



Therme Vals and the Concealment of Complexity  
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ARM 909 Research Contexts in Architecture

## Introduction

Widely exalted for its intimate atmosphere, its strong relationship to local topography, and its celebration of the act of bathing, Peter Zumthor's Therme Vals is regarded as an architectural masterwork in which poetic narrative finds its embodiment through an evidently profound understanding of the materials and processes by which to realise the envisioned end. Conceived metaphorically as a quarry at the side of the mountain, Zumthor begins the development of the baths by likening them to a rectangular stone mass half submerged in the hillside. Through a process of voiding and hollowing, the building's interior structure is provided, being treated as a massive porous stone in which an underlying network of caverns and submerged water gullies serve as the defining elements of the interior<sup>1</sup>. This allegorical treatment of the building serves as the point of departure from which the celebrated interior atmosphere emerges, an atmosphere which sets the sensuous and intimate tone of the encounter of water, stone, skin and subtle light. The effect that ensues from the poetic use of materials and the strategy of dimly lit enclosures makes for an atmosphere of intimate serenity which adds a mystical dimension to the act of bathing, an aspect which attracts the most interest from users, as it is the sensuous nature of the baths that make their experience so unique.

The building, fragmented in nature but monolithic in appearance endeavours to assert itself as a singular block of stone, a condition which is expressed through the inventive use of thin stone slabs and reinforced concrete, which aids the assertion of the poetic metaphor, at least in the visible parts of the building. Its monolithic appearance however, is a result of the stone course-layering scheme, a system of interchangeable layering of thin slabs of stone developed specifically for the project with the intention of creating a continuous and visually diverse pattern. This continuity, a crucial factor in the provision of a state of visual calm, depends heavily on the absence of visually superfluous elements that might unbalance the composition or otherwise disrupt the perception of the whole.

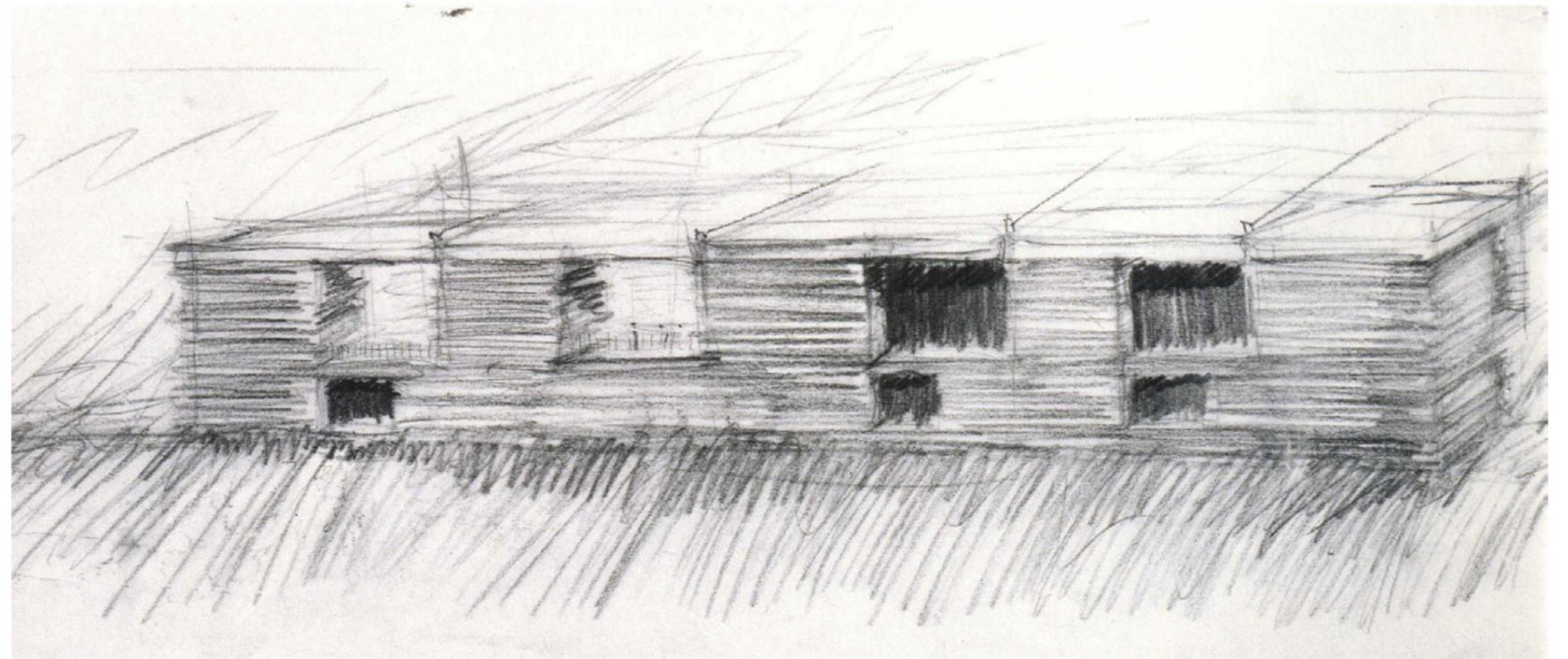
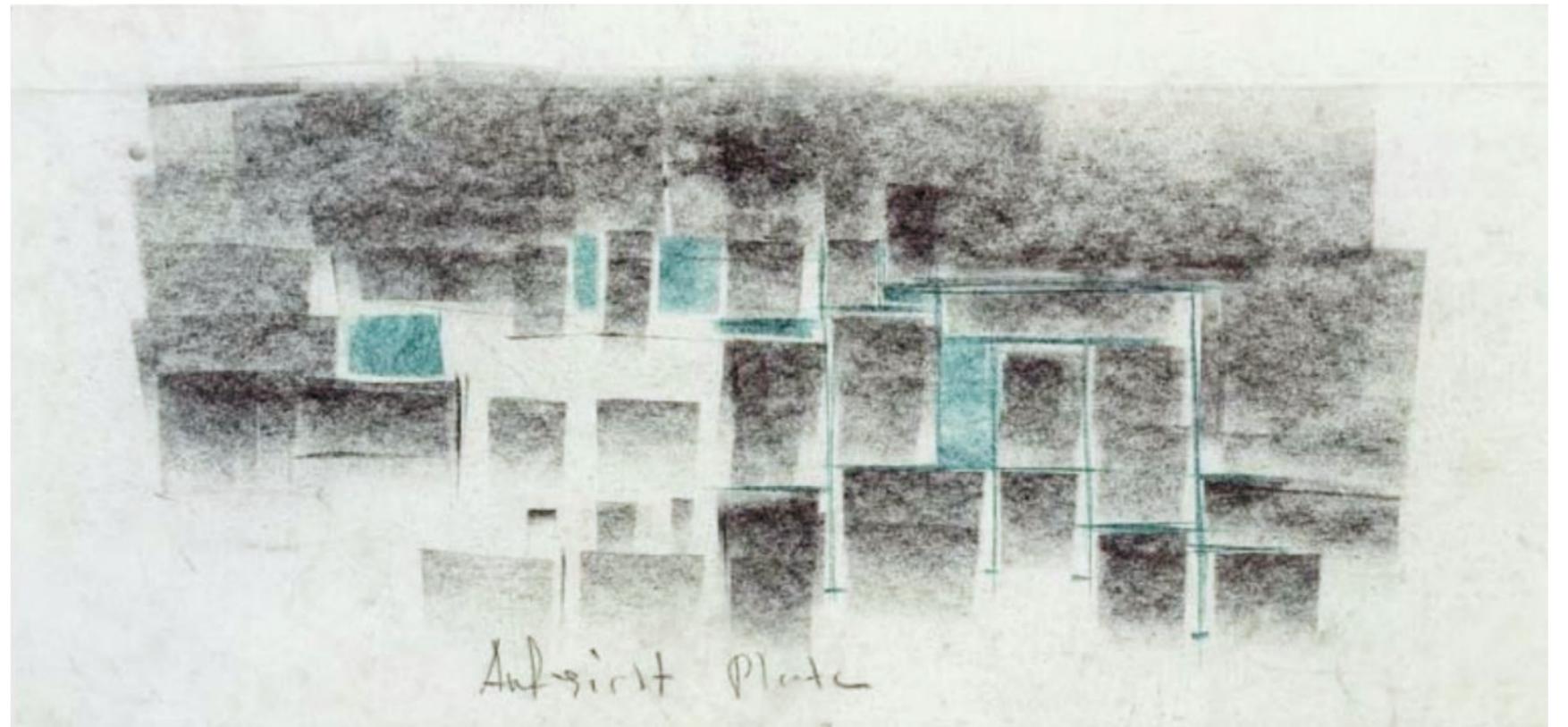
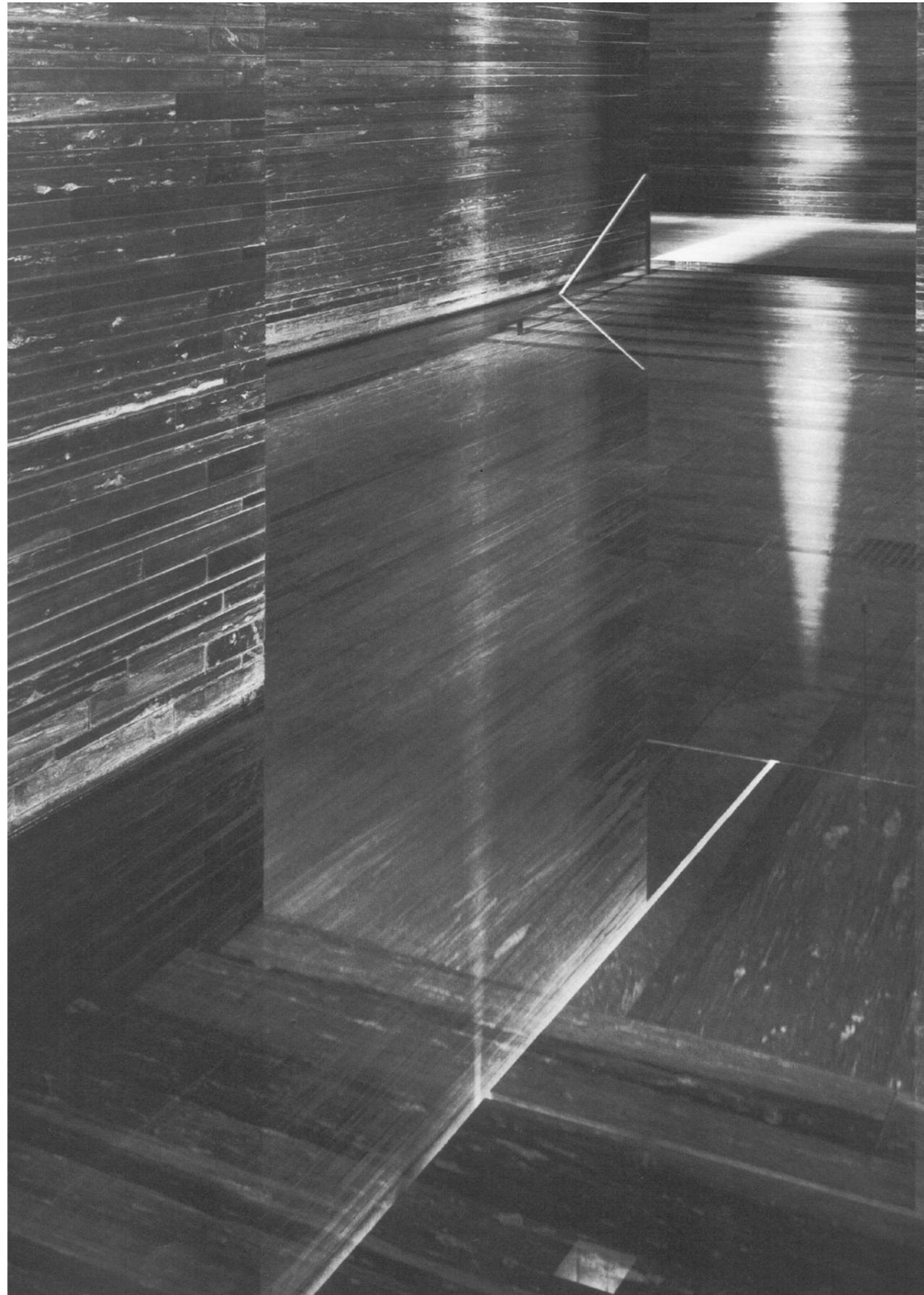


