il suolo, non è altro che un modo di disporre gli edifici intorno ad uno spazio libero centrale. E' tuttavia importante distinguere i casi in cui la corte è solo spazio di raccordo tra corpi di fabbrica diversi, senza forma compiuta, e i casi in cui diventa un caso di architettura autonomo. Ho prima descritto un tipo così diffuso, da essere diventato una delle realtà costruttive della periferia storica milanese." [13]

Re-drawing

Pic. 33

Nolli Plan - 1:2000

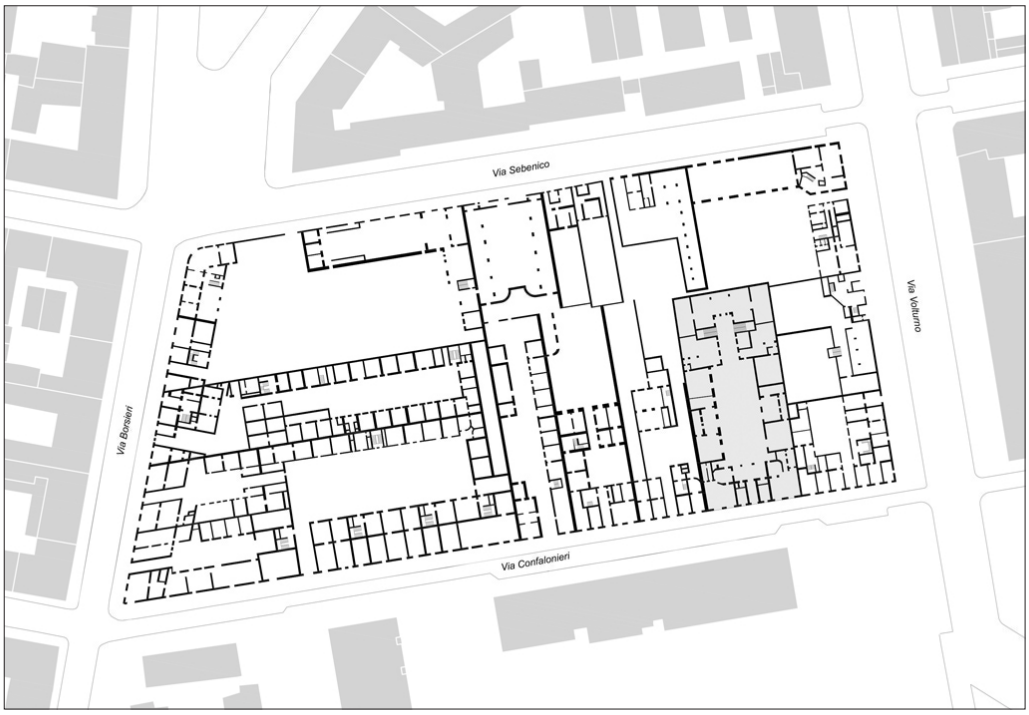
Pic. 34

Block Development - 1:2000

3.2. COURTYARD TYPOLOGY

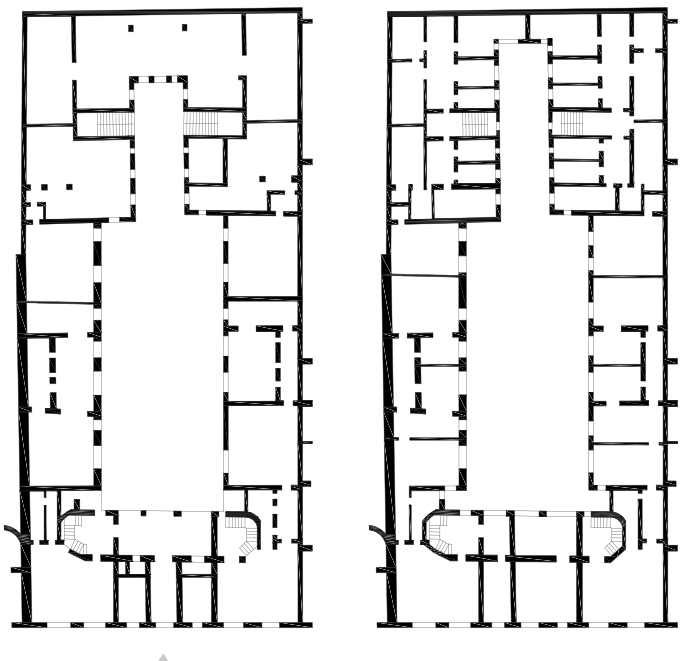
Re-drawing

Pic. 35



Ground Floors Plan - 1:1000

Pic. 36



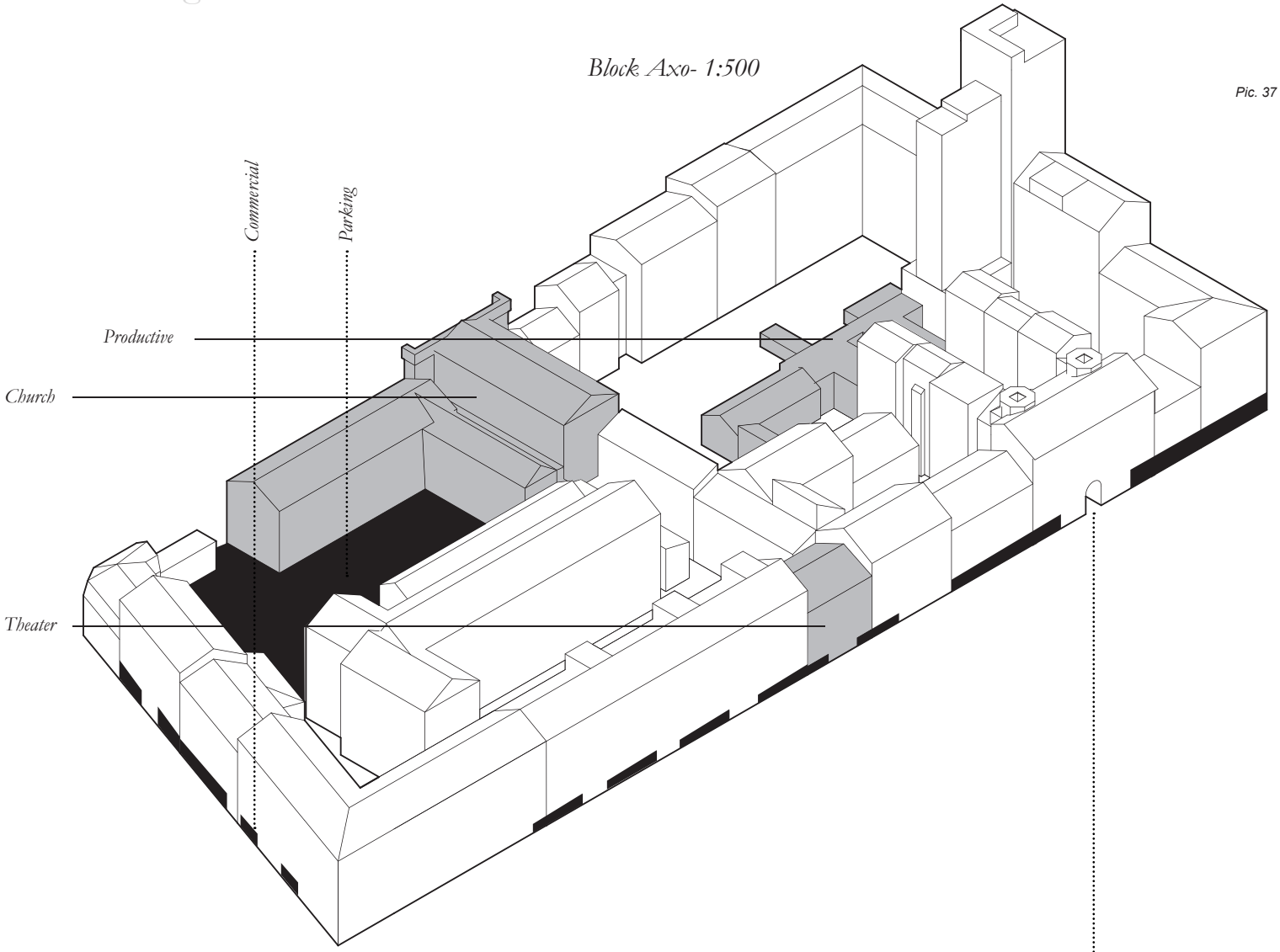
Ground Floor and Typical Floor Plan - 1:200

3.2. COURTYARD TYPOLOGY

Re-drawing

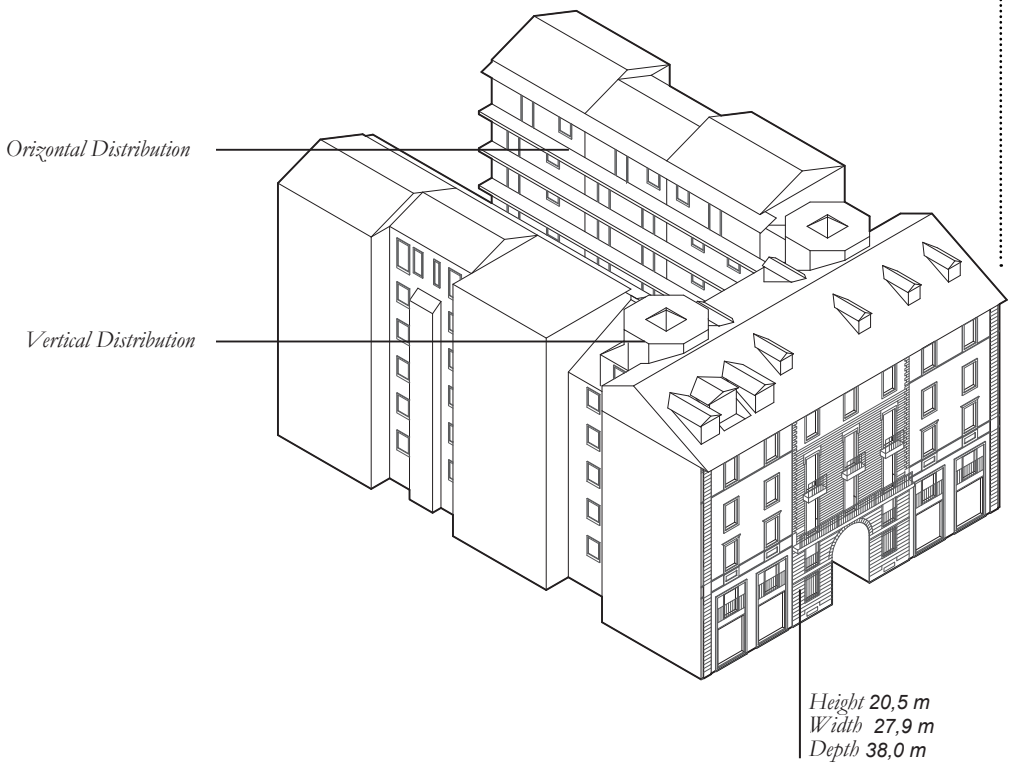
Block Axo- 1:500

Pic. 37



Building Axo- 1:200

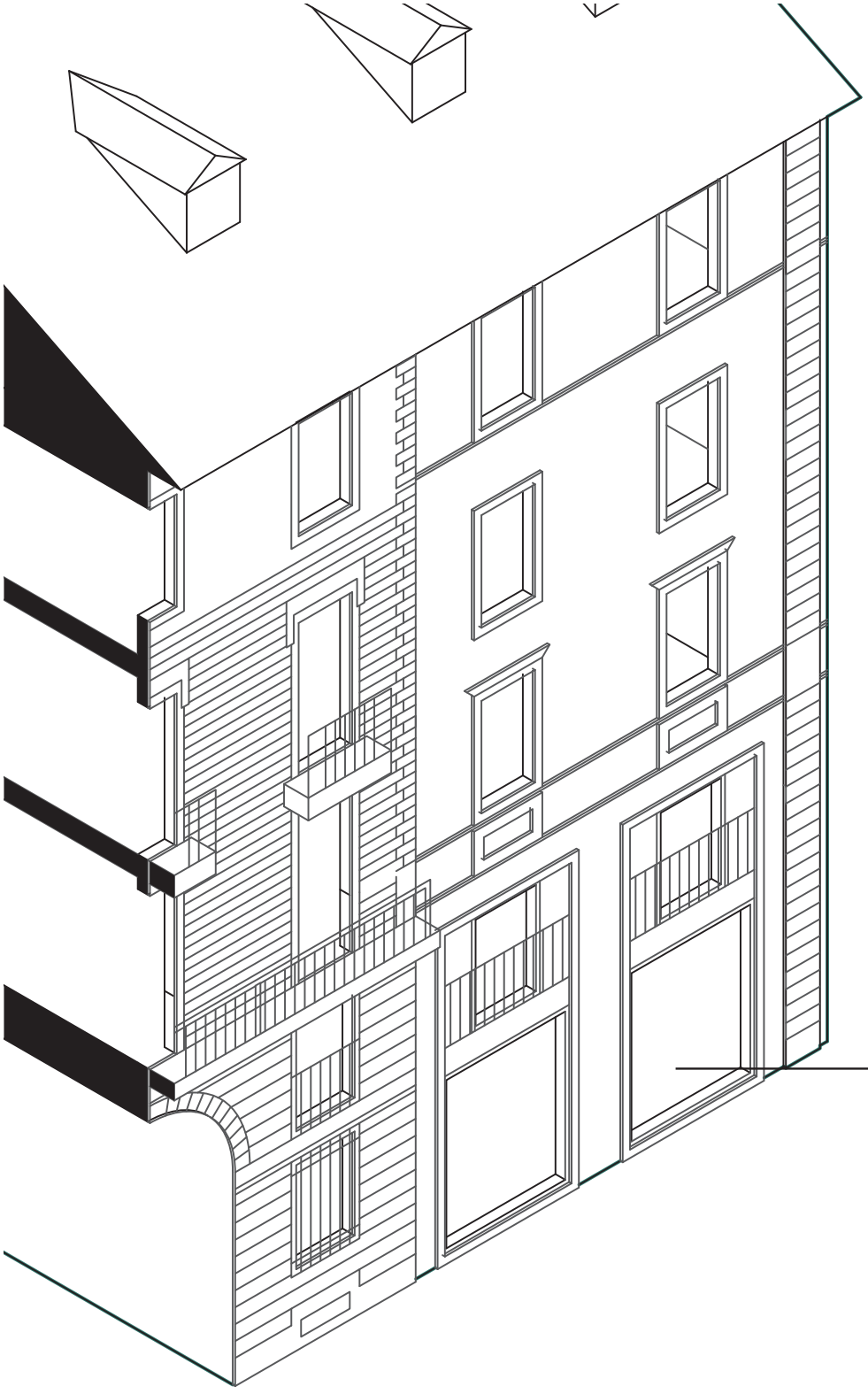
Pic. 38



3.2. COURTYARD TYPOLOGY

Re-drawing

Pic. 39



Facade Axo
Out of Scale

3.2. COURTYARD TYPOLOGY

Re-drawing

Pic. 40

Building Facade Elevation - Out os Scale

Pic. 41

Pic.

Block Facades Elevation and Photocollage - Out of Scale

3.3. BALLATOIO TYPOLOGY

Description

The predominant milanese type is the *Ballatoio* building, of which numerous examples still exist (among the most interesting, those between the streets of Del Verme, Carmagnola, Pastrengo and Cola Montano). [14] The *Ballatoio* Building is the evolution of the Courtyard Building. The courtyard is still the main morphological element of the type, but the distribution is subverted. There are just two vertical connections in the internal corners of the building, they are the links for the balconies, that have the function of outside corridors. They run along the intern facades, considered as shared spaces of connection, but extremely narrow (for being the most economical as possible). It is an important aspect: these balconies are lived as mere distribution, and not at all as a common living space. The same happens for the central courtyard, that it is often used as a service space. The flats are distributed with a radial distribution ruled by the balconies. It is important to keep in mind that this type Building has thought for the class of workers, this means that the design reasons and logics are always related to the idea of building speculation and economic savings.

These are buildings characterised by a tendential simplicity or even by a certain poverty of realisation, aesthetics and decoration, but nevertheless characterised by their own dignity, in which the system of orders - albeit very reduced and essentialized - is still find on the façade, almost as if it were the archaeological traces of belonging to an era (and a nobility of origin) now past. [15] As well as the Court- yard Building, the facades of the Balcony Building are constituted by cheap materials, textured concrete is often faking the stone, as well as the different treatments and colours of the plaster, suggest an inexistent variety of materials.

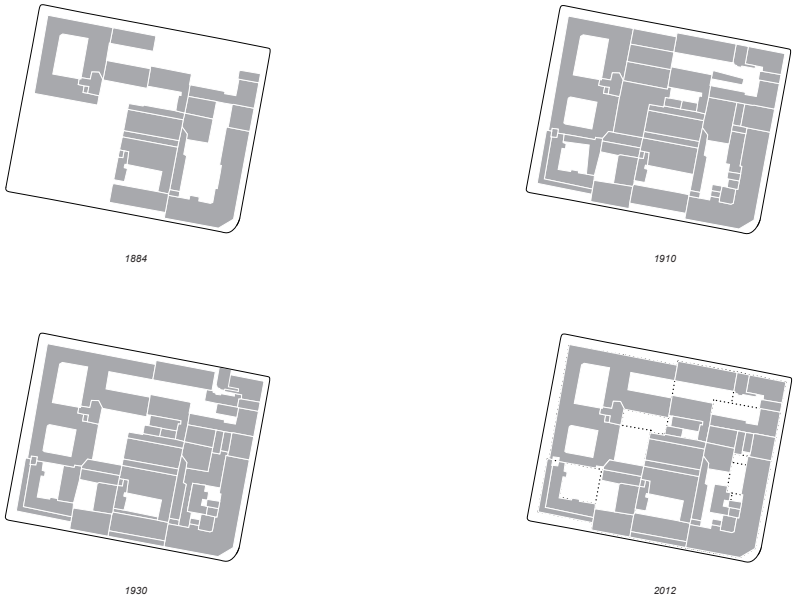
3.3. BALLATOIO TYPOLOGY

Re-drawing

Pic. 42

Nolli Plan - 1:2000

Pic. 43

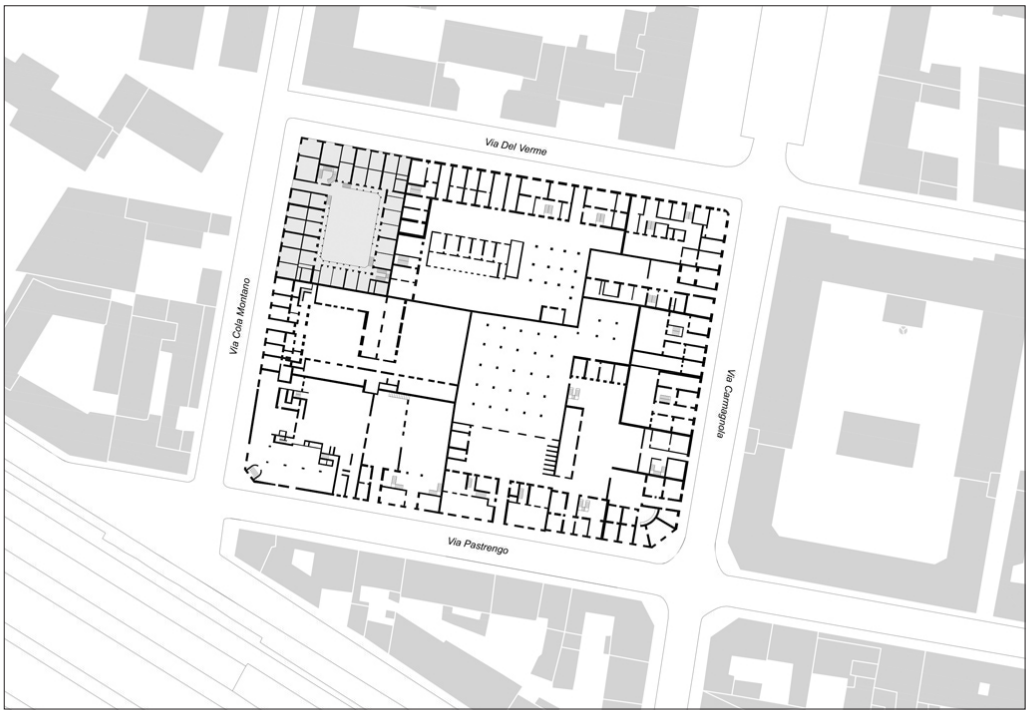


Block Development - 1:2000

3.3. BALLATOIO TYPOLOGY

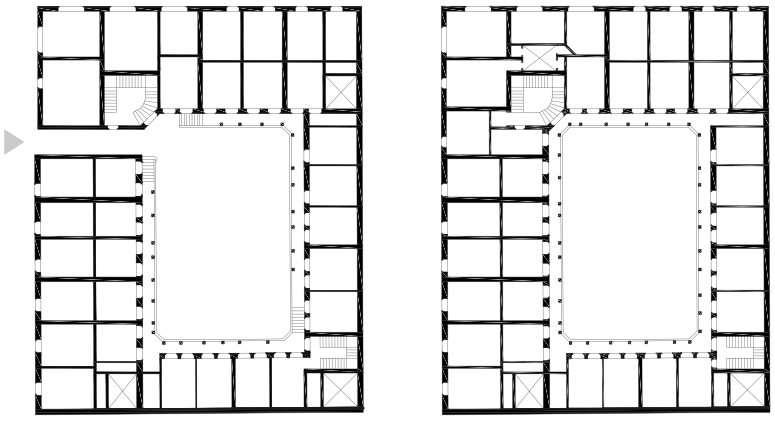
Re-drawing

Pic. 44



Ground Floors Plan - 1:1000

Pic. 45



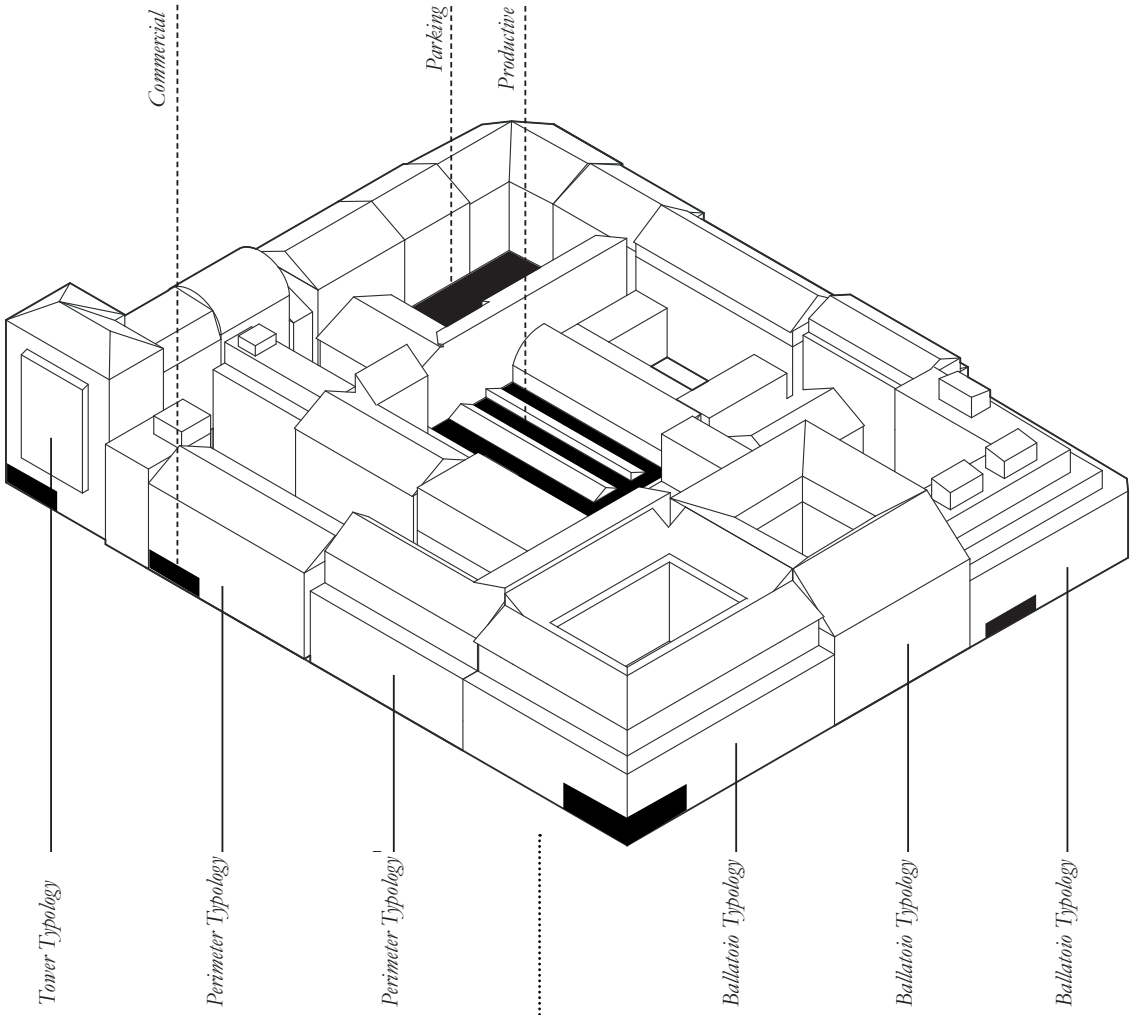
Ground Floor and Typical Floor Plan - 1:200

3.3. BALLATOIO TYPOLOGY

Re-drawing

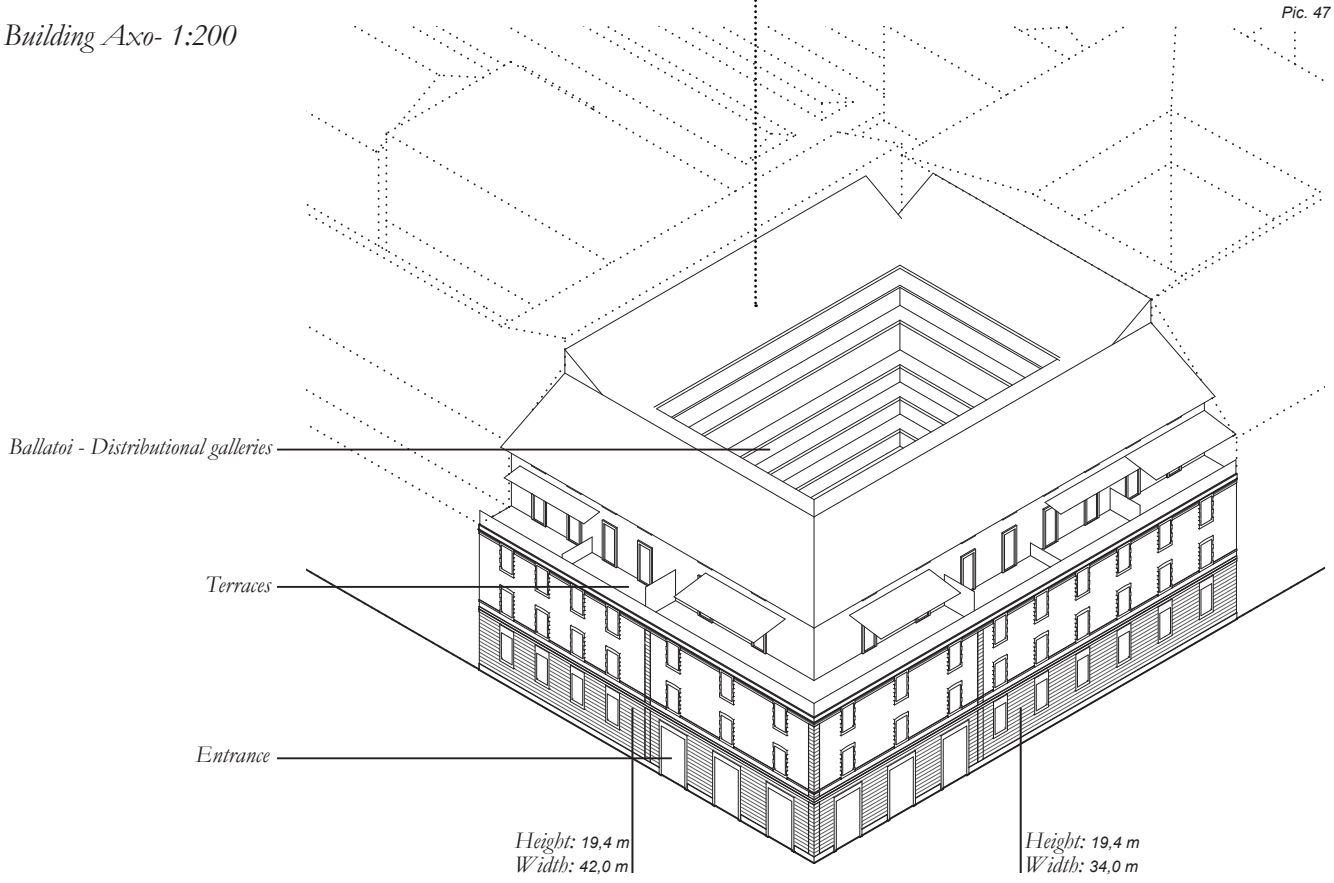
Pic. 46

Block Axo- 1:500

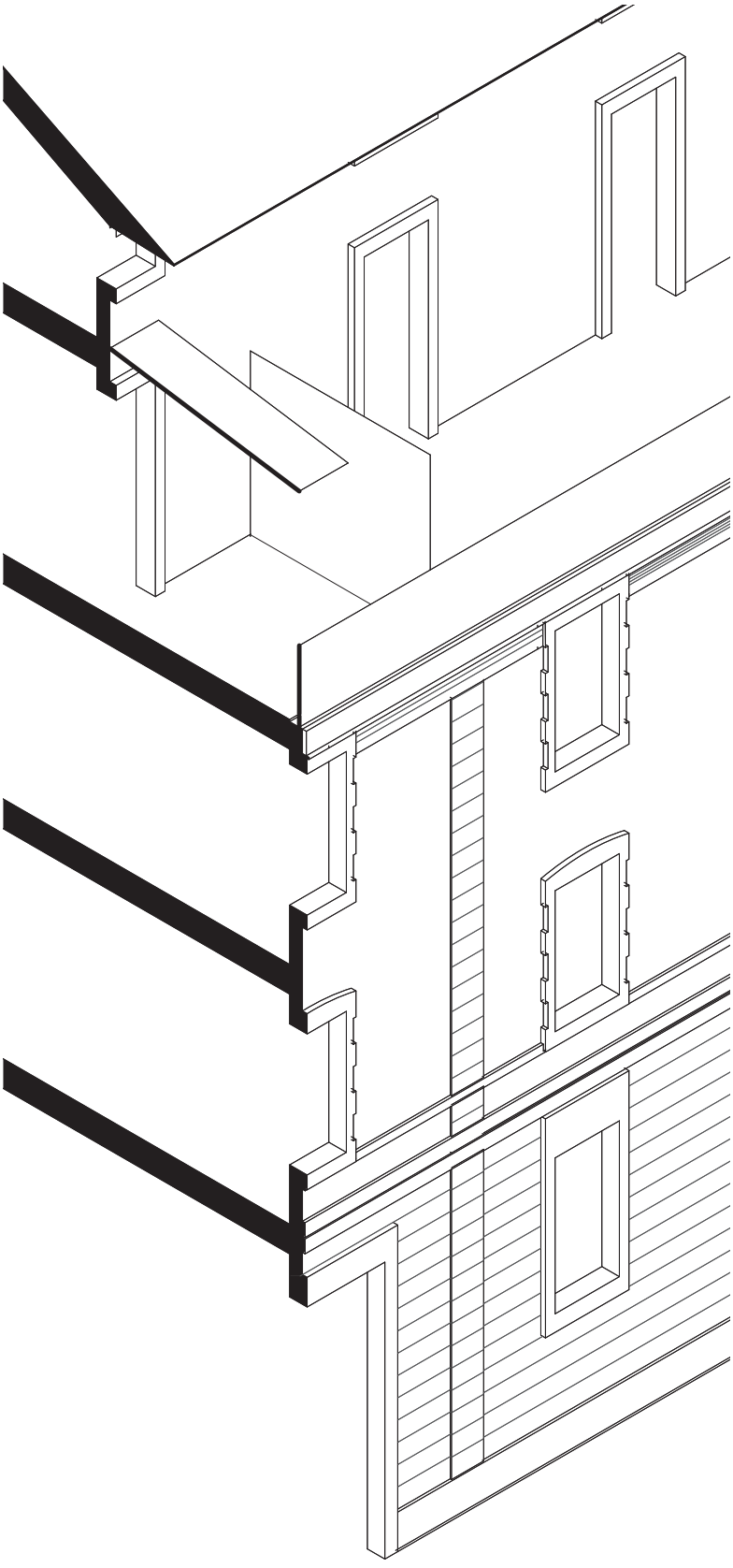


Pic. 47

Building Axo- 1:200



Pic. 48



Facade Axo- Out of Scale

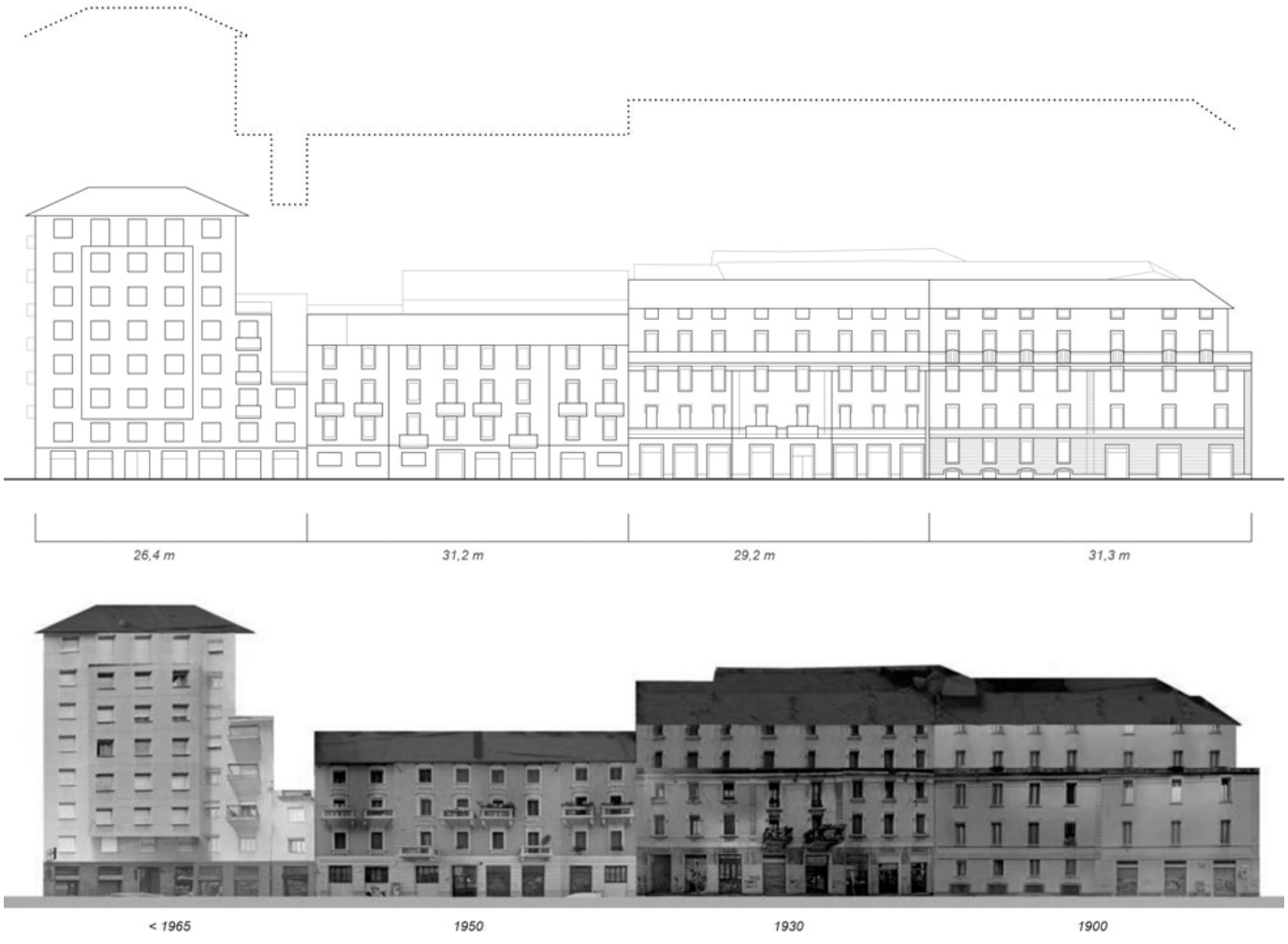
3.3. BALLATOIO TYPOLOGY

Re-drawing

Pic. 49

Building Facade Elevation - Out os Scale

Pic. 50



Block Facades Elevation and Photocollage - Out of Scale

3.4. TOWER TYPOLOGY

Description

The Tower typology brings in the planimetric logic the idea of the corner buildings or the Urban Villa of the past centuries. The real introduction is the high rise. The speculative development of the site gave birth to the idea of overlapping the "villa" floors extremely high. The evolution of these types of Milanese buildings start at the beginning of the XX century and discovered huge fame with Modernism. Usually, the tower building is facing squares or meaningful urban elements, giving the idea of formal urban counterpoint. As well as it is usually the corner crown of the block or all the block itself. In the beginning, it was thought as a residential tower, developing in the decades a more mixed-use. The idea is to have a central vertical distribution with three or four flats around it per level. The apartments are roomy and the facades are quite elaborated, in ornament and materiality. The users are of the middle-high bourgeoisie class, that in the XX century needed the development of new dedicated residential districts close to the city center. Moreover, the Tower Building brings new thought about the elements of the facade (the importance of the base and the coping for exam- ple) as well as the relation with verticality (before the Italian residential facade was characterized by a strong idea of horizontality).
In particular the analyzed example is one of the two twins building of Piazza Piemonde, important turning point of the Milanese debate on tall constructions.

