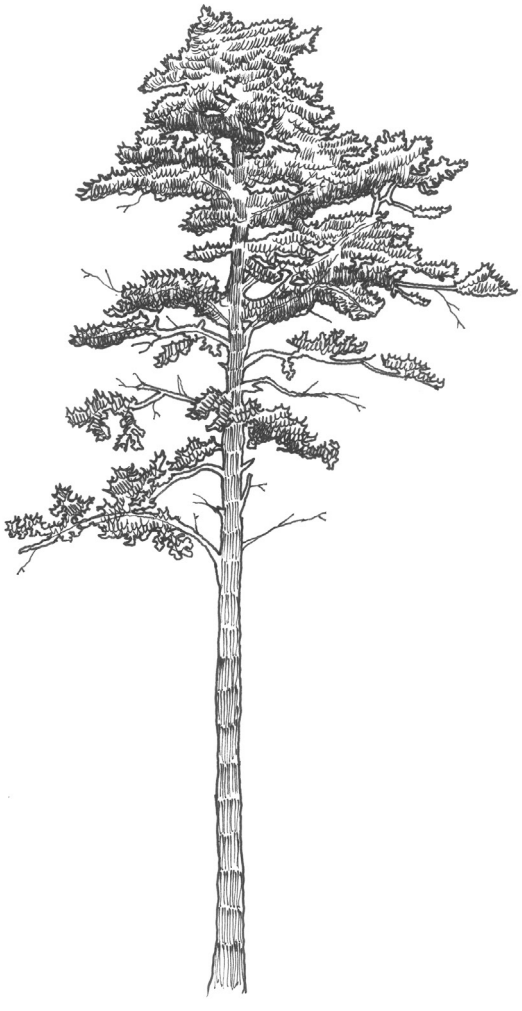
# Other Traditions

Inter cultural place-making, and forestation of the Stockholm City Library, Sweden.



Project Book

Conor O'Kelly

Conor O'Kelly (5853885)
P5 Graduation Presentation- Friday, 28th June 2024.

**Interiors Buildings Cities Graduation Studio 2023/24**
**Situated Architecture**
**Faculty of Architecture and the Built Environment**
**TU Delft**



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# Other Traditions

This project is titled *Other Traditions*. For me this represents the multitude and types of knowledge among people and ecological systems. We take knowledge from all forms of media, the book being the most recognisable symbol of knowledge. But us humans find the oral tradition most instinctive; we practise and participate in the oral tradition every day. There are other traditions of knowledge exchange that exist outside of our species. Ecological systems are immense stores and networks of information exchange. This graduation project explores the other traditions of knowledge exchange.

# Context

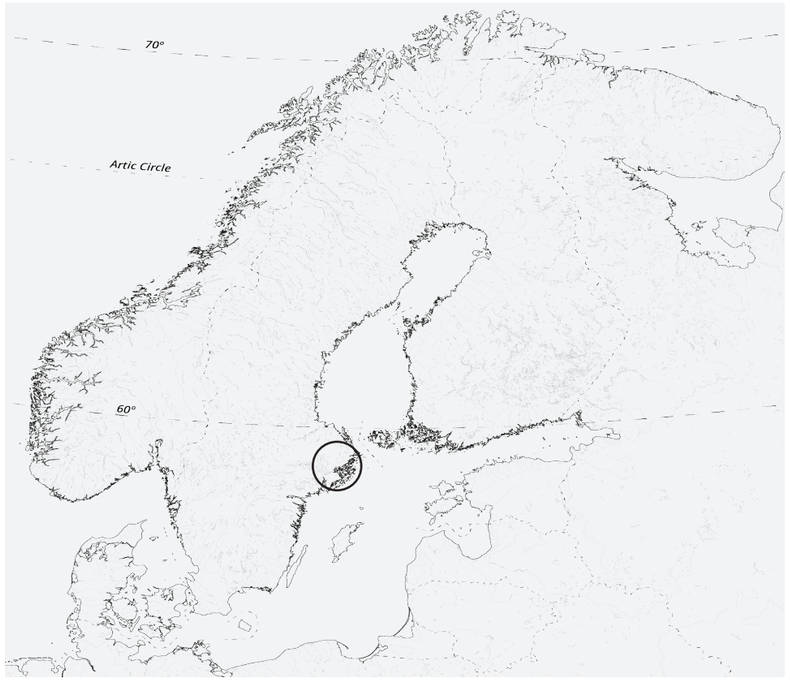


***Fig. 1. Fennoscandia, Site location map. NTS.***

*Stockholm lies on the 59th parallel line, and has a humid continental climate.*

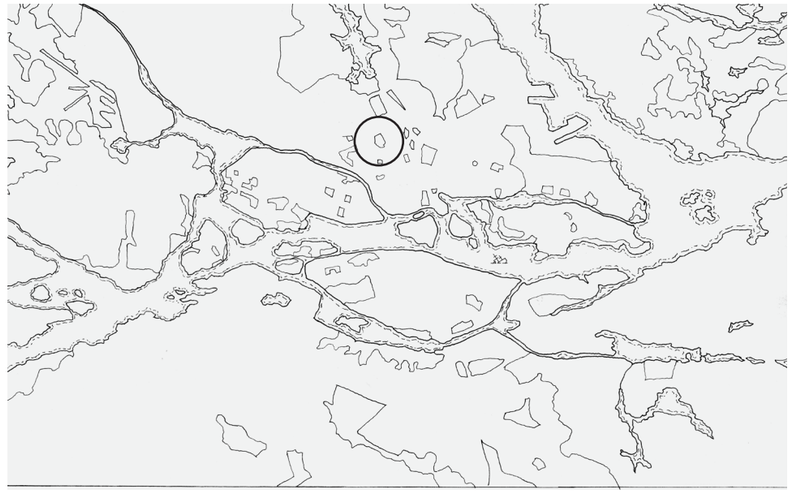

***Fig. 2. Stockholm, Site location map. NTS.***

*The site is located in the Vasastan district of Stockholm, on the north side of the Riddarfjärden.*

This project is located in Stockholm, Sweden. The capital city of Sweden lies on the 59th parallel, boasting diverse climates; ranging from humid continental to boreal. Stockholm has a humid continental climate.

The project site is located on the northside of Stockholm city centre in the Vasastan district. The site is just below a prominent hill that hosts the Stockholm Observatory, it is aptly named Observatory Hill. The Stockholm City Library and associated annex buildings are on the northside of this hill.





*Fig. 3. Site location plan. 1:5000 @ A3.*

*Fig. 4. Stockholm City Library, at the corner of Sveavägen and Odengatan. Digital photograph.*

*Photo: David Grandorge*



Context

The Stockholm City Library was designed by Swedish architect Erik Gunnar Asplund in 1921, the initial construction phase lasted from 1922-1928. Due to budget constraints only three of the envisioned four perimeter wings were constructed in this phase. The fourth wing, known as the '1932 west wing' was completed four years later. This wing is markedly modern in articulation compared to the Swedish Classicism of the first three wings and rotunda drum.

## First Impressions

My first impressions of the site were predominantly concerned with the landscape and monumentality of the Stockholm City Library. I noticed an opportunity for greater accessibility and engagement with the Observatory Hill environs.

This diagram identifies the opportunities and constraints of the site and library. The principal constraint is that the library is monument and an object in the round. Any intervention or extension to the building should observe this nature. Secondly, the observatory hill forces the placement of any large intervention.

*Fig. 5. Section elevation, Observatory Hill.*

*Author's sketchbook: 25th Sept. 2023.*





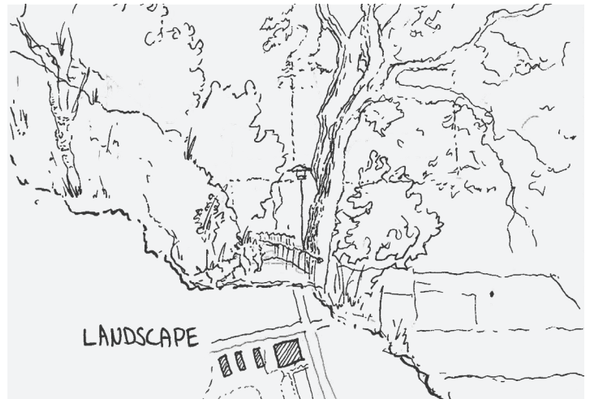


*Fig. 6. Section sketch, Observatory Hill.*

*Author's sketchbook: 25th Sept. 2023.*

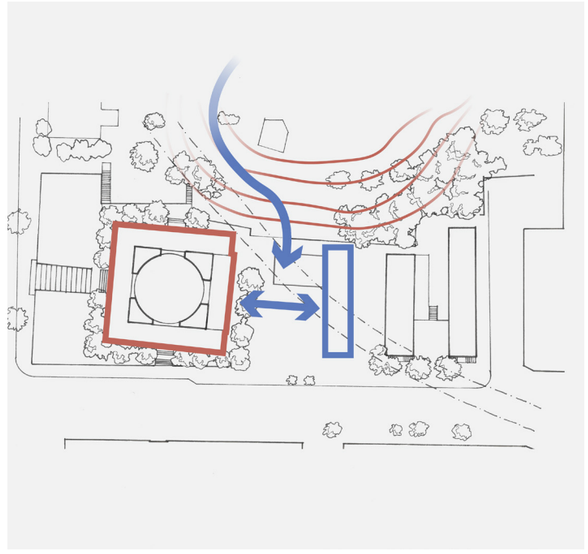

*Fig. 7. Constraints and opportunities diagram, 1:2500.*

In terms of opportunities, the recently vacated first annex building, Spelbomskan 16, can be utilised. The most sustainable building is an existing building. Incorporating this first annex building into a complex with the Stockholm City Library offers additional programmable space for the financial and carbon cost of the bridging extension. Additionally, such a move allows for the creation of an engaging public space between the buildings. Lastly, the Observatory Grove boasts a mature urban forest of deciduous trees. This can be expanded and enriched towards the project site.





## Problem statement

The problem statement of this project identifies three areas of address, namely; ill-suited use of space in the Stockholm City Library as informal meeting and conversation spaces; the affording of space to minority groups within Swedish society (especially those with refugee status); and a lacking biodiversity of the site.

As such this graduation project has three objectives; Programmatic, Social and Ecological.

Programmatic objective:
Connect the Asplundhuset to Spelbomskan 16 with a suite of small private and group work rooms.

Social objective:
Formulate interior spaces conducive to dialogue, language learning, and storytelling. Spaces are be identifiable to the majority and minority groups.

Ecological objective:
Expand, diversify and strengthen existing Observatory Grove to form an urban forest.

# Urban Forest

The objective of this move is to implement the urban ecological strategies set out in the Grönare Stockholm (2017), Parkplan Norrmalm (2015), and Environment programme 2020-2023 (2020). Additionally, the expansion, diversification, and enrichment of the Observatory Grove as an urban forest acting to offset the CO2e produced from the material extraction and construction of built project. In terms of its benefits to the Stockholm City Library, the urban forest improves local air quality, regulates the local microclimate, and offers programmable and leisure space for library visitors.

