



Arkitektur- og designhøgskolen i Oslo
The Oslo School of Architecture and Design

DIPLOMA PROGRAM FALL 2018

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Company cooperation:

Title of project: **Innovation Center in Mandal**

Innovation Center in Mandal

Innovation center is an institution formed at the intersection between different types of studying and working concepts like activity based working spaces, coworking spaces, traditional offices and student campus. The aim of my diploma is to investigate this typology from an architectural point of view.

This booklet contains an essay that I wrote within the framework of A1 Space and Technique on the concept of Typology, with the goal of establishing a theme upon which a diploma project could be based.

Søren Olav Saanum Bessesen
22.11.2018

ENSEMBLE

PRE-DIPLOMA ESSAY, SPRING 2018
SØREN OLAV SAANUM BESSESEN

ENSEMBLE

'A group of items viewed as a whole rather than individually'¹ is maybe the broadest definition an ensemble. The architectural ensemble is a cluster or composition of multiple parts; that together constitute a whole. To investigate the ensemble from a typological point of view, I will briefly reflect upon my understanding of typology as a tool for understanding and creating architecture.

In his editorial to *Oppositions* 7 in 1976, Anthony Vidler introduced the term 'the third typology', which he saw as a new paradigm in the discussion of typology. He divided the history of typology into three phases; The 'first typology' corresponded to nature, and was rooted in the idea of the primitive hut as the origin of all architecture. The 'second typology' corresponded to mass-production, and the production process served as the model for architecture. In the third typology, he argued, the elements of architecture 'refer only to their own nature as architectural elements, and their geometries are neither scientific nor technical but essentially architectural.'²

With hindsight, Adrian Forty explained the 'third typology' through two distinct motives; the first as a tool for achieving continuity in city development, an idea developed by Ernesto Rogers in the late 1950's. The second motive of the 'third typology' was the idea that types are productive of meaning, an idea that was investigated by Vidler himself, and amongst others Vittorio Gregotti, Aldo Rossi and Christian Norberg-Schultz. Although this separation may be useful to understand two different directions within the 'third typology', Forty points out that this separation is more a way of understanding these theories in retrospect, as those who talked about typology at the time were often concerned with both these motives.³

Forty's distinction is useful, as it is especially the idea of continuity

1 Oxford dictionary

2 Vidler, A. (1976). The Third Typology. *Oppositions*, Winter 1976:7, p. 1-3.

3 Forty, Adrian (2000). *Words and Buildings. A Vocabulary of Modern Architecture*. New York: Thames & Hudson Inc., p. 307-308.

and pre-existing conditions that I find relevant to understanding the architectural ensemble.

When a multitude of architectural elements are combined, these together constitute a type. Each of these elements can be considered types in themselves, and it is the interaction between them that define the formal structure of the type. Hence, types exist simultaneously on multiple scales. This is what Rafael Moneo described as ‘typological series’ in his essay *On Typology* from 1978.⁴ Moneo defined the concept of ‘type’ as the ‘description of a group of objects characterized by the same formal structure,’ or simply ‘the act of thinking in groups.’⁵ He spoke of the type consisting of elements forming a typological series, where the interaction between the elements defines the formal structure of the type. This definition resembles Christian Norberg-Schultz’ description of *elements* and *relations* in his book *Intentions in Architecture* from 1962.⁶

The relation between the elements are usually more important than the elements themselves. ... the whole becomes more important than the parts, as soon as we can talk about a whole rather than an accidental ‘aggregate’ of independent units. A whole, on the other hand, is itself an element in a wider context, and we understand that ‘element’ and ‘relation’ are interconnected aspects of the same object: the formal structure.

There is, however, a difference between how the two definitions. To Norberg-Schultz formal structure seems to be mostly about abstract geometry, and not, in example, construction technique. Moneo, on the other hand, argues that the formal structure of a type is connected

4 Moneo, Rafael. (1978) On Typology. *Oppositions*, Summer 1978:13, p. 23-29.

5 Ibid.

6 Norberg-Schultz, C. (1962) *Intentions in Architecture*. Cambridge, Massachusetts: MIT Press, p.

with numerous 'real' concerns, like social activity and building construction. In that sense every type has a specific position in history. When substantial changes are made to the formal structure, the type is transformed.

It is the understanding of formal structure as abstract geometry that I find most relevant for the research in this essay. Formal structure and typological series is important to my understanding of the architectural ensemble, as the ensemble is a group of multiple elements that together constitute a whole.

Micha Bandini pointed out in *Type as a Form of Convention* from 1984 that Moneo's definition of typology 'the act of thinking in groups' is a very general and vague definition, and that it is exactly this that makes it good. He writes: 'Indeed, one of the features common to architectural if not all conventions is that they seem to derive effectiveness and power from a confused agreement, a cultural consensus which can operate only in so far as it is not required to be precise.'⁷

To categorize a group according to a criteria and then to give it a name is the core of typology. It is in this broad sense I find typology useful as a tool - a tool for grouping and comparing buildings according to a certain criteria. This is what I will attempt to do in this essay. However, I am not aiming to precisely define ensemble as a type, or to make distinct categories of ensembles. Rather I will study four projects that I find relevant as examples.

As a background for my choice of case studies, I have listed some criteria that I see as the main features of the ensemble:

- A combination of several distinct parts, often developed by different authors over time
- These elements are interconnected, either with axial relationships or through an intermediate space

7 Bandini, M. (1984). *Type as a form of convention*. *AA Files*, No. 6, p.73-82

- The parts of the ensemble together constitute a whole
- The ensemble character is evident in the the plan
- The 'elements' of the ensemble are on the scale of spaces rather than built objects, and I am researching continuous built volumes, not groups of several disconnected buildings.

I have chosen to work with the plan as the main tool for comparison, as a way to limit the research to the basic spatial configurations of the case studies. With my examples I have tried to show different types of ensembles spanning from the messy to the ordered/from the aggregate to the composed/from the random to the planned.

I will look at three built projects that are situated in Rome: The Monastery of San Cosimato, the Santa Maria della Pace Church and cloister and Casa dei Filippini. These projects are all results of change and additions over long periods of time, which has given them a character of collage. I have also included Louis Kahns Dominique Motherhouse as an example of an ensemble that is made as one composition by one author in one period of time.

One could argue that this research might as well should be named 'a study of four monasteries' instead of 'architectural ensembles', but I find it useful to work with the idea of the ensemble as the theme for this research. Since the three Rome projects no longer serve as monasteries, but rather as museum, hospital, house of literature, archive and library, I found it natural to free them from their programmatic labels. The fact that all these buildings have proved to be able to adapt a variety of uses gives them another interesting dimension that could also be investigated further.

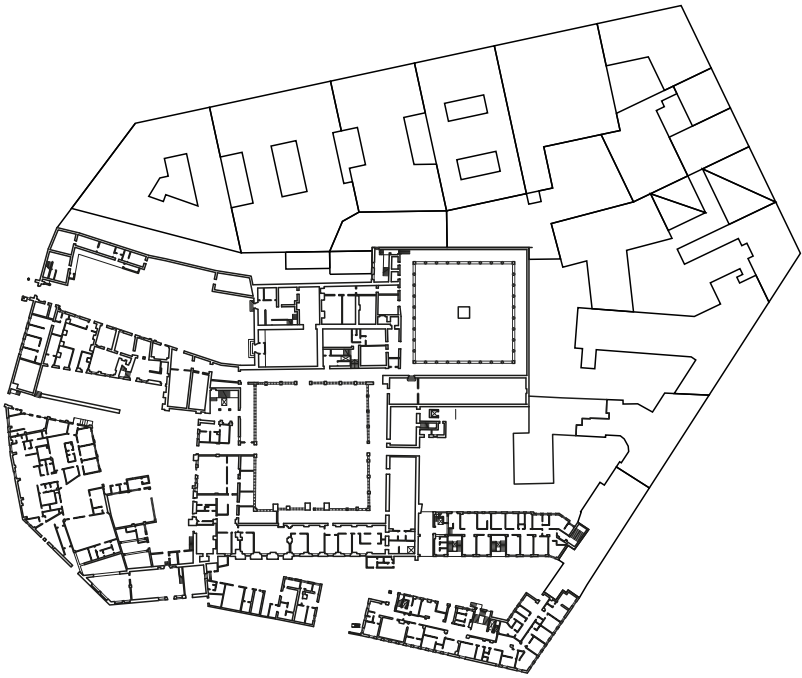


AGGREGATE OF ADDITIONS The San Cosimato Monastery in Rome

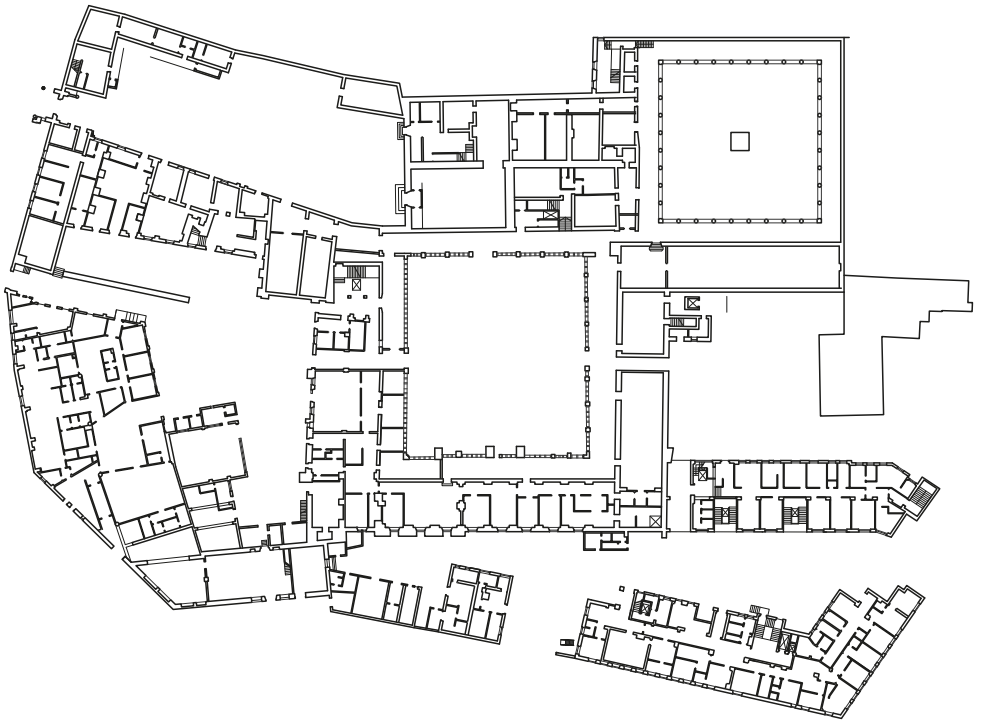
San Cosimato has served as a monastery from the 12th century until the mid 19th century. Since then it has housed different types of health care, and today it is a local hospital and hospice for the district of Trastevere. The complex has grown from the central courtyard, which was built in the beginning of the 12th century. It has had multiple additions, including a renaissance cloister in the north east corner, a dormitory towards the north, a dining hall along the new cloister, and a new level on top of the original cloister. The latest substantial additions was the two wings in the south-east corner that were built in the 1970's as well as the service buildings in the south west corner. Simoultaneously to this process the surroundings has gone from rural to urban. With the rapid expansion of the city in the first half of the 20th century, the complex soon found itself as a part of a larger urban block on the south end of the triangular Piazza San Cosimato and along the Viale di Trastevere.

