Compromise

Between Collective and Individual: From Alberti To Stora Saluhallen Gallery

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In 2019-2020, I attend the double degree master exchange programe from Tongji University to Chalmers, that is the reason I do this master thesis.
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Museum Architecture design.
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Abstract

Leon Battista Alberti is one of the most important architects and architectural theorists in the Renaissance. Our understanding of him is more from the idealist level. But as a contemporary architect, our attitude towards history should focus more on how to transform something that also makes sense to the present and use it. Therefore, my research will read Alberti critically. This Thesis will mainly be divided into three parts. The first part is Introduction. This chapter will introduce the research object" Alberti" , and limited the research scope within the collective space and individual space to see Alberti 's compromise in practice. They present as the complexity and contradiction of architecture. Then, I put forward the main question of the research as" What compromises Alberti had made to coordinate the collective space and the Individual space in his building? What complex and contradictory space had been created as a result?Finally, this part will also introduce the research method, which is a combination of typological research and design transformation.

The second chapter is a typological classification of the compromises made in Alberti's architecture, mainly from the three issues of Sunlight, Structure and space. In Sunlight, Alberti's coordination of collective space and individual space including juxtaposition, Overlapping and share of windows. The coordination methods for the structure of collective space and individual space are overlapping, occlusion and juxtaposition. For space, the modern sense in Alberti building is that he has created gray space between indoor and outdoor, between individual and collective., as well as the dialogue and the hierarchy of the space.

The third chapter is the design transformation. The project is an art gallery located on the south square of Stora Saluhallen. The transformation is also carried out according to three topics, namely Sunlight, Structure and space. Use them to discuss the relationship between collective space and individual space. Finally, a set of space-focused designs was obtained.

Keyword
Alberti, Typology, Collective system, Individual System, Transformation, Compromise, Gallery.

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Background

The gallery is a space where people can relax and experience art, but the modernism's over-emphasis on efficient functional division makes the display of the space too straightforward and the space quality become very low. This functional division is most concentrated in the tough division of auxiliary space and main space. That is, the collective space and individual space are completely distinguished to maximize space efficiency. That is to say, the individual is always contained in the collective space without the right to speak. Although function and use are given priority, this design modes ignores the needs and habits of users. Human emotions, feelings and activities are inextricably linked to the form of space. For example, in individual space, people's activities are quieter, and there will be activities such as conversation, rest, and office. In public spaces, people's activities tend to be dynamic, with states such as wandering, speaking, and even running. These two different activities and needs are often limited to their respective structural systems. How many conflicts will occur if these two systems meet? What problems need to be solved at this time? What compromises needs to be made? How does the final space produce complexity and contradiction?

This problem is not a new issue. Architects have solved this problem very well in history. From this perspective, the architecture of Alberti's are the results of constantly weighing the collective space and individual space. However, the current research on Alberti is mainly focused on his ideal architectural vision. Among them, scholars represented by Wittkower believe that Alberti's practice is only to continuously approach an abstract ideal. And It is precisely because Alberti himself has a set of ideal building systems, so he will make many compromises during the trade-off process in practical projects. The purpose of these compromises is to coordinate the contradiction between collective space and individual space. The ultimate result of compromise is the complexity and contradiction of architecture. This thesis is to explore the complexity and contradictory space that arises from the mutual compromise between individual and collective.
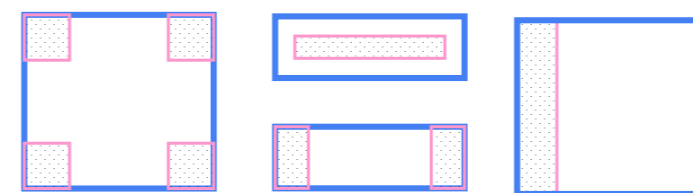

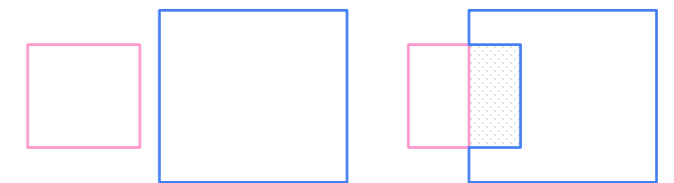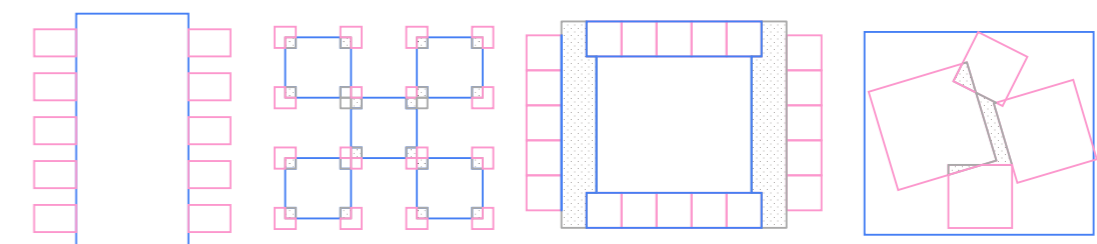Fig1：Highly productive arrangement of collective and individual space

Fig2:Complete seperation and interwined between collective and individual space

Individual System
Collective System

Fig3:Complexity and contradiction
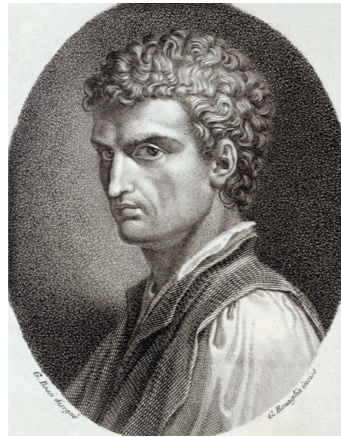
Chapter1

Introduction

Research Objects

Fig4: Leon Battista Alberti

1.collective spaces and the individual space:there is one objects in this thesis which is the combination between another two object. That is the In-Between area of the collective spaces and the individual space.

Collective Space is what as Alisa Del Re (2015)suggested: Collective and individual systems are:"the space of direct manipulation, organized by laws, public expenditures, customs, and moral rules that crush the individual's ability to desire. While the individual space coarsely idealized as the space of freedom, but in most cases it reveals itself as the dominion of neglect, misery, frustration, powerlessness, and loneliness".this interesting definition very clearly distinguished the boundary between two kind of living conditions created by the collective and individual space.

The collective space means mass-productive structure, simple and unified column system, public space and flexible flows. So it's more inclined to public demands rather than private demands. On the contrary, Individual system pays more attention to independent structural system, small private space, strong privacy and a space stay for a period of time. This is designed to meet individual needs. The significance of discussing the relationship between individual and collective space is that they are two objects that exist in any building. The relationship between the two determines the quality and complexity of the space.

The contradictory spaces generated from these two different coexisted systems in one building is the key research objects of this thesis.

2. Leon Battista Alberti's works are full of compromises, but this interesting feature has been ignored by scholars. So returning to history to learn how Renaissance architects solved this kind of problems have great help for us. So Alberti's function here is as a source of inspiration. There are three issues arose from his work: " Light", " Structure" and " space".

3.The design object is the Stora Saluhallen Gallery in which I will also explore those three issues.

Research Question

1. What compromises Alberti had made to coordinate the ideal collective space and the Individual space? What complex and contradictory space had been created as a result?
2. Where the individual system be generated?
3. How to transform this relationship into a gallery space?

Methods

The main method used in this study is typological research and research by design. Finally, the research results are transformed into a group of gallery spaces. Typological research is mainly used for the analysis of Alberti's architectural works.That means I will categoraize Alberti's building under a theme of compromise, in which the detail compromise will be examined. The design part mainly involves a group of gallery space design in Stora Saluhallen.
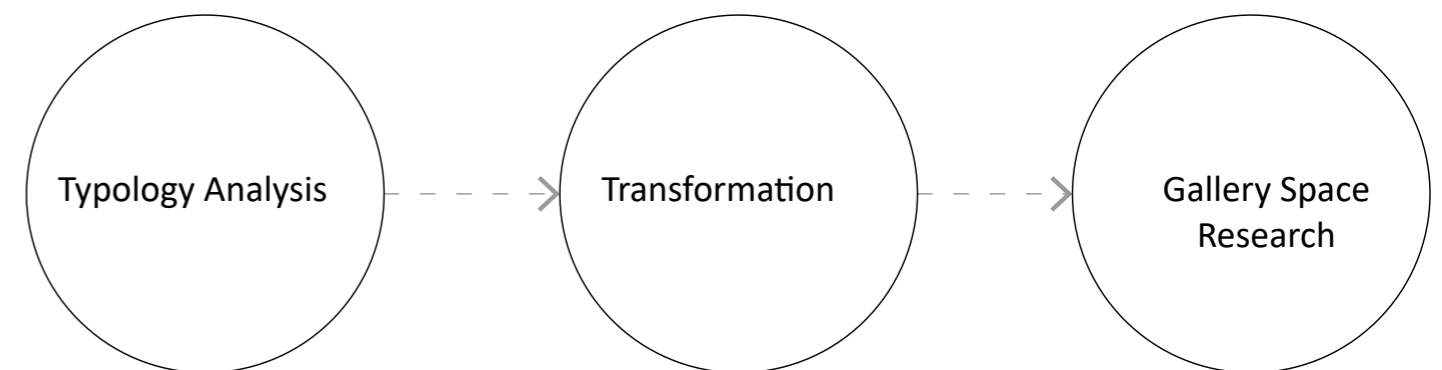
Typology Analysis ----> Transformation ----> Gallery Space Research

Fig5:Method diagram

Delimitations

This thesis focus on the relationship between the "collective system" and the "individual system" in Alberti's projects, and summarized how Alberti coordinated the contradiction between these two sort of space and what compromises had been made to create funny but very interesting space.

Then, I will transform these contradictory space prototypes into a gallery design, which focuses on the following three pairs of relationships: First, for the design of light, it is divided into light serving for collective space and light serving for individual. This study focuses on showing the spatial state where the two meet. Second, the structure system between these two system. The collective system is uniform, cost-effective, and prefabricated. The structure of the individual system is specially designed and designed to better meet individual needs. This study focuses on the contradictions when they meet. Third, for space, when collective space and individual space meet, they will break up the originally pure ideal space so this study focuses on where this discordant state is.

Purpose & Claim

1. Rethink Alberti's significance to contemporary architecture from the perspective of the relationship between collective space and individual space. Try to escape the orthodox of the study about Alberti's in an ideal form paradigm.
2. Inspired by Alberti, look for the third layer of architecture that belongs to both collective space and individual space. This level is where compromises are needed to combine the two objectives. Designing a set of complex spaces resulting from compromise is the goal pursued by this thesis.
3. The needs and desire from the collective space and individual space is one of the important driving forces for spatial complexity and contradiction. This contradictory relationship also applies to Stora Saluhallen's gallery space.

Fig6: Delimitation Diagram
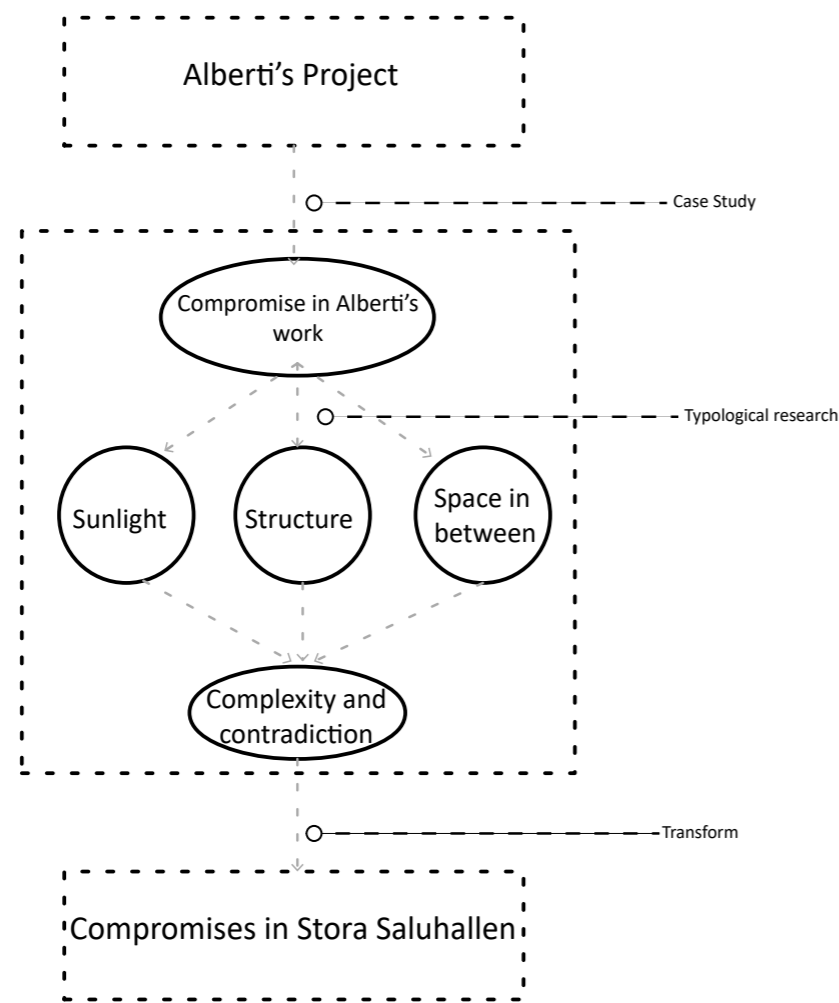
Working Process

Fig7: Working process diagram

The research process takes the analysis of Alberti's projects as the medium, and first analyzes the ideal vision presented in the Alberti architecture. This ideal vision is the design of the large space (Collective) and the small space (Individual). The large space includes the chapel, the dome space, and the main facade face to the city's. These are part of the collective space. Small spaces include corridors, niches, basements and other spaces, which belong to the individual part. Then analyze the contradiction between the two after they're meeting each other. Finally, summarize these contradictions in typology, and then

use these types to design a new gallery. There are three types included: different requirements for Sunlight between these two types of space, different requirements for the structural system, and the complexity of the in-between space that is finally shown.

Theory

The complexity and contradiction in architecture, like Venturi(1977) said:" Architects can no longer afford to be intimidated by the puritanically moral language of orthodox Modern architecture". (p.16) The analysis of classical architecture is also the same. Now the "Alberti" we all recognize is the understanding of Wittkower 's. This understanding is very idealized, so the method of Thesis is to break away from the method of modern art historians represented by wittkower, and Discuss Alberti with complexity and contradiction as the starting point.

This quotation has a great influence on thesis, Robert Venturi (1977):" I am for richness of meaning rather than clarity of meaning; for the implicit function as well as the explicit function. I prefer "both-and to "either-or," black and white, and sometimes gray, to black or white. A valid architecture evokes many levels of meaning and combinations of focus: its space and its elements become readable and workable in several ways at once" (p.16).

Reading instruction

This thesis is mainly composed of three parts, namely introduction, typological research on Alberti, and transformation.

In Introduction, you will see: my background, the research background, my claim, research question and methods.

In Alberti's typological research you will see:three categories of compromises in Alberti's buildings. The first category is in consideration of sunlight, and the second category is in consideration of structure. The third category is the consideration of space.

In the design transformation chapter you will see:the diagram and design drawings. The design was also carried out according to three categories in part two.

Chapter2

Alberti's compromises In Collective And Individual Space

Why choose complexities and contradictions as a perspective to rethink Alberti?

As Robert Venturi said in his monograph" The Complexity and Contradiction in Architecture"(1977):" I like elements which are hybrid rather than ''pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," perverse as well as impersonal, boring as well as "interesting," conventional rather than "designed," accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality".(p.16) Venturi expressed his preference of Architecture whose principles are anti-modernism in which declared architecture should be designed as "Pure"," clean"," straightforward"," articulated"," Precisely designed"," excluding" and so on. These preferences shift the focus to a more complex context, that is what compromises have been made during the design of a project. The most interesting part of the space and structure is what the outcomes would be after the ideal meet the practical limitation. Venturi's idea provided us a new perspective to review Alberti's work which has usually been regarded as an example of artist-style harmony and perfect architecture. This recognition derived from Wittkower's powerful influence in his book "Architectural Principles in the Age of Humanism" where pictured Alberti as a puritan architect whose only focus was on the form and perfect harmonious order. From a more practical Architectural perspective, the restriction on the site and what the practical obstacles faced by Alberti when he made compromises are more interesting for us to examine.

Complexity and Contradiction is the basic attribute of architectural design, because ideal visions have to compromise a lot when realistic conditions in the site occurs. "Mies, for instance, makes wonderful buildings only because he ignores many aspects of a building", (pp.16-17)Robert Venturi(1977).What Venturi means here is the impossibility of building a perfect purist building without ignoring the difficulties on the site, so as Mies. So my delimitation of the compromises is limited between two system: The collective system and individual system. And three topics will be examined, they are the need of sunlight, The structure between these two systems and the space in between.
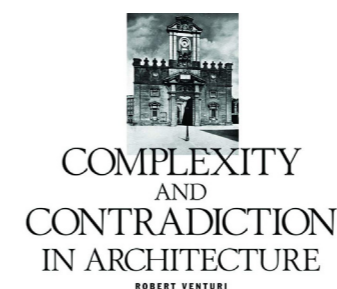
Fig8
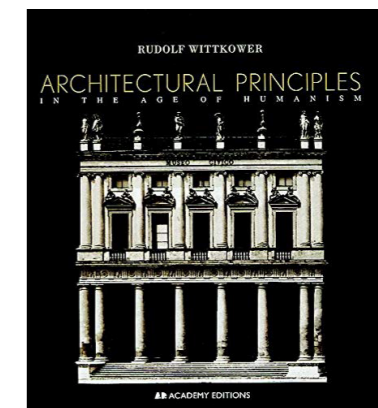
Fig9

What are ideal and what are not ideal

In Alberti's architectural theory. One of his most important concepts is so called "concinnitas", which is the harmonious and unified state of architecture. He believes that the harmonious unity of a building comes from the harmony between part and part, part and whole. This harmony is reflected in three aspects," the mathematical harmony of the architectural proportion"," the harmony of the form" and "the harmony of the composition".

In terms of quantity and proportion, he proposed three proportion for this purpose, namely 1: 2, 2: 3 and 3: 4. In the building, each part must be strictly deployed according to these three ratios. If the building is not developed according to these three proportions, it is not ideal.

The second ideal state is the harmony and unity in form. In other words, Alberti gives priority to form over function. The overall decorative elements and structural elements must be consistent with the details to be harmonious and ideal. Otherwise, it is not ideal.

The third ideal state is the ideal of composition,

that is, the plane and elevation of the building, as well as their parts and the whole, are well contained in the circular and square composition. That is to say, if there are geometric shapes that are inconsistent with the square and the circle, then they are not harmonious compositions.

In the 21st century, the purpose for us to look back at Alberti again is not to examine how persistent he is in his ideals, because the role of architect is not an idealist. For our time, his significance is that he is in a contradiction status between being an idealist and a realist at the same time. These contradictions are that he had to make a Compromise of his ideals, the most interesting of which is the Compromise between collective and individual systems.

For the collective and individual system, this thesis focuses on three core issues: "The sunlight", "The structure" and "The space". Analyzing how Alberti's architecture meets the needs of collective and individual systems for Sunlight and Structure at the same time, what compromise did he make? Then what does it look like in space.

Fig10: The ideal proportion and geometry for Alberti

Collective and individual in Alberti's context

In the era of Alberti, on the one hand, he wanted to build self-confidence and build an architectural language belonging to this era. But on the one hand, the real condition is that his projects are all expansion project, so the new system can be viewed as a collective, and the existing building can be considered as private. So Alberti's architecture is a process of constant compromise between new buildings (ideal, collective) and old

buildings (realistic, individual).Alberti's projects are mostly commissioned by the nobility who often have the desire to store family tombs in the church. So the need of the family and the need of the church as a public chapel are also the relationship between collective and individual.

