

Expression and impression of space

The meaning of material
in architecture

Irmgard Frank with
Judith Augustinovic

A.S.A Masterclass
Milano 2023



Introduction

In Design studios students of higher semesters usually work on a scale of 1:500 or 1:200. Even though today's digital programmes can produce amazingly photorealistic images, there is usually not time enough to detailed check the chosen expression of a building and the rooms inscribed in it.

The character and features of materials used, but also how details are developed, have a part in the impact of architecture that should not to be underestimated.

The workshop was therefore dedicated to this topic.

In addition, there was a separate focus on the presentation of the results with the help of a layout typeset.

In a very intensive working week, Judith Augustinovic and I were able to pass on our experience and knowledge.

We thank Pierre Alain Croset for this opportunity and also for the support during the workshop week.

Irmgard Frank
February 2023



POLITECNICO
MILANO 1863

Task

A building always conveys a message to the public and to everyone who pass by or enters it. It says also something about the time of its origin and the cultural surrounding.

The character of a city a landscape, a building, a room is specific and unique and sometimes we visit a city or a building because of its character.

But what is the meaning of character and what does it mean to create one. As architects we have an idea, which we can transform into a built object.

In the process of architectural design, we have an idea of the shape of a building, of the rooms inside and also an idea of its materialization. In this process we decide to use certain materials to give the building and its rooms a certain character. We want to express something with it. What we want to express depends also on its use and its status for society.

The availability of materials on site, the naturalness in the use, their constructive possibilities, as well as questions of ecology are essential influencing factors; but also the potential inherent in the material, such as the grain of wood or stone, the gloss level of metal, or lacquer, the degree of transparency of glass, surface structures, haptic qualities and colourfulness.

What statement should be conveyed is also a social responsibility of architects. Between the first sketches and the built object a lot of decisions have to be done. The decision should therefore be made very carefully and reflectively.

Beforehand

Each student had to choose an architectural project from her/his previous studies that is particularly close to her/his heart and they also had to immerse themselves into a few short texts and books.

Furthermore, a building from their own cultural environment had to be chosen that particularly remember and that has impressed themselves. The focus of the consideration was on the criteria described above and it had to be possible to convey this to the others.

Observe – Perceive – Analyse

These questions should help with the analysis

- What is the significance of the building?
- Does it fit into its surroundings, is it part of a larger whole?
- Is it a building for the general public and recognisable as such?
- Does it appear modest, self-evident, splendid, ...?
- Does it radiate power, reverence, public spirit, permanence, transience, ...?

The students had to focus the question on the architectural expression and try to find out the connection between architectural form, the materials used and the detailing. The students had to document this with sketches, notes and photos in order to communicate this to all participants at the beginning of the workshop.

This preparation was necessary to familiarise the students with the subject matter.

Exercise

Each student had to give a short presentation explaining why she/he had chosen this specific project.

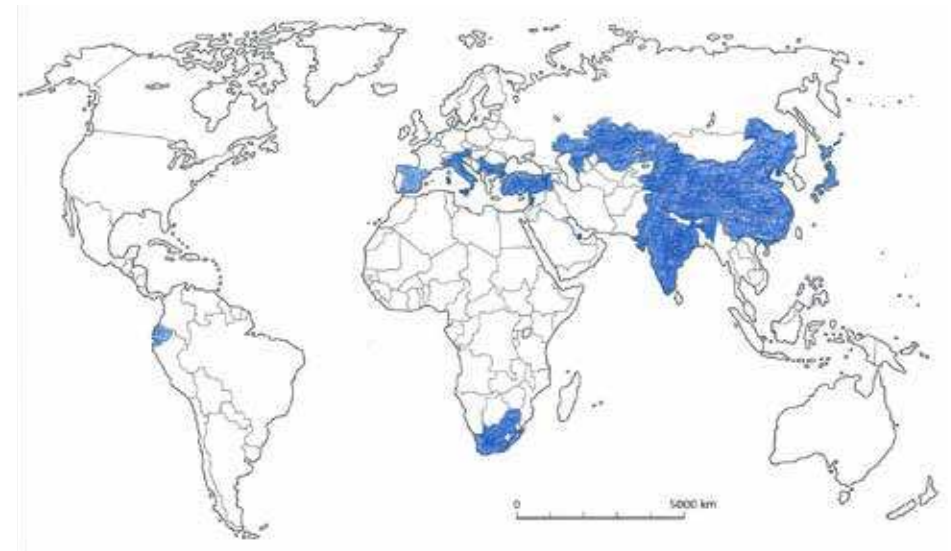
The next step was to take out a significant part of the own project and develop the design for it on a more detailed scale. This could be an entrance situation, a central space in the building, but also the external appearance such as a facade. In the search for an adequate expression, the focus was on questions about materiality and detailed solutions.