The complex is organized around cloisters, but is not governed by any overall axial system or symmetrical layout. It is a conglomeration, a cluster of additions and modifications, each one relating to the other, but seemingly never governed by a strategy for the whole. It is an ensemble that has developed over time and is not the result of one composition or overall plan. The cloisters are the elements that hold together the complex. They serve as the main communication spaces, and as 'primary elements' they seem to have ensured a stability throughout the development of the ensemble.

A result of this process of additions is a series of transition spaces that negotiate bewteen the different building parts. One of them is the stair that connects the two cloister, taking you 1.2 meters up from ground level of the medieval cloister, through a vaulted space and into the renaissance cloister from the 15th century. This transition from the medieval cloister, with all its irregularities and spolio, to the



The plan and the rest of the block 1:2000. To the right is the Viale Trastevere and upper left the Piazza San Cosimato.

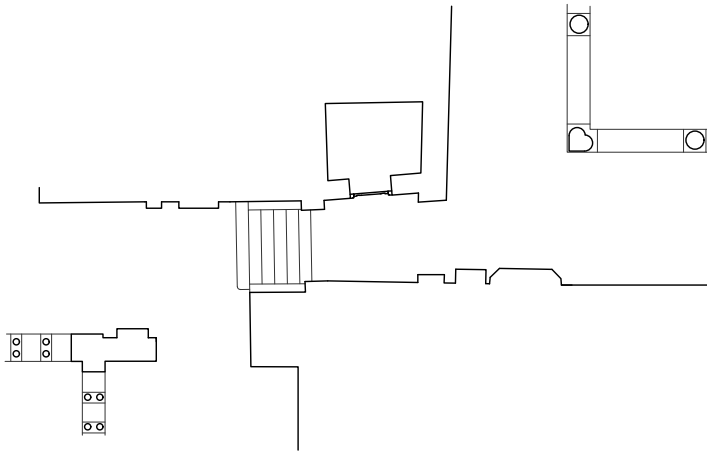


Ground floor plan 1:1250. The central cloister is the oldest part of the compound. The latest additions are the two wings on the bottom right. Both these are connected with bridges. On the top left corner is the entrance portico and the church courtyard. The church and the dormitory is localized in the cluster above the central courtyard.

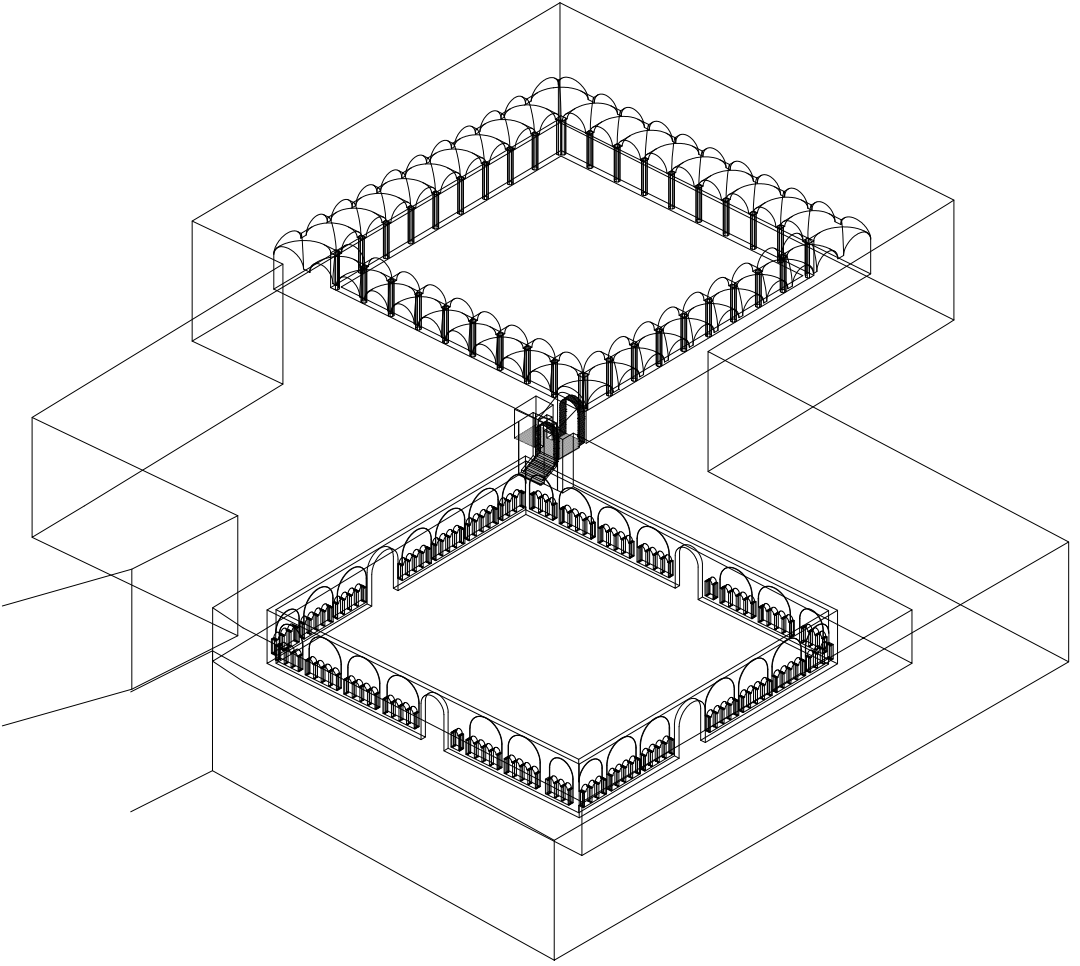
ordered cloister from the 15th century is a nice spatial sequence in the complex. I think it illustrates one potential of the ensemble quite well: two different 'worlds', interconnected, offering completely different kinds of spaces within one complex.

The organization of the exterior differs quite a lot from the layout of the interior. Whereas the exterior appears as a cluster of buildings, the interior is a homogenous system of plaster walls, hospital colors and suspended ceilings.

