

**Tactility and Architecture:  
Peter Zumthor's Thermal Baths in Vals and the Hybridization  
of the Two Motifs of Tactility-*Materiality and Movement***

by

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SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE IN ARCHITECTURE STUDIES  
AT THE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

JUNE 2002

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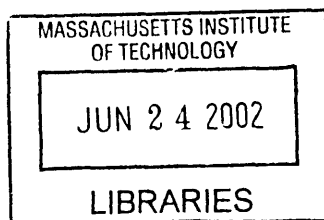
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Submitted to the Department of Architecture on May 20, 2002  
in partial fulfillment of the requirements for the degree of  
Master of Science in Architecture Studies:

**ABSTRACT**

Tactility holds a unique position in modern architectural discourse. Oftentimes, it has been evoked as an alternative to two-dimensional vision. However, the notion of tactility sometimes denotes ambiguous and often conflicting meanings. Since the 1970s, tactility has been mainly associated with a series of phenomenological notions such as place, rooted-ness, corporeality, intimacy, sensuousness, and craftsmanship. The noted Swiss architect, Peter Zumthor (b.1943), follows in this vein by conceptualizing tactility in terms of intimate contact between the occupant's bodily organs and the surfaces of architecture. The characteristics of Zumthor's architecture cannot, however, be exhausted by these considerations. I argue that his buildings are just as exceptional in terms of their spatial conception as they are in their material realization. In this sense, Zumthor's emphasis on "tactility" in his architecture does not do justice to his own buildings. To fully appreciate them, this thesis attempts to go beyond a mere equivalency between tactility and appreciation of surface to develop a richer and more complex notion of tactility. I will argue that more seminal, spatial conceptions of tactility can be found in modern aesthetic discourse, particularly, in the two motifs of "tactility as *materiality*" and "tactility as *movement*," as articulated in the works of Alois Riegl and Walter Benjamin, respectively. I will attempt to show that these motifs have their correlative expressions in the spatial languages of Adolf Loos's "*Raumplan*" and Le Corbusier's "*Plan Libre*." Finally, I will show how Zumthor's architecture, particularly his Thermal Baths in Vals (1986-96), Switzerland, successfully hybridizes these two spatial languages and thus the two motifs of tactility as well.

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**TABLE OF CONTENTS**

Acknowledgements .....	5
I. Tactility in Contemporary Architectural Practice and Theory .....	6
I-1. The Return of “Box” Aesthetics: the Rise of the Tactile Surface .....	6
I-2. Peter Zumthor’s “Boxes” and his Conception of Tactility in Architecture.....	8
I-3. Tactility in Contemporary Architecture Theory .....	14
II. Two Modern Spatial Motifs of Tactility: <i>Materiality</i> and <i>Movement</i> .....	23
II-1. Adolf Hildebrand: The Near and the Distant .....	24
II-2. Alois Riegl: Tactility as <i>Materiality</i> .....	28
II-3. Walter Benjamin: Tactility as <i>Movement</i> .....	33
III. Modern Architectural Counterparts: <i>Raumplan</i> and <i>Plan Libre</i> .....	39
III-1. Genealogy of the Concepts, <i>Raumplan</i> and <i>Plan Libre</i> .....	39
IV. Hybridization: Peter Zumthor’s Thermal Baths in Vals (1986-96) .....	53
Bibliography.....	68

## **Acknowledgements**

I am most thankful to my advisor Mark Jarzombek, whose close reading and critical insight proved profoundly constructive in the process of generating this thesis, and certainly suggestive as to the future evolution of this project.

I want to express my gratitude for the courteous and disinterested assistance I received from my readers, David Friedman and Erika Naginski.

I am grateful also to the students of the History, Theory, and Criticism Program at M.I.T who furnished a stimulating arena of discussion and debate. I am especially grateful to Kathy Wheeler Borum, Zeynep Celik, Erdem Erten, Janna Israel, Adnan Morshed, Diana Ramirez Jasso, and Winnie Wong, whose rigorous criticism over the years has contributed greatly to my intellectual development.

I am indebted greatly to Henry Chang and Emily Taylor, not only for careful editing of this writing, but also for a long-time contribution to the arguments presented in this paper.

I could not have completed this project without Joowon Suh, who was a steadfast source of light and inspiration.

I would like to dedicate this work to my parents Sang-duck Lee and He-ran Park. I thank them for an uncompromising support.

# **I. Tactility in Contemporary Architectural Practice and Theory**

## **I-1. The Return of “Box” Aesthetics: the Rise of the Tactile Surface**

Recently, scholars have discerned the resurrection of the modernist aesthetic sensibility in the field of architectural design and theory. This renewed sensibility has often been portrayed as a “box” aesthetic.<sup>1</sup> Following international-style buildings, many contemporary buildings have started to look more “box-like” than at anytime during last three decades. This observation is supported by the decline of the more symbolically and formally flamboyant postmodernist and deconstructivist architectures of the preceding decades. Indeed, the new architecture has been portrayed as resistance to past architecture. Architecture, once again, claims to be a rational practice, whose main concerns are function, construction, and material of the building rather than signification and formal experimentation.

This new “box” aesthetics has, however, some crucial differences in comparison with its predecessor of the early twentieth century. Firstly, on the level of the content, if modernist architecture had social reformation on its agenda, the newer version concentrates on the perceptual and experiential quality of its production. Secondly, on the level of form, if modern architecture usually repressed the material quality of the surface emphasizing the smooth surfaces of concrete, steel, brick, and glass, the newer version focuses on various textural quality of its surface.<sup>2</sup>

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<sup>1</sup> On the recent revival of modernist sensibility or the rise of “neo-modernist activity,” see Annmarie Brennan and Brendan D. Moran eds., *Resurfacing Modernism, Perspectives, The Yale Architectural Journal* v. 32 (Cambridge, MA: The MIT Press, 2001). In the introductory overview, the editors contrast “box” aesthetics to “blob” aesthetics.

<sup>2</sup> The myth of aesthetic neutrality and transparency of modernist architecture has been laid bare by the works of new generation architecture theoreticians. On the white wash and the window of modern

In recent architecture, the combination of the white wall and window has been reformulated. So much so that it has become hard in some building to define which portion of the surface is the window and which is the wall. The whole exterior surface of the building is often treated as a homogeneous skin, and the function of the window and the wall is integrated into the finely-articulated surface patterns. Without the clear distinction between the opening and the closure, the architectural surface tends to become a *texture*. This overall texture of the surface becomes more complicated by the use of different materials in their own individual colors and surface features. In addition, different functions of the exterior wall are often attributed to different layers in a single wall. In effect, the overall impression of the surface is often that of a porous skin, which instigates a “tactile” appreciation of the surface. Even when glass is extensively used, the surface often becomes semi-transparent or opaque, which blocks views to self-consciously demonstrate its own material presence. Here, even glass, the most immaterial material, seems to be subject to a “tactile” appreciation of the building surface.

In general, this combination of the return of “box” aesthetic and the new obsession with the sophisticated surface articulation seems to be a symptom of the contemporary crisis in the discipline of architectural design, i.e., the decline of its search for new *spatial* articulations. Oftentimes, the interior of this simple box is one big open space, which might be called a “universal space,” borrowing Mies van der Rohe’s term. However, if for Mies the flexibility of the interior space was an ideal, for contemporary architects it is a mandate. The increasing degree of the division of labor sometimes

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architecture, see Mark Wigley, *White Walls, Designer Dresses: The Fashioning of Modern Architecture* (Cambridge, MA: The MIT Press, 1995) and Beatriz Colomina, *Privacy and Publicity* (Cambridge, MA: The MIT Press, 1994), respectively.

deprives architects of the role of planning the interior space. Being excluded from the planning of the inside of the box, architects now seem to direct most of their attention toward the outside, or rather, toward the outer surface of the box. Reflecting this shift in focus, the curtain-wall portion of the whole construction cost of a building has been continuously increasing with many contemporary architects spending much of their time “inventing” exterior wall systems.<sup>3</sup>

The “box” aesthetics and the sophistication of the exterior building surface shift the focus of the appreciation of a building from the spatial to the tactile. The building’s appeal to vision is thus minimized in favor of intimate, “tactile” contacts between building and occupant. The finer the surface articulations are, the closer one needs to approach the surface to fully appreciate its textural quality. The attraction of the surface often reaches a literal, physical contact between the surface and the occupant. This tactile appreciation of the building surface seems to be central in many works of contemporary architects.

## **I-2. Peter Zumthor’s “Boxes” and his Conception of Tactility in Architecture**

Peter Zumthor’s work, at first glance, seems a perfect illustration of this contemporary trend. The most obvious example is his design of the Shelters for Roman Archaeological Site, (1985-6) Welschdörfli, Switzerland (See figure 1 and 2). Apart from the skylights and the entrance, the whole building is devised as a series of finely

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<sup>3</sup> Even Frank Gehry’s luminous, sensuous titanium scales or Thomas Herzog’s environmentally responsive, intellectual “double-skin,” could be remote examples of this general obsession with building envelope.



textured box-like envelopes, which he calls “protective casing[s].”<sup>4</sup> As one approaches the textured these casings, one realizes that they consist of alternating horizontal strips of timber lamellas with gaps between them that allow both light and air into the interior. Though small in scale and simple in scheme, this building seems to exemplify the contemporary aspiration for the exterior surface that integrates the traditional functions of wall and window in its homogeneous texture.

A more sophisticated version of the box is Zumthor’s Art Museum Bregenz, (1989-97) Bregenz, Austria (See figure 3 and 4). This time the whole body of the building is covered with finely etched translucent glass. Steel clamps hold the glass plates so that the plates slightly overlap each other to block the rainwater while maintaining gaps in-between them. Thus the surface allows light and air, although meaning that a second layer of curtain wall behind it becomes necessary to protect the interior space from the exterior wind. Keeping in mind the location of the site in front of an open lake, the gesture of completely blocking the vista is striking.

The third example is Zumthor’s competition project for the Prinz-Albrecht block, (1993- ) Berlin, Germany (See figure 5 and 6). Again, the whole exterior surface of the building is treated as a homogeneous texture. Alternating thin vertical members and voids, according to Zumthor, “[lend] the building a windowless appearance.”<sup>5</sup> The horizontal line of the long, box-shaped building is contrasted with the varying contour of topography, thereby highlighting the “tactile” and sculptural presence of the building.

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<sup>4</sup> Peter Zumthor, *Peter Zumthor, Architecture and Urbanism February 1998 Extra Edition* (Tokyo, Japan: a+u Publishing, 1998), 28.

<sup>5</sup> Peter Zumthor, *Three Concepts* (Basel, Switzerland: Birkhäuser, 1997), 53.