Research was conducted to determine the most suitable form of forest this expansion should take. To achieve the urban forest the removal of the international library wing of the first library was necessary. The functions and content of this wing will be housed in the proposed extension. By doing so the Observatory Hill spills into the in-between space.

*Fig. 8.* Less tree, more forest.

Urban Forest

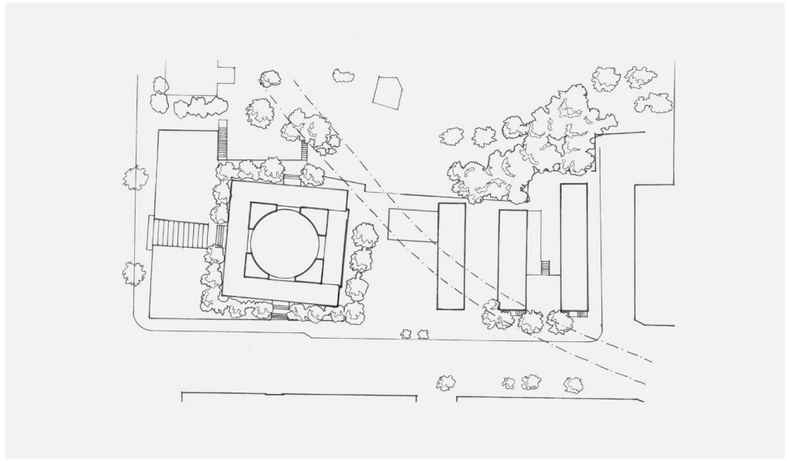

*Fig. 10. Site Plan, Existing, 1:1000 @ A3.*

*The existing condition.*

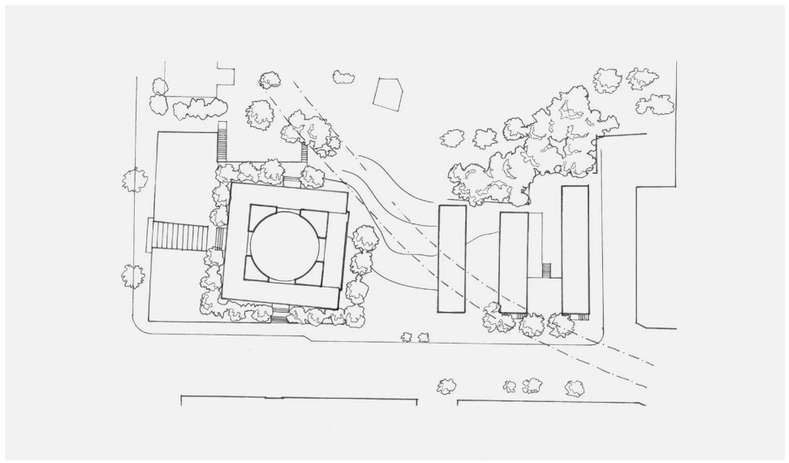

*Fig. 9. Site Plan with spilling Observatory Hill, Existing, 1:1000.*

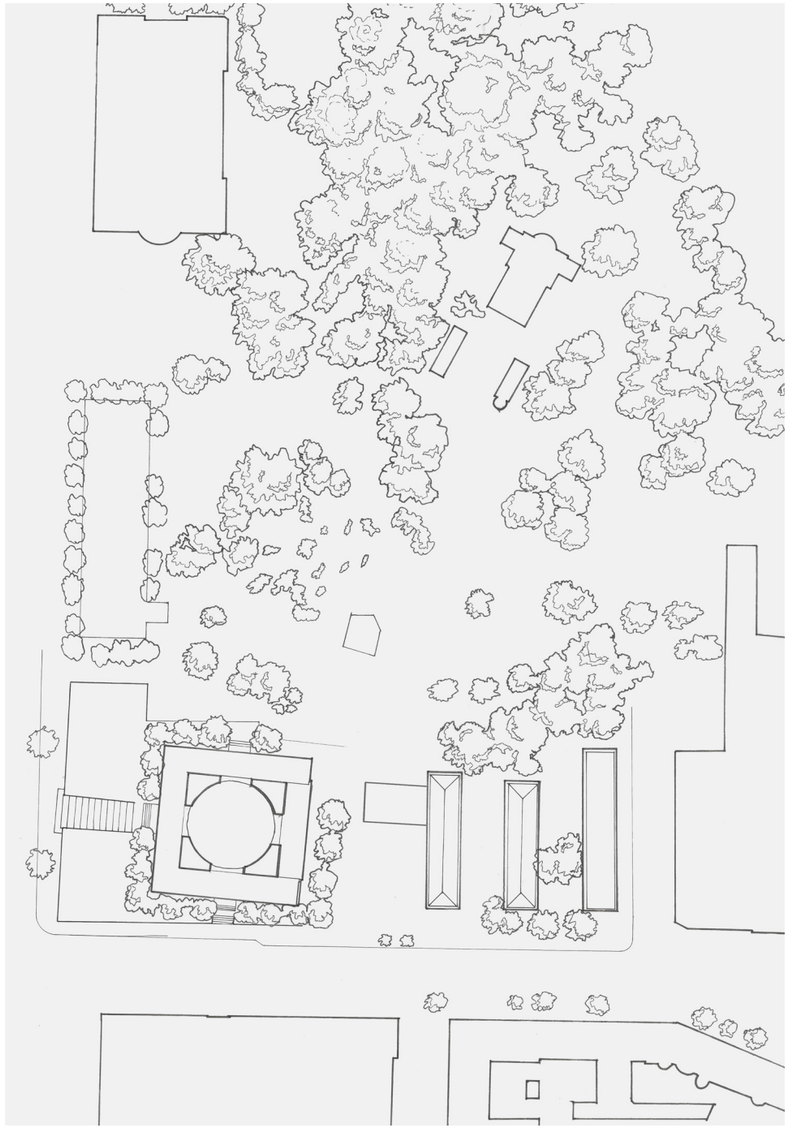

***Fig. 11. Existing Site Plan, 1:2000 @ A3.***

*The Observatory Hill boasts a magnificent cluster of mature deciduous trees on its south side, surrounding the Stockholm Obsertvatorium. The thick canopy affords shelter and dampens city noise. It enriches the lives of urban dwellers; birds, plants, small mammalia and humans alike.*





***Fig. 12. Proposed Site Plan, 1:2000 @ A3.***

*I propose removing the hall of the first annex building closest to the Stockholm City Library, International Library (Odengaten 59). In my view, this volume held back the Observatory Hill and the growth of plant-life. Once removed, the hill is released into the vacant space. Coniferous trees are planted to develop the biodiversity of the Observatory Hill urban forest, and extend the cross-site access for smaller animals and insects.*

## Odengatan becomes a forest edge condition

*Fig. 13. North elevation. 1:100 model.*





## Landscape through stage design and layering.

*Fig. 14. North elevation. 1:100 model.*

My research pointed to the development of a forest's edge condition. This is a natural transitory phase of forestation that in addition to trees, bears a forest floor of shrubs and fruiting vegetation. This lower register of vegetation is highly interactive for library visitors.

Development of my building structure and forest concept required a degree of stage design to achieve the desired elevation.

The landscape narrative beneath the forest takes from the forces of gravity and the Observatory Hill. The motif of retaining walls is taken from the immediate context, but also from the geology of Stockholm more generally.

The issue of accessibility and monumentality is addressed. The project proposes an megalithic entrance with pediment to counter the main entrance on the east façade. Those with limited mobility are afforded a sense of monumentality.

The hill is ascended by steps that pour and support the narrative of hill and gravity. Great lengths were made to design a scalable ramp for those with limited mobility. This would come at the cost of the interior experience and programme. I had to kill this darling.

The interior of the 1932 west wing hall is given additional fenestration to allow library users greater engagement with the exterior while inside. Views to the outside offer welcome distractions.





*Fig. 15. Universally accessible monumental entrance. 1:100 Model.*

*Fig. 16. Megalithic pediment. Elevation drawing. NTS.*

*Fig. 17. View on Odengatan. Photograph.*

*Photo: author.*





*Fig. 18. View on Odengatan. 1:100 Model.*

*Ascending and descending the hill*

*Fig. 19. Views above forest to steps of urban forest. 1:100 Model.*

*Fig. 20. Views above forest to steps of urban forest. 1:100 Model.*

*Fig. 21. Views from west wing reading hall. Sketch.*





*Fig. 22. Views from west wing reading hall. 1:100 Model*

*The relationship between the Asplundhuset interior and the urban forest looks and feels as intended. :)*

*Fig. 23. Views from within the forest. Digital render.*

*Fig. 24. Exterior view of the South wing corner and passage. Digital photograph.*

*Photo: David Grandorge*

*Fig. 25. Exterior view of the South wing corner and passage. 1:100 Model.*

*The passage becomes a nature promenade enclosed by the forest and ecology.*

## Movement through the landscape conceals and reveals

*Fig. 26. Exterior view of the South wing corner and passage. 1:100 Model.*

*Fig. 27. Movement around the existing retaining walls allows for the architecture to be revealed like how the Asplundhuset is revealed by in the Observatorielunden.*

## Living laboratory

*Fig. 28. Sectional model as a profile diagram. 1:100 Model.*

*Horticulture and architecture intersect.*





## Carbon Sequestration

*Fig. 29. Carbon Stock Table*

*(Source:) Sjöman, Johanna Deak; Östberg, Johan. (2020). i-Tree Sverige För strategiskt arbete med träds ekosystemtjänster. Sveriges Lantbruksuniversitet (SLU), Alnarp. pp. 36, 45.*

** Stockholm urban forest coverage: 20,700 hectares*

*** Proposed urban forest coverage: 1.265 hectares*

| | Stockholm | Per hectare* | Proposal** |
|---|---|---|---|
| Amount of carbon storage in tonnes | *262,590* | *12.7* | *16.0* |
| Corresponding amount of carbon dioxide in tonnes | *962,918* | *46.5* | *58.8* |
| Represents annual CO2e emmissions from the number of passenger cars | *641,945* | *31.0* | *39.2* |
| Global economic value in Swedish Krona | *SEK 1,097,726,520.00* | *SEK 53,030.27* | *SEK 67,083.29* |

The proposed mixed species, mixed age urban forest will store approximately ***16 tonnes of carbon***, equivalent to ***58.8 tonnes of $CO^2$*** at mature stages of forest succession.

*Fig. 30. Carbon Stock Table*

*(Source:) Sjöman, Johanna Deak; Östberg, Johan. (2020). i-Tree Sverige För strategiskt arbete med träds ekosystemtjänster. Sveriges Lantbruksuniversitet (SLU), Alnarp. pp. 36, 48.*

** Stockholm urban forest coverage: 20,700 hectares*

*** Proposed urban forest coverage: 1.265 hectares*

| | Stockholm | Per hectare* | Proposal** |
|---|---|---|---|
| Amount of Carbon uptake/sequestration in tonnes | *9,344* | *0.5* | *0.57* |
| Corresponding amount of carbon dioxide in tonnes | *34,264* | *1.7* | *2.09* |
| Represents annual CO2e emmissions from the number of passenger cars | *22,842* | *1.1* | *1.40* |
| Global economic value in Swedish Krona | *SEK 10,799,220.00* | *SEK 521.70* | *SEK 659.95* |

The proposed mixed species, mixed age urban forest will sequester approximately ***0.6 tonnes of carbon***, equivalent to ***2.1 tonnes of $CO^2$ annually*** at mature stages of forest succession.