Figure 1: Sketch illustrating the building's appearance in the early design stages.

Figure 2: Sketch illustrating the experimentation with mass and void.

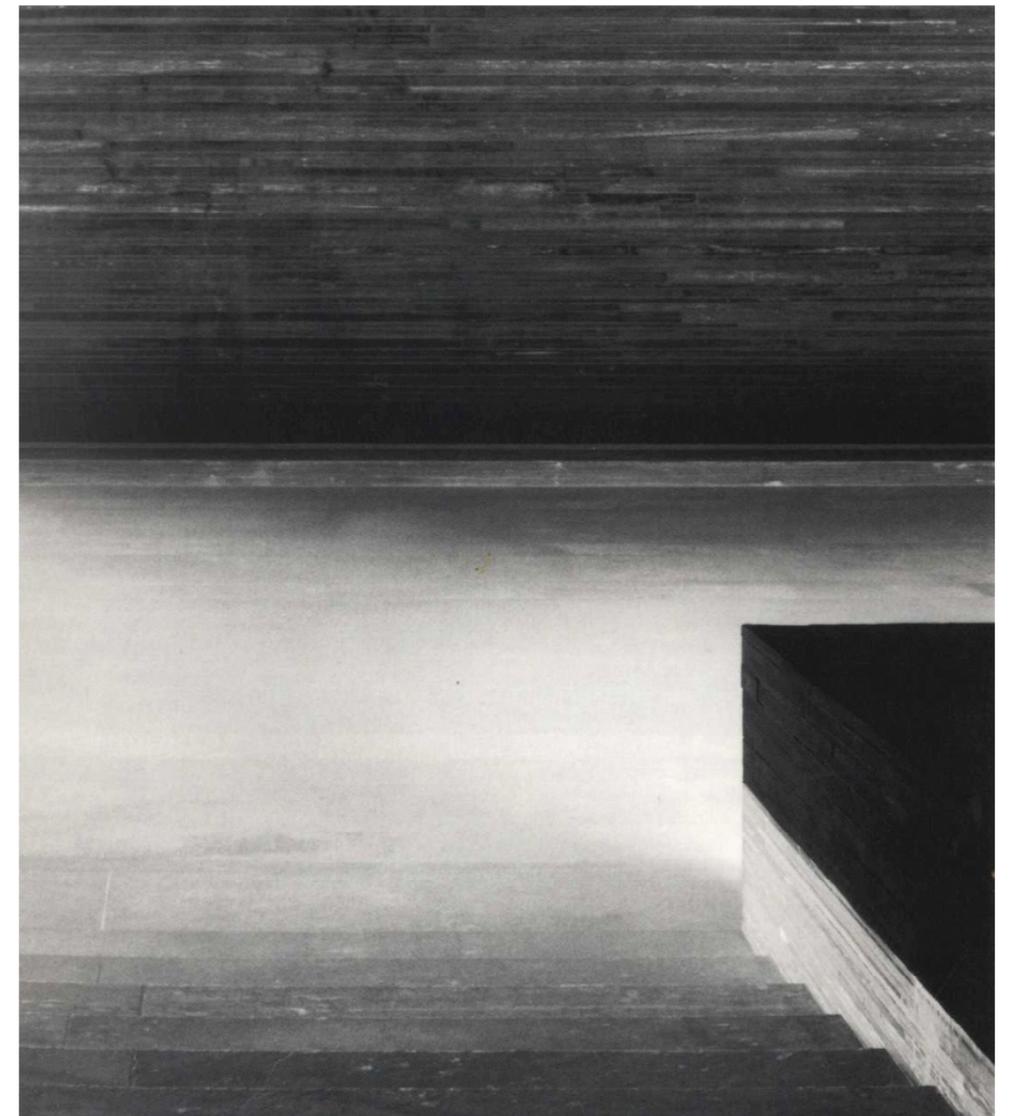




The absence of all and any inessential features stands as a testament to the sensitivity Peter Zumthor expresses relating to the “perception of the whole (not being) distracted by inessential detail”<sup>2</sup>. This statement acquires a more profound meaning when one considers the amount of detail which is absent from the laconic interior. Moreover, the elements that would seek to disrupt the continuity of the stone course-layering scheme such as water channels, window openings and other “chinks in sealed objects”<sup>3</sup>, as the architect refers to them, are masterfully integrated into the mass of the building, the presence of technical complexity only being betrayed in

rare cases by discrete fissures and openings. Far from flaunting technical ingenuity in construction for its own sake, the concealment of complexity is carried out with the specific intention of imbuing the building, and more importantly the spaces it encloses, with the meditative state of calm which is so integral to Peter Zumthor’s architecture. Ultimately, the power of the poetic metaphor and the sense of tranquil stasis that Therme Vals exhumes rely on the quality of the execution of a number of key aspects of the design which deal with the integration of technical infrastructure into the mass of stone.

Figure 3 (left) and Figure 4 (below): Photographs of the indoor pool.