Sunlight Between Collective And Individual

The method for Alberti to acquire sunlight between the collective system and the individual system represent such a question: the two systems use different windows due to different needs, but what methods could be adopted to compromise the conflict between these two systems when they meet? By summing up and studying the solutions in Alberti's architecture, three modes of compromise are applied. First, the juxtaposition of the windows in two system, the second one is the overlapping of the windows, and the third one is to share the windows in both systems.

a.Juxtaposition Of Windows
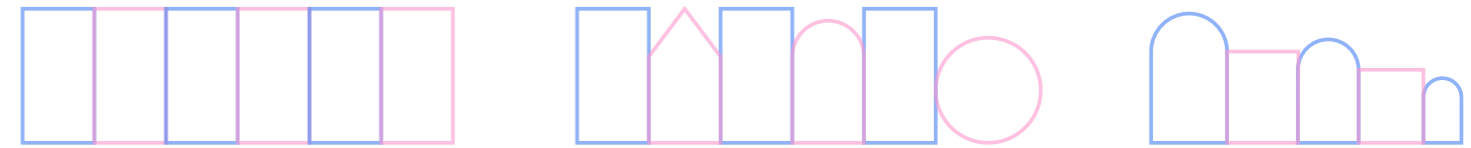
For the juxtaposition of windows in the collective system and individual system in the Alberti building, here I use typological method to study three possibilities of the lighting in the two systems. The first one is "Juxtaposition Of Location", which means that in the two systems, windows are directly juxtaposed on an orientation relationship. Here, the "Arraying approach" is used. That is, the duplicated arrangement of the same window.Second, the"Juxtaposition Of Elements", in which he directly juxtaposed two different forms of windows. The third one is the "Juxtaposition Of Size", which juxtaposes windows of different sizes in the two systems. The last one is to mix and match the three types of windows above, called: "Mixed Type".

b.Overlapping Of Windows
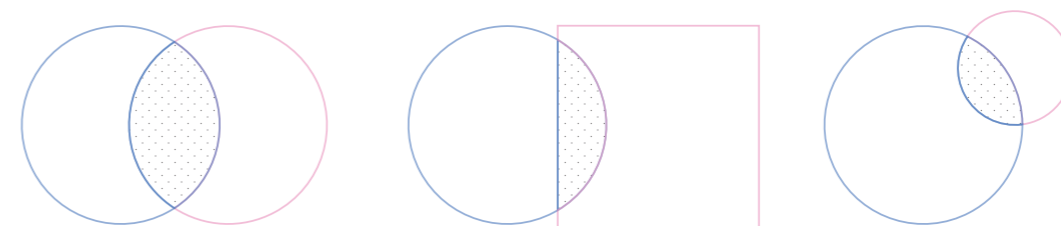
The directly overlapping of windows between collective and individual system is in purpose to express complexity and contradiction. In Alberti's work, I have summarized the following three types of "overlapping". First, the overlapping of location. Second, the overlapping between different forms of windows. Third, the overlapping between windows of different sizes.

c.Shared windows under The Dome

Juxtaposition Of Location

Juxtaposition Of Elements

Fig11

Fig14
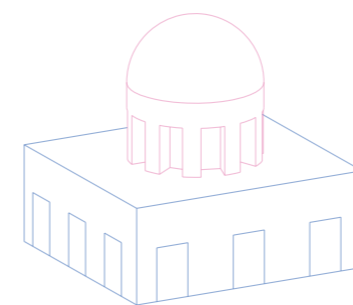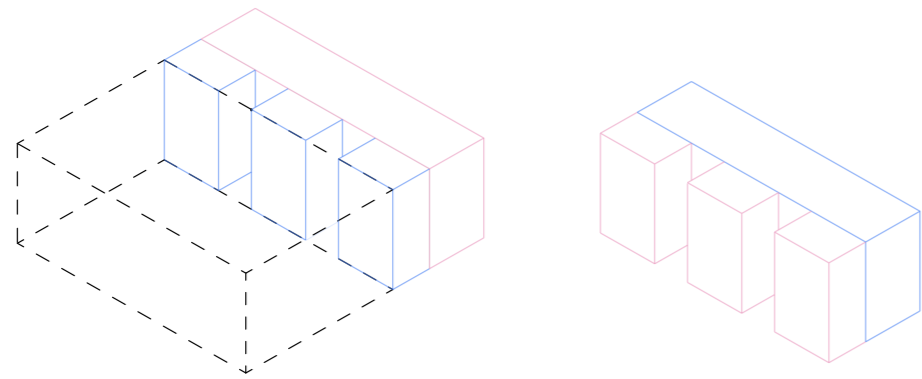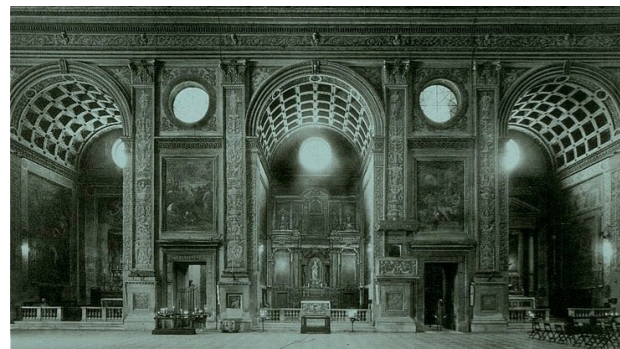
Fig12:Basilica of Sant'Andrea Mantua, Interior Facade

Fig13:Sotterraneo(Baasement) Of San Sebastiano (Mantua)

Fig15:Different window elements of Palazzo Rucellai
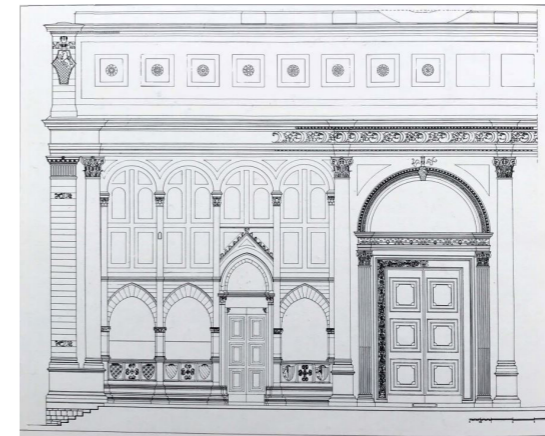
Fig16: Maria Novella Florence

Fig17:External view:north side of the nave of Sant'Andrea

The compromises of "Juxtaposition Of Location" appears in two types in Alberti's architecture. The first type is that the individual windows appears repeatedly in one axis within the collective windows. The second type using the juxtaposition to make a distinction between the inner and outer boundaries of a building.

The "Juxtaposition Of Elements" appears in Alberti's architecture in three types. The first type is the juxtaposition between the arched window and the square window. The second is the juxtaposition between the round arch and the medieval pointed arch. The third is the juxtaposition of mixed windowing.

Juxtaposition Of Size
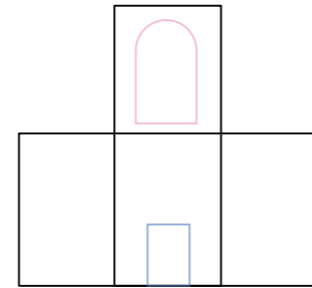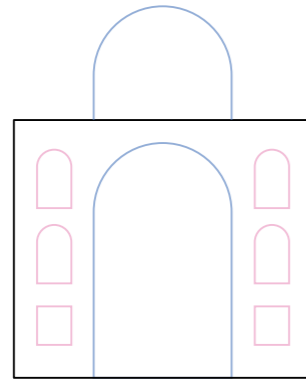
mixed type

Fig18

Fig19:West Facade, The Church Of
Sant' Andrea In Mantova
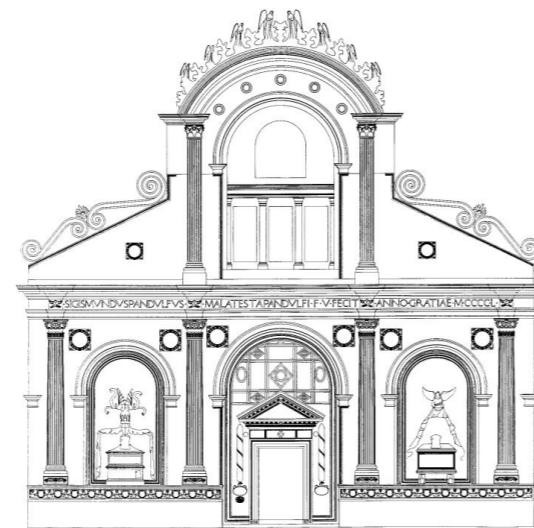
Fig20:Tempio Malatestiano, Original Facade
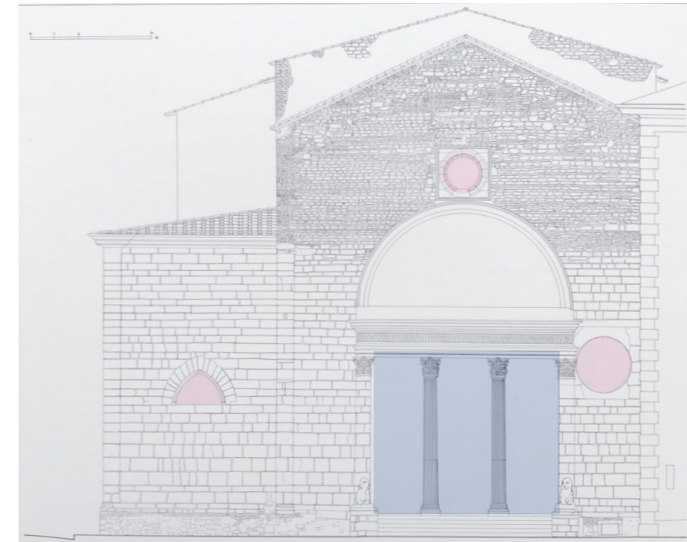
Fig21:Front of S. Pancrazio with Alberti's columns and frieze (present state)

The "Juxtaposition Of Size" appears in Alberti's architecture in two types. The first category is juxtaposition of large windows in the middle and small windows on both sides. The second expression is the juxtaposition of windows with different sizes above and below.

The "mixed type" juxtaposition is a combination of the three types above, which refers to the method of placing windows in different positions, forms and sizes to coordinate the contradiction between the collective and the individual system.

Overlapping Of Location
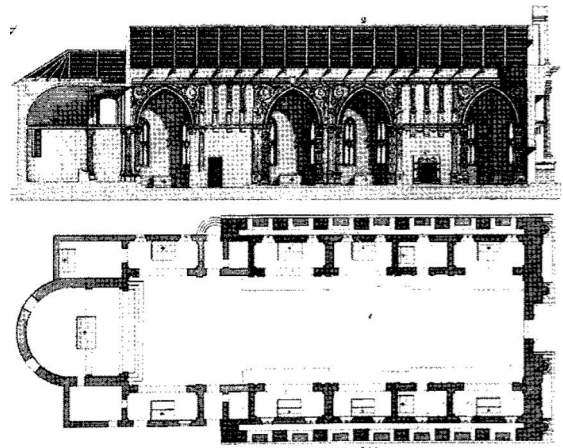
Fig22:Tempio Malatestiano
Section
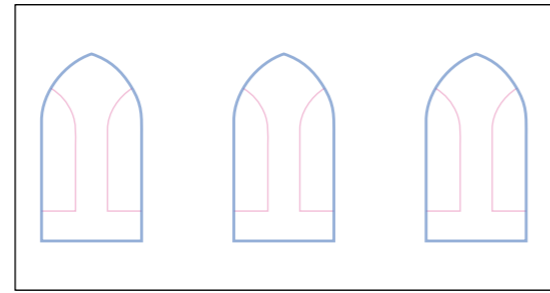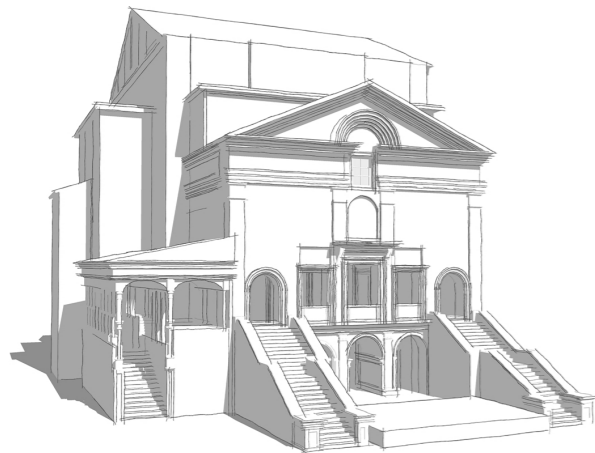
Fig24:Basilica di Sant' Andrea
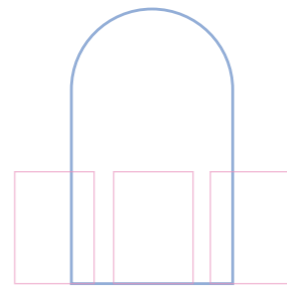
Fig26:Basilica di Sant' Andrea

Fig23

Fig25
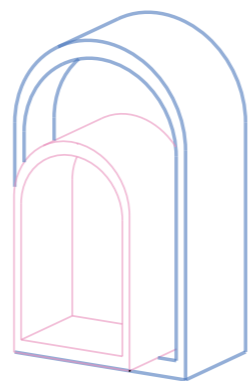
Fig27

The "Overlapping Of Location" appears in three types in Alberti's architecture: overlapping in the horizontal direction, overlapping in the vertical direction, and three-dimensional or in-depth overlapping.

Overlapping Of Elements
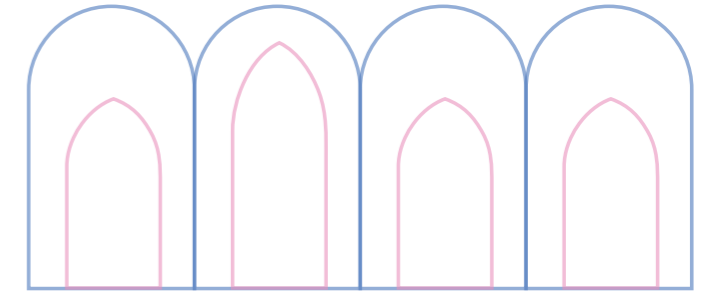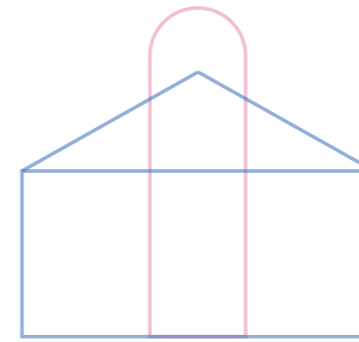
Fig28
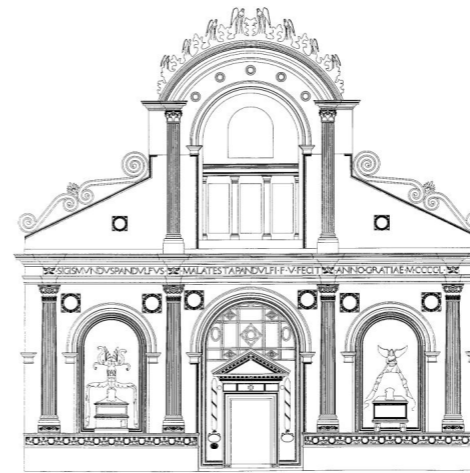
Fig29:Tempio Malatestiano,
Original Facade

Fig30: Maria Novella Florence

The "Overlapping Of Elements" appears in Alberti's architecture as two types. They are the overlapping of round arch windows and square windows, and the overlapping of round arch windows and pointed arch windows.

Overlapping Of Size
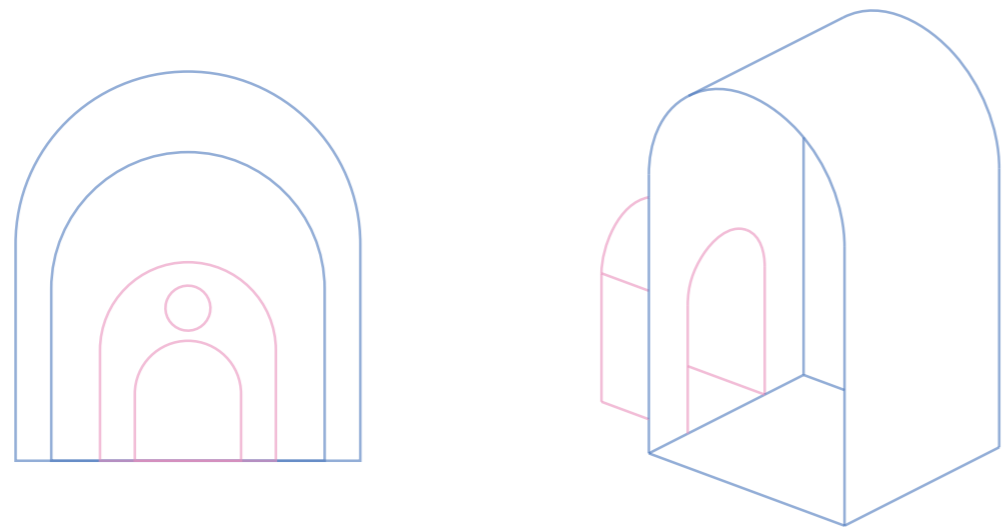
Fig31
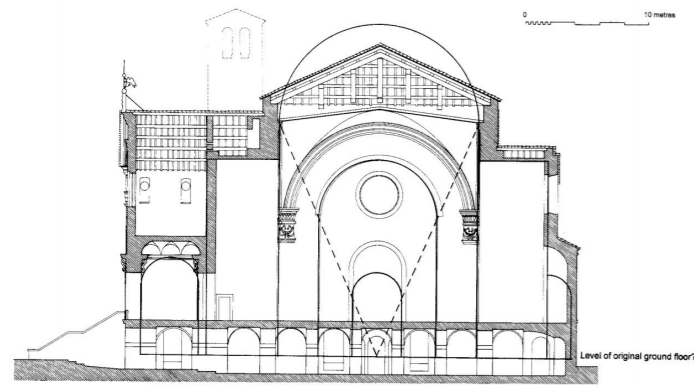
Fig32:Central Chapel, San Sebastiano (Mantua)
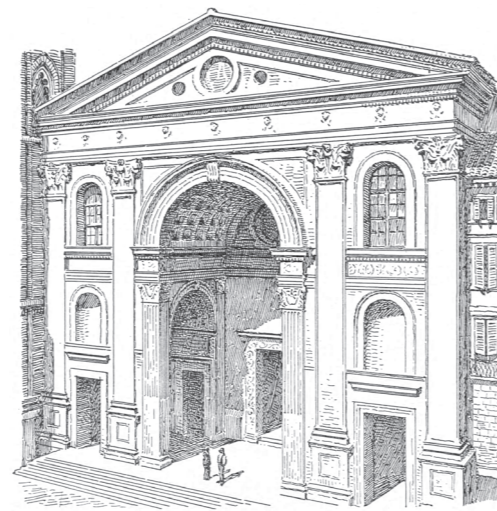
Fig33:Facade of Sant' Andrea, Mantua

The "Overlapping Of Size" appears in two types in Alberti's architecture. First, the overlapping of windows in the cross-sectional direction, which manifests a gradually changing from collective to individual along with the change from top to bottom. The second one is three-dimensional overlapping, with large openings (collective system) nesting small openings (individual system).

c.Shared windows under The Dome
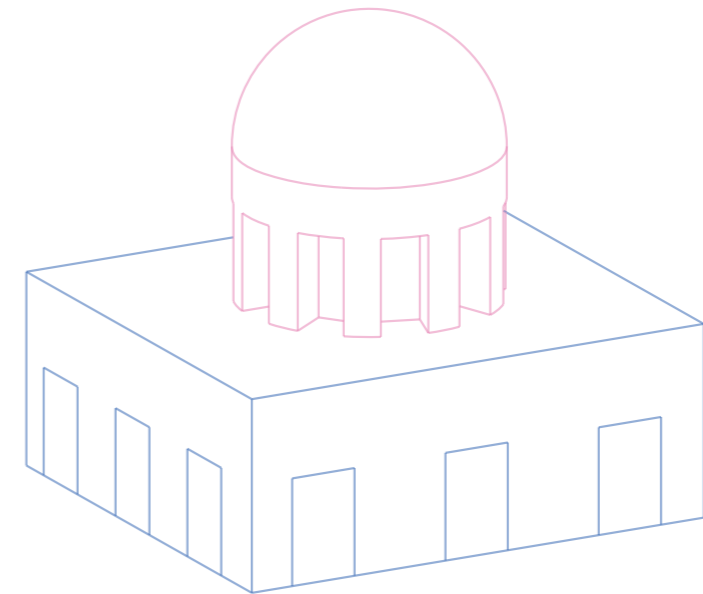
Fig34

Fig35:The Church Of Sant' Andrea In Mantova

Sharing Windows refers to the practice of illuminating the central space through both the windows of collective and individual system. This form of window opening is generally used under the dome of the Alberi's church.