# The Stockholm City Library

*Fig. 31. Stockholm City Library west facade. Photograph.*

*Photo: David Grandorge*

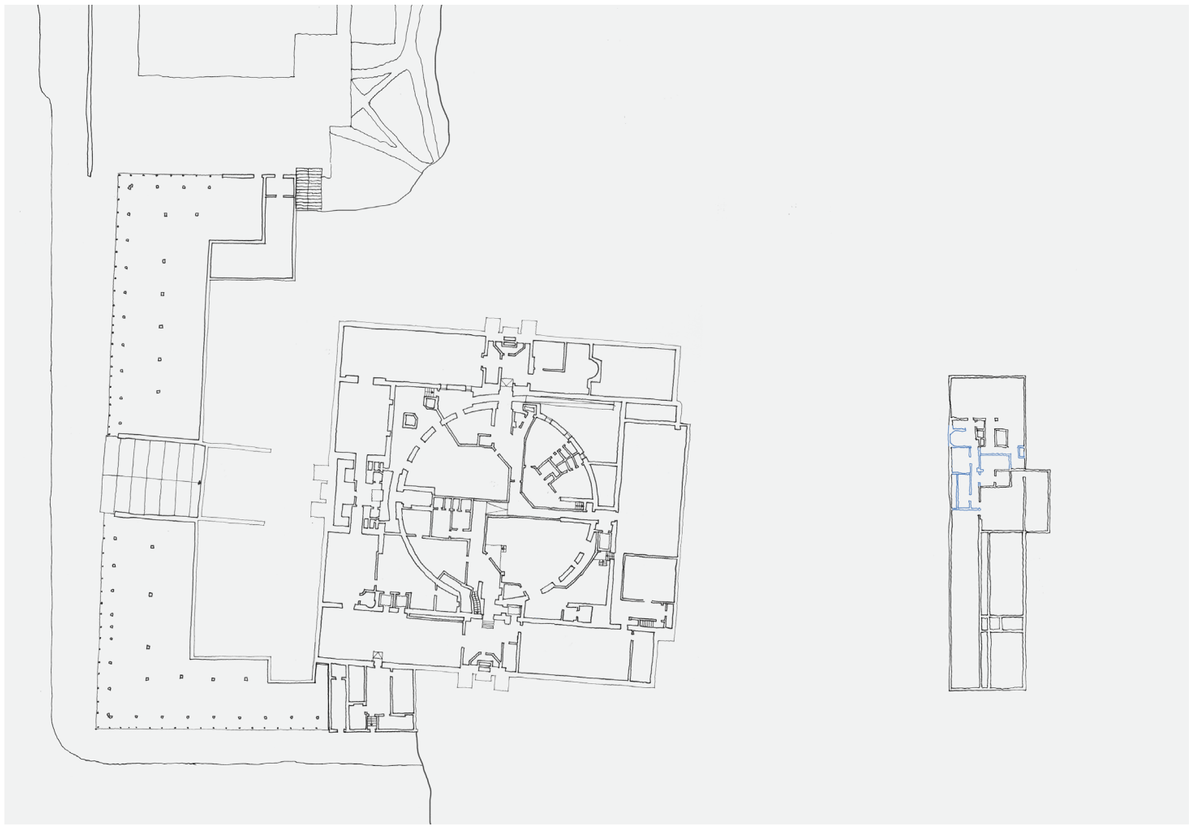

*Fig. 32. Existing basement Level (00)*

The Stockholm City Library

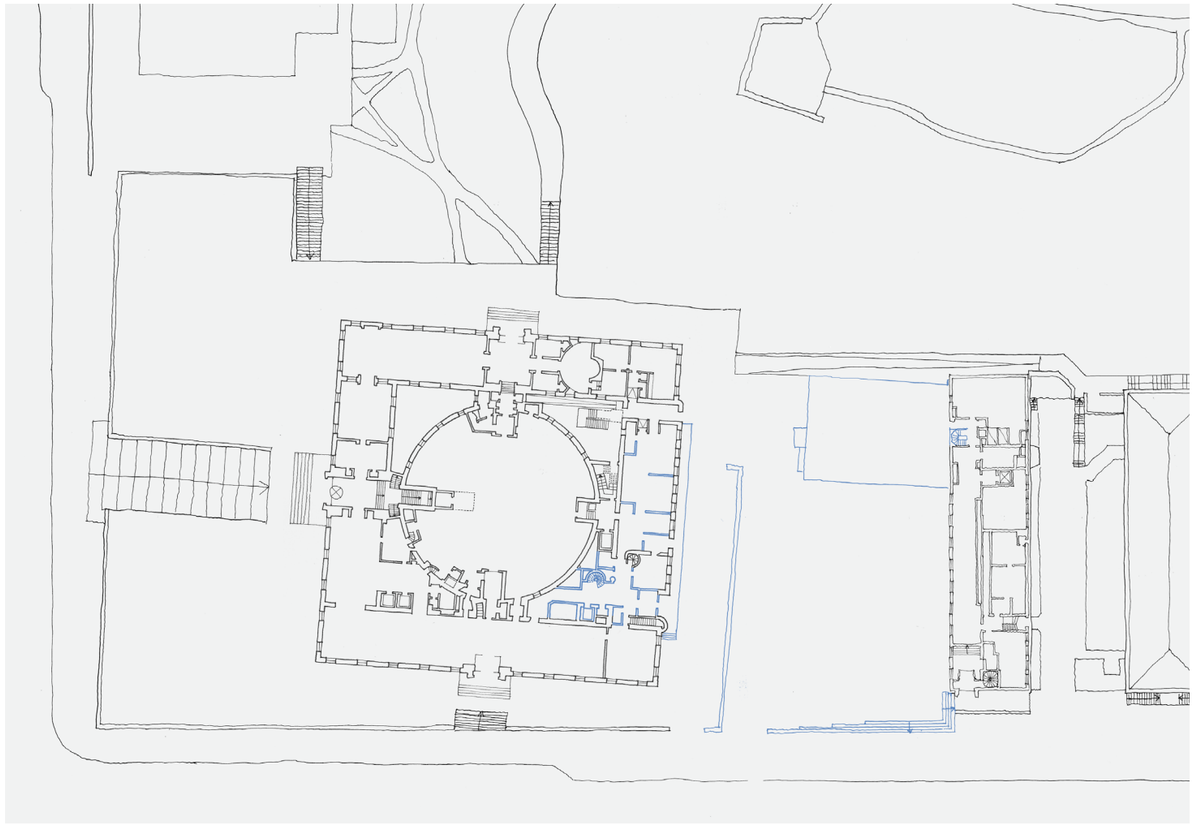

*Fig. 33. Existing entrance level (01)*


*Fig. 34. Proposed entrance Level (01)*

The Stockholm City Library

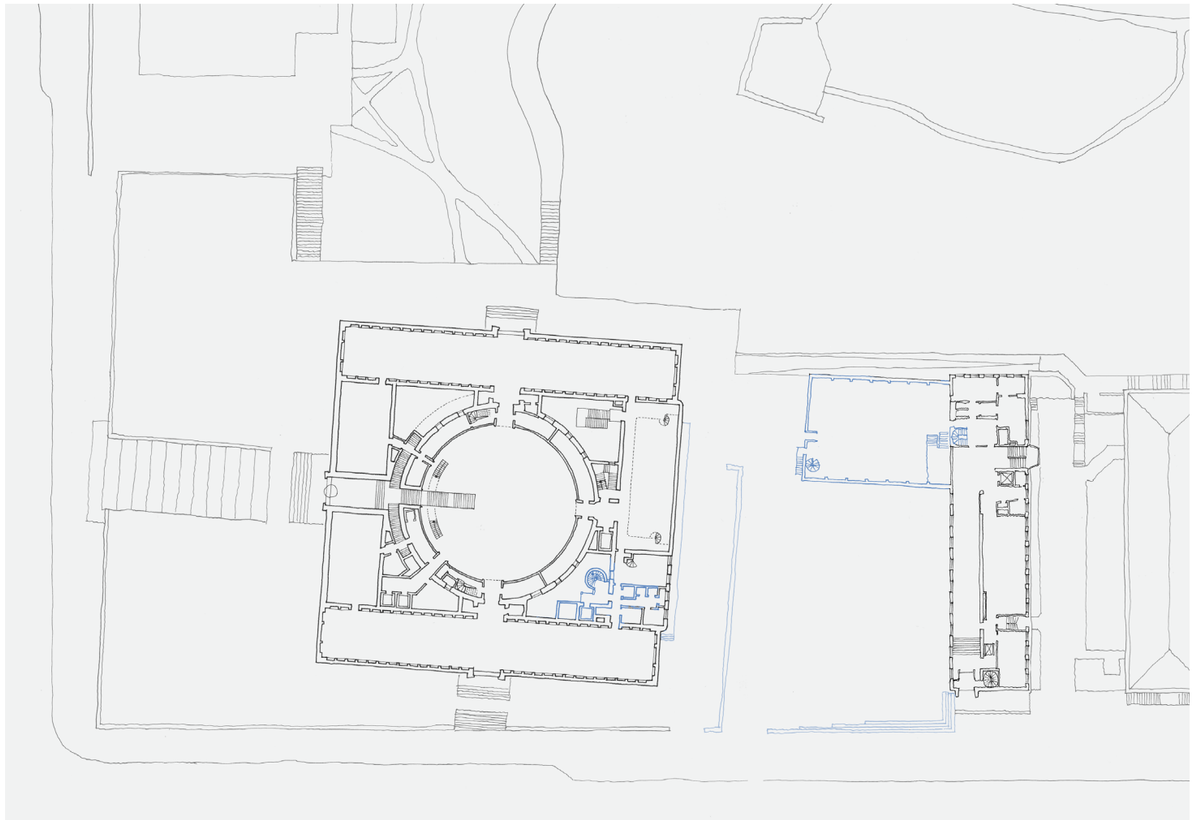

*Fig. 35. Existing rotunda level (02)*

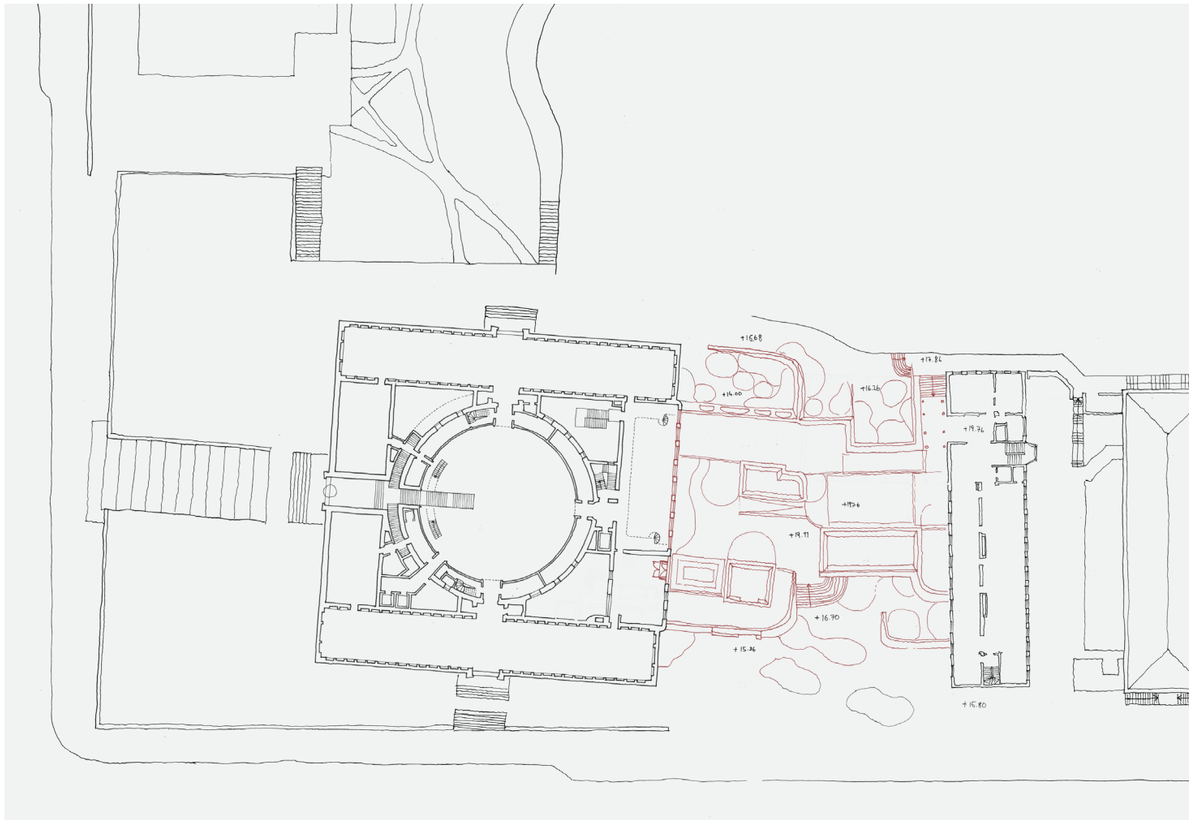


*Fig. 36. Proposed rotunda level (02)*

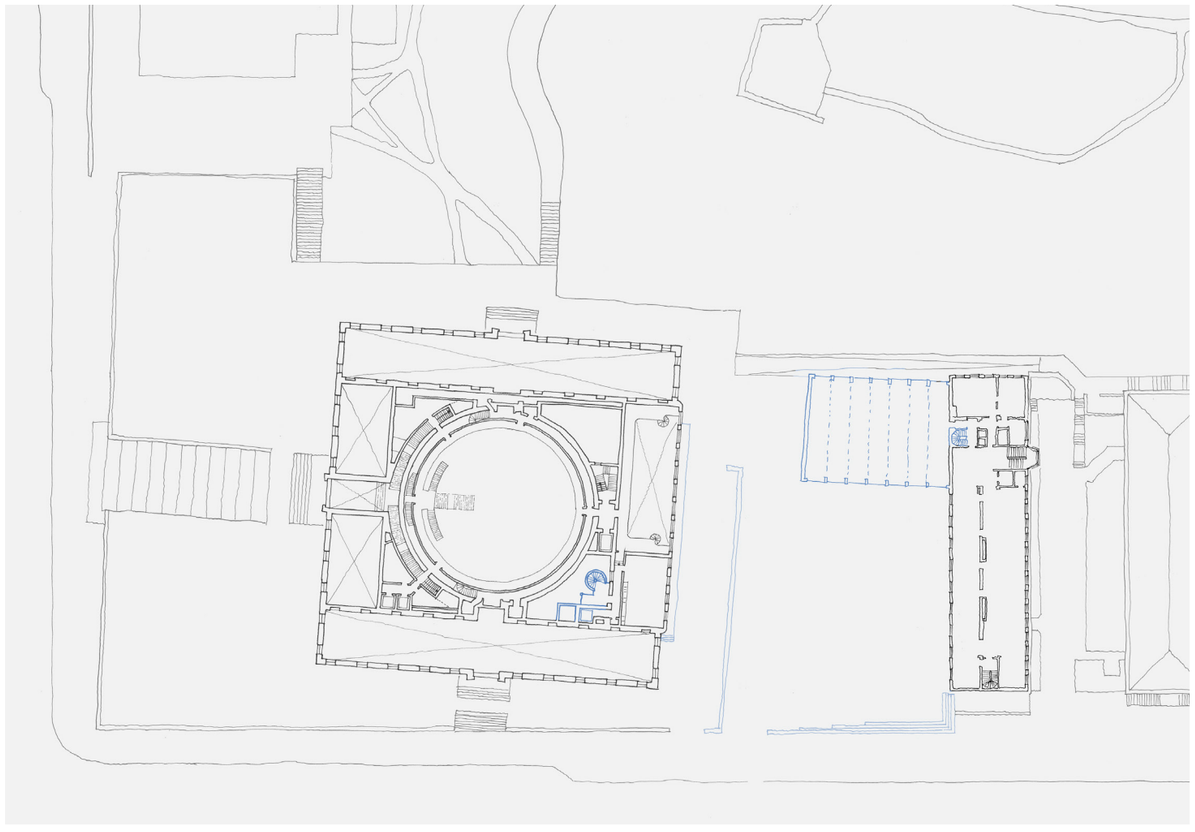

*Fig. 37. Existing west wing level (03)*



The Stockholm City Library

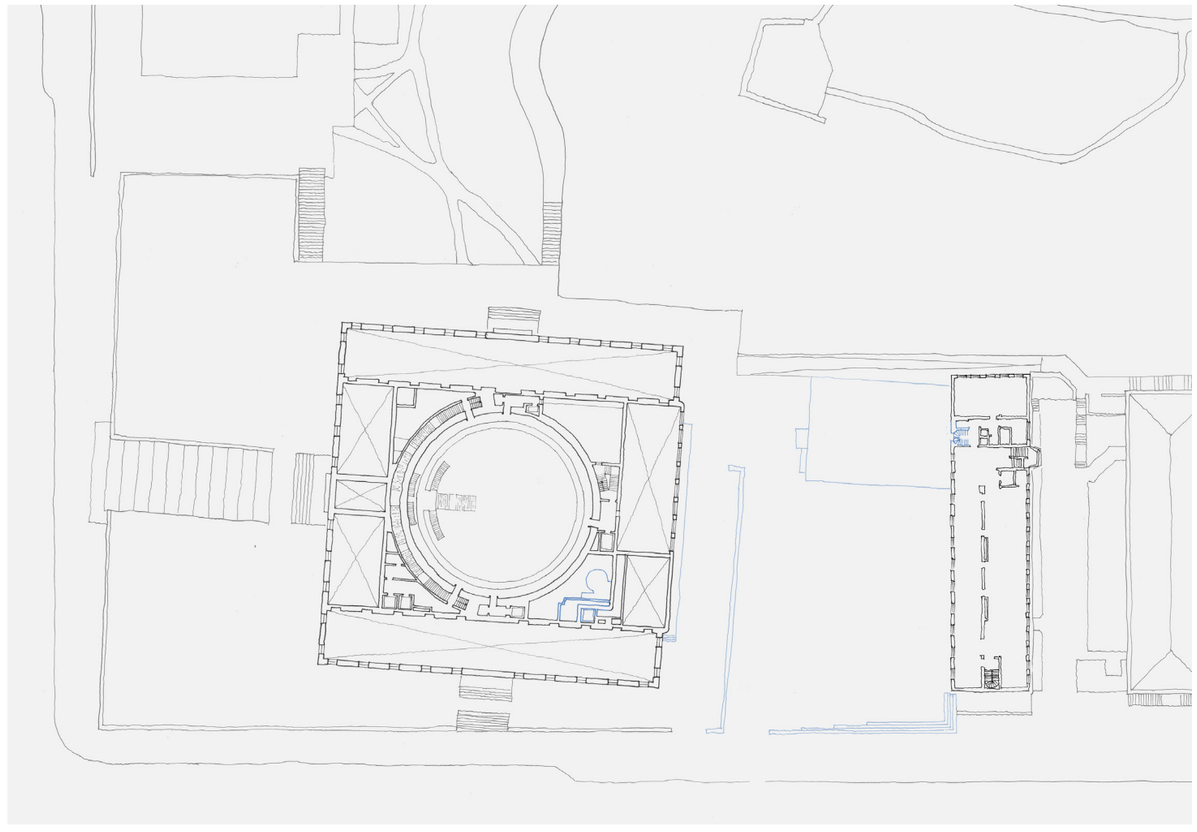

*Fig. 38. Existing poché level (04)*

The Stockholm City Library