During the design process, the set goals were constantly questioned. What kind of atmosphere and quality should be created? Which form, which spatial quality, which light/shadow ratio, which materialisation, etc. is sought? Which qualities represent the personal preferences in terms of individual and common needs?

Countries of origin of students, teachers and critics

Workshop leader
Irmgard Frank with
Judith Augustinovic (AUT)

Students
Jácome Carlos David Arcos (ECU)
Alina Kim (KAZ)
Zirong Song (CHN)
Milena Sharkova (BUL)
Shiryu Kawamura (JPN)
Simon Johan Muller (RSA)
Sara Ibrahim (LBN)
Alice Miloni (ITA)
Davide Francesco Avesani (ITA)
Alessia Sassone (ITA)
Marco Stringhetti (ITA)
Mona Nheili (SRB)
Umami Fathima Zakir Hussain (IND)
Nehir Özdemir (TUR)



Schedule

Fr

Input in the form of texts and architectural references (lecture).
Students: Presentation of their reference project and their own selected project.

Sat

Excursion in Milan with focus on architectural details, materials used, their relation to the appearance of the building and its effect
morning: together
afternoon: individual

Mon–Fri

Design process and elaboration of details (1:50 - 1:1 depending on necessity) of renderings and, if possible, sampling of materials

Inputs

- exemplary selection of materials and their processing
- examples from architecture
- assistance with design methodology
- assistance with detailing
- layout workshop

Sa

Presentation and discussion (all)