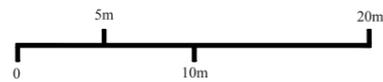
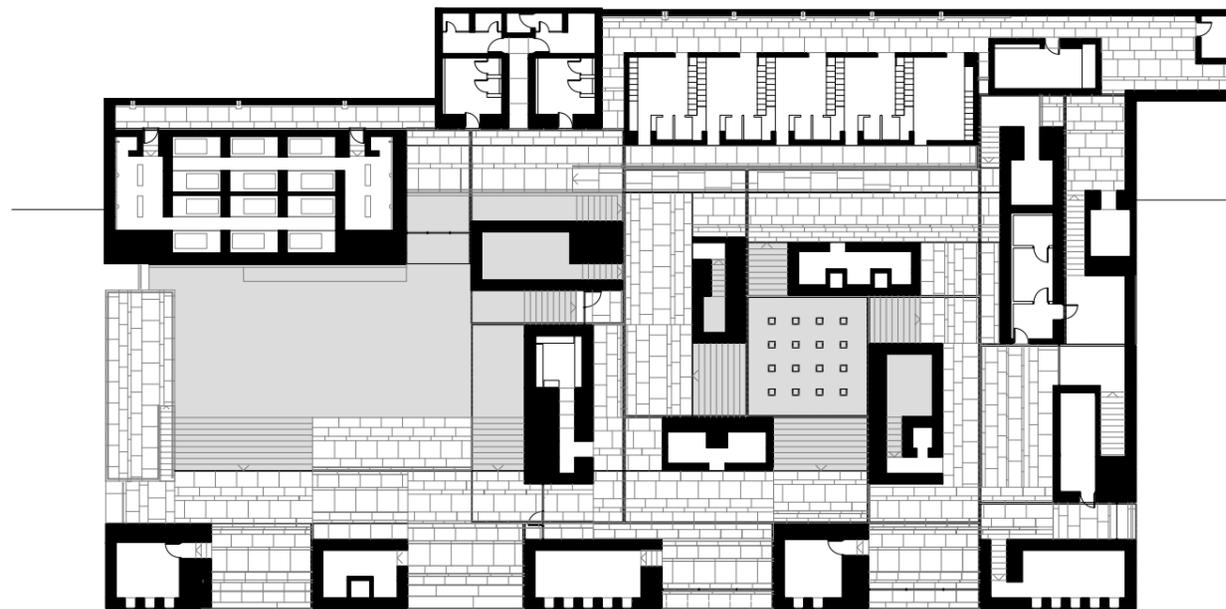


Figure 5: Plan illustrating the baths as experienced by bathers.  
1 : 400

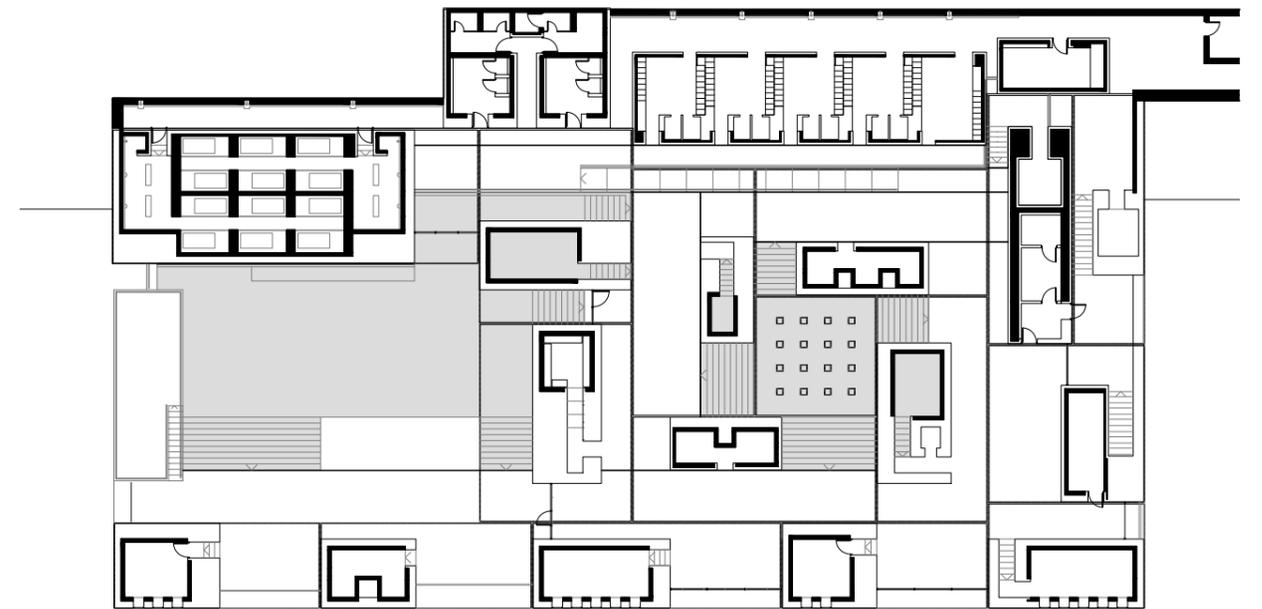


Figure 6: Plan illustrating the concrete cores.  
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## Construction Overview

The realisation of a poetic metaphor in Therme Vals begins with the use of stone as the primary building material along the interior of the building with the explicit aim of creating a cavernous interior setting. This characteristic is especially pronounced in the earlier stages of the building's conception, during which it was the architect's intention to excavate singular blocks of stone which would subsequently be hollowed, in order to form the pillars for the roof slabs<sup>4</sup>. Due to the technical unfeasibility of this conception however, an alternative system of layered stone slabs was used to achieve the desired visual effect.

Compositionally, these blocks are placed orthogonally in alternating pin-wheel arrangements which define the spatial sequences of the building, as well as the shape of the interior and exterior pools. In the centre of each of these blocks lies what Peter Zumthor refers to as a "concrete core"<sup>5</sup>, which functions as the platform for the subsequent mounting of the remaining building components. Cast as free-standing mono-

lithic concrete boxes, these cores were the first to be erected during the construction and enclose certain secondary bathing programmes and, on occasion, their surface is also left exposed in the interior. The sides of the cores that form an external wall are subsequently clad in thermal insulation, forming an insulating perimeter along the building's external walls, and are further reinforced by a steel lattice placed against the existing wall. This assembly forms the base onto which the compound masonry of slabs of Vals Gneiss (the local stone, excavated a kilometre away from the site) and reinforced concrete are set, thus integrating the insulation into the structural core of the building<sup>6</sup>. Subsequently, the slabs of gneiss are placed at a small distance from the inner wall, the gap between which is filled with concrete. The end result is a compound wall construction, known as Vals Compound masonry, in which the exposed surface of the walls is load-bearing and is adjoined to the inner structure<sup>7</sup>.

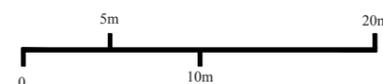
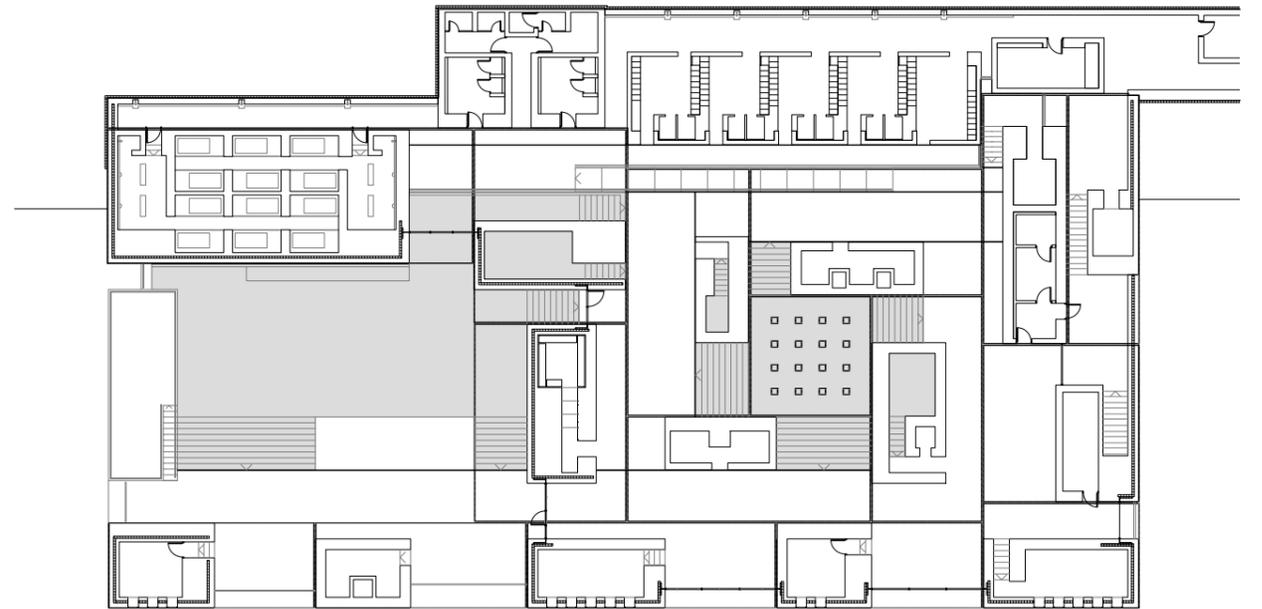