Structure Between Collective And Individual

The structure of the collective system refers to the main structure of the entire building, while the structure of the individual system refers to the special structure of the space with special use requirements. When the collective system and the individual system meet, some problems will be encountered in the structure. The question is how to coordinate the needs of individuals with the needs of collective system. This will inevitably require a compromise between both sides. In Alberti's architecture, his compromise reflected in three aspects. First, the two sets of structures are directly overlapped. Second, the two sets of structures are juxtaposition. The third method is the interruption of the structural contradictions.

a.overlapping
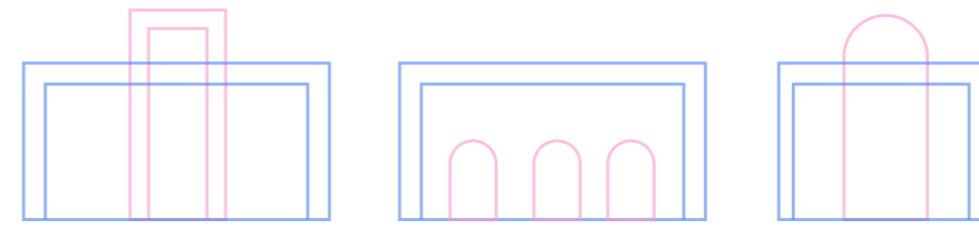
The overlapping approach is Alberti's most obvious compromise in dealing with structural contradictions. In the operation, there are three types. They are: "Overlapping Of Size", "Overlapping Of Different Structure Systems" and "Occlusion".

b.Juxtaposition
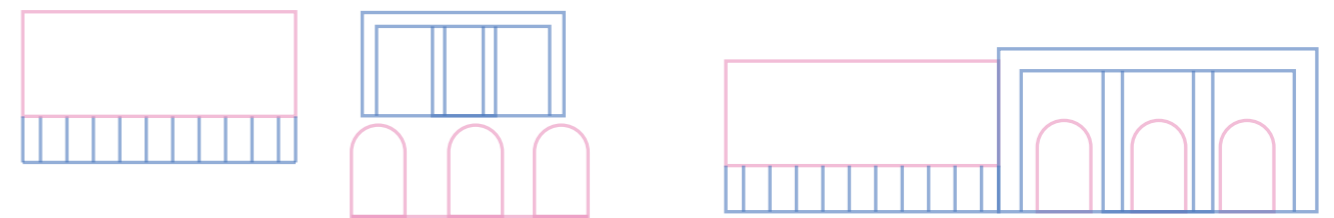
Besides the method of overlapping, Alberti's compromise on structural conflicts is to directly expose them. This direct methods including Superimpose (vertically), Horizontal juxtaposition and Mix type (Horizontal and vertical juxtaposition).

c.interruption
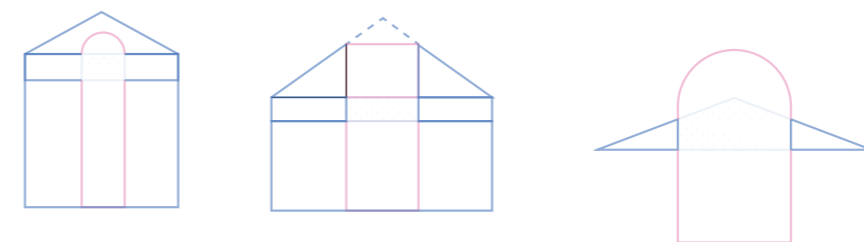
Overlapping Of Size
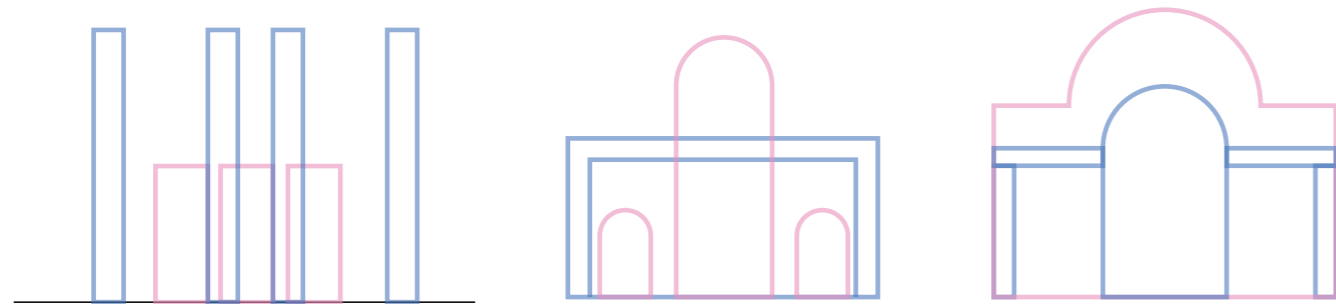
Fig36

Fig37:San Sebastiano (Mantua), West Facade
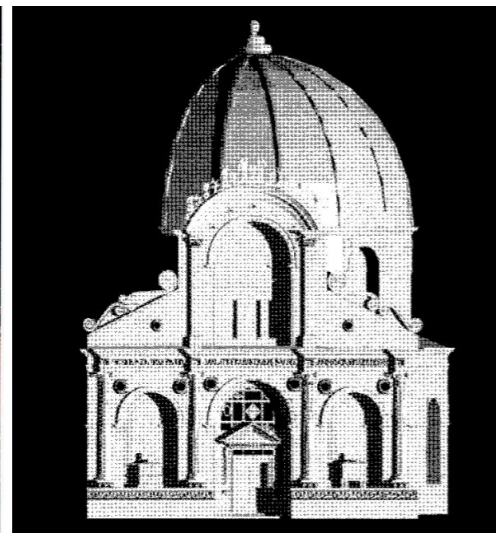
Fig38:Tempio Malatestiano
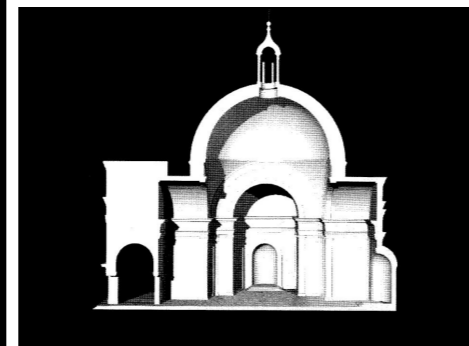
Fig39:San Sebastiano (Mantua), Reconstruction the section

For the "Overlapping of Size", there are three main types in Alberti's architecture. First, the overlap of building components. The most representative case is the overlapping of pillars, doors and windows on the facade of "The Church Of San Sebastiano". The second type is the overlapping of tall structures in the middle and low structures on both sides. The third one is the overlapping between the small structure in the inner layer and the large structure in the outer layer.

Overlapping Of Different Structure Systems
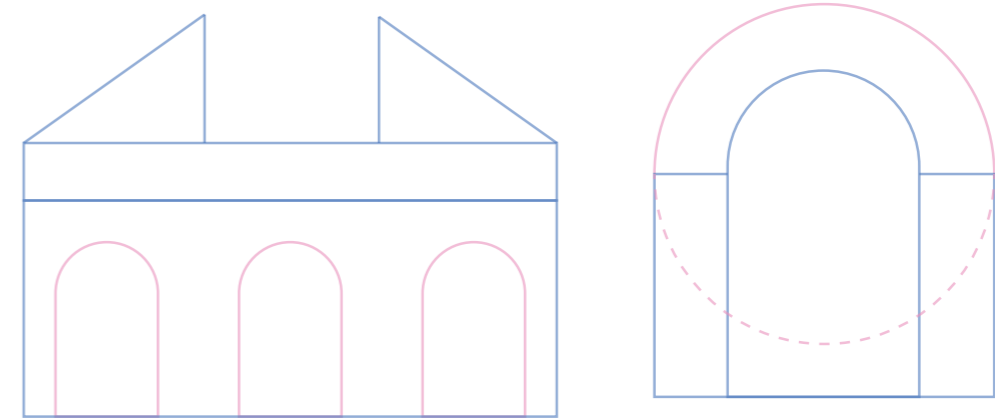
Fig40
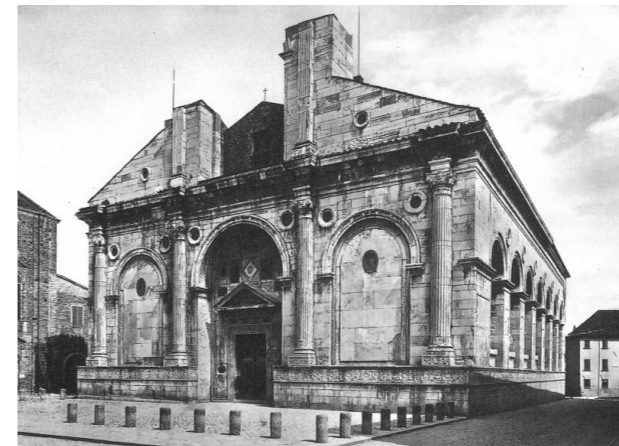
Fig41:Tempio Malatestiano
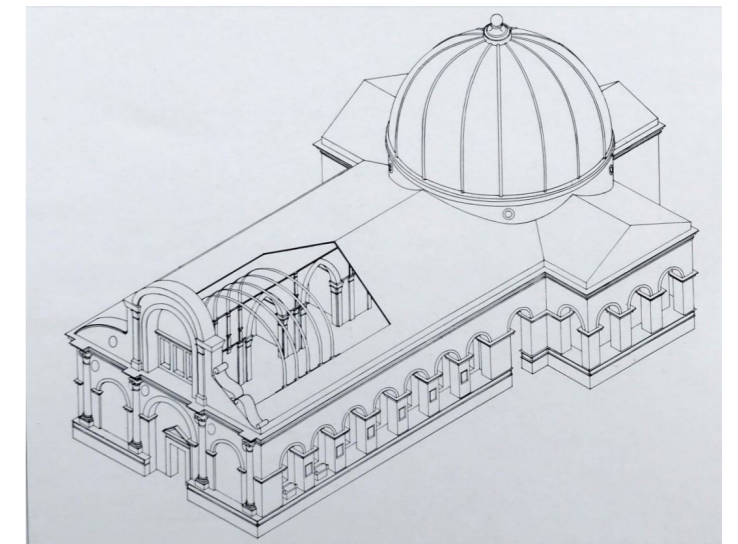
Fig42:Tempio Malatestiano

For the overlapping of Different types of Structure Systems, there are two main types in Alberti's architecture. The contradictory overlapping between the triumphal arch in ancient Rome and the structure of the ancient Greek temple. The second type is the overlapping between the circular vault structure and the dome.

Occlusion

Fig43
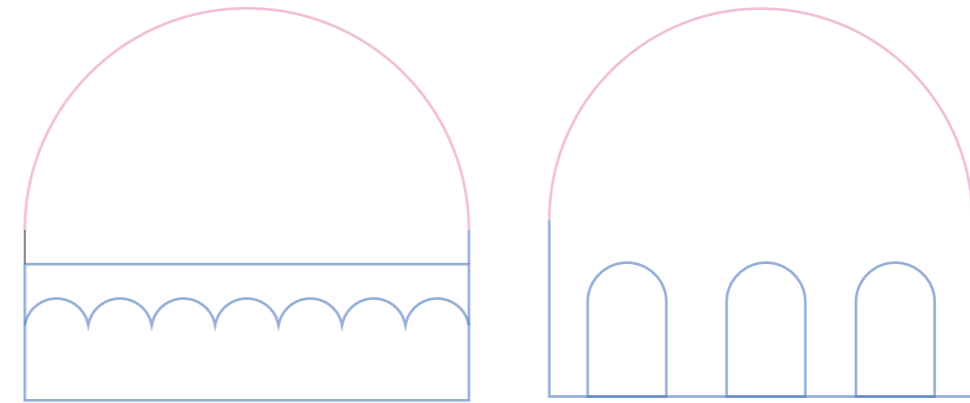
Fig44:Tempio Malatestiano

Fig45: The Church Of Sant'Andrea In Mantova
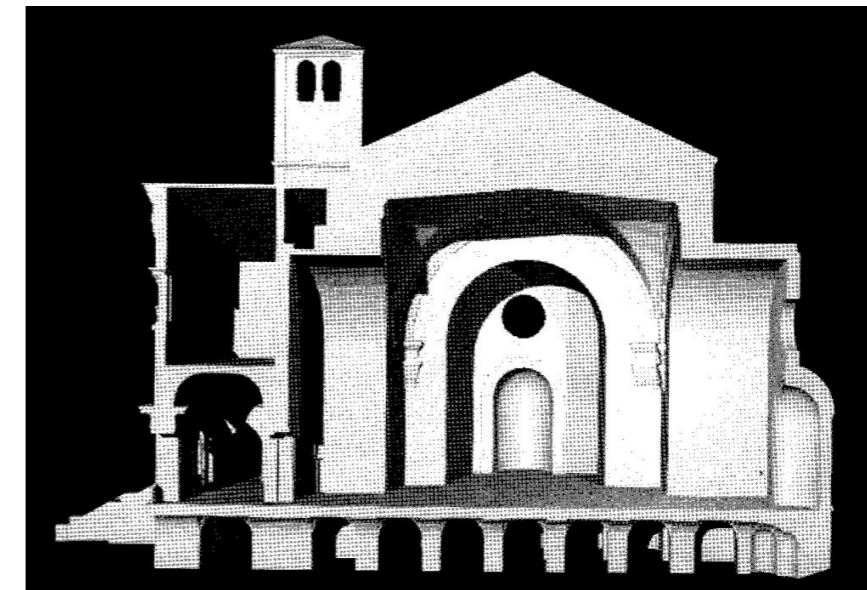
In Alberti's architecture there is another way to reconcile the two types of structures, that is "Occlusion". This method is usually used in the very awkward situation at the junction of Collective Structure and Individual Structure. There are two ways to deal with this problem in Alberti's building. To use decorative elements as covering, and use the whole facade for covering.

Superimpose (vertically)

Fig46

Fig47:San Sebastiano (Mantua),section

There are two types of superimpose in Alberti's building.The vault plus dome and arches plus dome.

Horizontal juxtaposition

Mix type(Horizontal and vertical juxtaposition)

Fig48

Fig50

Fig49: The Church Of Sant' Andrea In Mantova

Fig51:Palazzo Ducale (Urbino)

There are two types of horizontal juxtaposition, the first type is repetition along one direction and the second type is juxtaposition of Middle and sides.

Mix type refers to the synthesized type of structural system superimposed from top to bottom and horizontally as well, and it shows the complexity and contradiction on the section.

c.interruption
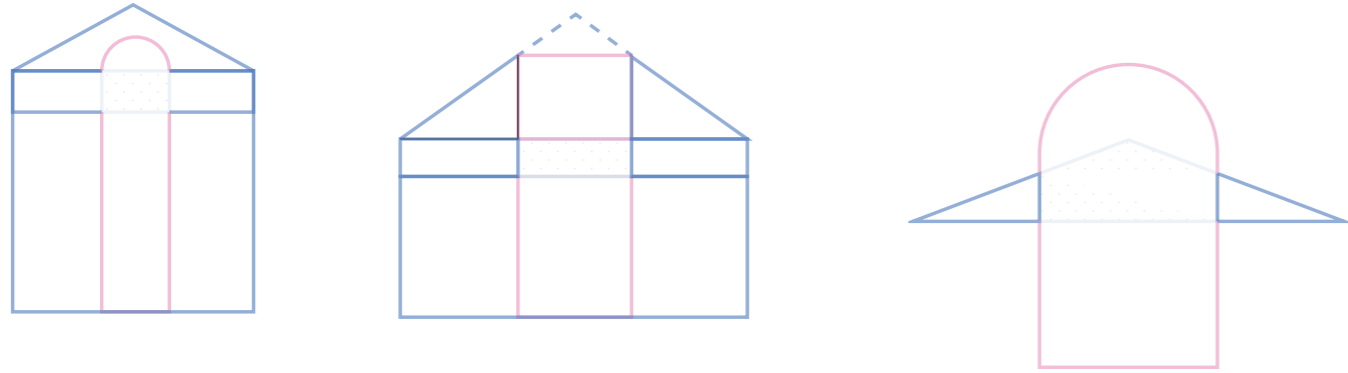
Fig52

Fig53:San Sebastiano (Mantua)

Fig54: Tempio Malatestiano
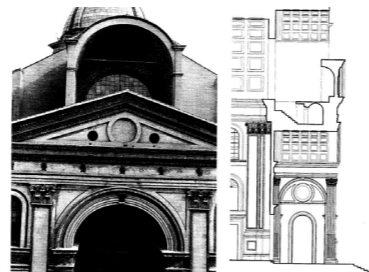
Fig55: The Church Of Sant'Andrea In Mantova

Interruption of two structure systems means directly expressing the contradiction or even ugliness of the two structures on appearance. This is the last resort. For example, the pillars and frieze on the facade in the church of San Sebastiano were broken by the semi-circular arched windows that belong to individual needs in the middle. The pediment of Tempio Malatestiano was also interrupted by two pillars on the second floor. Probably the most famous case is the Saint 'Andrea in mantua. On the west facade of building there is a very funny barrel arch on the top, which represent individual daylight needs. But incompatible with the Collective system(The form of a greco temple) on the facade.

The space Between Collective And Individual

The compromise Alberti made was ultimately reflected in the complexity and contradiction of his architectural space. The contradictions also concentrated on two aspects. First, although Alberti's architecture is recognized as a classical space, the space is full of permeable characteristics. Second, Alberti's spatial complexity and contradiction are also reflected in the strict Spatial hierarchy.

a.Interpenetration Of Space

Fig56
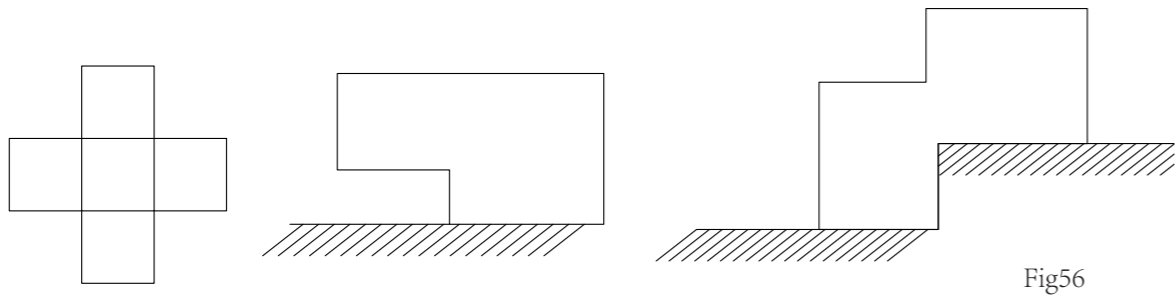
There are three main types of space permeability in Alberti architecture. The first type is the Dialogue between Chapel, Aisle And Nave, and the second type is the transitional space between the two spaces, namely "Gray space". The third category is the rich variation in building height.
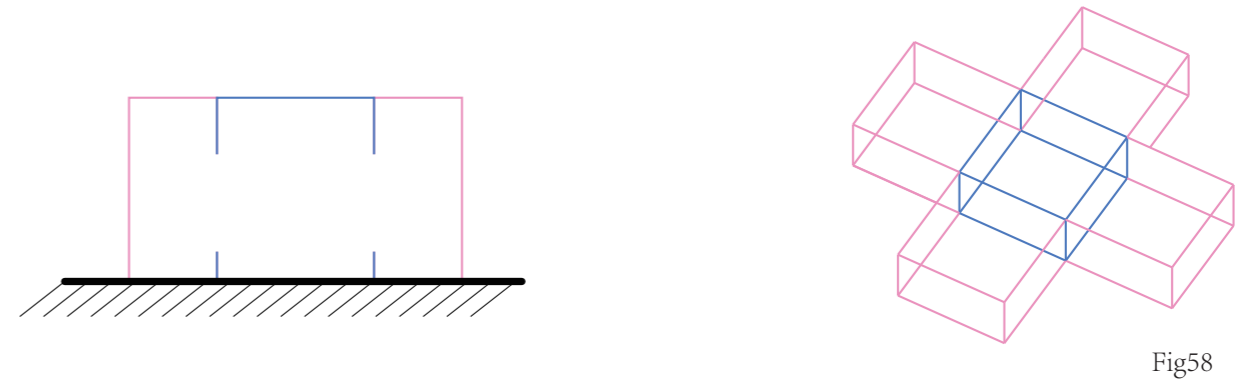
b.Spatial hierarchy

Fig57
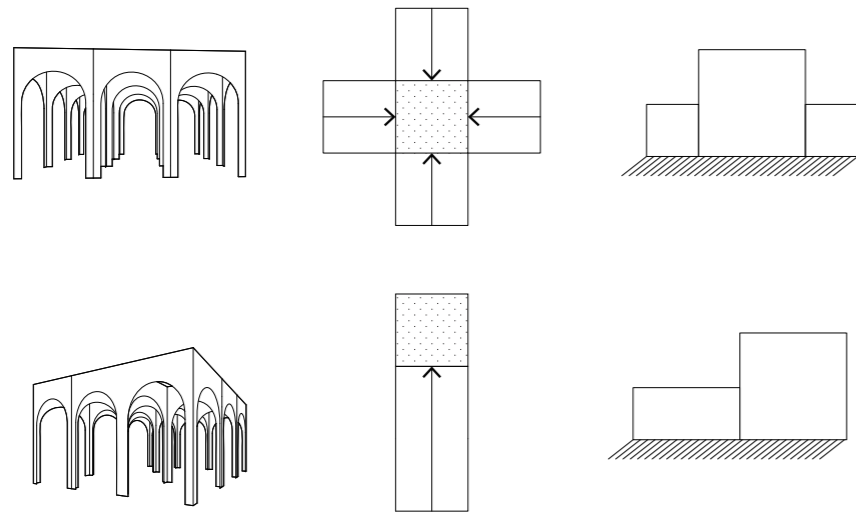
Alberti is a classical architect. The space hierarchy discussed here does not refer to the space class from the beautiful composition of classical architecture. Instead, it is used as a method to create the complexity and contradiction of space through the hierarchy of space. This hierarchy of space can be read or created in three ways. The first is the space atmosphere from an angled perspective. The second type is the Space Flows. Finally, the spatial Sequences.