Excursion

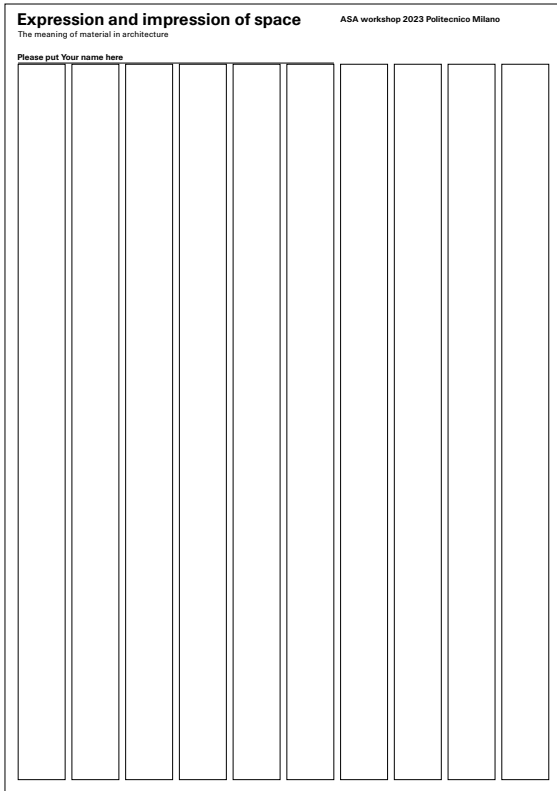


Villa Necchi,
Milan



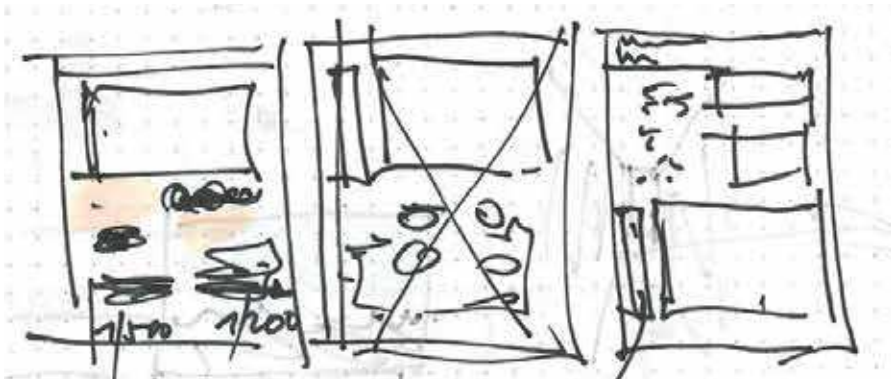
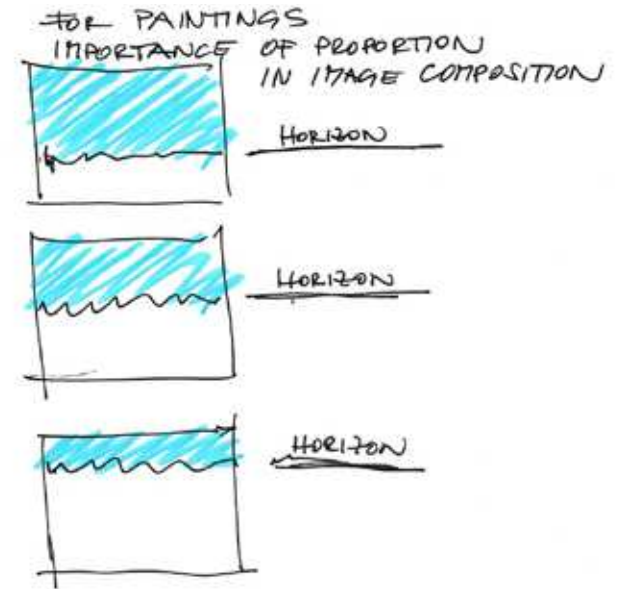
Layout workshop

In the design of books, newspapers and magazines, a type area is used to facilitate the structuring and hierarchisation of images and text. Architects can adopt this method, especially to better structure visual information on presentation plans and thus communicate it more clear and effectively. In the layout workshop, we therefore worked on the basis of a predefined type area.



Layout composition

Similar to a picture composition in a classical painting, there is also an attention hierarchy in a plan. Particular attention must be paid to this in presentation plans. This is because they must convey the essential contents of the project quickly and comprehensibly, even without verbal communication. The relationship between density and emptiness is just as important as that between large and small picture contents. Correctly placed, a small piece of image information can appear more important than a very large one.



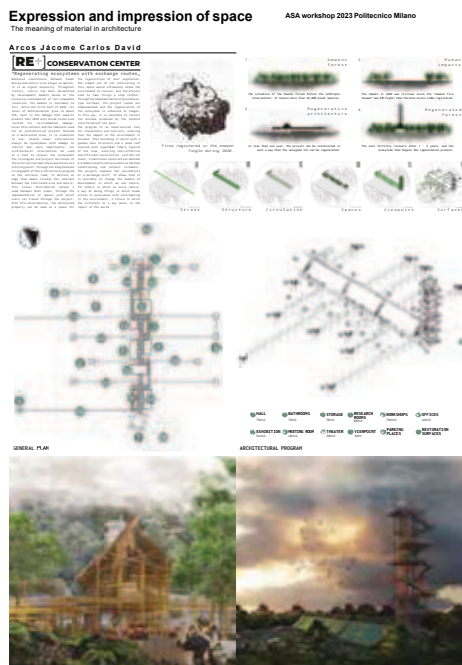
Example of presentation

Public Building
 Conservation Center, Amazonas/ Brazil
 Project by Carlos David Arcos Jácome

Most of the time, architects tend to put far too much information on a presentation plan. This is partly due to the given amount and size of potential plans. However, it is possible to create hierarchies of attention despite a high density of information, as this example shows.