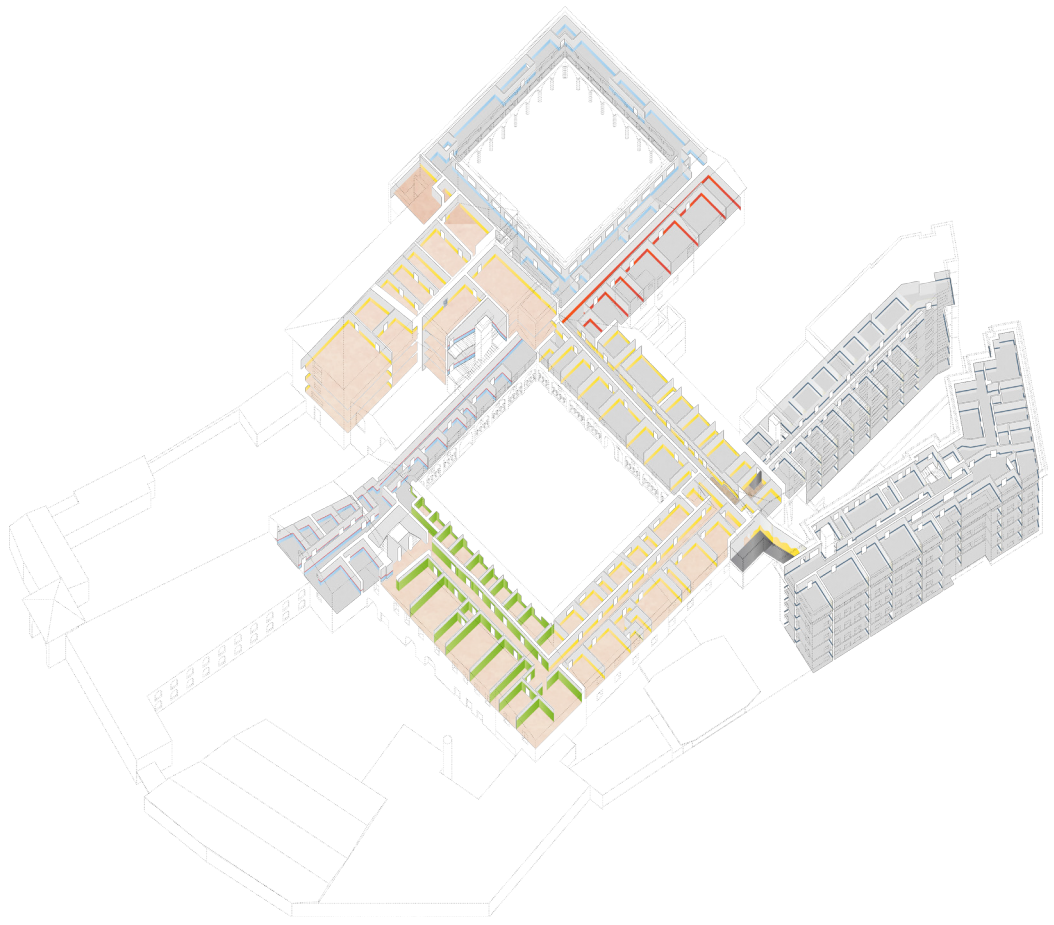




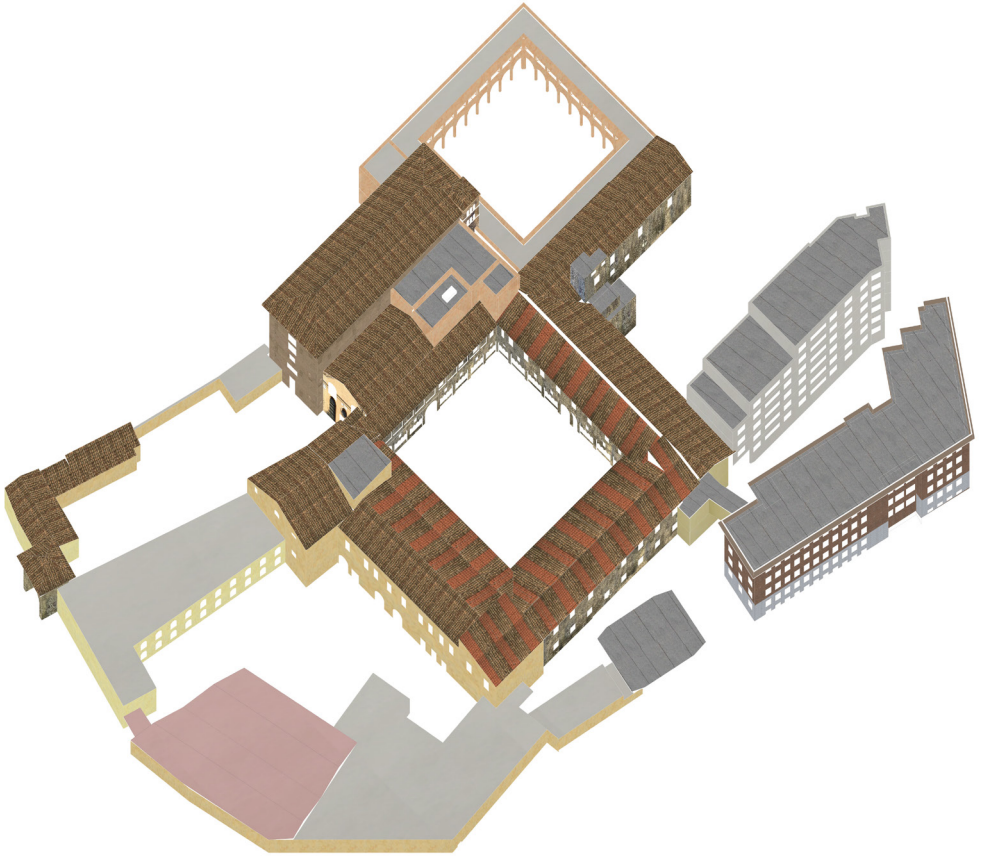
Plan of the connection between the two cluster.
Two elements of the ensemble in relation.



The two cloisters, isometric view.



The interior of the hospital: a continuous structure.



In contrast to the interior, the exterior preserves the eclectic image.



NEGOTIATION WITH A FOUND REALITY

Santa Maria della Pace church and cloister in Rome

In the years 1500-1504, a cloister made by Donato Bramante was constructed as an addition to the Santa Maria della Pace church and monastery in Rome. The cloister is an appendage to the church, situated in a tight situation in between two streets.

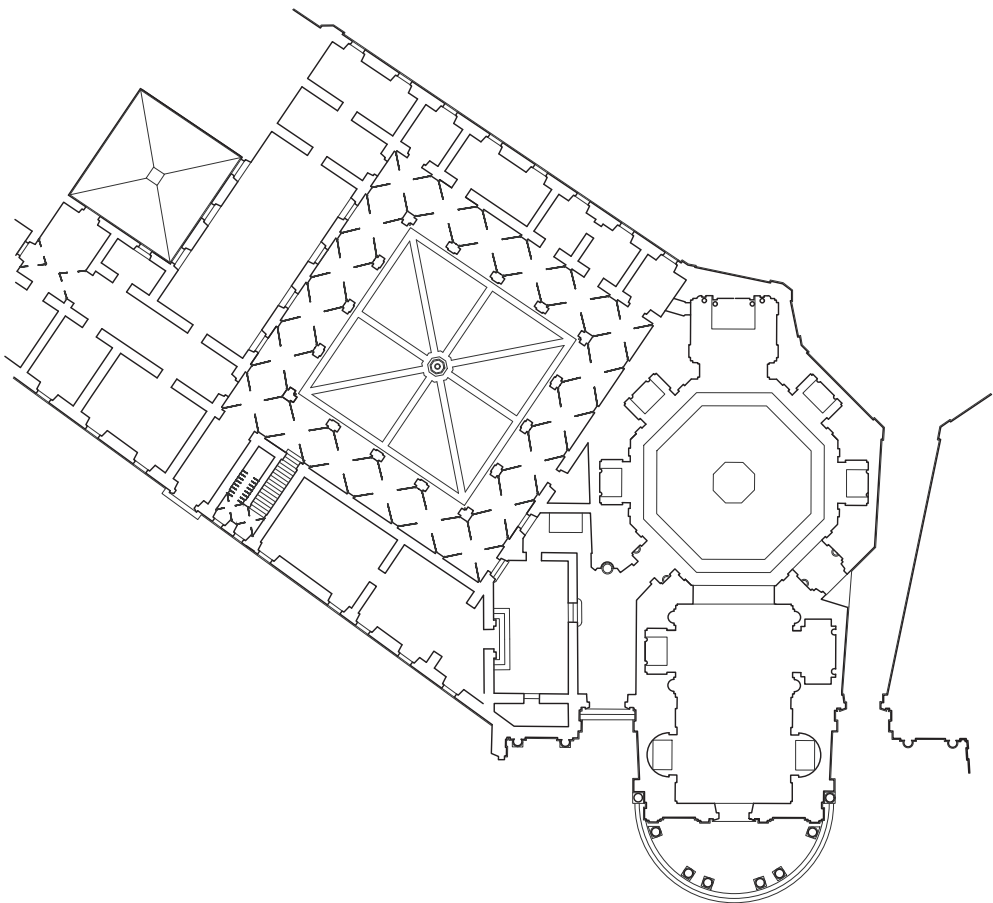
The church and the cloister connect with an intermediate space that resolves the two directions of the compound, as well as serving as a side entrance of the symmetrical facade of the church (added later by Pietro da Cortona.) The equivalent opening on the opposite side of the front facade is not an entrance, but a passage to the parallel street behind.

In the article *Looking Elsewhere* in the 11th edition of San Rocco magazine, dedicated to Bramante, Kersten Geers describes how Bramante's architecture is a negotiation with a found reality:¹

...Bramante-the-Roman-revivalist nonetheless remained a truly mediaeval architect whose work was the result of direct action rather than advance planning. His radical classicism had a mediaeval core. The buildings he was involved in, from the first to the last, are not finished, complete exercises of Renaissance thinking, but the result of complex negotiations with a found reality.

The 'found reality' is the church, as well as the tight urban situation. On one hand Bramante's cloister has little to do with the church. It does not correspond to any of the directions of the octogon, and the architectural language is different. The intermediate space between the cloister and the church resolves the differences, and ties the complex together.

¹ Geers, Kersten (2015), *Looking Elsewhere*, San Rocco #11 Happy Birthday, Bramante!, Italy, PUBLISTAMPA ARTI GRAFICHE, p. 105-110