"il progetto, presentato prima da Mario Borgato con Guido Sermini (per via Washington 2), e successivamente da Gerardo Macchi e Giuseppe Rusconi Clerici (per via Washington 1), propone il superamento dei 40 m di altezza, contribuendo ad alimentare il già acceso dibattito sulla questione del limite imposto dai regolamenti edilizi e sulle possibilità di ottenere, mediante edifici alti, migliori condizioni abitative e una reale decongestione del tessuto urbano." [16]

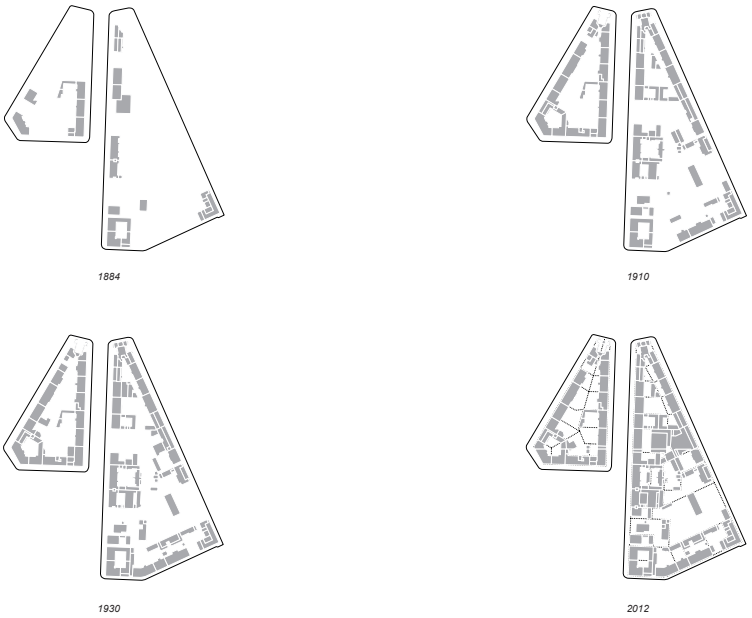
3.4. TOWER TYPOLOGY

Re-drawing

Pic. 51

Nolli Plan - 1:2000

Pic. 52

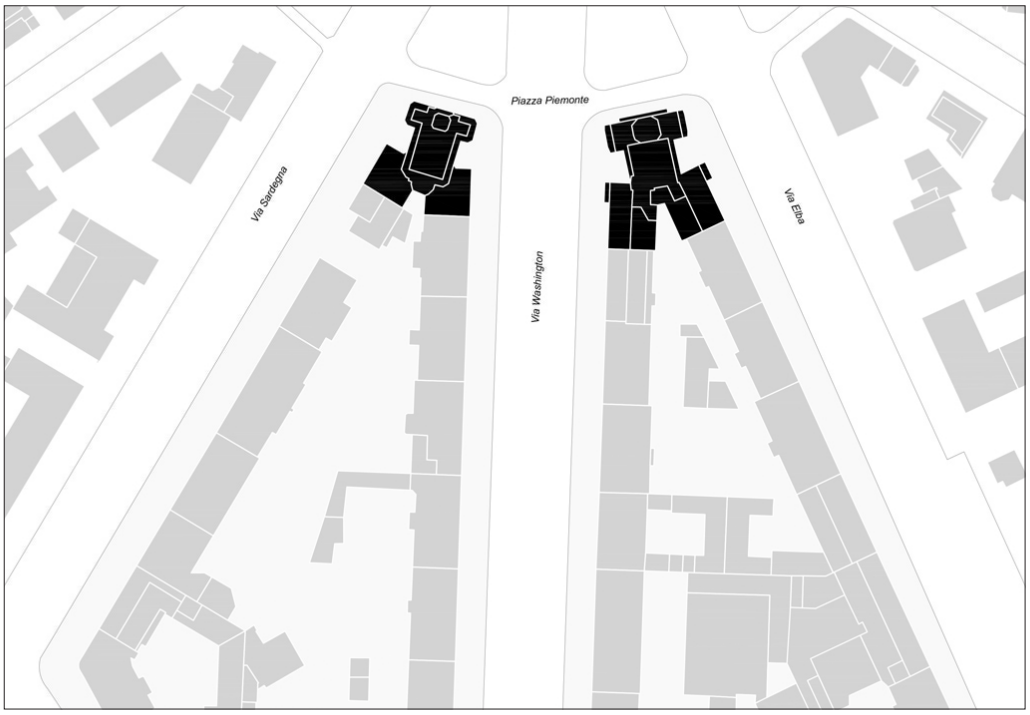


Block Development - 1:2000

3.4. TOWER TYPOLOGY

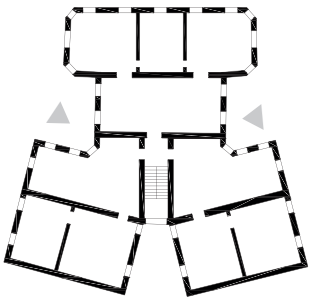
Re-drawing

Pic. 53



Ground Floors Plan - 1:1000

Pic. 54

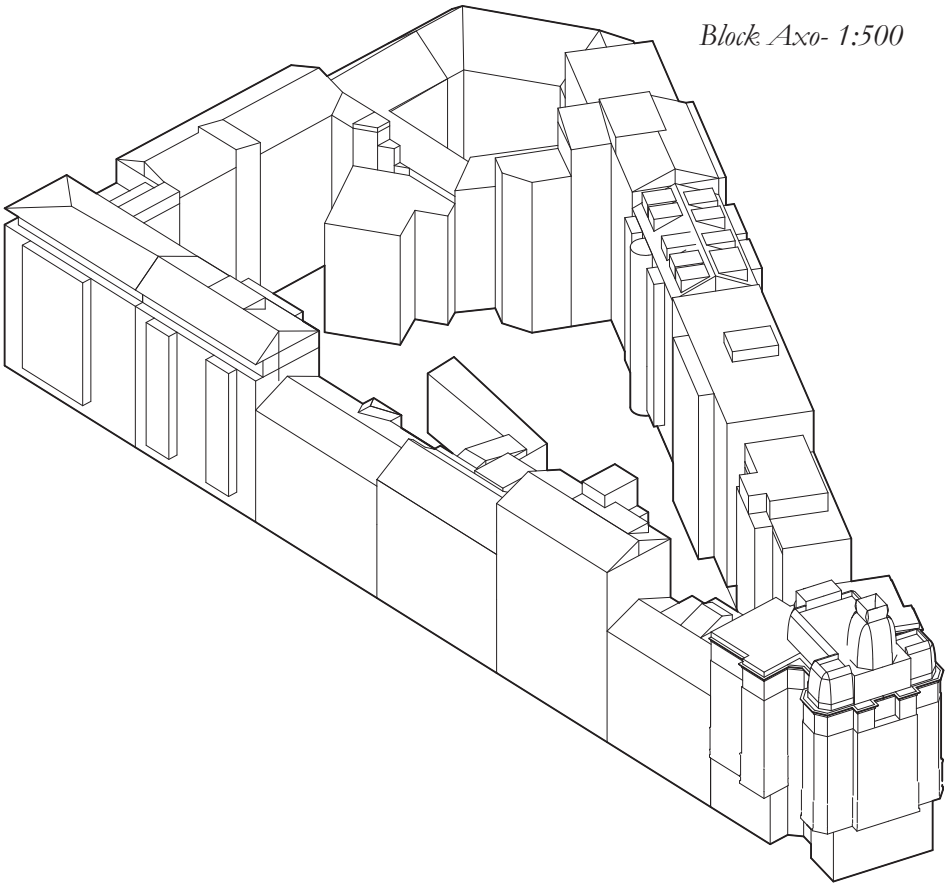


Ground Floor Plan - 1:200

3.4. TOWER TYPOLOGY

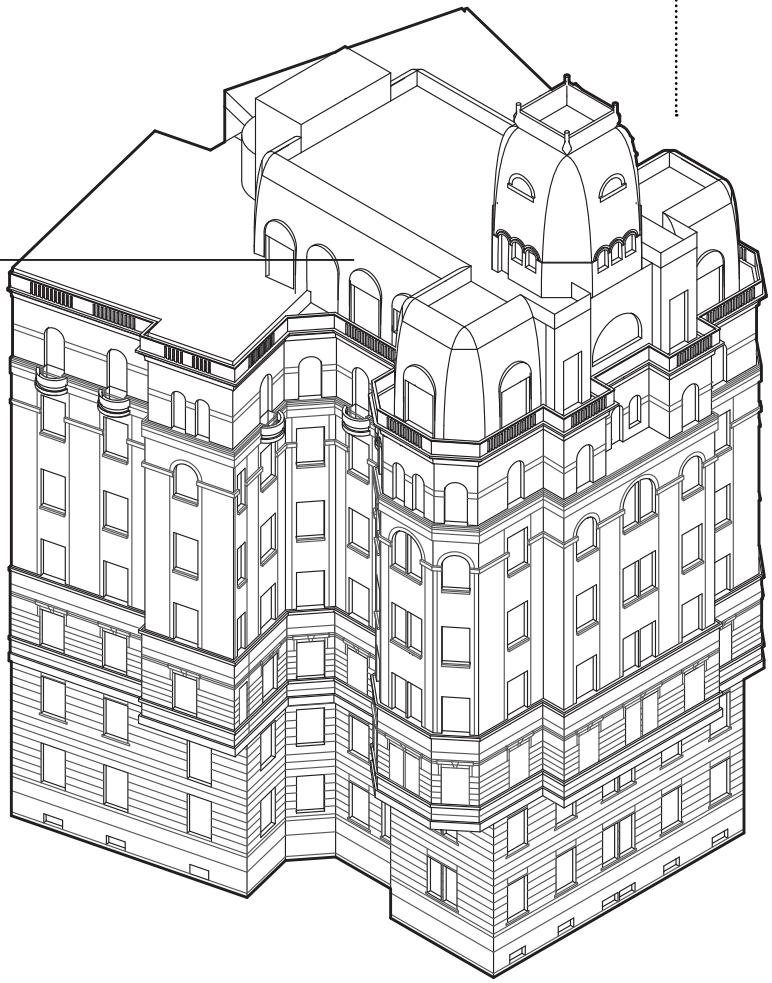
Re-drawing

Block Axo- 1:500



Pic. 55

Building Axo- 1:200

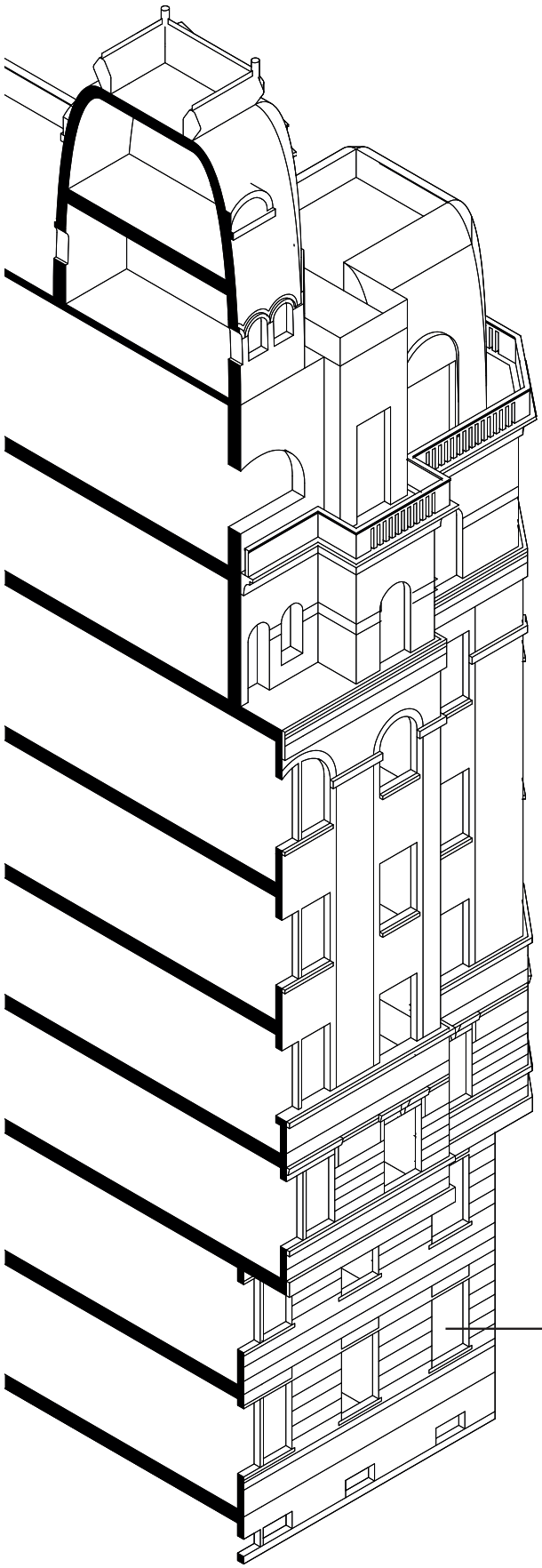


Pic. 56

3.4. TOWER TYPOLOGY

Re-drawing

Pic. 57

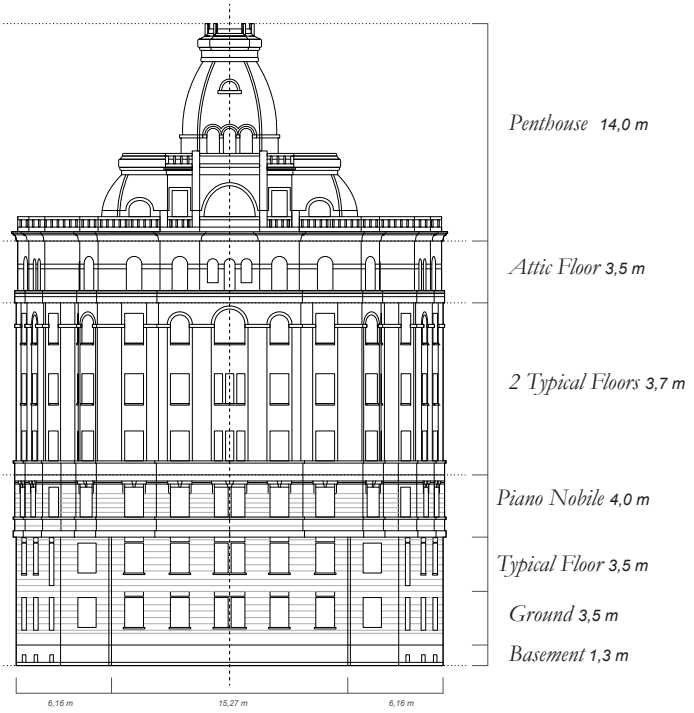


Facade Axo - 1:100

3.4. TOWER TYPOLOGY

Re-drawing

Pic. 58



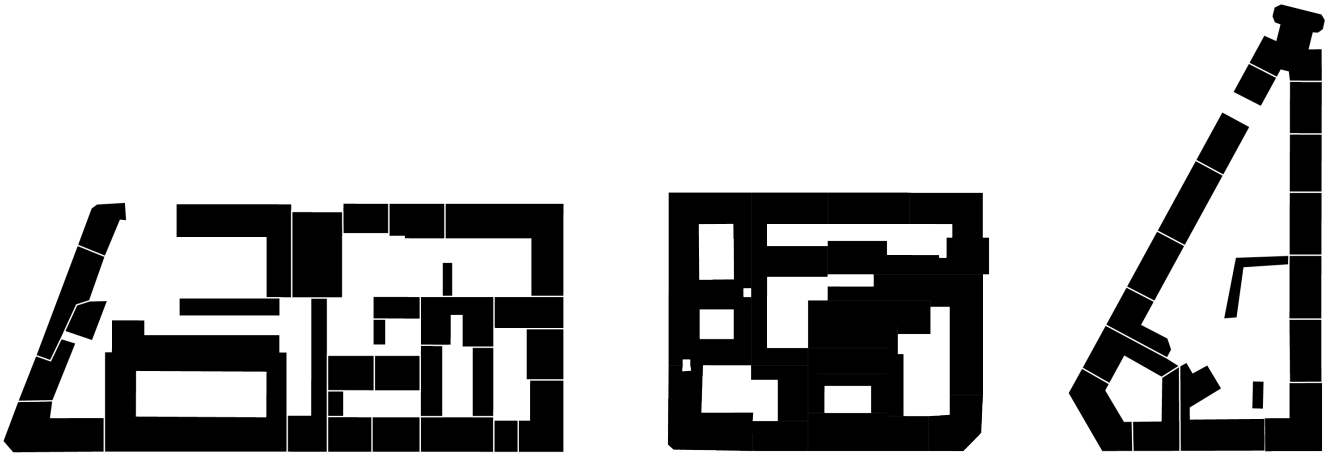
Building Facade Elevation - Out os Scale

Pic. 59

Block Facades Elevation and Photocollage - Out of Scale

3.5. TYPOLOGICAL COMPARISONS

Blocks - Built and Open Space
Out of Scale

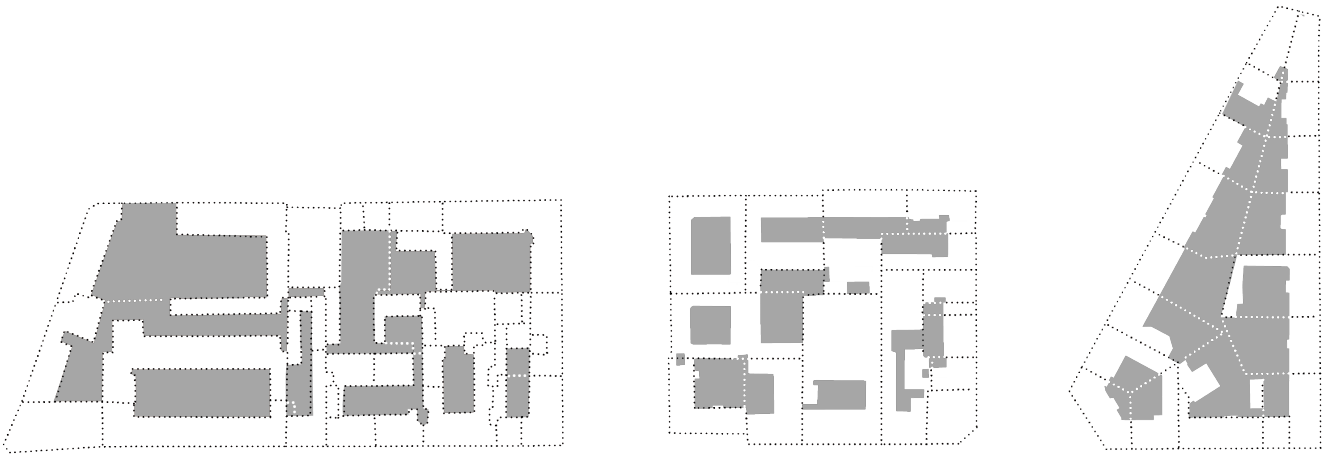


Pic. 60

Courtyard Block
Floor Levels: 3 - 15
Total Area: 18.253 m²
Built Area: 10.565 m² (58%)

Ballatoio Block
Floor Levels: 3 - 8
Total Area: 10.907 m²
Built Area: 9.420 m² (86%)

Tower Block
Floor Levels: 4 - 11
Total Area: 10.118 m²
Built Area: 5.696 m² (56%)



Pic. 61

Courtyard Block
Open Area: 7.688 m² (42%)

Ballatoio Block
Open Area: 1.487 m² (14%)

Tower Block
Open Area: 4.422 m² (44%)

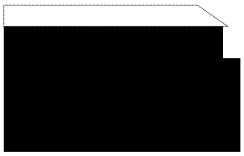
3.5. TYPOLOGICAL COMPARISONS

Facades - Openings and Closings

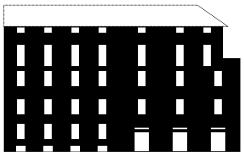
1:500

Pic. 62

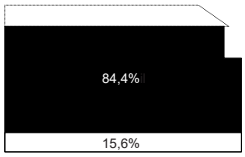
Ballatoio - North Side



Facade: 509,73 m²



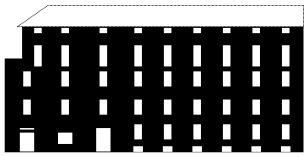
Openings: 430 m²
Openings: 79,7 m²



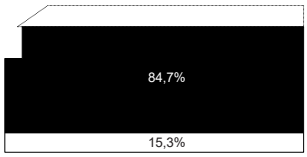
Percentage

Ballatoio - West Side

Facade: 646,25 m²

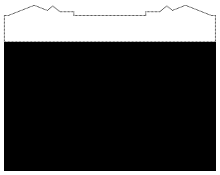


Openings: 547,25 m²
Openings: 99,0 m²

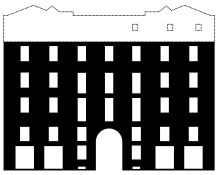


Percentage

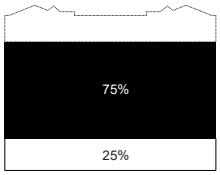
Courtyard



Facade: 474,48m²

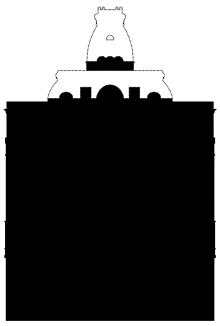


Openings: 356,21m²
Openings: 118,27 m²

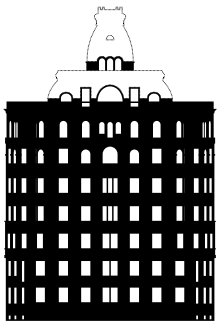


Percentage

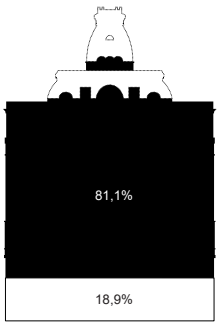
Ballatoio - West Side



Facade: 828,44 m²

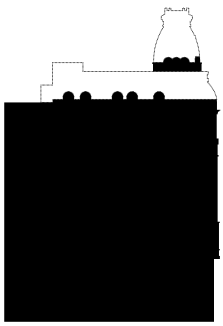


Openings: 671,88 m²
Openings: 156,56 m²

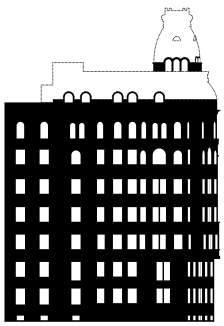


Percentage

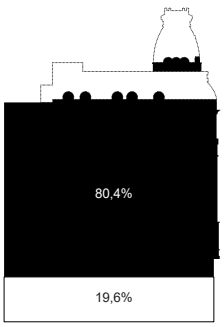
Ballatoio - West Side



Facade: 840,6 m²



Openings: 676,0 m²
Openings: 164,6 m²



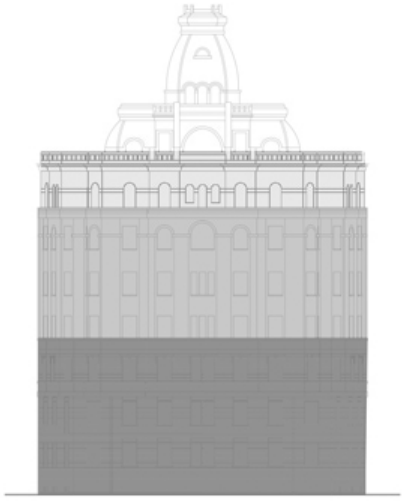
Percentage

3.5. TYPOLOGICAL COMPARISONS

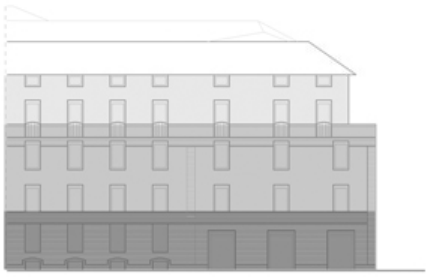
Facades - Horizontality and Verticality

Pic. 63

Tower - Out of Scale

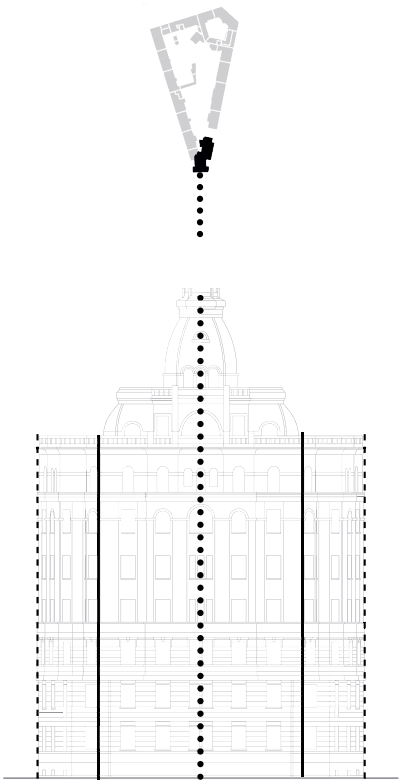


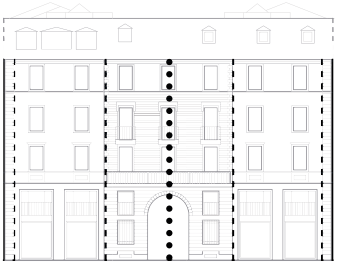
Ballatoio - Out of Scale



Courtyard - Out of Scale

Pic. 64





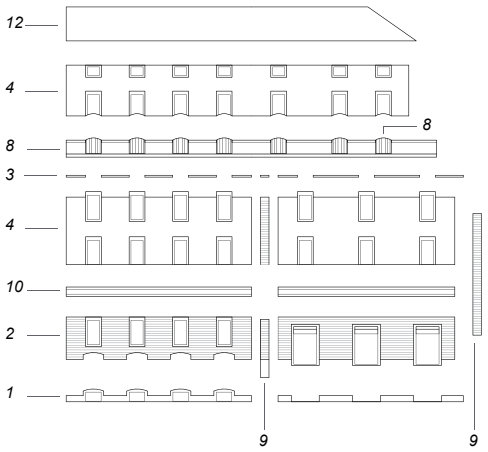
3.5. TYPOLOGICAL COMPARISONS

Facades - Compositive Elements

1 Zoccolo - Base Board
2 Basamento - Base
3 Cornice - Moulding
4 Pannelli - Spandrel
5 Balcone - Balcony
6 Portale - Portal
7 Cornicione - Pediment
8 Balaustra - Banister
9 Lesena - Buttress
10 Fascia Marcapiano - String C
11 Abbaino - Lucarne
12 Copertura - Roof
13 Lanterna - Lantern
14 Coronamento - Coping

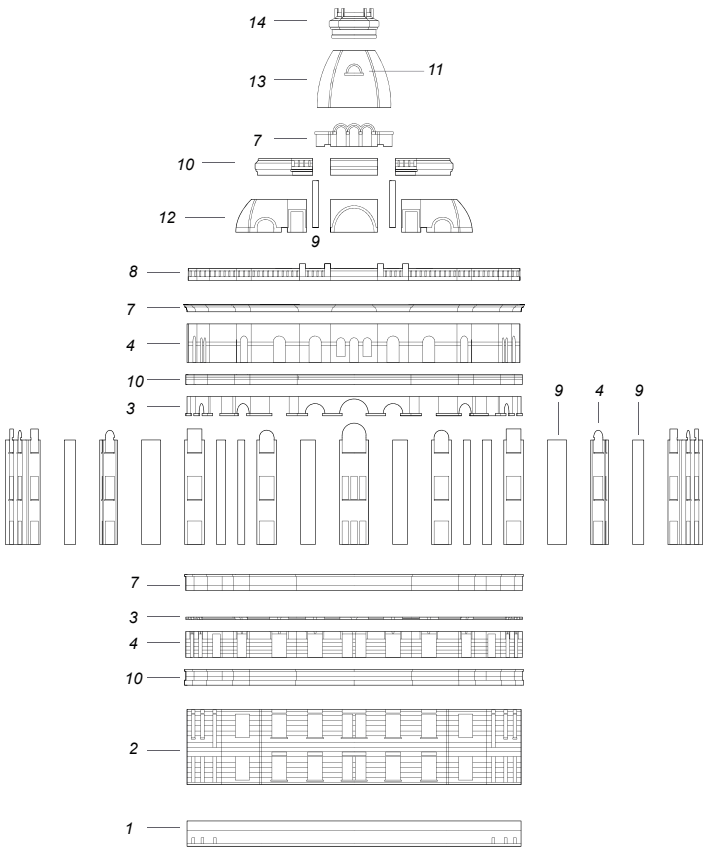
Pic.65

Courtyard - Out of Scale



Pic.66

Ballatoio - Out of Scale



Pic.67

Tower - Out of Scale

Note

1. L. Gammaitoni/P. Micale, Spazi della produzione e luoghi della socialità. Un progetto per l'area di Porto di Mare, Tesi di Laurea, (realtore I. Valente), Facoltà di Architettura Urbanistica ed ingegneria delle Costruzioni, Politecnico di Milano, Milano, 2020, p. 17

2. F. Oliva, L'urbanistica di Milano, Milano, Hoepli, 2008

3. Piano del Governo del Territorio, Documento di piano, relazione generale e norme di attuazione, Milan, 12 May 2012, p. 57-103

4. L'urbanistica di Milano, op. cit.

5. Spazi della produzione e luoghi della socialità. Un progetto per l'area di Porto di Mare, op. cit., p. 23

6. L'urbanistica di Milano, op. cit.

7. Spazi della produzione e luoghi della socialità. Un progetto per l'area di Porto di Mare, op. cit., p. 23

8. A. Boatti/A. Canevari/A. Erba/V. Oliva, Per un'altra città. Riflessioni e proposte sull'urbanistica milanese, Santarcangelo di Romagna, Maggioli, 2009

9. Spazi della produzione e luoghi della socialità. Un progetto per l'area di Porto di Mare, op. cit., p. 24

10. G. Motta, Quartiere Isola: gli isolati e il piano, p. 71
English translation by the authoress:
"Unlike the district around Porta Garibaldi which arose on initiatives and subdivision plans promoted by private individuals, the island developed in more evident ways referring to the indications of the expansion plan drawn up by engineer Beruto and definitively approved in 1989. This entailed a little more clarity in the design of the urban layout, especially in the formation of the two groups of blocks distributed around piazzale Archinto and via Volturno and a greater constancy in shapes and dimensions, more evident in the blocks around piazzale Archinto, but in essence, he also allowed the nine parts to be formed more following the randomness or the occasions or the pre-existing elements than the clarity and directives of a design."

11. ibidem., p. 73-74

12. Biraghi, Storia dell'architettura dell'Isola (1900 - 2011), in Fight-specific Isola, Milan, Isola Art Center, 2013, p. 314

13. D. Vitale, Quartiere Isola: le tipologie e la forma urbana, p. 87
English translation by the authoress:
"The courtyard typology comes from a way of occupying the ground, it is nothing more than a way of arranging the buildings around a central free space. However, it is important to distinguish the cases in which the courtyard is only a connecting space between different buildings, without a complete form, and the cases in which it becomes a case of autonomous architecture. I first described a type so widespread that it has become one of the constructive realities of the historic Milanese suburbs."

14. ibidem., p. 83-92

15. Storia dell'architettura dell'Isola (1900 - 2011), op. cit., p. 314

16. Grattacieli gemelli, in A. Coppa/L. Tenconi (a cura di), Grattanuvole : un secolo di grattacieli a Milano, Santarcangelo di Romagna, Maggioli, 2015
English translation by the authoress:
"the project, presented first by Mario Borgato with Guido Sermini (via Washington 2), and subsequently by Gerardo Macchi and Giuseppe Rusconi Clerici (via Washington 1), proposes the overcoming of 40 m in height, helping to fuel the already heated debate on the question of the limit imposed by building regulations and on the possibility of obtaining, through tall buildings, better housing conditions and a real decongestion of the urban fabric."

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P. Eisenman, Ten Canonical Buildings 1950-2000, New York, Rizzoli USA, 2008

Casabella, n° 451-452, 1979

M. A. Crippa, Milano si alza : torri, campanili e grattacieli in città, Maria Antonietta, Milano, 2004

A. Loos, Ornament und Verbrechen, Wien, Metroverlag, 1913

R. Moneo, On Typology, in Oppositions, n° 13, 1978

G. Semper, The Four Elements of Architecture and Other

Writings, Cambridge, 1989

Sitography

A. Caruso, Archive
Stable URL: https://caruso.arch.ethz.ch/archive

4. SECOND STEP

Adaptation

At the second step of the design process, in addition to urban development on the scale of the block, based on my chosen context, the focus was dealing with the building itself, its elements and their distribution and interactions with potential uses, open to interpretation. I had to reflect on the creative and atmospheric potentials arise from my projects and the possible interactions between structure, durability, material and detail.

Designing an open-plan urban house (working on the urban and spatial structure, the floor plan, the section and the facade at the same time), I had to make a difference between structure (support) and infill. **Base Buildings** are robust and changeable, their residential potential does not unfold in relation to short-term functional services, but steadily and over a long period of time. The challenge was then how to adapt my project to the context keeping the open design. I had to answer to practical questions dictated by bringing a utopian object to a realistic level.

How is my project constructed, how are its parts joined, where is this particularly visible? What are the interactions between structure, durability, material and detail? How does my project fit into the material context of the cities of Milan? How does my building age, can it be easily dismantled and recycled?

> *"Denn das ist das Erstaunliche, daß die große Stadt trotz aller häßlichen Gebäude, trotz des Lärmes, trotz allem, was man an ihr tadeln kann, dem, der sehen will, ein Wunder ist an Schönheit und Poesie, ein Märchen, bunter, farbiger, vielgestaltiger als irgendeines, das je ein Dichter erzählte, eine Heimat, eine Mutter, die täglich überreich ver- schwenderisch ihre Kinder mit immer neuem Glück überschüttet."* [1]

For the grafting area of my building I chose the previous analysed Ballatoio block.

As already stated, the block foundation was about the beginning of the XIX century, a typical development for the new working class moved from the countryside to the productive city area.

The block is particularly dense (following the urban rules of the period), and it presents a mixed and heterogeneous typological situation. This incongruity effect the block overall elevations with different buildings heights, colours and textures, but we can see the same facades width because no unitary planning was applied, but the plots were sold with the same planimetric dimensions.

4. SECOND STEP

Masterplan

Pic. 68

The chosen block is inserted in-between the conjunction of an orthogonal grid, the railway and the productive urban pattern. The North - East corner of the block faces Piazzale Archinto, which the perimeter is drew by other residential tall buildings. I Adapted my project to a smaller scale, changing the gigantic skyscraper I imagined at the beginning, in a smaller tower that could dialogue with the preexistences of Isola district. The East side of the block connects the neighbourhood with Garibaldi Station, one of the main Milanese links. It was my intention to focus on the square, rather than the axiality of the street. I kept the concept of an addition of **volumes of different heights**, that I placed avoiding the tall corner building type. I did not want to emphasise the urban enclosure and the impermeable perimeter of the block, I wanted to underline the square with graduality instead. For a better integration with the context, and a breaking of the massing too, I kept the **45 degrees chamfered corner**, which at the ground level indicate the entrances to the building, and at the taller ones the connections of the different volumes.

The building is articulated in five bodies placed in a L shape, this composition permits the creation of an open and public courtyard, and regenerates the super-dense block with some emptiness. The courtyard could be directly connected with the square passing through the building, or accessible from Via Carmagnola, from a gap I realised between my project and the side building.

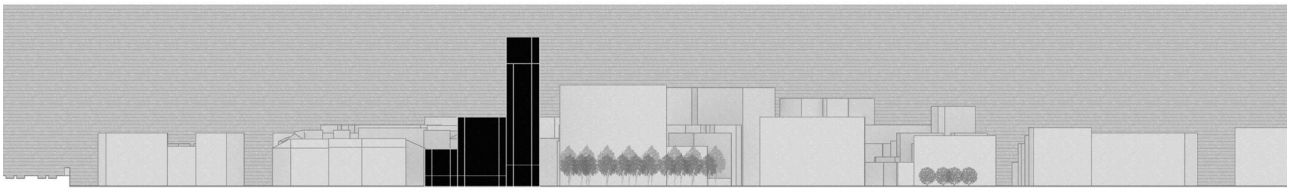
The volumes are fragmented, drawing a step facade, that gradually grows in height.

4. SECOND STEP

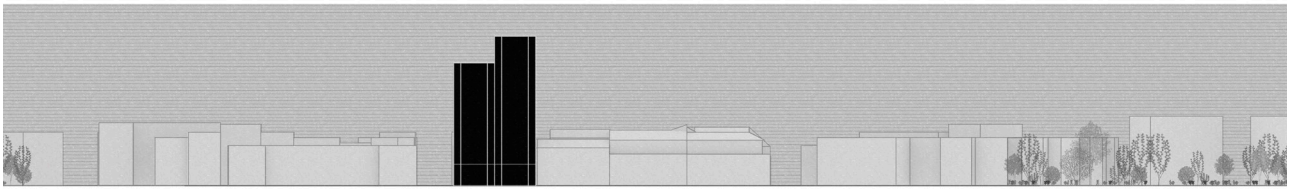
Masterplan

Pic. 69

Oblique Urban Section - Piazzale Archinto - Out of Scale

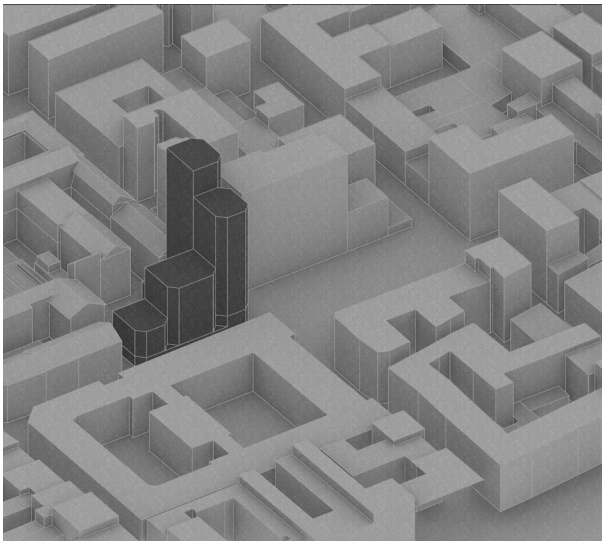


Urban Section - Via Carmagnola - Out of Scale



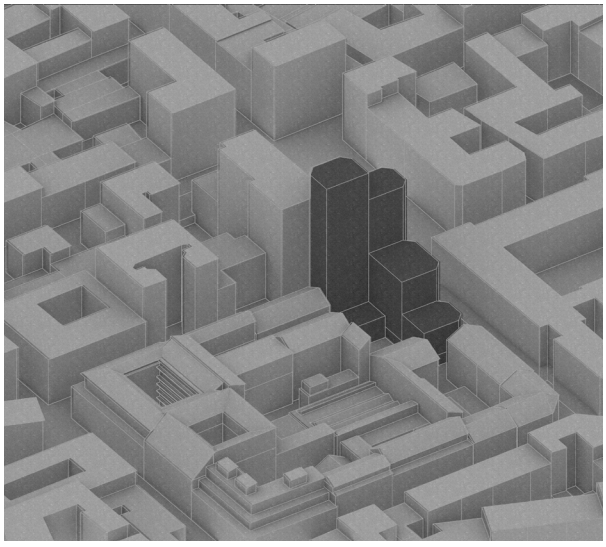
Urban Section - Via Del Verme - Out of Scale