Bamboo rainwater drainage system



Final presentation

The view from the outside on the results is an important input and feedback for both, the students and as well for us, the workshop instructors. To enter into a deeper discussion about architectural issues with the critics on the basis of the results shown is essential.

The following guests took part in the final critique:

- Pierre Alain Croset
- Michaela Bassanelli
- Silvia Bodei
- Elena Fontanella
- Josep Garcias Fuentes



Public building

Public building
Museum and Leisure Center, Milan/ Italy
Project by Alessia Sassone

Deepening

Massivity and lightness

This project prompted a discussion on how to create the effect of heaviness and of lightness in architecture. The question arose as to whether concrete can generally convey heaviness and semi-transparent glass can generally convey lightness.

There are different ways of looking at it:
scientific

Technical knowledge as a fact

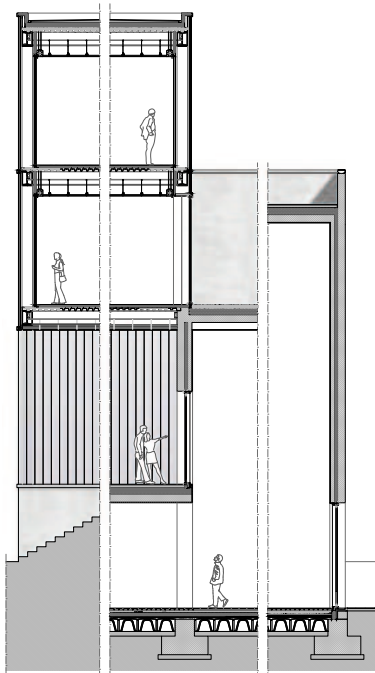
The specific weight of glass is somewhat higher than that of concrete.

associative

Because glass is transparent or translucent/opaque, it is often defined and read as invisible or light.

architectural

The way in which glass is used is decisive in determining whether it, and thus the part of the building, is perceived as light or heavy.



Densification of the existing development

Social housing, Catania/ Sicily
Project by Alice Miloni

Deepening

Expressiveness of the materiality of the façade

In addition to climatic conditions, the planning of residential buildings is always based on cultural conditions. In the present project, the reaction of the new buildings to the existing ones is therefore not just a purely architectural debate. One of the questions was what they convey in their solidity in relation to the existing buildings, and what contribution a certain choice of material can make to the façades.



Densification of the existing development

Social housing, Milano/ Italy
Project by Nehir Özdemir

Deepening

Creating a balance between new and existing buildings

The most important decision was to open the ground floor zone of the new corner buildings, which was closed in the original project. This creates an inviting gesture. In analogy to the existing building, a similar colour scheme is used for the façade and the same roller shutters with wooden slats are adopted as sun protection.

The new façade has a multi-layered structure with curtain metal panels. Their light reflection is clearly different from that of plastered façades. Thus, additional differentiation in the colour scheme (originally green) could be dispensed with.



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The opening of space in architecture

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Nehir Özdemir



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Nehir Özdemir



Upgrading of an urban area

Workshops and flats, Saida/ Lebanon

Project by Sara Ibrahim

Deepening

Mediating between tradition and present to create identity

The project samples typologies and building methods found on site by connecting them across their very different periods of origin and the Intention to transform them into the present.

Architecturally, the reinforced concrete structure on the ground floor with the filling elements of glass blocks can be associated with the industrial buildings of the surrounding area (1950s), while the upper floor contains elements of the old town that have been translated into the present.