Dialogue between Chapel, Aisle And Nave

Fig58

Fig59: The Church Of Sant' Andrea In Mantova

Fig60:San Sebastiano (Mantua)

There are two main types of dialogues between Chapel, Aisle And Nave. The first type is the dialogue between chapel and aisle, and the second type is the dialogue between chapels.

Gray space
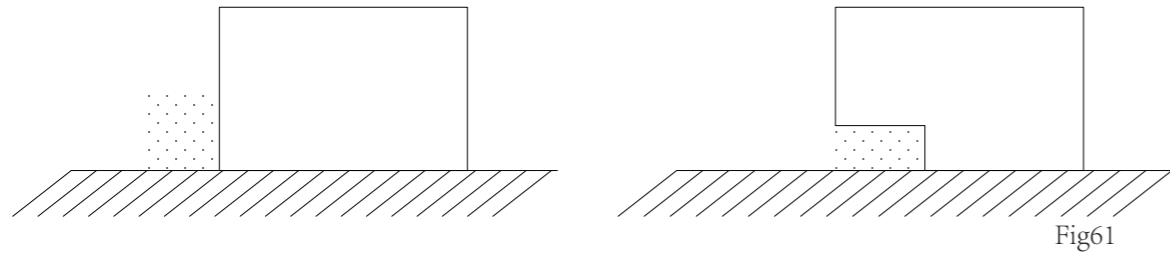
Fig61

Fig62:San Sebastiano (Mantua)

Fig63:San Sebastiano (Mantua)

There are two kinds of ways to design gray space in Alberti's building, the first way is doing a gray space attach to the main building. The other type is to do subtraction from the main volume.

Double Height
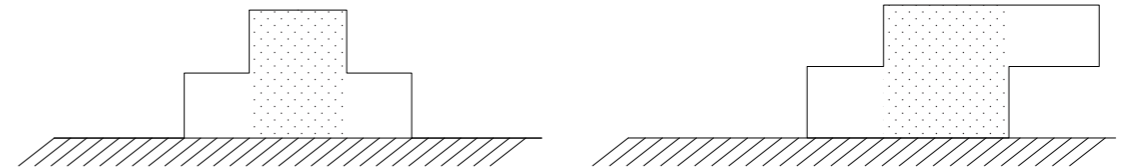
Fig64
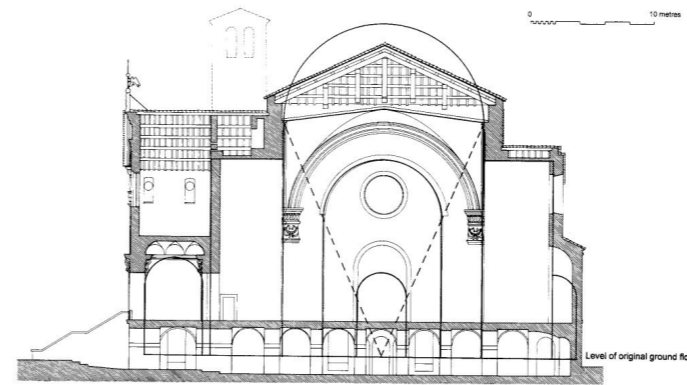
Fig65:San Sebastiano (Mantua),section
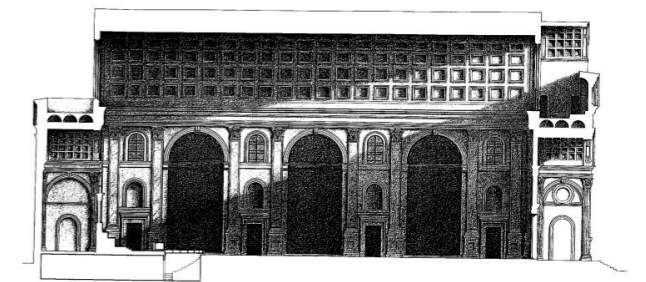
Fig66: The Church Of Sant'Andrea In Mantova

There are two kinds of ways about double-height space in Alberti's building, if the chapel located in the middle,then the double height is in the middle, that is to say the chapel space is higher than any other space. If the chapel was on the end, then the double height space located on the end.

Angular perspective
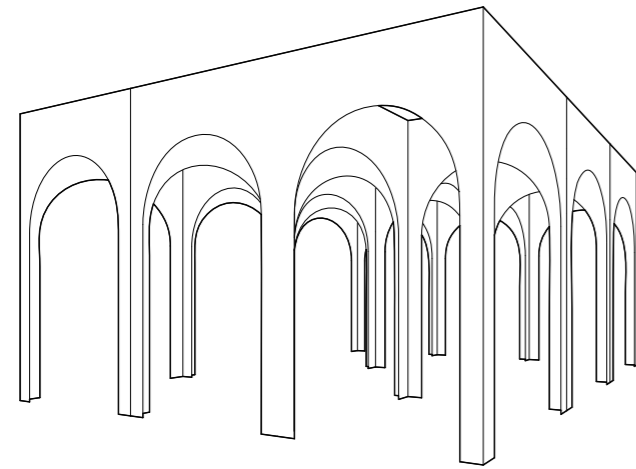
Fig67

Fig68:San Sebastiano (Mantua)

When Alberti's buildings are viewed at an angle in two-point perspective instead of single point perspective, we will see the multiple layers between different spaces, that is, the ambiguity of space.

Space Flows
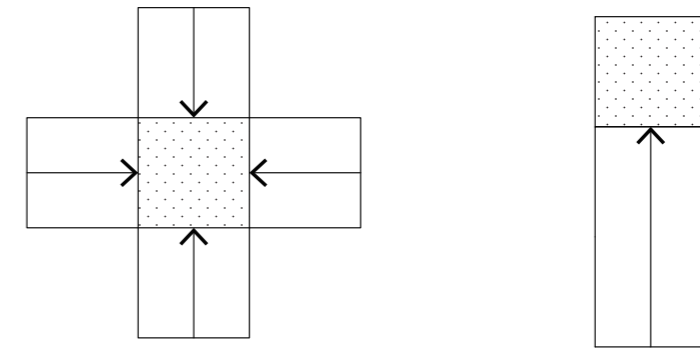
Fig69
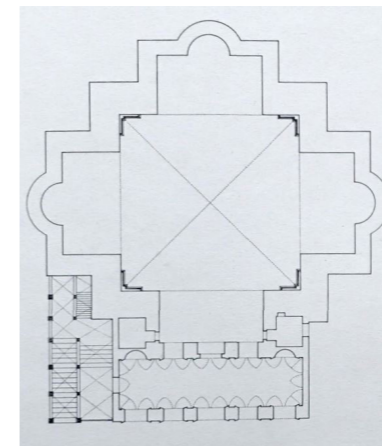
Fig70:San Sebastiano (Mantua)
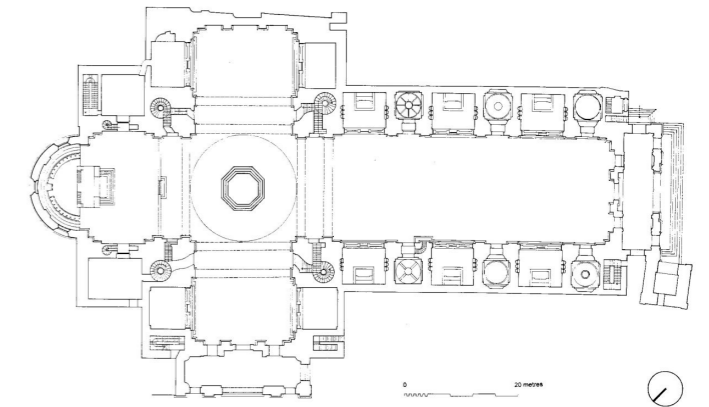
Fig71: The Church Of Sant'Andrea In Mantova

According to the location of core space in Alberti's church,the flows approach to the church can be divided into two types. The first category is the path from all around to the center. The second is the axial path from one end to the other.

c.Spatial Sequences
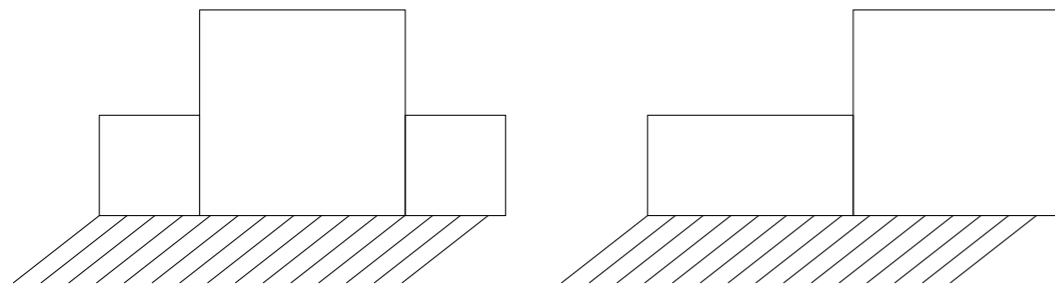
Fig72
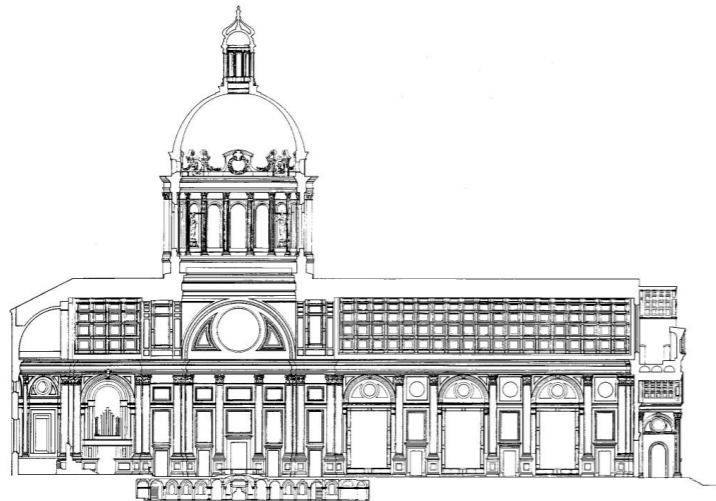
Fig73: The Church Of Sant' Andrea In Mantova

Fig74:San Sebastiano (Mantua)

For the spatiial sequences, we can also divide it into two types according to the type of the church. If it is a centralized church, the rhythm of the space is 1-2-1. If it is a Latin cross church, the rhythm of the space is 1 -2.

4.Alberti's Limitation

The flow of the building is too straightforward: Although Alberti's buildings are full of complexity and contradictions, most of his projects are classical churches with fixed forms and functions. Therefore, the flow of the building is very direct, which also leads to a single experience for who are people in the building. People usually enter from the entrance, pass through the nave which act as a collective space and then reach the hall of worship. And as a small individual space The chapels are listed on both sides of the nave. However, for modern buildings, the flexibility in functional requirements make it possible to consider more about the winding changes of the flows, so that people could have different experiences when roaming the architectural space.

The volume is not flexibility enough:As a classical church, its design follows a symmetrical and unified layout, and its structure is monolithic. Therefore, Alberti's pursuit of the solemnity of the form is much higher than the direct response to the function and structural system. It can be seen from the above analysis that in terms of form, Alberti does not express the relationship between collective space and individual space as flexibly as modern architecture, but integrates this relationship into his pursuit of classical order. When they cannot be integrated, then reflects in a compromised way. However, for modern architecture, it is possible to create a more flexible combination of blocks according to function, making the building space full of change and rhythm.

Considerations for city life:Although some buildings of Alberti take into account the public life of the city, such as Palazzo Rucellai. But most of his buildings pay more attention to the building itself. From the above analysis of his architectural cases, it can be seen that even the public collective space is only used for the interior of the church, so when doing modern architectural design, the collective space should not only be open to the building itself, Should also open to the city.
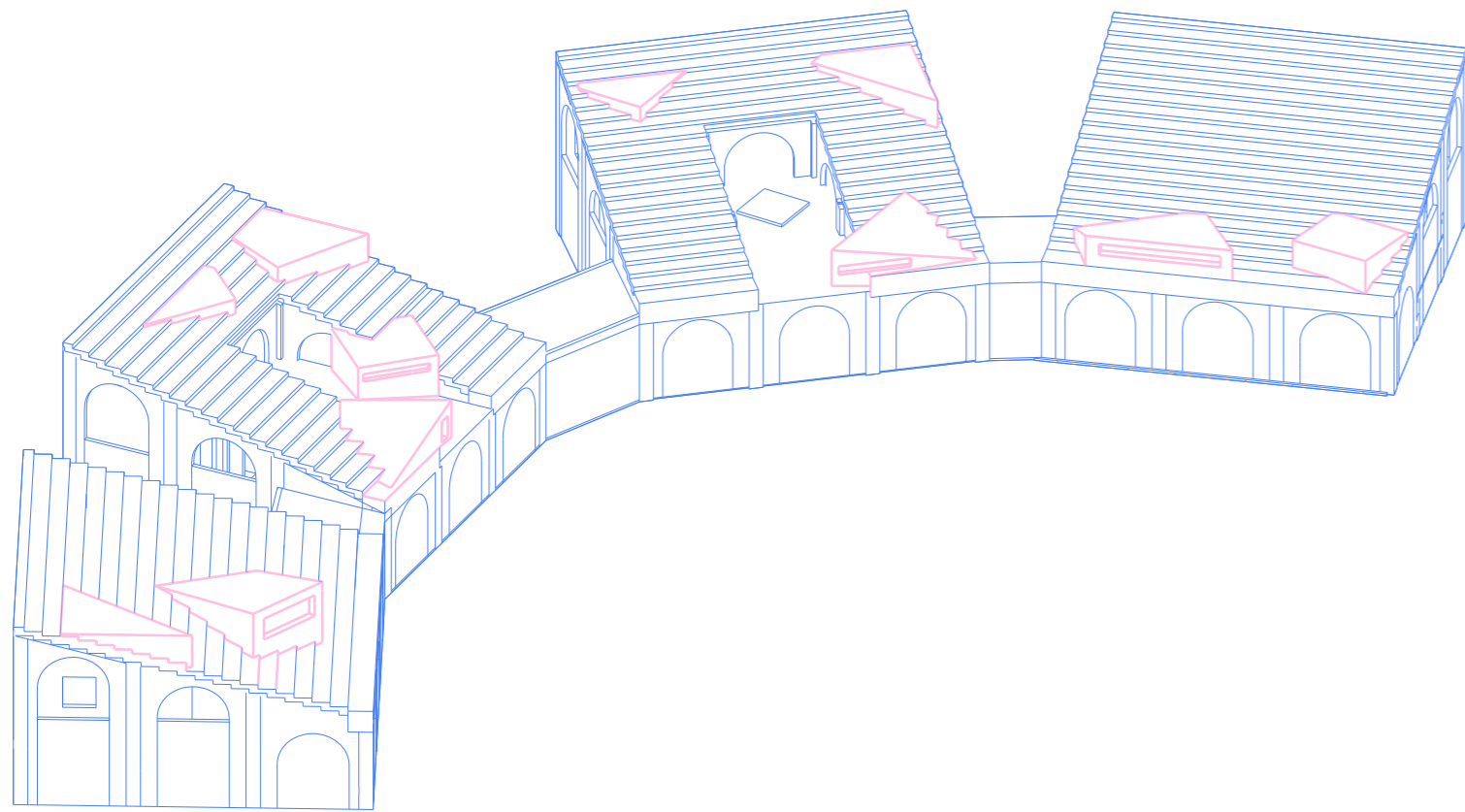
Chapter3

Transformation: Compromise Between Collective
And Individual In Stora Saluhallen Gallery