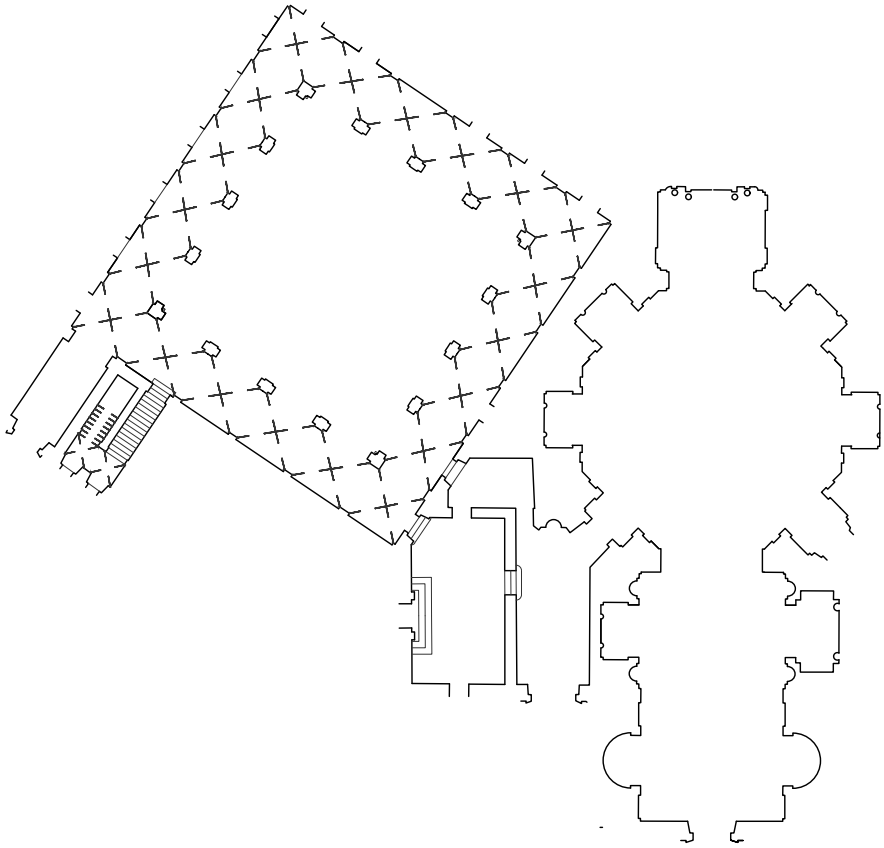
First floor plan 1:500

Right: courtyard and church

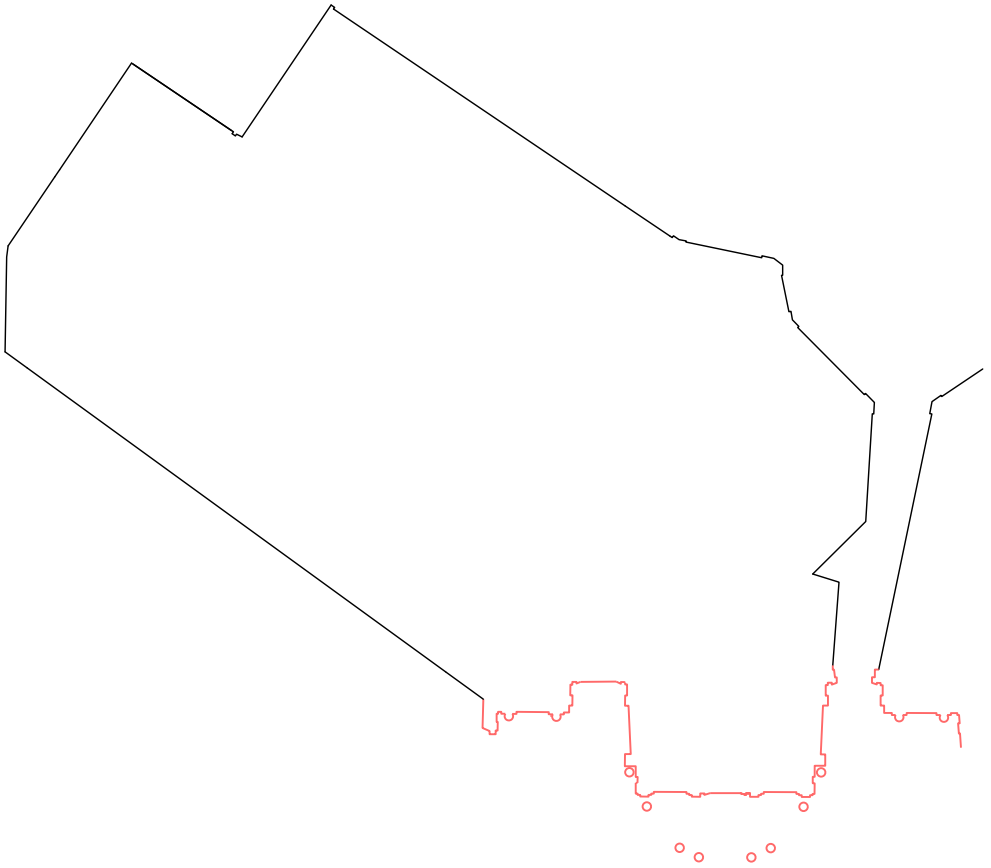


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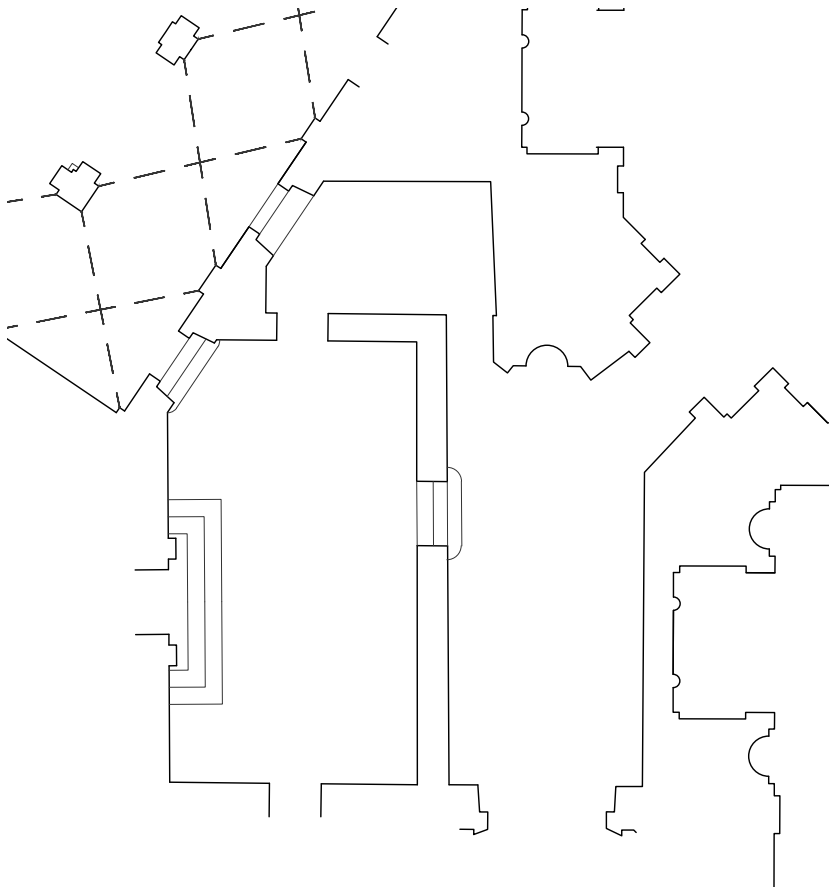
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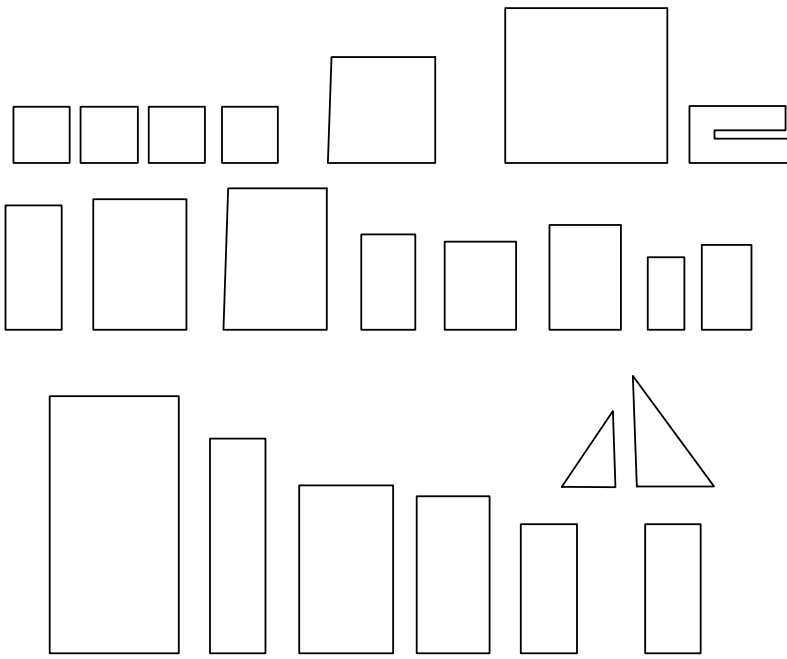
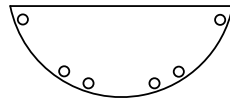
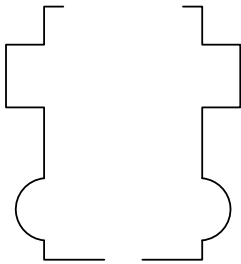
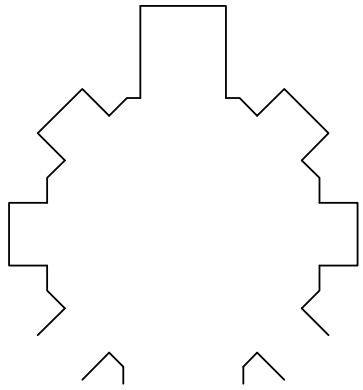
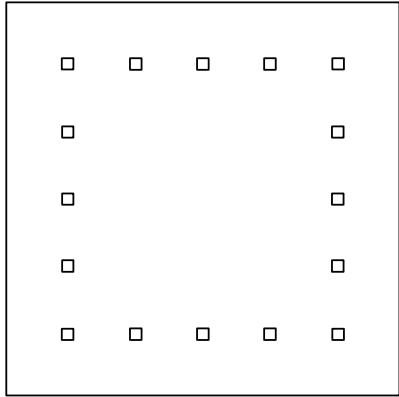
Primary and intermediate space



Perimeter and facade 1:500



Transition space. Relation between
elements. 1:150





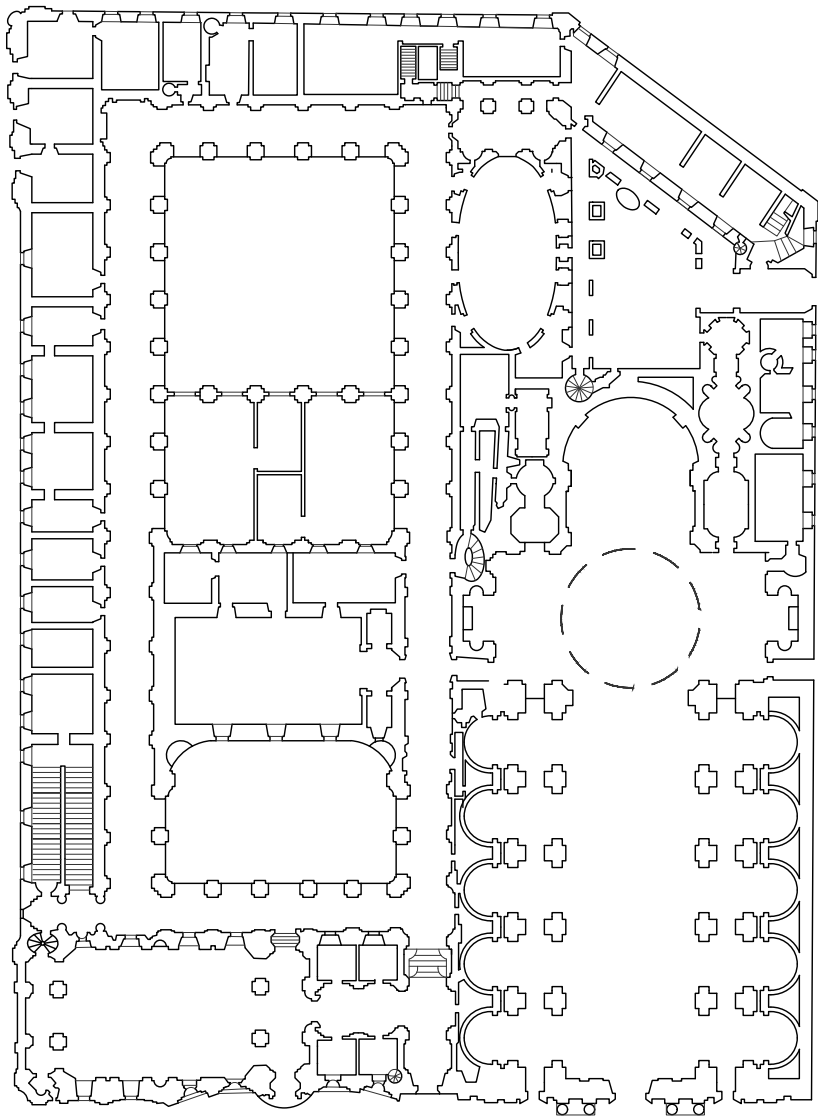
THE ENSEMBLE BLOCK Casa dei Fillipini in Rome

Seen from above the Casa dei Filippini complex appears both fragmented and united, as if each part is forced into a relationship with another. This is partly true, as the complex has a long history of interventions by different architects, where undoubtedly one has had to negotiate with the others decisions. Mario Arconio was the first commissioned architect, and he worked on the project from 1621 until 1623, but the only part built in that period was the foundations for the sacristy. From 1624 to 1629 the project was in the hands of Paolo Maruscelli, and the basic principles of his plan is more or less how the complex was built. In the period from 1629-1637 only the sacristy, some service rooms and a chapel to the church was constructed, before the commission was handed to Francesco Borromini in 1637, who worked on the project for another 13 years. ¹

Seen from above, the complex of the S. Maria in Vallicella and the Casa dei Filippini constitute a firm block along the Corso Vittorio Emanuele. The shape of the block is rectangular with a diagonal cut off north-east corner. It has three main facades, one facing a small plaza on the north-west corner, and a double facade facing a triangular plaza towards the Corso Vittorio. The two facades by Borromini are not directly representing what is going on behind. Rather they are negotiating the relationship between the complex and the surrounding city squares.