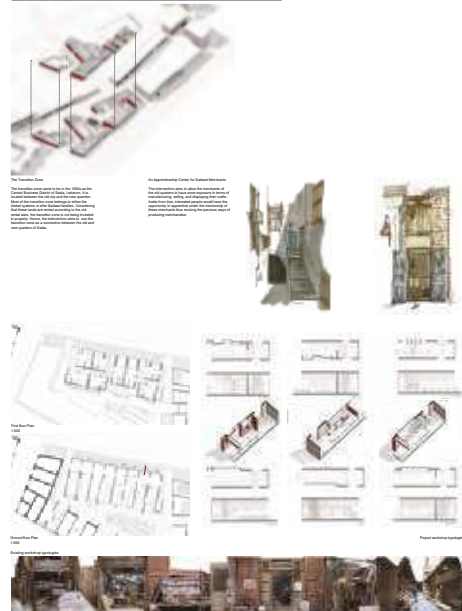


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Ibrahim Sara

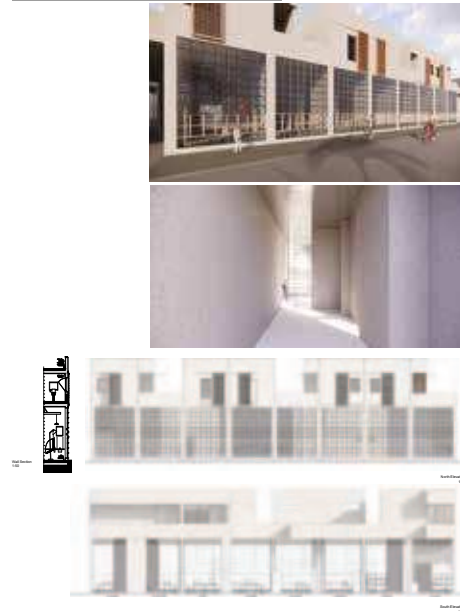


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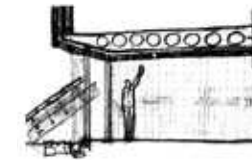
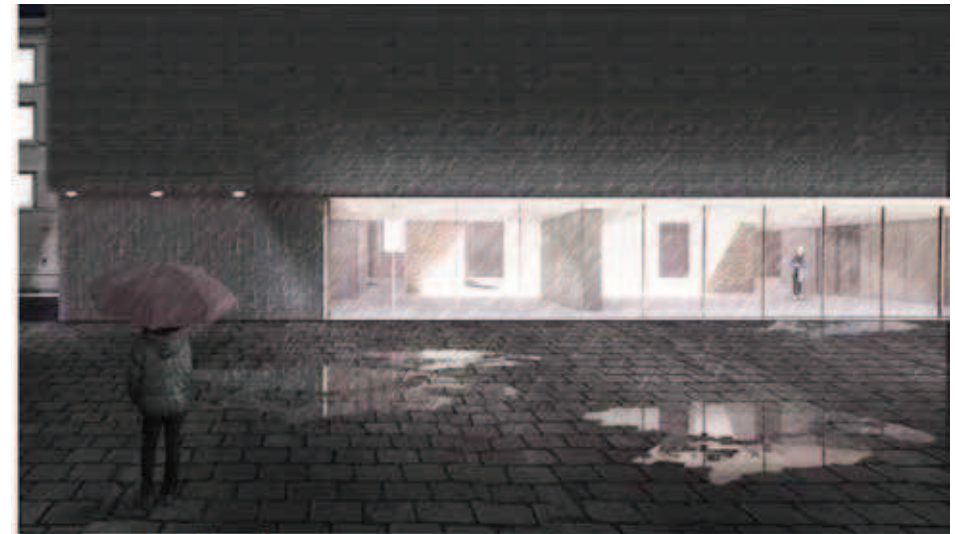
Ibrahim Sara