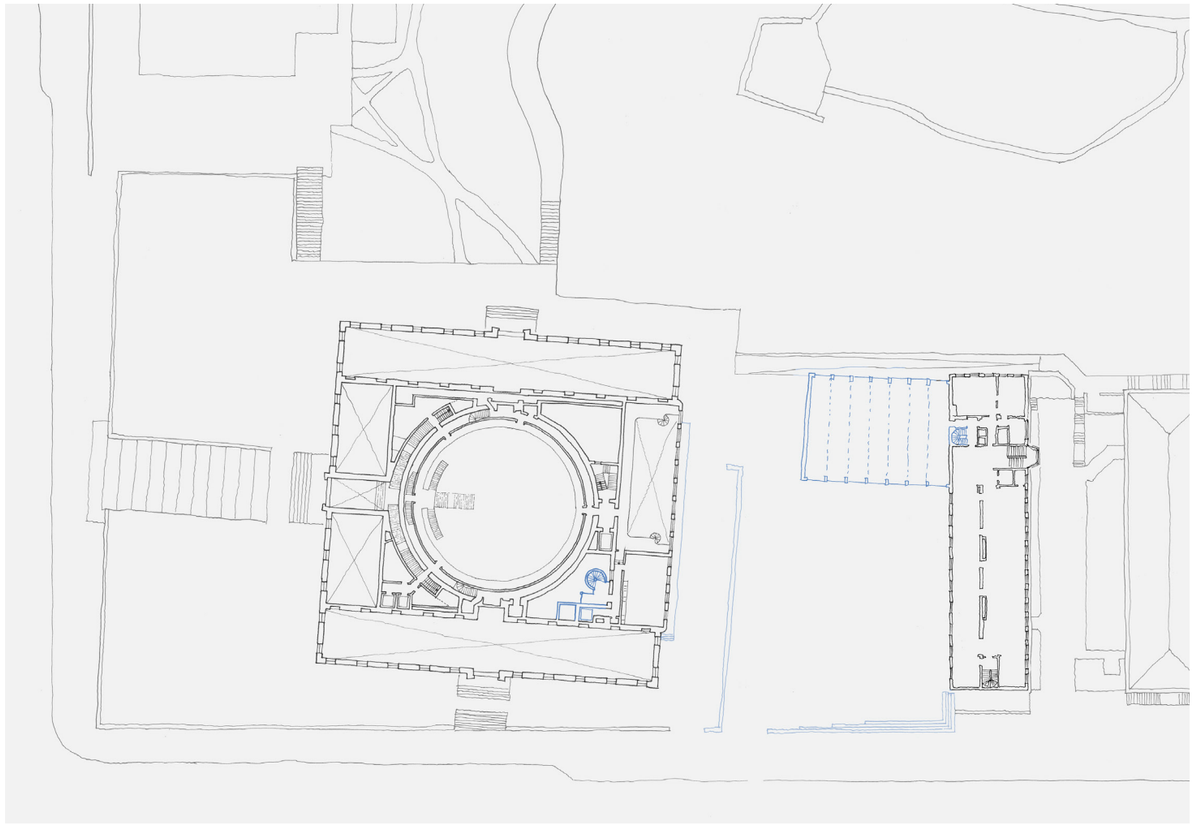

*Fig. 39. Existing office level (05)*

# International Langauge Rooms

A room for a Library

*Fig. 40. A room for a library, a story-telling space.*

*Every story is a conversation. Before the book, stories were expressed through oral tradition. This room for a library gives space to that and other traditions. It democratises the right to speak and be heard by levelling the relationship between the storyteller and the listeners; a centralised plan affords everyone the role of narrator.*

*Fig. 41. A room for a library, a story-telling space.*

*A perimeter bench with alcoves for those with limited mobility offers communality around a skylight hearth. Major and minor storytelling spaces allow for cross-communication