The emphasis on a “tactile” is a theme in Zumthor’s writings, too. So he writes, “[the memories] are the reservoirs of the architectural atmospheres and images that I explore in my work as an architect,”<sup>6</sup> in order to “revive that vibrant atmosphere.” When he designs a kitchen, for example, he “sinks into” his own memories of different kitchens in his life looking to “the roots of our understanding of architecture.”<sup>7</sup> According to him, childhood experiences are particularly important since they rooted in the realm of feeling rather than thinking. Zumthor writes:

There was a time when I experienced architecture *without thinking* about it. Sometimes I can almost *feel* a particular door handle *in my hand*, a piece of metal shaped like a back of a spoon. I used to take hold of it when I went into my aunt’s garden.<sup>8</sup>

The intensity of this immediate and innocent experience of architecture is evidenced by its vivid tangibility that still haunts the architect’s consciousness. This remembered tangibility of the experience eventually introduces all the other senses, too. He continues:

That door handle still seems to me like a special sign of entry into a world of different moods and smells. I remember the sound of the gravel under my feet [...], I can hear the heavy front door closing behind me as I walk along the dark corridor and enter the kitchen [...]; the small hexagonal tiles of the floor, dark red and fitted so tightly together, [...] were hard and unyielding under my feet [...].<sup>9</sup>

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<sup>6</sup> Peter Zumthor, “A Way of Looking at Things” in *Thinking Architecture* (Baden, Switzerland: Lars Müller Publishers, 1998), 10. Translated by Maureen Oberli-Turner. This essay was originally written in November 1988, for a lecture at SCI-ARC Southern California Institute of Architecture, Santa Monica.

<sup>7</sup> Peter Zumthor, “Teaching Architecture, Learning Architecture” in *Ibid.*, 57. This essay was originally written in September 1996, for the Accademia di architettura, Mendrisio, Switzerland.

<sup>8</sup> Peter Zumthor, “A Way of Looking at Things” in *Ibid.*, 9. Emphasis added.

<sup>9</sup> *Ibid.*, 9.

It is clear that the sense of touch with hands and feet persists in the memory of this childhood architectural promenade. Zumthor goes on:

Now I feel like going on and talking about the door handles which came after the handle on my aunt's gate, about the ground and the floors, about the soft asphalt warmed by the sun, about the paving stones covered with chestnut leaves in the autumn [...].<sup>10</sup>

The handles, the ground, and the floors are the objects and surfaces for the tactile contacts between the occupant and the building. Alternating softness and hardness, warmth and cold characterize this festival of touch. Zumthor asserts that "memories like these contain the *deepest architectural experience* that I know."<sup>11</sup> Zumthor's architectural experience thus seems to be associated foremost with the tactile.

In general, this appeal to the tactile should be viewed against Zumthor's larger critique of the present mass-mediated, "postmodern life." For Zumthor, today's world is a place where traditional distinctions are blurred and confused, a place where "everything merges into everything else."<sup>12</sup> Above all, the distinctions between signs and things and between the virtual and the real have been seriously disrupted: "The world is full of signs and information, which stand for things that no one fully understand because they, too, turn into mere signs for other things."<sup>13</sup> In other words, this situation can be characterized by the impossibility of finding the final reference to the tangible certainty of "things themselves."

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<sup>10</sup> Ibid., 10.

<sup>11</sup> Ibid., 10.

<sup>12</sup> Ibid., 16.

<sup>13</sup> Ibid., 17.

In the realm of architecture, the crisis seems to be related to the increasing discrepancies between what is seen and what is real. This is the reason Zumthor denigrates presentation drawings for clients and extols working drawings for craftsmen. Contrary to common sense, Zumthor claims that the blueprints are much closer to the real than the perspectives.

This desire for the identity between the visual and the real is reflected in Zumthor's rejection of cladding and painting over the materials used in his buildings. Regarding the exposed concrete structure of his Art Museum in Bregenz, Zumthor asserts that "the building is exactly what we see and touch, exactly what we *feel beneath our feet* [...]."<sup>14</sup> Here again, the perception of the real is intimately associated with the certainty given by the sense of touch. The implication is that the sense of vision can be easily deceived; however, the sense of touch cannot.

Zumthor believes that architecture can provide an effective resistance to the current confusion between signs and things and that between the visual and the real or tactile by going back to the latter half of these equations. He argues that architecture's own realm holds its "special *physical* relationship with life," in other words, a tangible relationship with reality. He goes on to argue that architecture can resist through the very act of speaking "its own language."<sup>15</sup>

Architecture, for Zumthor, is in relationship solely with the present conditions:

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<sup>14</sup> Peter Zumthor, *Kunsthhaus Bregenz* (Hatje: Kunsthhaus Bregenz, 1999), 13.

<sup>15</sup> Zumthor, "A Way of Looking at Things," 26.

The creative act in which a work of architecture comes into being goes *beyond all historical and technical knowledge*. Its focus is on the dialogue with the issues of our time.<sup>16</sup>

The secret power of architecture can thus be found neither in sophisticated historical research nor in technical experimentation. Rather, the secret has been always with us, so he argues, and can therefore be retrieved from nearby: “There is a power in the ordinary things of everyday life [...]. We only have to *look at them long enough*.” Zumthor asserts that “real things do exist, however endangered they may be.” For him, these “real things” are nothing other than “earth and water, the light of the sun, landscape and vegetation.”<sup>17</sup>

Yet how can this view be compatible with his emphasis on the role of personal memories as inspirations for design? Aren’t these memories entrenched in a specific time in history? Do they not testify to the unavoidable differences between the past and the present generated through the course of historical time? The following remarks will give some hints of what Zumthor would answer:

When we look at objects or buildings which 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. [...] They reach beyond signs and symbols, they are open, empty. It is as if we could see something on which we cannot focus our consciousness. Here, in this perceptual vacuum, a memory may surface, *a memory which seems to issue from the depths of time*.<sup>18</sup>

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<sup>16</sup> Ibid., 22.

<sup>17</sup> Ibid., 17.

<sup>18</sup> Ibid., 17.

For Zumthor, memories, particularly those from childhood, are believed to belong to the realm of the essence or origin of architectural experience. These memories are in a sense beyond any historical specificity. This belief in the possibility of the resonance between the most subjective and the most essential or objective is what allows Zumthor to argue for both the importance of memories and the radical a-historicity of the design process. This is the reason those memories from the past can guide the supposedly supra-historical design-decisions for the present. The search for “the *lost* architecture”<sup>19</sup> through recollection thus becomes identical to the search for the timeless essence of architecture. Both searches can find the common denominator in their shared aim for regaining a tangible relationship with “real things.”

### **I-3. Tactility in Contemporary Architecture Theory**

Contemporary discussions of tactility in architecture share a similar rhetorical strategy. The floating images of the flourishing technological media are invariably vilified. Antipathy toward kitsch and popular culture typically accompanies a demonization of the visual. Words like illusion, hallucination, and simulacra are used in the most disparaging senses. And the “loss” of authenticity, reality, intimacy, and rootedness is lamented. A return to the *tactile* is proposed as the only way to restore these lost values. Tactility becomes associated with the simplest, the nearest, and the most immediate aspects of human experience. By just redirecting one’s perceptual faculties to

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<sup>19</sup> Ibid., 9.

what is *near* and what has always been near to us, according to this trend, one can presumably resurrect the fullness of life.

Oftentimes, however, it seems that the provision of examples is the only possible strategy to give some theoretical substance to the discussions of tactility in architecture. The lists of exemplary architects provided by these discussions share the same members. At the same time, due to the broad and almost intentionally unclear definitions of tactility in these discussions, there are always margins to allow variations according to the personal preferences of critics.

This section discusses some of the rhetorical patterns and the terminology of contemporary theses on tactility. The essays by Michael Benedikt and Kenneth Frampton will be closely examined to show how Zumthor's conceptualization of tactility hardly deviates from the trend.

The most recent attempt to connect the notion of tactility and Peter Zumthor's architecture, particularly his Thermal Baths in Vals, is undertaken by Michael Benedikt in his short article, "Reality and Authenticity in the Experience Economy."<sup>20</sup> Benedikt argues that in our high-tech, "media-saturated environment" in which the necessary distinction between what is real and what is unreal is blurred, "buildings [...] play the important role of providing people with benchmark examples of what reality is and what the experience of reality feels like."<sup>21</sup> In this article, Zumthor is considered the last legitimate member of a succeeding lineage of architects to whom we can look "for

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<sup>20</sup> Michael Benedikt, "Reality and Authenticity in the Experience Economy," *Architectural Record* (Nov, 2001): 84-86.

<sup>21</sup> *Ibid.*, 85.

guidance as to what authentic architecture might look like in modern times.”<sup>22</sup> The short list of those who precede Zumthor include only Alva Aalto, Aldo Van Eyck, Louis Kahn, and Carlo Scarpa. These architects are contrasted with Frank Gehry’s buildings with their “trendier shards and curves or luminous twisted volumes.”<sup>23</sup>

Notwithstanding the erudite tone of Benedikt’s article, the main points are quite clear: first, the current socio-cultural phenomena generated by the advent of new technologies and media are demonized; second, a clarion call is made to return to the immediacy of bodily experience or to the simplicity of everyday life; finally, and perhaps this is the real thrust of the argument, a justification is made for a specific style, not by defining it but rather by condemning other styles as inessential. Unfortunately, this evasive style of argumentation presides over much of the contemporary discussions of tactility in architecture. An earlier, perhaps more sophisticated version can be found in Kenneth Frampton’s essay on tactility in architecture, written twenty years before Benedikt’s article.<sup>24</sup>

For Frampton, the object of demonization is the visual orientation of Western civilization itself. Quoting Andre Bazin, Frampton sees the invention of perspective in the Renaissance as “the original sin” of the Western visual culture. Particularly in the field of architecture, Brunelleschi is indicted for subjugating architecture to the principles of perspective. In the earlier part of his essay, Frampton surveys the development of visually-centered architectural culture since the Renaissance. Following his analysis of Brunelleschi is his criticism of the early 19<sup>th</sup> century theoretician J.N.L Durand.

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<sup>22</sup> Ibid., 86.

<sup>23</sup> Ibid., 85.

<sup>24</sup> Kenneth Frampton, “Intimations of Tactility: Excerpts from a Fragmentary Polemics,” *Artforum* XIX/7 (Mar, 1981): 52-58.



Frampton writes, “With [him], perspectival space decomposes into instrumentality.”<sup>25</sup> Frampton defines instrumentality by referring to the orthogonal grids directly governing architectural composition in economic ways. The triumph of instrumentality, however, entails a deeper crisis: “Architecture begins to divide at this juncture into polar aspects—into pure technique and pure ideology, the abacus and the mask.”<sup>26</sup> From then on, architecture is inexorably haunted by the “hallucinatory” or “illusory” (note the visual connotation of these words) side of itself. From the excessive ornamentation of Art Nouveau to the “plywood pediment” of American suburban housing, “the cheapest of masks is considered sufficient to sustain an illusion of rootedness [...]”<sup>27</sup> In addition, the development of the techniques of reproduction makes the situation worse. Due to “high speed photographic and reproductive processes,” Frampton argues, “our tactile environment tends to lose its concrete responsiveness.”<sup>28</sup> He writes:

As Jean Baudrillard has argued [...] the practice of culture today is frequently reduced to simulacra, to the signs of signs. In this connection it is relevant to note that *the creation of a poetic architectural image does not depend upon visual considerations alone*. In fact, it could be claimed that the dominance of the visual is detrimental to architecture.<sup>29</sup>

Frampton relies extensively on Heidegger’s essay “Building Dwelling Thinking” and the distinction in the essay between “*spatium in extensio*(space)” and “*raum*(place).” As Frampton asserts, “the place-form is inaccessible to sight alone, just as simulacra exclude the tactile capacity of the body. The configuration of the *peras* [boundary] must be felt

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<sup>25</sup> Ibid., 52.