Index：

Context : Overall layout

Fig75:Dialogue
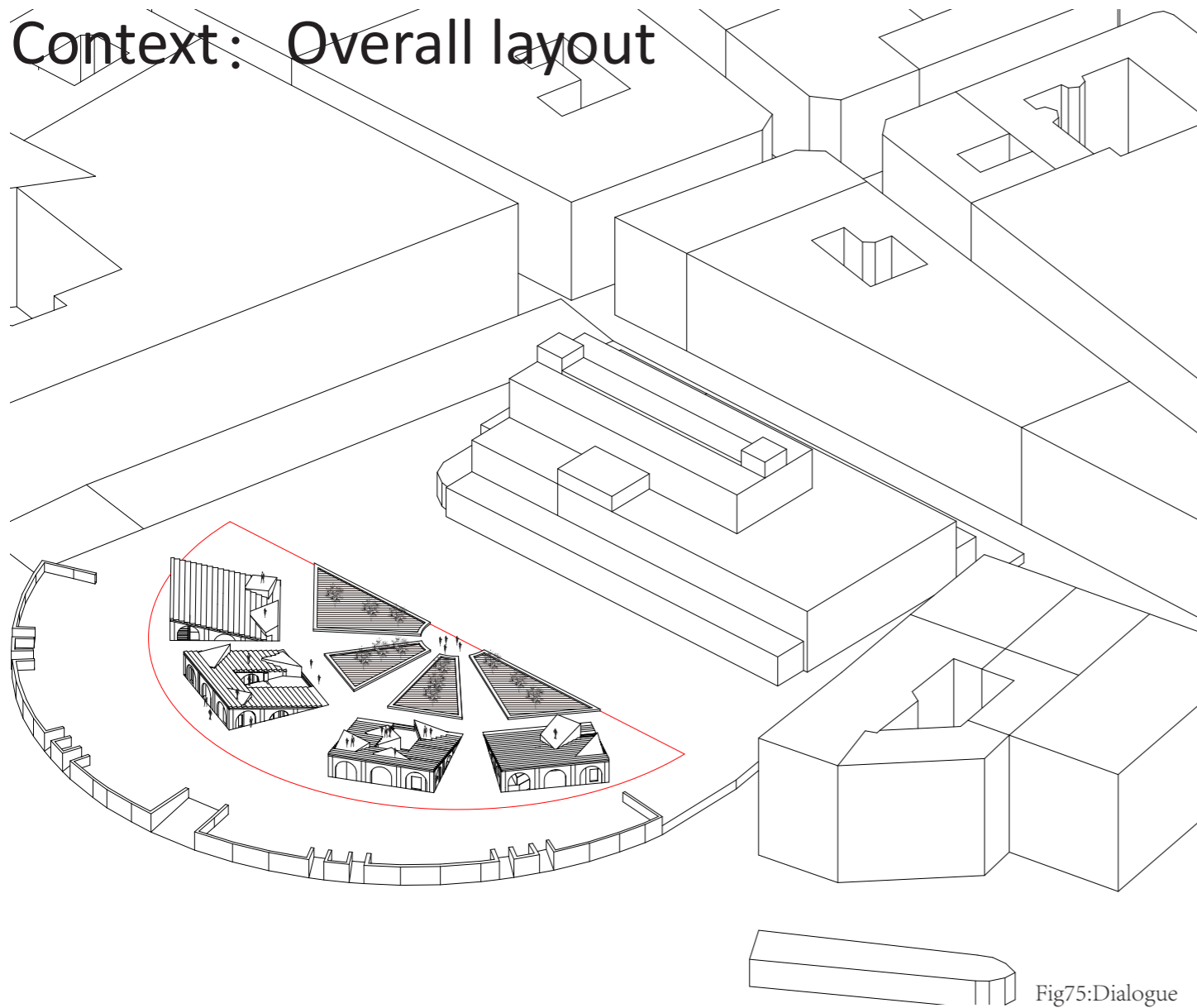
Context :Original path

Fig76:Flows
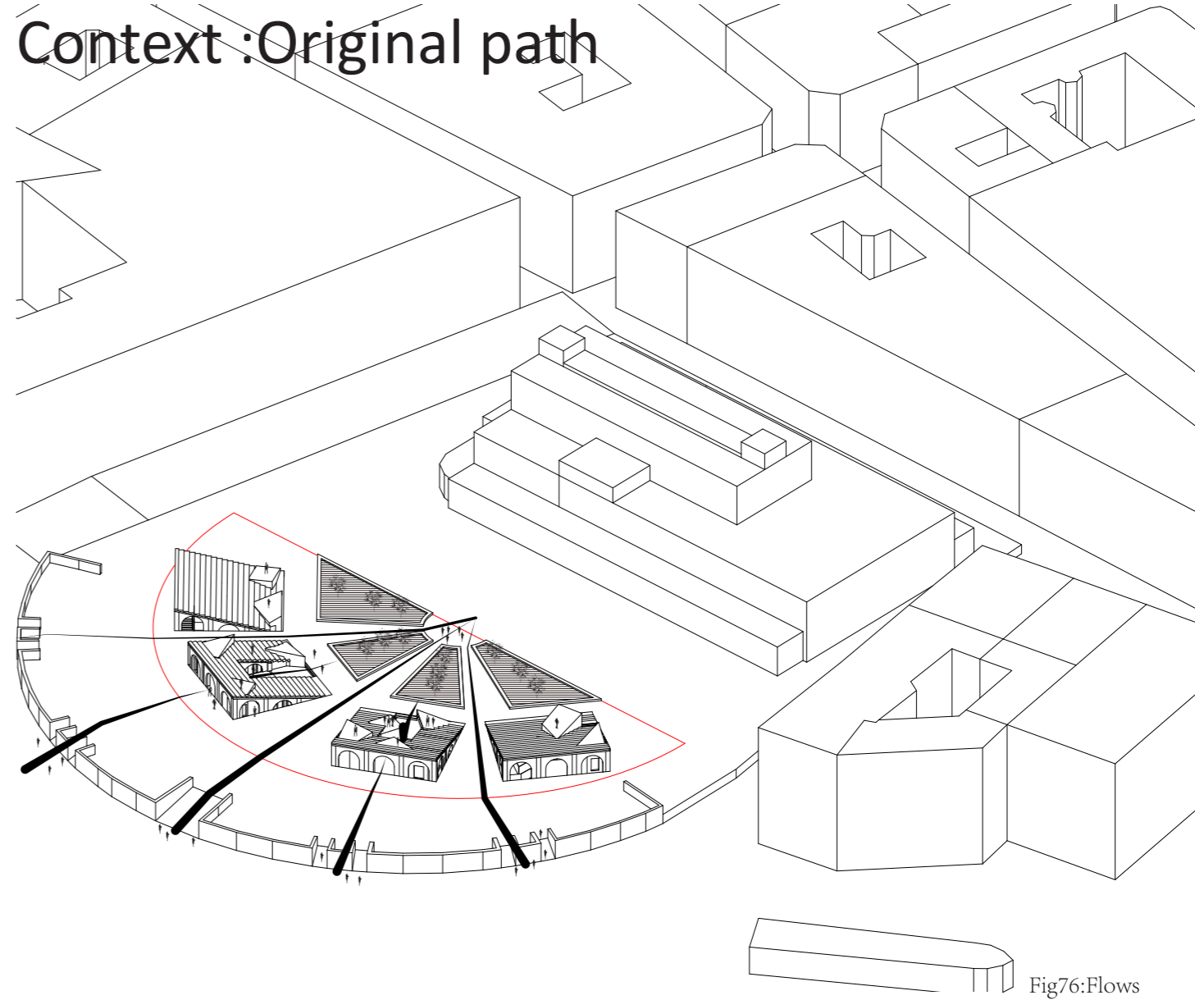
18
87
—decided that the building should be constructed, to "take up 14,000 square feet of the square

18
—
18
89
—The market hall was finished
—described as "the first large building that has been erected in the country exclusively of stone, iron and glass"
—a rental auction began

19
09
— gas lighting in the aisles was replaced by electric lighting

19
69
—In 1969 a heating system was installed. This was one of the biggest investments in the history of the market hall, costing 425,000 kronor.

19
85
—Stora Saluhallen was made a listed building

20
09
—
12
—Extensive renovation of Stora Saluhallen carried out, primarily of the cold room, preparation room, district cooling and ventilation

Till now
—Stora Saluhallen is one of the few constructions of its type that we have in the country. Every year two million people enter the building to purchase meat, cheese, bread and other foods. Just like they have for nearly a century and a half

Fig77:Context

Master Plan

2F

Entrance

Exit

0M 10M 20M 30M 40M

N

Fig78
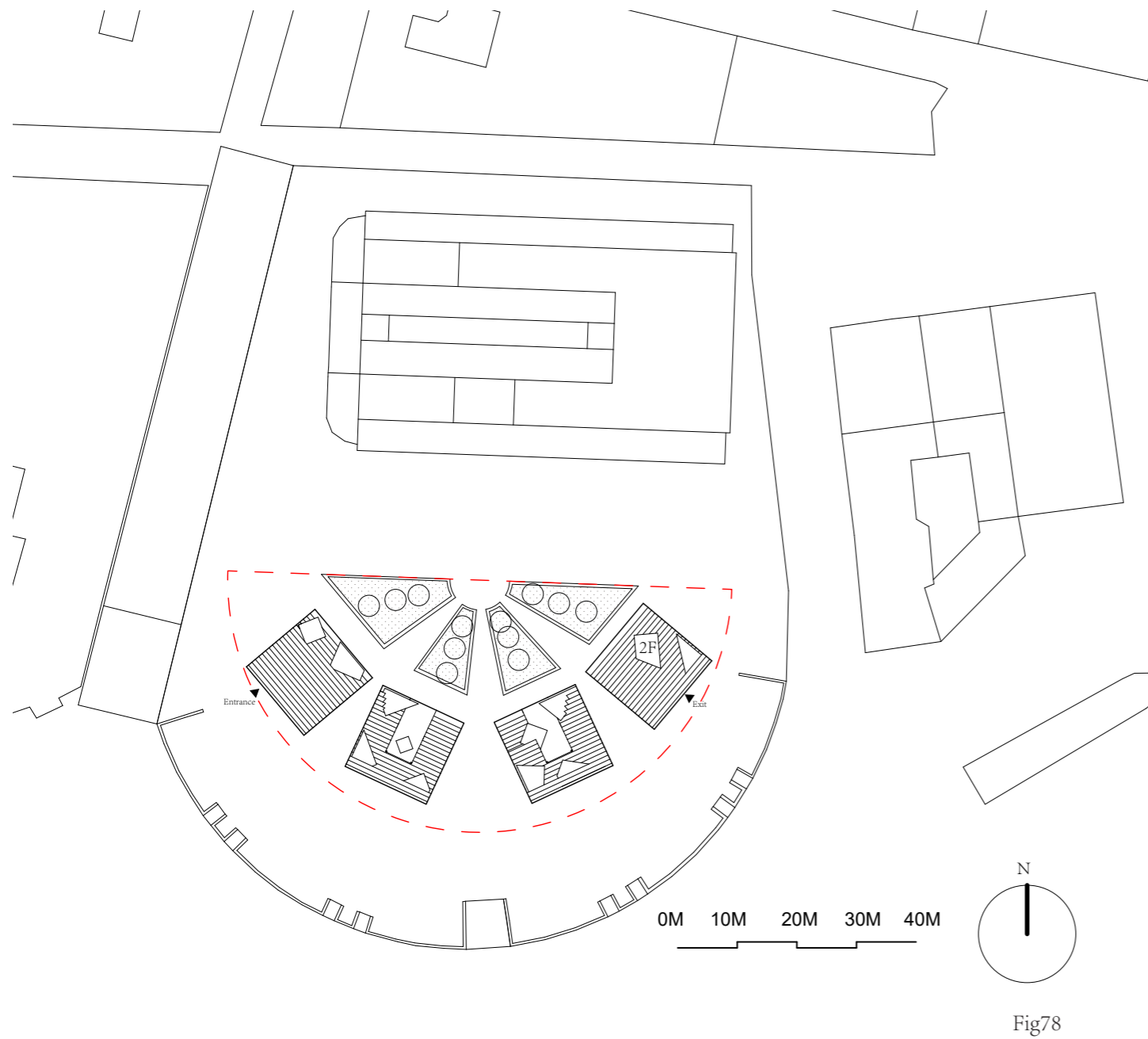
The ideal vision of the gallery

Fig79

Fig80

Fig81
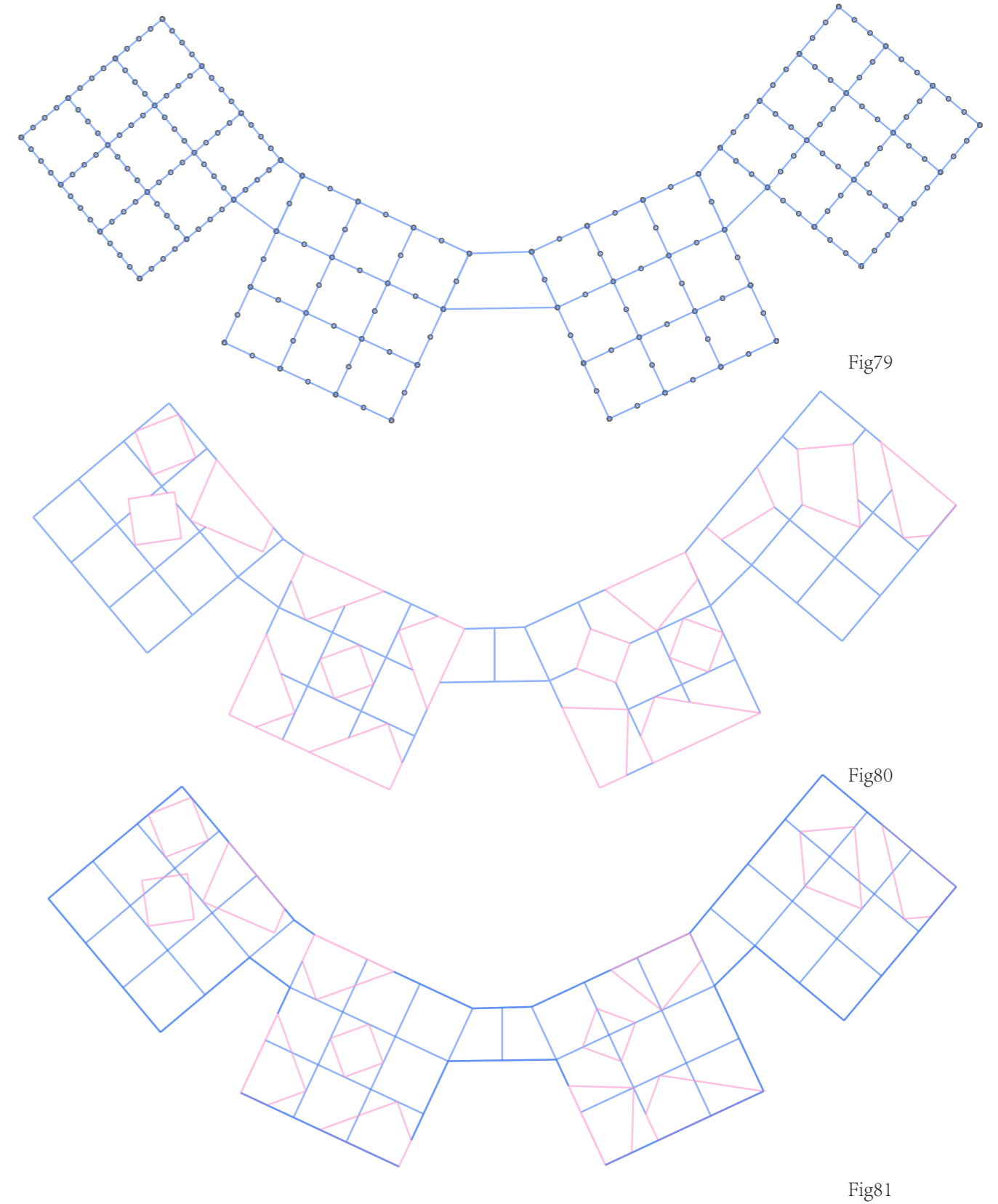
As Alberti had proposed three proportion for an ideal church, namely 1: 2, 2: 3 and 3: 4. Instead of using this to make my space beautiful, i use it as a method to generated the individual system in my gallery. Then do some combination and transformation to keep the flow works well.

The collective system and individual system
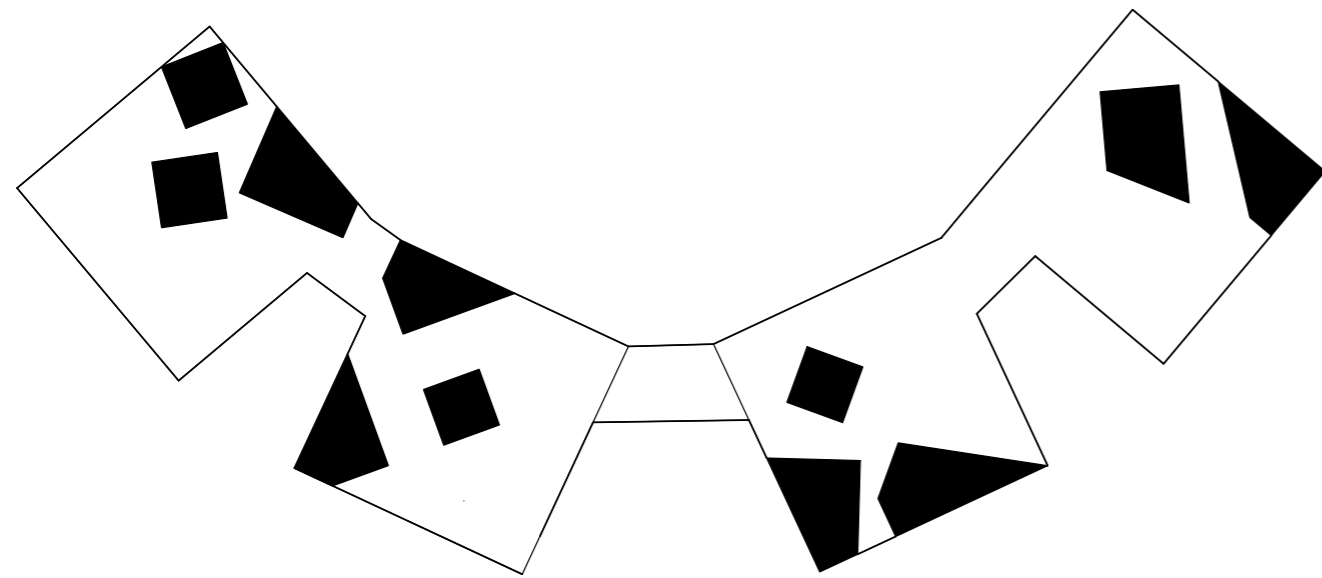
Fig82

Explanation: In this design, Collective system refers specifically to the gallery space and gallery structure. Individual system refers specifically to the buffer zone in the gallery for people to rest, such as studio, meditation room and so on.

Plan
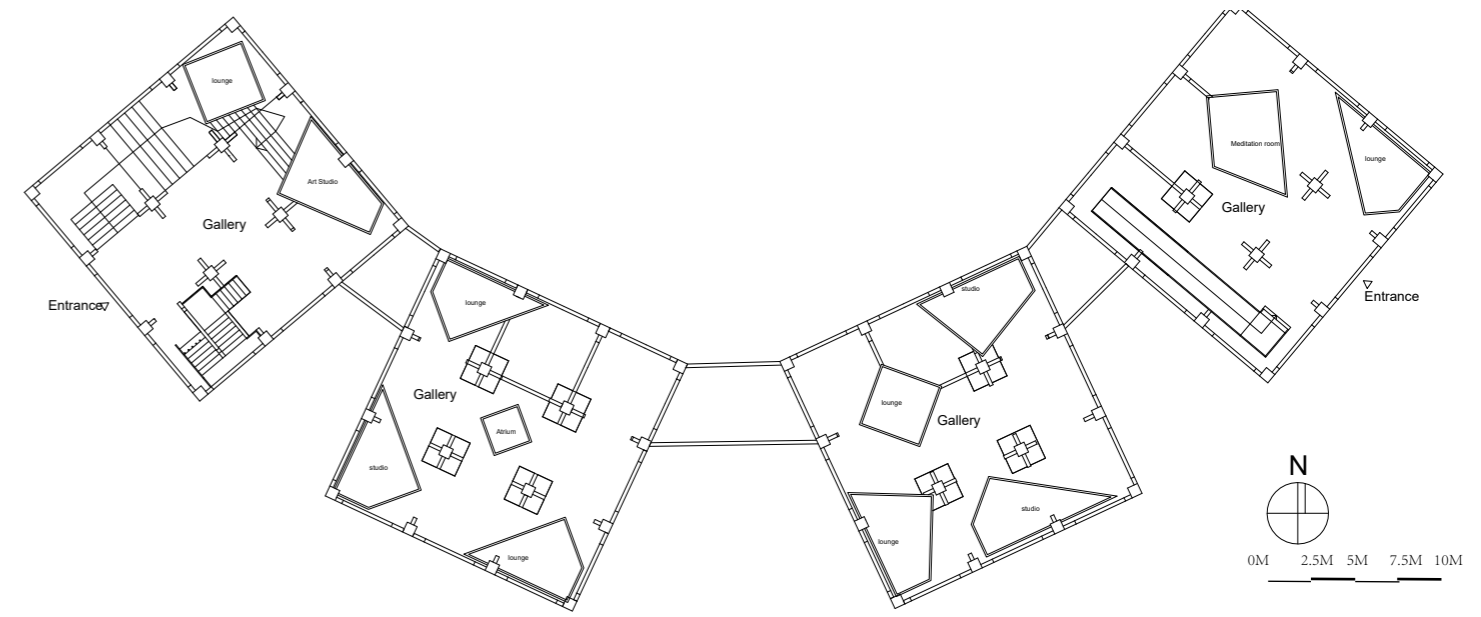
Fig83
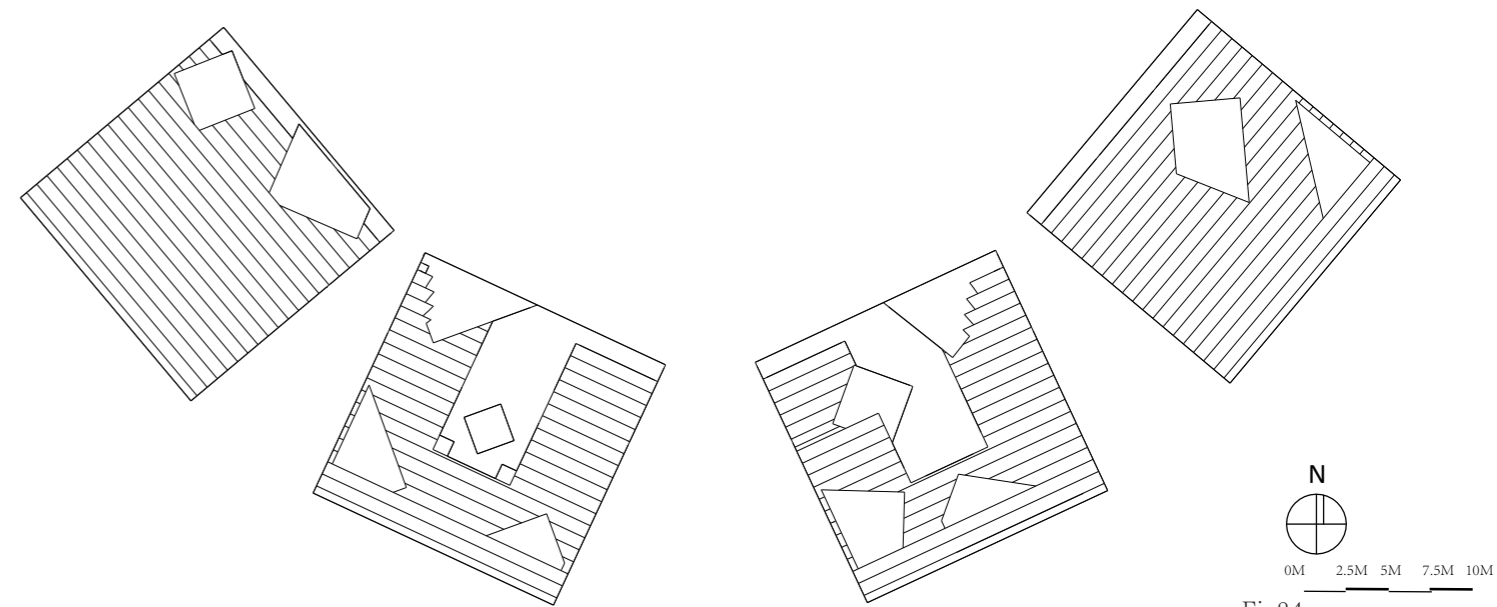
Fig84

This is the plane of the building, it generally shows how it works. But in the end, it is very clear that there are two systems on the plane at the same time. They are the collective system representing the gallery space and the small Box space as the individual space. These seemingly randomly placed small boxes are actually generated in three proportions of Alberti. 1: 2, 2: 3and3: 4.