Pic. 70



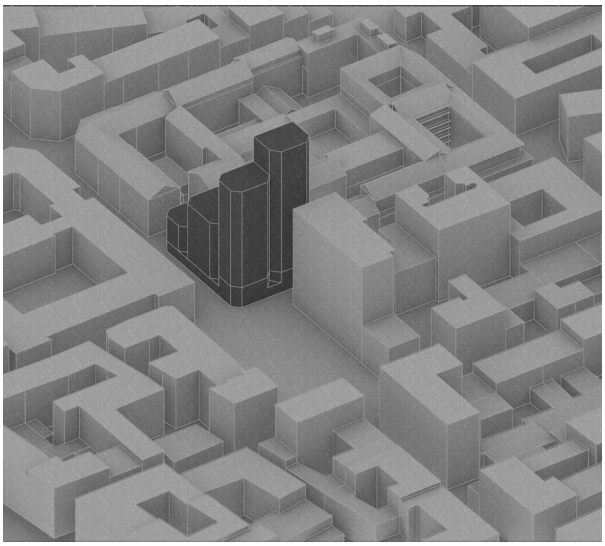
South East Axo - Out of Scale

Pic. 71



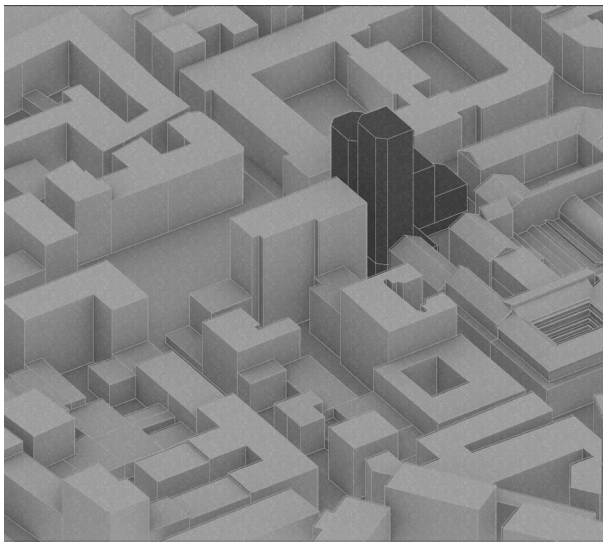
South West Axo - Out of Scale

Pic. 72



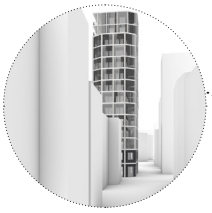
North East Axo - Out of Scale

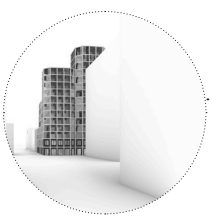
Pic. 73



North West Axo - Out of Scale

Block Ground Floors - North East Urban Axo - Urban Views
Out of Scale

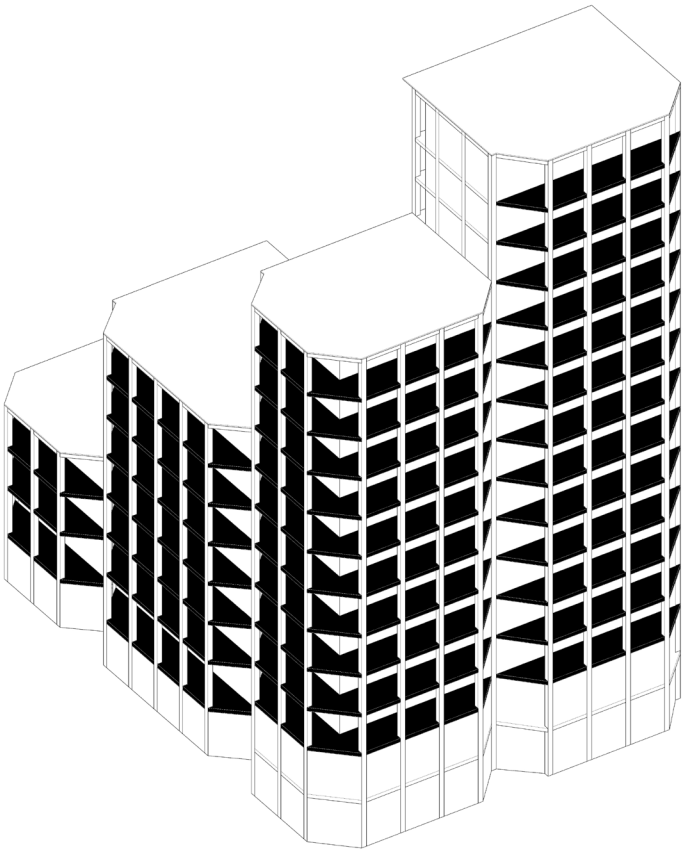




4. SECOND STEP

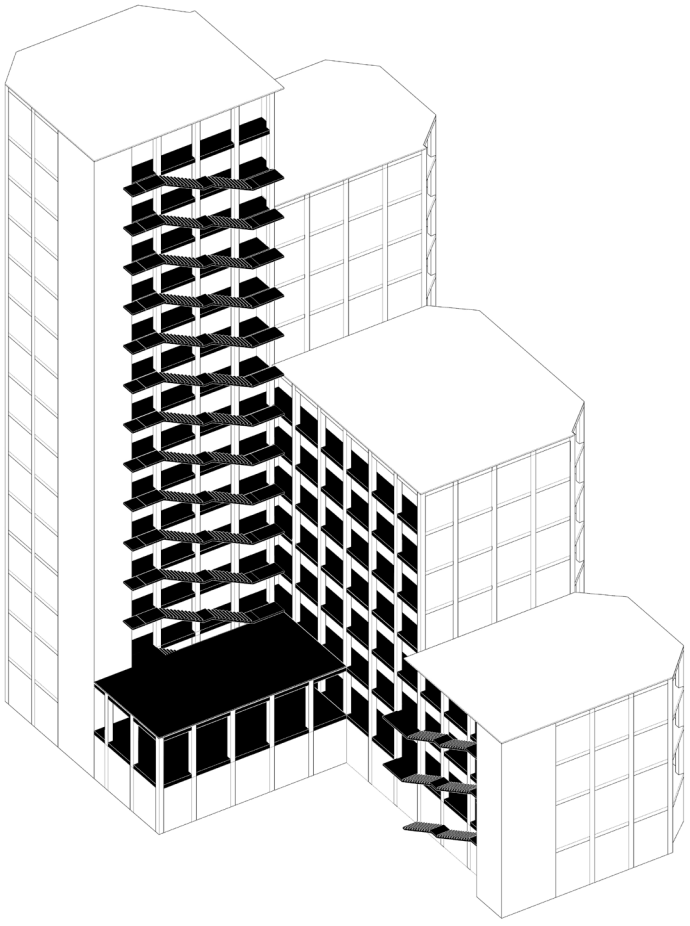
Concept

Pic. 75



Private Balconies
Building Axo - North East
Out of Scale

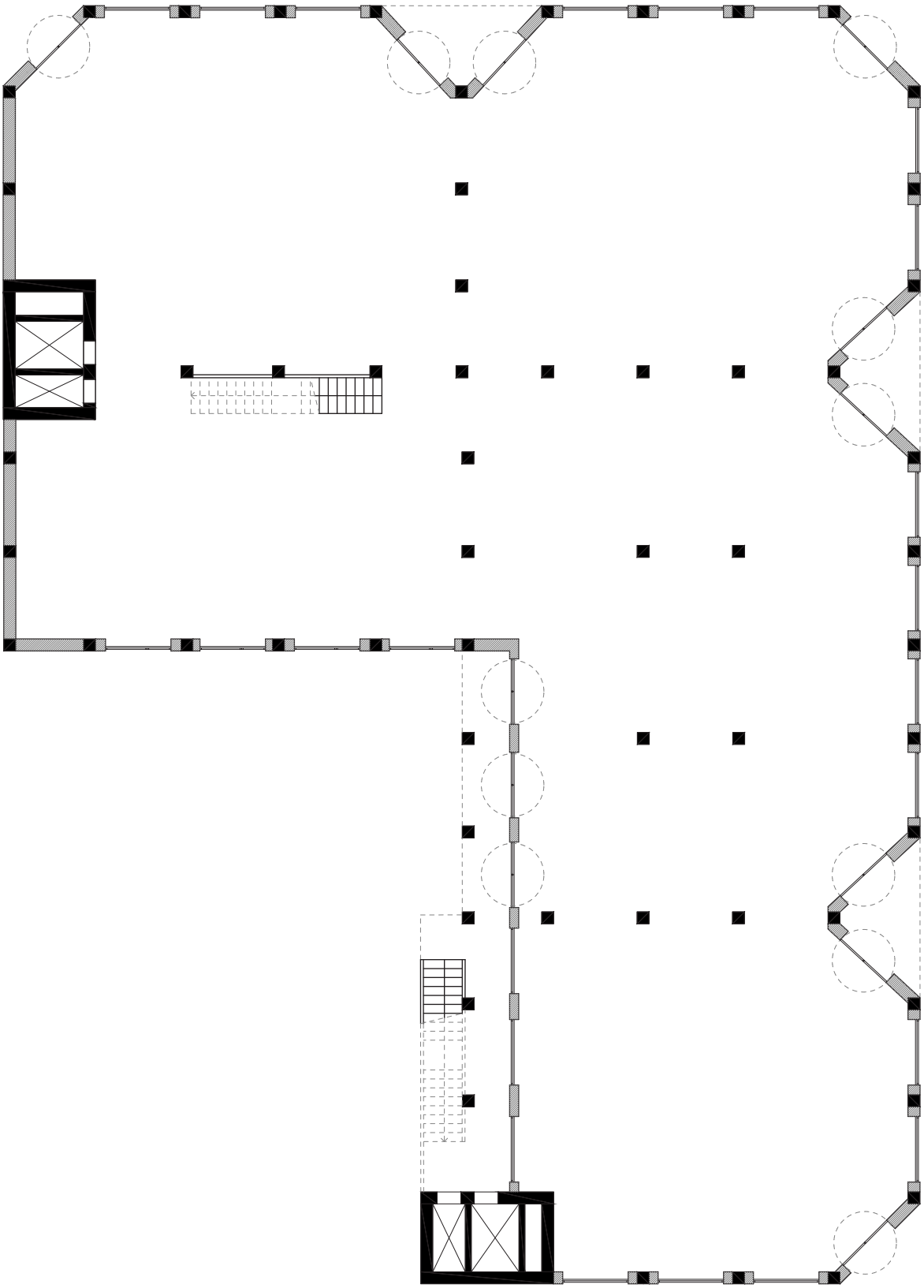
Pic. 76



Distributional Galleries "Ballatoi"
Building Axo - South West
Out of Scale

4. SECOND STEP

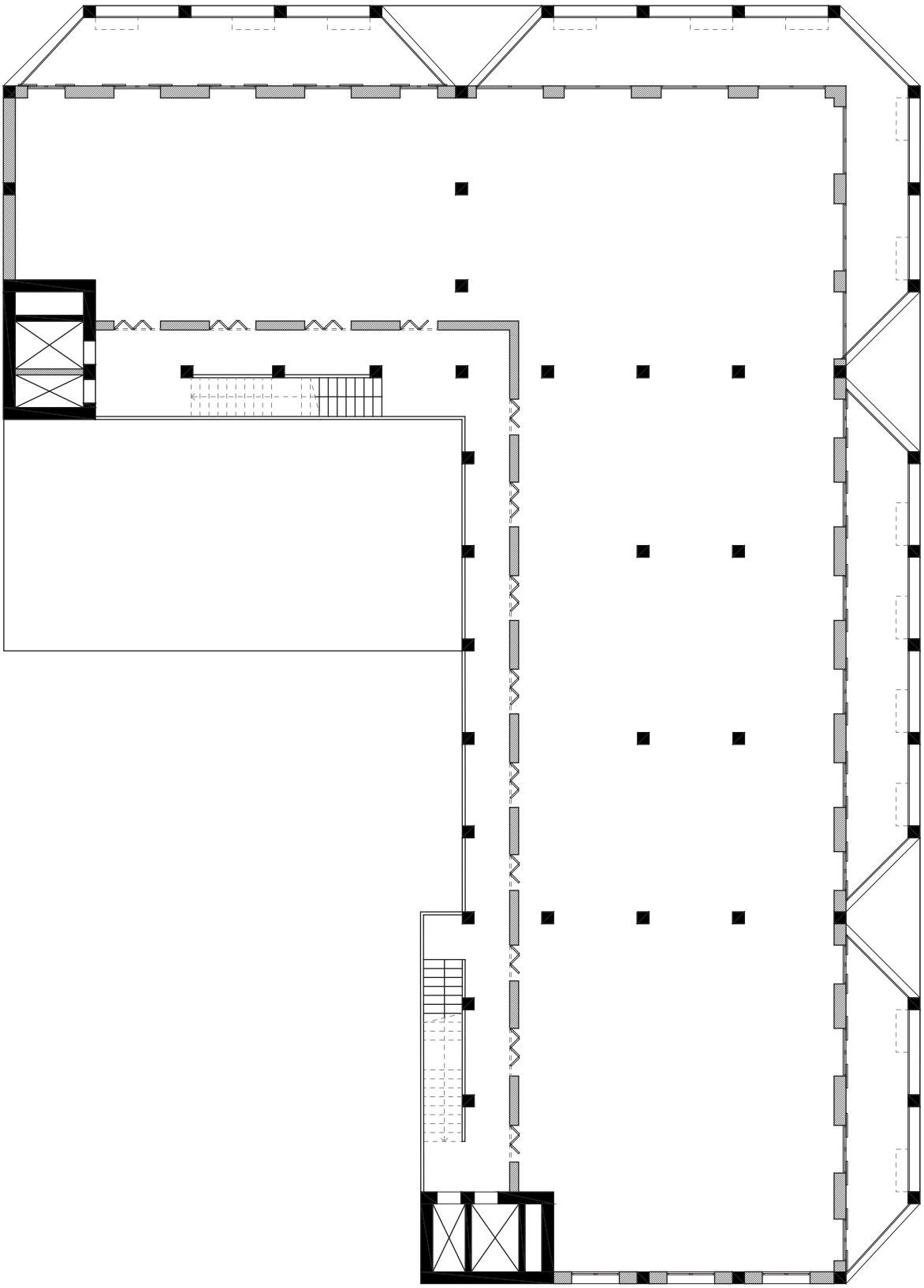
Base Plan vs Infill Plans



Ground Floor Base Plan
Out of Scale

4. SECOND STEP

Base Plan vs Infill Plans



Typical Floor Base Plan
Out of Scale

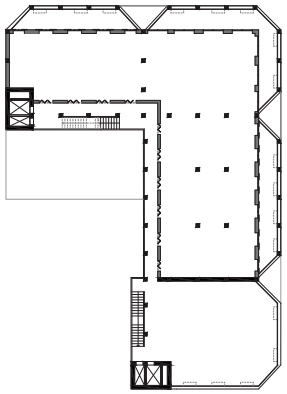
4. SECOND STEP

Base Plan vs Infill Plans

"The Ambition of Typical Plan is to create new territories for the smooth unfolding of new processes.
Typical Plan is neutral, not anonymous. It is a place of worship. More austere than a Cisterci- an monastery.
Its neutrality records performance, event, flow, change, accumulation, deduction, disappea- rance, mutation, fluctuation, failure, oscillation, deformation.
Typical Plan is relentlessly enabling, ennobling background.
Typical Plan is as empty as possible: a floor, a core, a perimeter, and a minimum of columns." [2]

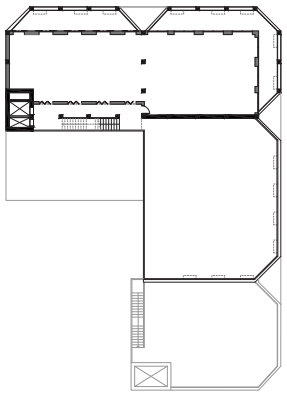
There are two vertical connections at the extreme opposite of the building, accessible from the distributional galleries, in this way the centre is free from cores, and the plan benefits of internal flexibility. The ground floor footprint follows the external line of the pillars, that are mainly perimetrical. The first outside layer is given by the structure, the second backward, made with walls, is not structural, allowing a potential adaptability of opening and closing.
About the infill, the plan is adaptable to a **coexistence of uses**, I drew some options of tenancy and some examples of use, shops are meant to be on the base level, as well as cinema, entrances, restaurant and supermarket. There are two access to the upper levels, one passing through the building, the other from the courtyard. The typical floor could host a ballet school, co-working spaces, offices, atelier and dwellings with flats of different sizes.

Pic. 79



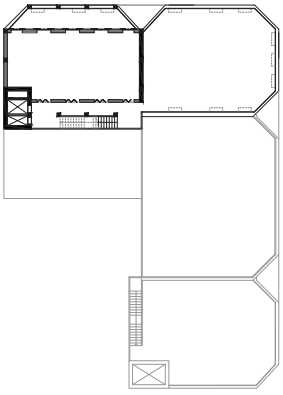
Three Volumes Floor
Base Plan
Out of Scale

Pic. 80



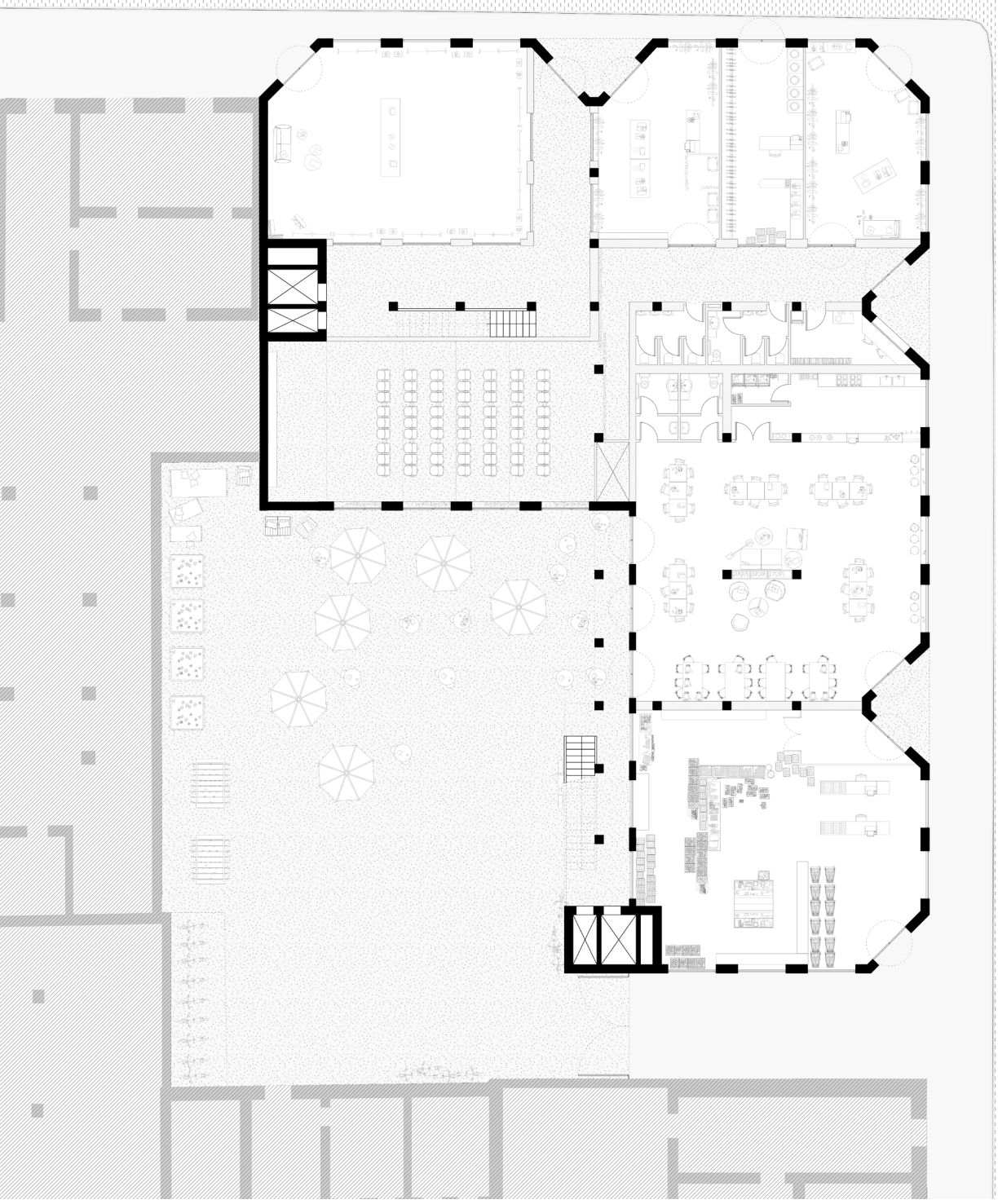
Two Volumes Floor
Base Plan
Out of Scale

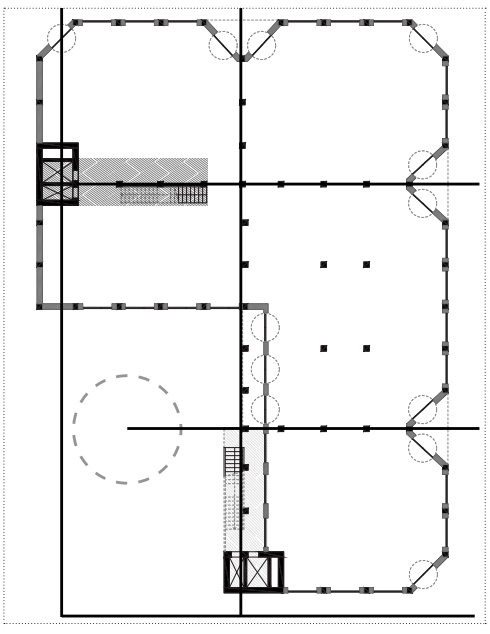
Pic. 81

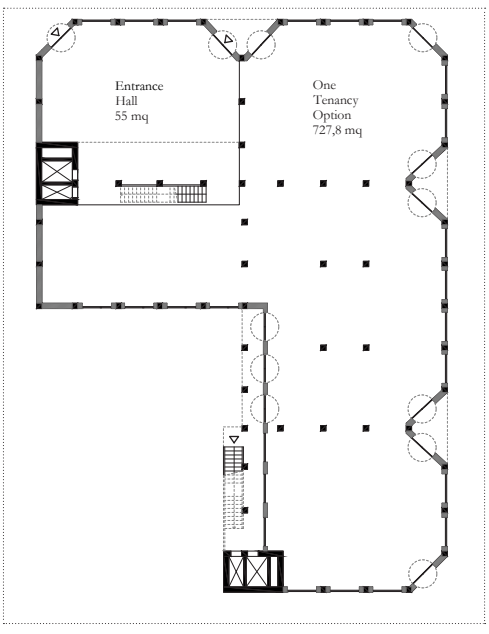


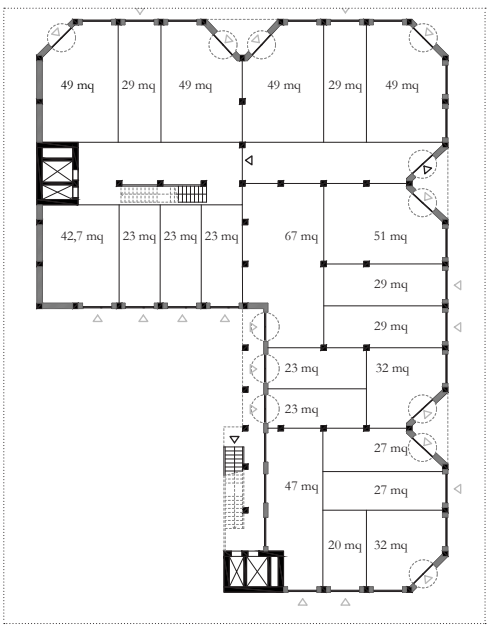
One Volume Floor
Base Plan
Out of Scale

Ground Floor Infill Plan - Out of Scale

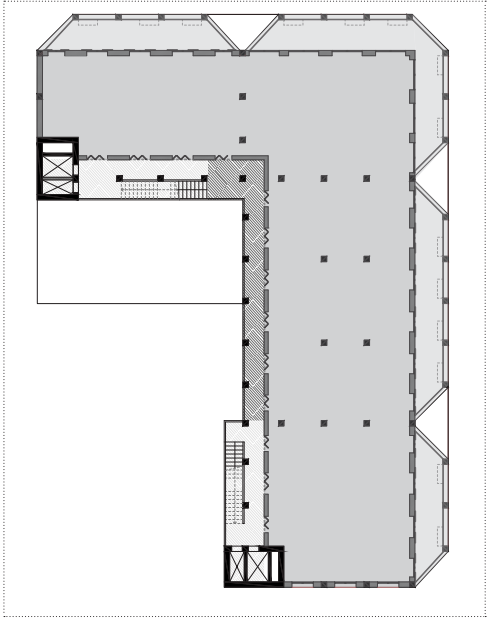


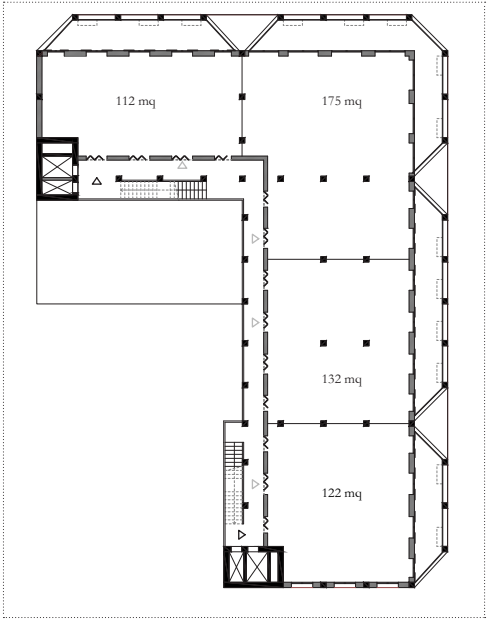


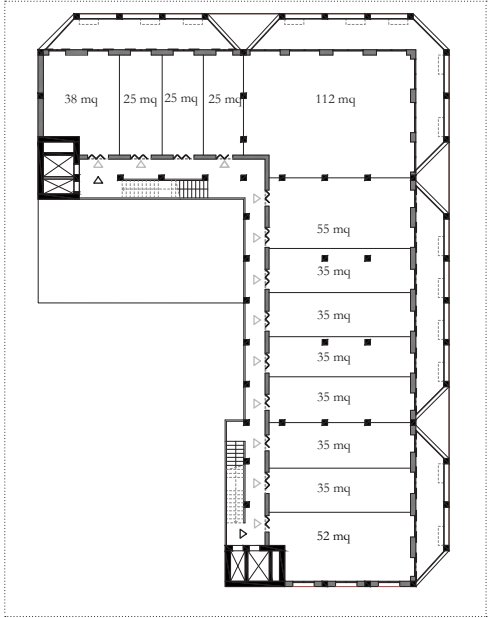




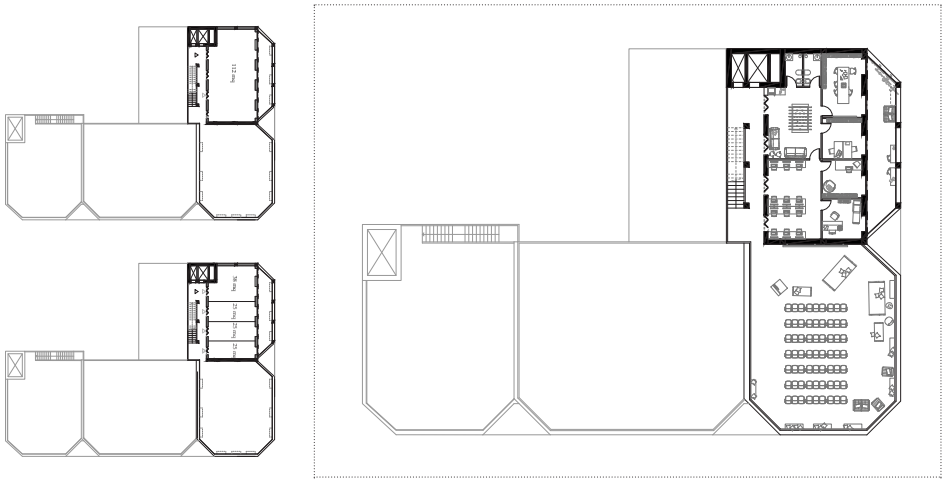
Typical Floor Infill Plan - Out of Scale



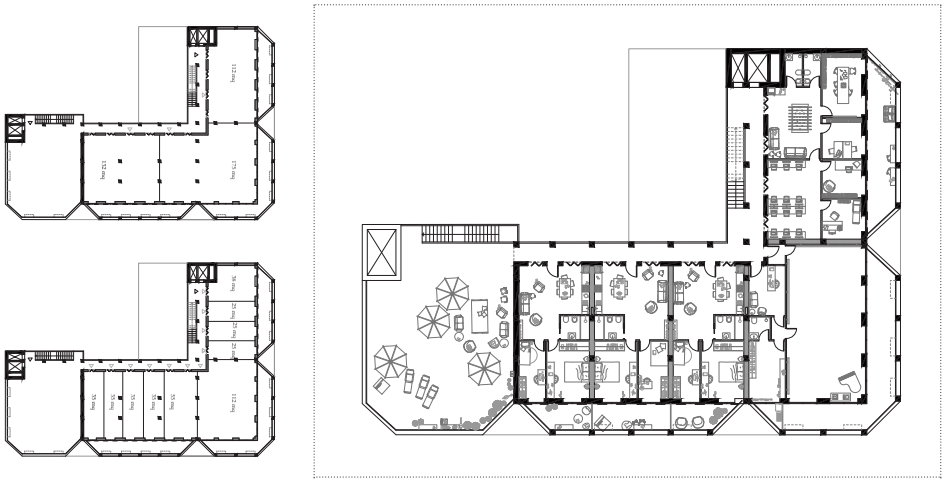




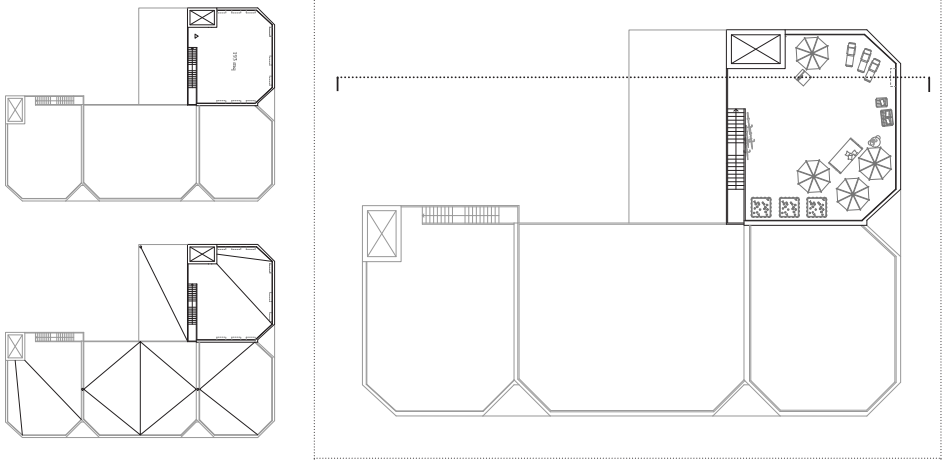
One Volume Floor
Max. and Min. Tenancies Option -
Infill Plan
Out of Scale



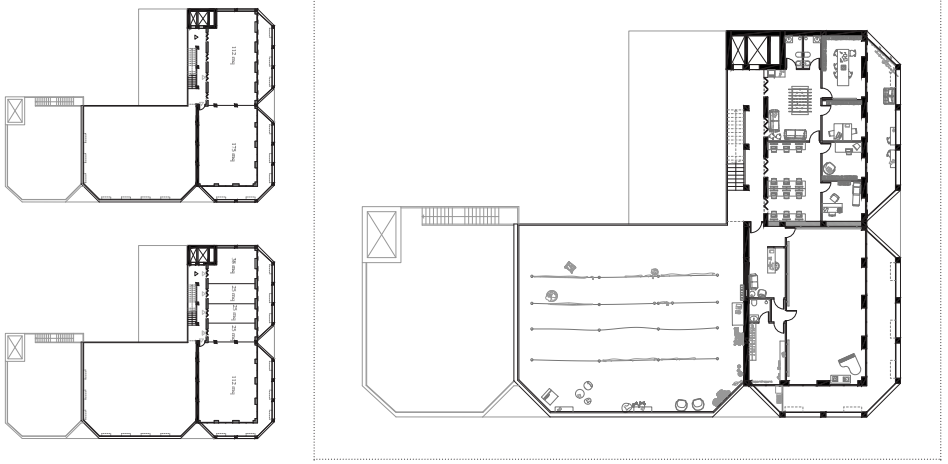
Three Volumes Floor
Max. and Min. Tenancies Option -
Infill Plan
Out of Scale



Roof
Max. and Min. Tenancies Option -
Infill Plan
Out of Scale



Two Volumes Floor
Max. and Min. Tenancies Option -
Infill Plan
Out of Scale



Pic. 84

4. SECOND STEP
The Facade

Pic. 85

The Straight Facade

The 45 degrees Breaking

Three Units Balcony

One Unit Balcony

During the design studio process I understands the facade as a three-dimensional scenic, technical and material space that negotiates between inside and outside, city and individual. As the face of a building, the main task of the facade was traditionally the representation. But what does the front represent? What is it preparing the stage for? Technological advances increased their complexity dramatically. Today, climate change is putting the facade under increasing pressure. With a lifespan of only 40-50 years, many contemporary facade types are no longer sustainable. The compatibility and adaptation of the facade in the context of its extended service life and sustainability, is then fundamental for a Base Building.

"In their contradiction, these elements are an integral part of urban architecture
as the constant stage of human life on which public events and private tragedies take place and which is saturated with the emotions of entire generations. Individual and community meet and interpenetrate in the city. It consists of countless individual beings who want to create their own little world in order to meet their own wishes and at the same time to adapt to the general environment." [3]

I meant the facade as a spatial element, technical hub and inhabited space, its two-dimensional and three-dimensional effect on urban space and users, as an expression of the private and public and atmospherically and culturally charged space. I explored topics such as proportion, structure and assembly looking for a facade everyday staging by the user.

The wide balconies of the street facades are private, for a use subordinate to the interiors. I designed them thinking about the necessity of an additional living space, a filter element between the urban and the domestic. The will of **living the facade.** The galleries of the internal facades are distributional balconies, way narrower than the others, to the passing by necessity only, and lastly, the roofs of each volume become public terraces at their last floor.

I chose the "ballatoio" distributional system thinking about the "casa a ringhiera" typic of Milan. While my intervention is an adaptation of an "a priori" project, I integrated the tower typology, with high rise volumes and central cores, with the ballatoio typology, with distributional galleries and a lower height.

I found in the distributional galleries of Milan and in the Smithsonian shelf-facade, an important similarity in the use of the elevation, as an **active perimeter.**

The chamfered corners characterises the streets facades, meanwhile I chose a different treatment for the internal facades, that are perpendicular.

The **structural grid draws the facade composition,** and gives the unit for the internal scale. For this reason the span between pillars is modest, to guarantee intimate and human spaces.

For the best integration with the context, I stopped the base in line with the adjoining buildings, adding a level for the base of the other volumes, mainly for proportional reasons.

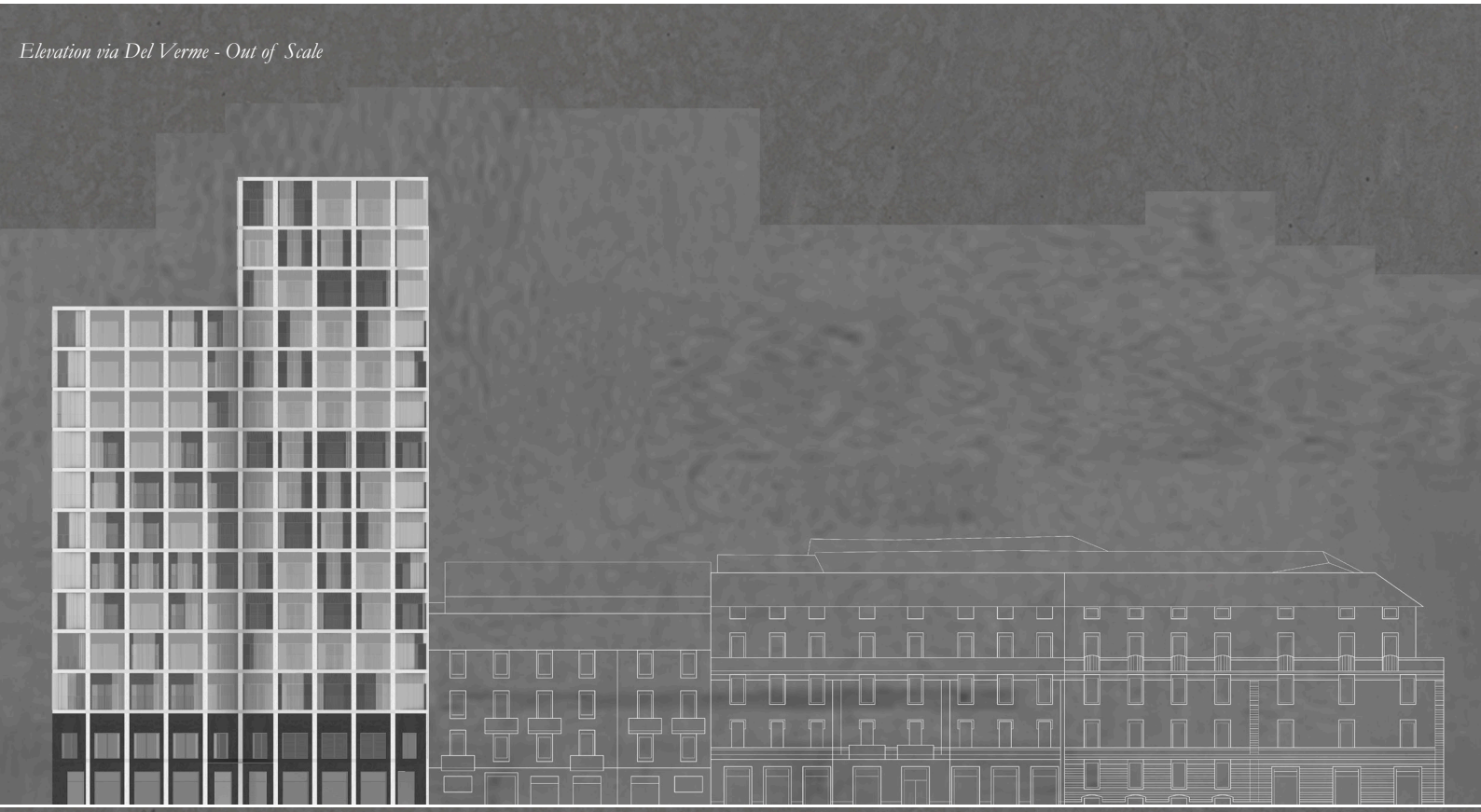
In the section looking into the courtyard is visible the dimensional difference between private balconies and distributional ones. The first two floors, the base, are 4

4. SECOND STEP

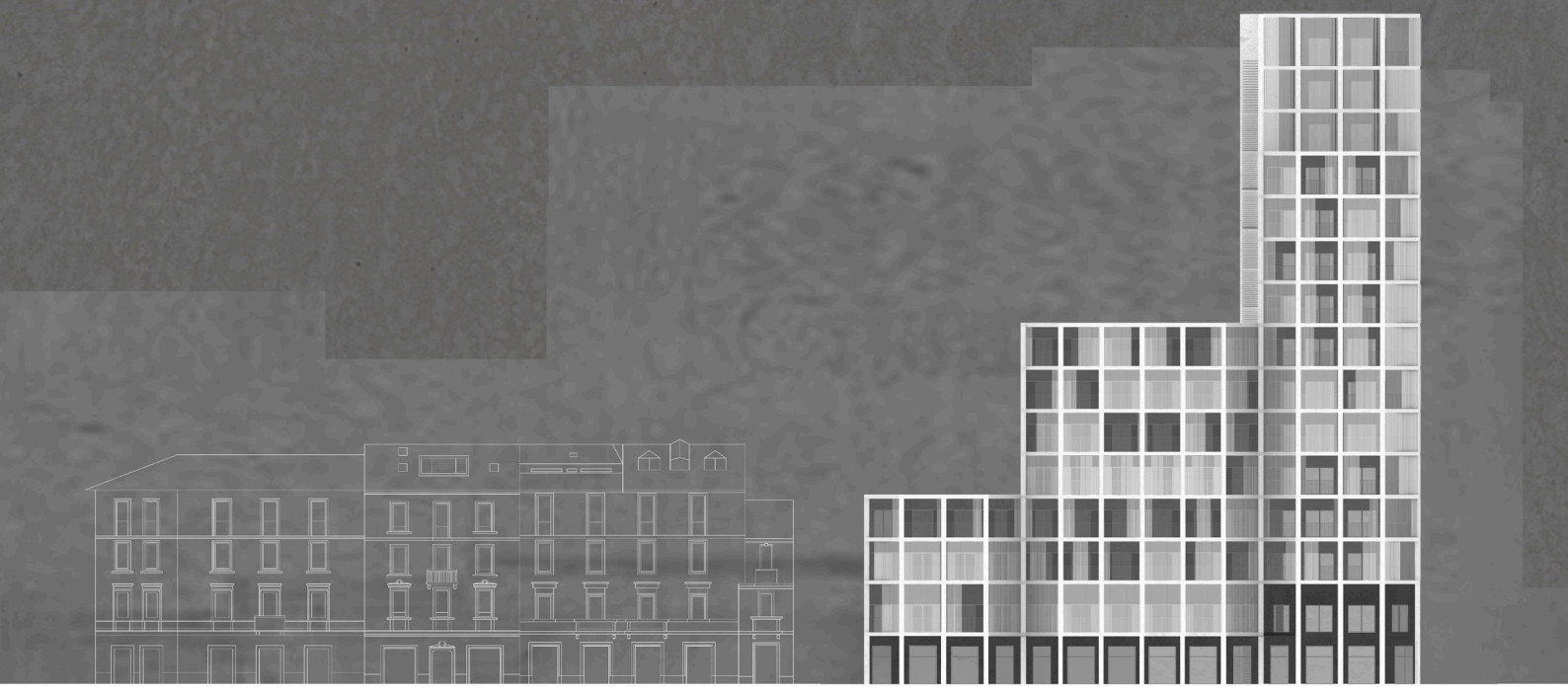
The Facade

Pic. 86

Elevation via Del Verme - Out of Scale



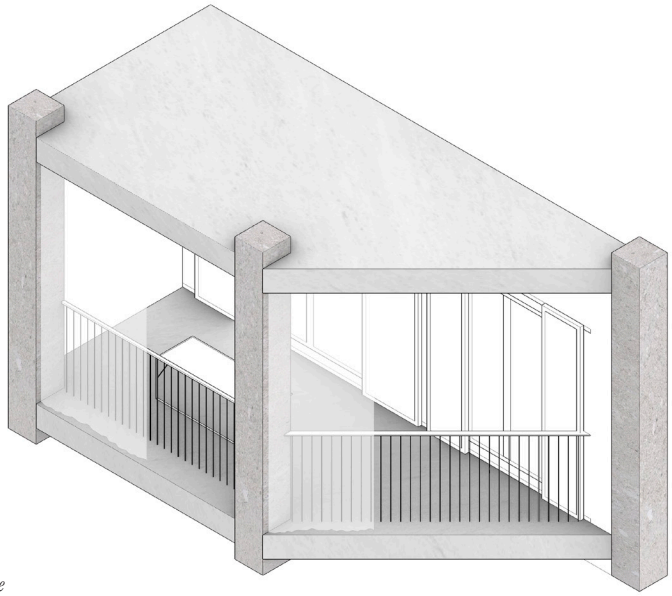
Elevation via Carmagnola - Out of Scale



Section - Out of Scale

4. SECOND STEP

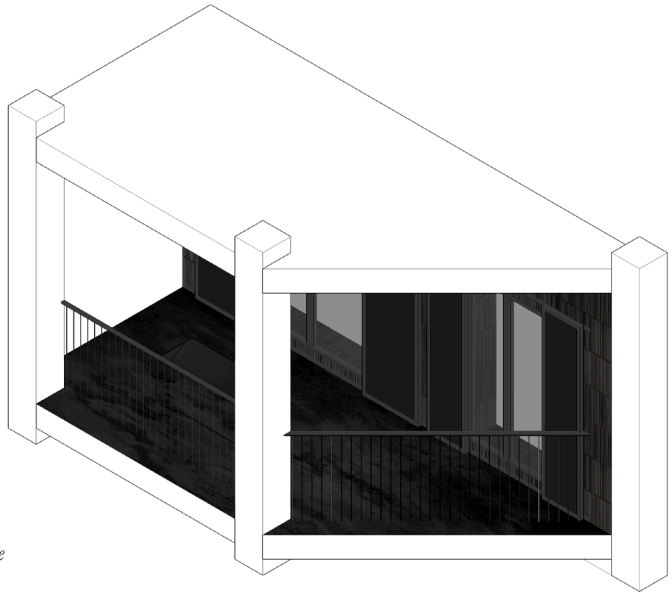
The Facade



First Layer
Light Tones
Axo - Out of Scale

Pic. 88

Pic. 89



Second Layer
Dark Tones
Axo - Out of Scale

Pic. 90

Combination
Axo - Out of Scale

4. SECOND STEP

The Facade

Pic. 90

Paper, Plastic, Wood and Textile Model

meters tall, the other 3,10 meters, until the coping one that is again 4 meters height.

For underlining the grid composition the concrete structure is in a light and opaque tone of grey, polished concrete for the slabs and gravel concrete for the columns. In addition to the structure, that was particularly brutal, I designed a veil of curtains applied to every balcony. It gives a poetic and fluctuating aesthetic to the facade, and guarantees a shielding for the privacy and the strong sunlight.

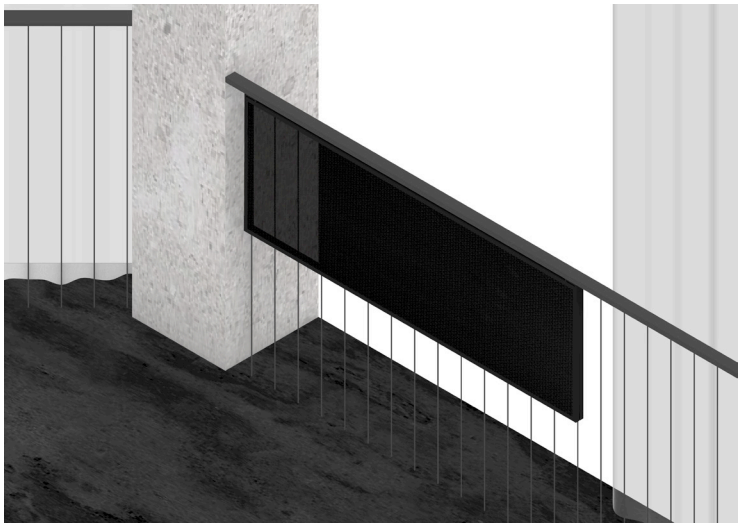
The second layer, of the facade is given by the pavement and ceiling of the balconies, and from the walls. It is dark and glossy by contrast. The horizontal elements are finished with black cement resin, while the walls and window sliding shutters are covered with black glazed tiles, in a thin lines pattern, similar to the famous ones of Caccia Dominioni.