<sup>26</sup> Ibid., 52.

<sup>27</sup> Ibid., 53.

<sup>28</sup> Ibid., 54.

<sup>29</sup> Ibid., 54. Emphasis added.

as much as seen.”<sup>30</sup> Frampton defines the character of the contemporary crisis of Western culture as “the impoverishment of intimacy... that which Heidegger has recognized as the loss of nearness.”<sup>31</sup> For Frampton, the notion of *nearness* is closely associated with tactility. Frampton’s aims are “to stress the nearness of tactility as distinct from the distance of sight” and “to return architecture ... to a more concrete and tactile poetic.”<sup>32</sup> Frampton argues that tactile architecture would restore this lost intimacy:

The tactile return us literally to detail, to handrails and other anthropomorphic elements with which we have intimate contact; to the hypersensitivity of Alva Aalto, to the coldness of metal and the warmth of wood; to a comparable sensibility in the work of Carlo Scarpa, who was capable of articulating a building in such a way that its surface implied a range of sensuous experience.<sup>33</sup>

As with Benedikt, the notion of tactility is not rigorously articulated in its theoretical sense, and instead, much of Frampton’s definition of tactility is propped up by the establishment of a canon of practitioners. For Frampton, Jorn Utzon, Luis Barragan, Le Corbusier, and Frank Lloyd Wright are the stars of tactility. The buildings by these architects are thought to be exemplary responses to “Landscape,” “Earth,” “Air,” and “Body,” which are the succeeding section titles of Frampton’s essay.

Textured “box” aesthetics in contemporary design and the contemporary phenomenological theory of tactility are uniquely combined in Zumthor’s buildings and

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<sup>30</sup> Ibid., 55.

<sup>31</sup> Ibid., 54.

<sup>32</sup> Ibid., 58. Emphasis added.

<sup>33</sup> Ibid., 54.

writings. The former can be criticized as reducing architecture to a sophisticated envelope. And the latter can be criticized as a naturalization of the design process and a negation of the power of convention within that process.

The following chapters will provide some materials to supersede this simplified view of design as surface manipulation and to broaden the critical potential of the notion of tactility related to architecture beyond the immediate experiential notions. In the next chapter, the two *spatial* motifs of tactility in relation to art and architecture at the turn of the century will be discussed. This will hopefully reveal the relative poverty of the contemporary theory of tactility in architecture. That chapter will be followed by another that discusses possible architectural counterparts of these two motifs of tactility. It will eventually show that tactility can be an effective tool in reading the diverse spatial languages of architecture, not only the reading of surface patterns.

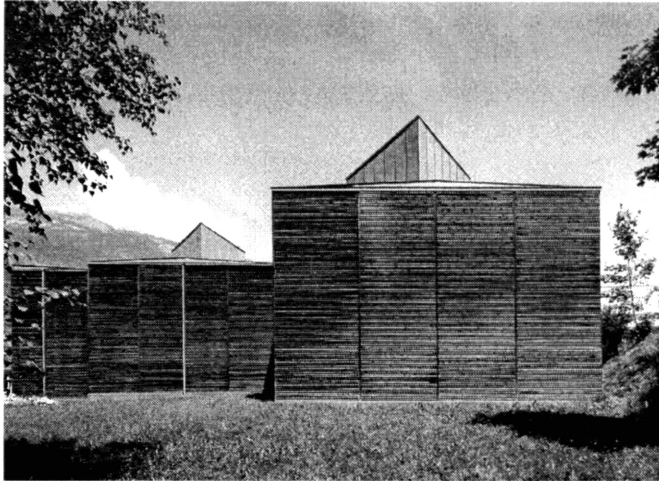


Fig 1: Peter Zumthor, Shelters for Archeological Site, 1985-86, Welschdörfli, Switzerland. Distant view.



Fig 2: Peter Zumthor, Shelters for Archeological Site. Near view.

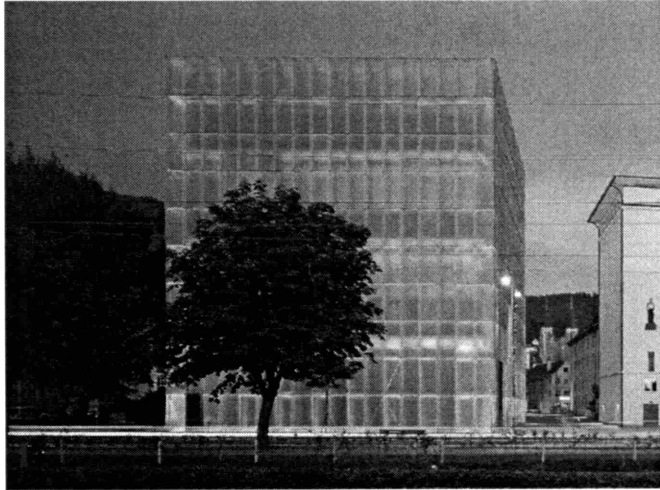


Figure 3: Peter Zumthor, Art Museum Bregenz, 1989-97, Bregenz, Austria. Distant view.

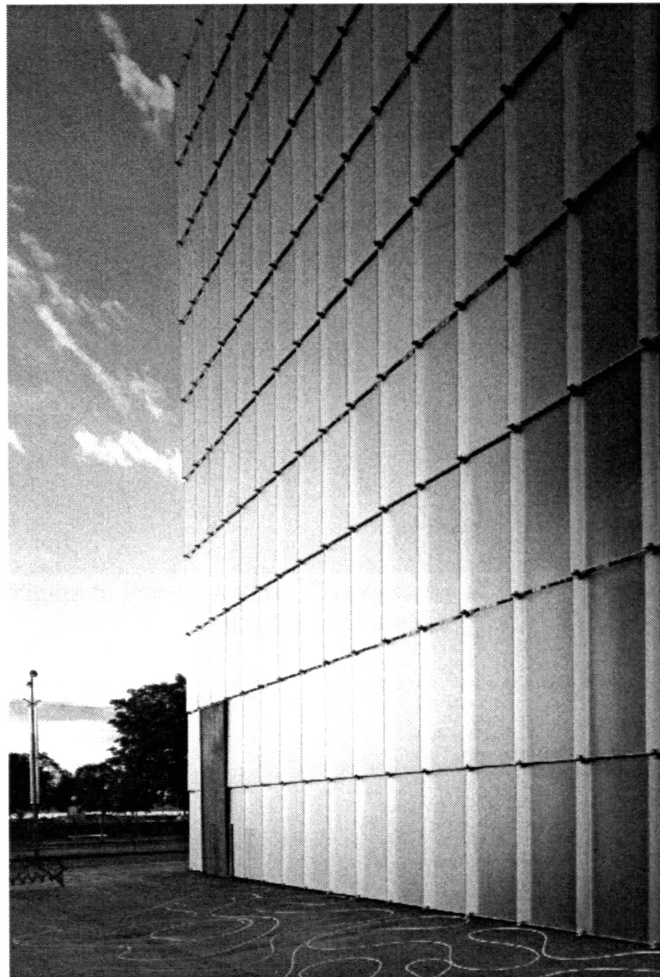


Figure 4: Peter Zumthor, Art Museum Bregenz. Near view.

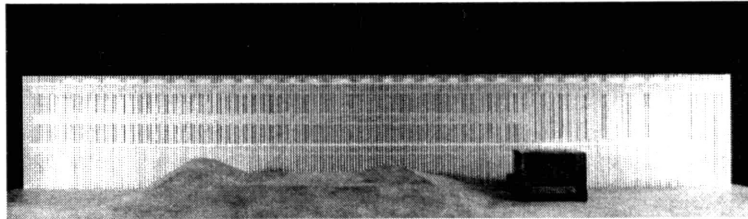


Figure 5: Peter Zumthor, "Topography of Terror" Berlin, 1993- , Berlin, Germany. Model view.

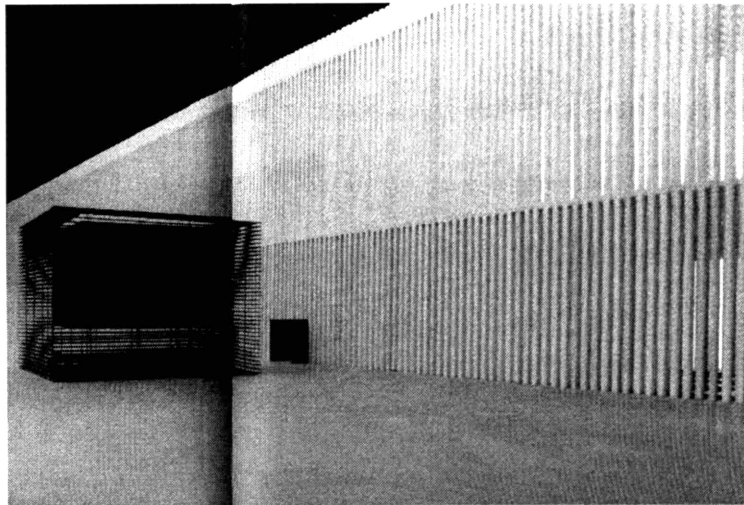


Figure 6: Peter Zumthor, "Topography of Terror" Berlin. Angled model view.

## II. Two Modern Spatial Motifs of Tactility: *Materiality* and *Movement*

In many of the discussions on tactility in architecture, the notion of tactility has closely associated with the intimacy of everyday experience. Particularly in the argument of Kenneth Frampton, touch has been paired with the notion of “nearness,” whereas vision is paired with physical and emotional detachedness of the subject from the object. This opposition between the near and the distant is, however, nothing new. As early as in the late 19<sup>th</sup> century, this opposition occupied a central place in aesthetic discourse. Particularly, German aesthetic discourse at the turn of the 19<sup>th</sup> century provides us with various sets of different perceptual categories, such as the near view vs. the distant view, the tactile vs. the optical, and distraction vs. attention. In this chapter we will see how diversely these perceptual categories were devised, redefined, and subverted by different thinkers, such as Adolf Hildebrand, Alois Riegl, and Walter Benjamin. All of these thinkers relied upon an analysis of perceptual modality to shore up their understandings of the nature of artistic perception, the differences in art historical eras, and the differences of artistic media. When the theories of these thinkers are compared to the arguments of Benedikt, Frampton, and Zumthor, the contemporary conceptions of tactility are seen to be impoverished relative to their predecessors.