Unlike the San Cosimato, this complex is not a chaotic cluster, but it is neither a perfectly composed 'harmonious' ensemble. It is rather a negotiation between internal and external constraints, between the surrounding urban spaces and the inner logic of the compound.

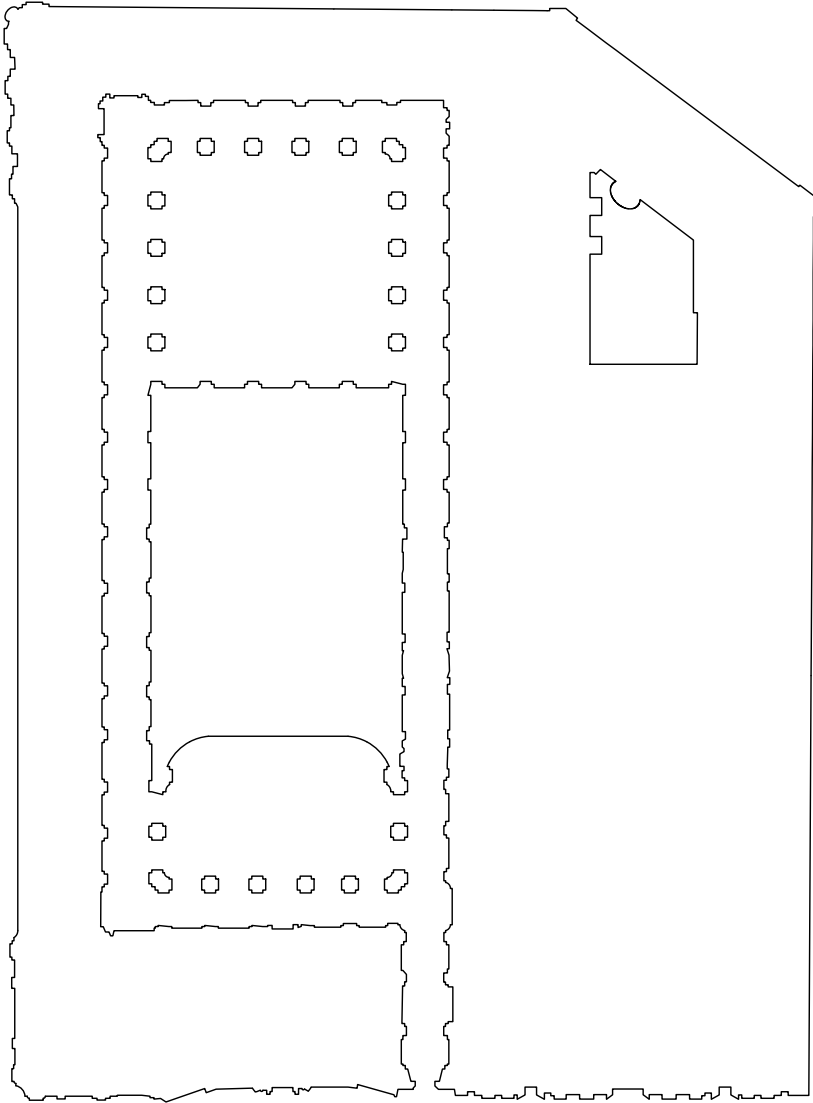
¹ Connors, Joseph (1980), *Borromini and the Roman Oratory*, New York, The Architectural History Foundation and the MIT Press, p. 2-39



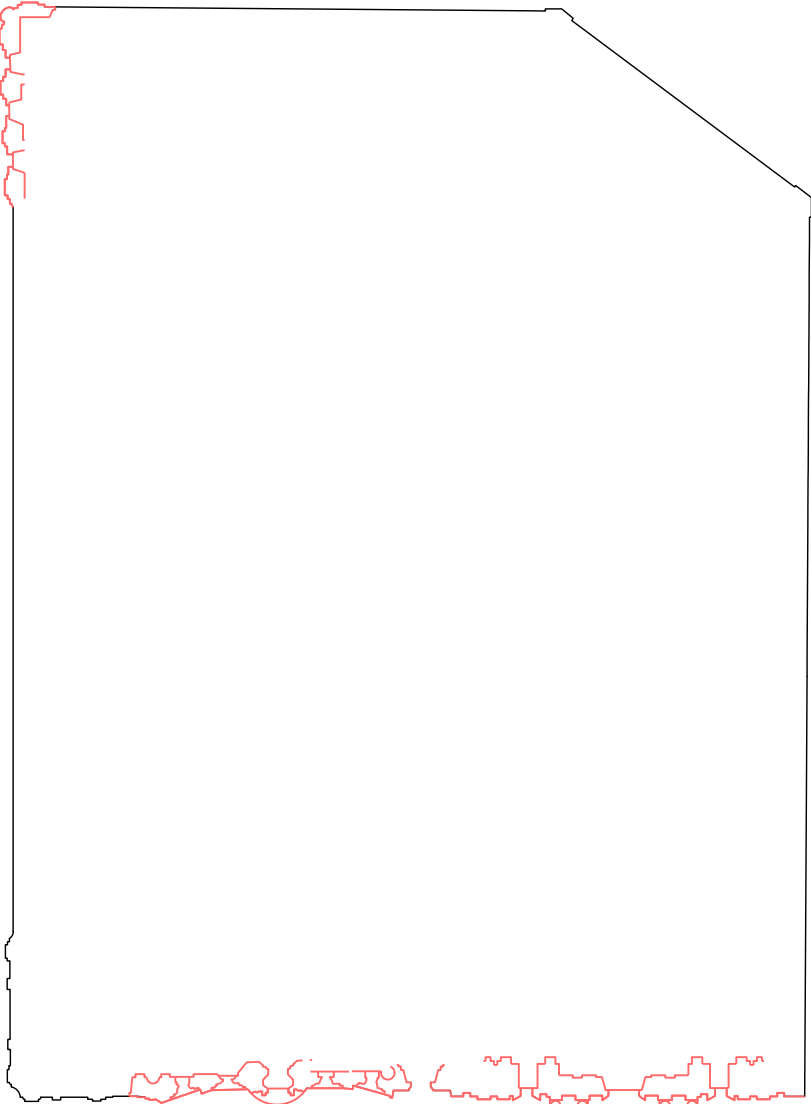
Ground floor plan 1:750

Right: Main courtyard, second story

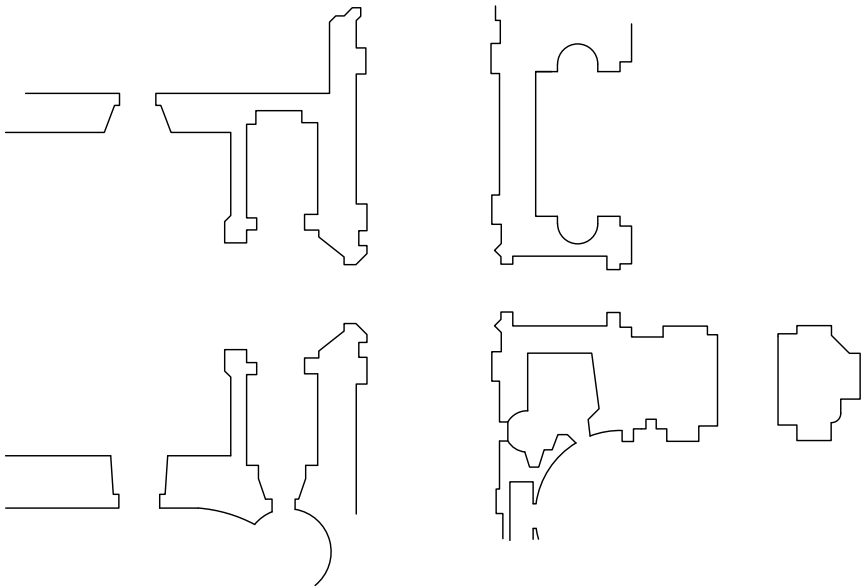




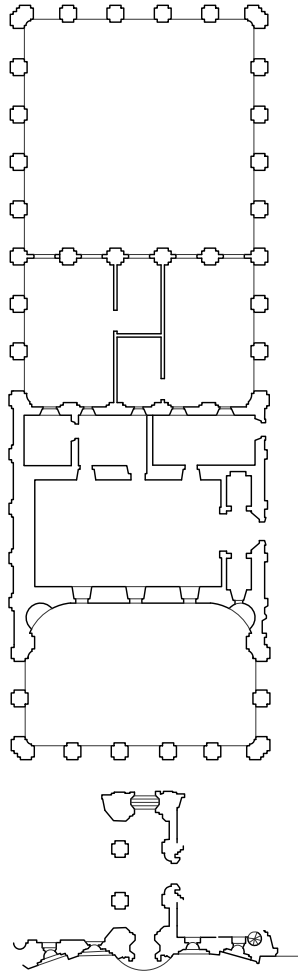
Courtyards: the primary elements of the
interior 1:750



Perimeter and main facades: the primary elements of the exterior 1:750



Relation between elements: sacristy and church transept.