The glossy layer is meant to react to the sun, while the opaque one (the curtains), is meant to react to the wind.

The structure is made with bidirectional concrete slabs, hanged to perimetrical concrete columns. The isolation is internal and all the systems are integrated in the floor. About the balcony the curtains are moving through a built-in slab rail. The curtains are working as privacy, sunlight and sound protection. The banister is painted steel. I designed the detail of the openable table hanged to the balcony handrail. It is meant to encourage different uses of the balcony.

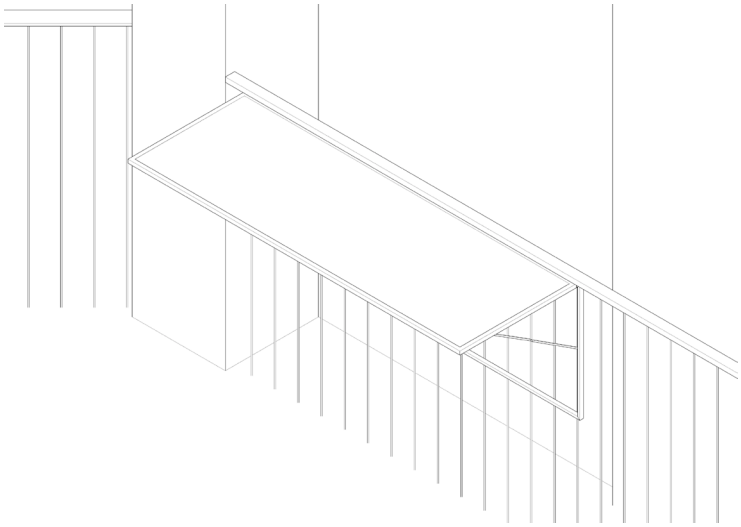
Balustrade Openable Table - Render - Out of Scale

Pic.91



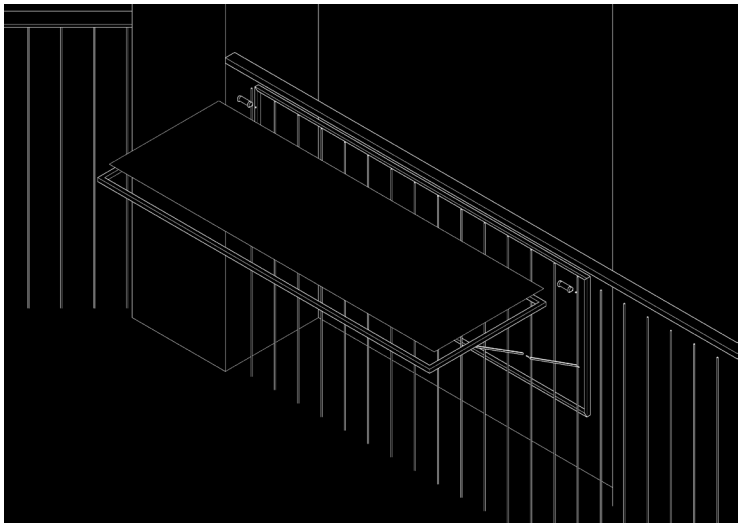
Balustrade Openable Table - Axo - Out of Scale

Pic. 92



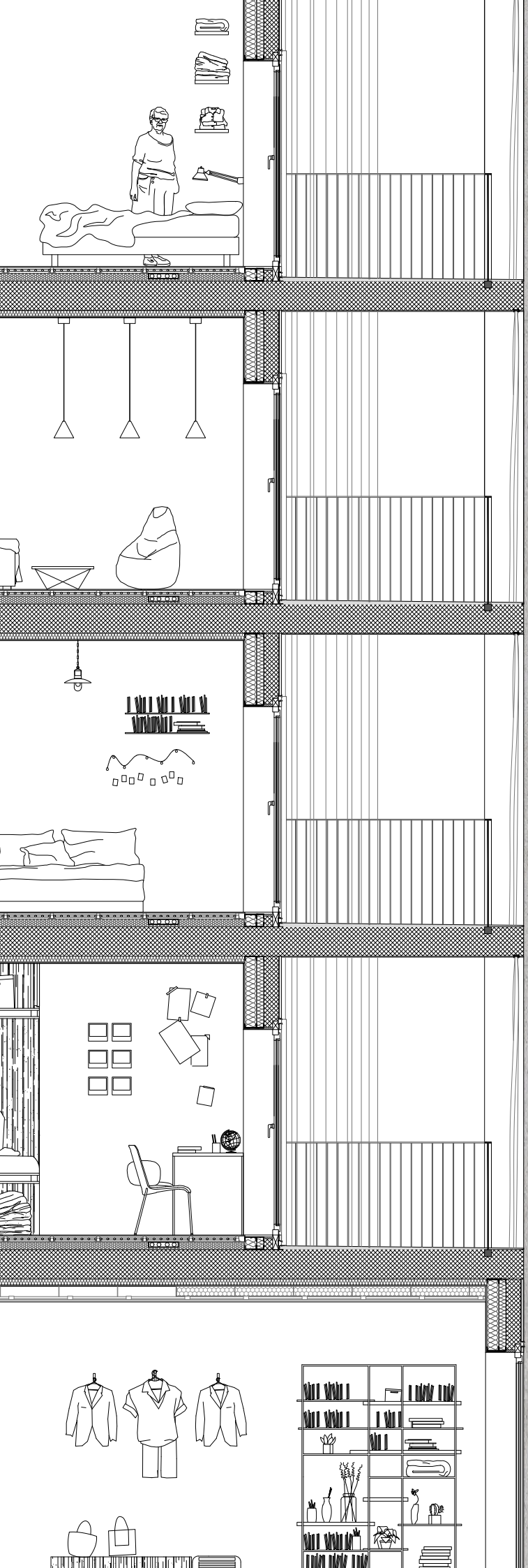
Balustrade Openable Table - Exploded Axo - Out of Scale

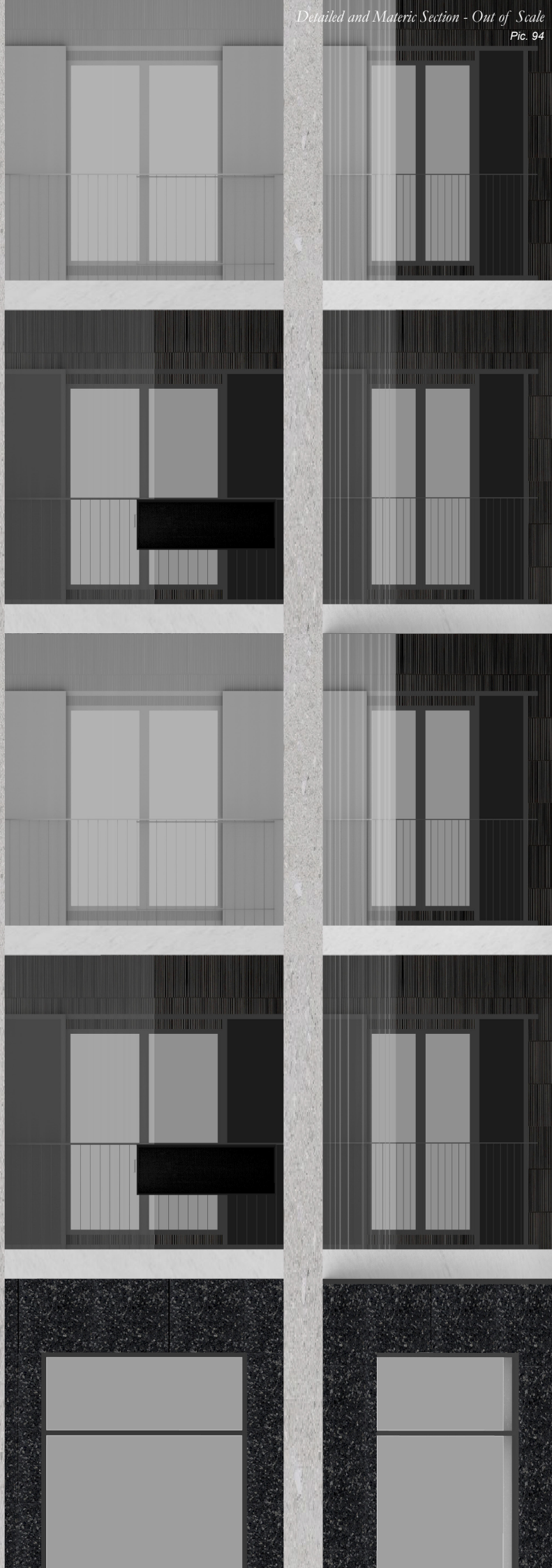
Pic.93



Detailed and Materic Section - Out of Scale

Pic. 94





Note

1. A. Endell, Die Schönheit der großen Stadt, Keesinger's legacy reprints, Whitefish, 1908
   English translation by the authoress:
   Because that is the amazing thing that the big city, despite all ugly buildings, despite the noise, despite everything that can be criticized about it, is a wonder of beauty and poetry, a fairy tale, more colorful, more colorful, to those who want to see more diverse than any that a poet has ever told, a home, a mother who every day lavishly showered her children with ever new happiness.

2. R. Koolhaas/B. Mau, S,M,L,XL, New York, Monacelli Press, 1995

3. A. Rossi, L'architettura della città, Milano, Edizione Città Studi, 1966

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T. Herzog/R. Krippner, Werner Lang: Fassadenatlas, Basel, Birkhäuser, 2004

R. Koolhass, Elements of Architecture, Verlag, Taschen, 2014

Sitography

Open Building Manifesto
Stable URL:
https://barendkoolhaas.com/Open-Building

Windowscape, Atelier Bow Wow
Stable URL:
https://tsukalabweb.wixsite.com/home/ws

5. VERIFICATION

Four Milanese Examples

Once I came back to Italy, with the project finished, as the conclusion of my design experience, I chose to compare my work with existing Milanese examples. This further analysis aims to verify the validity of my proposal, as well as its weaknesses. Thus, the methodology is verified too as a consequence.

The project was born from the transplant of an imaginary building generated with the Economist Building base elements. The adaptation to the Milanese contest was then, in a certain way, a match between e redesigned Smithsonian building and the Italian Modernism. I will explain better: the deep immersion in the study of the Economist Building and the adoption of some of the architects' statements made me develop a construction that explicitly refers to English Modernism. However, its insertion, and the operation of redesigning (for the second time), that I made on it, thinking about the Italian *genius loci,*[1] have turned the project into a hybrid, a similar Anglo-Italian modernist building. I did not expect this result at the beginning of the project, but I am conscious of the historically circumscribed but flourishing debate that my project building can arouse.

With theme as the Economist and the Italian (or better Milanese) towers, it was consequently automatic thinking about the bitter row provoked mainly by the Smithson against Ernesto Nathan Rogers at the CIAM of Otterlo in 1959. So intense that the CIAM never meet again.[2] The Velasca tower (that was the source of disagreement) had a long design gestation, and the construction finished when the Economist project started.

"The maligned Tower Velasca, though not itself cited as a source, had shown the possibilities for an alternative model of skyscraper design that was to emerge in succeeding decades. (…) work where reinforced concrete denoted Europeanness is the Economist Building in London, designed by Alison & Peter Sithson, and completed in 1964. The Smithson were appointed as the architects of the scheme in 1959 and, no doubt mindful of the excoriation of the BBPR that they had witnessed at the Otterlo meeting of CIAM in the same year, were at pains to avoid anything as openly confrontational as the Torre Velasca. The Economist is a more subtle hybrid of American and European construction techniques, in which neither tradition dominates." [3]

Both of these modern towers are explicitly European, against the American skyscraper myth; both of them were innovative in their design proposals, and in a certain way, the Velasca had certainly influenced the Smithsons, contrary to what they would boast.

My question then is: how much of Velasca is in the Economist? And: how much of the Economist is still in my building, that now is a "Milanese" tower?

Following these argumentations, but aware of my incapacity to detach from the Modern language of the Economist, I identified the parameters for my selection.

Firstly, the research and the comparison for making sense had to analyze buildings contemporary to the Economist Building.

Secondly, they had to be towers because my project, even if just 52 meters in height, is clearly a tall building in the proportion of its fronts.

In the list of Milanese towers of the 50ies and 60ies, I avoided curtain walls, and I detached the cases with purely residential use, or purely office use. It was fundamental to analyze references with the structural grid exposed in the facade, and in an optic of Base Buildings research, only mixed use buildings.

Deleting cases with irrelevant (for my thesis) thematic repetitions, I selected four Milanese examples that could bring food for thought to the final comparisons. For each of them, there is a short project description, a focus on the facade theme (one of the principals theme of my project), a selection of critics and discussions about, and finally a section dedicated to the analogies between the Thesis project and the verification case studies.

I have chosen, analyzed in chronological order the next pages, Torre Breda, by Luigi Mattioni, Ermenegildo, and Eugenio Soncini, Torre Tirrena, a Soncinian masterpiece too, Torre Velasca, made by the BBPR studio, and lastly Torre Turati of Giovanni and Lorenzo Muzio.

I selected Torre Breda for its inner urbanity and high-density block. Moreover, like my project, it is placed on a straight street axis, but it is facing a rectangular square. The manipulation of base and trunk volumes, and the treatment of the grid facade are other decisive feature for my argumentation.

5. VERIFICATION

Four Milanese Examples

Torre Tirrena was chosen for the two different facade treatments according to the side of the buildings. The representative facade is harmonious, glossy, and translucent, the lateral facades are opaque and massive. The hierarchization of the fronts is a theme for my project too, and Torre Tirrena shows a good example of it. Moreover, the chamfered corners and the modest height of the tower are deals with the context I can relate to. The grid facade and the flexibility on the plan are other important addition.

Torre Velasca is rightfully inserted in the analysis primarily for the relations between Smithson and Rogers. The principal key element for the comparison: the facade grid, and the flexibility of its infill panels, and consequently of the interiors; the chamfered corners of the trunk volume; the explicit use of the concrete in the structural facade; and the modest span between columns, which guarantee a human-scaled intimacy.

And lastly, Torre Turati presents a more complex relationship with the site block and the urban surroundings than Torre Breda, both placed in front of the same square. It is articulated in more than one volume, for adapting better to the context. As in other case studies, the structural grid is visible in the main facade, holed by irregular loggias, the tower has a different treatment for principal and lateral fronts, and it rises from a dense preexistent block.

The first three mentioned towers represented the new Milan, rising after the war. Torre Turati is a bit younger and it is the only steel structure because the material became cheaper through the years. While Torre Breda is clearly aligned with the American skyscraper, Torre Velasca is the manifesto of Rogers' ideas about ambiance. Torre Tirrena, which has two of the three Breda's architects in common, is a harmonious example of a good tower design, less drastic than the Velasca though.

Four extremely different buildings then, for the four following comparisons.

5.1. TORRE BREDA

1951/1954

Piazza della Repubblica 32, Milan
Luigi Mattioni, Eugenio and Ermenegildo Soncini
117 m

Pic. 95

5.1. TORRE BREDA
The Project

The Breda Tower, inaugurated by the President of the Republic Gronchi and first Milanese building to overtake the Madonnina in height (116.25 metres), is located at the intersection of Viale Tunisia and Via Pisani, the monumental axis that connects, the central station with the city centre, passing by Piazza della Repubblica.

"A chi giunge in ferrovia, la Milano di domani spalancherà, proprio all'uscita dalla stazione Centrale, i battenti di una specie di luogo, luminoso salone che snodandosi da piazza Duca D'Aosta, raggiunge il centro cittadino. Sarà questa la Broadway milanese che, in una sequenza di palazzi dall'architettura moderna, alternati ai pochi edifici superstiti dalle linee classicheggianti, accompagnerà il forestiero." [1]

A Planning Agreement based on the Albertini Plan (1934) had been partially implemented with the development of a portion of the allowed buildable area the plan had allotted to land previously occupied by the railway and the construction of a building on the west side of the square. As Luigi Mattioni

"La "convenzione" comunale, d'anteguerra, prevedeva la possibilità di costruire un edificio del tutto simile e simmetrico a quello realizzato sull'area prospettante la nostra (…) In ossequio accademico all'aulica simmetria volumetrica dell'attuale Piazza Repubblica! In verità gli urbanisti d'allora non lesinarono, all'area vergine dell'ex ferrovia, l'eccesso di densità edilizia, l'abuso inveterato del cavedio e l'uso arcaico della simmetria, pur di realizzare, secondo il buon costo e la miglior estetica allora correnti, il piano del loro moderno quartiere. Bei tempi!" [2]

Winners of an invitation-only competition of ideas in 1950, in which they participated with two separate entries, the three young architects (Luigi Mattioni and brothers Eugenio and Ermenegildo Soncini) were selected by a group of entrepreneurs who constituted the company, Grattacielo di Milano S.p.A.. It is no coincidence, but still impressive, that the choice of professionals falls solely on young people: both the managers of the architectural project, and the structural engineers and plant engineers are in their thirties. Quoting the book about the work of Luigi Mattioni by Alfonsi and Zucconi:

"Il grattacielo avrà, per anni, il valore di manifesto, di documento insieme della tecnica e dello spirito di un'epoca, testimonia nel contempo, l'entusiasmo per la ricostruzione secondo modelli d'avanguardia, e la rottura con gli schemi rigidi e precostituiti del passato." [3]

However even though the young environment of the design process, Mattioni never missed the suggestions of his old professors of the Polytechnic. In fact both, Danusso and Portaluppi, were official consultants for the Torre Breda project.

The Skyscraper was meant to be the symbol of rebirth, innovation and hope after the war. Moreover it promoted a new idea of "abitare".

"A dispetto di chi ama la casa supina sulla terra, la torre sta isolata, eccelsa, appartata dai rumori, e vive tranquilla, prospettando il cielo al cospetto degli orizzonti e delle attonite muraglie urbane: più che osannare all'altezza metrica si ha da riguardare l'altezza civile del livello umano tecnico estetico." [4]

Particularly noticeable among the Grattacielo di Milano S.p.A. group was the leadership of RDB (Rizzi, Donelli, Breviglieri), a manufacturer of cement and building components. As well as nowadays, cement is easily available on the Italian market and moreover marketed by RDB itself. So one of the challenges for the architects was the design of a building that could express the same sense of slender verticality of the glass and steel skyscrapers of overseas. The construction company was headed by an engineer, Pio Capelli, who was able to successfully lobby the City council to modify the Urban planning guidelines and Building codes. As a result, the project was no longer required to adhere to the original plan's symmetrical layout calling for a mirror image of the existing building on the west side of the square to be built. [5] Torre Breda was therefore born from a process of vertical decomposition and recomposition of the massive volume with a shaft existing on the complementary side of piazza dell Repubblica, by Mario Baciocchi. Instead of a similar cubature and shape,[6] against the idea of a courtyard building, the area for parking was increased, thanks to the use of the subsoil and the adjoining Razza square, and the building density was instead reduced,[7] building in height.

"Sostituire ad una letterale simmetria urbanistica una nuova simmetrica armonia estetica attraverso l'equipollenza, o parità di pesi architettonici, fra le masse dei due grattacieli e nonostante la diversità di forme: cioè dovemmo trasfigurare il volume contrattualmente prefissato, in quello afferente la libera invenzione della nostra nuova espressione artistica." [8]

5.1. TORRE BREDA
The Project

The project proposed the construction of an open building, but at the same time, a building for luxury flats, ones that would avoid, however, the flaws that Mattioni attributed to residences for the wealthy (lack of common services, promiscuity of the entrances).
The building total area available is 1400 square meters, area covered by the building 1300 square meters, and cubage 130000 cubic meters. It occupies nearly he whole of its own site area and is planned in close conjunction with neighbouring buildings only approximately 30 meters in height. The height contrast is in no way unharmonious however, and is to some extent assisted by the large landscaped square immediately adjoining the building. Torre Breda, which separates the entrances (the offices on Viale Tunisia, the residences from Via Pisani and the garage from Via Casati), following a logic of extreme flexibility, it is made by independent organism: shops, offices and dwelling, that live contiguous and superimposed, yet autonomous, with exclusive entrances, porters, elevators and systems. The Tower is a total of 31 storeys tall (including the two- storey terminal penthouse in the oval tower on the roof) and intelligently integrates with the context, proposing significant urban value. It is a practical attempt to show how to utilise valuable sites in inner urban areas both for commercial, office and residential purposes;[9] the three uses being regarded as mutually supporting. The tower rests on a pedestal 8 storeys tall (as already said, up to the 30 meter level), which rises above two 300 square meters underground garage and part of the supporting technical equipment. The base has been planned to include shops with mezzanines, offices, a post office, cable office, bank, tourist department, a safe deposit and playroom for children, a swimming pool and a bar. It is an *Ouvertures* [10] of composition and *ambientamento,*[11] running from the second to the eighth floor, respects the alignments flush with street along Via Pisani and Viale Tunisia, incorporating the double-hight portico on via Pisani, constituting its beginning. In particular the offices can occupy one, two or more floors, or be limited to smaller portions of floor. Above the 30 meter level, the upper part of the volume, the accommodation consists entirely of luxury flats.
The flats occupy a rectangular of 730 square meters area that is smaller than the base (1300 square meters). The tower plan is designed to make the façade independent from the structural grid: this gives flexibility to the spaces and allows to obtain cuts based on the individual necessities. With twenty-two rooms plus services is meant to be divided into one, two, three or four flats each floor, in any case with multiple entrances and services. It is studied according to a functional 1,80 x 1,80 module, and the proportion of the all building are derived from its multiples and submultiples. In the typical distribution there are two flats per floor, placed symmetrically around the lift shaft, with a large living/dining room (north or south), the sleeping area with three bedrooms and bathrooms *en suite* (east or west). There is a fourth guest bedroom and accommodation for servants too. They are accessible from individual atriums off the landings positioned like a hinge between the main wing and the service entrance. The service gallery at the rear of the building can also be used in cases of emergency as a secondary means of escape, communicating as it does with service lifts and staircases.

> *"L'architettura non è soltanto l'arte di dar forma, contemporaneamente e reciprocamente, agli spazi abitabili e ai manufatti costruibili: per forma s'intenda anche il coacervo delle materie, dei colori"*[12]

About this sentence by Mattioni, here the inside lining: in the hall looking onto Piazza della Repubblica anodised aluminium lining and wood wainscoting with metal parts in the hall overlooking Via Vittor Pisani. Plaster and polished stucco for the stairs, smooth coloured plaster for rooms, and glass mosaic for the services (up to m. 1,60 h). About the flooring: there are marble slabs and landings in the hall. Wood, marble, lino, rubber for the flooring in the rooms. The stairs are made with a reinforced concrete structure, with anticorodal and varnished iron balustrade. For the transparent partitions were used special cross bascule anodised aluminium windows.
The foundations consist of a hollow slab (containing the second underground floor) formed by a lower slab 1 m thick and an upper one 40 cm thick, strengthened and joined by the intersecting outside main walls. The reinforced concrete vertical structure was poured in sito and is formed by cross walls connected by other

wind brace walls so as to form a unique element stiff in each direction, also resistant to wind pressure.

"La struttura verticale, realizzata in calcestruzzo armato, è costituita da setti portanti trasversali connessi attraverso pareti resistenti a taglio con funzione di controventante. Questa griglia di pareti permise di aumentare la rigidezza della struttura in entrambe le direzioni e di resistere al meglio alle azioni del vento (struttura primaria). I pilastri, costituenti la struttura secondaria, come anche vani scala e ascensori, vennero dimensionati in funzione delle sole azioni verticali (carichi permanenti e di esercizio)." [13]

The cross structure is formed by reinforced concrete ribbed slabs cast with metal molds, also them poured *in sito*, finished with suspended ceiling and raised flooring. For the top level a flat roof covering was chosen. The building had very modern equipment and technologies for the time, explicitly confirming the reputation of a luxury building.[14] It was often called *palazzo da Nababbi* [15], but to be fair, the skyscraper already adopted energy saving criteria and avant-garde devices for the fifties. The Tower was provided with the following plants: elevation plant (four lifts have been planned specifically to see the offices and business accommodation and four solely to serve the flats, and the are also two hoists and two staircases which are used for emergency purpose only), heating (radiant ceiling panels) and conditioning (individual conditioners in the flats), air extraction (for services), hot water, hydraulic-sanitary plant, dust extraction, trash clearing and burning, anti fire regolamentar automatic plant, internal pneumatic mail, refrigeration cell, electric plant, gas distribution, telephones, tele-writer in the postal private joint owners' office, electric clocks, radioactive lightning rod, anti parasitic plant for radio and television reception, traffic lights in entrance ramps to garages, service station for cars. [16] The underground garage for tenants has its own electrical generators and diesel motors for emergency electricity supply. As the building also has its own well it can be said to constitute an almost entirely self-contained city in miniature. [17]

5.1. TORRE BREDA
The Facade

The east-west heliothermic orientation led to large windows on the long facades.

"L'orientamento preferibile ha consigliato di esporre le facciate ampie del grattacielo, grosso modo, a oriente e a occidente; quelle strette di nord e sud sono pure interamente finestrate, ad onta che un fabbricato tanto alto debba opporre massicce strutture alle sollecitazioni della gravità e alla spinta del vento: gli è che questa costruzione cela all'interno la robustezza della struttura controvento, là dove i soliti edifici a torre spesso parano all'esterno due lati squallidi, a muraglia, senza vuoti e senza panorami. (…) Le facciate di nord e di sud evitano la monotonia di una gran parete di vetrate uguali: la loro collocazione nella trama di pilastrature è e sarà vieppiù vivace di chiaro-scuro fra piani e vuoti, dacché, nella sistemazione dei vari appartamenti, si lascia libertà ai condomini di collocare le vetrate sul filo esterno (per ricavare bow-windows e giardini d'inverno) oppure di collocarle più internamente a vantaggio di terrazze e loggete per la siesta all'aperto." [18]

This gives the facade the sense of a measured irregularity within rigidly predetermined grid. The facade is characterised by a thin prefabricated framework in reinforced concrete, covered with ceramic before being placed, while the supporting structure, set back from the facade, allowed the possibility of placing the glazing either flush with the exterior or the interior of the facade The base is clad in polished serizzo marble, while the cladding of the residential tower is in small, grey-blue stoneware tiles in ceramic gres. About 10,000 square meters of stone and marble were needed for the finishings and as many for external ceramic cladding. [19]

"A sovrastare il blocco di base, tutto di strizzo dubito lucidato, si erge, arretrando, la torre rivestita con grès ceramico colori turchino a molteplici tonalità, miscelate fra loro in campi sfumati di piano in piano e degradanti dal primo all'ultimo: rivestimento a cui si intercalano, come pause ritmiche rutilanti di riflessi, l'acciaio, l'alluminio e il cristallo splendenti. Apparenza pensata, sofferta, sorprendente, nuova." [20]

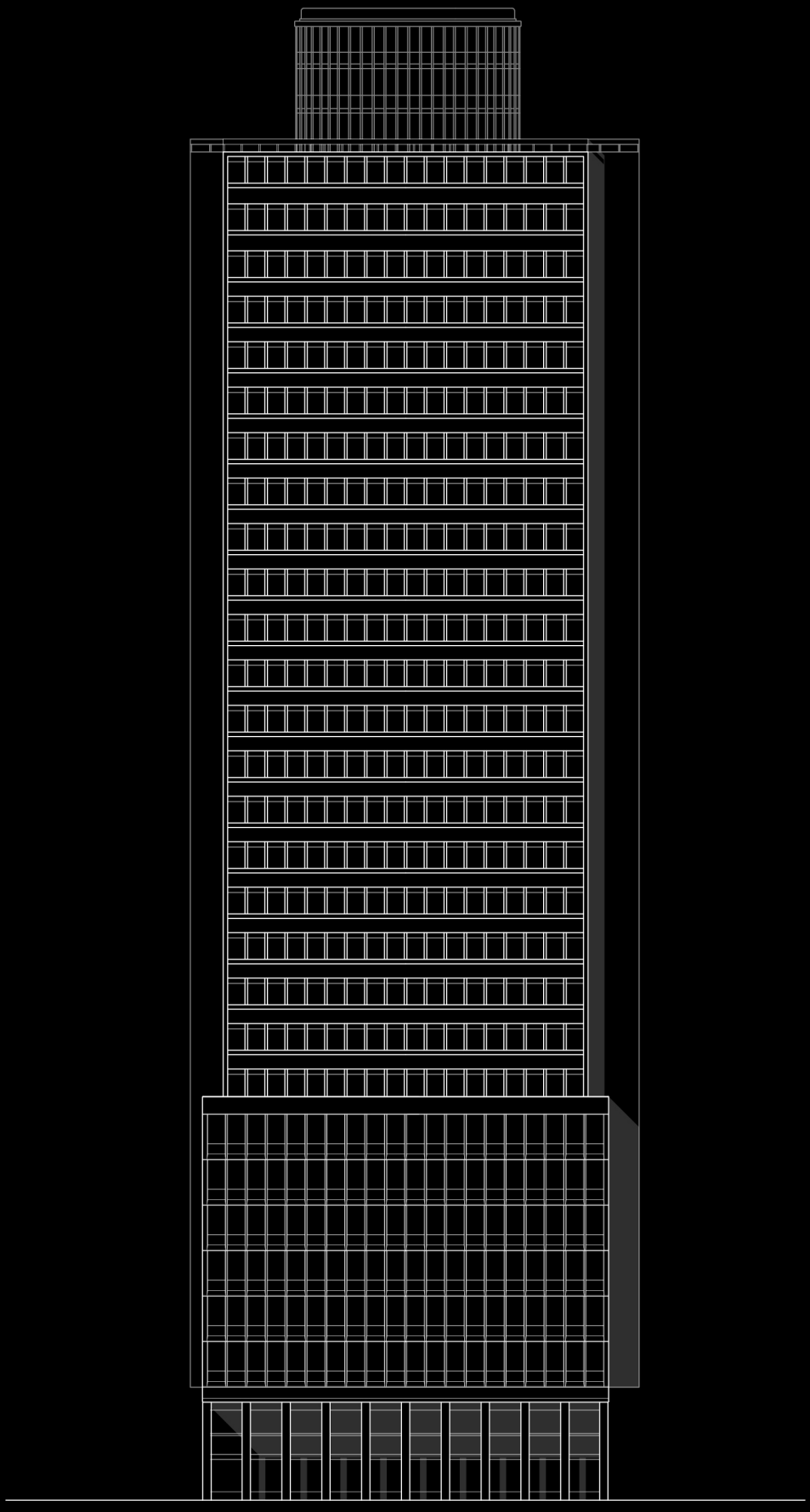
The recent renovation (2009) has distorted the character of the residential tower, replacing the small stoneware tiles (which had problems of detachment), with an exterior cladding in grey panels which has flattened the modular grid and made the facades colder and less stylish. [21] The corners of Torre Breda are slightly backward for correcting the optical effect that deforms the view of the skyscraper from the ground.

"Gli spigoli della torre si arretrano, dal piombo, di circa mezzo centimetro per ciascun piano e seguendo la bisettrice dell'angolo a cui appartiene lo spigolo stesso. Cioè le verticali (come nel Partenone) sono convergenti verso l'alto, al fine di correggere l'illusione ottica che ce le farebbe sembrare divergenti. Questo accorgimento di sfumare la verticale è stato seguito anche per le tonalità e i colori dei materiali di facciata che, appunto, sfumano anch'essi dal basso all'alto." [22]