Although not touching upon the issue of tactility *per se*, Hildebrand’s articulation of the notions of the near view (*Nahsicht*) and the distant view (*Fernsicht*) provides a basic perceptual and conceptual motif that shall be further developed by Riegl and Benjamin. Therefore, Hildebrand’s theory of the near and the distant will be discussed first.

## II-1. Adolf Hildebrand: The Near and the Distant

Adolf Hildebrand's seminal work, *The Problem of Form in the Fine Arts* (1893),<sup>34</sup> attempted to reconcile two opposing aspects of formal concerns in visual art, namely, "appearance" and "essence." Hildebrand's solution was to argue that the artist can create an authentic appearance that realizes the artistic essence of objects or events. It is within the artist's power to synthesize and materialize such a privileged appearance out of numerous possible appearances. In fact, according to Hildebrand, it is his duty to do so. Hildebrand writes:

The idea of form is a sum total that we have extracted by comparing appearances; a comparison that has already separated the necessary from the accidental. It is therefore not a perception pure and simple but the assimilation of many perceptions from *one specific viewpoint*.<sup>35</sup>

According to Hildebrand, what distinguishes "one specific viewpoint" from another is its clarity. He asserts: "In his representation the artist [...] must learn, albeit indirectly, how the appearance expresses its formal content, which he does by learning to discern when it speaks *clearly* to us and when it does not."<sup>36</sup>

To define clarity, Hildebrand moves into the problem of the different modes of visual perception. He articulates two polar modes of visual perception: "the near view (*Nahsicht*)" and "the distant view (*Fernsicht*)." To elucidate the difference between the

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<sup>34</sup> Adolf Hildebrand, "The Problem of Form in the Fine Arts" in ed. and trans. Harry Francis Mallgrave and Eleftherios Ikononou, *Empathy, Form, and Space: Problems in German Aesthetics, 1873-1893* (Santa Monica, CA: The Getty Center for the History of Art and the Humanities, 1994), pp. 227-279. Originally published as *Das Problem der Form in der bildenden Kunst* (Strasbourg: Heinz & Mundel, 1893).

<sup>35</sup> *Ibid.*, 228. Emphasis added.

<sup>36</sup> *Ibid.*, 228. Emphasis added.



two “views,” he raises the problem of binocular vision. It can be minimized by standing at some distance from the object that we see, and maximized by standing close to the object. At a certain point when one approaches the object, one becomes unable to appreciate the object as a whole anymore without continuously moving one’s eyes and thereby “scanning” the object’s surface: “[t]he closer the observer comes to the object, the more eye movement he will need, and the less coherent will be the visual impression.”<sup>37</sup> Hildebrand argues that “clarity” and “coherence” of an appearance can only be acquired when the viewer is able to grasp the whole image both at a glance and without moving his/her position. Therefore, for Hildebrand, “the distant view” is unquestionably a superior mode of perception to “the near view”: “We, therefore, possess a coherent image of the three-dimensional complex only in the distant image, which constitutes the only coherent apprehension of the form as perceived and imagined.”<sup>38</sup>

Hildebrand further introduces to us a more fundamental perceptual problem, namely, that of mentally constructing three-dimensionality from two-dimensional images. Hildebrand is well aware that there is no intrinsic relationship between the two-dimensional images that we actually perceive and the three-dimensional objects that we reconstruct or imagine in our mind. This inherent lack of clarity in our perceptual process legitimizes artistic interventions: “The visual arts alone reflect the active operation of consciousness: the activity that seeks to bridge the gap between ideas of [three-dimensional] form and visual [two-dimensional] impressions and to fashion both into a unity.”<sup>39</sup> Reconciling the gap between what we see and what we build in our mind

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<sup>37</sup> Ibid., 229.

<sup>38</sup> Ibid., 230.

<sup>39</sup> Ibid., 231.

becomes the privileged role of the artist, who operates beneath the layman's perceptual processes: "Indeed, the artist deals with the substratum on which spatial ideas are unconsciously built: the level we take for granted."<sup>40</sup> In other words, according to Hildebrand, only the artist can access the secret of human perception and thereby offer an un-alienated vision of the world. This artistic seeing, Hildebrand argues, can only be gradually obtained through the artist's experience and the subsequent expansion of "the artist's world of forms." Thus, the artist not only creates artistic objects, but also teaches us how to see the world itself.

As Ernest K. Mundt points out, Hildebrand "never once questions the preferability of the distant view."<sup>41</sup> According to the logic of Hildebrand's argument, even the distant view cannot be freed from the inherent limitation of being itself a two-dimensional perception. However, it never prevents Hildebrand from asserting that the distant view is the only mode of perception that can be called "artistic:"

We can correctly abstract the values of form *only* from the effect of the distant image, for only there do visual elements appear similarly and simultaneously. Artistic seeing therefore resides in a strong grasp of these sensations of form and not in the mere knowledge of the inherent [measurable and unchanging] form as a sum of isolated perceptions; the latter can have significance only for scientific analysis.<sup>42</sup>

In sum, Hildebrand's elaboration of the different modes of human perception aims at a pseudo-scientific justification of his glorification of "artistic seeing." The following

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<sup>40</sup> Ibid., 228.

<sup>41</sup> Ernst K. Mundt, "Three Aspects of German Aesthetic Theory," *The Journal of Aesthetics and Art Criticism* 17, no. 3 (1959): 302.

<sup>42</sup> Hildebrand, Ibid., 235.

chapters of his book are devoted, not surprisingly, to the justification of his own normalizing, “classical” taste for a specific art form, i.e., the Greek relief. Of course, this process of justification is accompanied by a series of excluded genres, i.e., all the non-figurative visual arts as well as new technological forms of art, such as photography. For Hildebrand, Greek relief is not a specific genre of art in a specific historical era, but the only art form that can reveal the unchanging rules of artistic seeing:

Only through [relief’s] mediation will the general laws governing our relation to visual space be artistically expressed.... It is a way of viewing things that in *all* times has been the mark of artistic sensibility and the expression of its *unchanging laws*.... The method is essential for *all* artistic forms, whether a landscape or a portrait.<sup>43</sup>

The significance of Hildebrand’s work is that it sets the table for future discussions. His binary opposition of the near and the distant prevails in both Riegl and Benjamin’s theories of tactility. In general, these later thinkers invariably associated tactile perception with the near view and visual perception with the distant view. However, as we shall see, the priorities that Hildebrand espouses will be subject to unique radical inversions by each of these thinkers.

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<sup>43</sup> Ibid., 253. Emphasis added.

## II-2. Alois Riegl: Tactility as *Materiality*

In *Late Roman Art Industry* (1901),<sup>44</sup> Alois Riegl redefines Hildebrand's notions of the near view and the distant view and connects them with a new set of categories, the tactile and the optical. For Riegl, the near view is associated with the tactile mode of perception, and the distant view with the optical mode of perception. If, for Hildebrand, the purpose of the distinction between the near and distant views was to evaluate the latter's unchanging superiority, for Riegl the purpose of the distinction is only to properly describe each art historical period characterized by each mode of perception. Thereby, in Riegl's hands, Hildebrand's normative categories become completely relative ones.

According to Riegl, art historical development can be characterized by a gradual transformation in human perception from the near view to the distant view, from the tactile to the optical. In fact, Riegl inserts a third term between these polarities: the normal view between the near and the distant views; and the tactile-optical between the tactile and the optical. This tripartite systems become the basic tool for describing the characteristic features of each art historical period. In his description of the development of art in antiquity, these three positions are assigned to Egyptian arts, classical Greek arts, and late Roman arts, respectively. In comparison to Hildebrand's system, Riegl moves the position of classical Greek arts from the distant view to the newly introduced "normal view." The change does not only occur in terms of position. The classical Greek arts now exemplify only a transitional phase between the near view/the tactile and the distant view/the optical. According to Riegl, each of the three phases is neither superior nor

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<sup>44</sup> Alois Riegl, *Late Roman Art Industry*, trans. Rolf Winkes (Italy, Rome: Giorgio Bretschneider Editore, 1985). Originally published as *Spätromische Kunstindustrie* (Vienna, 1901).

inferior to the others. Each of them is a unique manifestation of *Kunstwollen*, or the artistic will of the era. Riegl writes: “An objective art historical observation will in each period of style [...] discover some kind of advantage, which later periods lacked, because their *Wollen* was directed to *another* part.”<sup>45</sup>

This leveling of the values of different artistic eras and their different perceptual modes involves two-fold critical operations: first, limiting the hitherto-privileged distant view/opticality; and second, raising the status of the near view/tactility. Regarding the former, Riegl writes:

The particular sense organ, which we use the most for the perception of the external objects, is the eye. Yet this organ shows us the objects only as colored planes and by no means as impenetrable material individuals; this optical perception especially makes the objects of the external world appear to us in a chaotic mixture.<sup>46</sup>

If, for Hildebrand, a detached, contemplative vision undoubtedly provides a clear, coherent, and, thereby, artistic view of the world, for Riegl it is characterized rather by its confusing effects.

In contrast, regarding the near view and tactility, Riegl writes:

Definite knowledge about the enclosed individual unity of single objects we obtain only with our sense of touch. It alone procures us knowledge about the impenetrability of the borders, which enclose the material individual. These borders are the *tactile surfaces of the objects*.<sup>47</sup>

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<sup>45</sup> Ibid., 11. Emphasis added.

<sup>46</sup> Ibid., 22.

<sup>47</sup> Ibid., 22.

According to Riegl, the tactile mode of perception is closely related to the origin of all visual arts. For him, art originally stemmed from a human effort “to create an exclusive and immediate ideal of the *tactile materiality*.”<sup>48</sup> Riegl believes that people in antiquity found the external world helplessly “confusing and mixed” and that, as a solution to this, they used the visual arts to order this chaotic reality. Accordingly, these earlier people made the visual arts into a form of “a clearly finished unity.” The tactile mode of perception, for Riegl, is the sole mode of perception through which one can grasp the “material individuality” of the external objects.

Through these critical operations, Riegl redefines the Hildebrandian system of the near and the distant views. Whereas Hildebrand defined the near view as confusing and the distant view as ordering, Riegl defines the distant view/opticality as confusing and the near view/tactility as ordering.

However, because Riegl’s aim is not to privilege the sense of touch over the sense of vision, he never forgets to point out that the combination of vision and touch is always necessary for a proper perception:

Wherever the eye recognizes a coherent colored plane of one and the same stimulus, there arises the notion based on experience of the tactile impenetrable surface of a finished material entity.<sup>49</sup>

The tactile and the optical in Riegl’s theory, therefore, should not be literally understood. They indicate different modes of perception that are already the combinations of vision and touch. The difference between them is only a matter of emphasis and degree.

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<sup>48</sup> Ibid., 73.

<sup>49</sup> Ibid., 22.