Public Building Old _ New
 Museum, Mantua/ Italy
 Project by Simon Johan Muller

Deepening
The meaning of public space

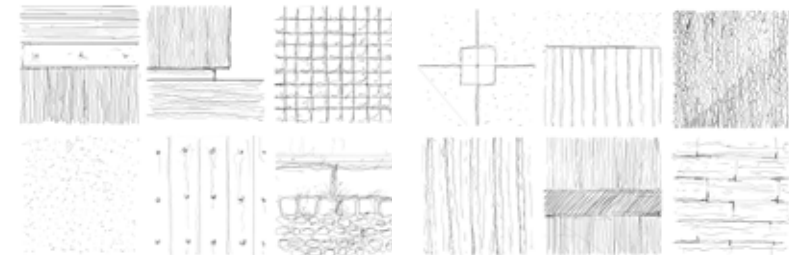
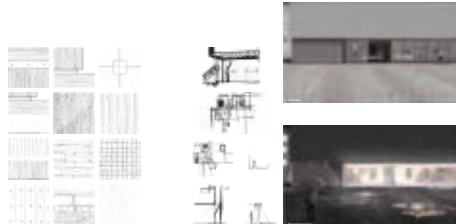
The starting point was a project that solved the connection between the new building and the old building with a fugue. The importance of the fugue, in architecture was correctly recognised and thematised. However, the original design decision led to the main entrance of the museum being placed in this fugue and to keep the façade facing the square completely closed. This resulted in a rather forbidding expression of the building. The further processing led to a reconsideration of this decision. While retaining the theme of the fugue, the main entrance is oriented towards the square and this façade is opened. The small but effective spatial gesture in the ceiling leading out to the square is very subtle.



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variations textures square

Public Building Old _ New
House of Music, Milan/ Italy
Project by Alina Kim

Deepening
Existing building as protective shell for new spatial structure

The starting point was a part of a project in which the historical building acts as a shell and the new use is placed inside it as a kind of walk-in three storey "furniture". This was brought out through the differentiation in materiality.

The protective masonry of the shell is juxtaposed with the new wooden construction. In addition, the wooden construction with its cladding of vertical wooden slats provides improved room acoustics.



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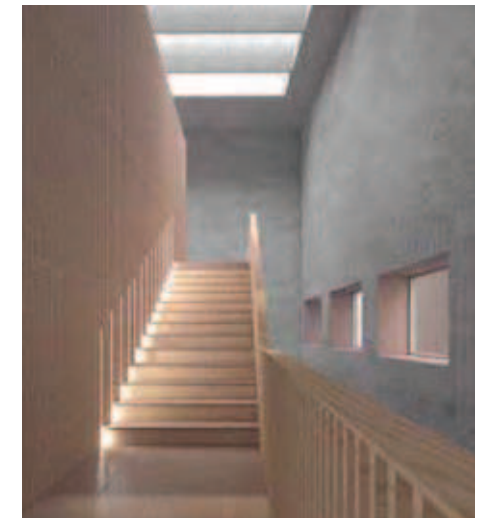
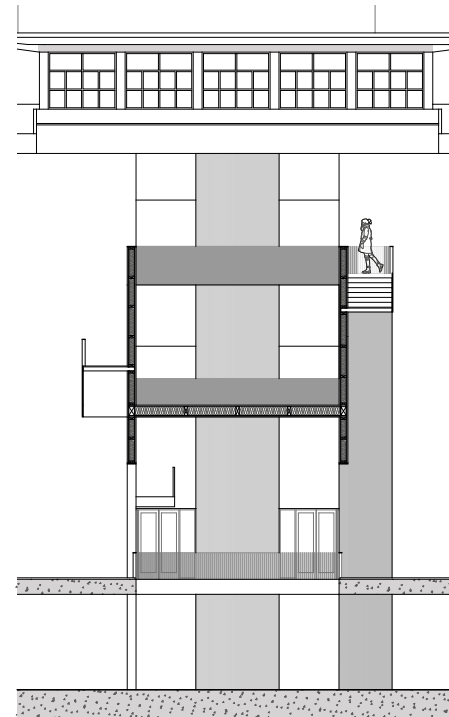
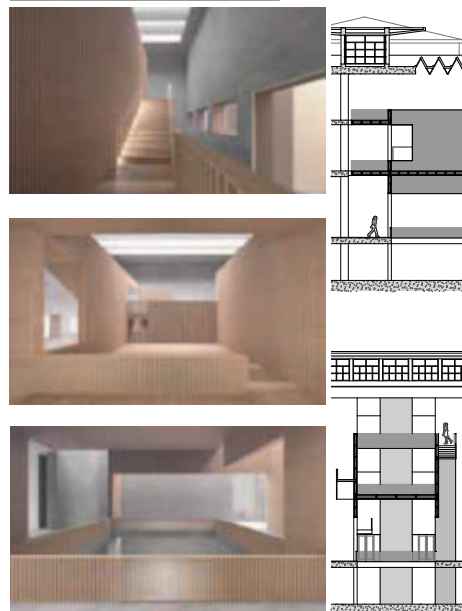
Kim Alina