Main axis: from facade through courtyards

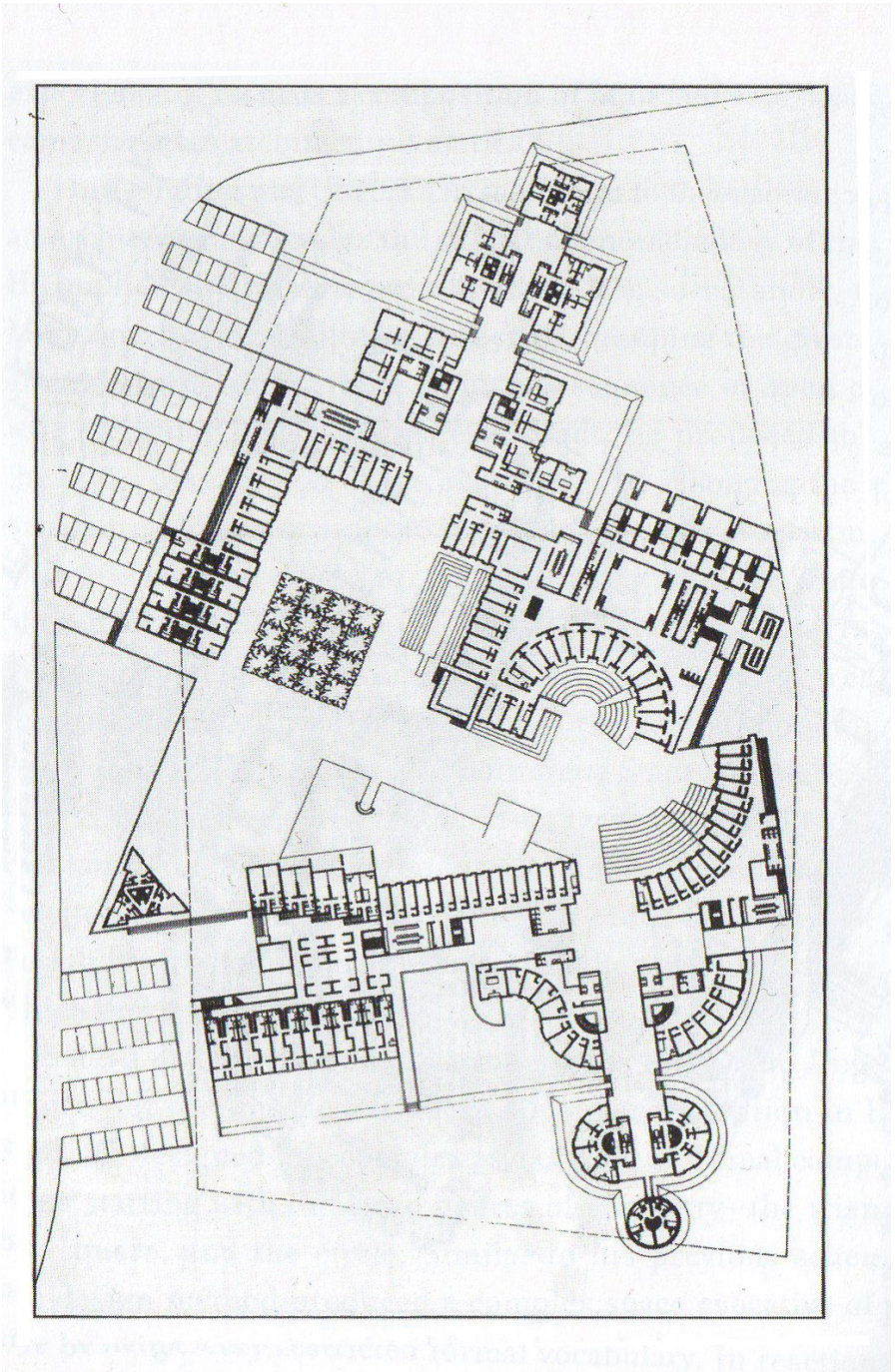


THE DOMINICAN MOTHERHOUSE AND THE 'CITY IN COLLISION'

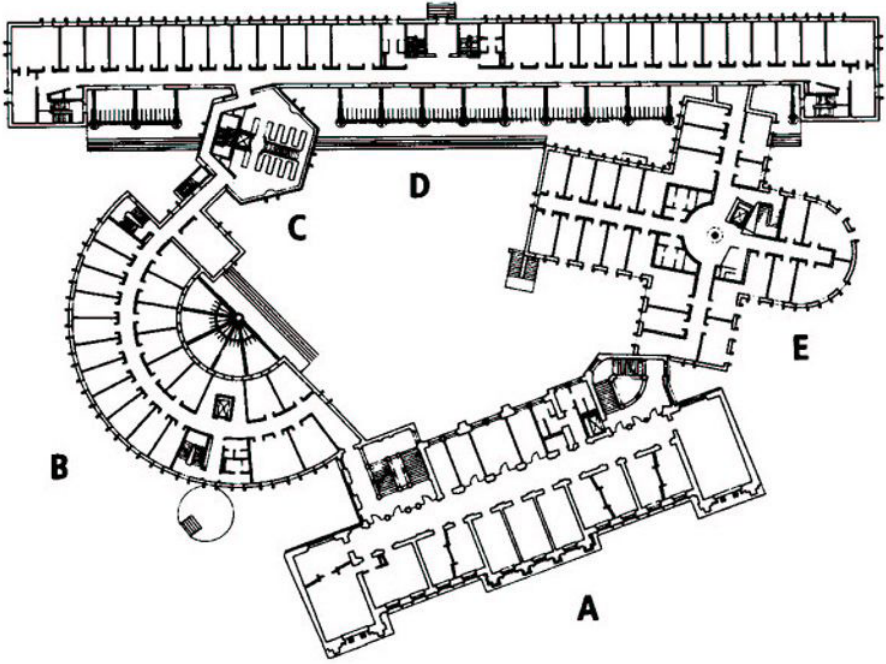
The Dominican Motherhouse is an unbuilt project that Louis Kahn worked on from 1965 to 1968 for the Sisters of St. Catherine de Ricci in Media, Pennsylvania. It stands in contrast to many of his earlier projects, as this is a collage-like and playful composition where the building is organized as a field of colliding volumes within an enclosing dormitory building.

Giovanni La Varra points out in his article *Objets Trouvés: Collage, Collaboration and Collision*,¹ that this project can be seen in comparison with two other projects that somehow share the same characteristics, namely James Stirling's Wissenschaftszentrum in Berlin and Oswald M. Ungers project for student housing at Enchede. La Varra suggest that the three projects illustrates the idea of the 'city in collision', a chapter in Colin Rowe and Fred Koettters book *Collage City* from 1981. All of these projects have the character of a collision between geometrical figures, and their layout brings to mind the plan of the Roman forum and Villa Adriana. The three projects also differ on some aspects. In Unger's project the relational space is 'controlled' as opposed to the Dominican Motherhouse where the space of the courtyards have the character of being left-over and empty.

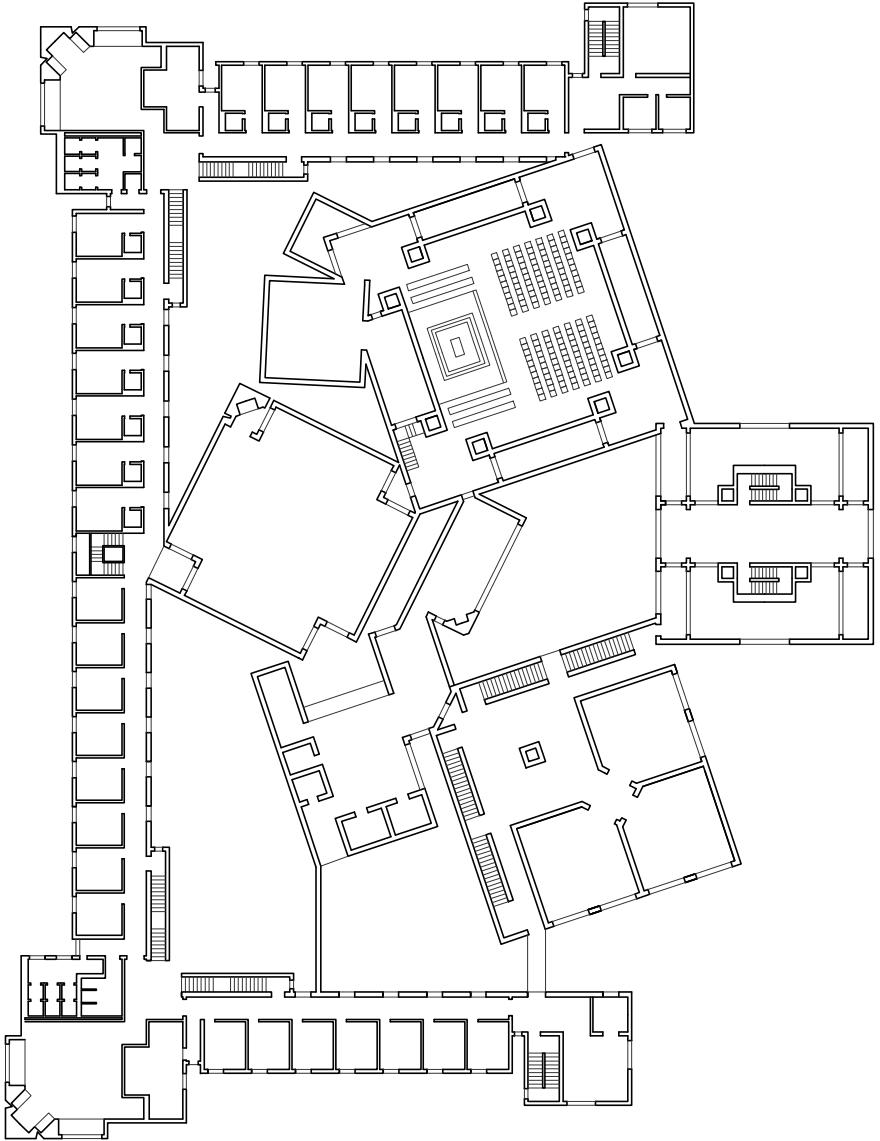
¹ La Varra, Giovanni (2013), *Objets Trouvés: Collages, Collaboration and Collision*. San Rocco Collaborations, Italy, Publistampa Arti Grafiche, p. 71-7