5.1. TORRE BREDA

Elevation via Vittor Pisani

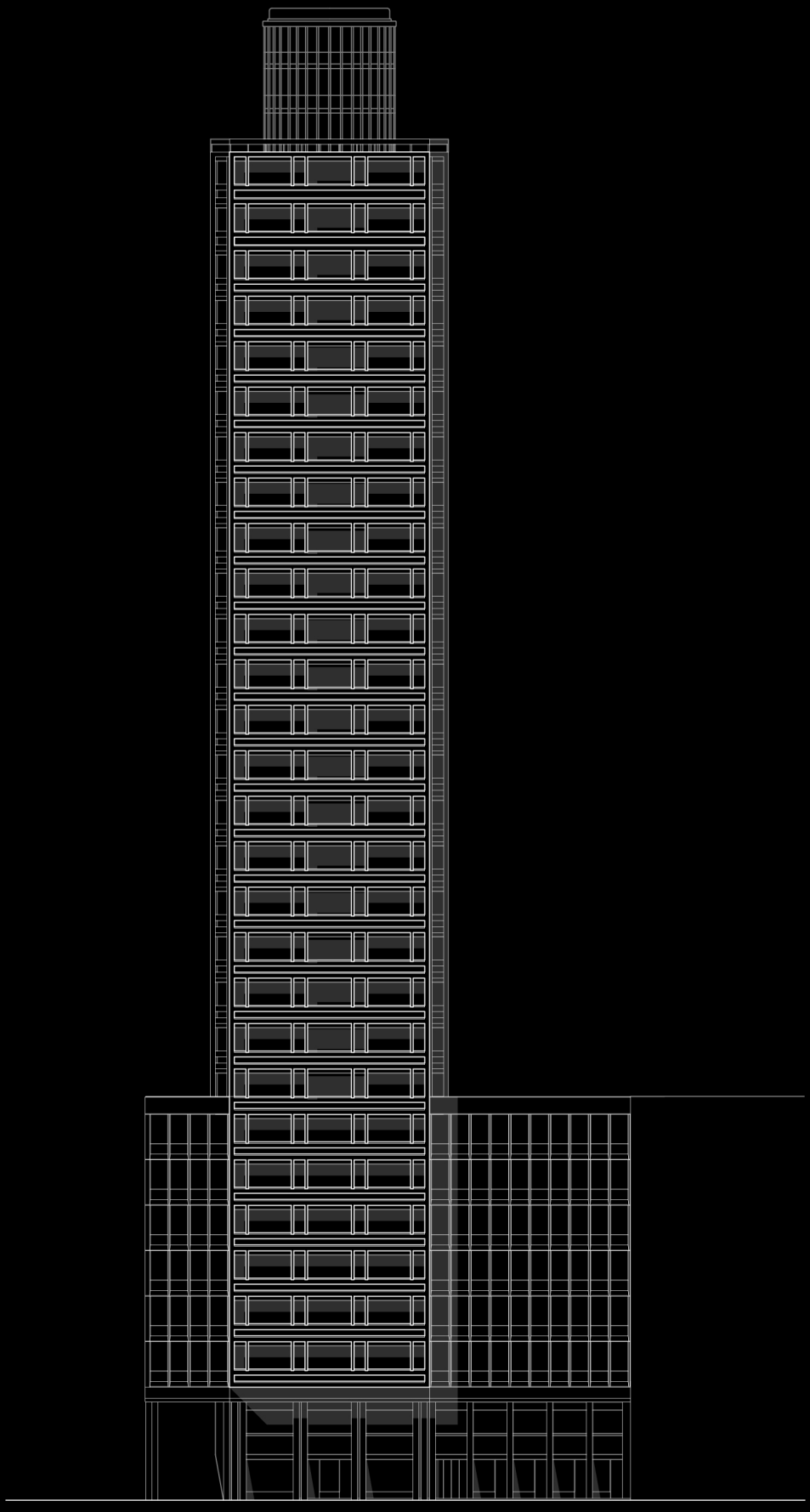
1:500



5.1. TORRE BREDA

Elevation piazza Repubblica

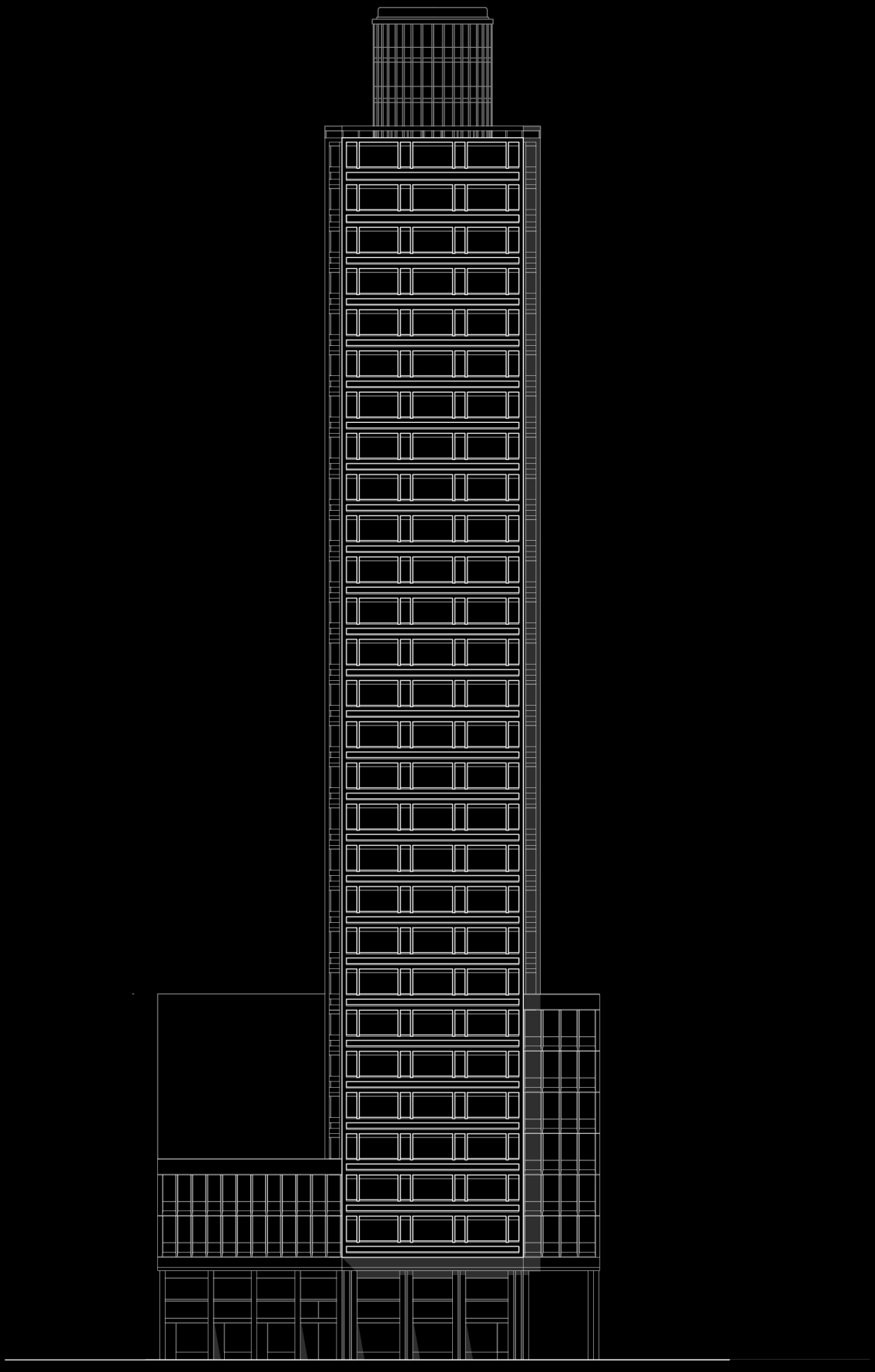
1:500



5.1. TORRE BREDA

Elevation via Felice Casati

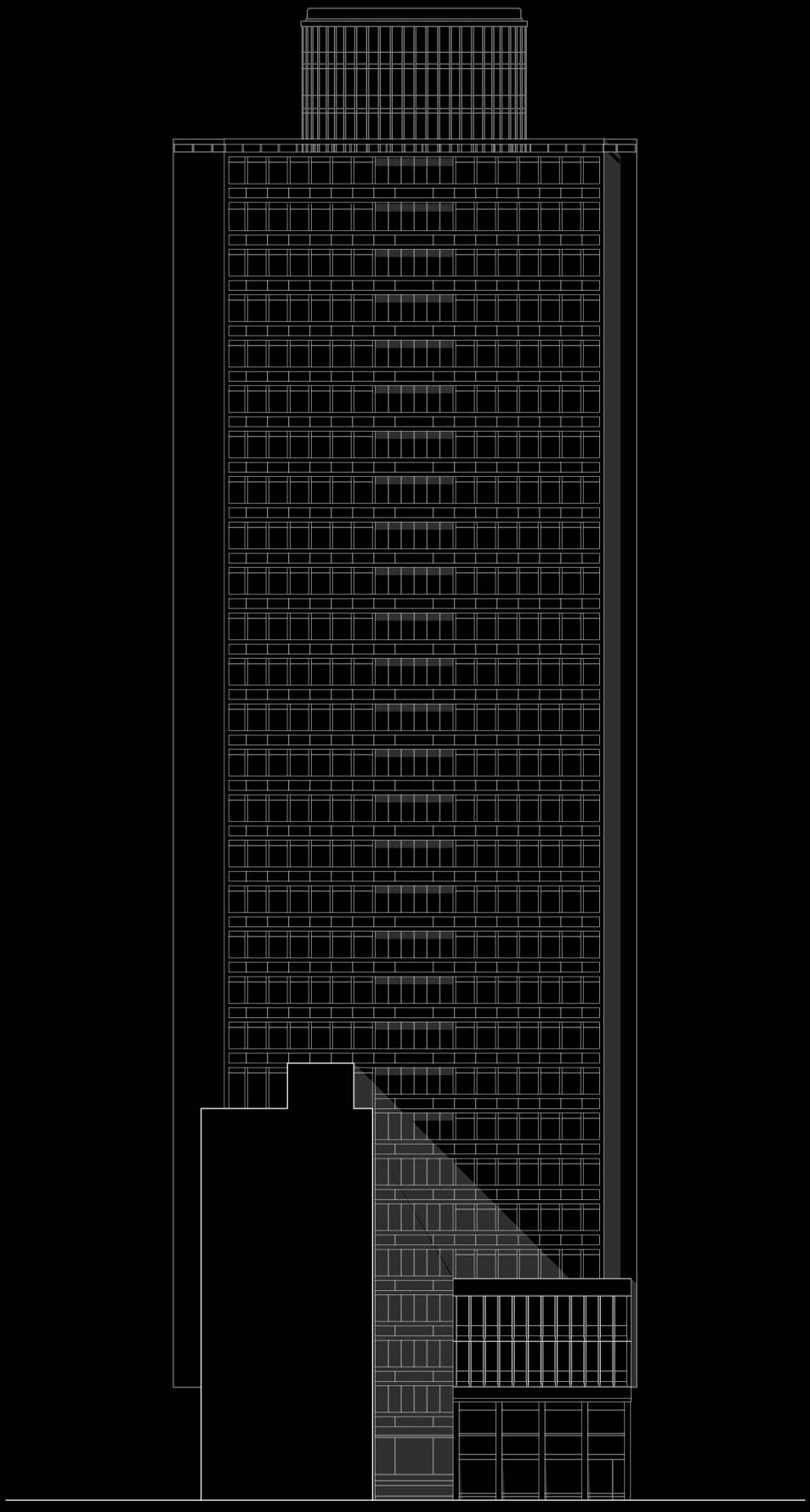
1:500



5.1. TORRE BREDA

Elevation piazzetta Razza

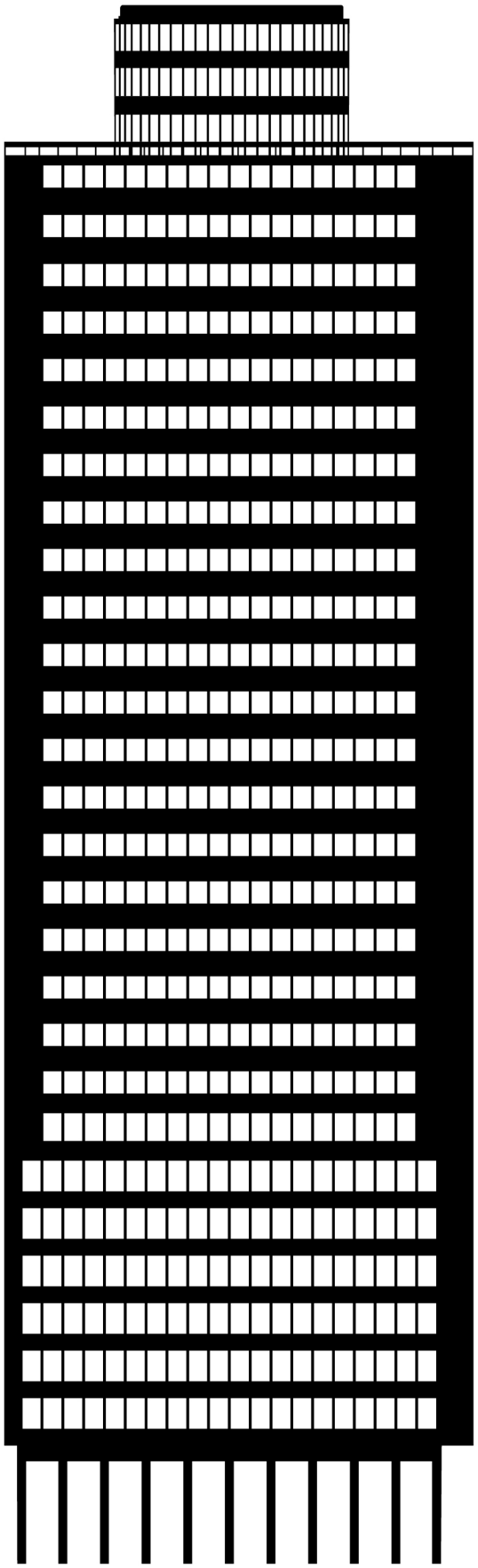
1:500

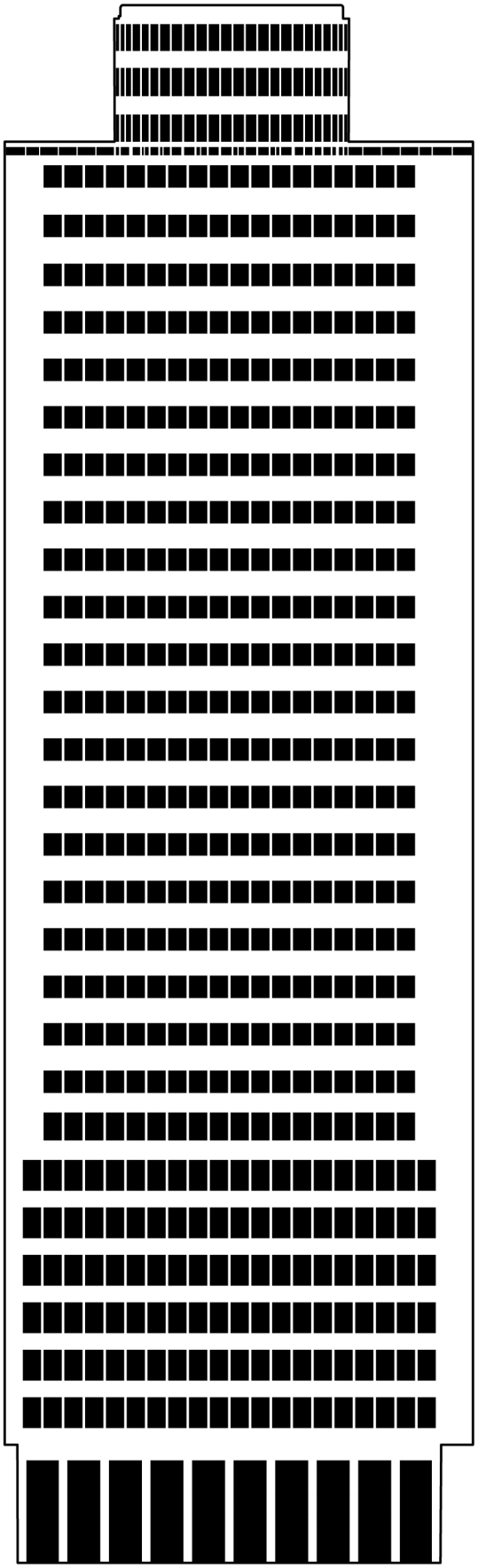


5.1. TORRE BREDA

Openings and Closing - Main facade

1:500

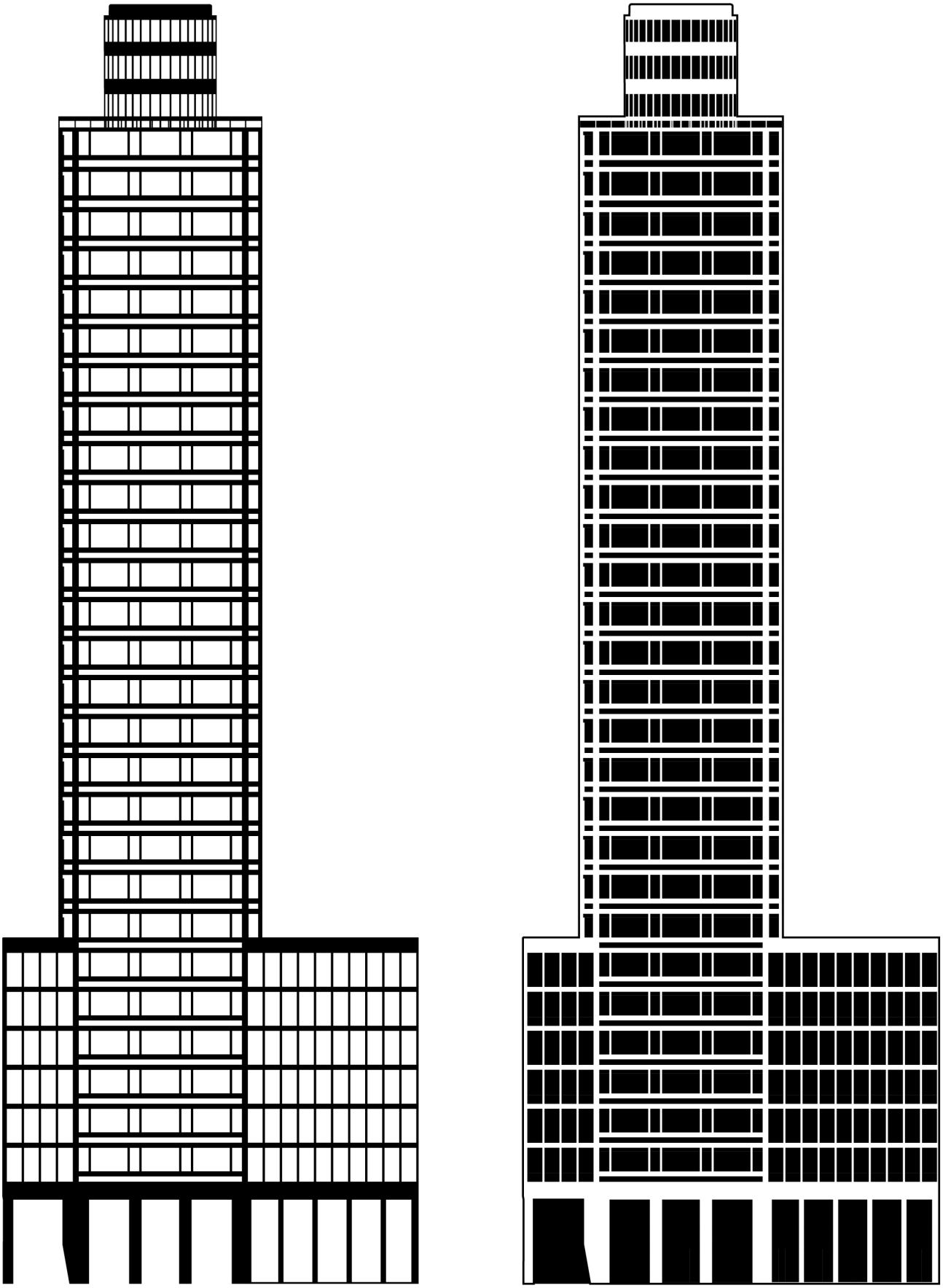




5.1. TORRE BREDA

Openings and Closing - Secondary facade

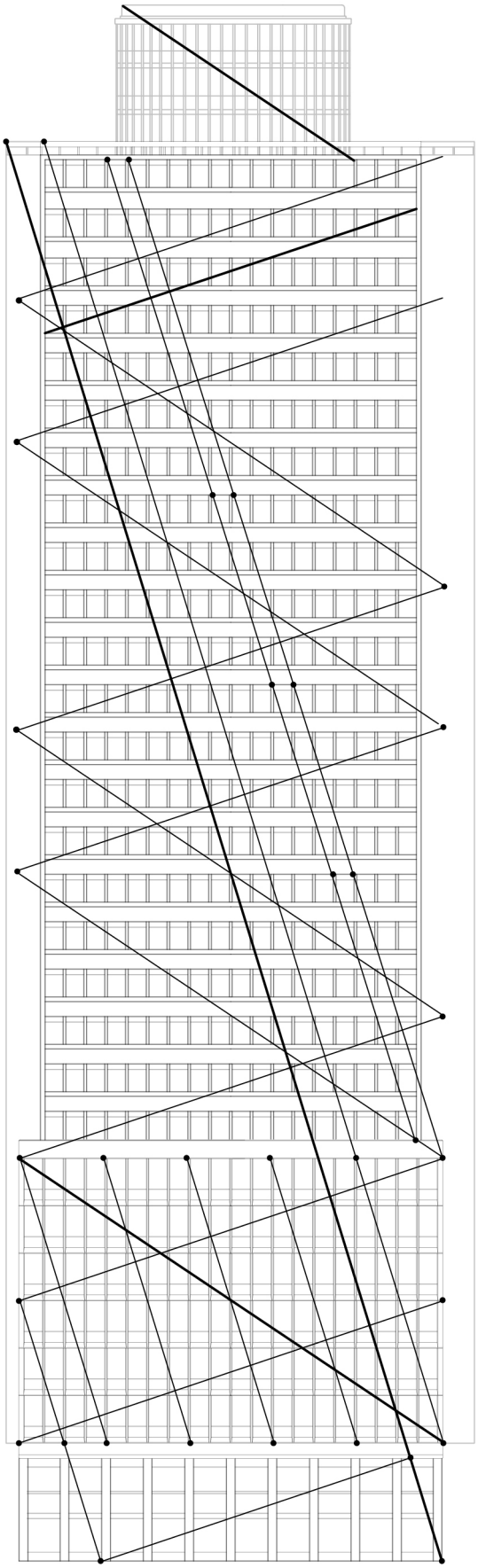
1:500



5.1. TORRE BREDA

Facade Composition

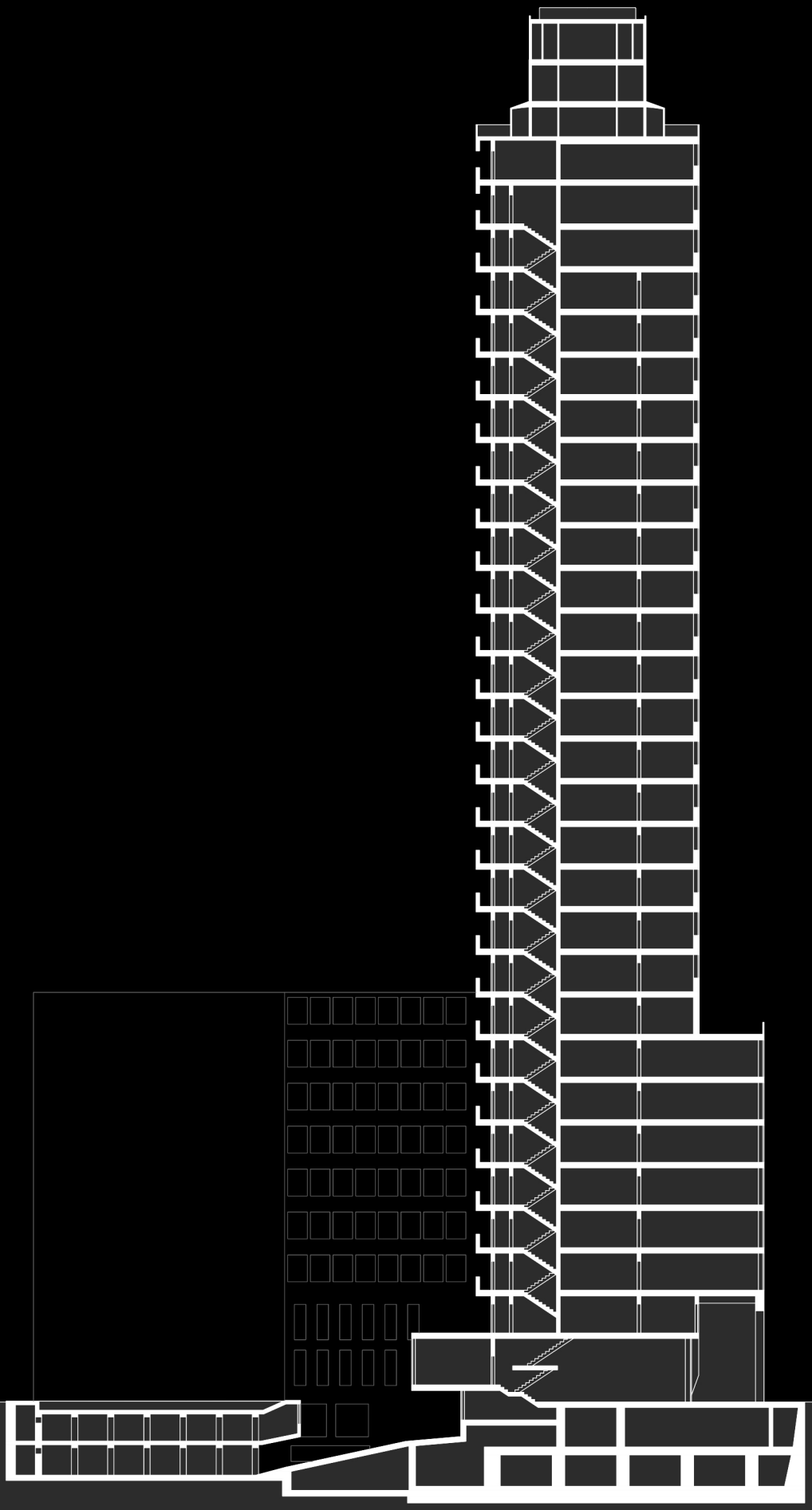
1:500



5.1. TORRE BREDA

Section

1:500



5.1. TORRE BREDA
Critic and Discussion

1955 Antonio Cederna:

"Il vano orgoglio dei milanesi per il "Grattacielo"- si celebra la ricostruzione: un libro senza e una mostra per bambini - Milano di gesso e l'urbanistica dei burocrati-negromanti. Il "Corriere della Sera" artefice della pubblica ignoranza. (…) Poiché tutto oggi a Milano s'incentra sentimentalmente sul Grattacielo, diremo che i grattacieli (ce ne siano uno o cento) sono di per sé cosa indifferente. Per capire se i grattacieli di Milano sono un bene o un male, occorrerebbe ovviamente portarsi su un piano più generale, saggiare la serietà degli studi e delle realizzazioni milanesi in fatto di piano regolatore, esaminare attentamente l'insieme complesso dei dati economici, tecnici e sociali che hanno portato ai grattacieli, rendersi conto se essi si inquadrano coi caratteri della necessità di uno sviluppo razionale della città, se corrispondono a nuove autentiche a più progredite impostazioni urbanistiche, e via dicendo. (…) E ci troveremo ancora e sempre di fronte alla decadentistica, puerile esaltazione della Tecnica (per lo più definita "modernissima") e a un bolso compiacimento per il colossale, il monumentale e l'insolito, conditi qua e là da melenso ottimismo e da qualche simulata nostalgia: il tutto sostenuto dai soliti vizi dell'approssimazione e dal rifiuto costante delle ragioni della cultura. (…) Torniamo al Grattacielo di piazza della Repubblica, altezza metri 117, e riproduzione della Madonnina a quota 120. Di esso si è scritto in termini vari. Termini estetizzanti: "mole argentea", "grattacielo d'argento", "la sua vetta svaniva favolosamente nella nebbia", (altri ha parlato di "fiaba verticale", di "do di petto dell'edilizia nel cielo lombardo"). Termini meccano-antropomorfici: "la complessa fisiologia della gigantesca macchina per abitare e per lavorare". Termini storico-culturali: "aspetto vario, sorprendente, italico di gusto mediterraneo(!), che la mole milanese ha preso svettando verso il cielo"(Corriere della Sera, 14 dicembre). Termini spiritualistici: "questa ardita mole che domina la città vuole essere quasi un invito ad elevarsi ed emulare con tutte le energie questa maestosa costruzione. Ma come in tutto ciò che fermenta e cresce, anche qui non può non essere presente lo spirito divino" (parole dell'Arcivescovo, benedicendo il Grattacielo l'ultimo dell'anno 1955). Amen." [23]

1956 Luigi Mattioni 1956:

"Milano è una città piatta senza monti, colline, poggi, senza mare e laghi e fiumi, è avara di verde, mentre ha un volto, per chi lo riguardi dall'alto, di sorprendente e commovente bellezza, come ha un sottosuolo omogeneo compatto e sicuro, atto a sottoporre i carichi edilizi, è naturale quindi che ivi gli uomini, e le case con loro, tendano e aspirino ad innalzarsi anche se, per ragioni tecnico-economiche legate in ispecie alla costruzione atavica in mattoni, questo fatto logico non s'è ancora del tutto inverato in fatto storico: la nostra opera ne è anticipazione. (...) Se si eccettua la presentazione, d'aspetto strettamente tecnico, a cura della rivista "Edilizia Moderna", il Grattacielo di Milano è tuttora praticamente inedito. Il cinema, la radio, la televisione e la stampa d'ogni Paese hanno visualizzato e pubblicato questa nostra opera con inusitata e tenace facondia, dedicandole decine e centinaia di inserti e illustrazioni visite e articoli; indulgendo sui fattori quantitativi superficiali che meglio potevano colpire la curiosità mondana. (...) si trattò di subire a priori la fredda e pubblica critica di taluni emeriti professori dell'arida urbanistica ingegnerese, il giudizio negativo e preconcetto di taluni architetti-impresari poi clamorosamente convertitisi, il poetico e patetico pensamento di scrittori umoristi, in verità molto seri letti e ascoltati, che persino commisurarono irriverentemente la immensità spirituale della Madonna e della Madonnina con l'altezza in metri del nostro edificio: ma in virtù della loro e della nostra buona fede, e soprattutto del risultato che siamo riusciti a conseguire con onesta fatica, sono assolti e giudicati. (…) E nonostante le critiche e le polemiche a priori, e appunto in virtù dei risultati che volevo conseguire, ottenemmo non solo per noi ma per tutti i costruttori che ci seguiranno una metamorfosi nel clima del pensiero edilizio anche col fatto di aver superato una volta per sempre la vincolante altezza della Madonnina e il criterio della facciata libera nel senso che le partiture finestrate possono essere variamente composte dai condomini: e ciò con la sola speranza che la nostra fatica potesse valere per un futuro migliore dell'edilizia. (...) Dovemmo affrontare, a volte sperimentare e risolvere problemi doppiamente complessi perché nuovi per noi, per gli esecutori e per Milano. (...) Il movente umano a cui si deve la nascita e la realizzazione della nostra opera ha un po' del sogno, un po' del poetico: raramente vi potranno capitare committenti tanto fermi e irriducibili nel conseguire, a qualunque costo, la grandiosità, la praticità e la bellezza: e farà bene allo spirito di tutti coloro che operano nel campo edilizio sapere e constatare che, ancora oggi, vi è chi antepone una lodevole ambizione d'arte e di tecnica e di poesia alla prassi meramente mercantile." [24]

1966 Rolf Jensen:

"It was for a long time claimed to be the tallest reinforced concrete building in Europe. (…) A well integrated architectural composition combining the different uses effectively within a

single treatment." [25]

Giuliana Gramigna 2001:

"The so called skyscraper by Luigi Mattioni not only represents the building that embodies the aspirations of its main architect who viewed as a future-oriented entity only but, for several years, it represented, even for Milan, a sort of tangible display of its rapid recovery and the vocation typical of the city. Still today, however, as in the early post-war years, the tower rises in a fine urban context. Here buildings are not so big size and, to those who come from the central station heading for the city centre, the neat skyscraper, along with its rational language and marked verticality, nearly stands out as a recognisable, welcome element, almost an invitation for people to reach the heart of the city." [26]

5.1. TORRE BREDA
Thesis Project and Case Study Similarities

"Il nostro risultato non dovrebbe essere generalizzabile; né si possono sempre verificare tali e tante particolari circostanze e condizioni di tempo e di luogo, di costo e d'estetica urbana che qui si sono inverte a mo' di attenuanti legittime. Non generalizziamo le case alte per il gusto di farle alte, perché fra l'altro richiedono l'investimento massiccio del capitale e maggiore costo degli impianti, della gestioni, delle manutenzioni: limitiamoci, caso per caso e di volta in volta, a discriminarne la validità in funzione della destinazione loro e del paesaggio urbano che le circonda: la casa-casa (più che l'ufficio, l'opificio o il monumento), ha da avere il suo modulo umano, familiare e cordiale." [27]

Reading this statement of Mattioni, it was automatic thinking about the idea of the module 1,80x1,80 m, which rules the design of Torre Breda.

The module gives the idea of the space, the scale of its perception. This attention, finding the human scale into a skyscraper, could be translated into a sort of contradictory research of intimacy in the gigantic. I recognize in this will a strong analogy with the process of my project. Since the beginning, I have developed the project focusing on the living experience of my building.

Moreover, from Torre Breda I learned a magistral approach on a site with a contest of inner urbanity and high density, and that is facing a square. In the reverse of Mattioni and Soncini brothers, I choose to repropose the courtyard feature, but in the same way, I moved the tallest volume of my building from the mainline of the road. In this way, I put the accent on the square without reinforcing the axiality.

Another similarity between the projects it's the use of a close compositive grid, extremely rigidly predetermined. In both cases, it can be filled, thinking about Torre Breda with terraces, loggias, or glass partitions, and in my case with curtains, with irregular flexibility.

Note

1. Domenica del Corriere, 1955, in G. Alfonsi/G. Zucconi "Luigi Mattioni. Architetto della ricostruzione", Milano, Electa, 1985, p. 40
   English translation by the authoress:
   For those arriving by rail, the Milan of tomorrow will open the doors of a kind of place, a bright hall that winds its way from Piazza Duca D'Aosta to the city center, right outside the Central Station. This will be the Milanese Broadway which, in a sequence of buildings with modern architecture, alternating with the few surviving buildings with classical lines, will accompany the foreigner.

2. L. Mattioni, L'inedito grattacielo di Milano, Milano, Tipografia R. Scotti, 1956, non-numbered page
   English translation by the authoress:
   The pre-war municipal "convention" provided for the possibility of constructing a building that was completely similar and symmetrical to the one built on the area facing ours (...) In academic respect to the aulic volumetric symmetry of the current Piazza Repubblica! In truth, the planners of the time did not skimp on the virgin area of the former railway, the excess of building density, the inveterate abuse of the shaft and the archaic use of symmetry, in order to realize, according to the good cost and best then current aesthetics, the plan of their modern neighborhood. Good times!

3. Luigi Mattioni. Architetto della ricostruzione, op. cit., p. 42
   English translation by the authoress:
   The skyscraper will have, for years, the value of a manifesto, a document together with the technique and spirit of an era, at the same time testifying to the enthusiasm for reconstruction according to avant-garde models, and the break with rigid and pre-established schemes. of the past.

4. L. Mattioni, Il grattacielo di Milano, in Edilizia Moderna, n° 56, 1955, p. 9
   English translation by the authoress:
   In spite of those who love the house supine on earth, the tower is isolated, sublime, secluded from the noises, and lives quietly, looking out over the sky in front of the horizons and the astonished urban walls: more than praising the metric height, it has to be looked at the civil height of the human technical aesthetic level.

5. P. Vitillo, Office and apartment skyscraper, Stable URL: https://www.ordinearchitetti.mi.it/it/mappe/itinerari/edificio/545-grattacielo-per-uffici-e-abitazioni/37-milano-e-l-unita-d-italia

6. Luigi Mattioni. Grattacieli e case alte nella Milano degli anni'50, in A. Coppa/L. Tenconi (a cura di) "Grattanuvole: un secolo di grattacieli a Milano", Santarcangelo di Romagna Maggioli, 2015, p. p. 251

7. Luigi Mattioni. Architetto della ricostruzione, op. cit., p. 42

8. L'inedito grattacielo di Milano, op. cit., non-numbered page
   English translation by the authoress:
   Replacing a literal urban symmetry with a new symmetrical aesthetic harmony through the equivalence, or parity of architectural weights, between the masses of the two skyscrapers and despite the diversity of shapes: that is, we had to transfigure the contractually established volume into that relating to the free invention of our new artistic expression.

9. R. Jensen, High density living, London, Leonard Hill, 1966, p. 134

10. Il grattacielo di Milano, op. cit., p. 9

11. Reffered to: B.B.P.R., Tre problemi di ambientamento. Chiarimento, in Casabella, n°232, 1959, p. 4-8

12. L. Mattioni, Una società in 220 metri cubi, in Edilizia Moderna, n° 53, 1955, p. 73
   English translation by the authoress:
   Architecture is not just the art of giving shape, simultaneously and reciprocally, to living spaces and constructible artifacts: by form we also mean the jumble of materials, colors.

13. V. Sumini, Gli alberi i calcestruzzo armato di Arturo Danusso, in Grattanuvole: un secolo di grattacieli a Milano, op. cit., p. 320
   English translation by the authoress:
   The vertical structure, made of reinforced concrete, is made up of transverse bearing walls connected through shear resistant walls with bracing function. This grid of walls made it possible to increase the stiffness of the structure in both directions and to better resist the actions of the wind (primary structure). The pillars, making up the secondary structure, as well as stairwells and elevators, were sized according to the vertical actions only (permanent and operating loads).

14. Office and apartment skyscraper, op. cit., Stable URL: https://www.ordinearchitetti.mi.it/it/mappe/itinerari/edificio/545-grattacielo-per-uffici-e-abitazio-

ni/37-milano-e-l-unita-d-italia

15. L'inedito grattacielo di Milano, op. cit., non-numbered page

16. R. Aloi, Nuove architetture a Milano, Milano, Hoepli, 1959, p.14

17. High density living, op. cit., p. 134

18. Il grattacielo di Milano, op. cit., p. 9
English translation by the authoress:
The preferred orientation recommended exposing the large facades of the skyscraper, roughly, to the east and west; those narrow north and south are also entirely windowed, despite the fact that such a tall building must oppose massive structures to the stresses of gravity and the thrust of the wind: it is that this construction conceals inside the strength of the structure against the wind, where the usual tower buildings often block out two squalid, walled sides without voids and without views. (...) The north and south facades avoid the monotony of a large wall of identical windows: their placement in the plot of pillars is and will be increasingly lively chiaroscuro between floors and voids, since, in the arrangement of the various apartments, the condominiums are left free to place the windows on the external edge (to obtain bow-windows and winter gardens) or to place them more internally to the advantage of terraces and loggias for the outdoor resting.

19. Luigi Mattioni. Architetto della ricostruzione, op. cit., p. 42

20. Il grattacielo di Milano, op. cit., p. 9
English translation by the authoress:
Overlooking the base block, all with a polished squeeze, stands the tower, clad in multi-toned blue ceramic stoneware, mixed with each other in shaded fields from floor to floor and degrading from the first to the last: which interspersed, like rhythmic pauses glowing with reflections, steel, aluminum and shining crystal. Appearance thought, suffered, surprising, new.

21. Office and apartment skyscraper, op. cit., Stable URL: https://www.ordinearchitetti.mi.it/it/mappe/itinerari/edificio/545-grattacielo-per-uffici-e-abitazioni/37-milano-e-l-unita-d-italia

22. Il grattacielo di Milano, op. cit., p. 10
English translation by the authoress:
The edges of the tower move back from the lead by about half a centimeter for each floor and following the bisector of the angle to which the edge itself belongs. That is, the verticals (as in the Parthenon) converge upward, in order to correct the optical illusion that would make them seem divergent. This trick of blending the vertical was also followed for the shades and colors of the facade materials which, in fact, also blend from bottom to top.

23. A. Cederna, I vandali in casa, Bari, Laterza, 1955, p. 342-343
English translation by the authoress:
The vain pride of the Milanese for the "Skyscraper" - reconstruction is celebrated: a book without and an exhibition for children - Milan in plaster and the urban planning of bureaucrats-necromancers. The "Corriere della Sera" creator of public ignorance. (...) Since everything in Milan today focuses sentimentally on the skyscraper, we will say that skyscrapers (there are one or a hundred) are in themselves indifferent. To understand if the skyscrapers of Milan are good or bad, it would obviously be necessary to move to a more general level, to test the seriousness of the Milanese studies and achievements in terms of town planning, to carefully examine the complex set of economic, technical and that led to the skyscrapers, to realize if they are framed with the characteristics of the need for a rational development of the city, if they correspond to new authentic ones with more advanced urban planning settings, and so on. (...) And again and again we will find ourselves faced with the decadent, childish exaltation of Technique (mostly defined as "very modern") and with a thunderous satisfaction for the colossal, the monumental and the unusual, seasoned here and there with dull optimism and by some simulated nostalgia: all supported by the usual vices of approximation and by the constant rejection of the reasons of culture. (…) Let's go back to the Skyscraper in Piazza della Repubblica, 117 meters high, and a reproduction of the Madonnina at 120 meters. We have written about it in various terms. Aesthetic terms: "silver mass", "silver skyscraper", "its summit vanished fabulously in the fog", (others spoke of a "vertical fairy tale", of "building C in the Lombard sky"). Mechano-anthropomorphic terms: "the complex physiology of the gigantic machine for living and working". Historical-cultural terms: "varied, surprising, Italic appearance with a Mediterranean taste (!), Which the Milanese bulk has taken soaring towards the sky" (Corriere della Sera, 14 December). Spiritualistic terms: "this bold bulk that dominates the city is almost an invitation to rise up and emulate this majestic construction with all the energies. But as in everything that ferments and grows, the divine spirit cannot but be present here "(words of the Archbishop, blessing the skyscraper on the last of the year 1955). Amen.

24. L'inedito grattacielo di Milano, op. cit., non-numbered page

English translation by the authoress:
Milan is a flat city without mountains, hills, knolls, without sea and lakes and rivers, it is stingy with green, while it has a face, for those who look at it from above, of surprising and moving beauty, as well as a compact homogeneous subsoil and safe, capable of subjecting building loads, it is therefore natural that there the men, and the houses with them, tend and aspire to rise even if, for technical-economic reasons related in particular to the atavistic brick construction, this logical fact does not it is still completely true in historical fact: our work is an anticipation of it. (...) With the exception of the strictly technical presentation by the magazine "Edilizia Moderna", the Milan skyscraper is still practically unpublished. Cinema, radio, television and the press of every country have viewed and published this work of ours with unusual and tenacious faculty, dedicating tens and hundreds of inserts and illustrations, visits and articles to it; indulging in the superficial quantitative factors that could best strike worldly curiosity. (...) it was a matter of subjecting a priori to the cold and public criticism of some emeritus professors of the arid engineering urbanism, the negative and preconceived judgment of some architects-entrepreneurs who later clamorously converted, the poetic and pathetic thinking of humorous writers, in very serious truths read and listened to, which even irreverently commensurate the spiritual immensity of the Madonna and Madonnina with the height in meters of our building: but by virtue of their and our good faith, and above all of the result that we have managed honest toil, they are acquitted and judged. (...) And despite the criticisms and a priori controversies, and precisely by virtue of the results I wanted to achieve, we obtained not only for us but for all the builders who will follow us a metamorphosis in the climate of construction thought even with the fact that we have overcome once and for all the binding height of the Madonnina and the criterion of the free facade in the sense that the windowed scores can be variously composed by the condominiums: and this with the only hope that our effort could be valid for a better future of construction. (...) We had to face, sometimes experiment and solve doubly complex problems because they are new for us, for the performers and for Milan. (...) The human motive to which we owe the birth and realization of our work has a little of the dream, a little of the poetic: it will rarely be possible to have clients so firm and irreducible in achieving, at any cost, the grandeur, practicality and beauty: and it will do good for the spirit of all those who work in the construction field to know and note that, even today, there are those who place a praiseworthy ambition of art and technique and poetry before merely mercantile practice.

25. High density living, op. cit., p. 134

26. G. Gramigna, Milano: un secolo di architettura milanese da Cordusio a Bicocca, Milano, Hoepli, 2001, p. 262

27. L. Mattioni, Come e perché è nata una casa alta, in Edilizia Moderna, n° 54, 1955, p. 28
English translation by the authoress:
Our result should not be generalizable; nor can such and many particular circumstances and conditions of time and place, cost and urban aesthetics always be verified, which here are reversed by way of legitimate mitigating circumstances. We do not generalize tall houses for the sake of making them tall, because among other things they require the massive investment of capital and higher cost of systems, management, maintenance: let's limit ourselves, case by case and from time to time, to discriminate their validity according to their destination and the urban landscape that surrounds them: the house-house (more than the office, the factory or the monument), must have its own human, familiar and cordial form.

5.1. TORRE BREDA
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5.2. TORRE TIRRENA

1956/1957

Piazza del Liberty 4, Milan
Eugenio and Ermenegildo Soncini

46.50 m

Pic. 104

5.2. TORRE TIRRENA
The Project

After proving their design skills by collaborating with Luigi Mattioni on the Torre Breda project in Piazza Repubblica, the Soncini brothers undertake the project for a 12-story tower a few steps from the Duomo, in the same square where, on the facade of the Reale Mutua Assicurazioni, the remains of the liberty facade of the Milan Theater, destroyed by bombing, were placed. The square is dedicated to Arturo Toscanini, now it is Piazza del Liberty, and has been realised from the perspective of the reconstruction programs about the central area of Corso Vittorio Emanuele, suggested by the general development plan of the town center. However, despite Torre Tirrena (destined to be the headquarters of the Tirrena Insurance Company) arose up as a completion of the block, the design approach of the Soncini brothers avoided all sorts of contextualism.

Therefore, the concept of the building was to create a background for the new square. Being part of a more articulate building complex, the tall volume of the Tower protrudes forward a step behind the shorter side buildings. The idea of a main front of representation led to the search for a closed-form, unlike in Piazza Repubblica (Torre Breda, already analysed in the previous pages), where the architects used a repetitive approach, in a linear, endless pattern. In this case, on the contrary, there was a necessity to differentiate the facades of the building. Particularly the principal one from the laterals.

The plan is rectangular, but the 30° chamfered corners encourage the insertion of the tower volume in the block. They are a gradual passage between the main and the lateral facades.

The total cubage of the building is 21,600 cubic meters, and the area is 396 square meters. Regardless of the modest dimensions, if we think about the typology of the tower, the building is impressively adaptable. The flexibility of the internal distribution has been guaranteed for commerce, as well as for offices and dwelling. As a Milanese tradition, the tertiary is on the ground floor, offices, and subsequently flats on the upper levels. The vertical distribution runs along the backside of the building, visible in the rear elevation.

Torre Tirrena has, on the ground floor, the entrance hall to the upper floors and a series of shops that extend into the two side galleries and connected with the first underground, occupied by a cinema. Meanwhile, the second underground floor hosts general services and archives. As already anticipated, the first four floors of the Tower are offices, while all the others are apartments, two or three per level. The top floor, with two apartments, is connected to the penthouse by internal staircases that lead to two living rooms opening onto the large terminal terraces, where enjoy the view on the apse of the Duomo.

The intelligible architecture of this building, whose undoubted significance is due solely to the play of the supporting structures left exposed, owes its most salient feature to the doubled pillars making up the vertical partition of the fronts. The building, with its volume generated from a polygonal plan, is inserted inside these strongly overhanging columns, "blocked" at the top and at the base by the tapering of the pillars. At the height of the penthouse, there is therefore a harmonious conclusion of the volume.

Particular attention had given to the relationship between architecture and structure. In this case, we have a masterful example of a virtuous collaboration between designers (the Soncini brothers) and engineers (Cesare Fermi).

The structure of the building is made of reinforced concrete, with radiant type tile lintel floors, flat roof with double watertight framework, and reinforced concrete balconies and galleries. As De Carli explained during the presentation of the project:

"Le fondazioni della Torre sono del tipo continuo a trave rovescia, portanti carichi dell'ordine di 270-300 tonn. sui pilastri di colmo e di 220 tonn. sui pilastri di facciata, col terreno sollecitato mediamente a circa 2,00 kg/cmq. Caratteristica costruttiva dell'edificio è lo sdoppiamento dei pilastri nelle due facciate principali . Ogni pilastro si scinde in due dal primo piano (quota + 6,30 m) al secondo (quota + 9,90 m) con uno spostamento laterale di 56,5 cm per parte (interasse pilastrini superiori 1,13 m) e con un contemporaneo spostamento in avanti di 1,10 m. La sezione dei pilastrini è molto esigua: larghezza di 25,5 cm che si riduce sulla punta a 5,5 cm. Il carico su ogni pilastrino alla quota del secondo piano è di circa 75 toni.; il problema era quindi di portare il parco complessivo di 150 tonn. sul pilastro del piano terreno assorbendo i fortissimi momenti e gli sforzi di taglio derivanti dal

duplice spostamento. Per realizzare una struttura così ardita, è stato necessario mettere nei 9 pilastri principali (cinque sulla piazza e quattro nel prospetto posteriore) 23000 kg di ferro tondo semi-pro Aq50. L'accurato controllo ha dimostrato che la struttura si è comportata rigidamente. Non si sono avute flessioni delle mensole pilastri. (…) In totale la struttura esile ha richiesto un'armatura in ferro di 290 kg io proporzione ad ogni mq di calcestruzzo." [1]

The building benefited from an air conditioning plant and a ceiling radiant panels heating system, an aluminium automatic doors lift of 1,20 meters per second speed, and a semi-automatic hoist of 0,80 meters per second speed, innovative for the time.