and encouraged participation. Ornament adorns a coved ceiling and panel recesses to spark imagination, conversation and cultural acceptance.*



## A Qa’a for a library

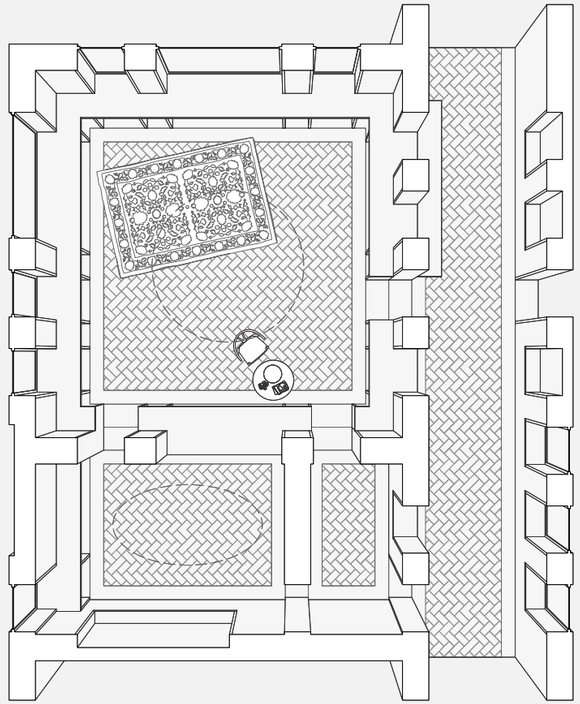

*Fig. 42. A room for a library perspective plan, NTS.*

*A Qa’a as a room for a library.*

## Qa’a and Iwan

*Fig. 43. Interior modelled after the Qa’a. Digital render.*





## Spatial composition by structure

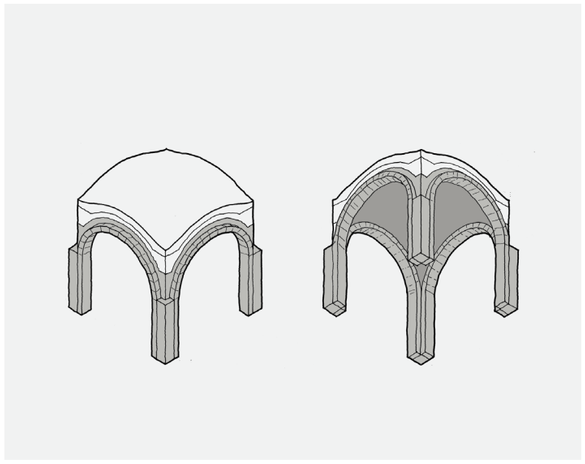

*Fig. 44. Ceiling as spatial definition: Masonry dome*

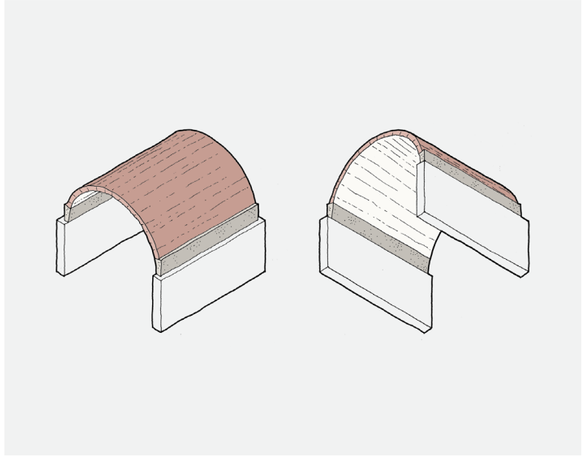

*Fig. 45. Ceiling as spatial definition: Masonry barrel vault*

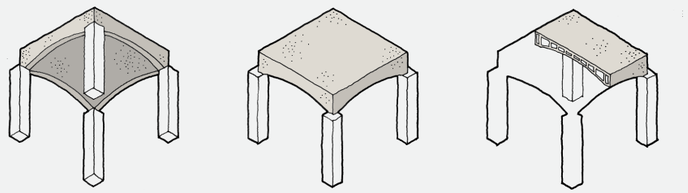

*Fig. 46. The funicular shell: advanced concrete technology and minimising embodied carbon.*