Riegl's real contribution to our purpose, however, comes from his broadening of the notion of tactility from surface to space. Another important point in Riegl's theory of tactility is that the sense of touch gives us not only a sense of certainty about the external reality but also the first hint of the three-dimensionality of reality: "Again, the sense of touch gives us our first definite knowledge of the existence of the dimension of *depth*, because its manifold organs permit us to check different points at the same moment."<sup>50</sup> Thus, for Riegl, the notion of tactility becomes associated not only with appreciation of surfaces but also with spaces.

The relationship between tactility and space is further elaborated by Riegl in his theory of architecture. Significantly, the opening chapter of *Late Roman Art Industry* is devoted to architecture, which, according to Riegl, reveals basic artistic laws "with mathematical clarity."<sup>51</sup> In the beginning of the chapter, Riegl defines two "responsibilities" of architecture, namely, "the creation of an (enclosed) *space* as such" and "the creation of *borders* for space." Riegl initially maintains that the historical development of human perception from the tactile to the optical parallels the shift of focus from the "border" to the "space." Accordingly, Riegl sees the Egyptian pyramid as the best illustration of tactile architecture, in which space is completely eliminated. However, apart from this extreme case, most ancient buildings contain spaces within them. Therefore, Riegl devises more categories to reconcile the notion of tactility and that of space. This effort is most visible in his description of the Pantheon in Rome.

According to the tripartite system of description discussed above, the Pantheon roughly belongs to the last category, that of the distant view/opticality. As Riegl writes,

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<sup>50</sup> Ibid., 23.

<sup>51</sup> Ibid., 15.

“the pyramid and the Pantheon thus constitute two extremes in ancient centralized architecture.”<sup>52</sup> However, as compared to the later phase in the larger art historical development from the near view/tactility to the distant view/opticality, the Pantheon has to incarnate tactile features, too. Riegl writes:

“[In the Pantheon,] the beholder shapes his idea of space; but otherwise everything in the Pantheon is directed toward an awareness of the *material limitations of space*. [...] Entering, and upon a first glance at the floor, one realizes the circular shape of the confining wall and concludes that the dimensions of depth and width ought to be equal; hence, there is evoked in the beholder a *tactile feeling of unity* through the dimensions of the bordering planes.”<sup>53</sup>

In other words, according to Riegl, by being clearly defined by surrounding walls as a unified volume, even a space can evoke the sense of tactility. He continues:

The early Roman Empire has thus found a solution for the problem of interior space to the end that *it treated space as cubic material* [...]. What seemed impossible, was now reality: free space was individuated.<sup>54</sup>

As long as a space possesses material unity, it can be read as tactile. Thus, not only a pyramid, but also a pyramid-shaped space can be called tactile.

I propose a term for this broadened notion of tactility of Riegl's: “tactility as *materiality*.” Initially, tactility was associated with the literal experience of touch, a physical contact with material surfaces of the objects. Now, with Riegl's broadened

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<sup>52</sup> Ibid., 30.

<sup>53</sup> Ibid., 31.

<sup>54</sup> Ibid., 31.



notion of tactility, it became possible to denote the most immaterial entity, namely, the space. The usefulness of this conception of tactility will be proved in the next chapter.

### **II-3. Walter Benjamin: Tactility as *Movement***

In “The Work of Art in the Age of Mechanical Reproduction,”<sup>55</sup> Walter Benjamin articulates a unique view of the relationship between tactility and architecture. If Riegl redefines Hildebrand’s notions of the near and the distant views and thereby attributes totally new content to the category, Benjamin accepts Hildebrand’s whole system as it is and then upsets its aesthetic-political value. If Riegl’s aim was to relativize Hildebrand’s system by introducing the new conception of tactility, Benjamin’s aim is to invert the original unbalance between the near and the distance in Hildebrand’s theory. In Benjamin’s hands, the near and the tactile become associated with a mode of perception that has revolutionary potentials, whereas the distant and the optical become associated with a mode of perception that is completely anachronistic and reactionary. Benjamin’s theory, therefore, becomes a direct critique of Hildebrand’s. And, at the same time, his notion of tactility becomes an important alternative to Riegl’s notion of tactility as *materiality*.

As in Riegl’s *Late Roman Art Industry*, the Hildebrandian motifs of the near and the distant prevail in Benjamin’s essay. However, if Hildebrand’s aim was to base artistic creativity on the firm ground of pseudo-scientific perceptual psychology, Benjamin’s aim is to render obsolete the very concepts of “creativity and genius, eternal

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<sup>55</sup> Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in Hannah Arendt ed., *Illuminations* (New York: Schocken Books, 1968).

value and mystery—concepts whose uncontrolled [...] application would lead to a processing of data in the Fascist sense.”<sup>56</sup> If we consider the fact that during the era of National Socialism Hildebrand’s works were considered one of the classical models to be followed, the contrasting positions occupied by the two thinkers become more significant.<sup>57</sup>

In contrast to Hildebrand, throughout his essay, Benjamin makes conscious efforts to attribute positive values to the motif of the near. For example, according to Benjamin, new development in the technology of reproduction enable the viewers and listeners to appreciate works of art “in [their] own particular situation.” If in the past viewers and listeners had to address the specific physical context to which a work of art belonged, now they can appropriate multiplied copies of the work in their own proximity. At the same time, Benjamin’s effort to critique Hildebrand’s notion of the distant can be read in his somewhat strange conception of “aura” as “the unique phenomenon of a distance.” To this conception of aura Benjamin counters “the desire of contemporary masses to bring things ‘closer.’”<sup>58</sup>

The contrasting themes of the near and the distant can be most clearly demonstrated by Benjamin’s famous comparison between the cameraman and the painter by using the images of the surgeon and the magician:

How does the cameraman compare with the painter? To answer this we take recourse to an analogy with a surgical operation. The surgeon represents the polar opposite of the magician. The magician heals a sick person by the laying on of hands; the surgeon cuts

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<sup>56</sup> Ibid., 218.

<sup>57</sup> Biographical information is based on Sepp Kern, “Hildebrand, Adolf von” in ed. Jane Turner, *The Dictionary of Art*. pp. 525-527.

<sup>58</sup> Benjamin, Ibid., 222.

into the patient's body. The magician maintains the natural *distance* between the patient and himself; though he reduces it very slightly by the laying on of hands, he greatly increases it by virtue of his authority. The surgeon does exactly the reverse; he greatly *diminishes the distance* between himself and the patient by penetrating into the patient's body [...]. Magician and surgeon compare to painter and cameraman.<sup>59</sup>

According to Benjamin, the difference between the cameraman and the painter further entails a tremendous difference in their perceptions: “[The picture] of the painter is a total one, that of the cameraman consists of multiple fragments which are assembled under a new law.”<sup>60</sup> This reminds us exactly of Hildebrand's parallel comparison between the distant view and the near view: through the former, one can get a coherent picture of the whole, whereas through the latter one can only get a series of fragmented images.

Benjamin's innovation is to reverse the system of values which Hildebrand attributed to these two perceptual modalities.

As we have seen, Hildebrand's privileged mode of perception, the distant view, is characterized by its detached and contemplative nature. Benjamin proposes a completely new mode of perception provoked by new genres of technological art. In his discussion about Atget, Benjamin writes, “free-floating contemplation is not appropriate to [Atget's photographs]. They stir the viewer; he feels challenged by them in a new way.”<sup>61</sup> The new technological development thus affects the whole range of artistic culture: from production to reception.

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<sup>59</sup> Ibid., 233. Emphasis added.

<sup>60</sup> Ibid., 234.

<sup>61</sup> Ibid., 226.

Benjamin also characterizes the new mode of reception by its combination of “enjoyment” and “criticism” and by the possibility of “simultaneous collective experience.”<sup>62</sup> In this context, architecture is introduced as an important model for the new collective potentials of the new technological arts, such as photography and film.

Simultaneously, two traits of the new mode of reception are proposed: *distraction* and *tactility*. The distraction of the near view, which was completely denigrated by Hildebrand, now obtains a positive connotation in Benjamin’s theory. For Benjamin it is, however, the opposite of “contemplation and evaluation.” Benjamin writes that “[i]n the decline of middle class society, contemplation became a school for asocial behavior.” In addition, according to Benjamin, critical new arts such as that of Dadaism “hit the spectator like a bullet, it happened to him, thus acquiring a *tactile* quality.” He continues: “It promoted a demand for the film, the *distracting* element of which is also primarily *tactile*, being based on changes of place and focus which periodically assail the spectator.”<sup>63</sup> Thus the notions of distraction and tactility become closely tied to each other. In other words, Hildebrand’s understanding of the near view as kinesthetic and distracting and Riegl’s understanding of the near view as material and tactile become uniquely juxtaposed in Benjamin. By doing this, Benjamin performs a double criticism: Hildebrand’s negative view of the near view is completely overturned, and Riegl’s rather static notion of tactility as *materiality* is confronted by a more dynamic version of tactility.

The last section of Benjamin’s essay is devoted to demonstrating how the reception of architecture can be a model for the new mode of reception for the new arts.

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<sup>62</sup> Ibid., 234.

<sup>63</sup> Ibid., 238. Emphasis added.

Benjamin writes, “Architecture has always represented the prototype of a work of art the reception of which is consummated by a collectivity in a state of *distraction*.”<sup>64</sup> Then he connects the notion of tactility with architecture:

Buildings are appropriated in a twofold manner: by use and by perception—or rather, by touch and sight. [...] On the tactile side there is no counterpart to contemplation on the optical side. Tactile appropriation is accomplished not so much by attention as by habit. As regards architecture, habit determines to a large extent even optical reception.<sup>65</sup>

Thus, architecture becomes a synthetic field where all the revolutionary traits of the new perceptual modality meet: collectivity, distraction, habit, and tactility. As a result, Benjamin articulates a rich notion of tactility in architecture. Following an original motif in Hildebrand’s conception of the near view, which, I believe, guided and fueled Benjamin’s subsequent critique, I propose to call Benjamin’s new conception of tactility “tactility as *movement*.” I would argue that this notion of tactility can be an effective critique not only of Hildebrand’s self-centered classicism, but also of the present phenomenological version of tactility. Regarding this issue Stan Allen writes:

Now tactility has a bad reputation (in certain circles at least) and I think it is important to note that when Benjamin talks about tactility he’s not talking about a kind of close, attentive, phenomenological connoisseurship of materials [...], he’s talking, instead, about a kind of unconscious intimacy that we can assume with regard to buildings – the way an escalator or handrail directs movement through space or the way the body loses itself in the rush of an elevator’s drop.<sup>66</sup>

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<sup>64</sup> Ibid., 239. Emphasis added.

<sup>65</sup> Ibid., 240.

<sup>66</sup> Stan Allen, “Dazed and Confused,” *Assemblage* 27 (1995): 48.

For me, it seems reasonable that Allen associates Benjaminian notion of tactility primarily with the notion of *movement* within architecture. However, Allen seems even more Benjaminian than Benjamin in that he relates tactility as *movement* to new technological devices in modern architecture, such as the escalator and the elevator. In Benjamin's theory, architecture occupies an almost a-historical and even "canonical" position, which allows for no significant impact from changes in perception and technology.