Impressive attention was given to the choice of the materials too. For the inside lining: fire enamelled Cornigliano iron sheet and mahogany lining in the hall, Bronzetto marble in the stairs, cementite walls in the rooms, and coloured tile lining in the services. For the flooring: Swede red granite in the hall, Bronzetto marble landings, marble slabs, and Palladian mosaic in the rooms. For the stairs: a reinforced concrete structure with iron and brass balustrade. For the ground floor atrium, the large wall of 10X6 meters is decorated with fire enamelled iron sheet panels by the Roman sculptor Romano Rui [2], and that was one of the first examples of the use of the material in Italy. In fact Carlo De Carli expressed his appreciation about it:

"The great wall in the attic decorated with fired enamel sheet, is interesting." [3]

5.2. TORRE TIRRENA
The Facade

The height of the tower is 42.00 m, 46.50 including the penthouse. Not particularly high, but the exposed pillars, tapered towards the outside, accentuate the ascensional impression of the building, whose lightness is exalted by the continuity of the windows. As the Soncini brothers have written in the describing relation for the building permission:

"Il volume è mantenuto a superficie piana (serramenti e pareti complanari) sui due fianchi della Torre, giocato fortemente nei prospetti sulla piazza e verso l'interno. I due prospetti principali hanno accentuati effetti di luce e di ombra determinati dallo sporto delle sottili cotonature pilastrate (10 cm di spessore su 40 m di altezza) che si staccano sull'intatta superficie continua di cristallo e metallo." [4]

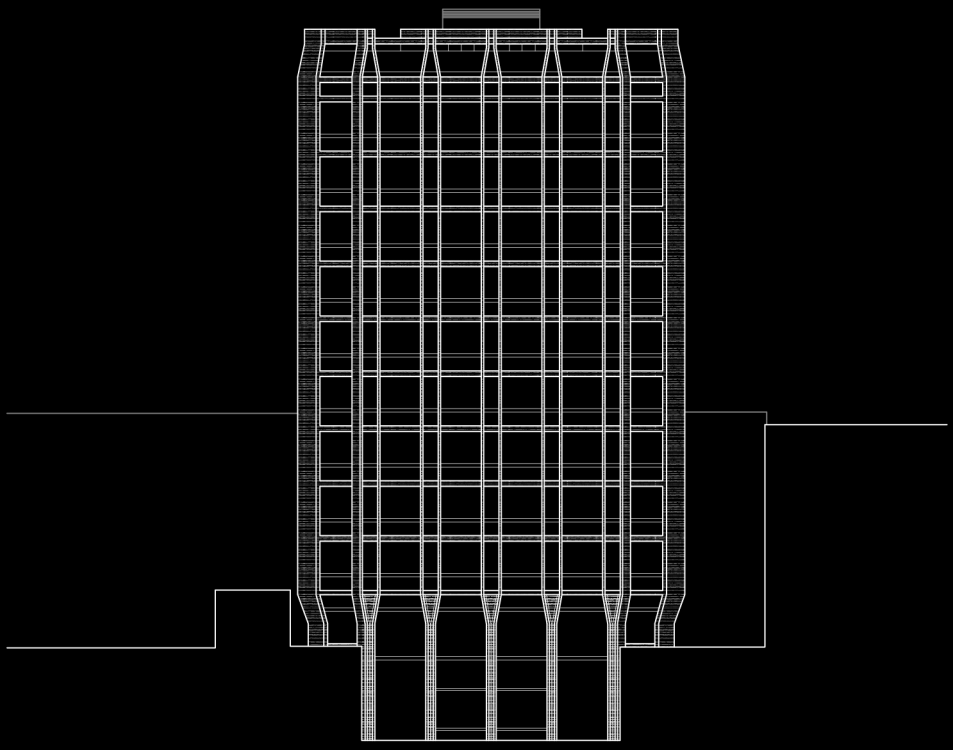
The vertical structure runs along the facade like tense nerves jointed on the top floor level. In this way, the volume of the plant systems at the penthouse is hidden by the airy coping. A choice that has raised some perplexity, as De Carli stated:

"Dalle finestre degli ultimi piani, che si affacciano fra due pilastri sdoppiati, corre, riflessa dai cristalli continui, una rottura verticale e profonda ce sembra incanalare luce e acqua portandoli con violenza contro la terra. Ma la sorgente non è vicino al cielo e il canale non porta dall'alto né luce né acqua, chiuso com'è all'origine da un attico che lo stringe in una morsa. Perché i Soncini non si sono accorti che occorreva cercare la sorgente dei loro canali? Perché hanno mortificato la struttura portando armata dei suoi ferri, a comporre un attico? E' ammirevole la nervosità di questi pilastri, quasi nervature metalliche scorrenti per nove piani, ma la loro spinta verso l'alto sembra bruscamente fermata da una deviazione di forma. E' giusto allora il senso della ricerca, nonostante tutti i pregi del risultato?" [5]

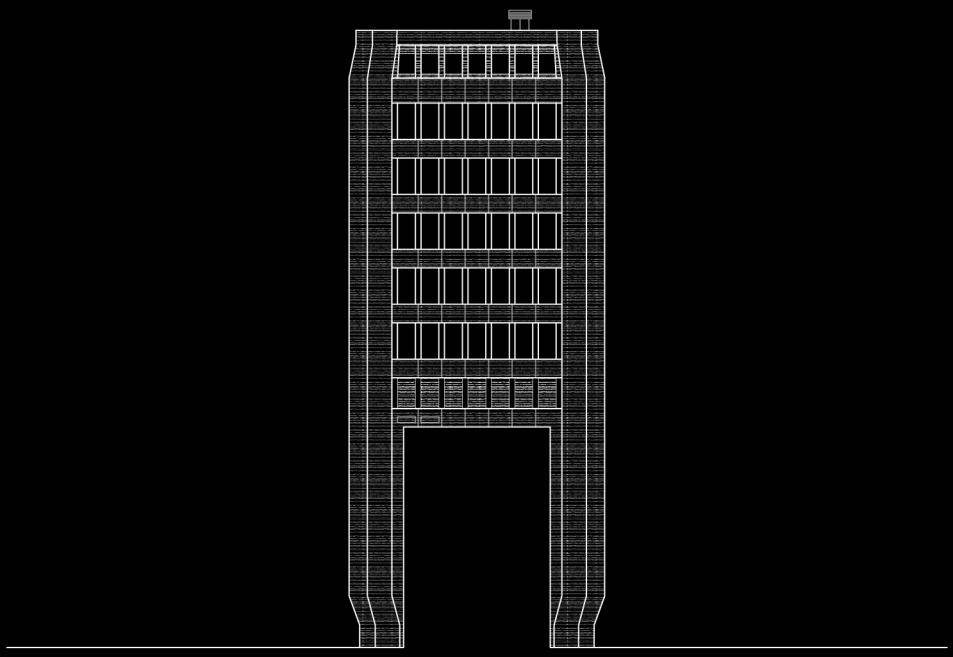
It is also important to underline how the Torre Tirrena introduces a new and more creative direction of investigation into the Soncinian's work: the technical and expressive possibilities deriving from the use of the curtain wall (reflections inspired by the works of Mies Van der Rohe and the Chicago school). The large surfaces of the glass windows, which give a visual prevalence of the voids on the main elevation, interacting with the pillars (vertical divisions arranged in a fan shape), give birth to a harmonious game of opaque and transparent surfaces, of relief and movement.
Moreover, the facade is dynamic thanks also to the corner bow-windows and the materials. Thus the chromatic contrast of the finishings highlights the verticality of the structure. Especially in the main elevation is clear the Soncini brothers' effort to combine traditional materials with innovative technologies. In fact the principal facade is entirely glazed with toughened plate glass. The railings of the penthouse are wire glass, the upper part is *Securit* [6] plate glass. The columns are covered with *a special type of porphyries ceramic* [7] specially made by Vaccari factory Genoa, of 14,8 x 4,8 cm of dimension, in shades of dark green and blue. The anodised aluminum spandrels are semi-gloss black for contrast. The tilting windows are made in Douglas-fir wood and aluminum, veneered inside in mahogany.

5.2. TORRE TIRRENA

Elevation piazza del Liberty
1:500

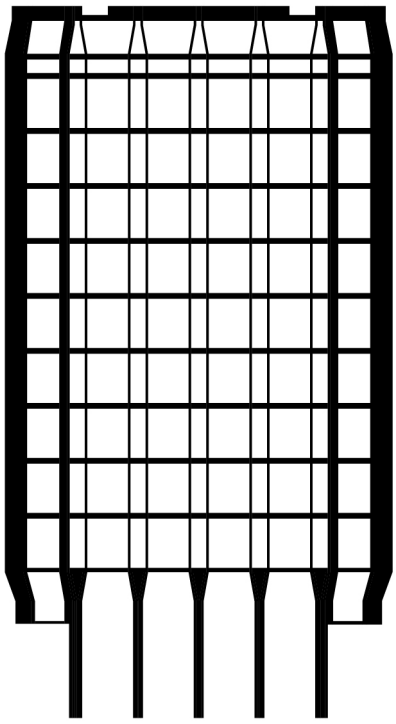


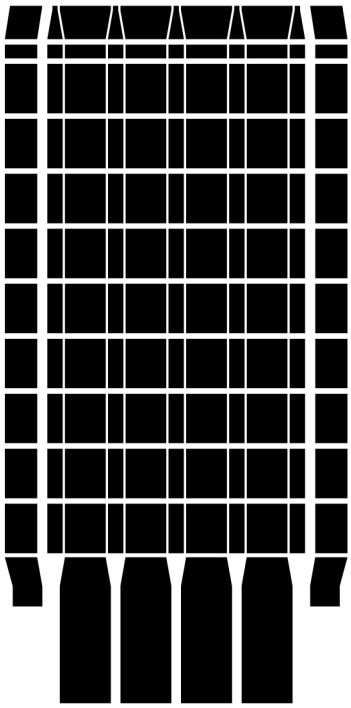
Elevation corso Vittorio Emanuele
1:500



5.2. TORRE TIRRENA

Openings and Closing - Main facade
1:500





Openings and Closing - Secondary facade
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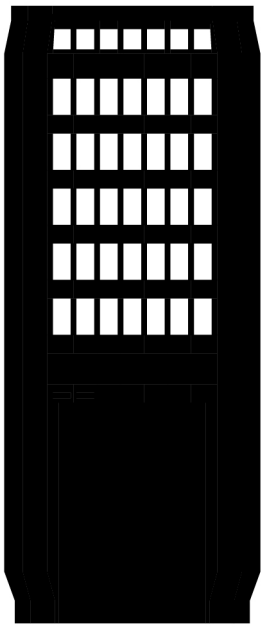
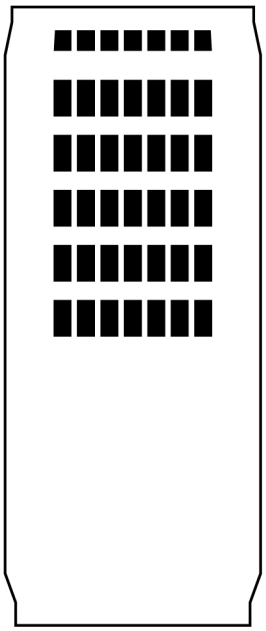
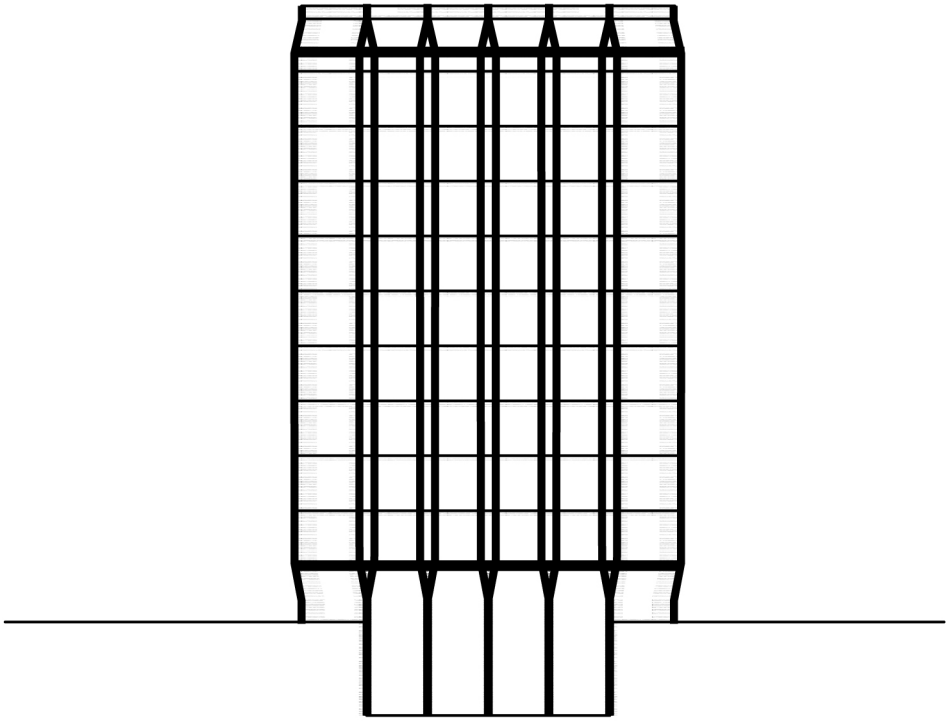


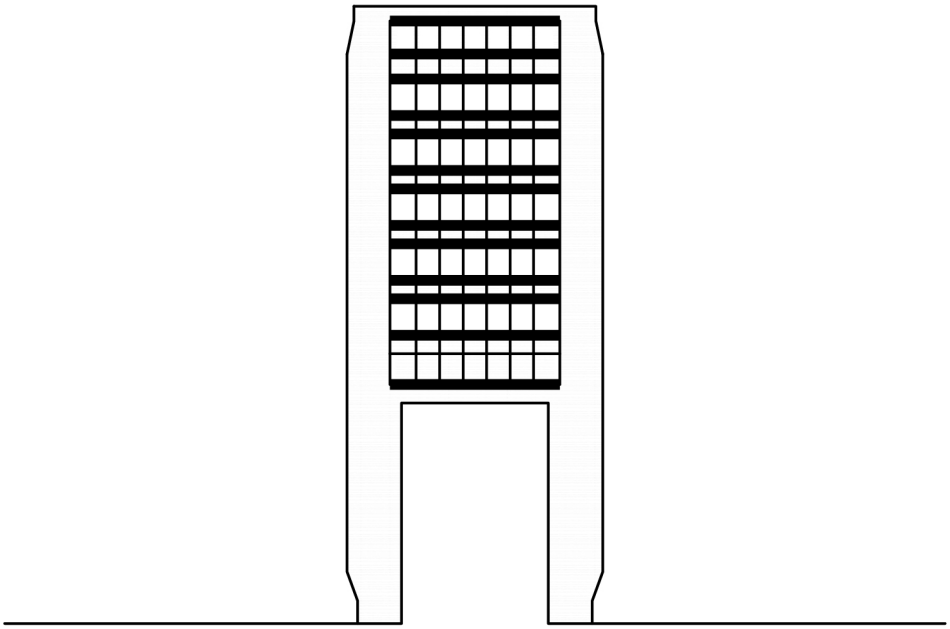


5.2. TORRE TIRRENA

Facades Composition

1:500

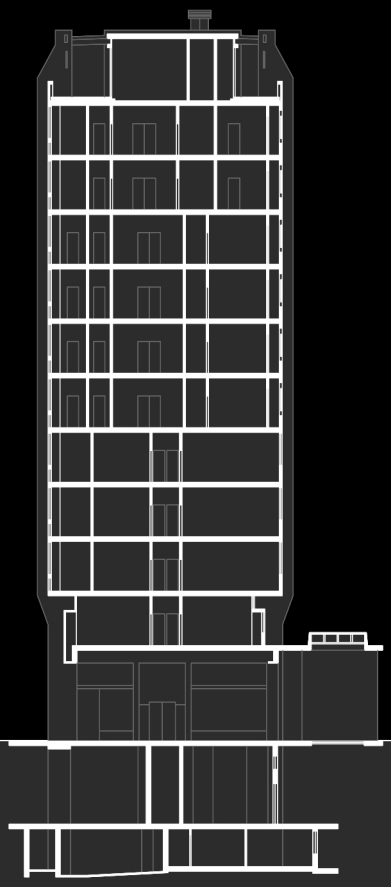




5.2. TORRE TIRRENA

Section

1:500



5.2. TORRE TIRRENA
Critic and Discussion

1958 Eugenio and Ermenegildo Soncini:

"La torre, posta a chiusura della nuova piazza, si eleva con la sua nitida architettura, essenzialmente strutturale, distaccandosi e differenziandosi dagli altri edifici che prospettano sulla piazza. Caratteristica determinante la leggerezza estetica e lo slancio verticale è l'estrema esilità delle strutture portanti tenute in vista a risolte con uno sdoppiamento delle pilastrate, fortemente aggettanti, che si riavvicinano nell'attico terminale concludendo il volume dell'edificio. (…) Slancio accentuato dalla forte smussatura dei quattro angoli (pianta poligonale) che, unitamente alla rastremazione in alto e in basso dell'edificio, determinano un volume armonicamente composto e bloccato in ogni sua parte." [8]

1960 Carlo De Carli:

"E' caratteristica dei Soncini la passione a una metodologia nell'impostazione e nello sviluppo di un problema. Le loro soluzioni, derivanti sa una lunga analisi, appaiono assolutamente finite, senza dubbi, felici o non felici, ma dichiarate, esposte coraggiosamente alla critica di tutti (…) espressione di un impegno convinto e volto a risolvere a tutti i costi le cose difficili." [9]

2017 Maria Vittoria Capitanucci:

"In a cultural environment in which it existed, if not exactly a sharing of research, exper- imentation, and languages, but certainly a line, a fil rouge that holds together, among estimates, references, and suggestions, both the crown jewels and the ample parterre of cultured professionalism. let us not forget that, for example, (…) In the same years, the Soncini brothers, Ermenegildo and Eugenio, in the realisation of the soaring tirrena tower in Piazza liberty, will choose an assonance with the structural elements of the Velasca." [10]

5.2. TORRE TIRRENA
Thesis Project and Case Study Similarities

As in the Velasca Tower case, here we have a compositely predominant structure in the facade. With the structural grid, my project aims to create a meaningful dialog between full and void, that in the Tirrena is translated with opaque and transparent. The most striking feature of this building is the magistral use of the curtain-wall. Avoiding the flatness typical of this constructive system, the Soncini brothers designed a dynamic facade, playing with the elegant movement of the columns.
The poetic lightness of the glass of Torre Tirrena can be an analogy to the curtains of my project. Another similarity that made me select this case study is the choice of using two different approaches according to the side of the facade of the buildings. The short sides are massive and predominantly opaques, and the long facing the square, with the visible structure, is particularly harmonious, meant to be the principal one. The rear elevation, while maintaining the idea of the structural grid, is secondary hierarchically connoted.
Moreover, compared to my project, it is interesting the situation of the site: in both cases, the design had to deal with a dense and built block.
In both cases, the towers are short (thinking that they are typologically meant to be tall buildings), and the reason is in the contest. It is an answer to the dialogue with the preexistence. Thus, the choice of smoothing the corners, which is common to the case study and the thesis project, is dictated by the same necessity.
And lastly, the comparison between the permeability of the ground floor plan of Torre Tirrena, with the possible distributional options of the ground floor of the project.

Note

1. C. De Carli, La torre Tirrena a Milano, in L'Architettura, cronache e storia, n° 35, 1958, p. 309
English translation by the authoress:
The tower's foundation is continuous on reversed beams, bearing loads about 270-300 tons on the inside pillars and 220 tons on the facade pillars, with the soil stressed on average about 2,00 kg/sqm. The main constructive feature of the building is the doubling of the pillars in the two principal facades. Each pillar splits in two from the first floor (+ 6,30 m) to the second (+9,90 m) with a lateral shift of 56,6 cm on both sides (the span between the upper pillars is 1,13 m), and a shift forward of 1,10 m. The section of the pillars is very thin: the width of 25, 5 cm in tapers to 5,5 cm at the end. The load on each pillar at the second level is about 75 tons, the problem was to bring the overall load of 150 tons on the ground floor pillar since moments of high value and horizontal and vertical stresses and strains have had to be absorbed. For achieving a structure so bold, it was necessary to put in the nine principal pillars (the five in the principal elevation and the four of the rear front) 23000 kg of semi-pro iron rods Aq50. The accurate control showed that the structure behaved rigidly. There was no flexion on the corbels of the pillars. (…) In total, the thin structure required an iron reinforcement of 290 kg in proportion to each square meter of concrete.

2. R. Aloi, Nuove architetture a Milano, Hoepli, Milano, 1959, p. 38

3. La torre Tirrena a Milano, op. cit., p. 310

4. ibidem.
English translation by the authoress:
On the sides the volume results entirely flat (windows *on one line with walls) enjoying a strong relief in the facades towards the street and the inside. The two main façades have accentuated effects of light and shadow caused by the protrusion of the thin pillared cottons (10 cm thick over 40 m high) that detach on the intact continuous surface of crystal and metal.*

5. ibidem.
English translation by the authoress:
From the windows of the top floors, which look out between two split pillars, a vertical and deep break runs, reflected by the continuous crystals, which seems to channel light and water, bringing them violently against the earth. But the source is not close to the sky and the canal brings neither light nor water from above, closed as it was originally by an attic that holds it in a vice. Why did the Soncini not realize that it was necessary to look for the source of their channels? Why did they mortify the structure bringing armed with its tools to compose an attic? The nervousness of these pillars is admirable, almost metallic ribs running for nine floors, but their upward thrust seems abruptly stopped by a deviation of shape. Is the meaning of the research right, despite all the merits of the result?

6. E. & E. Soncini, Edificio a torre, in Vitrum, n° 117, 1960, p. 7

7. La torre Tirrena a Milano, op. cit., p. 309

8. ivi., p. 310
English translation by the authoress:
The tower, located at the end of the new square, rises with its clear, essentially structural architecture, detaching and differentiating from the other buildings that overlook the square. The decisive feature of the aesthetic lightness and vertical momentum is the extreme slenderness of the supporting structures kept in view and designed with a doubling of the strongly overhanging columns, which are brought closer together in the attic at the end, concluding the volume of the building. (…) Momentum accentuated by the strong smoothing of the four corners (polygonal plan) which, together with the tapering at the top and bottom of the building, determine a harmoniously composed volume, fixed in all its parts.

9. ivi., p. 309
English translation by the authoress:
The passion for a methodology in setting up and developing a problem is characteristic of the Soncini. Their solutions, deriving from a long analysis, appear absolutely finished, without doubts, happy or not happy, but declared, courageously exposed to the criticism of all (...) expression of a convinced commitment and aimed at solving difficult things at all costs.

10. M. Borsotti / P. Brambilla / M. V. Capitanucci, Architectural Walks in Milan, in "Milan. Capital of the Modern", New York, Actar Publishers, 2017, p. 129

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5.3. TORRE VELASCA

1950/1958

Piazza Velasca 5, Milan
B.B.P.R.
99 m

Pic. 109

5.3. TORRE VELASCA
The Project

Torre Velasca is one of the most criticized and acclaimed buildings in the Milanese skyline, well known all over the world, it had marked *a turning-point, a disquieting break with the Modern Movement and with the uniform language of the International Style.*[1] Virtuous result of eight years of design process, it was made by the famous B.B.P.R. studio: Ludovico Barbiano di Belgiojoso, Enrico Peressutti and Ernesto Nathan Rogers.

"The opportunity to built the Velasca tower arose because our clients had purchased, for reconstruction purposes, the entire block between via Velasca, via Pantano and Corso di Porta Romana, previously occupied by buildings almost entirely destroyed during the war. As for town planning, it should be remembered that neither the general plan nor the 1953 plan were there any indications in favour of or against a project of this kind, except for the number of cubic metres which could be used according to building standards, so as not increase the established density. A mixed use (small offices and apartments) was anyhow preferred to offices for big companies only, which in both plans were to be concentrated in the new "Centro Direzionale". Our clients asked for two alternatives solutions: one with the building of low blocks with several courtyards, and one with a tower. The tower solution was chosen as it coincided with the clients and our own interests: architectural interest for us, prestige for our clients." [2]

In the sixties the building by-laws in Milan do not allowed any building to be higher than the Madonnina at the top of the Duomo - about one hundred and six metres high. For this reason the Velasca Tower is approximately one hundred metres high. Belgiojoso justified with this word the choice of the tower typology:

"The constant growth in height of buildings from the turn of the century (…) had flattened the outline of the city horizon, almost submerging the traditional peaks like towers, domes, steeples, palace tops. And we felt that it would be a good idea to create new architecturally valid peaks also in centra of town. This goal definitively affected our choice of the shape of the Velasca tower profile seen in the overall city skyline. In this sense the design of the tower went beyond its limits and indeed assumed an urban dimension." [3]

As Rogers explained during the CIAM meeting of Otterlo, in 1959, the general shape of the building was the result of a very rational design approach. The request was a building with offices and dwellings uses. After some studies of the space distribution requirements the team chose to increase the floor area of the apartments among the offices one, because more space was obviously required per floor by the dwellings. Furthermore, thinking about the vertical development, the best option for the accommodations was to be above the offices, where the air is cleaner as well as the view, and the accessibility more controllable. Putting the offices below was a logical consequence then. The concept, following the Modernism's rules, had to be consequently clearly expressed, so this is the reason for *the projection of the upper body over the lower body by the ostentated structure.*[4] *The gesture of the larger block set atop the trunk, masterfully resolved by the reinforced concrete bracing designed by Arturo Danusso,*[5] took the research on the new typology of the skyscraper back to the antique image of the urban tower. In fact this volumetric choice caused not a few perplexities of the critic of the time, and the design was repeatedly accused of medieval revival. Although the final structure of the building is in reinforced concrete pillars and reinforced brick slabs with parallel and crosswise ribbing, the original concept of the tower was in steel, idea that was abandoned for economical reasons. This argumentation was used by Rogers several times as a demonstration of the functional genesis of the opera: the form of the building was deduced by the necessity and not by historicist feelings.

The tower was aligned with the Milanese traditional partition of retails on the ground floor and offices and apartments above. The building is 29 floors height, divided in seven superimposed sectors. Two of them are basements, they are almost entirely used for services except for part of the first basement which is used by the shops above; the ground floor, where is a spatial continuity between the inside and the outside, is for shops and is partly occupied by the entrance halls; the first floor is taken up by offices or special commercial uses and expositions; nine floors (from the second to the tenth) are used as offices, seven floors (from the eleventh to the seventeenth) are used as professional offices with homes, one floor (the eighteenth), which separates the base of the tower from the expansion above, is occupied partly by living quarters for the custodian and service staff and partly services dedicated; eight floors (from the nineteenth to the twenty-sixty)

for private apartments. The latter sector includes 72 apartments in various sizes from 2 to 7 rooms, each with a terrace or loggia and fitted furnitures designed by the B.B.P.R. studio. In particular the last two floors are duplex penthouses with roof gardens. If the seven sectors sum up the functional subdivision of the tower fairly well, in typological terms the vertical sequence of the three functions is noteworthy: retail at street level, tertiary on the middle level, and homes at the top. Moreover, in a sentence by Rogers:

"In the design of any building there are three things to be considered: how the building meets the ground, how it meets the sky and the variation of the body (how it goes around the corner). In our building the contact with the ground is smoothly indicated by the structure. Its contact with the sky is satisfactorily concluded - it is not an infinite building, it is a building with a definition - the roof is its natural conclusion - a kind of hat on the building. To give continuity to the volume, the corners are cut, so that the movement is smooth and continuous. The diagonal corner itself forms a window which gives continuity to the inside volume as well." [6]

The design develops around a central wind-bracing core which contains the vertical distribution. The perimeter of the building consists of projecting load-bearing columns and curtain walls of traditional brickwork on the inside, and prefabricated panels on the outside. In between the core and the perimeter, a free ring that permits flexibility in the internal distribution. The main entrance is in the form of a pavilion set in front of the main building, with facilities for offices above in order to create an intermediate dimensional relationship between human scale and tower.

The project plays with two main colours, in order to harmonize with the principal colours of the buildings of Milan: the colour of the bricks which of the Middle Ages buildings, the colour of the stone used during the neo-classical period, and the marble of the Duomo.

However, the tones chiose it is not a result of a sentimental approach. Always during the CIAM of Otterlo:

"It is a technical approach to vision. The technical expression is accented by our indicating the structure in a quite different colour. We hate those things you see all over Italy: the bright, contrasting colours. Therefore we tried to do something else, and made it very simple. We nevertheless feared we might be misunderstood." [7]

In conclusion, as Rogers expressed, the Torre Velasca faces the theme of the relation between preexistent and new construction, with the idea of a new Modernism that exists not in the denial of the past, but in the proposal for the future. As Roger's conclusion during the presentation of the Velasca:

"It is not intended that this be an imitation of the forms of the past. If this building by chance of circumstances has taken the shape that reminds you of the past, that is not the main point of the problem, and I do not care about the form it has taken. Our main purpose was to give this building the intimate value of our culture - the essence of history -, we were never given to imitating the shapes and forms of the past, only understanding what has happened before us. This building is a sky-scraper in the very centre of Milan, five hundred metres from the Cathedral. It is at Milan's very historical centre and we found it necessary that our building breathe the atmosphere of the place and even intensify it. The attitude of the fathers of modern architecture was anti-historical. But this was an attitude which was born of a great revolution and it was necessary that the first premise of our culture be a new attitude to history. But this is now no longer necessary." [8]

For its sensitive qualities Torre Velasca has become a familiar element in the Milanese skyline, integrated with the preexistences of the ambience.

5.3. TORRE VELASCA
The Facade

The composition of the facades of the Velasca Tower is determined by three main elements: the projecting load-bearing pillars, the brickwork perforated by sequences of windows and loggias, and the secondary structure of the newels. The other basic element which characterise the tower is the projection of the apartment floors above the eighteen floor, wider than the trunk, this volume can be inscribed in a golden section.

The three main horizontal bands follow the functional division of the tower, but since the concrete structural system is not a cantilever one, and it is continuous from the foundation to the roof, the structure needed containment, so on the eighteen floor (the conjunction one) are placed the tensors which run through the building. In the facade drawing this joint floor is visible and meaningful. The form of the Velasca Tower is then the result of functional, compositional and structural reasons, as Belgiojoso explained:

"For structural reasons , the continuity between the pillars below and the ones above the sloping tie rods that support the projection, led to a profile even closer in its resemblance to the structure of medieval towers. But our group discussions were centred much more on what to do and criticising each single step than on working out preconceived styling intentions." [9]

The Velasca's structure is indeed extremely meaningful for the aesthetic of the elevation, the tapered triforium pillars in particular are aligned externally, projecting on the facade, to eliminate internal volume which would contrast with the flexibility of the internal distribution, and to define the design of elevations and plans with 1,58 m of distance from one another. The team of architects had studied with a 1:1 scale model the structural capacity and the effects of the light on the shape of the pillars. Giuseppe Samonà wrote about them:

"La sagoma dei pilastri principali parte da una pianta quadrata a quota zero (per consentire la massima luce alle vetrine del piano zero, ed il minimo ingombro verso l'esterno), mentre assume dal terzo piano in poi una forma a T per chiudere una maggior superficie di parete e per costituire una nervatura resistente, sporgente verso l'esterno. Questa nervatura continua poi da sola lungo il perimetro del corpo degli alloggi attrezzati soprastanti." [10]

In between the principal lines, given by the vertical columns and the horizontal tripartition, prefabricated concrete clips are regularly placed on the exposed walls, for fixing the panels in place. As Rogers explained, the walls are in stucco composite of earthenware and stone, of a lighter tone than the pillars, for visibly remarking the division between bearing and carried. Rogers stated:

"The structure is expressed as it is because we think that the articulation of the structure is one of the good qualities of modern architecture." [11]

Actually, a final layer of cement and crushed Verona marble, rough plastered and given a superficial polish was laid on the structure, in fairly thinly though. Moreover, the same year Samonà assumed:

"Le nervature che gli architetti hanno posto in risalto, più che accentuare per un bisogno di ostentazione costruttiva l'intelaiatura portante della sua fabbrica, servono a correggere il senso troppo ostentato di casa gigante a cui la torre tendenzialmente aderisce. In questo modo le nerbate costole che percorrono verticalmente la superficie delle quattro facciate, giustificano il residuo goticismo che in un certo senso le ha ispirate, e riportano con la loro gigantesca mole, alla proporzione dell'intero corpo, quella misura più modesta di vera e propria casa, che presenta la fabbrica, e che gli architetti hanno voluto conferirle per un'umana e quasi umile adesione alla potenza espressiva che appunto il senso di casa possiede, ripetuto un milione di volte nella città. Sentiamo l'efficacia del rapporto dialettico stabilito fra le nervature ascendenti e la parte ottusa non trasparente, bucata da piccole finestre, che ripropongono il senso della casa in ogni piano." [12]

Because it was impossible to know who the occupants would be, the team decided to devise a system which would had allowed the interchanging of the voids and the panels in the facade.

"The idea is that as the internal distribution change, the facade reacts." [13]

So, besides freedom of layout this permit, the facades are enlivened *with different and syncopated rhythms*[14] of full and empty zones.

The grid of this system is the secondary layer of the facade, designed horizontally by the panels, and vertically defined by the clips. But, although it is filled with a flexible rhythm of windows, loggias and panels of different widths, the grid, of 1/4 units per module, remains extremely regular and symmetrical. The prefabricated panels are made in red and yellow clinker with

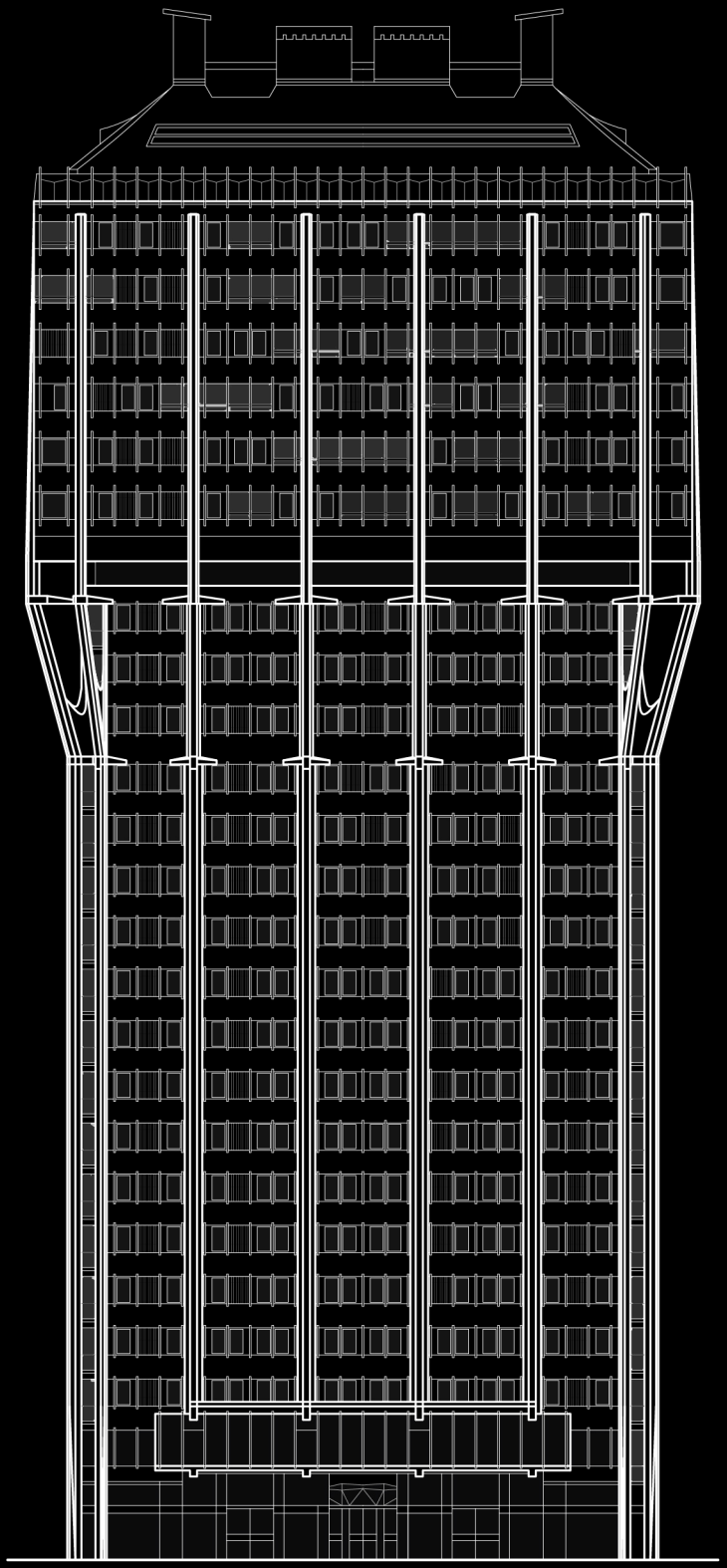
crushed Veronese marble and a layer of isolation on the inside, and they were especially studied in detail by the members of B.B.P.R. Studio. The windows, in reverse, are of standard production, of burnished anodised aluminium and wood. They are almost regularly placed in the office sector, whereas in the apartment area they are located in accordance with the requirements of the internal spaces. If this, as already said, had functional justification, it also had an obvious visual effect, distinguishing the two superimposed parts and making the upper part visually lighter. Under the windows is placed the air conditional system, extremely modern for the period.
Lastly, the four gable roof and the covering of the technical volumes on the top of the building, are clad in copper plates. In Bahnam critic of the Velasca:

"As a concluding gesture, to assert that he is, after all, a free agent, Rogers tops the whole thing off with a roof that looks as if it might have come off a large art nouveau country house. But in spite of all this, the Velasca is a unified design: it has immense character and compelling presence, and it is clearly the masterwork of a born architect." [15]