The International Language Rooms

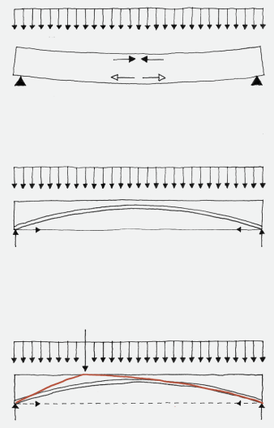

*Fig. 47. Loads, forces, and shells.*

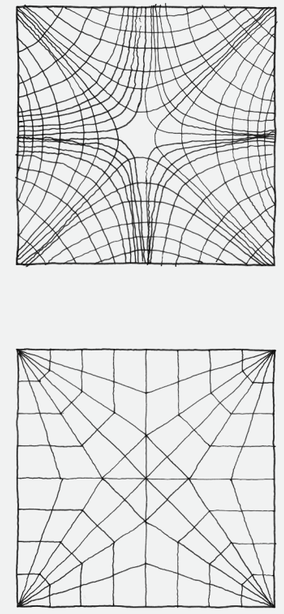

*Fig. 48. Stress pattern and design.*

The International Language Rooms

## Drawings

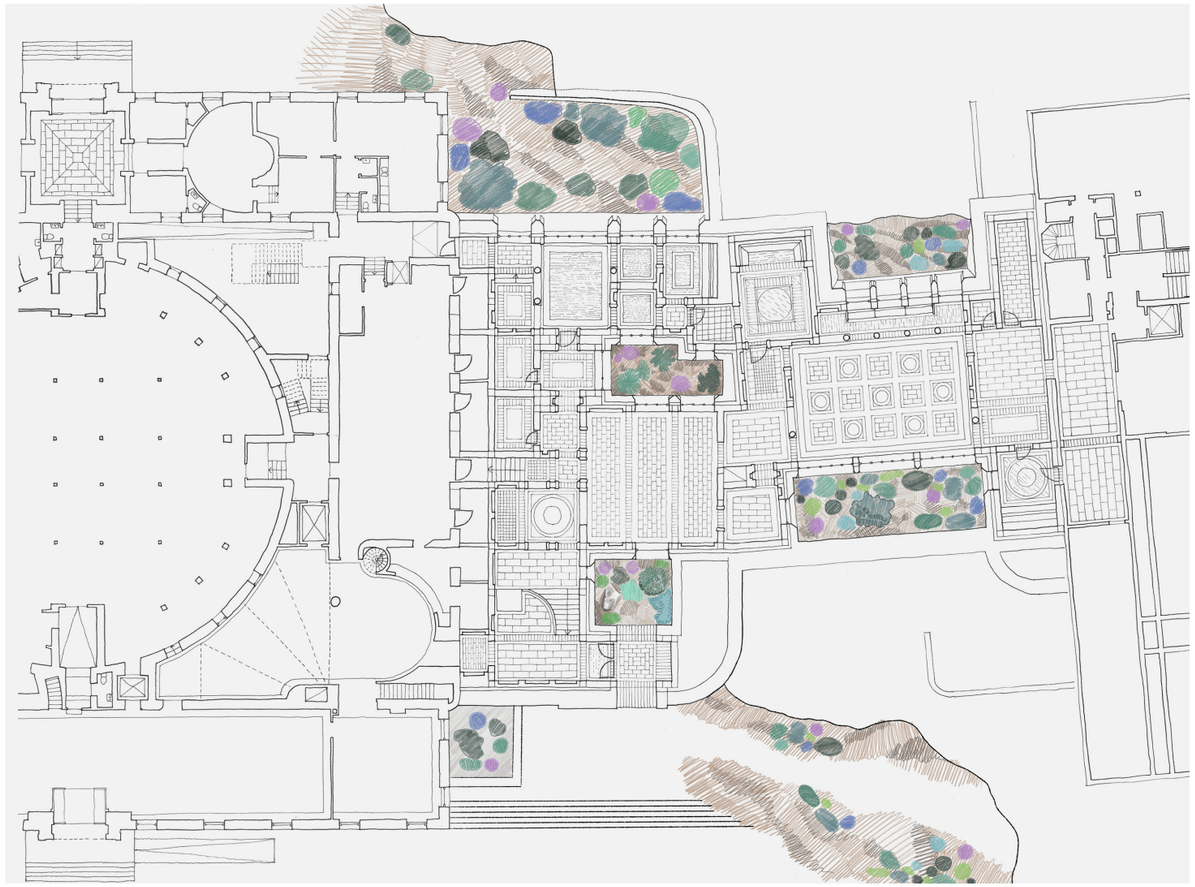

*Fig. 49. The international language rooms level plan, NTS.*

*Fig. 50. Section AA-1, NTS.*

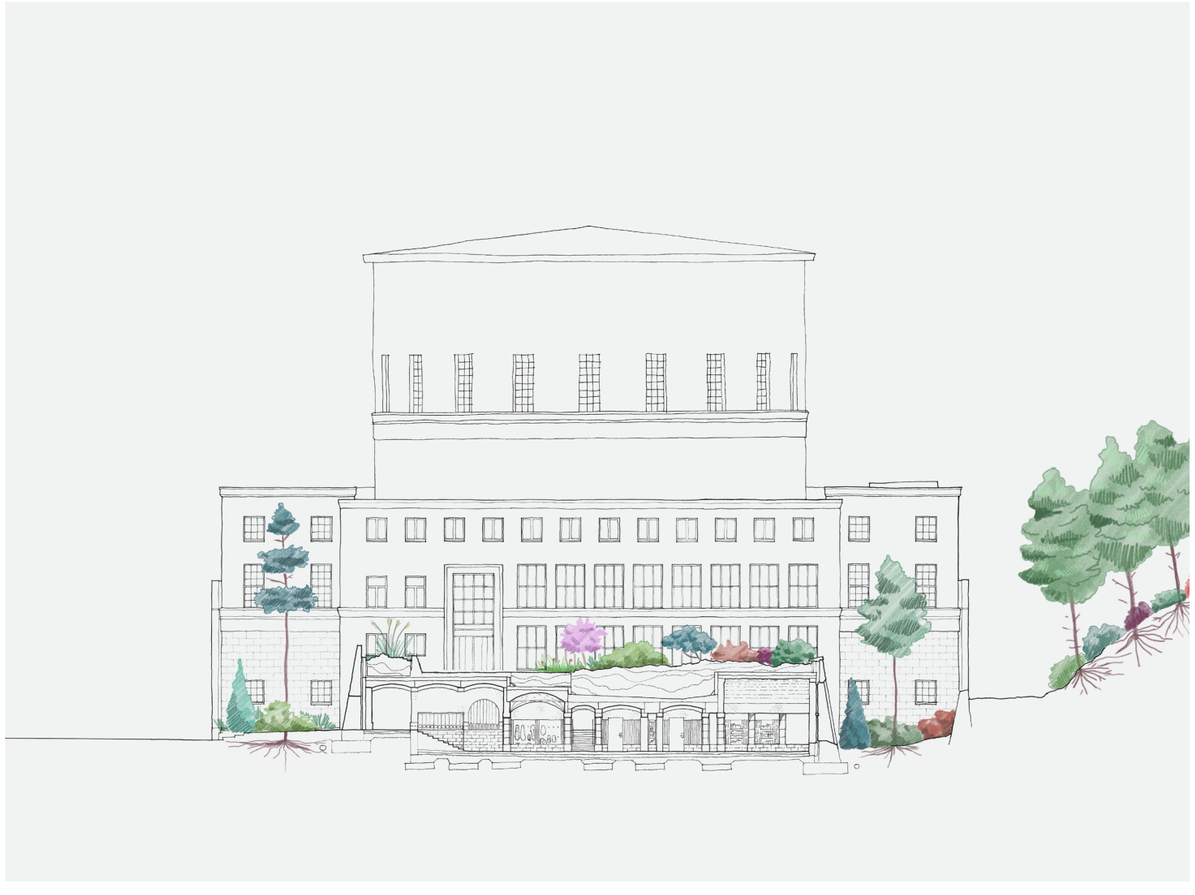

*Fig. 52. Section AA-2, NTS.*



The International Language Rooms

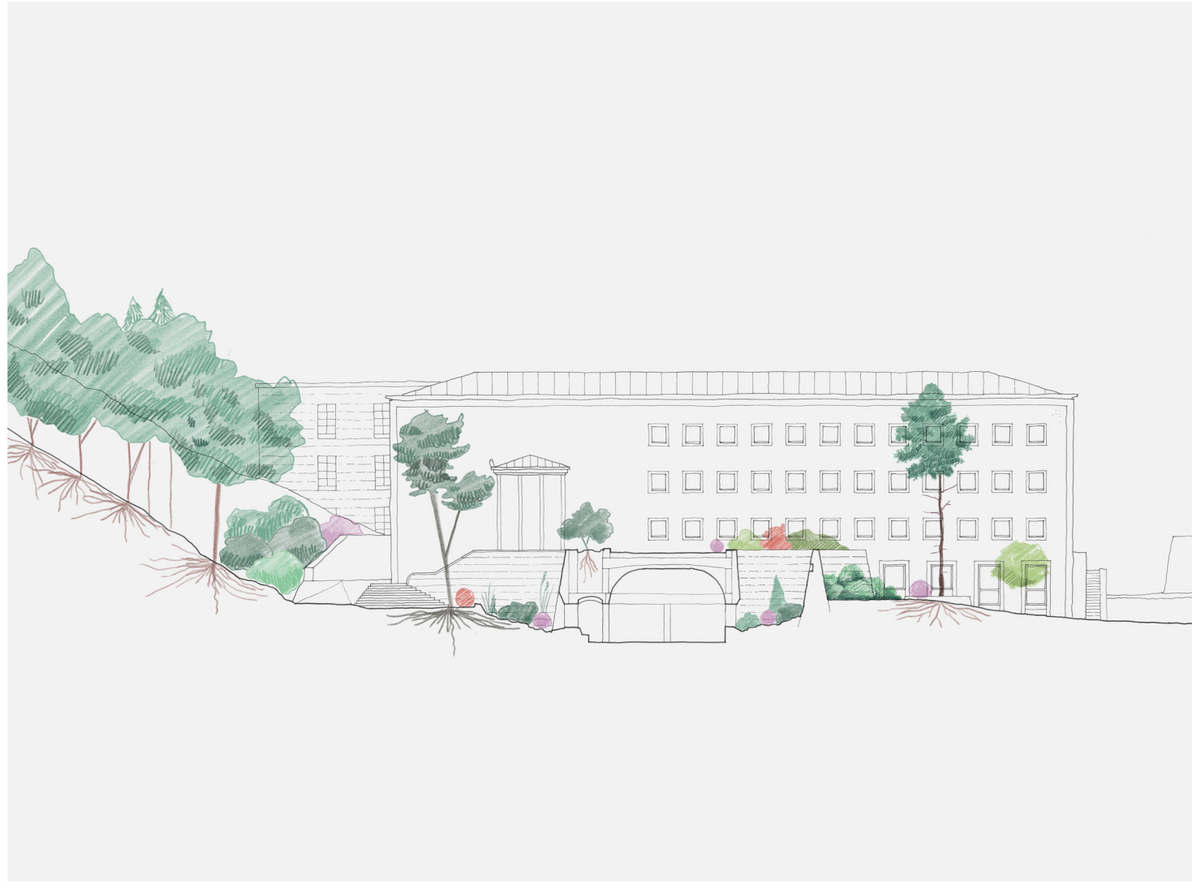

*Fig. 53. Section BB, NTS.*