In the following chapter, I will move to what seem to be the architectural counterparts of the conceptions of tactility proposed by Riegl and Benjamin. Particularly, the chapter will attempt to show that architects Adolf Loos and Le Corbusier articulated similar problematic areas through their house designs in the late 1920s.

### **III. Modern Architectural Counterparts: *Raumplan* and *Plan Libre***

In the previous chapter, we saw two notions of tactility, i.e. tactility as *materiality* and tactility as *movement*, espoused by art theoreticians. In this chapter, we will look at the possible architectural counterparts of these two notions, namely, the *Raumplan* and the *Plan Libre*, which have been associated with the works of Adolf Loos and Le Corbusier, respectively (See figure 7 and 8). In the following analysis of *Raumplan* and *Plan Libre* as semi-autonomous spatial languages, I will continuously test the conceptual validity of the two notions of tactility. Specifically, I will try to read Loos' spatial language, *Raumplan*, through the lens of Riegl's notion of tactility as *materiality* and to read Le Corbusier's spatial language, *Plan Libre*, through the lens of Benjamin's notion of tactility as *movement*. These couplings of notions will serve to reveal significant similarities in the scales and structures of the conceptual fields articulated by the polarities of *materiality/movement* and *Raumplan/Plan Libre*.

#### **III-1. Genealogy of the Concepts, *Raumplan* and *Plan Libre***

Coined in the period between the mid 1920s and the early 1930s, the terms, *Raumplan* and *Plan Libre*, were used to describe the novel features of the buildings designed by architect Adolf Loos or Le Corbusier. But because new interpretations of the notions of *Raumplan* and *Plan Libre* have been continuously added to the existing ones, one needs to investigate the genealogies of the terms.

The word *Raumplan* was originally a section title of a monograph of Adolf Loos written by Heinrich Kulka in 1931.<sup>67</sup> In this section Kulka writes,

Adolf Loos introduced to the world an essentially new and higher conception of space: free thinking in space, the [idea of] planning rooms that are situated on different levels and are not confined to regular floors, the arrangement of these *interlocking volumes* into a harmonious, inseparable, and spatially economic whole.<sup>68</sup>

In this initial articulation of *Raumplan*, we can extract a theme that would persist in the succeeding interpretations throughout the century: a concept of volumetric treatment of space through the logic of spatial economy. Kulka's explanation of the benefit of *Raumplan* in terms of economy can be traced to Loos's own justification of his Michaelerplatz Building design: Loos argues that this building provides much savings in space through a manipulation of different levels. In Kulka's hands, this interest in spatial economy is expanded to the general conception of *Raumplan* as a compact arrangement of differently sized—presumably according to different functions—spatial volumes.

The meaning of the “new and higher conception of space” becomes clearer in reference to Loos's description of innovation in his own design. In 1929, two years before Kulka's monograph was published, Loos made a significant comment on the merit of his new method of design. This comment was made in the context of reflecting upon his rejection by the organizing committee of the Weissenhofsiedlung (1927):

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<sup>67</sup> Heinrich Kulka, *Adolf Loos: Das Werk des Architekten* (Vienna, 1931), 14.

<sup>68</sup> English translation from German by Christopher Long, “The House as Path and Place: Spatial Planning in Josef Frank's Villa Beer, 1928-1930,” *JSAH* v. 59 no. 4 (Dec, 2000): 478.



I would have had something to show them, namely, a design that would set an arrangement of living rooms in space, and not horizontally, as it has been done until now, floor by floor. [...] setting the ground plan free in space!”<sup>69</sup>

For Loos, the innovation of *Raumplan* is mainly associated with an increased compositional freedom in the vertical direction, or in section. For this, he breaks up the restrictions imposed by the horizontally continuous floors of the traditional house (See figure 9).

The term, *Plan Libre*, initially indicated one of the “Five Points of a New Architecture” as articulated by Le Corbusier in 1927.<sup>70</sup> An accompanying illustration showed a plan with curved walls superimposed on a grid of circular columns. This sketch was paired with another sketch of the “paralyzed” plan of a traditional masonry house. Three years later, in the first volume of his *Complete Works 1910-1929*, Le Corbusier elaborates each of the Five Points in detail.<sup>71</sup> Here again, the counter-example of the *Plan Libre* was the plan of the traditional masonry house. It is interesting to note that Le Corbusier also explains *Plan Libre*’s merit in terms of spatial economy, just as Loos and Kulka do with *Raumplan*.

For Le Corbusier, the innovation of *Plan Libre* is mainly associated with an increased compositional freedom in the horizontal direction, or in plan. For this, he breaks up the restrictions imposed by the vertically continuous load-bearing walls of the traditional house (See figure 10).

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<sup>69</sup> Loos, “Josef Veillich,” *Frankfurter Zeitung*, 21 March 1929, reprinted in Adolf Loos, *Trotzdem*, ed. Adolf Opel (Vienna, 1982), 215. Translation followed Christopher Long, *Ibid*, 498.

<sup>70</sup> Deutscher Wekbund, *Bau und Wohnung* (Stuttgart, 1927), 27.

<sup>71</sup> Le Corbusier, *Complete Works, 1910-29*.

As both Riegl and Benjamin developed their new conceptions of tactility by reacting to their predecessor Hildebrand's conceptions of the near and the distant views, both Loos and Le Corbusier developed their new spatial languages by reacting to the traditional spatial languages of the masonry house. Both of them tried to justify their houses in terms of spatial economy.

To the latter point, Colin Rowe provides an effective critique. In his seminal essay, *The Mathematic of the Ideal Villa* (1947), he compares designs by Andrea Palladio and Le Corbusier. Although he does not mention *Raumplan per se*, his conception of the Palladian spatial language as allowing compositional freedom in the vertical direction corresponds to Loos's conception of *Raumplan*. Therefore, the essay provides, albeit indirectly, a critical perspective to understand *Raumplan* and *Plan Libre* as spatial languages. In this essay, Rowe argues that Palladio's Villa Malcontenta and Le Corbusier's Villa Garches should be understood as the incarnations of similar spatial languages, and should not be judged by means of categories such as material, function, and economy.<sup>72</sup>

Rowe's first operation is to lay out a common denominator for the formal analyses of the two designs. Both Palladio and Le Corbusier, according to Rowe, adopt the same modular grid based on the bay rhythm of ABABA. In both cases, the portions between A and B are exactly two to one. This mode of comparison has been severely criticized as extremely a-historical. However, Rowe's real thrust is to make vivid the differences between the two spatial languages rather than to emphasize the superficial

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<sup>72</sup> Colin Rowe, "The Mathematics of the Ideal Villa," in *The Mathematics of the Ideal Villa and Other Essays* (Cambridge: The MIT Press, 1976), 1-28. The essay was originally published in the *Architectural Review*, 1947.

similarities, such as the rhythm of the grid and the architects' shared interest in "mathematics" or proportions.

Through a detailed formal analysis of the two houses, Rowe shows that the specific characteristics of the spatial language adopted by each of the architects cannot be exhausted by a series of positivistic concerns, even if sometimes these concerns were maintained by the architects themselves. Rowe writes:

Both architects make a claim which is somewhat in *excess* of the reasons they advance. Solid wall structures, Palladio declares, demand absolute symmetry; a frame building, Le Corbusier announces, requires a free arrangement: but these must be, at least partly, the *personal exigencies* of high style—for asymmetrical buildings of traditional structure remain standing and even frame buildings of conventional plan continue to give satisfaction.<sup>73</sup>

This awareness of the semi-autonomous nature of spatial languages leads Rowe to a radical relativism. The different characteristics of Villa Malcontenta and Villa Garches, or even, those of *Raumplan* and *Plan Libre*, cannot be subject to a hierarchical system of evaluation. Rowe asserts:

The introduction of arched forms and pitched roofs is a liberty which at Garches Le Corbusier is unable to allow himself. [...] The quality of paralysis which Le Corbusier noticed in the plan of the solid wall structure is, to some extent, transferred in the frame building to the section. [...] Free plan is exchanged for free section.<sup>74</sup>

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<sup>73</sup> Ibid., 6. Emphasis added.

<sup>74</sup> Ibid., 11.

Each of the houses, Rowe believes, illustrates different kinds of freedom and restriction. By freeing spatial languages from narrowly defined positivistic concerns and putting them on a completely relativistic framework, Rowe thus provides an important foundation for the following discussions on *Raumplan* and *Plan Libre*.

However, Rowe's method of description seems to have weaknesses, too. It eventually reduces all the different characteristics of the two spatial languages to a simple difference in the adoption of initial formal gestures, a difference in the choices between a vertical wall system and a horizontal floor system. The underlying perceptual themes of the two spatial languages remain untouched.

The most comprehensive attempt to compare *Raumplan* and *Plan Libre* as spatial languages came in the exhibition, *Raumplan versus Plan Libre*, organized in 1987 by the School of Architecture at the Delf University of Technology, Holland. With a series of detailed models and drawings, the exhibition presented Loos's and Corbusier's theories and buildings between 1919 and 1930. In the introduction to the accompanying catalogue, Max Risselada attempts to define the essential characteristics of *Raumplan* and *Plan Libre*:

On the one hand is the notion that architecture is primarily the designing of space, spaces evoking moods to which material and the various forms of its treatment can contribute.

On the other hand is an architecture which designs constructional entities which demarcate space. [...] *On the one hand, spaces in which the entire body can dwell—all the senses being involved; on the other hand, spaces where there is perhaps only room for the roaming eye. Spaces for use as opposed to spaces for looking at.*<sup>75</sup>

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<sup>75</sup> Max Risselada, ed., *Raumplan versus Plan Libre: Adolf Loos and Le Corbusier, 1919-1930* (New York: Rizzoli, 1988), 7-8. Emphasis added.

The first half of this quotation is almost an exact rephrase of Riegl's distinction between the creation of the space and the creation of the border as two "responsibilities" of architecture. Riegl's distinction thus obtains new relevancy. Clearly, the former strategy of designing spaces or voids works following the logic of subtraction, subtraction of unified spatial volumes from an imagined solid mass. In contrast, the latter strategy of designing entities or objects works following the logic of addition, addition of unified and isolated objects (See figure 11 and 12).

More importantly, in the second half of the quotation, the former distinction is linked to the different mode of perception. If we replace the term, "all the senses," with the sense of touch—because in the appreciation of architecture it is arguably the most dominant sense next to vision—we can discern a repetition of a Rieglian polarity between the optical and the tactile. As Riegl eventually did, Risselada combines the notion of space with the notion of tactility. In addition, the final sentence of the quotation reminds us of Benjamin's distinction between habit and contemplation as two different modes of mentality in appreciating architecture. This mixture of concepts, seemingly borrowed from a various sources, however, was not further differentiated and clarified. As Alan Colquhoun pointed out in his review of the catalogue, this point of comparison in the introduction was never elaborated in the following articles. Each of the articles was separately devoted either to *Raumplan* or to *Plan Libre*, without providing "a single set of critical criteria."<sup>76</sup> The understanding of *Raumplan* as related to the making of a place-

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<sup>76</sup> Alan Colquhoun, "The Le Corbusier Centenary," Book review, *JSAH* v. XLIX, no. 1 (March, 1990): 104.

to-dwell and that of *Plan Libre* as related to the making of a space to sightsee, however, have since dominated the subsequent attempts to compare the two spatial languages.