Figure 7: Plan illustrating the layer of peripheral insulation.  
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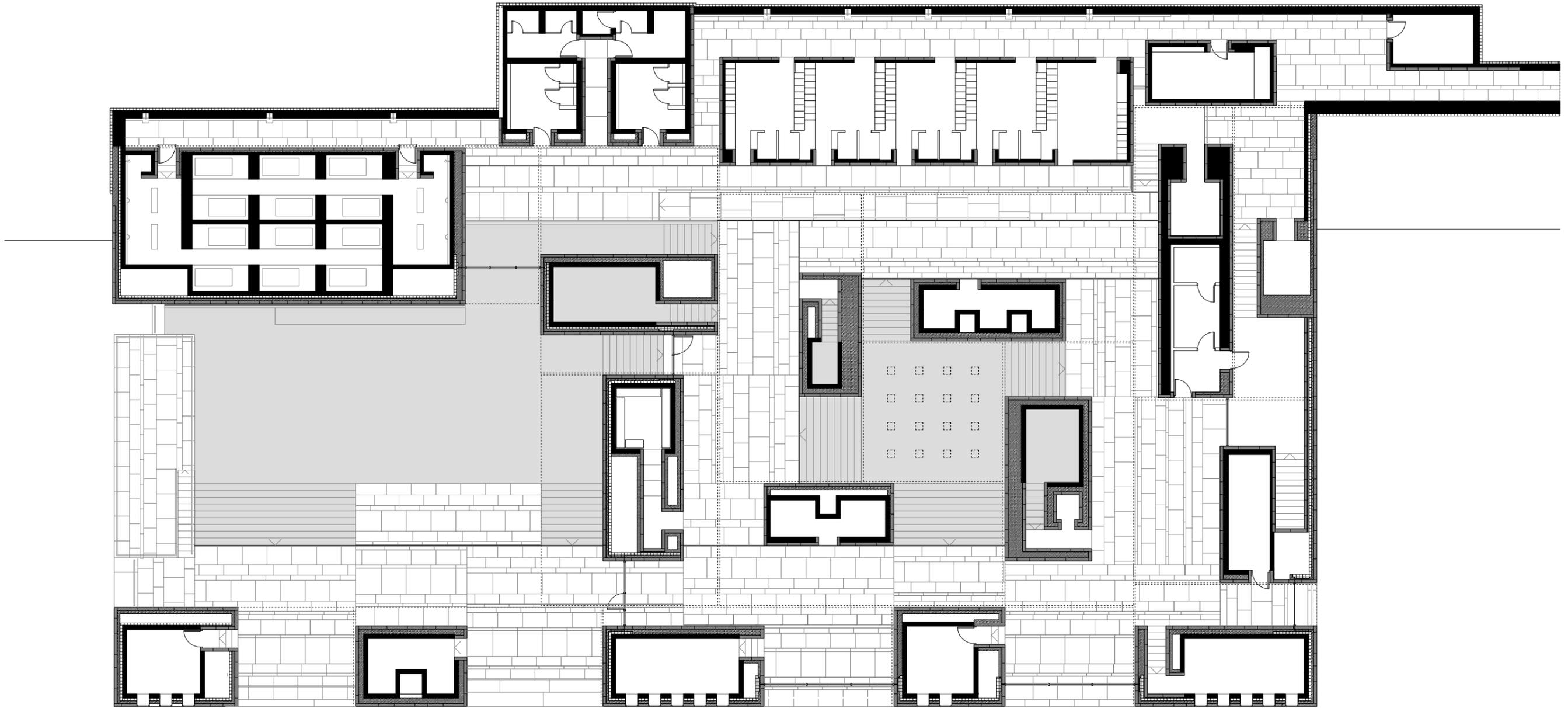


Figure 8: Plan illustrating the layers of construction at the bath level.  
1 : 200

Essential to the embodiment of the allegory behind the building is its monolithic appearance, a characteristic which is key in the provision of a visually, as well as physically, calming experience of bathing. Working towards a consistent visual appearance, the architect employs the use of a system of arrangement of stone slabs of varying sizes which seeks to scatter the butt joints between the slabs with the objective of creating a non-repetitive pattern which permeates the entirety of the building's visible surfaces. This system, known as the stone-course-layering scheme is a precise schematic in which the position of every slab of stone is specified ac-

ording to the position of joints in the layers beneath it. The layers themselves are of varying thicknesses consisting of 63 mm, 47mm, and 31mm thick slabs which are laid interchangeably, while a minimum distance of 30cm is allowed between joints of adjacent layers. The objective behind the specification of these thicknesses for the horizontal layers of stone is the formation of a module which, combined with a 3mm thick layer of mortar between the stones, add up to a total thickness of 15cm; this horizontal modular system is subsequently used throughout the entirety of the building's stairs and steps<sup>8</sup>.

**Figure 9 (Below):** Photograph of the layered stone walls.

**Figure 10 (Right):** Photograph of stair case leading to the rest area.





Figure 11 and Figure 12: Photographs of corner joints.

What the use of this scheme achieves is a seamless visual continuity of surfaces in which spaces seem to recede into one another, maintaining the appearance that each protruding volume or recess has been carved out of the same block of stone. Essential to this is the lack of a recognisable pattern of construction on the wall, a factor which is emulated by the construction of the corner joints. Their assembly is laid out precisely in the stone-course-layering scheme and relies on the alternating placement of cross-laminated slabs of stone of variable width and length to provide an interwoven joint system which serves as the origin for the offsetting of the bond joints. The slabs of stone are cut and finished to specific dimensions which, when laid in alternating directions, continue the irregular pattern of the walls and strengthen the continuous impression of the wall construction without compromising the sense of wholeness that characterises the baths.



Figure 13 (Below): Profile drawing of a corner joint.