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Kim Alina



Public Building
Library, Milan/ Italy
Project by Zirong Song

Deepening
The importance of haptics in the choice of materials

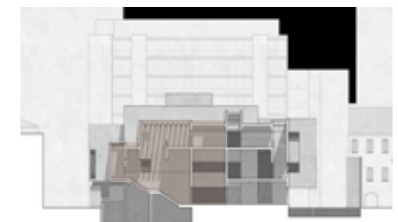
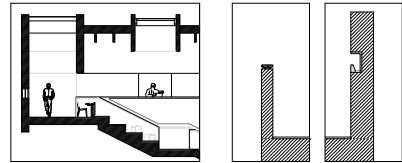
The starting point was a tectonically clearly structured project in which daylight creates strong light-shadow accents. The question of materiality arose for those areas that we touch as users, such as a table, seating steps and especially handrails.



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The meaning of material in architecture



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Public Building

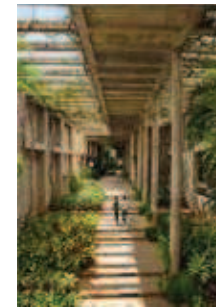
Library, Milan/ Italy

Project by Ummi Fathima Zakir Hussain

Deepening

The influence of materiality on spatial perception

The starting point was a project that shows an analytical approach to architectural questions such as volumes, axes, visual relationships. In addition, an in-depth examination of architecture from their own cultural environment is visible. The spatial effect of material and light was tested and decided on three essential rooms through variations. The influence of Indian culture is evident in the project. This is an enrichment, especially for a building of cultural significance.



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Ummi Fathima Zakir Hussain

The Project

Architecture Briefing
A project for the reorganization of the Milanese library system.

The site
The project site was to provide a public addition to the existing structure of the city. The building was to be located in the central area of the city, near the main square, and was to be designed in a way that would be in harmony with the existing urban fabric.

The axonometric section

The axonometric view

The Intent

1. The Space
The spaces of the project are very small and compressed due to the site conditions. The challenge was to design an area in which the space could be much more larger visually than conceived dimensionally.

2. The Material
The axial planes, The volumes, Work enlarged.

3. The Light
1. Public space, 2. Circulation space, 3. Semi-private space.

The light entry of light is needed for relevant spaces. The chronology of the space with respect to its function is nothing but the play of light. The ideal choice and proportion of openings required for each space was studied as an exercise.

The Material Palette

The earthy tones: Vertical planes, Horizontal planes, Ceilings and Lites.

The highlighter (if not concrete with terrazzo pigments), The base (Paved concrete), The accentuator (Black wood veneer).

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Ummi Fathima Zakir Hussain

The Process

The Output

Section of the Central Space- Public
View of the Central Space- Public.

Key Plan Space, material & light Texture

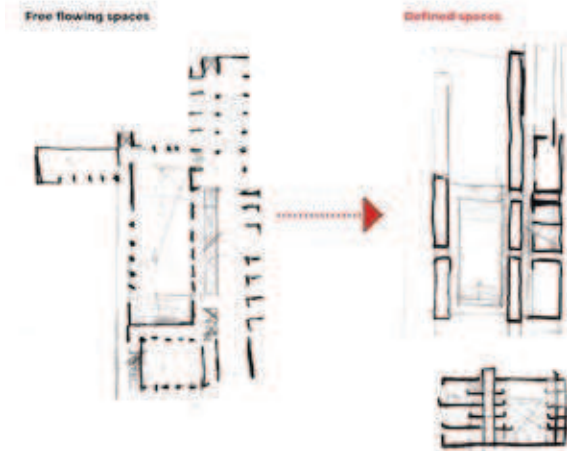
Section of the Circulation Space- Public
View of the Circulation Space- Public.

Key Plan Space, material & light Texture

Section of the Reading Space- Private
View of the Reading Space- Private.