*Fig. 54. Section CC, NTS.*



The International Language Rooms

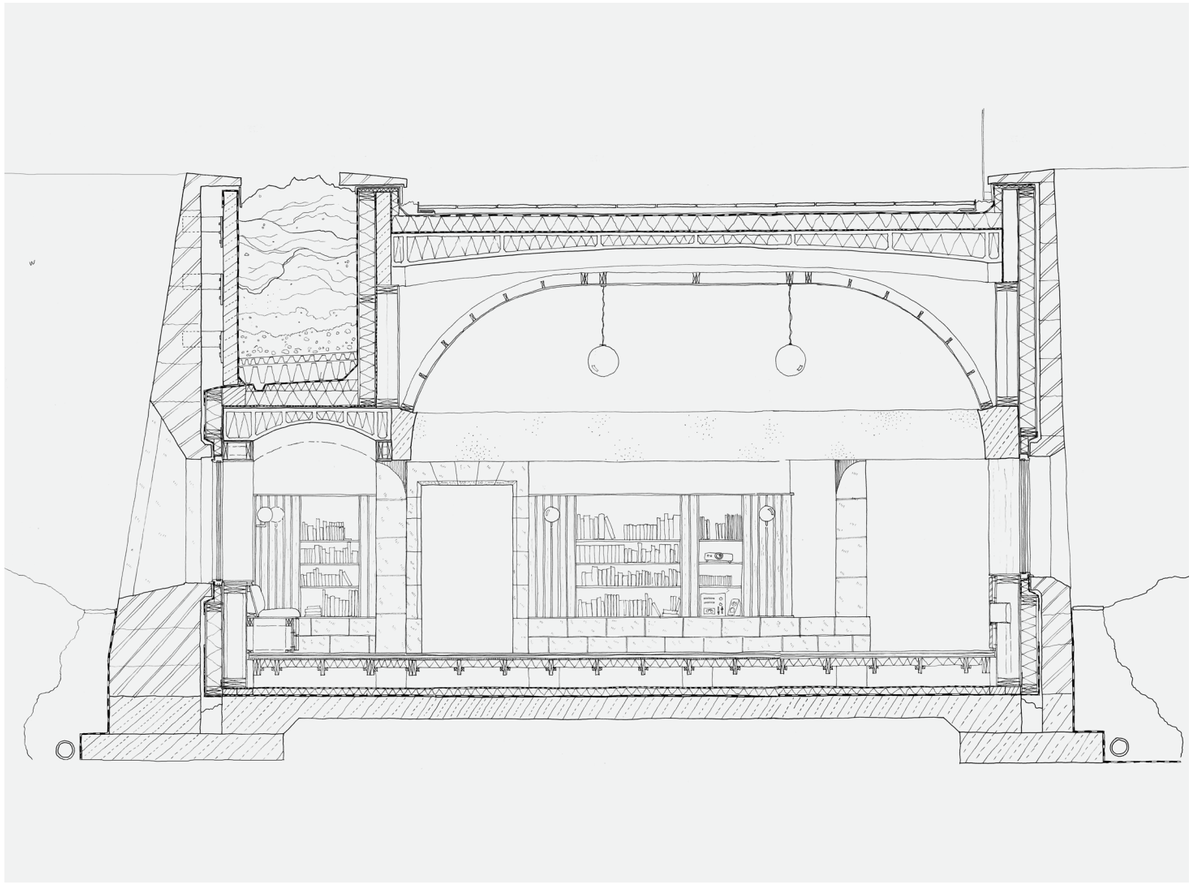

*Fig. 55. 1:20 Detailing (Section). NTS.*

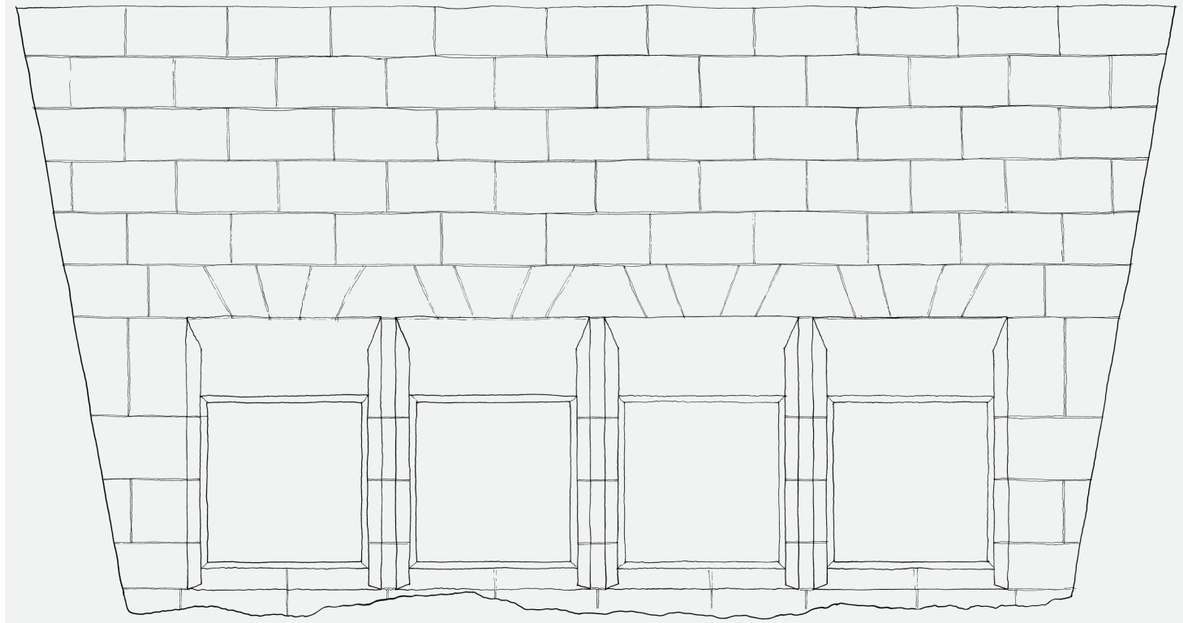

*Fig. 56. 1:20 Detailing (Elevation). NTS.*





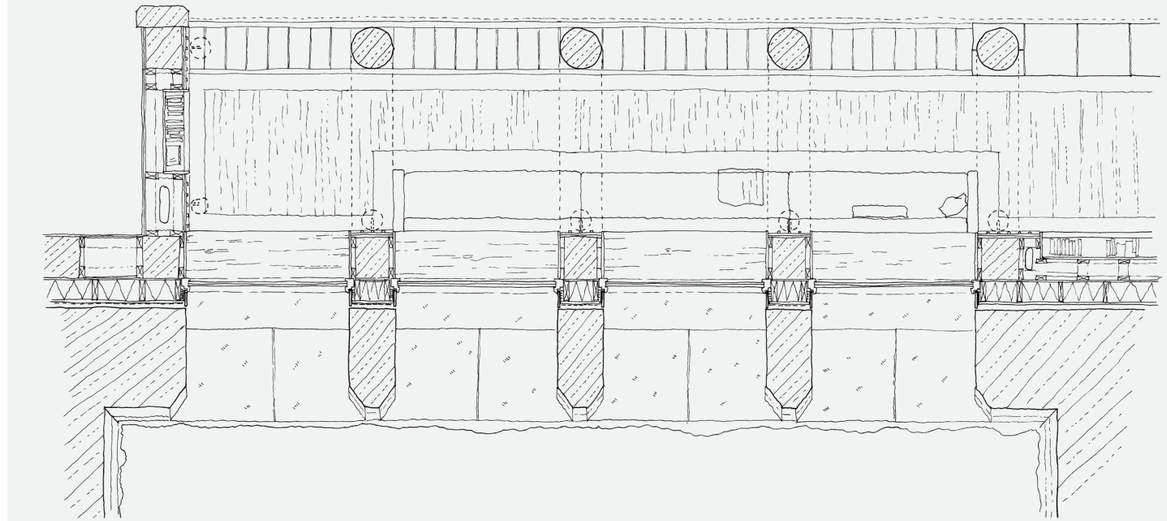

*Fig. 57. 1:20 Detailing (Horizontal Section). NTS.*

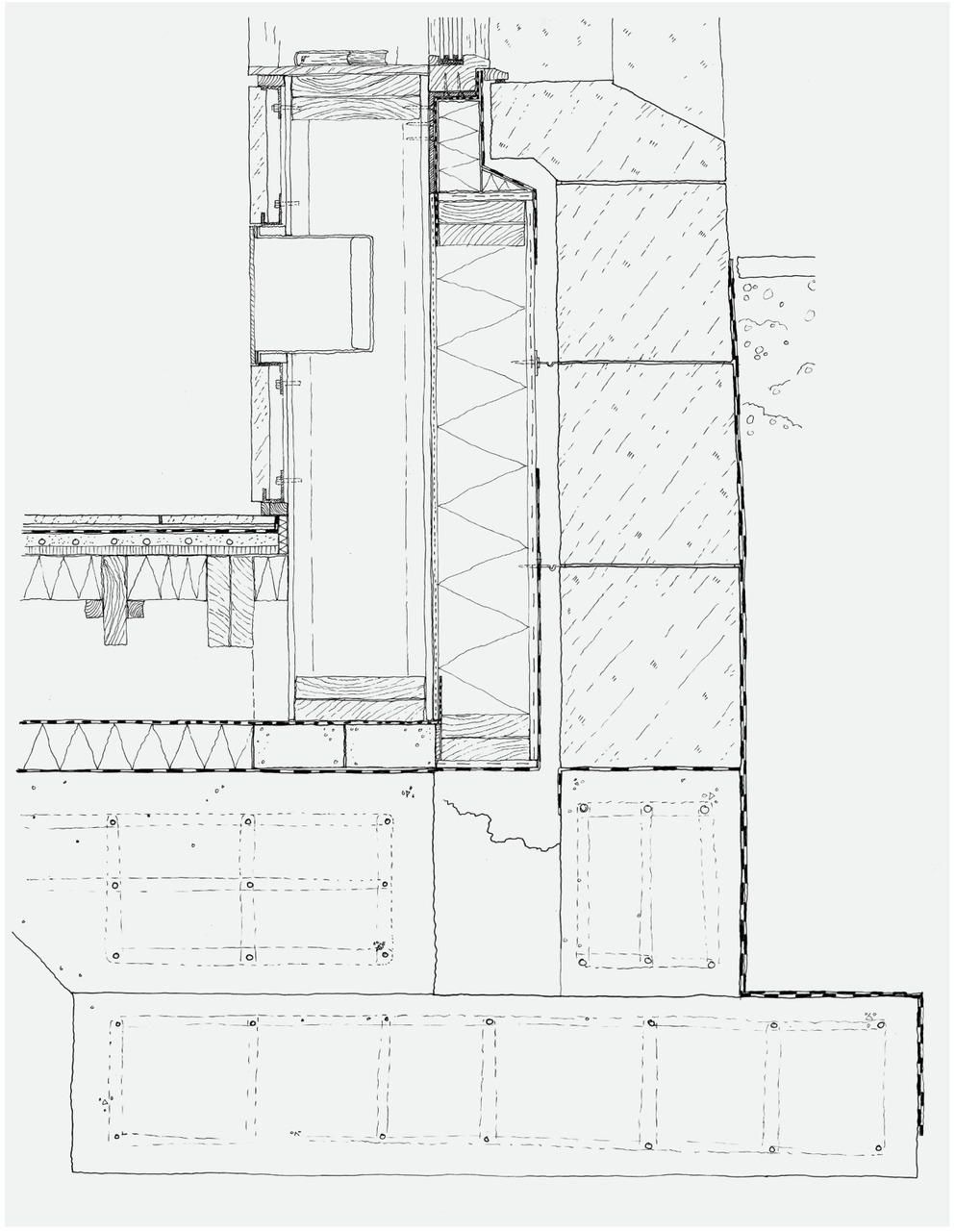

*Fig. 58. 1:5 Detailing (Foundation and Window cill). NTS.*





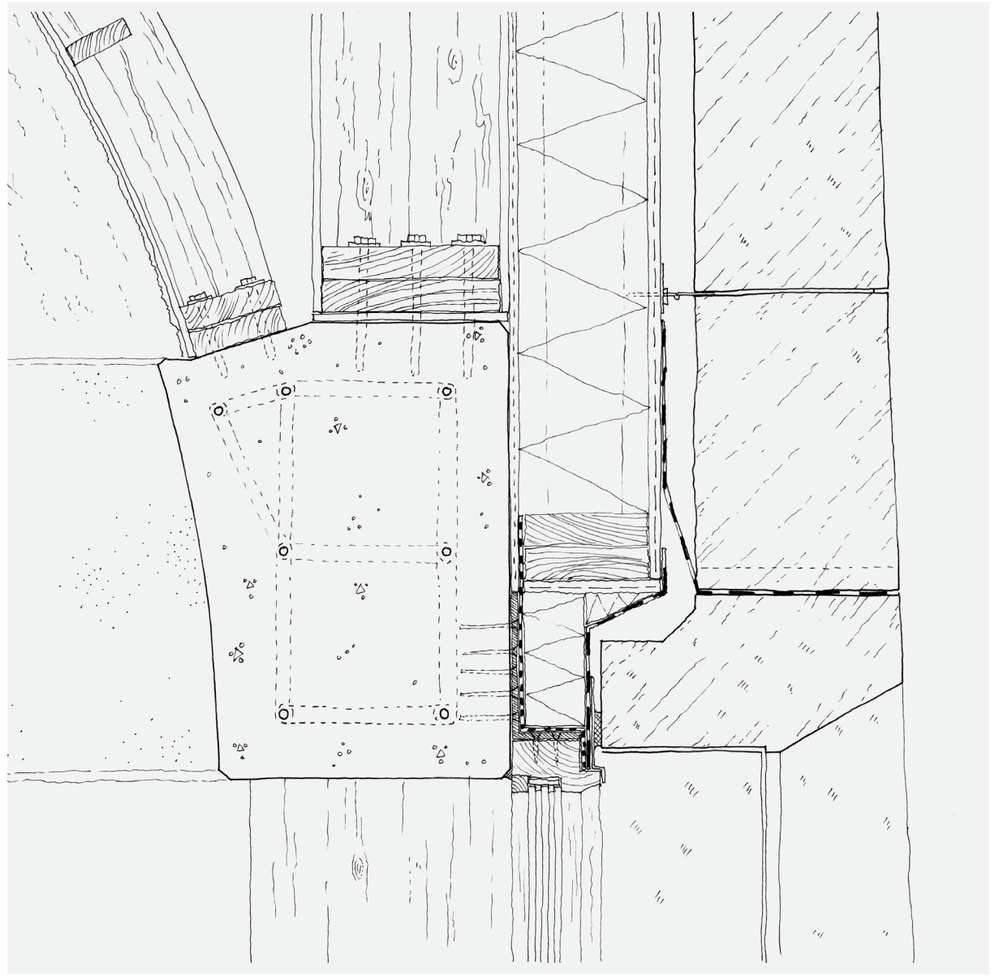

*Fig. 59. 1:5 Detailing (Lintel). NTS.*