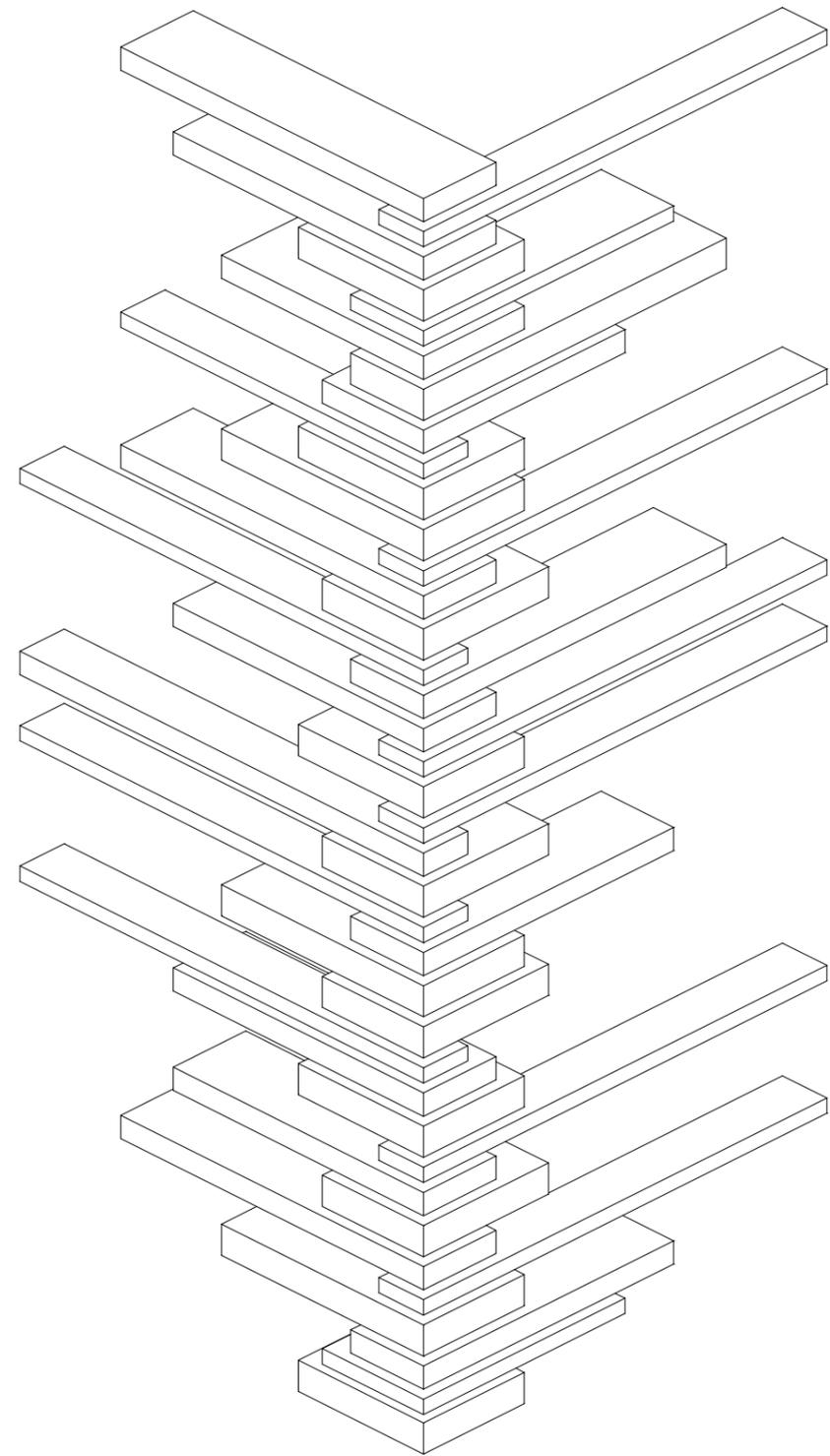


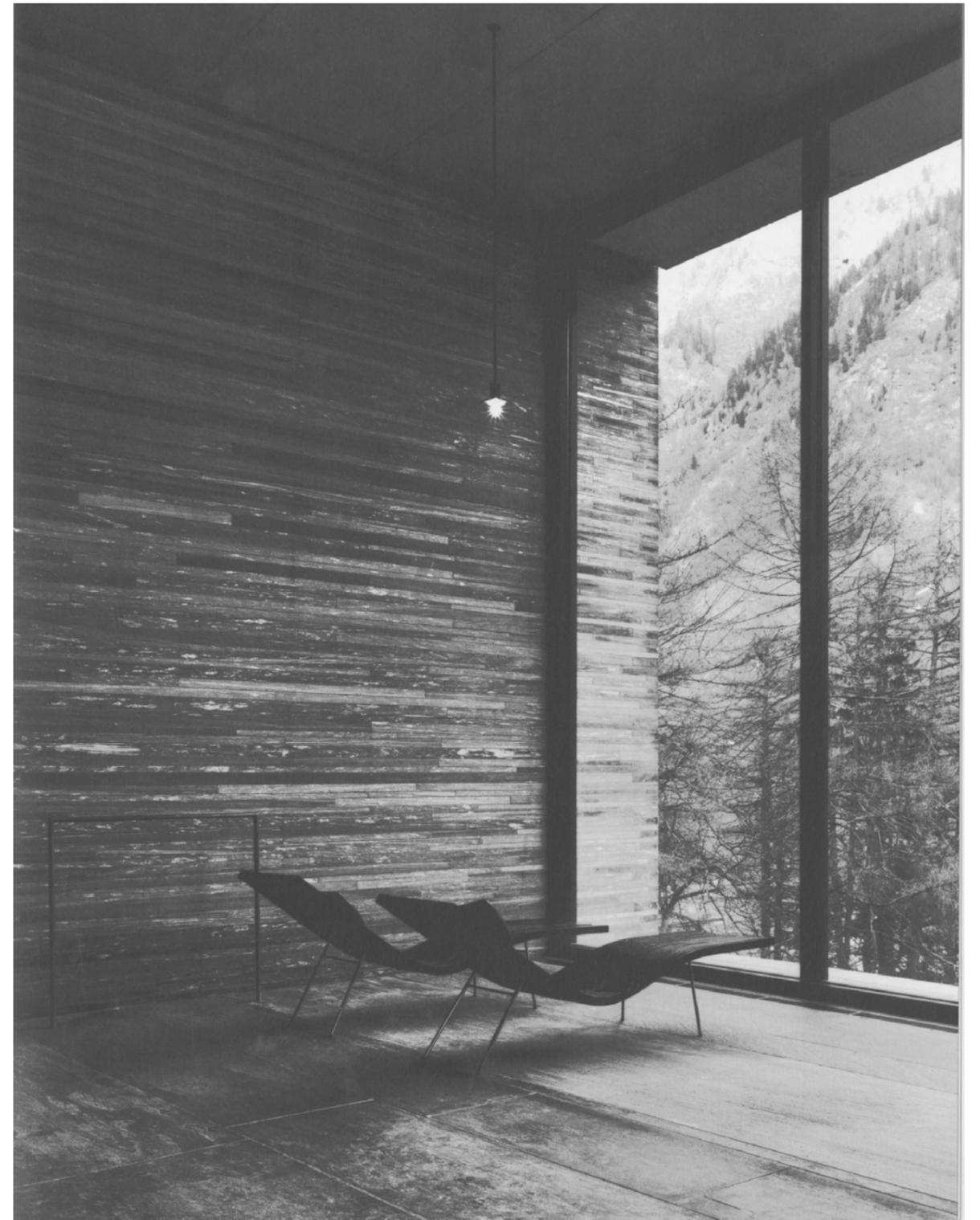
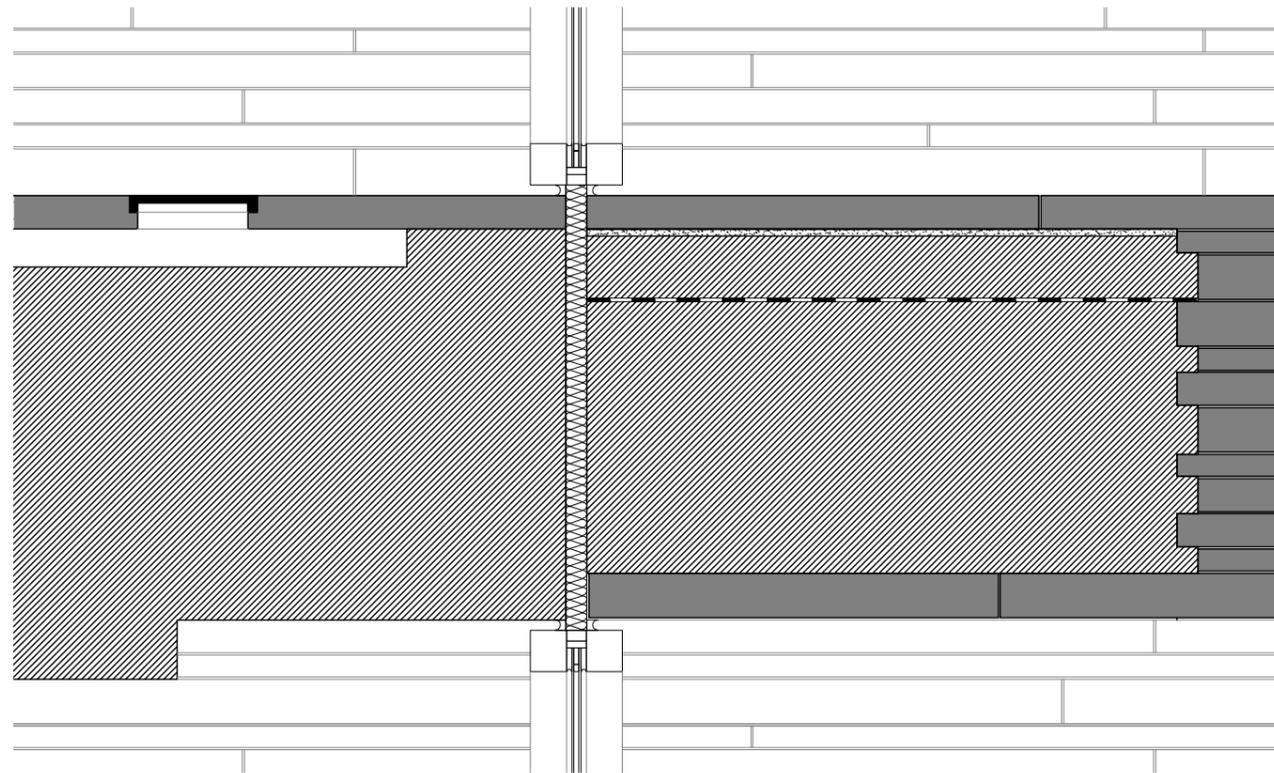
Figure 14 (Above): Drawing illustrating the assembly of the corner joints.