Key Plan Space, material & light Texture

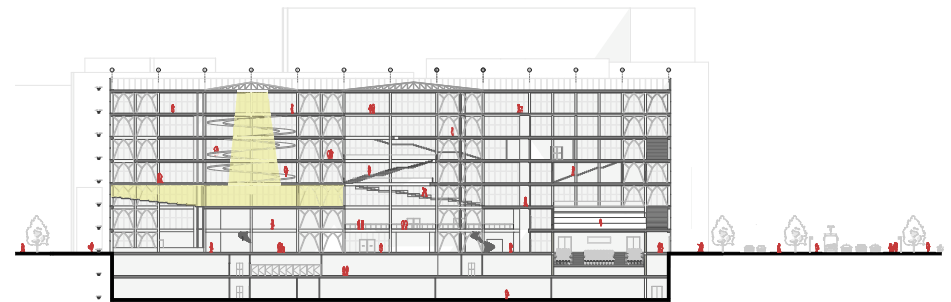
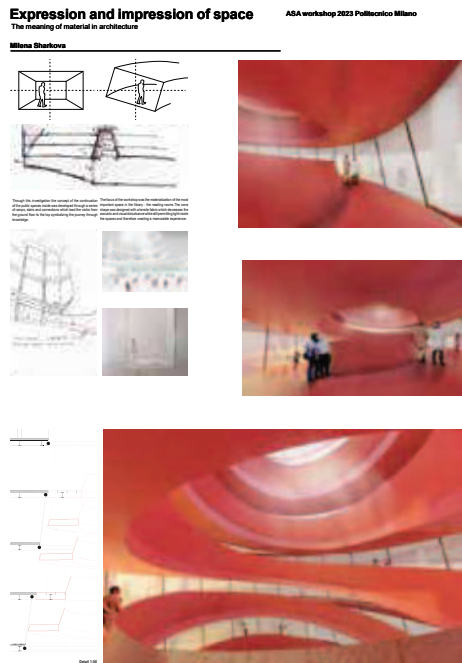
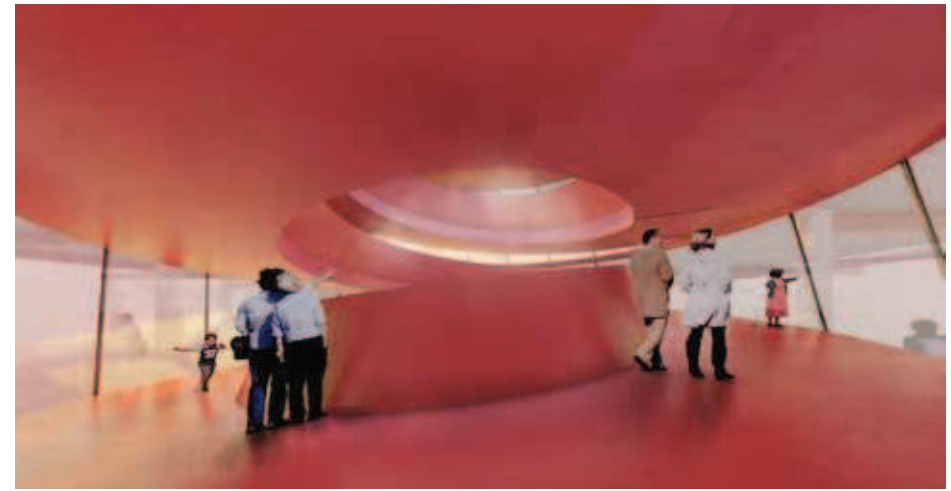
Reference:
Campus by late architect
B.V. Doshi



Public Building
 Library, Milan/ Italy
 Project by Milena Sharkova

Deepening
 Spatial effect and quality of experience of the central space
 in the building.

The core of the project is a central conical space that develops towards the light. Its presence is further enhanced by surrounding horizontally effective spaces and dramaturgically heightened by the colour scheme. The work focused on the influence that the sense of hearing and balance have over and above visual perception.



Pierre Alain Croset



Judith Augustinovic



Irgard Frank