The most recent attempt following in this vein was made by Christopher Long. In his article on Josef Frank, an architect who was active in the same period when Loos and Le Corbusier were active, Long argues that Frank creatively synthesized *Raumplan* and *Plan Libre*.<sup>77</sup> Frank's Villa Beer (1928-30) is, according to Long, not only "one of the most fully realized *Raumplan* houses," but also the one that incorporates the architectural promenade of *Plan Libre*.<sup>78</sup> Long asserts: "By merging the notion of the architectural promenade with a spatial partitioning à la Loos, [Frank] succeeded in making the idea of the *Raumplan* fully dynamic."<sup>79</sup> For Long, Frank's Villa Beer thus becomes the house as both "Place" and "Path." Long writes:

Unlike contemporary "free plan" designers, Frank and Loos continued to preserve the spatial or room divisions [...]. Because the individual rooms retain their identities, they do not merely merge formlessly into each other, but rather constitute a succession of defined spaces.<sup>80</sup>

As discussed above, Long's ultimate aim is to prove the superiority of Frank's synthesis over Loos's *Raumplan* and Le Corbusier's *Plan Libre*. Long, therefore, argues that, in comparison to Frank's Villa Beer, Loos's passage connecting his "defined spaces" is too "short" and "abrupt," whereas Le Corbusier's architectural promenade is "typically long." Ironically, Long's critique of these two spatial languages clearly reveals

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<sup>77</sup> Long, "The House as Path and Place": 478-501.

<sup>78</sup> Ibid., 478.

<sup>79</sup> Ibid., 497.

<sup>80</sup> Ibid., 490.

their contrasting characteristics. *Raumplan* is connected to the notion of defined spaces and to the Rieglian notion of “tactile material space,” and *Plan Libre* is connected to the architectural promenade and to the Benjaminian notion of “distracted tactile movement.”

Through his interpretation of Josef Frank’s architecture Long argues that these two extreme modes of spatial composition need to be moderated. I would, however, argue that the spatial languages of *Raumplan* and *Plan Libre* should be valued as two distinct reactions and two equally valid alternatives. In *Raumplan*, individually unified cubic spaces become the most important elements; therefore, distracted movement between these spaces is minimized. In contrast, in *Plan Libre*, the continuation of the distracted movement becomes the most important element; therefore, the individual unity of spaces is dissolved. If *Raumplan* is guided by the motif of tactility as *materiality*, *Plan Libre* is guided by that of tactility as *movement*. In this sense, Long’s observation that *Plan Libre* never allows room for “contemplation” seems correct.

The most distinct characteristic of Loos’s houses, the frequent level differentiation, can be read as a result of his effort to minimize the distance between defined spaces and to suppress a prolonged Corbusian architectural promenade. In contrast, Le Corbusier’s use of asymmetrically deployed objects can be read as a result of the effort to open a distracting field for architectural promenade and to blur the boundaries between clearly defined Loosian spaces.

*Raumplan* can be characterized by its treatment of space as a volume with “material individuality,” to borrow Riegl’s term. It creates enclosed spaces through the logic of subtraction: from the imagined monolithic mass of the building, unified interior volumes are subtracted; and the resulting remainder of the previous mass becomes the

structure of the building. Individual spaces are detailed following the rules of symmetry. The resulting spaces are highly focused and unified (See figure 13). *Plan Libre* replaces *Raumplan*'s unified spaces in mass with isolated objects in space. If *Raumplan* is characterized by its logic of subtraction, *Plan Libre* can be characterized by its logic of addition, by its assembling of isolated objects, such as columns, walls, floors, stairs, and ramps. Symmetries of individual spaces are to be broken. The resulting spaces distract attention and instigate the visitor's movement in space (See figure 14).

In the following chapter, I will analyze Zumthor's design and his description of the Thermal Baths in Vals to explore how in this building he uniquely hybridized the two contrasting spatial languages of *Raumplan* and *Plan Libre*. Although Zumthor did not explicitly use the terms *Raumplan* or *Plan Libre*, his description of the process of the Baths design shows that he was well aware of the two contrasting methods of spatial composition and tried to achieve a successful combination of the two. Moreover, I would argue that, by hybridizing *Raumplan* and *Plan Libre*, Zumthor almost unconsciously supersedes his obsession with the literal dimension of tactility and addresses the realm of two *spatial* notions of tactility, i.e., tactility as *materiality* and tactility as *movement*.



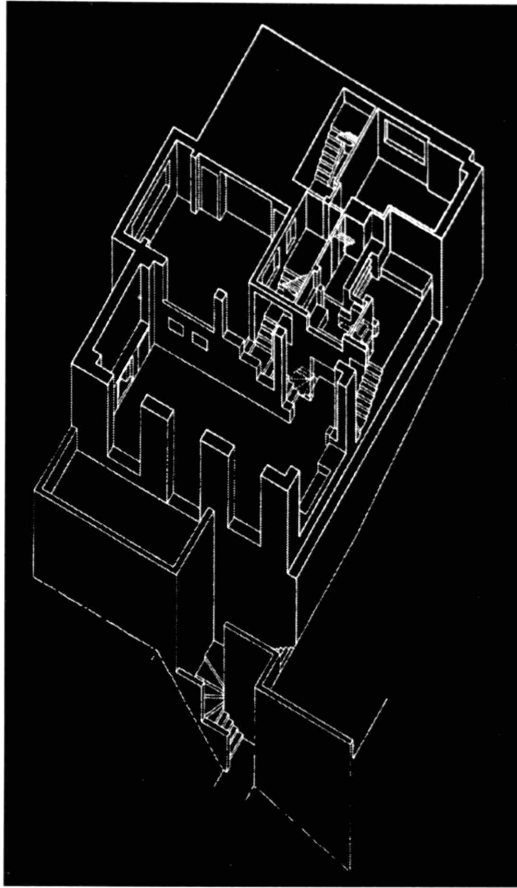


Figure 7: Adolf Loos, Villa Müller, 1928-30, Prague, Czechoslovakia. Axonometric view.

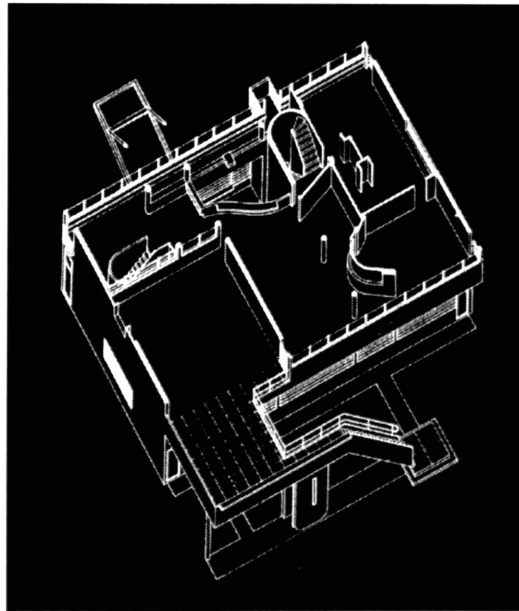


Figure 8: Le Corbusier, Villa Stein, 1927, Garches, France. Axonometric view.

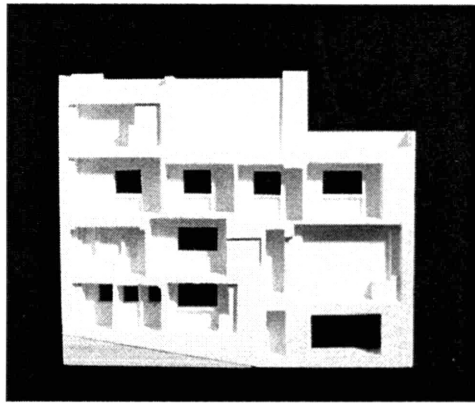
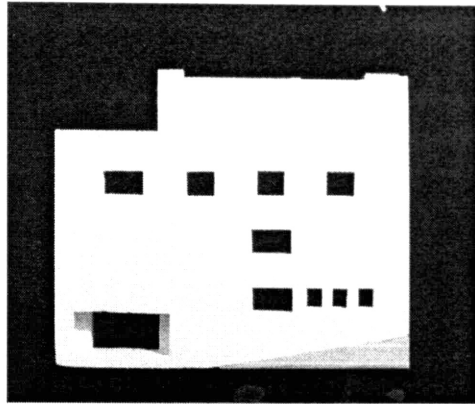


Figure 9: Adolf Loos, Villa Müller.  
Model view.

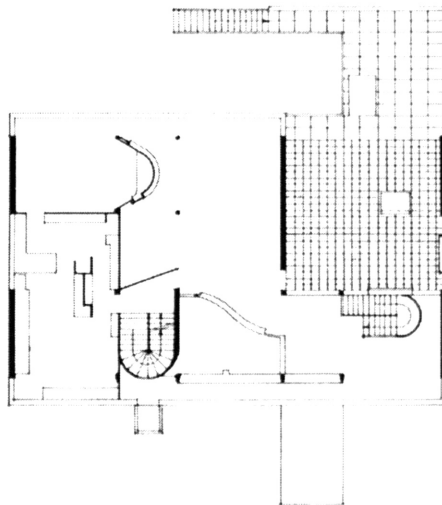


Figure 10: Le Corbusier, Villa Stein.  
Second floor plan.



Figure 11: Adolf Loos, Villa Müller.  
Interior view.

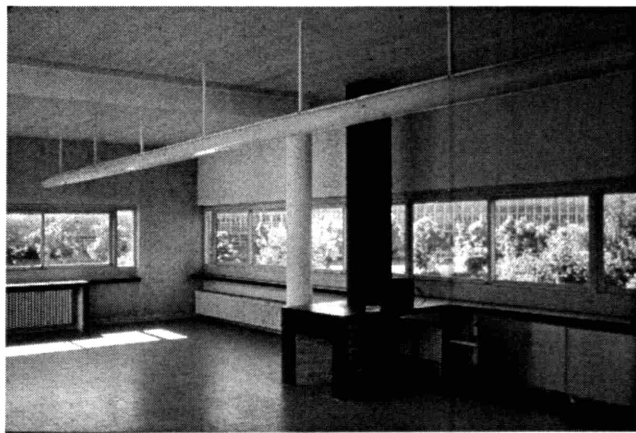


Figure 12: Le Corbusier, Villa Savoye, 1930,  
Poissy, France. Interior view.



Figure 13: Adolf Loos, Villa Moller, 1928,  
Vienna, Austria. Interior view.