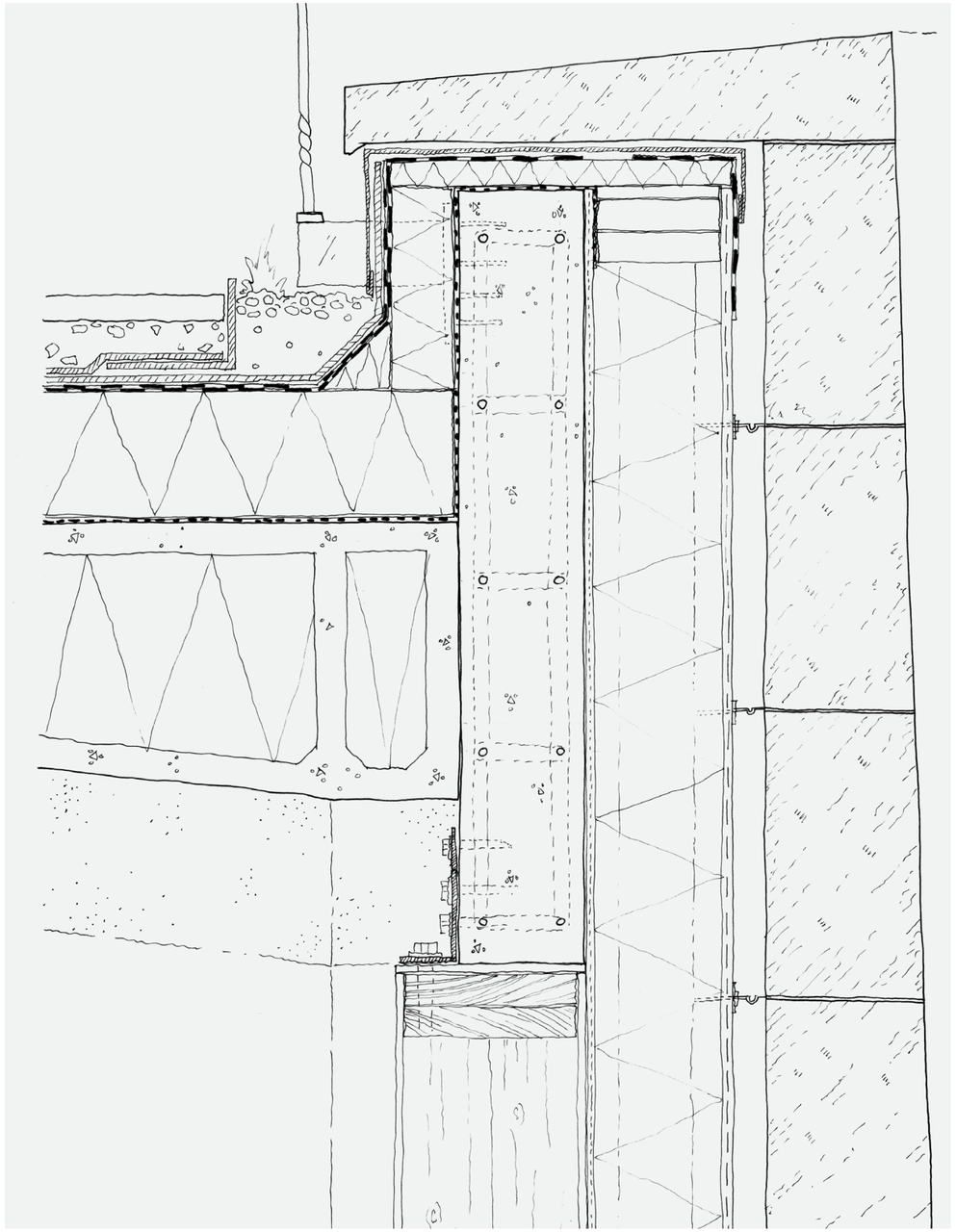

*Fig. 60. 1:5 Detailing (Parapet). NTS.*



The International Language Rooms

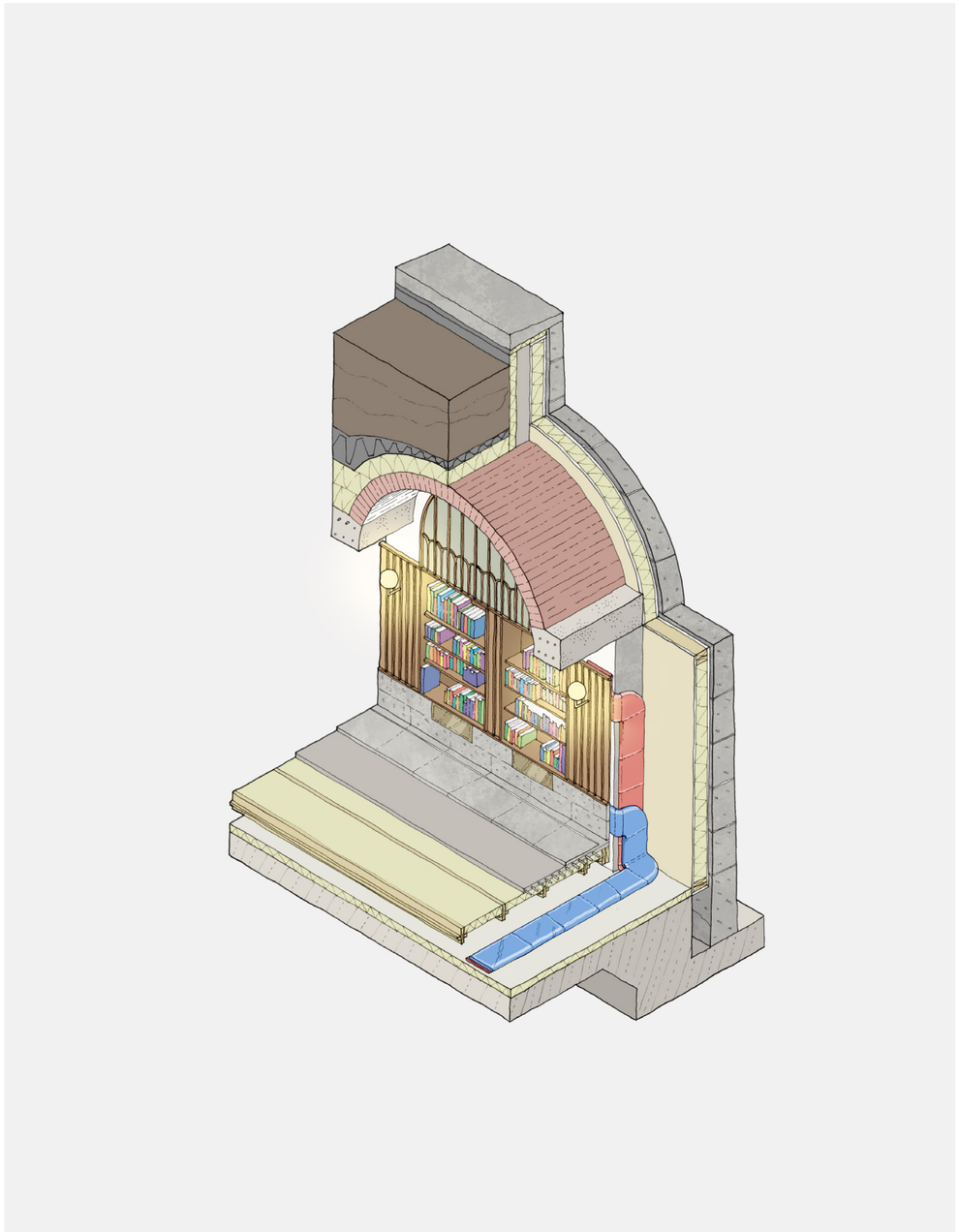

*Fig. 61. Interior environment, Cut-away.*

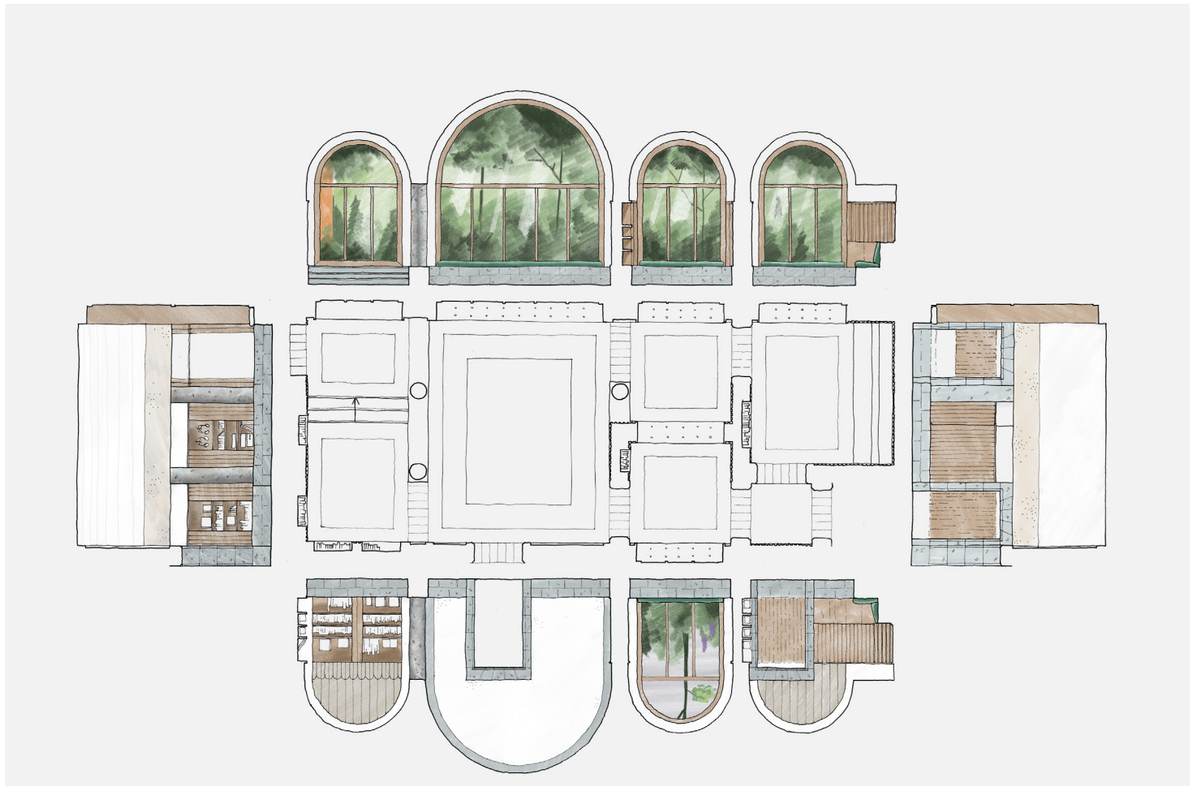

*Fig. 62. Interior materiality, Vaulted Suite.*





*Fig. 63. Interior perspective, Vaulted Suite.*

*Fig. 64. Interior perspective, Exhibition Space.*



The International Language Rooms

*Fig. 65. Interior perspective, Painted room.*

*Fig. 66. Interior perspective, the Qa'a.*



The International Language Rooms