## Detail Study of Concealment

In terms of appearance, the stone-course-layering scheme plays a central role in the creation of a setting for bathing which expresses a poetic metaphor; however it also serves a more important function in relation to the technicalities of the building's embodiment and the mundane demands of its setting. The layered construction of the walls as well as the expansive network of technical infrastructure required for the provision of comfortable conditions for the programme are in direct contrast with what is expressed in the areas experienced by bathers, which are characterised by a minimal, seemingly simple and unassuming aesthetic. Moreover, what is apparent in Therme Vals is a recurring motif of concealment in which the architect very purposefully employs the use of systems which are subsequently hidden from the view of the bathers<sup>9</sup>.

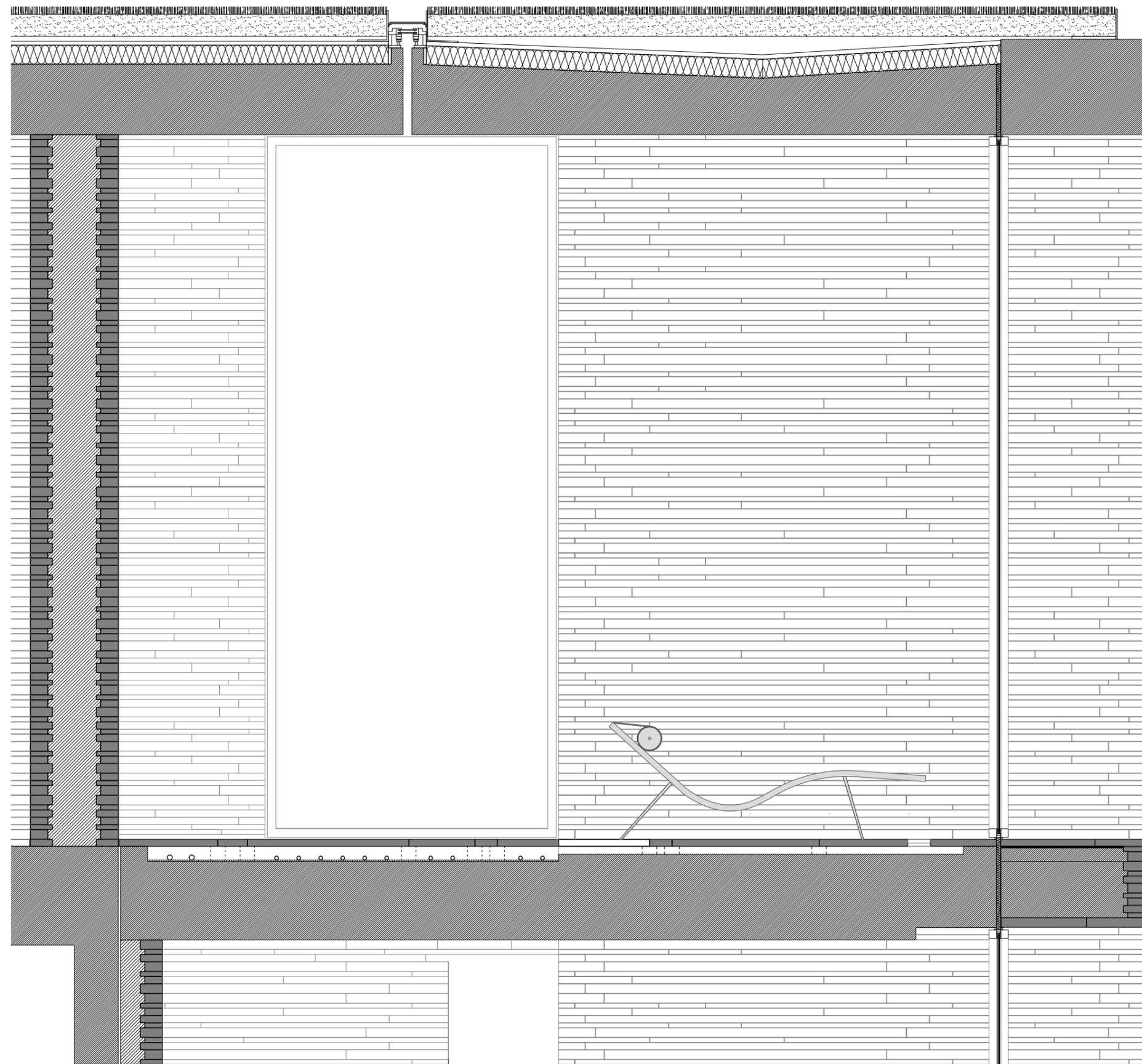
This aspect of the scheme's role in the construction is best illustrated in a series of key moments, most notably in the assembly of the external walls of the building, the relation-

ship between the inner concrete cores and its accompanying layers, and the fitting of the thermally insulated window frames. In keeping with the technique of perimeter insulation outlined previously, a thin layer of insulation is applied on the exterior perimeter of the building which cuts the concrete floor slabs into two pieces which rest on the same pillar. This layer extends upwards and meets the horizontal insulation layer of the roof slab, thus providing a continuous insulating perimeter. The same technique is used in the side fittings of the window frames, which are held in place by T-shaped insulation members adjoined to the primary insulating layer. The windows are subsequently placed directly onto these thermally insulating fittings, preventing any heat loss through the contact of the window frames with the cold exterior concrete and stone compound masonry<sup>10</sup>. The effect of the compound masonry surface however is never disrupted by the underlying complexity; on the contrary it binds it and conceals it, thus maintaining the continuous appearance of the stone layers.

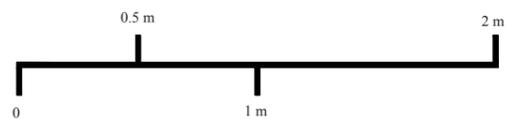


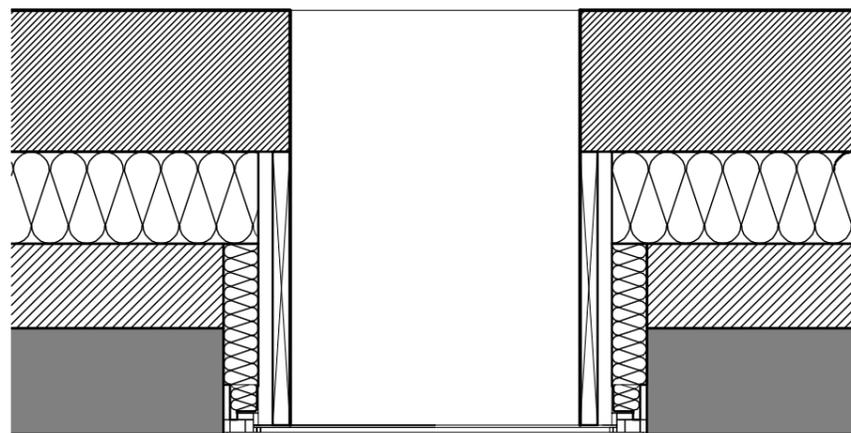
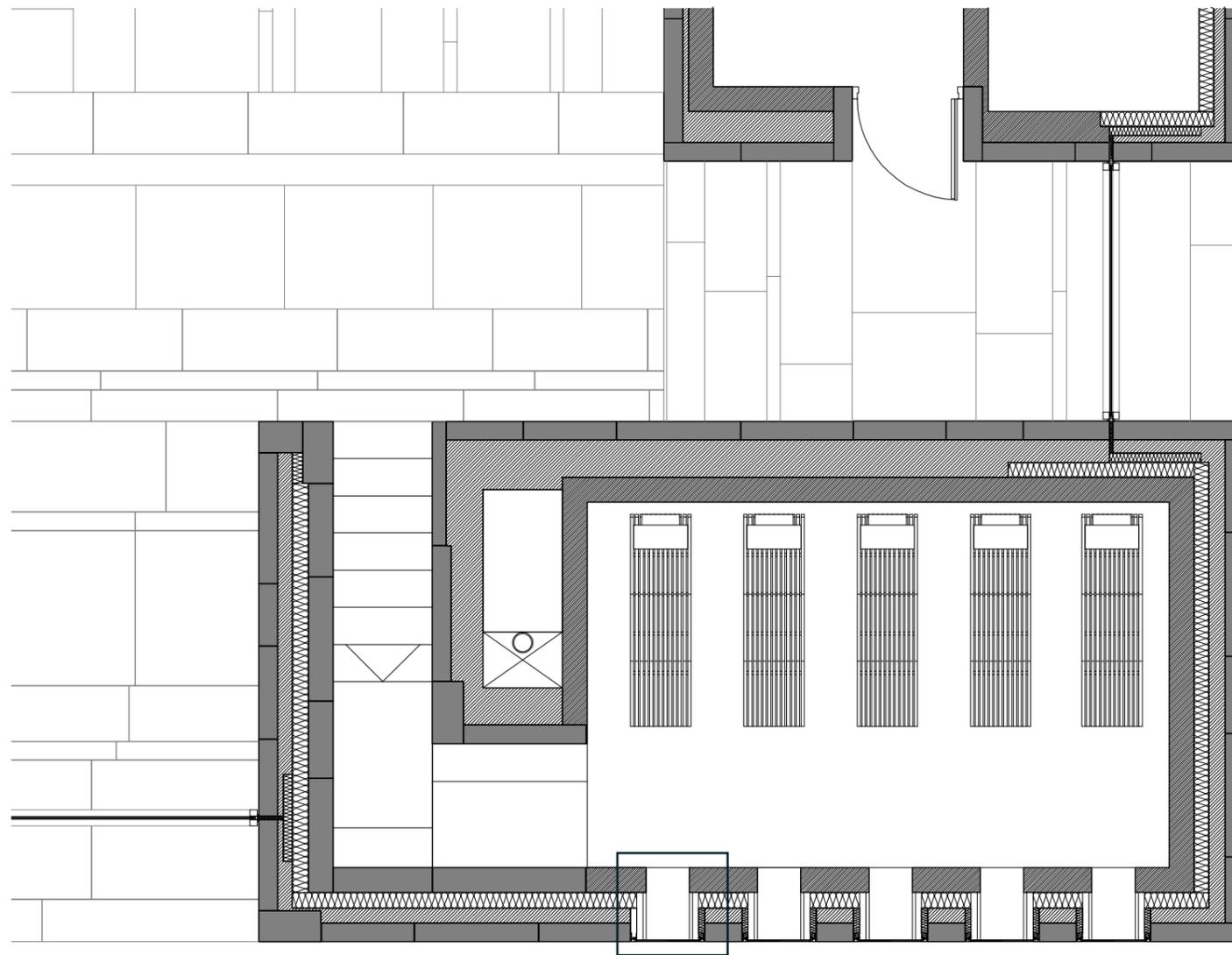
**Figure 15 (Left):** Drawing illustrating the mounting of the thermally insulated windows and the flues of the underfloor heating system placed in front of the window.  
1 : 10