5.3. TORRE VELASCA

Elevation

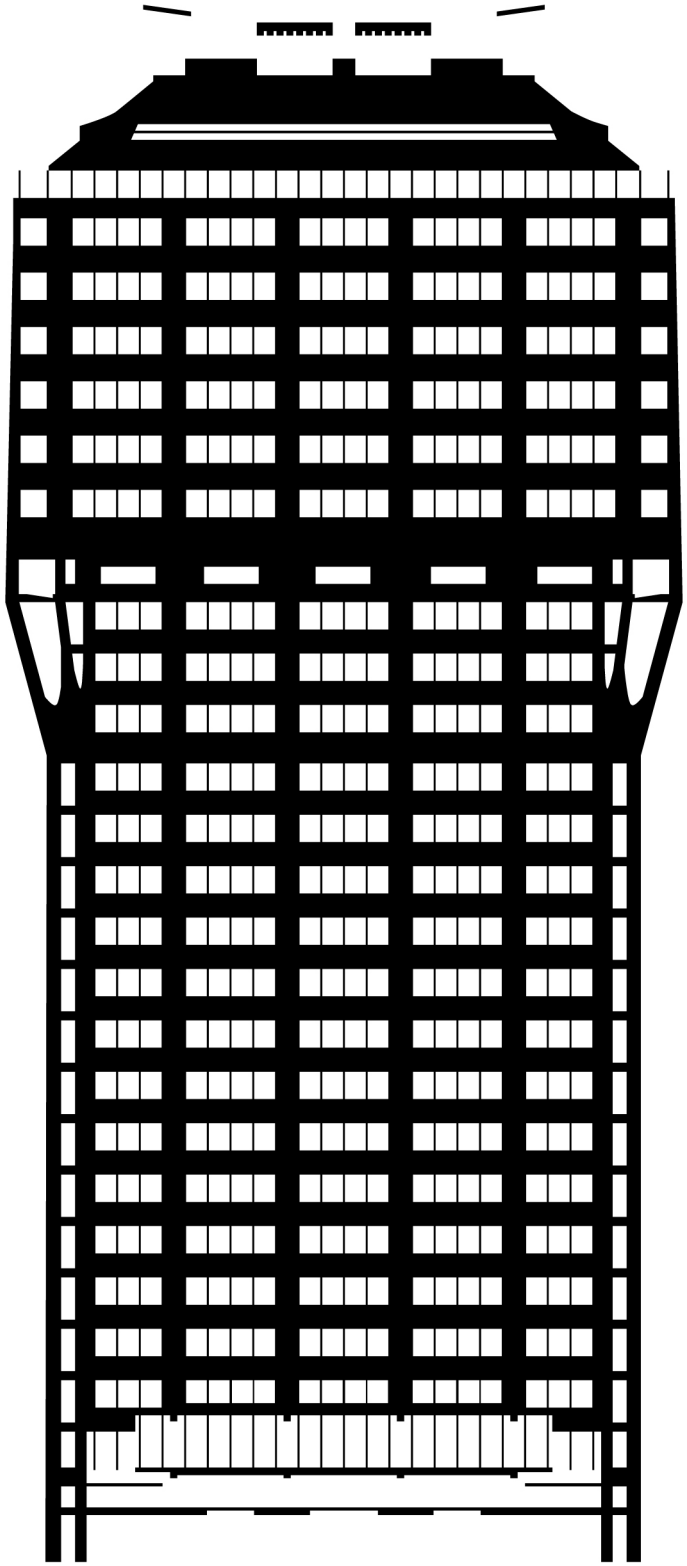
1:500



5.3. TORRE VELASCA

Openings and Closing

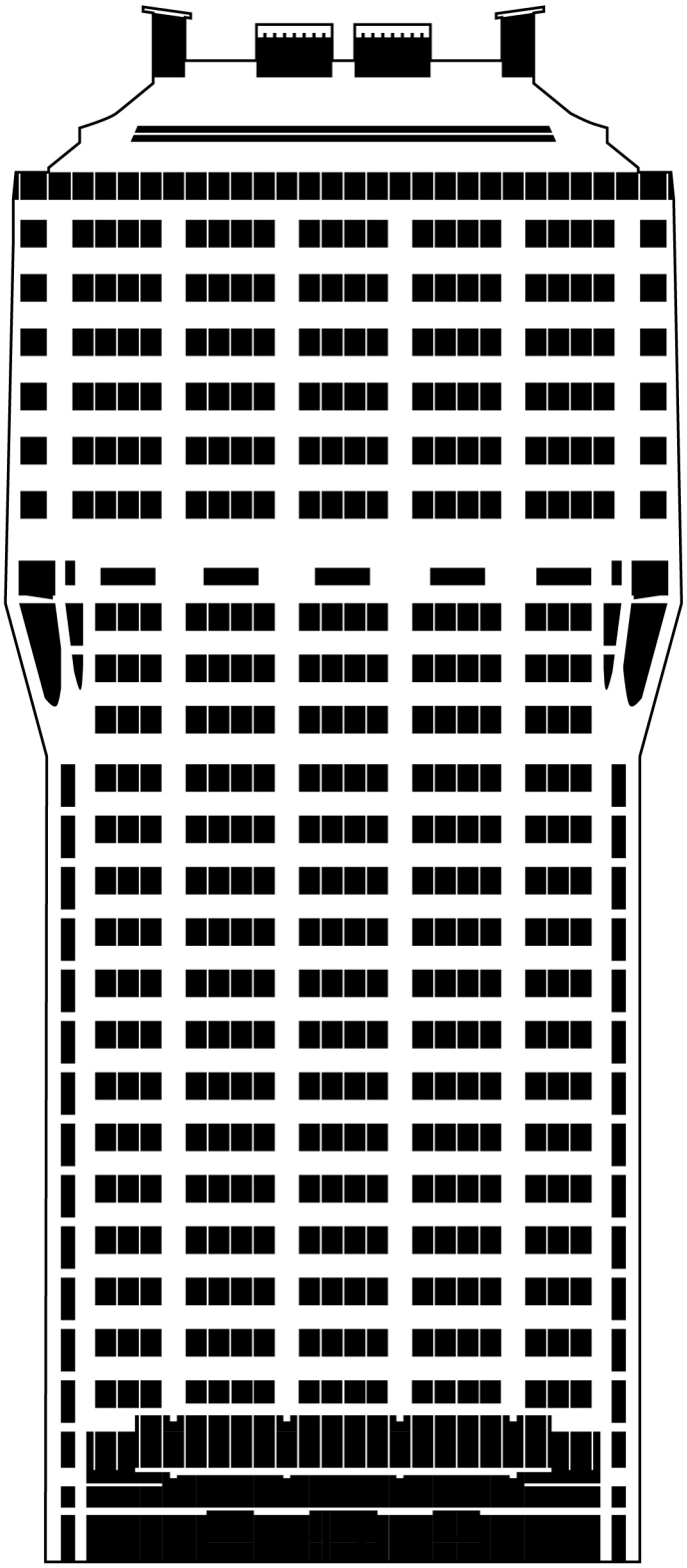
1:500



5.3. TORRE VELASCA

Openings and Closing

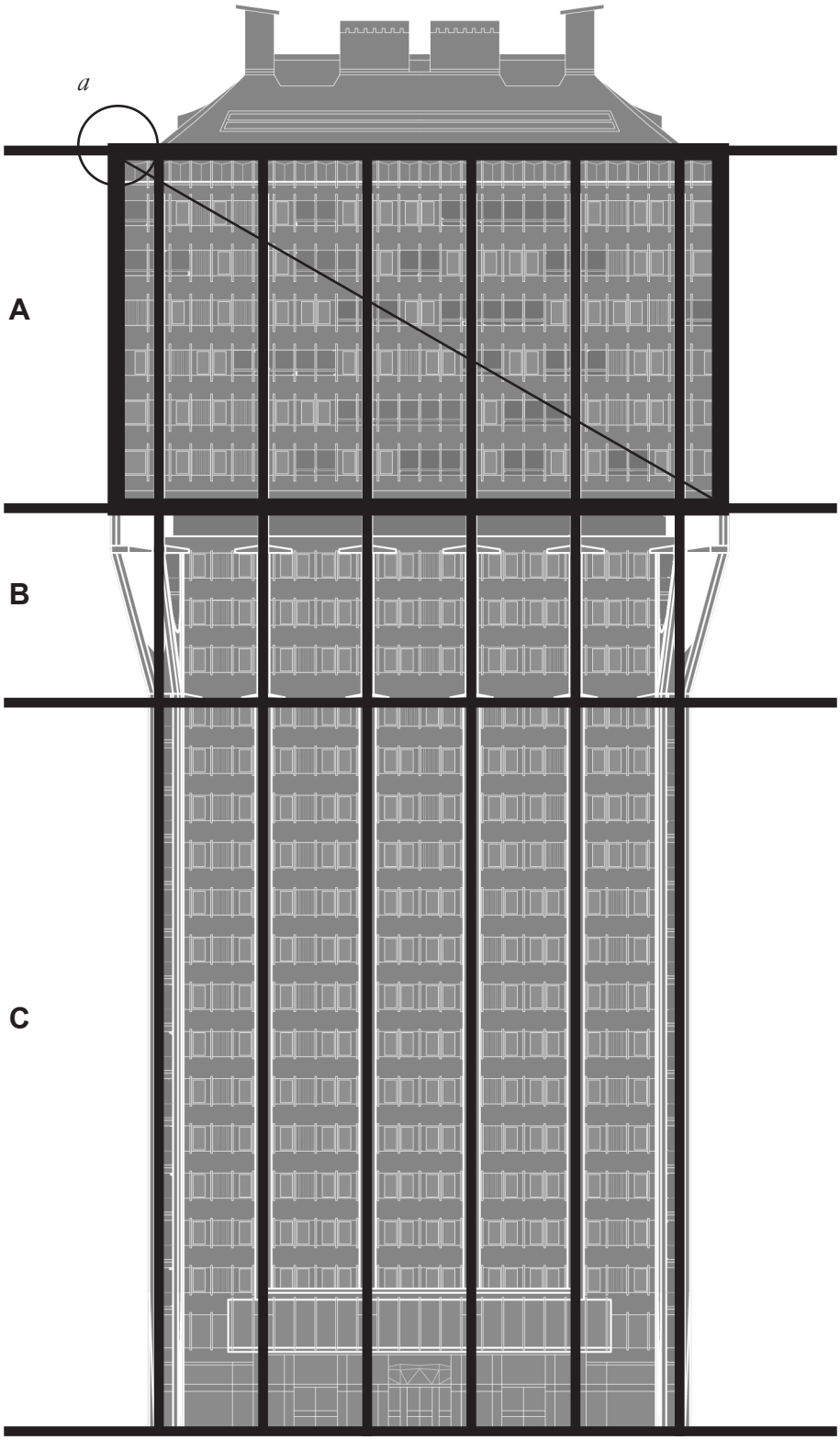
1:500



5.3. TORRE VELASCA

Facade Composition

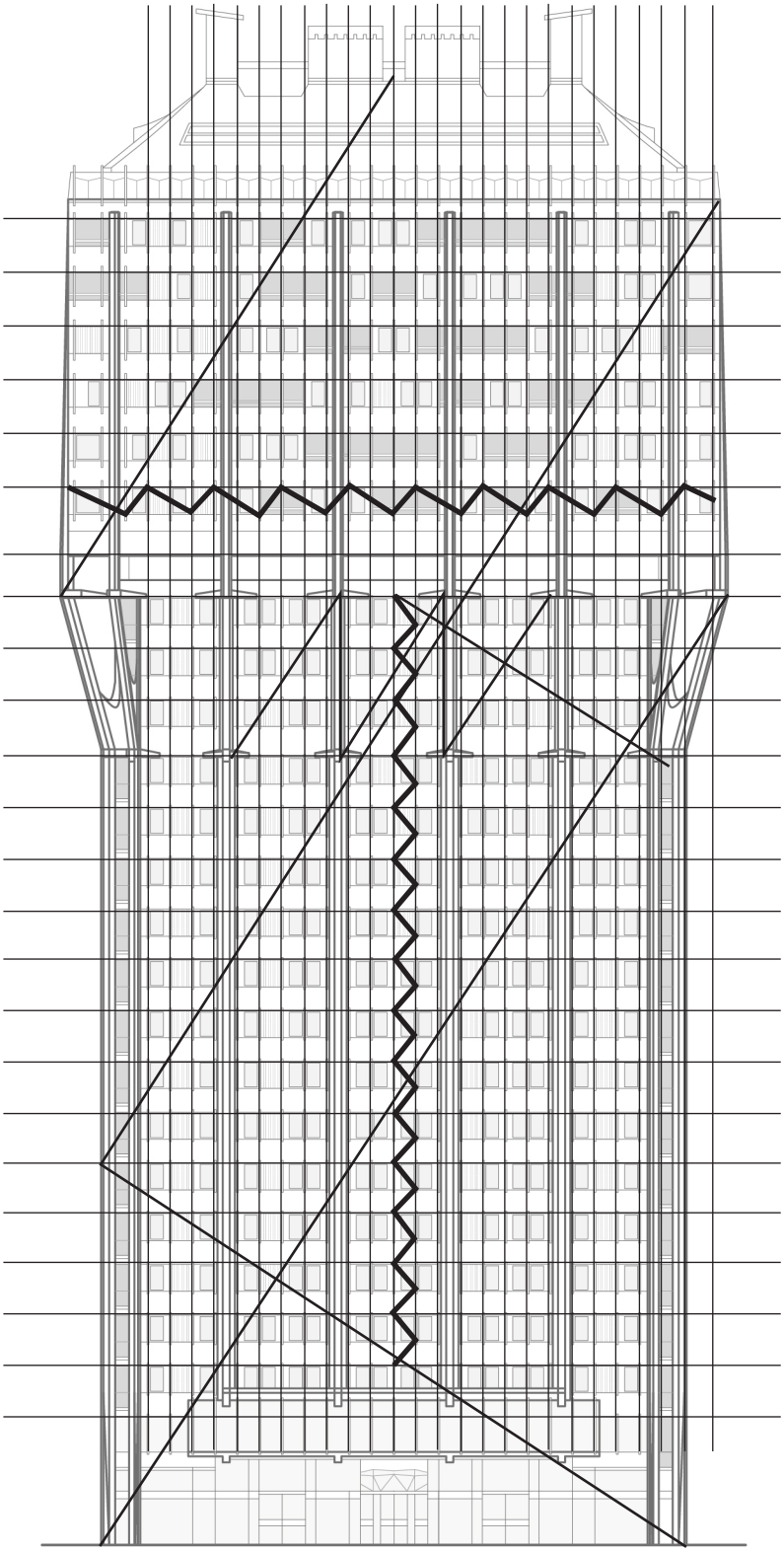
1:500



5.3. TORRE VELASCA

Facade Rhythm

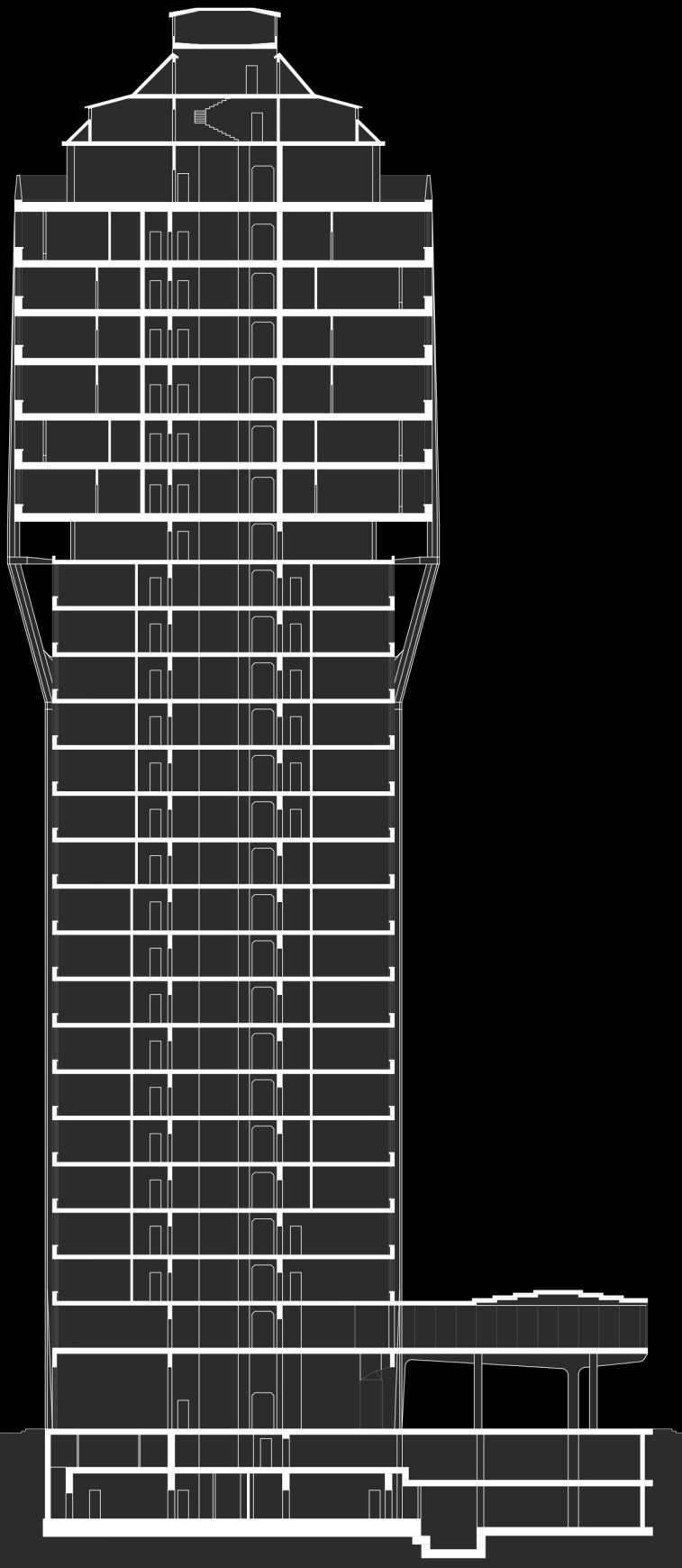
1:500



5.3. TORRE VELASCA

Section

1:500



1959 Peter Smithson:

"I agree with you (Rogers) that it is no longer possible to take up an anti-historical position. (…) In making such a building you bring upon yourself the responsibility of not only doing this thing in this situation but it is also a model - an example - of a method. Now I suggest that you, in a way, created a model here which has included certain consequences which, if you had been aware of your position in society and your position in the development of things, you would have seen are dangerous. Such a development contains the possibility of other people's doing similar things in a worse way. (…) For me there is a certain element of irresponsibility in this building. I realize that mine is a very Ruskinian position, perhaps even a puritanical one, but I think that with all this intellectual capacity you have to take up your own position, you have to be absolutely responsible because you must think fully of the nature of history, of the nature of society as it is today. I think that this is a bad model to give because there are things that can be so easily distorted and become not only ethically wrong but also aesthetically wrong. (…) As a rule, I can see no point in suggesting that we should look into our stylistic past in each country. There is an implication in Rogers' words that we should as an "a priori", look back into our own national history for forms (…) and your building (Rogers) I suggest does not live in the same world as the artifacts of our day because the plastic language it speaks is of another time." [16]

1959 Jacob B. Bakema:

"I think we have to recognize that this building cannot be seen purely as a problem at a certain moment in the evolution of architecture without thinking of the other problem Rogers was faced with. He had to integrate a high-rise block into a historic village. So his building is an example of the relation between a new element and the architecture and urbanism of a historic village. Looking at these photos here, you see that at a certain distance there is something in the building's silhouette which suggests that it could have been there for fifty years. Somehow this is an appealing quality it has. But if you approach the building and come to the foot of it you see of course that this is not so. Now this is where the problem comes in. (…) This city Milano is very lively, you have old buildings and you have much traffic - modern traffic. We cannot say that this modern traffic fits into the city too well, but it is a reality. It is there.

I think that the identity, the form of a building, is a kind of communication about things which are happening in life. Thus when, at the present time, I see a building, I not only see a form, but this form tells me about the life of the time. (…) The form of that tower transmits to us an event of a past life. I hope only that we, as architects, working in the present, are able to make building forms and towns which will communicate to the people of some future time what was happening now - in this moment - and that our forms are life-forms. (…) I think that form is a communication about life, and I don't recognize in this building a communication about life in our time. You are resisting contemporary life (…) I am concerned because this work is done by colleagues who have made work which was fully acceptable, and which we looked to because it was simply good work. I am very interested in the relationship between those creative moments in which the earlier work was done and this work here now, which is for me, unacceptable. It has not been clarified here what is the relationship, and I should like to ask of those who made it: How is it possible that there is this difference in this work?" [17]

1959 Giuseppe Samonà:

"Tutte le opere di questo genere (a torre) si trovano al di fuori di una continuità posseduta e convinta con l'ambiente, di cui non abbiamo ancora scoperto le valide ragioni storiche; perciò nessuna di esse, decisamente si proietta in uno svolgimento armonico, che neghi la sua natura eccezionale. Tuttavia, a differenza della gran parte delle torri costruite in questi anni con una certa singolarità non spregevole, ma cercata ed accentuata, la Torre Velasca tenta di attenuare per una via abbastanza interessante proprio la sua eccezionalità volumetrica" [18]

1959 - 1960 Enzo Paci:

"The Torre should be considered as the architectonic expression of a problem which as reached full maturity, and this should be considered in judging its importance and value. Against the background of BBPR's total activity it is perfectly coherent; in relation to future possibilities, its meaning will appear all the more positive insofar as it succeeds in leading to a careful reappraisal of modern architectonic values. The worst use that could be made of it, would be to consider it as the "end of the modern movement", as a return or rather as a continuity which might crystallise into a reaction." [19]

"Accadde così che una tecnica moderna che vuole riassumere in sé tutta l'eredità del razionalismo, cerca di far rivivere (non di ripetere) in forma attuale una tradizione, senza rinunciare alla rigorosità del metodo." [20]

"l'unico modo di far vivere la tradizione è quello di negarla come conclusa, di accettare la crisi, di prospettare un nuovo orizzonte. É nel nuovo orizzonte che il passato rivive, diventa presente per aprisi di nuovo al futuro. Il vero moderno è, alla fine, ciò che in nuove forme rende vivo e presente in sé l'antico ed il vero revival è il nuovo orizzonte che si apre con la modernità." [21]

1960 Reyner Banham:

"Any tall tower on this site would have to share the sky with the cathedral, and this particular tower would be most bulky at the top, where the cathedral is most finely drawn. The cathedral was not the only consideration, but 1t was the outstanding one in the subsequent design changes. These changes were accompanied by the working out of Rogers' theory of the ambiente pre esistente, according to which the existing environment must be accepted as a dominant in the design of any new buildings. In other words, it is a subtle version of that most suffocating of British town-planning dogmas, 'keeping in keeping'. The only significant difference is that this exaggerated respect for what surrounds the site is a volunteer effort on the part of Rogers, not an imposition of the local authority. But it still represents a complete rejection of the gusto with which Italian architects inserted aggressively modern buildings into oppressively antique environments until about four years ago. It is still a conspicuous failure of nerve, especially on the part of Rogers, whom we tended to regard in the early 50ies as the great master of the business of putting new with old.

The Velasca is a unified design: it has Immense character and compelling presence. and it is clearly the masterwork of a born architect. For all of these reasons, it is a complete town planning disaster. It cannot be ignored or overlooked: its relation to the cathedral is that of a guest who drives his voice. However one views the central area of Milan, even from the penthouses of Via Crivelli, a mile to the south, there is this great. club-headed, holier-than-thou silhouette monopolizing he skyline." [22]

1961 Gio Ponti:

"Anche se per derivazioni formali che si vogliono riscontrare nella Velasca può parere il contrario, la Velasca è un'opera nuova ed anticonformista, se la si pone al confronto dei conformismi in corso. (…) io amo la Velasca nell'atto e valore di creatività architettonica che essa rappresenta, e nell'indicazione formale che in essa si rappresenta e propone, considerandola anche come fatto architettonico in sé, fuori da riferimenti ambientali e tradizionali. (…) ogni possibile (e facile) riferimento a forme remote mi ha interessato molto meno che non il riconoscere nella Velasca (strettamente restando nell'ambito delle forme moderne ed in quelle che possono avere un futuro) una invenzione - o se volete una scoperta - strutturale e formale, autonoma, che apre affascinanti possibilità. Questi valori autonomi appaiono a me tanto prevalenti da poter dire che la Velasca ha piuttosto creato, per la mole perentoria e per la forma peculiare, un suo ambiente, anzi il suo ambiente, autonomo, ed incomunicante, piuttosto che subire ed interpretare un ambito di vicinanze. E la mia immaginazione è corsa perciò alle creazioni ambientali che la Velasca può eccitare. I problemi posti da particolari preesistenze ambientali si possono risolvere solo nella concomitanza di una visione generale, che promuova, attraverso creazioni ambientali, efficienti sviluppi architettonici della città, senza più tormentare gli ambienti originari, assicurandone anzi la conservazione e salvaguardia. (…) Essa entra in un nostro repertorio formale il cui insegnamento ci è prezioso, ed entra per integri valori nella reale "esistenza" sociale, e storica e procedente, di Milano, in quella successione di opere ardite che testimoniano la continuità vitale, creativa e non conformista, di questa città." [23]

B.B.P.R. :

1932 Enrico Peressutti:

"Noi crediamo che non basti all'architetto il costruire, ma sentiamo il bisogno di dire, di esprimere, con la sintesi dell'opera nostra, oltre che la vita contingente, il pensiero e il carattere dell'epoca attuale" [24]

1958 Ernesto Nathan Rogers:

"Il valore intenzionale di questa architettura è di riassumere culturalmente, e senza ricordare il linguaggio di nessuno dei suoi edifici, l'atmosfera della città di Milano; l'ineffabile eppure percepibile caratteristica (…) Vuole essere - e spero che almeno in parte sia - la testimonianza di una vocazione: di un modo tecnologicamente corretto e attuale di costruire; di un linguaggio attuale, inserito come immagine nella continuità della tradizione." [25]

1982 Ludovico Barbiano di Belgioioso:

"Our intention when we drew up the design, and our considered answer to the reactions of the critics when the work was completed, were that the Velasca tower was part of the Modern Movement, since the design of this building was conceived and

developed in strict accordance with the principles of the Modern Movement.
Proof of this is to be seen in the process of the design and the sequence of the solutions proposed, each of different form but all coherent with an analysis of functions and conditions inherent in the site, and with alternatives for adopting different materials, structures and technologies, each in the appropriate style and form. Again, it is true that there is a progressive sensitivization of the architectural idiom, to the environmental character and the historical traditions of Lombard architecture that runs right through the first "screen" solutions and those already in tower form but with a mental structure, then on the final result in reinforced concrete. This process was, however, slow and gradual during the eight years in which the design was developed, bearing in mind that it was accompanied by a general maturing of architectural ideas towards positions more favourable to historical and environmental values. But our work did not undergo any sudden changed caused by matters which had nothing to do with the design itself (…) pp. 28 Our building won the hearts of the Milanese because of its profile which was the result not of styling but of a correct interpretation of space, recalling the traditional towers. Also because of the architectural idiom which in the preparatory phase retrieved some of basic elements of Milanese architecture, such as the sizes of the windows, of the projections, the roughness of the plaster, the use of the materials, the shades of the colours (…) However, the origin of each element should not be attributed to the application of individual features taken from the archives of the Lombard architecture of the past but rather to our attempts in each case to relive the problem of the choice of styling in terms of similar conditions existing in the past." **26**

5.3. TORRE VELASCA
Thesis Project and Case Study Similarities

Thinking about the analogies between the thesis project and the Velasca Tower, it was for me particularly meaningful the Samonà quote:

"Tutte le case-torri si sono configurate come oggetti la cui espressione si concentra nella possibilità d'esaltare l'isolato fenomeno dimensionale, difforme da tutti gli altri della città. Perciò l'oggetto diventa un prisma più o meno puro in cui l'unità assoluta, con una dimensione sola, misurata dall'alto del coronamento al piede della fabbrica, giganteggia e così impedisce ai vuoti di apparire nella loro singolarità d'elementi distaccati. I vuoti, generalmente, si fondono in un tutto unitario facendo sì che la parete appaia quasi sempre traslucida e appena reticolata e si unifichi alla enorme romantica dimensione generale dell'intera fabbrica. Il colosso è compiuto, e si pianta come una vera eccezione meccanicistica nella compatta e appiattita struttura della città, ne contrasta la solida corpulenza con la superficiale purezza della sua pelle, qualche volta può avere anche una certa efficacia figurativa, ma è quasi sempre un oggetto inserito in maniera discordante, che infastidisce perché, in genere, più che grande in se stesso, appare ingrandito da una scala molto più piccola. I creatori della Torre Velasca hanno seguito una strada che si potrebbe dire opposta, ed è perciò che la loro opera risulta estremamente più interessante." [27]

In fact, in my project, I tried to design a facade that could qualitatively communicate the depth of the space and a clear definition of structural grid, full and empty zones, avoiding the idea of unique glass volume tower.

As in the Velasca Tower, in my project, the short distance pillar to pillar is giving a sense of human scale. Meanwhile, having the structure projected on the facade guarantees extreme flexibility in the internal distribution.

In both projects, the lines of the structures define a regular drawing, made lively by the prefabricated panels in one, by the curtains' irregularity in the other.

Lastly, as the Velasca Tower, in my design I chose to cut the corners of the building to give continuity and smoothness to the volume.

5.3. TORRE VELASCA
Note

1. O. S. Pierini, Case Milanesi 1923 - 1973: cinquant'anni di architettura residenziale a Milano, Milano, Hoepli, 2017, p. 302

2. M. Prizzon (a cura di), BBPR la Torre Velasca. Disegni e progetto, Milano, Editrice ABITARE Segesta, 1982, p. 26

3. ibidem

4. Case Milanesi 1923 - 1973: cinquant'anni di architettura residenziale a Milano, op. cit., p. 302

5. G. Gramigna, Milano: un secolo di architettura milanese da Cordusio a Bicocca, Milano, Hoepli, 2001, p. 250

6. O. Newman (a cura di), CIAM '59 in Otterlo, Stuttgart, Krämer, 1961, p. 92

7. ibidem

8. ivi., p. 93

9. BBPR la Torre Velasca. Disegni e progetto, op. cit., p. 28

10. G. Samonà, La Torre Velasca di Milano. Il grattacielo più discusso d'Europa, in L'architettura.Cronache e storia, n° 40, febbraio 1959, p 661
English translation by the authoress: *The outline of the pillars starts from a square section at the ground level, for allowing more light as possible to pass through the windows using the minimum outside space. Meanwhile, from the third floor to the top, it assumes a T shape to close a wider wall surface and to create a strong rib, protruding outwards. This rib then continues by itself along the perimeter of the body of the refurnished accommodation above.*

11. CIAM '59 in Otterlo, op. cit., p. 92

12. La Torre Velasca di Milano. Il grattacielo più discusso d'Europa, op. cit., p 661
English translation by the authoress: *The structural nerves that the architects have highlighted, rather than accentuating the supporting framework of the building for constructive ostentation, serve to correct the overly ostentatious sense of a giant house to which the tower tends to adhere. In this way, the ribs, that run vertically along the surface of the four facades, justify the residual Gothicism that in a certain sense inspired them, and bring back with their gigantic bulk, to the proportion of the whole body, that more modest measure of true and own house, which presents the construction, and which the architects wanted to give it for a human and almost humble adherence to the expressive power that the sense of home possesses, repeated a million times in the city. We feel the effectiveness of the dialectical relationship established between the ascending ribs and the obtuse non-transparent part, holed by small windows, which reproduce the sense of home on each floor.*

13. CIAM '59 in Otterlo, op. cit., p. 92

14. Milano: un secolo di architettura milanese da Cordusio a Bicocca, op. cit., p. 250

15. R. Bahnam,"How the skyscraper came to Milan", Domus/Skyscrapers supplement of Domus n° 865, 2003, p. 10

16. CIAM '59 in Otterlo, op. cit., p. 94-95-97

17. ivi., p. 97

18. La Torre Velasca di Milano. Il grattacielo più discusso d'Europa, op. cit., p. 659
English translation by the authoress: *All the works of this type (tower) found themselves outside a possessed and convinced continuity with the environment, for which we have not yet discovered the valid historical reasons. Therefore none of them is decidedly projected into a harmonic development that denies its exceptional nature. However, unlike most of the towers built in recent years, with a certain singularity that is not despicable, but sought and accentuated, the Torre Velasca tries to attenuate its volumetric exceptionality in a quite interesting way.*

19. E. Paci, Continuità e coerenza dei BBPR, Zodiac n° 4, 1959, p. 205

20. ivi., 112-113
English translation by the authoress: *It so happened that a modern technique that wants to summarize in itself all the legacy of Rationalism, tries to revive (and not to repeat) a current traditional form, without sacrificing the rigor of the method.*

21. E. Paci, Fenomenologia e architettura contemporanea, in Relazioni e significati, Volume III (Critica e dialettica), Milano, Lampugnani Nigri, 1966, p. 173
English translation by the authoress: *The only way of bringing tradition to life is to deny it as concluded, to accept the*

crisis, to envision a new horizon. It is in the new horizon that the past relives, which becomes present to open up again to the future. The real modern is, in the end, what in new forms makes the ancient alive and present in itself. The true revival is the new horizon that opens with modernity.

22. How the skyscraper came to Milan, op. cit., p. 10

23. G. Ponti, La Torre Velasca a Milano, in Domus, n° 378, 1961, preface
English translation by the authoress: *Although due to formal derivations that are to be found in the Velasca, the opposite may be seen, the Velasca is a new and non-conformist work, when compared to the conformisms in progress. (...) I love Velasca in the act and value of architectural creativity that it represents, and in the formal indication that it represents and proposes, also considering it as an architectural fact in itself, out of environmental and traditional references. (…) Every possible (and easy) reference to remote forms interested me much less than recognizing in Velasca (strictly remaining in the context of modern forms and those that may have a future) an invention - or if you want a discovery - structural and formal, autonomous, which opens up fascinating possibilities. These autonomous values appear to me so prevalent that I can say that Velasca has rather created, due to its peremptory size and its peculiar form, its own environment, indeed its environment, autonomous and incommunicable, rather than undergoing and interpreting an area of the vicinity. And my imagination, therefore, ran to the environmental creations that Velasca can excite. The problems posed by particular environmental pre-existing structures can be solved only in the concomitance of a general vision, which promotes, through environmental creations, efficient architectural developments of the city, without tormenting the original environments, indeed ensuring their conservation and protection. (...) It enters our formal repertoire whose teaching is precious to us, and enters the real social, historical, and proceeding "existence" of Milan for integral values, in that succession of daring works that testify to the vital, creative continuity and non-conformist, of this city.*

24. E. Peressutti, Tesi di Laurea B.B.P.R., 1932
English translation by the authoress: *We believe that building is not enough for the architect, but we feel the need to express, with the synthesis of our work, as well as the contingent life, the thought and character of the current time.*

25. E.N. Rogers, Esperienza dell'architettura, Torino, Skira, 1958, p. 312-313
English translation by the authoress: *The intentional value of this architecture is to summarize culturally, and without remembering the language of any of its buildings, the atmosphere of the city of Milan; the ineffable yet perceptible characteristic (...) It wants to be - and I hope that at least in part it is - the testimony of a vocation: of a technologically correct and current way of building; of a current language, inserted as an image in the continuity of tradition.*

26. BBPR la Torre Velasca. Disegni e progetto, op. cit., p. 25-26

27. La Torre Velasca di Milano. Il grattacielo più discusso d'Europa, op. cit., p. 659
English translation by the authoress:
All the tower-houses are configured as objects whose expression is concentrated in the possibility of enhancing the isolated dimensional phenomenon, different from all the others in the city. Therefore the object becomes a more or less pure prism in which the absolute unity, with a single dimension, measured from the top of the crown at the foot of the factory, looms and thus prevents the voids from appearing in their singularity of detached elements. The voids, generally, merge into a unitary whole, making the wall almost always appear translucent and barely reticulated and merging with the enormous romantic general dimension of the entire factory. The colossus is complete, and is planted as a true mechanistic exception in the compact and flattened structure of the city, it contrasts its solid corpulence with the superficial purity of its skin, sometimes it can also have a certain figurative effectiveness, but it is almost always an object inserted in a discordant way, which is annoying because, generally, more than large in itself, it appears enlarged by a much smaller scale. The creators of the Torre Velasca followed a path that could be said to be the opposite, and it is therefore that their work is extremely more interesting.

5.3. TORRE VELASCA
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5.4. TORRE TURATI 2

1963/1967

Via Filippo Turati 40
Giovanni and Lorenzo Muzio

75 m

Pic. 116

5.4. TORRE TURATI 2
The Project

"Per completare l'opera di trasformazione, iniziata negli anni trenta di piazza Fiume, l'attuale piazza della Repubblica, mancava soltanto il lato sud, topos particolarmente significativo tra i tanti situati lungo il rettifilo stazione-centro città. (…) il sito rappresenta uno dei punti cardine nella mappa di un'ingenua retorica ufficiale: qui, Milano deve offrire "le sue credenziali" al viaggiatore in arrivo. La "scena urbanistica di rappresentanza" che gli si para davanti, deve esprimere compiutamente "il carattere di grande città moderna" (come afferma il Corriere della Sera in una nota del maggio 1959); a tal fine occorre un fondale ben diverso sia da quello esistente ("due palazzetti di 60 anni fa dall'incerto stile Liberty"), che da quello suggerito dal piano e dal regolamento edilizio ("edifici continui alti 40 metri, in pratica due grevi bloccacci cementizi" come li definisce il notista del "Corriere")." [1]

On the owner's behalf, Luigi Mattioni had already advanced in 1958 an alternative proposal to the solution indicated in the masterplan for the twin lot of Torre Turati. The project included two similar towers in the frieze at the entrance to the straight street axis.

In a rigorously symmetrical composition, the two towers were placed on a series of low bodies, which have been opened wide to attenuate the abrupt narrowing of the straight line coming from the station.

Articulated according to different heights, the lower bodies were arranged to ensure the homogeneity and continuity of the fronts and, at the same time, enhance the verticalism of the composition. In the two wings, the slab joined with the existing buildings; in the corner was meant to highlight the height of the towers (60 m). A trick for obviating the municipal regulation that, by imposing the setback of 18 m from the edge of the road, would have risked hiding the volume of the tower.

Luigi Mattioni manipulated the volumes, much more articulated and complex than those of Torre Breda. In those cases, the tower rested on a continuous plate that simply followed the perimeter of the lot. Thanks to the almost enthusiastic support of the councilor Stefano Baj, Mattioni's proposal got approved and changed the destiny of the homologous area, where, ten years later, the Muzio studio designed the twin tower placed on a similar plate.[2] Actually, Muzio had proposed the two twin towers project for the area in 1924 already, an ambition that had to wait almost 50 years for the final commission by the Reale Compagnia. For Giovanni Muzio, this was the last of the development for Piazza Della Repubblica, as one of the lasts projects of his career. His son, Lorenzo Muzio, took part in the design of the building, which was finished in three years, with not a few compromises.[3]

"L'impostazione planovolumetrica dell'organismo è stata definita dopo una proposta di modifica del piano particolareggiato del 1953 e 1960 che prevedeva una sistemazione simmetrica di due identici organismi a torre. All'inizio della nostra progettazione era stata già realizzata la testata ovest di via Turati secondo queste precise indicazioni.

Negando la validità di una soluzione simmetrica, si è in un primo tempo redatto un progetto che proponeva una torre a pianta quadrata arretrata rispetto a filo stradale.

Non accolta dalla Commissione edilizia questa proposta di variante, ci si è limitati ad apportare delle sostanziali modifiche ai volumi pur mantenendo l'impostazione di massima del piano." [4]

As stated by Giovanni Muzio, the municipal authority reconfirmed the provisions of the volumetric regulated plan, despite the recent transformations that took place in that part of the city and the different urban role that the type of tall building had assumed, in those years, in Milan. The design story of the Turati Tower, therefore, unfolds on the explicit intention to force those limits as possible.[5]

Volumetrically, the complex consists of a ninteen-storeys tower building resting on a plate, and a five-storeys body that ends, towards Piazza Della Repubblica, the west front of the buildings in via Turati as ruled by the urban masterplan. However, the main changes concerned the early stages of the design process. When the first hypothesis of a squared plan tower, set back from the street line, was rejected by the building commission.[6]

The plan of the tower, from its original hexagonal shape proposed by Mattioni, assumed the compromise of a stepped shape. Starting from the central stair-lift core, tapering towards the north and south fronts. Thus the compactness was broken of the east and west fronts, accentuating the verticality of the tower, and *"forzando la stereometria entro la quale eran costretti ad agire."* [7]

Along the north and south façade, a gradual overhang was created that reaches the maximum projection on

the tenth floor, in correspondence with the floors destined for the apartments, as in the Torre Velasca,[8] and allows to obtain loggias in the last floors located according to the internal distribution of the apartments. With their staggered distribution, they try to introduce a principle of variety in the facade.[9]

The tower, defined at the top by a roof that encloses the technical volumes, reaches a maximum height of 75 meters,7 however, the aforementioned pitched roof seems to deny the typological characterisation of the tower.[10]

The first eleven levels are occupied by offices, arranged according to a repeated plan that distributes four units on each floor,[11] only the last eight floors of the tower are occupied by apartments. The particular arrangement of the stair-lift group has allowed the accommodation of two, three, or four apartments per floor, in an area of about 400 square meters.

The typical floor is characterized by a central area (overlooking the two main fronts) which contains the vertical connections and on which the accesses to the apartments (max four per floor). The type A apartments have a rectilinear hallway, along which there are two bedrooms (with attached bathroom), the kitchen, and finally the dining-living room overlooking a front terrace. Type B accommodations have only one bedroom, but a more rational position of the kitchen than the dining-living room, which is also immediately accessible from the entrance. The large number of lifts and hoists ensure quick and easy access to the different floors.[12]

The first two floors of the tower and the lower volume were prepared for the establishment of a bank with a bank vault in the first underground level. A three-storeys garage is connected by a circular ramp and is equipped with sixty-six car boxes.

The initial design of the tower was born for a reinforced concrete structure set on load-bearing walls; subsequently, for reasons of reduction of the execution times,[13] a structure in steel was used instead. It remains partly visible, drawing the composition of the facade, partly enclosed by prefabricated infill panels.

"Nel lavoro ho sempre seguito due uniche regole sicure: innanzitutto minimo dispendio dei mezzi- sono contrario allo spreco e al gigantismo che sono segni di decadenza - e, in secondo luogo, scelta della soluzione più semplice tra quelle al vaglio. La combinazione di questi principi garantisce già due coefficienti notevoli di qualità e durata nel tempo di un'architettura." [14]

Excluding the central steel pillars that start from the first underground floor, all the metal framework rests on a reinforced concrete structure that includes the two underground floors. In addition, reinforced concrete stairs and elevators are the core of the system's stiffening. While the characteristic tapered shape towards the base is given by a series of progressively projecting structural shelves.

The volume on Via Turati was made of reinforced concrete, the support plate of the tower took on the appearance of a same but projecting volume.

The whole body is equipped with a central air conditioning system that works through special cabinets arranged in the individual rooms.

5.4. TORRE TURATI 2
The Facade

The volume on via Turati has an infill of prefabricated panels welded to the reinforcement of the reinforced concrete structure, the elevations are characterized by the repetition of the same simple elements. The support plate of the tower has instead taken on the appearance of a projecting volume consisting of a continuous wall of bronze wood windows.
The façades of the tower are made of prefabricated panels in reinforced concrete, covered in marble grit, with the joint lines clearly highlighted
On the north and south facades, corresponding to the shorter sides of the tower, the steel structure is visible. Regarding the use of prefabricated concrete infill panels, it can be assumed that Giovanni Muzio was interested in the prefabrication experiences carried out by Auguste Perret in the reconstruction of Le Ha vre between 1945 and 1955, and from the BBPR studio in the Torre Velasca at the end of the 1950s.[15] In the portion of the tower for accommodations, the minor facades are emptied to give space to large loggias arranged asymmetrically.
On the east and west facades, unlike the secondary ones, the structure is hidden behind the continuous series of prefabricated panels in reinforced concrete and marble grit. The stairwells are reflected here in a double row of voids, partially shielded by grids and inserted in a dense geometric pattern marked by the string courses and the progressive retreats in correspondence with the hidden pillars.[16]
The adoption of prefabricated panels, rather than from an attempt to industrialize the external infill, not so essential given the reduced repeatability of the elements, depended on the necessity to absorb the elastic deformations of the tower building.[17] The problem was in fact solved by equipping the panels with special elastic neoprene joints, a necessity that introduces a different expressiveness of the overall configuration, with a decisive shift in the sign of the figurative outcome compared to a previous hypothesis of Klinker coating.[18] In choosing the size of the panels, various hypotheses were made; starting from the assumption that these panels acted only as infill panels, initially, small panels were taken into consideration for maximum ease of installation; later, the problem of the elastic joint between panel and panel which was difficult led to the adoption of medium-sized panels.[19]
They are made of reinforced concrete and two-tone brown marble grit, with internal ribs for reinforcement. 3.5 cm of thickness in all. Iron attachment plates are inserted in the upper and lower part of the panels for fixing to the structure. The fixing process is done by welding in the lower part, while it is elastically resolved by bolting to the intrados of the next floor in the upper part.