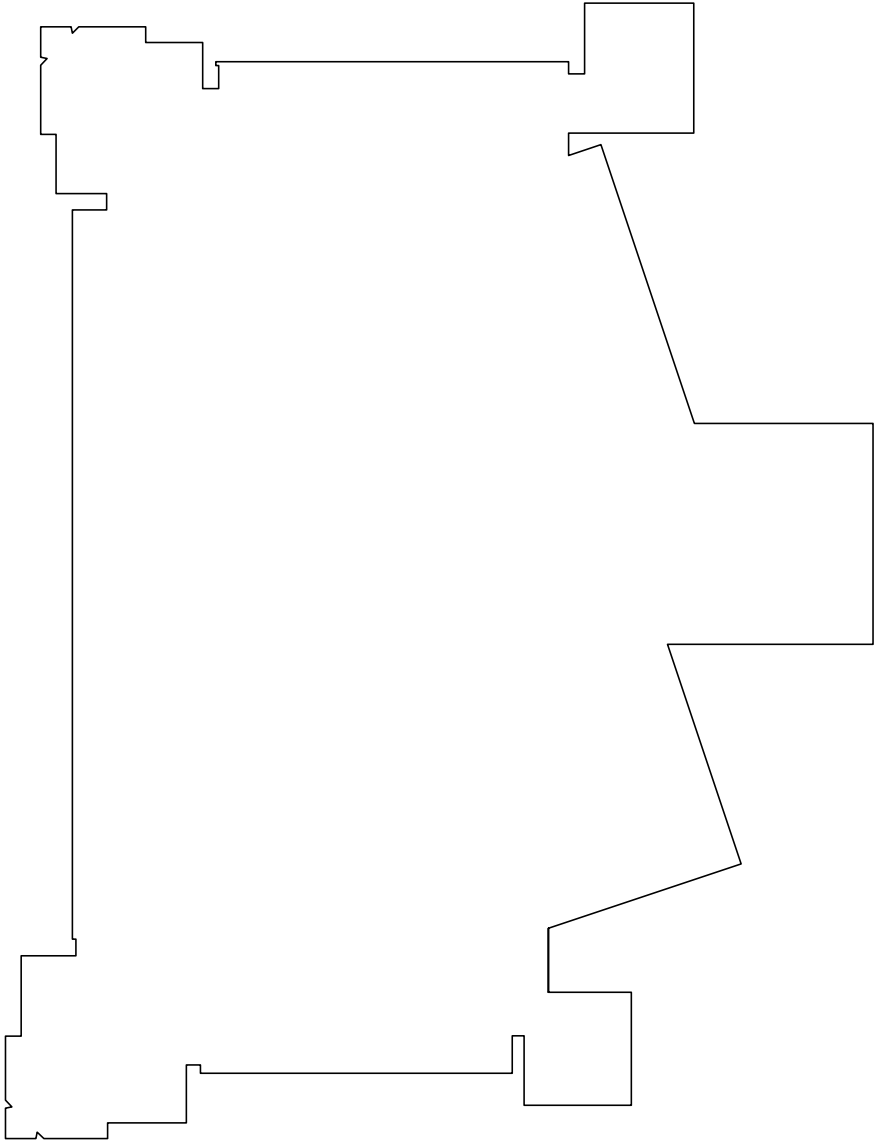
O.M. Ungers, Competition for student housing at Enchede, 1964



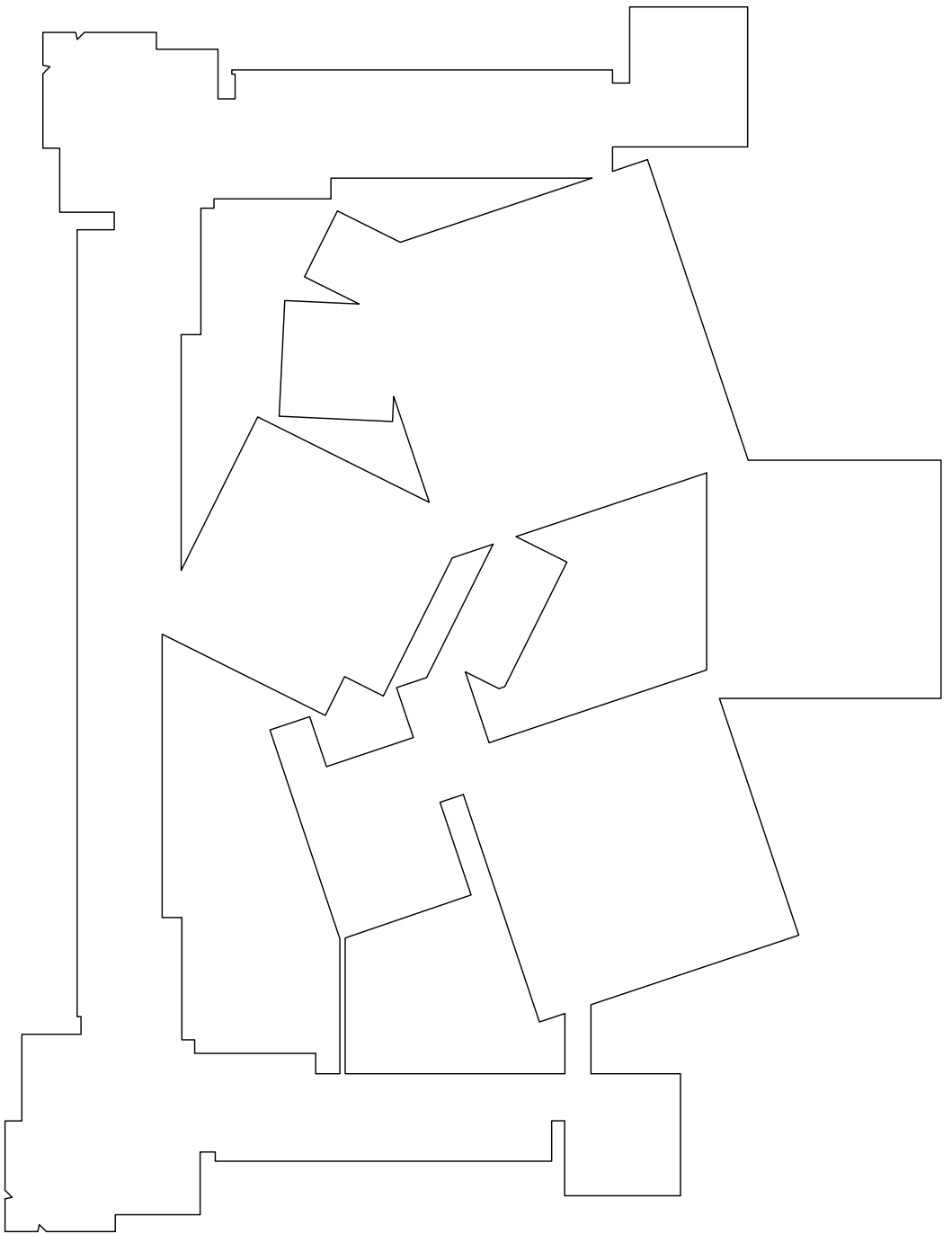
Stirling & Wilford and Associates, floor plan of the Wissenschaftszentrum, Berlin 1979-85



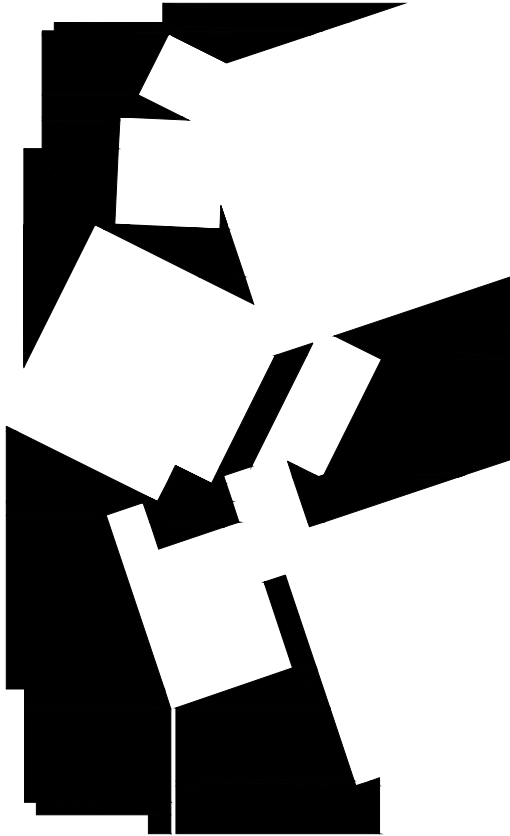
Louis Kahn, The Dominican Motherhouse, First floor plan, July 10, 1968 1:500