**Figure 16 (Above):** Photograph of the rest area.



**Figure 17:** Section illustrating the concealed infrastructure and its effect on the interior. Note the concealed underfloor heating system and the multiple layers of construction in the roofs, as well as the compound masonry and its continuous visual effect.





**Figure 18 (Above):** Horizontal section layers of construction and its effect on the interior.  
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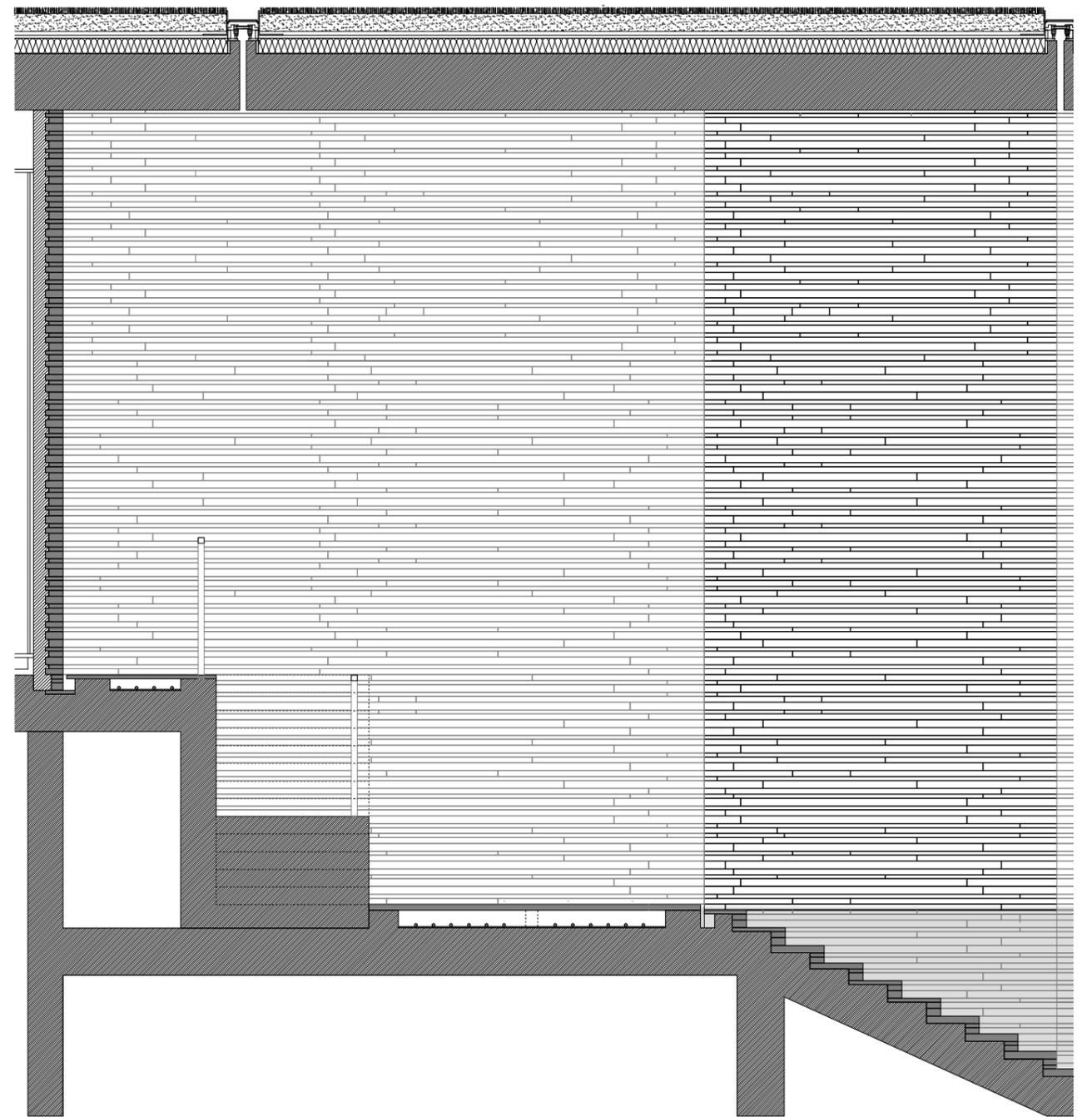
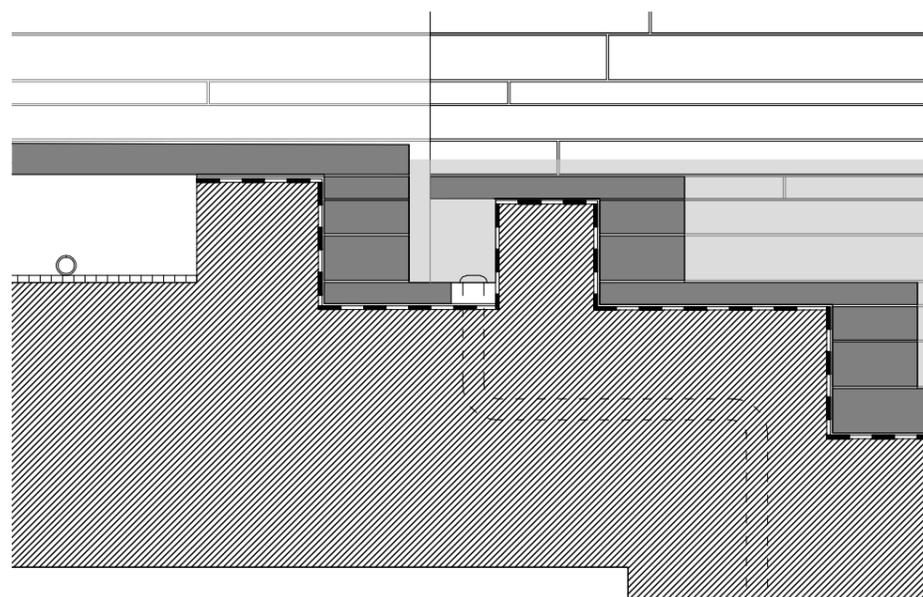
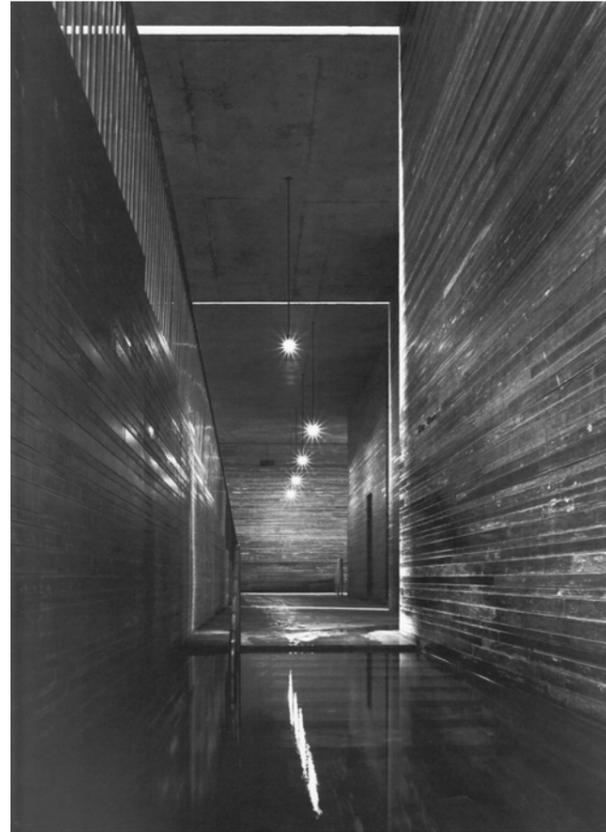
**Figure 19 (Left):** Detail section illustrating the joining and concealment of the building elements .  
1 : 10