"Il lavoro di progettazione costa molta fatica e, in certo senso, più è semplice e più costa fatica. Non sono d'accordo con il principio di usare la forma solo come finalità estetica priva di necessità, come quando si applicavano le finestre in angolo, privandolo di sostegno e introducendo così complicazioni statiche. Aggiungo che, nell'aspirazione internazionalista del Razionalismo era insito, almeno in parte, un peccato di esotismo. Sono contrario all'internazionalismo: ritengo che, almeno in ciò che permane nel tempo, quindi nell'architettura particolarmente, occorra cercare di rimanere fedeli alle proprie origini e tradizioni." [20]

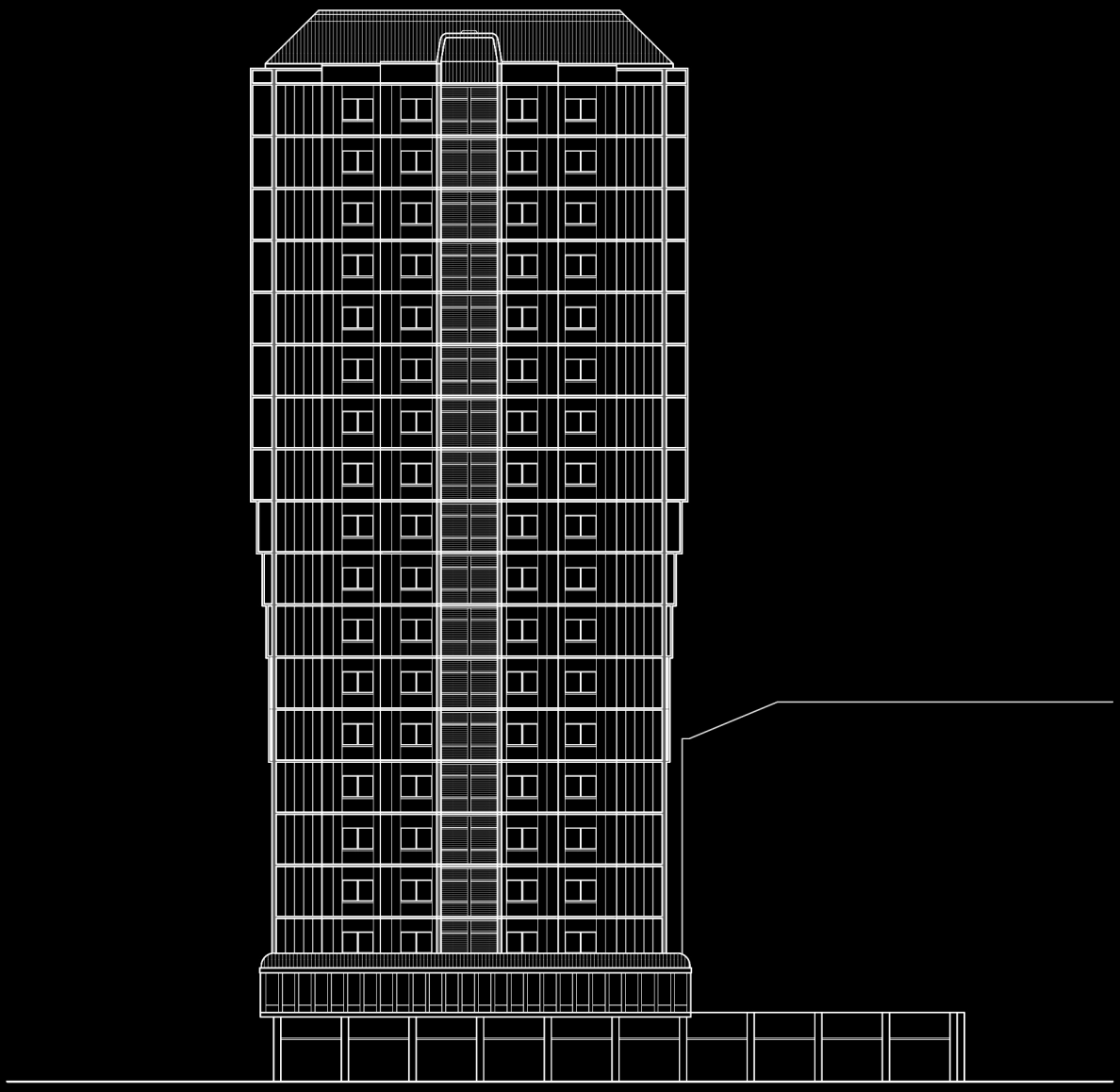
However, in recent years, a worrying phenomenon of degradation has occurred in the tower envelope, caused in part by the increasingly aggressive air pollution, and in part due to the lack of experience in the field of prefabrication at the time of the design and construction of the Tower.[21]

"Se la causa principale del degrado è stato il fenomeno di carbonatazione del calcestruzzo innanzi descritto, è opportuno comunque segnalare che, in alcuni casi, gli ammaliamenti sono stati aggravati sia da una scarsa attenzione ai dettagli costruttivi in fase progettuale, sia da mancanze in fase esecutiva." [22]

5.4. TORRE TURATI 2

Elevation via Turati

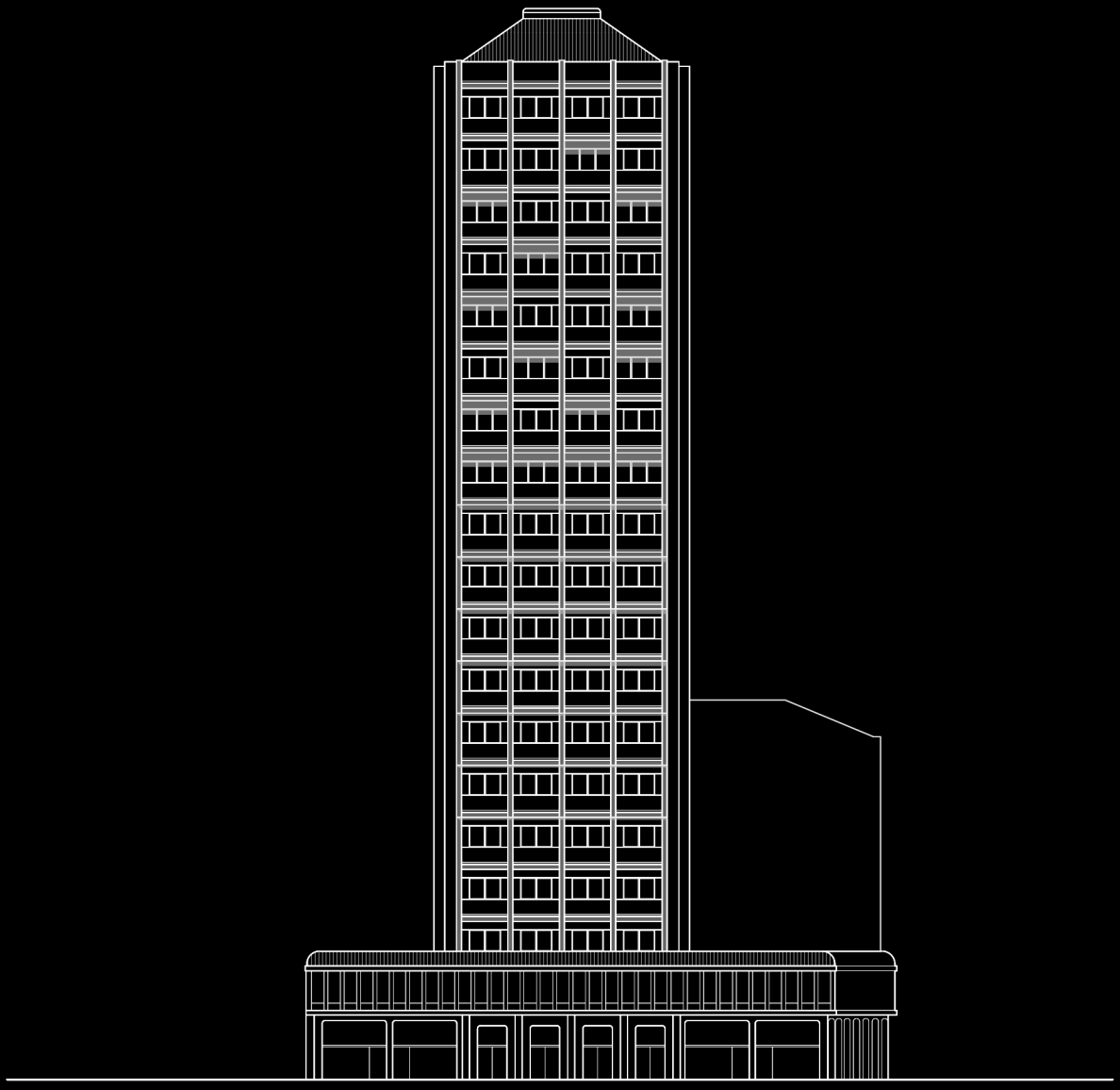
1:500



5.4. TORRE TURATI 2

Elevation piazza della Repubblica

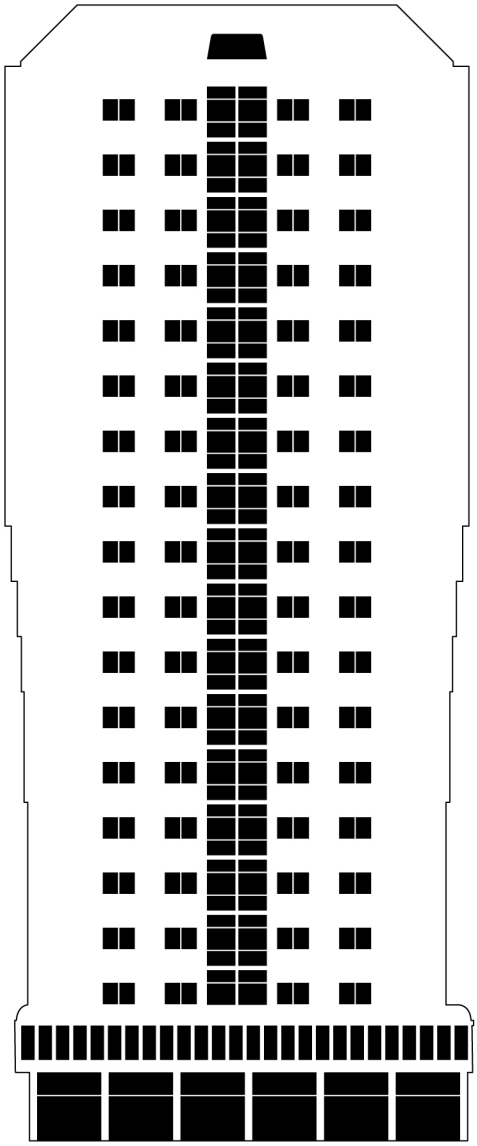
1:500

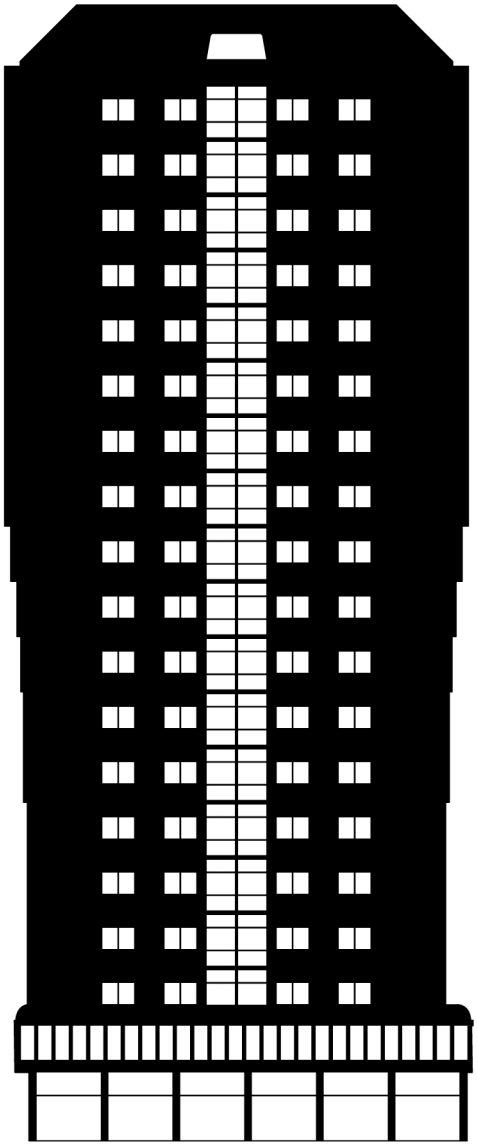


5.4. TORRE TURATI 2

Openings and Closing - Main facade

1:500

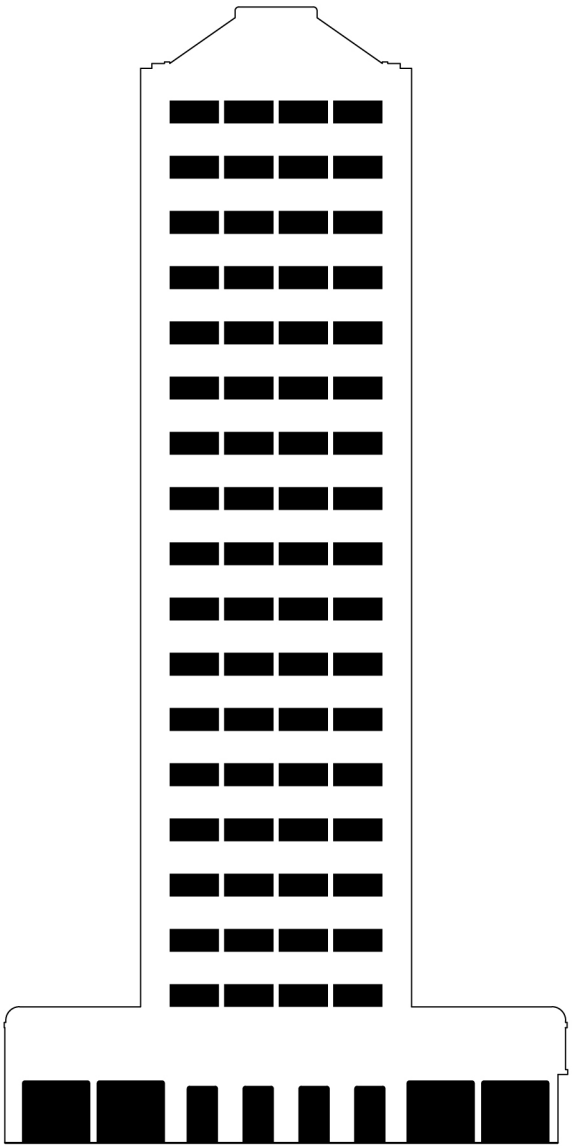


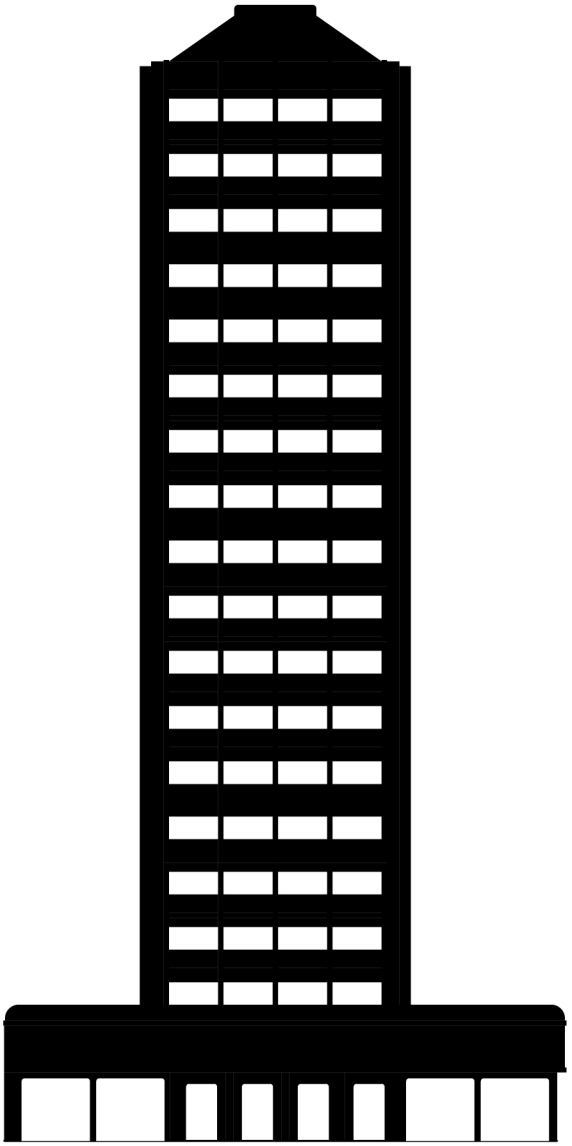


5.4. TORRE TURATI 2

Openings and Closing - Secondary facade

1:500

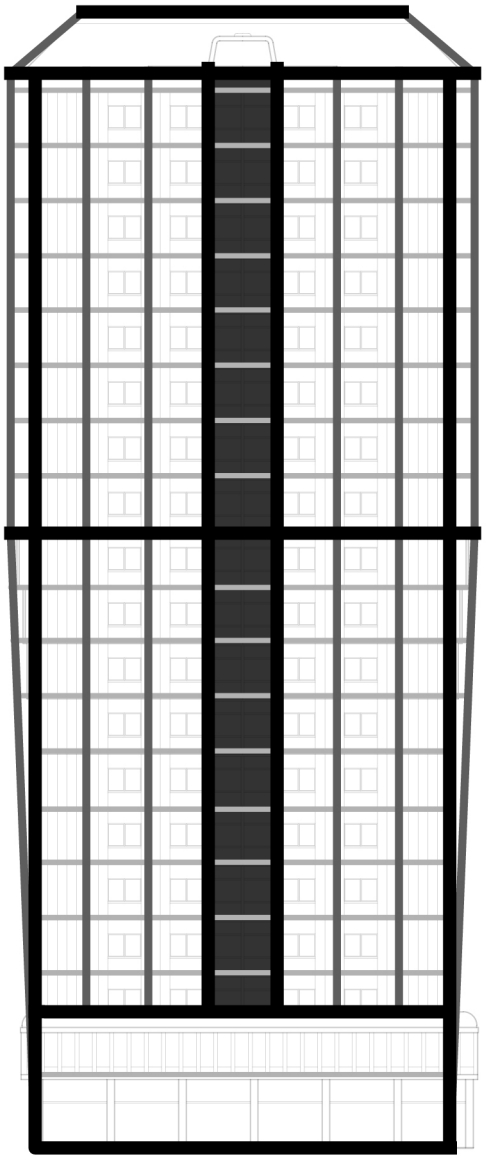




5.4. TORRE TURATI 2

Main Facade Composition

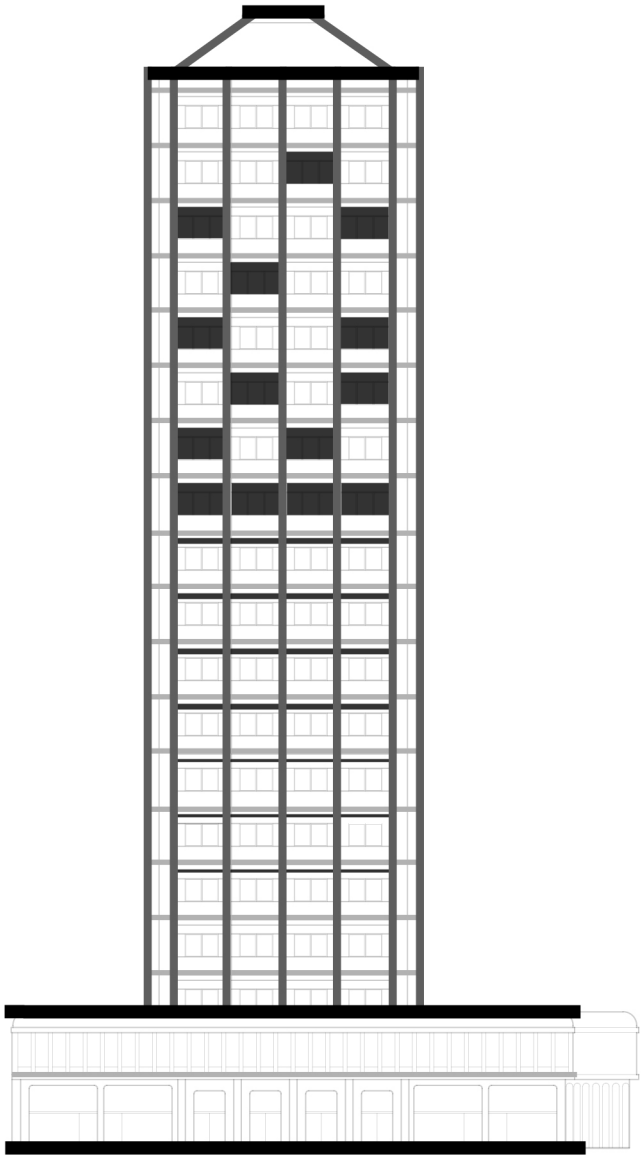
1:500



5.4. TORRE TURATI 2

Secondary Facade Composition

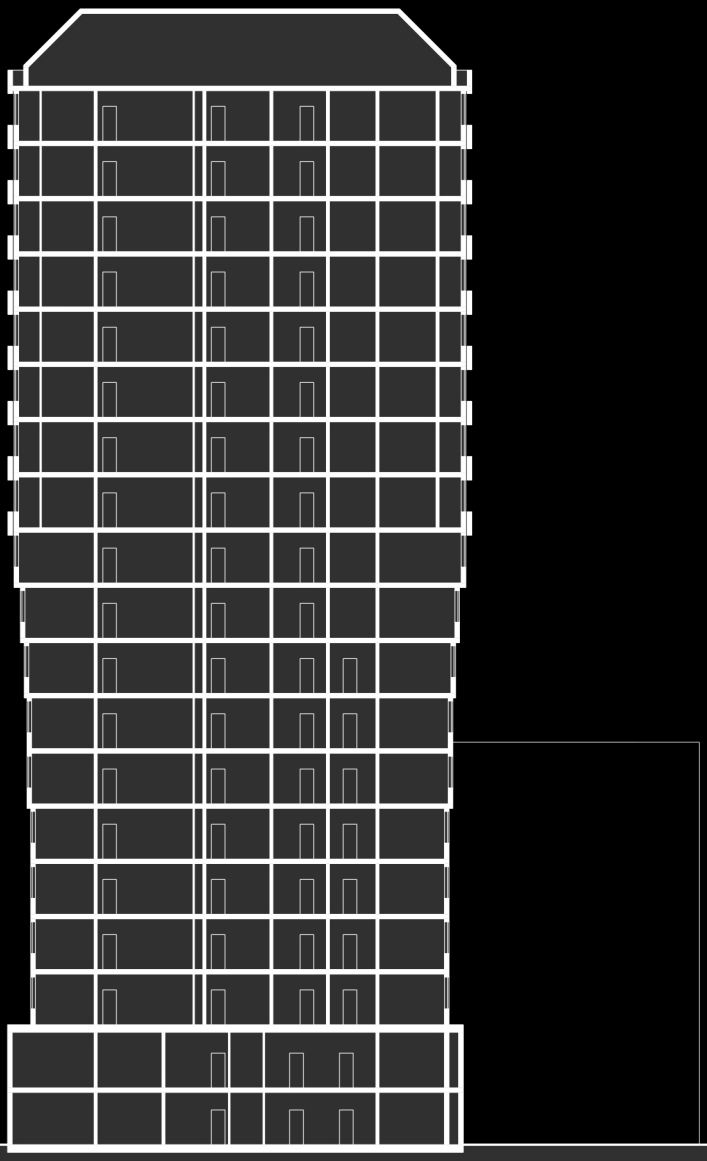
1:500



5.4. TORRE TURATI 2

Section

1:500



5.4. TORRE TURATI 2
Critic and Discussion

1969 Gian Antonio Bernasconi:
"The Turati tower - although an excellent piece of work considered as an object alone - is compromised by a basic defect: the shoddiness of its detailed plan. In fact, to make an important Milanese thoroughfare hinge, in 1953, on the monumental quality of two severely symmetrical towers, meant a return to a painful and, fortunately, discarded idiom, and to undermine, a priori, the specific success of single buildings, beginning with the towers themselves.
Well aware of this danger the Muzio architects (as one can see from the report accompanying the plan), sought to force a more advanced solution on the housing commission, but without success. Consequently, as much as they could, they segmented and fractionated (both horizontally and vertically) the stereometry within which they were obliged to work, so as to recover at least at the scenic level what they had to give up in substance.
We had occasion to speak of the Muzio architects (senior and junior - and of the collaboration of the latter with Tartaglino Mazzucchelli) in dealing with the expansion of the Università Bocconi (see Casabella 312), the winning project in the Montecitorio competition (see Casabella 321), and the project submitted to the competition for the new Paolo Carcano technical-industrial silk institute at Como (see Casabella 335). In connection with the Bocconi project E. D. Bona remarked: "we have here a work which does correctly what it set out to do, without any pretence individualism or any fanciful touches; (…) a work which serves as a lesson in severe responsibility at all levels, both professional and, more properly, creative."
Similar considerations might be made of the Turati tower, owing to the particular way in which it fits into both Milanese and Italian architectonic traditions, where the dearth of "high professional" competence is chronic.
One day we shall have to sum up the importance of the didactic and inventive cultural activities that Giovanni Muzio has been carrying on for so many yeas. It will also be interesting to enquire into the "combined creativity" of Muzio and his son, because the unquestionable creative independence of two distinct personalities (independent as a result of both their training and their age) is counterbalanced by a linguistic continuity probably stemming from a similar way of formulating problems both at the creative level (especially in the function-form relation) and at the executive level." **23**

1978 Gian Antonio Bernasconi:
A metà degli anni 60 due linee di ricerca dominano l'architettura italiana, entrambe derivanti dai riferimenti ai maestri moderni. La prima, che trae le sue origini dalle elaborazioni di Rogers e Samonà, tende a dare spessore di "lettura storica" all'intervento progettuale, come edificio e come elemento della città. La seconda è rivolta a dare attenzione essenzialmente ai procedimenti costruttivi di prefabbricazione come strumento per la razionalizzazione dell'edilizia ed il contenimento dei costi. (…) La speranza tecnologica conduce, anche in termini espressivi, ad una sottolineatura del procedimento di montaggio, anche se a volte essa si applica ad edifici in cui il processo prefabbricati è in realtà elementare o addirittura arretrato. Questi edifici hanno un carattere preciso: essi "rappresentano" quello che "sono", invece che la tensione alla definizione formale di rapporti significativi tra luogo opera, tra disegno di architettura e idea di città, a volte intesa come griglia indifferenziata. Di fatto la problematica è evidentemente più limitata, attenta all'edificazione come processo in sé da razionalizzare, ma non al contesto complessivo in cui l'edificazione stessa si cala. Nella maggioranza dei casi le due linee di ricerca suindicate restano scisse, e la seconda produce corretti interventi di architettura, la cui capacità di incidere sul dibattito resta però limitata. Significative in questo ambito sono opere quali l'edificio per uffici di Muzio in piazza della Repubblica." **24**

1982 Giovanni Muzio:
"*Tutte le convenzioni moderne sono concordi in un punto, l'osservare cioè una delle più importanti conquiste dell'urbanistica moderna: lo svincolo delle costruzioni dall'allineamento sul filo strada. La casa è indipendente dalla rete viaria, lasciando a questa il solo scopo di sede delle comunicazioni… ma la strada con la piazza è anche ambiente propizio per la vita all'aperto, tradizionale nei nostri paesi a clima mite, e non è certo sostituibile con alcuni edifici sparsi nel verde."* **25**

1992 G. Muratore/A. Capuano/F. Garofalo/E. Pellegrini:
"Le astuzie e le forzature adottate per superare i limiti del piano particolareggiato non riescono a eliminare la formidabile presenza urbana della torre di 19 piani. (…) La pianta rivela l'impostazione a setti in cemento, poi riconvertita a una struttura in acciaio. Questa modifica si traduce, tuttavia, in un interessante disegno nel prospetto delle parti in ferro e dei pannelli in cemento." **26**

2001 Giuliana Gramigna:
"Amongst the most significant works designed by Studio Muzio in

the post-war period ranks the Turati tower. To a building project by Luigi Mattioni, to the people coming from the Central Station the tower nearly represents the threshold to the historical centre of the city. Structurally designers with complex building solutions, this building reflects not only the Studio's renewed designing method but also the embodiment of the professional standards that have always distinguished Giovanni Muzio's work." [27]

2001 Giuliana Gramigna:
"L'architetto (Mattioni) sviluppa in questa occasione uno dei progetti più riusciti dal punto di vista urbanistico e formale, imperniato attorno a due torri gemelle, arretrate dal filo stradale e articolate nell'uso dei volumi, che degradano dalle sommità delle torri alle basse piastre svasate, volte a mitigare il passaggio dall'ampiezza di 120 m della piazza alla dimensione modesta della via. La sistemazione prospettica del quadro sarà portata a compimento attorno alla metà degli anni '60, quando lo studio Muzio realizzerà la seconda torre. Quest'ultima, pur assecondando lo schema di massima ideato da Mattioni, se ne distaccherà per quanto riguarda diversi dettagli formali (la pianta della torre, la composizione della facciata, il colore, i materiali, la copertura a falde), contribuendo così a movimentare la configurazione di una piazza, che, sin dalla comparsa del Grattacielo di Milano, andava configurandosi come l'esito di un sottile gioco di discordanze, in un profondo equilibrio di masse." [28]

5.4. TORRE TURATI 2

Thesis Project and Case Study Similarities

The analysis of Torre Turati by Giovanni and Lorenzo Muzio was a good exercise of comparison reference-project, especially on the theme of relation with the site block and urban surroundings.
In the Torre Turati design, the body of the tower is set on lower volumes, firstly to overlight the verticality of the main element, secondly to create gradual conjunction with the preexistent block buildings. Thus, the complex of Torre Turati is articulated in more than one volume, an approach that I used in the design of the thesis project too. Moreover, parting the urban mass in different building bodies permits a better integration of a tall building in a dense context. The theme of density, which the Milanese urban configuration is a victim, is solved with the rising in high. The tall body gives besides a clear hierarchy not only at the project composition but at the all urban contest. For this reason is interesting how, both the twin towers of Piazza Repubblica, are placed a step behind the urban street alignment (expedient that enhances the square rather than the street axis).
Another clear similarity between the projects is the use of loggias as compositive elements of the facade and additional space to the living unit. Moreover, the loggias are variously located in the elevation grid, breaking the rigid scheme. And the last analogy between the thesis project and Torre Turati, is the use of the structure in the principal facade, as a compositive and decorative element.

Note

1. G. Alfonsi/G. Zucconi, Luigi Mattioni, Architetto della ricostruzione, Milano, Electa, 1985, p. 84
   English translation by the authoress:
   To complete the transformation work, begun in the thirties of Piazza Fiume, the current Piazza della Repubblica, only the south side was missing, a particularly significant topos among the many located along the straight station-city center. (...) The site represents one of the key points in the map of a naive official rhetoric: here, Milan must offer "its credentials" to the arriving traveler. The "representative urban scene" that appears before him must fully express "the character of a large modern city" (as Corriere della Sera states in a note of May 1959); for this purpose a very different backdrop is needed both from the existing one ("two buildings of 60 years ago with an uncertain Liberty style"), and from that suggested by the plan and by the building regulations ("continuous buildings 40 meters high, in practice two heavy cement blocks" as defined by the notary of the "Corriere").

2. ivi., p.85

3. A. Coppa/L. Tenconi (a cura di), Grattanuvole : un secolo di grattacieli a Milano, Santarcangelo di Romagna, Maggioli, 2015, p. 372

4. G. & L. Muzio, Note descrittive, in Casabella Continuità, n° 342, 1969, p. 24
   English translation by the authoress:
   The planovolumetric setting of the organism was defined after a proposal to modify the detailed plan of 1953 and 1960 which provided for a symmetrical arrangement of two identical tower organisms. At the beginning of our design, the west end of via Turati had already been built according to these precise indications.
   Denying the validity of a symmetrical solution, a project was initially drawn up that proposed a square-plan tower set back from the road.
   This variant proposal was not accepted by the Building Commission, it was limited to making substantial changes to the volumes while maintaining the general layout of the plan.

5. Triennale di Milano, L'architettura di Giovanni Muzio, Milano, Abitare segesta, 1994, p. 241

6. S. Magni, Abitare in alto a Milano 1920 - 1960, Tesi di Laurea, (realtore A. Coppa), Facoltà di Architettura e Società, Politecnico di Milano, Milano, 2014, p. 227

7. L'architettura di Giovanni Muzio, op. cit., p. 241
   English translation by the authoress:
   Forcing the stereometry within which they were forced to act.

8. AA. VV., Guida all'architettura di Milano. 1954 - 2014, Milano, Hoepli, 2013, p. 94

9. ibidem.

10. ibidem.

11. F. Irace/M. M. Leoni, 2014
    Stable URL:
    http://www.lombardiabeniculturali.it/architetture900/schede/p4010-00238/

12. E. Cambi/G. Gobbi, Tipologie residenziali a torre, Milano, BE-MA editrice, 1986, p. 112

13. Casabella Continuità, n° 342, op. cit., p. 24

14. AA. VV., Incontro con Giovanni Muzio, in Hinterland, n° 13-14, 1980, p. 41
    English translation by the authoress:
    In my work I have always followed only two safe rules: first of all, minimum expenditure of resources - I am against waste and gigantism which are signs of decadence - and, secondly, choice of the simplest solution among those under consideration. The combination of these principles already guarantees two significant coefficients of quality and durability of an architecture.

15. A. Ferrari, Breve storia di un luogo milanese: piazza della Repubblica e l'asse via Turati-via Doria, in "A. Balossi Restelli, Milano: la torre di via Turati 40: il restauro delle facciate", Milano, 2003, p. 27-28

16. F. Irace/M. M. Leoni, op. cit.,
    Stable URL:
    http://www.lombardiabeniculturali.it/architetture900/schede/p4010-00238/

17. Casabella Continuità, n° 342, op. cit., p. 24

18. Triennale di Milano, L'architettura di Giovanni Muzio, Milano, Abitare segesta, 1994, p. 243

19. Casabella Continuità, n° 342, op. cit., p. 24

20. Incontro con Giovanni Muzio, op. cit., p. 41
    English translation by the authoress:
    The design work costs a lot of effort and, in a sense, the simpler

it is, the more effort it costs. I do not agree with the principle of using the form only as an aesthetic purpose without need, as when the windows were applied in the corner, depriving it of support and thus introducing static complications. I would add that, at least in part, a sin of exoticism was inherent in the internationalist aspiration of Rationalism. I am opposed to internationalism: I believe that, at least in what remains over time, particularly in architecture, it is necessary to try to remain faithful to one's origins and traditions.

21. Milano: la torre di via Turati 40: il restauro delle facciate, op. cit., p. 21

22. Milano: la torre di via Turati 40: il restauro delle facciate, op. cit., p. 22
English translation by the authoress:
If the main cause of the deterioration was the phenomenon of carbonation of the concrete described above, it should however be noted that, in some cases, the charms were aggravated both by a lack of attention to construction details in the design phase and by shortcomings in the execution phase.

23. Casabella Continuità, n° 342, op. cit., p. 22

24. G. A. Bernasconi, 65-70 L'ideologia della tecnica, in Casabella, n° 440-441, 1978, p. 90-91
English translation by the authoress:
In the mid-1960s, two lines of research dominated Italian architecture, both deriving from references to modern masters. The first, which draws its origins from the elaborations of Rogers and Samonà, tends to give depth of "historical reading" to the design intervention, as a building and as an element of the city. The second is aimed at giving attention essentially to the prefabrication construction processes as a tool for the rationalization of construction and cost containment. (…) Technological hope leads, even in expressive terms, to an underlining of the assembly process, even if at times it applies to buildings where the prefabricated process is actually elementary or even backward. These buildings have a precise character: they "represent" what they "are", instead of the tension towards the formal definition of significant relationships between the work site, between architectural design and the idea of the city, sometimes understood as an undifferentiated grid. In fact, the problem is evidently more limited, attentive to construction as a process in itself to be rationalized, but not to the overall context in which the construction itself falls. In the majority of cases, the two lines of research indicated above remain split, and the second produces correct architectural interventions, whose ability to influence the debate remains limited. Significant in this area are works such as the Muzio office building in Piazza della Repubblica.

25. G. Gambirasio/B. Minardi, Giovanni Muzio: opere e scritti, Milano, Franco Angeli editore, 1982, p. 20
English translation by the authoress:
All modern conventions are in agreement in one point, namely observing one of the most important achievements of modern urban planning: the release of buildings from alignment on the road. The house is independent from the road network, leaving it the sole purpose of the communications center ... but the street with the square is also a favorable environment for outdoor life, traditional in our countries with a mild climate, and is certainly not replaceable with some buildings scattered in the green.

26. G. Muratore/A. Capuano/F. Garofalo/E. Pellegrini, Giovanni e Lorenzo Muzio. Edificio a torre per uffici e abitazioni, in Guida all'architettura moderna. Italia. Gli ultimi trent'anni, Bologna, Zanichelli, 1992, p. 165, scheda n° 131
English translation by the authoress:
The tricks and forcing adopted to overcome the limitations of the detailed plan cannot eliminate the formidable urban presence of the 19-storey tower. (...) The plan reveals the concrete partition layout, then converted to a steel structure. However, this modification results in an interesting design in the elevation of the iron parts and concrete panels.

27. G. Gramigna, Milano: un secolo di architettura milanese da Cordusio a Bicocca, Hoepli, Milano 2001, p. 388

28. Grattanuvole : un secolo di grattacieli a Milano, op. cit., p. 253
English translation by the authoress:
On this occasion, the architect (Mattioni) develops one of the most successful projects from an urban and formal point of view, centered around two twin towers, set back from the road and articulated in the use of volumes, which degrade from the top of the towers to the lower ones. flared plates, aimed at mitigating the passage from the 120 m width of the square to the modest size of the street. The perspective arrangement of the painting will be completed around the mid-1960s, when the Muzio studio will build the second tower. The latter, while following the general scheme devised by Mattioni, will be detached from it with regard to various formal details (the plan of the tower, the composition of the facade, the color, the materials, the pitched roof), thus helping to move the configuration of a square which, since the appearance of the Milan skyscraper, was taking shape as the result of a subtle game of discord, in a profound balance of masses.

5.4. TORRE TURATI 2
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Note

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CONCLUSION

Two Methodologies in Comparison

I learnt to design at Polytechnic of Milan, and as I already said, the Thesis goal is the critic experimentation of a new (for me) design process from the ABK Stuttgart, and its comparison with the consolidated one. The Stuttgart Academy proposes a highly imaginative approach for which an interesting possibility of interdisciplinary exchange with the usual methodologies in the Milan School has emerged, which has always paid more attention to the structural relationships between the project and its context. Moreover, the methodology that I learnt in Germany start from an existing project. Extrapolating minimal but significant elements, their re-composition aims to an immaginative new design resultant. The Italian process usually starts with the analysis of a case study too, but it is a theoretical reference, not an active starting point of composition. What is usually the real practical beginning of the design process at Polytechnic of Milan is the analysis of the context. Already during the study of the site and its surroundings we have architectural inspirations and aspirations, strongly eradicated in our cultural and social background. The context is then the fist working tool, that is the first activating phase of the Milanese methodology. Therefore, the Italian process it is always subordinated to its surroundings. The environment is the first real reference where finding the design reasons indeed. In the other hand, for the German methodology, the adaptation to the contest comes in a second step, before it is required an immaginative and compositive project, free from every context restriction. This process helps to define the architectonical themes of the project, to design and to criticise the architectonical object as it is. It was a difficult and challenging experience for me, out from my "comfort zone". Designing without a context could seem easy, but actually freedom can be way more demanding than a more strict method. I was actually blocked during the first semester with shapes always too similar to my starting point, the Economist Building. It was my only concrete design input, and that seems more a closed cage than a open landscape to me. With a sort of hypocritical referentiality, I was too scared to change a masterwork by the Smithson. The adaptive phase of the project was the easiest for me, because I was back to my element. But in that moment I realised how much was helpful the previous work. I was the first time in my university experience, that I had a clear idea about the atmospheres and aesthetic I wanted for my building. I had strong and unassailable architectonical reasons, dictated from a sort of awareness, rather than functional reasons. Thus, at the same time, my thesis project is the less functional I ever designed. I am aware of its limits.

Between pros and cons it is actually difficult take a stock. I tried to order my thoughts:

ABK DESIGN PROCESS PROS:

- Immaginative approach, a strong artistic component.
- Focus on the development of Architectonical statements and clear definition of the project's compositive theme before the practical development.
- Deep immersion in the typological experimentation.
- Architecture as general but characterised
- Architecture as an unfinished process
- Design by step back and forward, forward and back
- Visualisation of Space and Atmosphere as at the beginning rather than in the final design phase

ABK DESIGN PROCESS CONS:

- Without a context as a starting point there is the risk to being generic rather than general
- Superficial reading of the context necessity and particularity
- Functional weekness

POLIMI DESIGN PROCESS PROS:

- Pragmatical approach
- Architecture as specific
- Functionally strong
- Development of the project by scale, a gradual passage from the city to the detail - a better control on the drawing of the space and the constructive reasons
- The site inspired the project
- The project is usually well integrated into its ambience

CONCLUSION

Two Methodologies in Comparison

POLIMI DESIGN PROCESS CONS:

- Less creative freedom
- Difficult extrapolation of the compositional themes of the project
- *"Correct architectural interventions, whose ability to influence*
- *the debate remains limited, however."* [1]

Premising that before my ABK experience I have always found my project reasons in the environment, a faithful disciple of *genius loci* [2], now I realise how the character of the building can be found somewhere else, not solely in its context integration.
The ABK process helped me to extrapolate, with phenomenological patience, the compositive reasons of my work, with an active but immaginative approach. Before I experienced the typology as passive and theoretical tool.
In the other hand I think the Polytechnic approach is one of the best talking about the management of technical difficulties and needs dictated by the context.

My conclusion is finally the following: as one hundred architects would give one hundred solutions to the same spatial problem, and the answer is not univocal, as well as the methodological design process is not univocal. What can we do is to experiment new and ancient ways, developing a critical lecture, and applied it case by case.

"non per dettare legge, se mai per eccitare alla contraddizione" [3]

CONCLUSION

Note

1. P. G. Bernasconi, Casabella 440-441, 1969, p. 90-91 1959

2. Referred to: C. Norberg-Schulz, Genius Loci. Paesaggio. Ambiente. Architettura, Milano, Electa, 1992

3. G. Ponti, Amate l'Architettura, Milano, Rizzoli, 2015, p. VIII

Dedicated to
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