"Collective+Individual" System Exploded view

Collective Roof

Individual Boxes
(lounge,studio,atrium……)

Collective Gallery
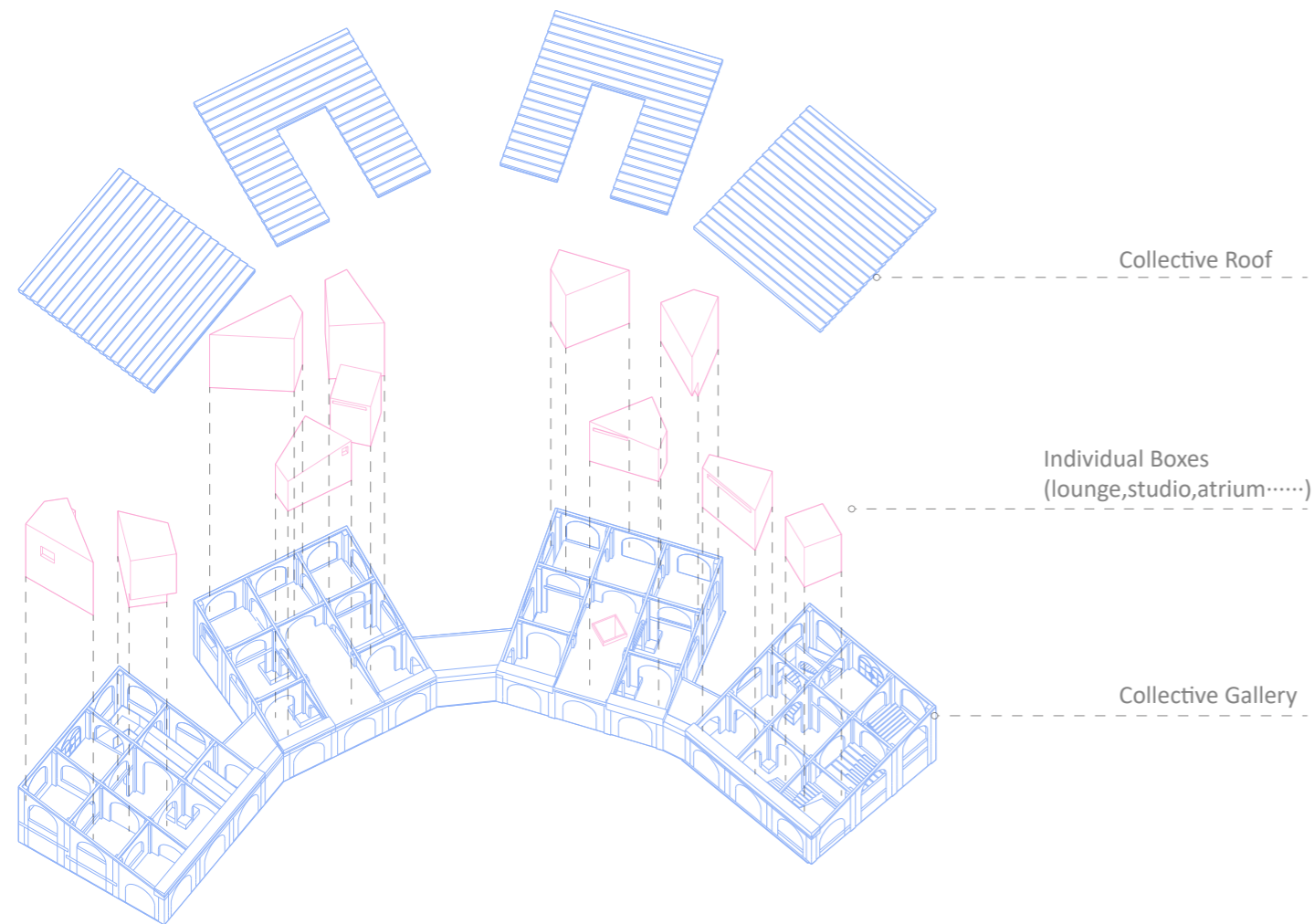
Fig85

The collective system includes all common parts, the gallery space at the bottom and the large, podium-like roof at the top.
The individual system includes small polygonal boxes which are inserted into the gallery room and the parts of these boxes that protrude from the roof.
They represent individual needs and created an area for individual activities.

Compromise for Sunlight

Compromise for Sunlight：juxtposition

Compromise for Sunlight：Overlapping

Compromise for Sunlight:sharing

Compromise for Sunlight：juxtaposition
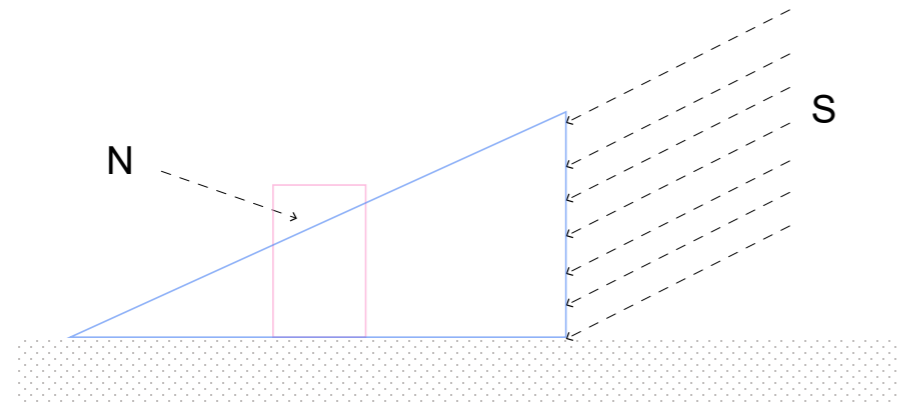
Fig86
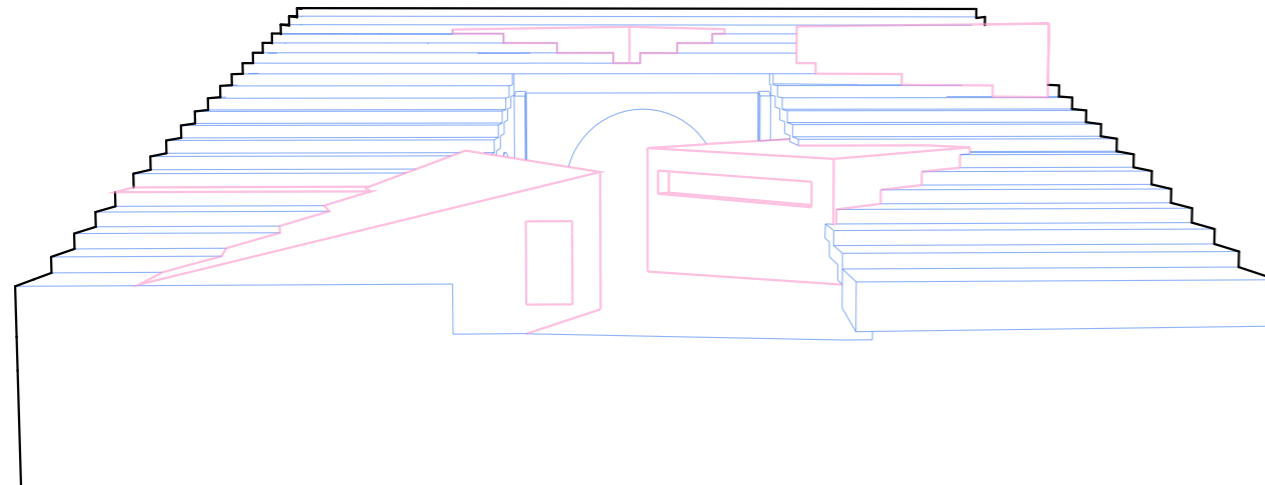
Fig87
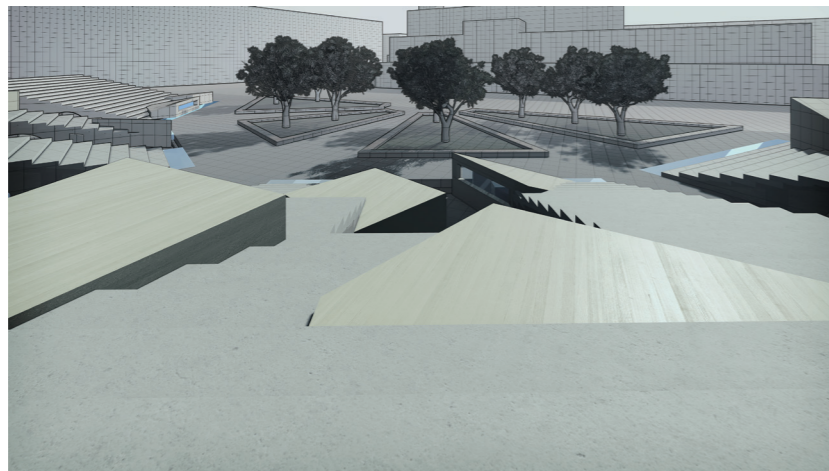
Fig88

The building is located on the southern square of Stora Saluhallen. Considering that Swedish people like to be outside in the sun between March and September, one concept of the design is to create a collective Sunlight roof. If you only consider the orientation, the sloped roof of the collective should face the south, but this will shade the north square. So I made a compromise here to orient the roof to the north. And the roof representing individual can be more freely facing north or south.

Compromise for Sunlight：Overlapping
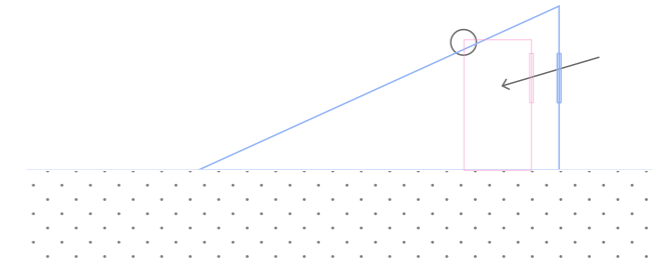
Fig89
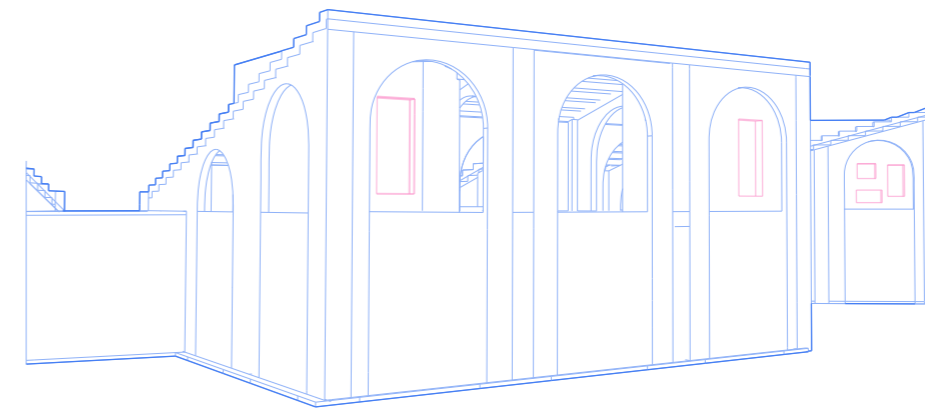
Fig90

For indoor lighting, the collective space can open windows freely from the wall, while the individual space can open windows on the indoor wall in addition to the side high windows to obtain indirect lighting. This is the second compromise, through the collective and induvidual system The windows are overlapped to meet the needs of both.

Compromise for Sunlight:sharing
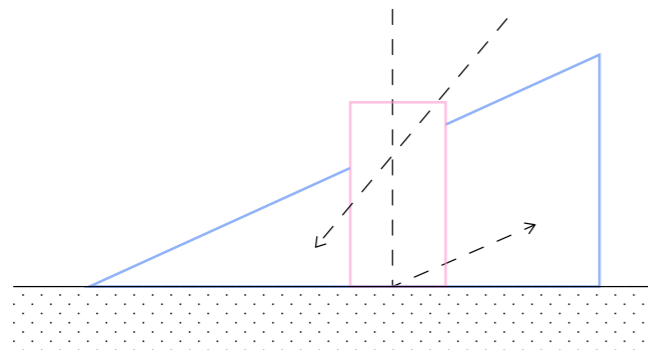
Section diagram

Fig91
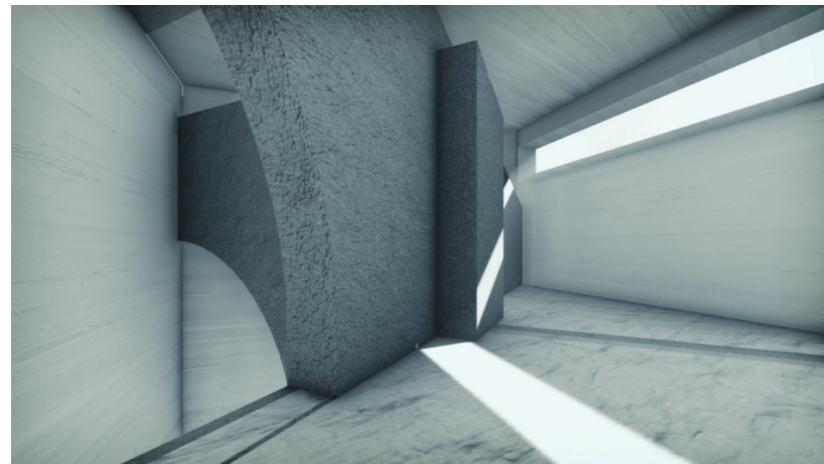
Fig92

Fig93

By introducing the method of atrium, both the individual space and the collective space are illuminated at the same time. Like the central chapel in the Alberti church, the nave and side gallery are illuminated simultaneously through the dome space.