**Figure 20 (Right):** Photograph of the rest space contained in the concrete core.

What is revealed in published drawings of the building is the presence of thick mass on certain ends of the concrete blocks that comprise the building's body. In the majority of cases, the layers combine to form a double-leaf load bearing pillar which supports the soaring cantilevering roof slabs. Due to structural requirements, the walls on the cantilevering side of the roof are thicker than the others; however, what is revealed through the study of the layered principle in the construction of the walls is the presence of gaps between the layers of concrete and compound masonry. Drawn as black masses on paper, these house a significant amount of the technical infrastructure of the baths, most importantly the drainage system from the green roofs as well as plumbing and electrical installations. The roof slabs themselves consist of 480mm members of prestressed reinforced concrete, with added layers of thermal and vapour insulation beneath the grass roof finishing<sup>11</sup>. In order to aid water collection and drainage, the underlying layers of the green roof including the concrete are given a concave shape which concentrates the water and channels it through the concealed system of drains mentioned previously.



Also subject to this motif of concealment is the treatment of the building's heating system. Making use of a concealed system of hypocausts<sup>12</sup>, the under-floor heating system permeates the entirety of the building's interior, however its existence is only visible in the form of air vents in front of the double height thermally insulated windows. The underlying network of tubing and pipes is placed underneath the floor-slabs of stone of the primary circulation spaces, and thus meanders and branches off into various directions accordingly. In a similar fashion to the under-floor heating system, the channelling of overflowing water is also concealed beneath the floor, however it assumes a more poetic existence through its masterful integration into the stone-course-layering scheme. This integration is best seen in the water overflows constructed at the end of the steps of each of the pools. The first step leading into each of the pools is lowered by one thickness of stone according to the layer designated by the stone course layering scheme, over which flows a thin layer of water. This step however is offset from the adjacent floor slab revealing a gap which directs the overflowing water into a concealed channel. The overflows of all of the pools are subsequently interconnected and form a discrete network of water channels which is only revealed through the presence of fissures, or fault lines, along the floor designed to remove any excess water which might be carried by bathers. This network of water channels ultimately concentrates waste water in the water treatment gullies underneath the indoor and outdoor pools<sup>13</sup>.



**Figure 21 (Left):** Detail section illustrating the integration of the water overflows and channels into the stone course layering scheme.  
1 : 10

**Figure 22 (Top Left):** Photograph of the circulation space between the ramp and the indoor pool.

**Figure 23 (Above):** Section illustrating the relationship between the concealed infrastructure and the space between the ramp and the indoor pool.



## Conclusion

What is apparent in the Therme Vals is an approach to architecture that addresses issues of experience and of sense through a sincere sensitivity that relates to reflections regarding the building's programme, place and poetic narrative. Indeed, the allegorical treatment of the building as a series of partly submerged caves in which unions of light, water, stone and skin may take place provides a setting for bathing which goes beyond the immediate sensory experience, and begins to captivate the visitor's imagination. What is less apparent however is the way in which the design, and especially concealment of inessential details reflect Peter Zumthor's sensitivities regarding place and the way it informs the building's presence, and how the architect achieves a convincing embodiment of an artistic metaphor.

In the opening passage to his architectural thesis "Thinking Architecture", entitled *A Way of Looking at Things*, Zumthor

expresses a sincere series of reflections on the nature of architecture, in which he deals with, among other things, the poetic potential of the meaningful use of materials and relates it to his admiration for craft and craftsmanship, to which he attributes the emergence of a meaningful whole. This understanding reveals an interdependence between the meaning of what is to be constructed and the material body that carries it, which in the Therme Vals finds its iteration in the use of stone, with the intention of evoking a sense of cavernous, monolithic physical presence. Furthermore, the use of stone also creates a physical link between the building and the topography which, due to the conceptual handling of the project as a rectangular monolith, becomes the medium through which the poetic potential of stone is realised.

**Figure 24 (Left):** Photograph of the ramp descending to the bath level.

**Figure 25 (Below):** Photograph of the Fire Bath.



In this respect, the sensuous atmosphere and tactile experience of bathing that Therme Vals is renowned for is inextricable from the poetic metaphor, a quality which is expressed equally well in the way that the architect deals with the technical aspects of the building. Displaying his aforementioned sensitivity towards craft, the stone-course-layering scheme envelopes the entirety of the building and adjoins its heterogeneous elements to create the cavernous spatial narrative. More importantly however it also integrates technical complexity into the mass of the building, concealing it from the eyes of the bather, whose imagination is unobstructed by visually distracting features. What the architect strives to achieve through the concealment of complexity in the mass of the building is best expressed in his own words:

*“When we look at objects or buildings that seem to be at peace within themselves, our perception becomes calm and dulled. The objects we perceive have no message for us; they are simply there... Here, in this perceptual vacuum a memory may surface...”<sup>14</sup>*

What is alluded to here through the reference of the emergence of memory is a state of poetic dwelling in which the inhabited landscape, or the place, is made present through the building. The verity of this lies in the fact that the building, “...(built) into the mountain, (built) out of the mountain...”<sup>15</sup>, discloses those things which constitute the place in the immediate presence of the earth and sky, and makes the place “appear”<sup>16</sup>. To an extent, this disclosure is apparent in the use of stone and the grass roof of the building which reflect, quite literally, the presence of the mountain in relation to the soft green hillsides. What makes all this “appear” however, is the state of perpetual visual calm that characterises the interior and exterior of the building. As such, in an indirect but also inextricable way, the concealment of “inessential detail” and the ingenuity displayed in doing so strengthens the building’s relationship to the landscape, and makes the state of poetic dwelling alluded to by Zumthor’s writings possible.

## References:

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15. Zumthor, P., *Thermal Baths at Vals, Architectural Association Exemplary Projects 1*, Architectural Association, London, 1996, p. 10
16. Norberg-Schultz, C., “Heidegger’s Thinking as an Architect” in *Architecture: Meaning and Place, Selected Essays*, Rizzoli International Publications, New York, 1988 pp. 39-48

## Illustrations:

Cover photograph taken on site.

Figure 1: Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 45

Figure 2: Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, pp. 40-41

Figure 3: Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 9

Figure 4: Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 51

Figures 5, 6, 7, 8, 13, 14, 15, 17, 18, 19, 21, 23 are selectively recreated drawings based on original publication drawings and detail sections found in Zumthor, P. *Thermal Baths at Vals, Architectural Association Exemplary Projects 1*, Architectural Association, London 1996. The graphic representation of the under-floor heating system is based on precedents found in Deplazes, A. *Constructing Architecture, Materials Processes Structure, A Handbook*, Second Extended Edition, Birkhauser, Basel, 2005.

Figure 9: Found in Zumthor, P. *Thermal Baths at Vals, Architectural Association Exemplary Projects 1*, Architectural Association, London 1996, p. 19

Figure 10: Found in Zumthor, P. *Thermal Baths at Vals, Architectural Association Exemplary Projects 1*, Architectural Association, London 1996, p. 23

Figure 11 and 12: Found in Zumthor, P. *Thermal Baths at Vals, Architectural Association Exemplary Projects 1*, Architectural Association, London 1996, pp. 14-15

Figure 16: Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 165

Figure 20: Found in “Thermal bath, Vals, Switzerland” in *Domus*, November 1997 No. 798, p. 30

Figure 22: Found in Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 158

Figure 24: Found in Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 157

Figure 25: Found in Found in Hauser, S. , Zumthor, P. *Peter Zumthor Therme Vals*, Scheidegger & Speiss, 2007, p. 50

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