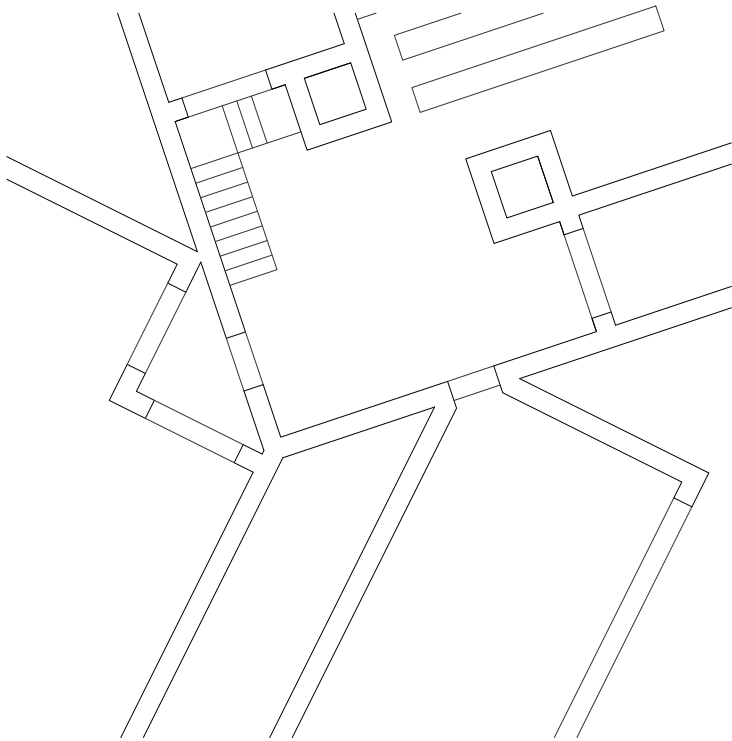


Perimeter line 1:500

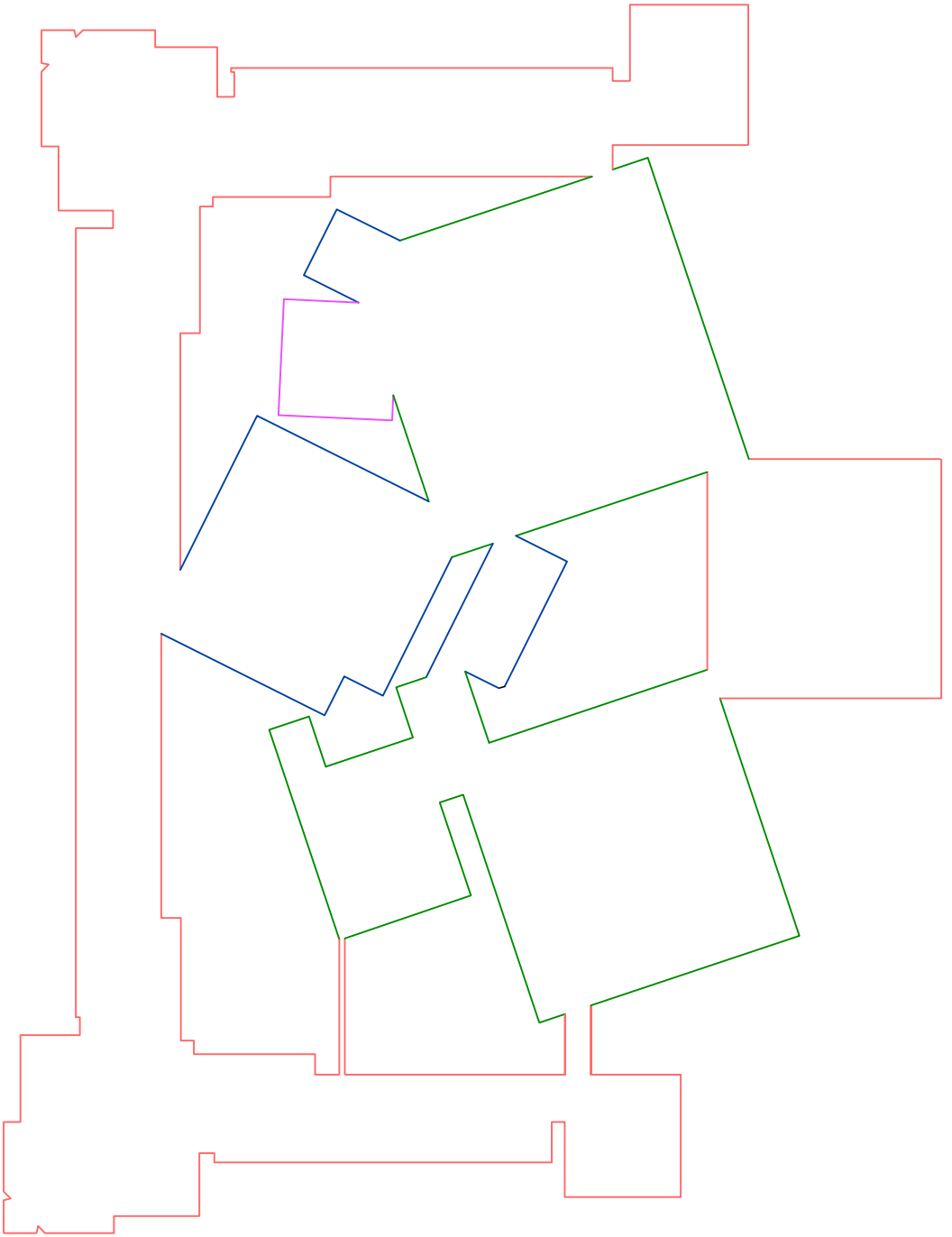


Perimeter with courtyards 1:500





Meeting between elements 1:100



Four grid directions make up the composition 1:500

To conclude on these four projects;

I have looked at San Cosimato, which is an 'aggregate' type of ensemble, where the cloisters serves as the primary organizing space of the different parts. In Santa Maria della Pace, the cloister is an autonomous part, and the main directions of the plan has been negotiated in an intermediate space.

Casa dei Filippini is an ensemble in the form of a city block. The facades negotiate the relationship to the city with the internal layout, and mark important spaces in the perimeter.

Kahns Motherhouse is the only of these projects that does not deal with existing buildings. It is different from the other three projects in this sense.

In the three first projects the perimeter is given by the surrounding city in different ways. In San Cosimato this has been a dialogue developing over time, with the city densifying around it. The Fillipini complex by Borromini has a clear perimeter that play active roles in the surrounding city.

All four projects has primary elements that structure the whole: the Rome projects are all structured upon courtyards and facades, and Kahns project has the enclosing dormitory building.

The ensemble is not a type in the same sense as i.e. the cross plan or the basilica. I rather see it as a broad category of architecture that is interesting as an attitude towards city.

To create an urban block in the city that both has an urbanity of its own and establishes a relationship with its context I find interesting to investigate further. An ensemble that is both an 'isolated' environment and has connections with the surroundings city.

In a way the ensembles I have researched have two sets of facades: the facades that face the surroundings and the facades of the inner courtyards. I find this interesting as a theme for a project: ideas

about public space in the city as the shaper of the perimeter, and the courtyards as the primary space of the internal organization.

In all of the built projects shown in this essay, the inner courtyards are accessible to the public and contain public programs.

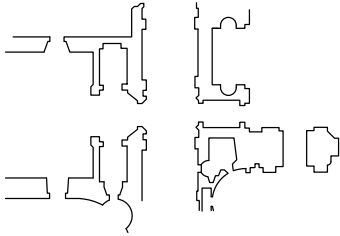
The idea of the perimeter and the courtyards as two different public spaces could be interesting to investigate further.

One more theme that could be interesting to work with is transformation of existing buildings. Most of the examples I have shown are additions to already existing buildings. This, I think, is partly the reason for their ensemble character.

I think it could be interesting to have an existing building as a starting point that could become part of a larger ensemble.

I think this already sets out some criteria for the choice of site: an urban situation, a clear block perimeter and a surface area large enough to contain several spatial sequences. And possibly with pre-existing buildings.

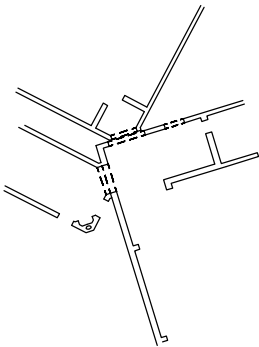
I included some of the drawings of relations between elements of different ensembles.



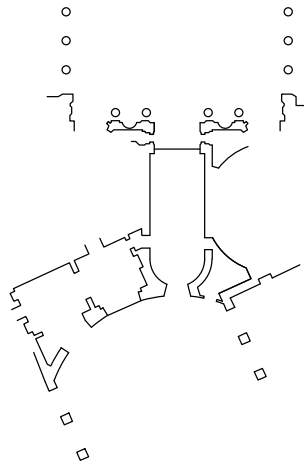
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BORROMINI ORATORIO DEI FILLIPPINI
BETWEEN SACRISTY AND CHURCH



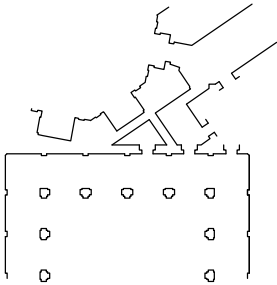
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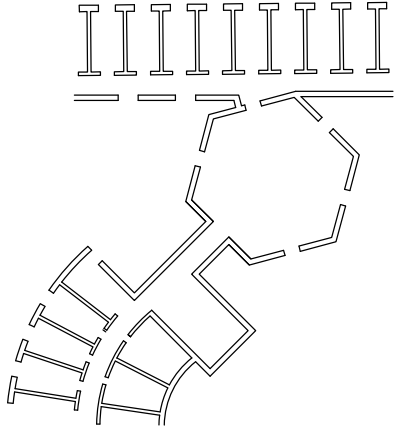
LOUIS KAHN MONASTERY



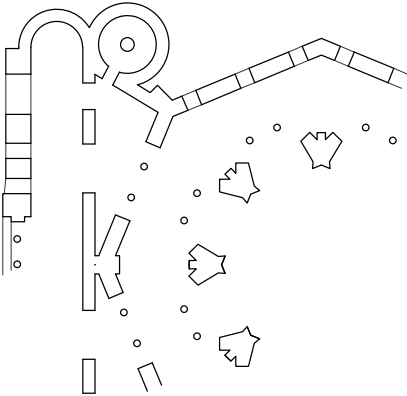
JOHN SOANE BANK OF ENGLAND



SANTA MARIA DEL PACE



JAMES STIRLING & WILFORD
ASSOCIATES SOCIAL RESEARCH
CENTER BERLIN



BASILICA OF SAN VITALE

BIBLIOGRAPHY

- Bandini, M. (1984). Type as a form of convention. *AA Files*, No. 6, p.73-82
- Connors, Joseph (1980), *Borromini and the Roman Oratory*, New York, The Architectural History Foundation and the MIT Press, p. 2-39
- Forty, Adrian (2000). *Words and Buildings. A Vocabulary of Modern Architecture*. New York: Thames & Hudson Inc., p. 307-308.
- Geers, Kersten (2015), Looking Elsewhere. *San Rocco 6 Collaborations*, Italy, Publistampa Arti Grafiche p. 105-110
- La Varra, Giovanni (2013), Objets Trouvés: Collages, Collaboration and Collision. *San Rocco 6 Collaborations*, Italy, Publistampa Arti Grafiche
- Lucan, Jacques (2012), *Composition, Non-Composition*, Switzerland, EPFL Press
- Moneo, Rafael. (1978) On Typology. *Oppositions*, Summer 1978:13, p. 23-29.
- Norberg-Schultz, C. (1962) *Intentions in Architecture*. Cambridge, Massachusetts: MIT Press, p. 133-146
- Portoghesi, Paolo (1967), *The Rome of Borromini*, Milan, Istituto Editoriale Electa
- Vidler, A. (1976). The Third Typology. *Oppositions 7*, Winter 1976:7, p. 1-3.