Compromise for Structure

overlapping

Interruption

Juxtaposition

overlapping

Interruption

Fig94

Fig96:Plan diagram

Fig95

Fig97
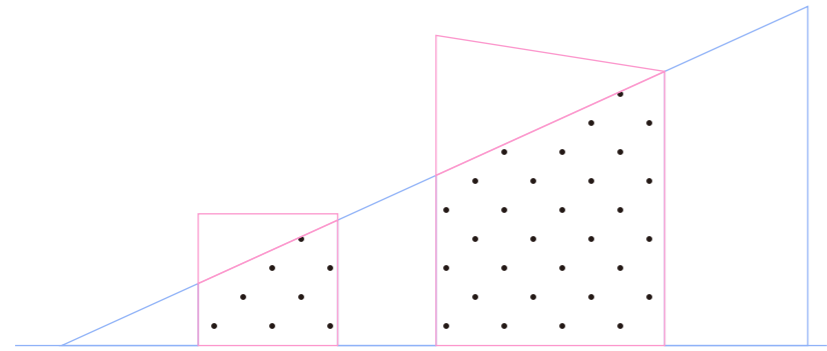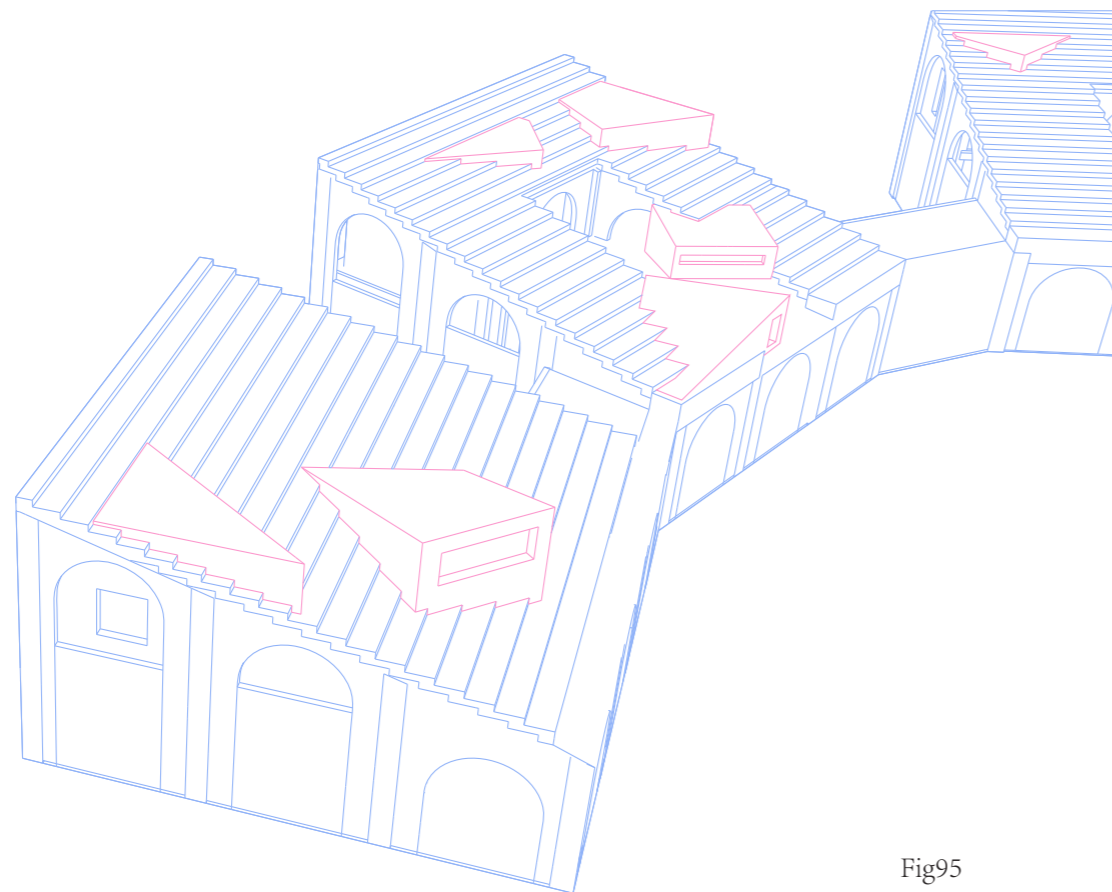
For collective and individual roofs, these two systems have different needs. Collective roof can be used to serve the public, and individual roof is usually used by a group of acquaintances, but for the need of individual boxes lighting, their volumes are extended out of the roof, so it leads to the superposition of the two structures.
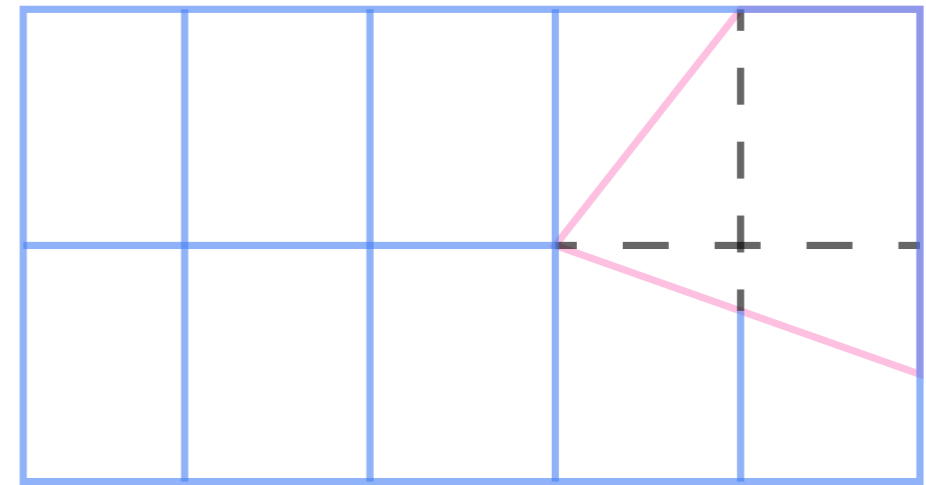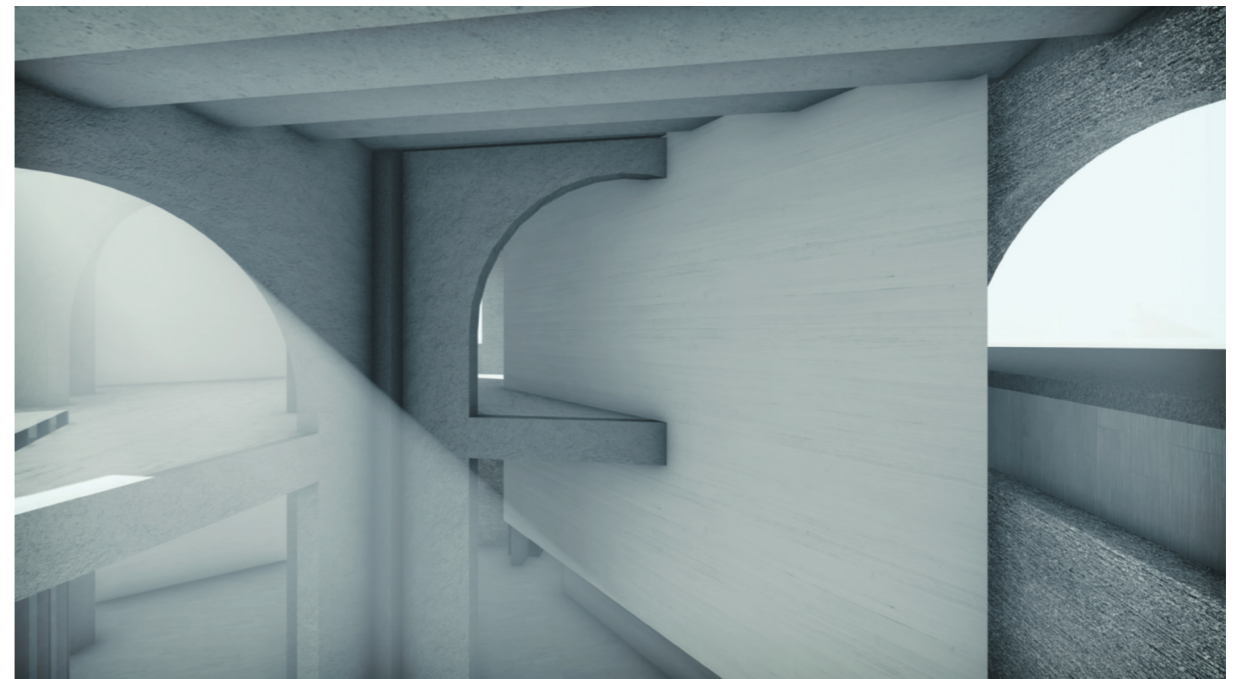
Indoors, when the two systems collide directly, a dramatic conflict occurs, which is the occlusion of the two structures.

Juxtaposition

Fig98

Fig99
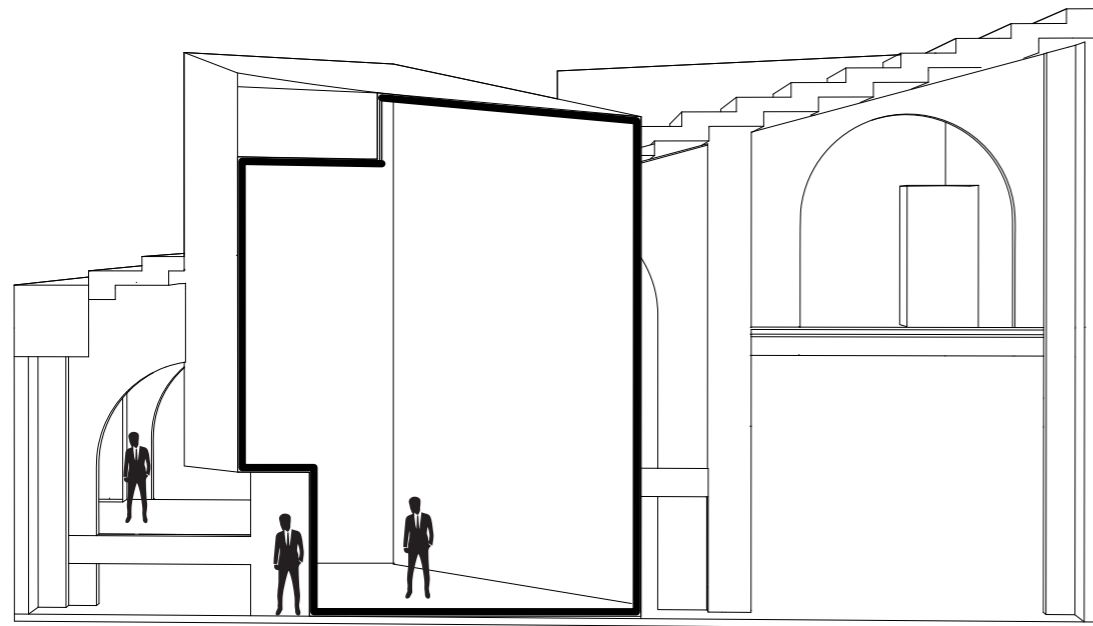
If you observe the position and status of the two systems from the section, you can find that one of the results of the mutual compromise between the individual structure and the collective structure is the direct juxtaposition.
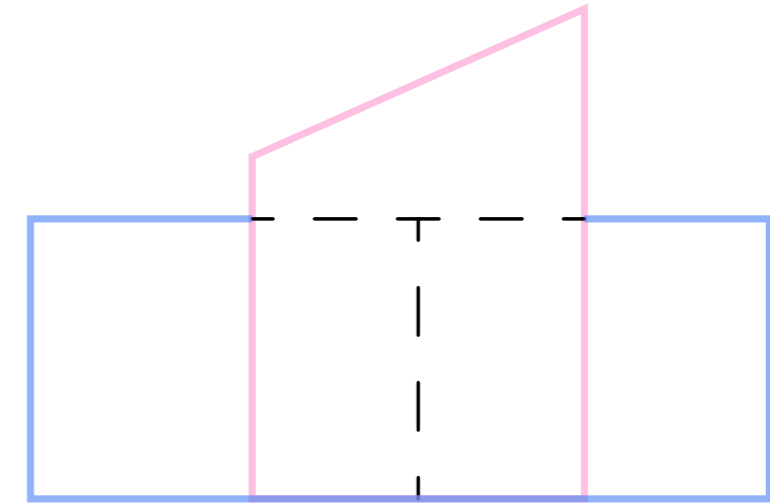
Fig100:Section diagram

Fig101： Section diagram

Complexity and contradiction of space

Gray space

dialogue

Angular perspective

Space sequence

Gray space
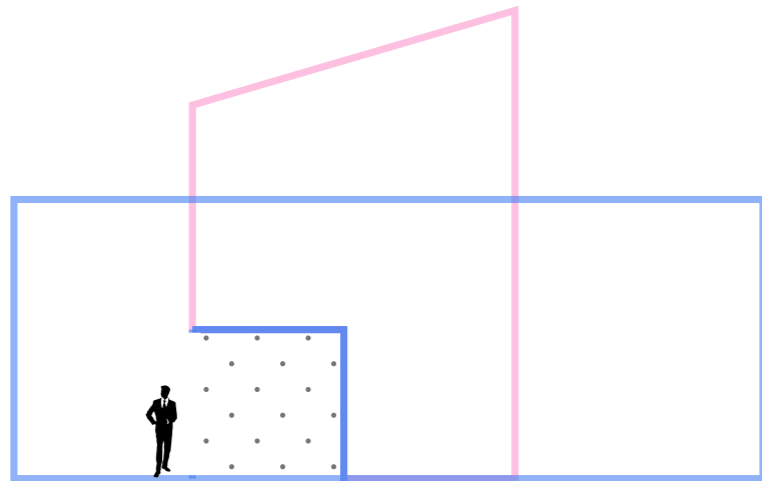
Fig102： Section diagram

Fig103

Indoors, the junction of collective and individual spaces is often not enough space for people to walk, so some spaces are subtracted to form gray spaces, increasing the possibility of circulation. But also the space becomes complicated and interesting

Dialogue
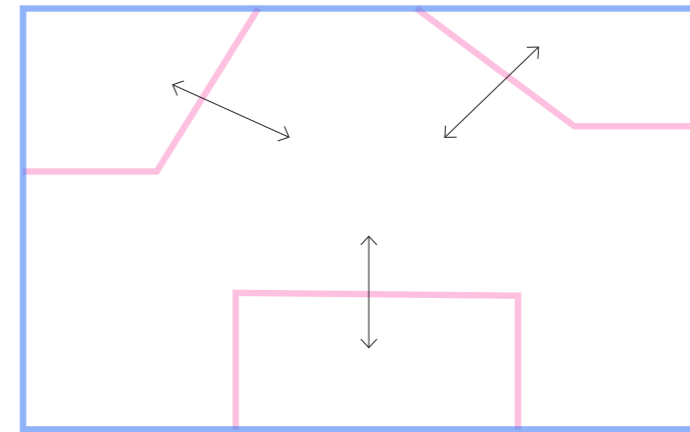
Fig104:Plan diagram

Fig105

In Alberti's church, the corridor space is direct, but in this design, the compromise between individual space and collective space has shaped the space in-between. This winding corridor represents the dialogue of the two systems.

Angular perspective

Fig106

Fig107

If we look at the space with one-point perspective, we can only see one dimension of the space. Only by looking at the space with an angled perspective can we see the hierarchy of the space. That is the distinction between individual space and collective space.
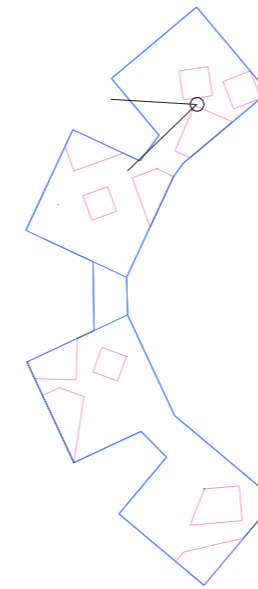
Space sequence
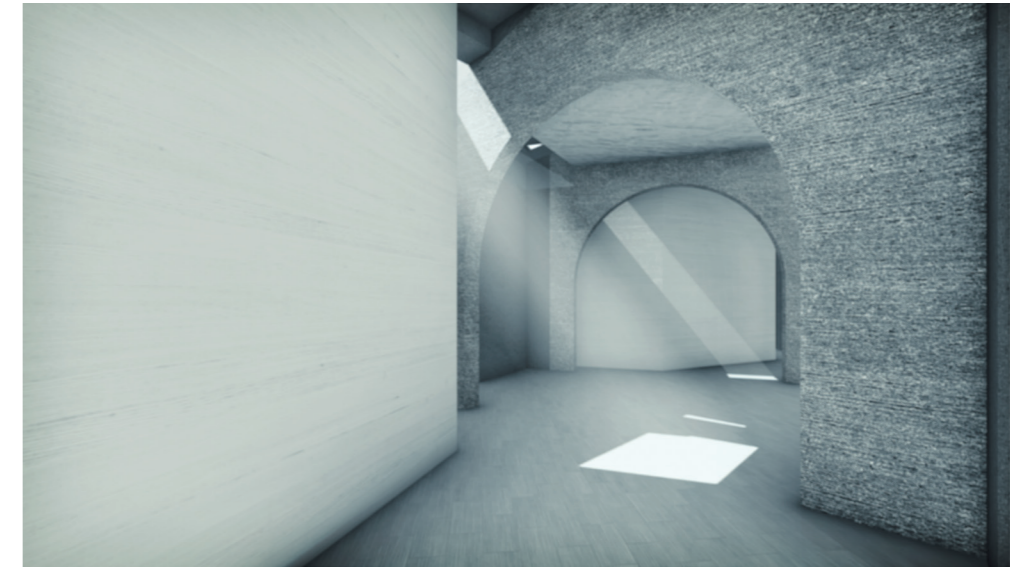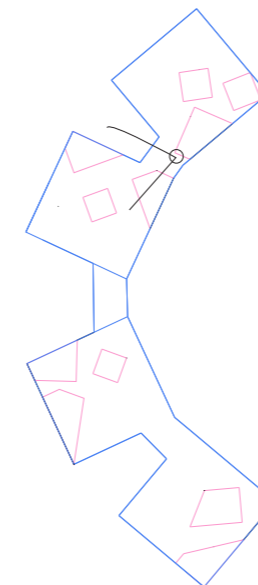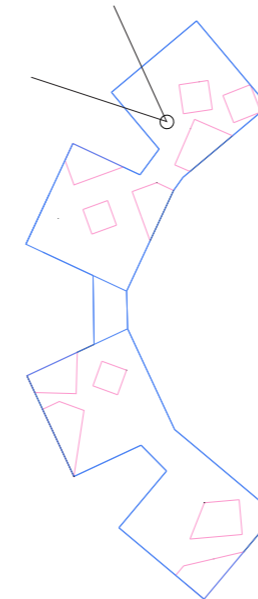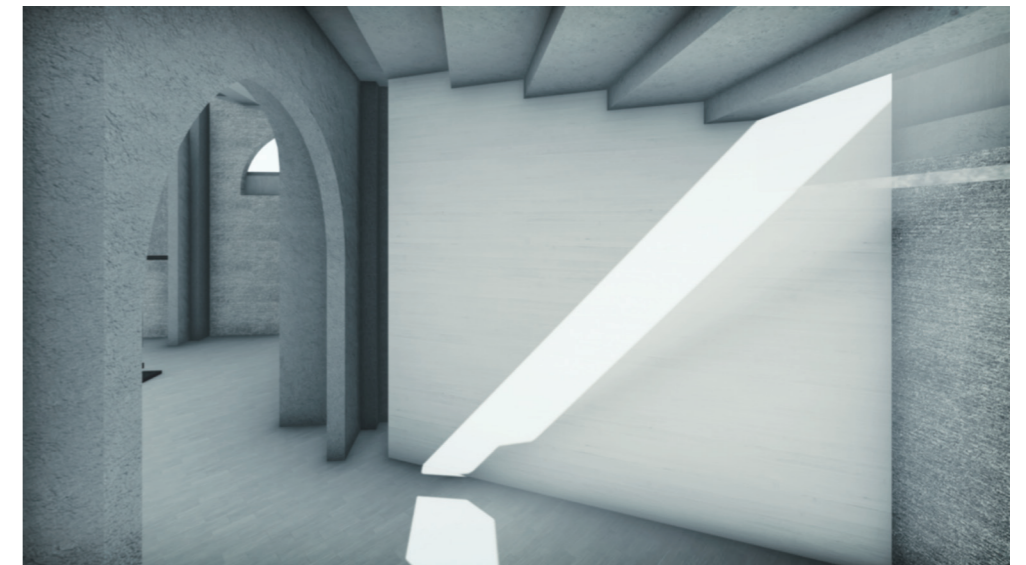
Fig108

Fig109
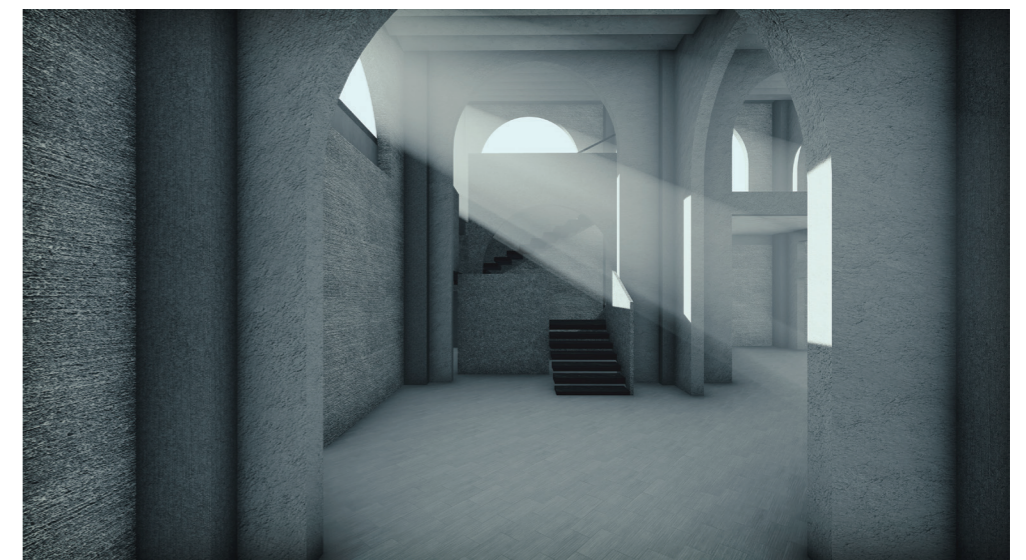
Fig110
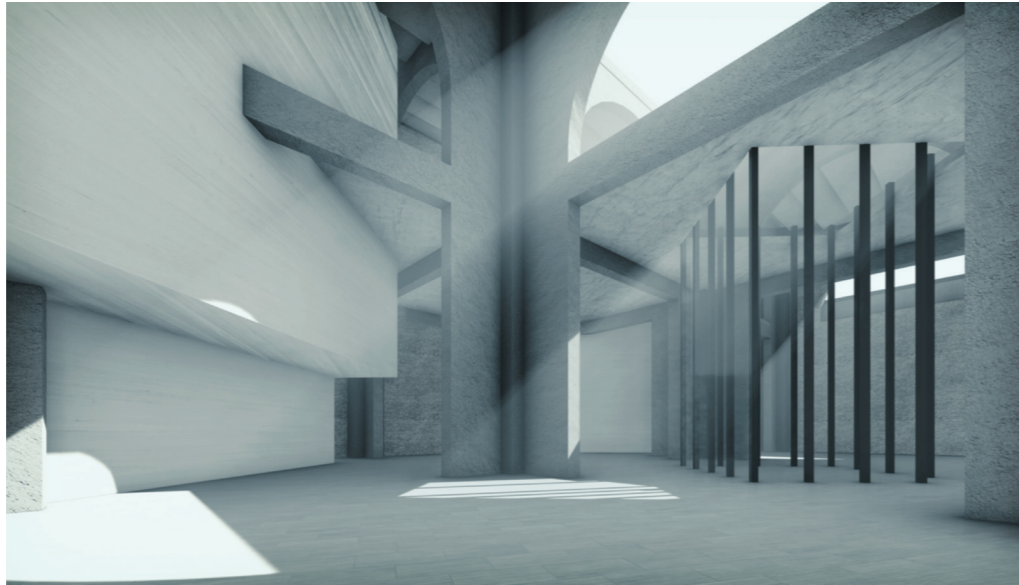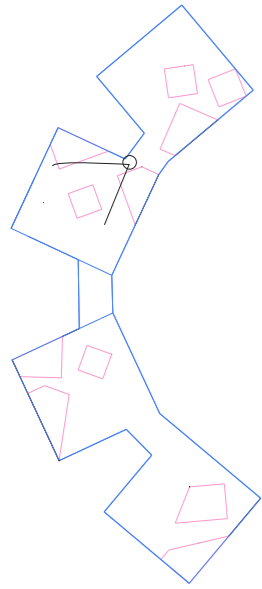
Fig111
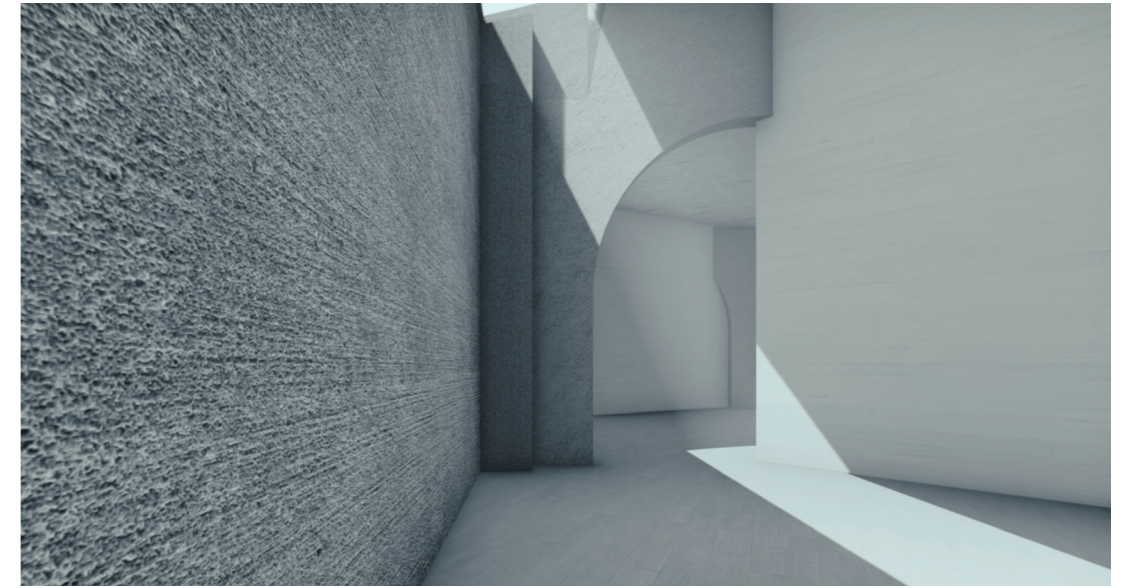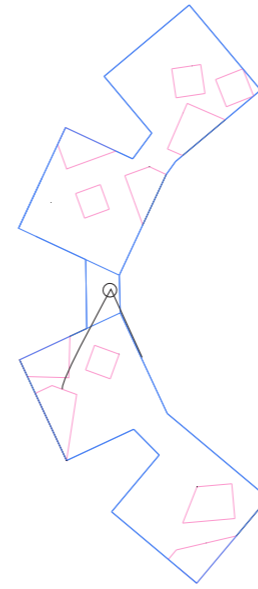
Fig113
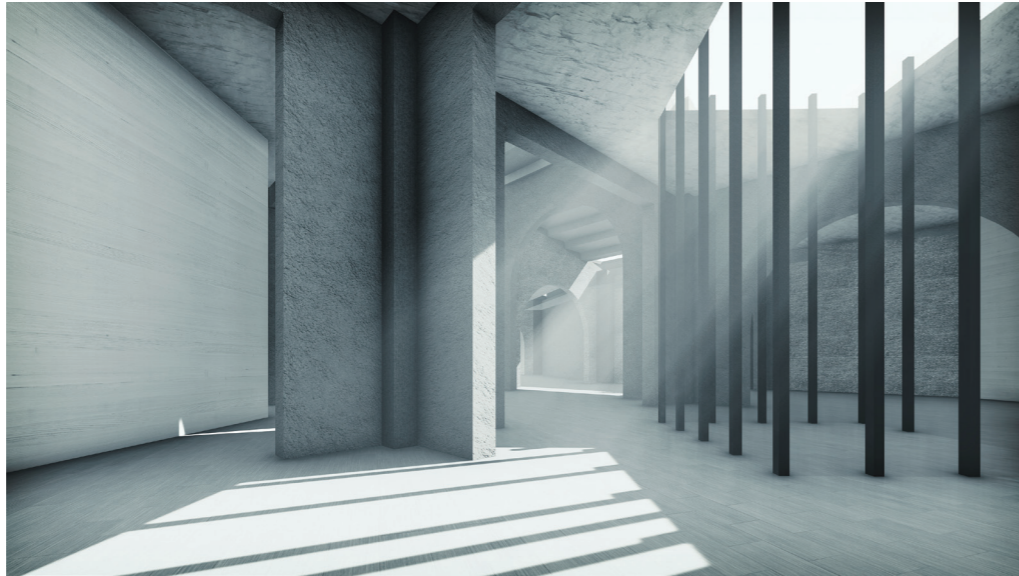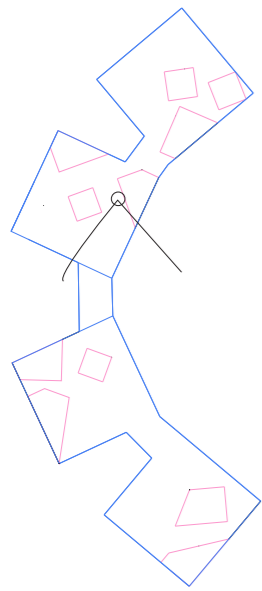
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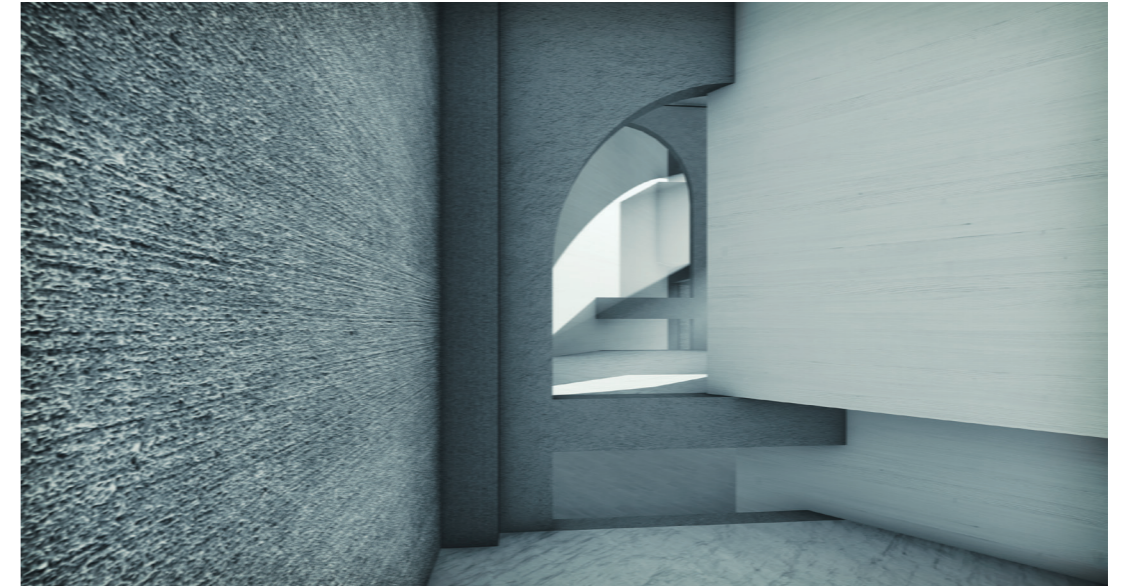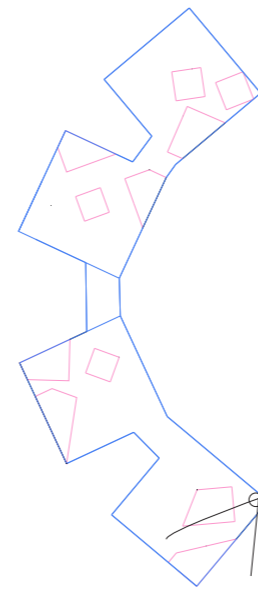
Fig114

Fig115 As can be seen from the four pavilions sections of this design, the spatial rhythm of collective space and individual space is a repetition of 1-2-1-2.

Discussion

My research is based on the Renaissance architect"Leon Battista Alberti" , studying the complexity and contradiction in its architecture. This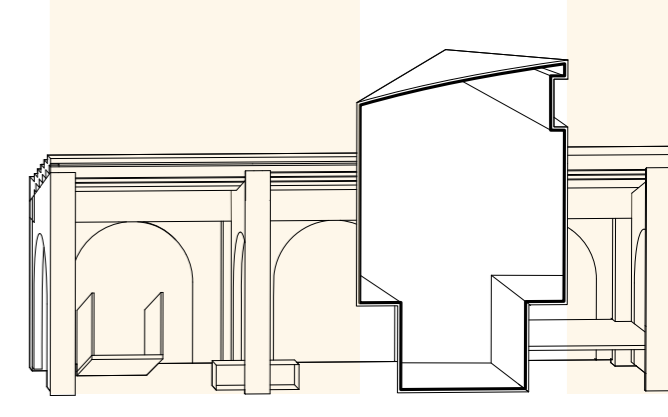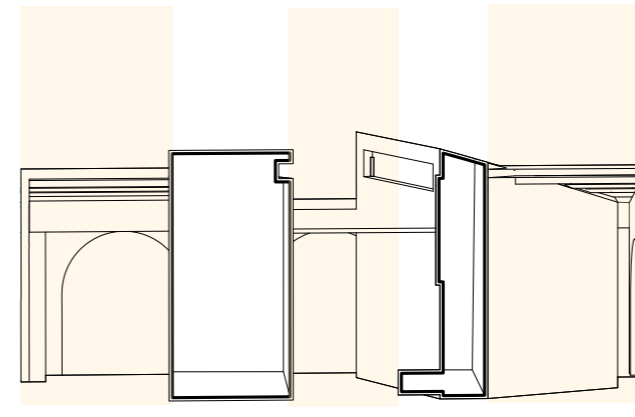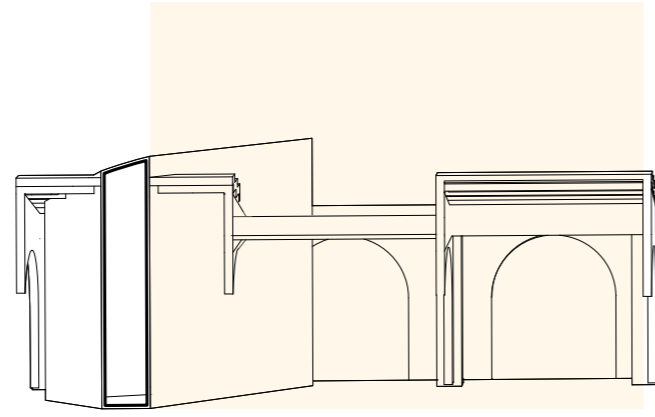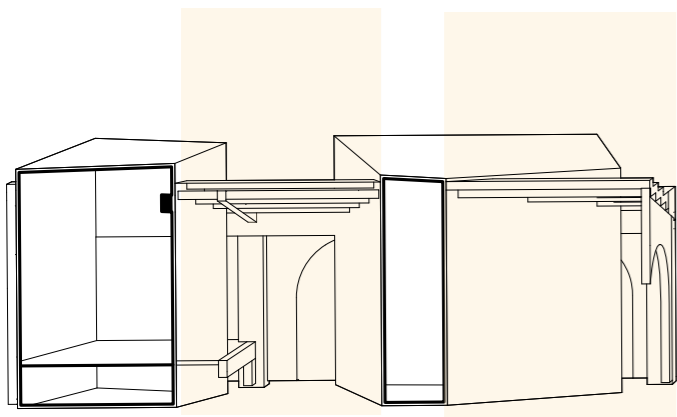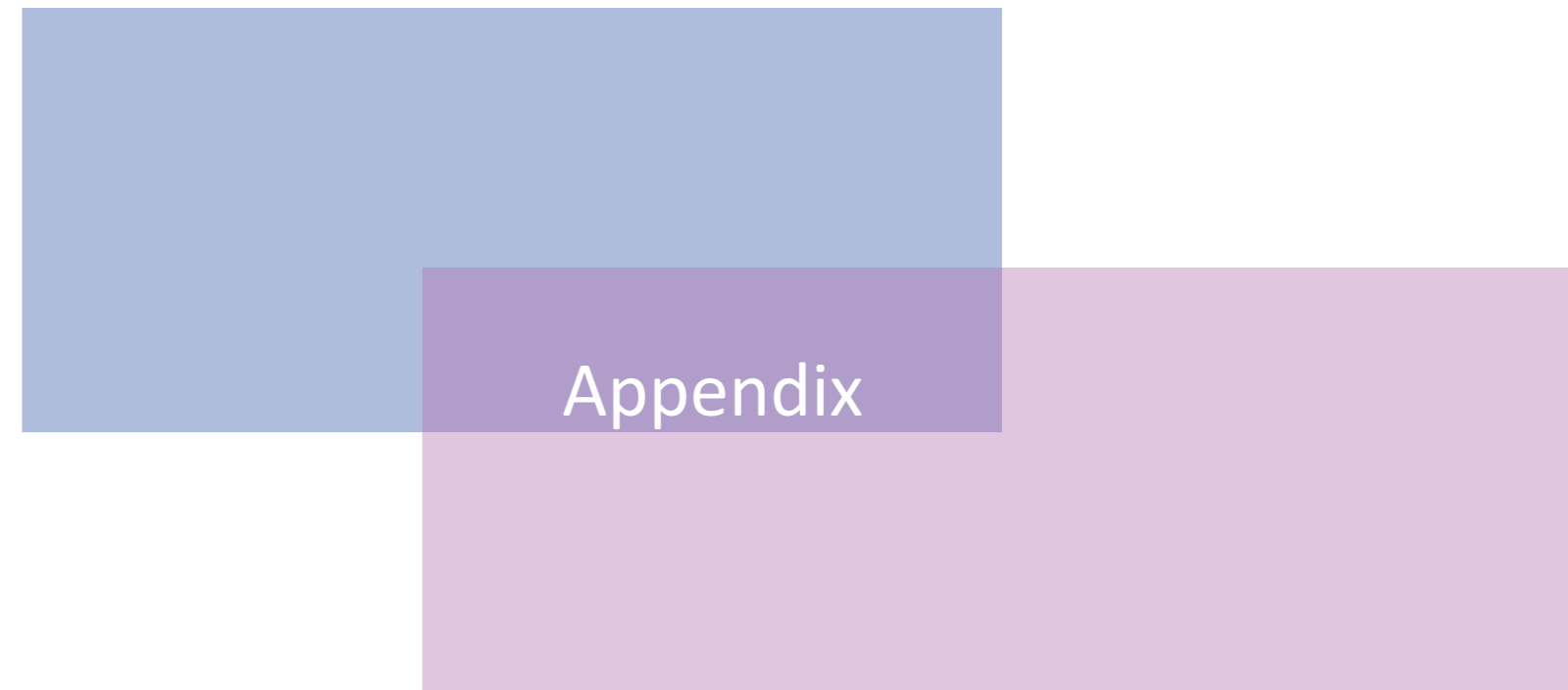 complexity and contradiction comes from his compromise with the collective system and individual system. Alberti's compromise is reflected in three aspects: the consideration of architectural lighting, the consideration of structural forms and the design of spatial forms. For day lighting, in order to take into account the needs of collective system and individual system, he adopts the methods of juxtaposition, overlapping and share window. For the structure, his compromise is also reflected in the overlapping, juxtaposition and occlusion of the two structures.

In the space, the compromise between these two types of space is represented by the design of gray space, the dialogue between public space and independent space, and the hierarchical order of space.

When I designed the Stora Saluhallen gallery, I didn't directly copy Alberti's space and form, but transformed these relationships like overlapping, juxtaposition, and occlusion into the design of the space. This is my transformation from Alberti to gallery transformation. And the individual boxes in my design are generated from the three ideal proportions given by Alberti.

From this research, I found that Alberti was very successful as a classical architect, but due to the limitations of his own time, for example, the starting point of his architectural design was to please the patrons and establish a paradigm for Renaissance architecture. However, contemporary architecture is based on people and puts people's needs first, so the form can be more flexible, not necessarily a rigid classical space. So we need to learn Alberti's courage to expose the "ugly" side of the building, which is also the most qualitative part of his building, but this is often overlooked by historians.

Appendix

Literature

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Image

All images taken by the author if no reference is given

Fig4: https://zhuanlan.zhihu.com/p/20726617
Fig8：<Complexity and Contradiction in Architecture>:cover page.
Fig9：<Architectural Principles in the Age of Humanism>:cover page.
Fig12:https://www.google.com/url?sa=i&url=https%3A%2F%2Fde.slideshare.net%2F16I926%2Fsakralbauten-kunst-basilica-of-santandrea-mantua&psig=AOvVaw3gJoBriDMQbYJJODNzjg1c&ust=1588767691731000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCMiYqIHbnOkCFQAAAAAdAAAABAz
Fig13:<complete works>:p.220.
Fig15: <complete works>:p.66.
Fig16: <complete works>:p.88.
Fig17:<On Alberti>:p.169.
Fig19:<complete works>:p.239.
Fig20:<On Alberti>:p.65.
Fig21:<complete works>:pp.110,246.
Fig22:<complete works>:p.141.
Fig24:https://www.behance.net/gallery/55058445/MODELING-San-Sebastiano-di-Mantua
Fig26:https://www.pinterest.fr/pin/559642691197790894/
Fig29:<On Alberti>:p.65.
Fig30: <complete works>:p.94.
Fig32:<On Alberti>:p.138.
Fig33:https://commons.wikimedia.org/wiki/File:Fa%C3%A7ade_of_Sant%27_Andrea,_Mantua_(Character_of_Renaissance_Architecture).png
Fig35:<complete works>:pp.270-271.
Fig37:<complete works>:p.132.
Fig38:<On Alberti>:p.69.
Fig39:<On Alberti>:p.131.
Fig41:<ARCHITECTURAL PRINCIPLES IN THE AGE OF HUMANISM>:p.44.
Fig42:<complete works>:p.137.
Fig44:<On Alberti>:p.131.
Fig45:<On Alberti>:p.183.
Fig47:<On Alberti>:p.130.
Fig49: <On Alberti>:p.185.
Fig51:<On Alberti>:p.130.
Fig53:https://lombardia.abbonamentomusei.it/var/ezdemo_site/storage/images/lombardia/musei/tempio-di-san-sebastiano/124572-14-ita-IT/TEMPIO-DI-SAN-SEBASTIANO.jpg
Fig54:<ARCHITECTURAL PRINCIPLES IN THE AGE OF HUMANISM>:p.44.
Fig55:<On Alberti>:p.186.
Fig59:https://66.media.tumblr.com/03c1c54a2c638440f8d61cd79f29fcd9/b7400766c867cafe-0e/s2560x500/87bdea7ba465eda088d1e184f58b6375a408432f.jpg
Fig60:https://i.pinimg.com/originals/25/f3/7c/25f37c1dd4a579b081ca35b520a756c6.jpg
Fig62:<complete works>:p.222.
Fig63:<complete works>:p.227.
Fig65:<On Alberti>:p.138.
Fig66:<On Alberti>:p.186.
Fig68:<complete works>:p.220.
Fig70:<complete works>:p.213.
Fig71:<complete works>:p.161.
Fig73: <On Alberti>:p.161.
Fig74: <On Alberti>:p.138.
Fig77:https://www.storasaluhallen.se/en/history/

Acknowledgement