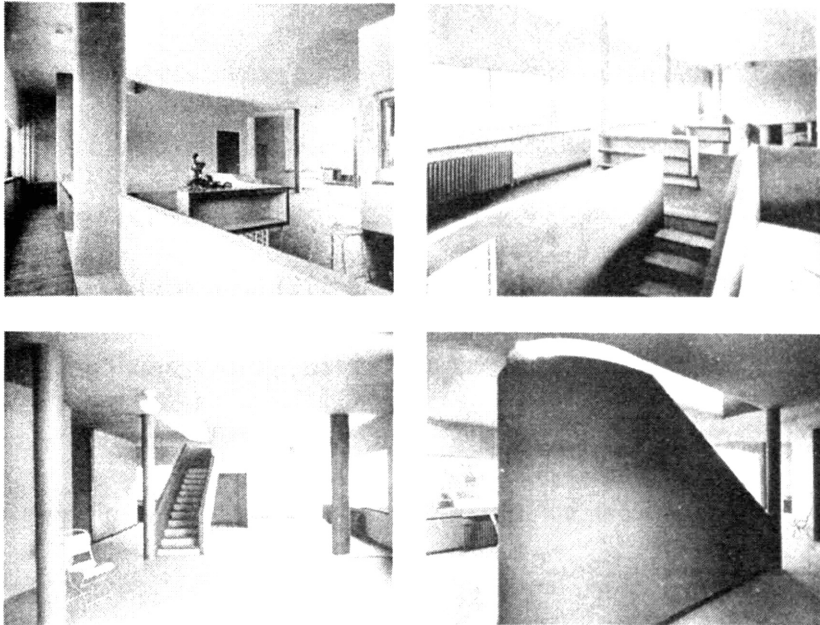


Figure 14: Le Corbusier, Villa Stein.  
Interior view.

#### **IV. Hybridization: Peter Zumthor's Thermal Baths in Vals (1986-96)**

In the first chapter, we discussed some of Zumthor's buildings and his theory of tactility in architecture. At first glance, his works seemed to be perfect illustrations of the new "box" aesthetics. Indeed, many of his designs, such as Shelters for Roman Archeological Site near Chur (1985-86), Art Museum Bregenz (1989-97), and "Topography of Terror" in Berlin (1993- ), take the shape of a simple box with homogeneous surface textures. In comparison to these designs, Zumthor's design of the Thermal Baths in Vals seems rather odd. While in his other works the cubical volume of the building stands freely on the ground, in the Baths almost half of the building is buried under the mountain slope. Moreover, the largest exposed surface, the roof, is covered with grass (See figure 15 and 16). As a result, only three surfaces of the building remain open to the air. In addition, while in his other works the approach toward the building was important for the appreciation of the "tactile" surface of the building, in the Baths, the main access to the building is underground. The Baths is not meant to be perceived as surface to be seen from a distance, but rather as space to be cut into.

The shift of focus from surface to space can be observed in the interior of the Baths. To enter the Baths, visitors first have to pass through a narrow underground tunnel that leads from the existing hotel. Only artificial lights are provided. No view toward the exterior is allowed. After passing the entrance, the visitors go into one of the five small changing rooms that have, again, no windows. At the other end of each changing room, another door leads the visitors to the main bath space. On a balcony-like corridor, the visitors now look down upon the main baths level. A view toward the exterior is still not permitted, but now dim natural sunlight permeates through the glass-

covered fissures in the ceiling. By stepping down a long open stairway, the visitors reach the main level (See figure 17 and 18). Regarding this gradual increase of scale, Zumthor writes:

A continuous internal space, like a geometric cave system, meanders through the bath's structure of large stone blocks, growing its size as it moves away from the narrow caverns by the mountain towards the daylight at the front.<sup>81</sup>

At first glance, the interior of the Baths seems to be literally a "tactile" landscape. After passing through a tightly organized system of accessing corridors and changing rooms, the visitor becomes more susceptible to a series of tactile stimuli provided by the Baths' interior. Zumthor is conscious of the dominance of literal tactility in the interior:

[O]ur bath is not a showcase for the latest aqua-gadgetry, water jets, nozzles or chutes. It relies instead on [...] the body's contact with water at different temperatures and in different kinds of spaces; on touching stone.<sup>82</sup>

Bare-footed visitors stand on the stone surface of the floors. Steam from hot water touches their skin. In each of the Baths' open and enclosed spaces, visitors' bodies are exposed to various kinds of tactile contact: contacts with heat, cold, hardness, softness, contact with showering, flowing, and static water.<sup>83</sup>

These various tactile experiences seem to be perfect illustrations of Zumthor's obsession with the tactile "images" of childhood memories and his emphasis on their role

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<sup>81</sup> Zumthor, *Ibid.*, 12.

<sup>82</sup> Zumthor, *Three Concepts*, 12.

<sup>83</sup> Not only tactile contacts, some of the enclosed spaces contain a music room, or an aroma bath, not withstanding the sound from moving water.

as initiators of design. However, curiously enough, Zumthor confesses that, in this particular project, he did not use these images. He writes:

John Cage said in one of his lectures that he is not a composer who hears music in his mind and then attempts to write it down. He has another way of operating. He works out concepts and structures and then has them performed to find out how they sound. When I read this statement I remembered how we recently developed a project for a thermal bath [...], not by forming preliminary images of the building in our minds and subsequently adapting them to the assignment [...].<sup>84</sup>

If the “images” or memories of the literal experience of tactility were not guiding agents of the design, what could be? I would argue that Zumthor’s Thermal Baths uniquely hybridized two *spatial* notions of tactility, i.e., tactility as *materiality* and tactility as *movement*, by incorporating two spatial languages of *Raumplan* and *Plan Libre*. I attempt to analyze the Baths through the broadened notions of tactility and the contrasting spatial languages.

(i) As we have seen, *Raumplan* can be characterized by its treatment of space as a unified volume. It creates enclosed spaces through the logic of subtraction: from the imagined monolithic mass of the building, unified interior volumes are subtracted; and the resulting remainder of the previous mass becomes the structure of the building. According to Zumthor, this logic of subtraction from the monolithic mass guided the initial phase of the design of the Baths:

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<sup>84</sup> Zumthor, *Thinking Architecture*, 29.

From an architectural viewpoint, the uniform stone layering appears to be almost literally monolithic. [...] Within its homogenous stone mass it still retains a clear sense of the strongest of the initial design ideas—the idea of hollowing out.<sup>85</sup>

Thus, the choice of material, Vals gneiss, and the choice of construction method, homogenous composite structure, contribute to the evocation of the spatial language of *Raumplan*. As a series of hollowed out masses, the building becomes a solid mass no more; instead, “the building as a whole resembles a large porous stone.”<sup>86</sup> (See figure 19 and 20)

The spatial language of *Raumplan* and its logic of subtraction can be more clearly read from the treatment of structural “blocks” in the interior. From the main spaces of the interior, these blocks look completely monolithic, like solid piers. However, by again “hollowing out” the interior, each of the blocks becomes a miniaturized *Raumplan* building within the whole. The interior volume of each block is a clearly defined cubic space in most of the cases. Zumthor writes:

...when [visitors] climb down into the landscape of blocks and wander through the different interconnected opening and closing spaces, they become aware that each block contains a special hollowed-out space.

Moreover, for the six blocks completely belonging to the interior, no openings are provided apart from the entrance. These blocks, therefore, become perfect illustrations of the narrowly defined “tactile architecture” with “material individuality” articulated by Riegl, which has flat walls without windows (See figure 21 and 22).

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<sup>85</sup> Zumthor, *Three Concepts*, 13.

<sup>86</sup> *Ibid.*, 12.



(ii) At the same time, the Baths seems to be built with the spatial language of *Plan Libre* in mind. If *Raumplan* is characterized by its logic of subtraction, by its “hollowing out” of unified spatial volumes, *Plan Libre* is characterized by its logic of addition, by its “assembling” of isolated objects, such as columns, walls, floors, stairs, and ramps. If separated, the structural “blocks” of the Baths can be read as small *Raumplan* buildings; but, if they are read within the entire plan, they become loosely deployed objects in the vast interior space. Together, they do not define closely unified interior volumes; rather, the interior space flows around these isolated blocks.

In *Plan Libre*, the scattered objects in space instigate the visitor’s active participation. They provoke *movement*. Zumthor is well aware of this mechanism of *Plan Libre*. Regarding the isolated structural “blocks” in the Baths, He writes:

The blocks are loosely assembled in recurring figurative patterns, which are often tied into various orthogonal ordering lines. Underlying this informal layout is a carefully modeled path of circulation which leads bathers to certain predetermined points but lets them explore other areas for themselves. The large continuous space between the blocks is built up sequentially.<sup>87</sup>

The undefined, flowing interior space becomes the stage for architectural promenade in which the occupant enjoys surprising encounters with different objects and spaces.

This alternative reading of the Baths as *Plan Libre* is amplified by the introduction of the characteristic “fissures” in the concrete roof plane (See figure 23 and 24). These fissures sever the roof plane of the Baths into a number of rectangular pieces. Each of the pieces is comprised of a structural block and a cantilevered plane. The

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<sup>87</sup> Ibid., 13.

reading of the building as a “hollowed-out” homogeneous stone becomes disrupted.

Instead, now the building is read as an “assembled” whole. Zumthor writes:

The large blocks in the plan are matched by a network of fissures in the ceiling [...].

This [...] suggests an additional way of reading the building: here, the meandering internal space is structured by big ‘tables’ of stone, *assembled* in geometric pattern.<sup>88</sup>

The fissures have a perceptual role too. They are distributed in such a way that they sometimes run along the vertical surface of the wall, sometimes hit the wall perpendicularly, and sometimes meet with each other. Thereby, the bright lines of fissures in the ceiling simultaneously lead and distract the bather’s attention. They give the interior space of the Baths a dynamic character. They provoke the architectural promenade on the main level of the Baths (See figures 25, 26, 27, and 28).

A variation happens at the heart of the interior of the Baths, at the indoor pool. In the plan, the pool is loosely defined by four isolated structural blocks. Through the gaps between these blocks, the pool is open to the larger surrounding interior space. In section, the transition from the pool to the surrounding interior space is carried by wide open stairs. The inner and the outer spaces smoothly merge with each other. Everything seems to follow the language of *Plan Libre*. Surprisingly, however, the fissures in the ceiling delineate a square in the ceiling of the indoor pool. Previously, the fissures were the main contributor to the reading of the Baths space as *Plan Libre*; however, now they play a completely different role, the role of marking out a unified space, which is the operation of the language of *Raumplan* (See figure 29).

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<sup>88</sup> Ibid., 13.

Thus, the hybridization of *Plan Libre* and *Raumplan* in the Baths can be interpreted on multi levels: the hybridization of the concepts of “hollowing-out” and “assembling,” the hybridization of the concept of building elements as “objects containing spaces” or “objects within spaces,” and the hybridization of the different roles of an element as “space-defining” or “space-distracting.” This possibility of multiple readings as both *Raumplan* and *Plan Libre*, I believe, makes the Baths building a unique contribution to the repertoire of the twentieth century architecture.

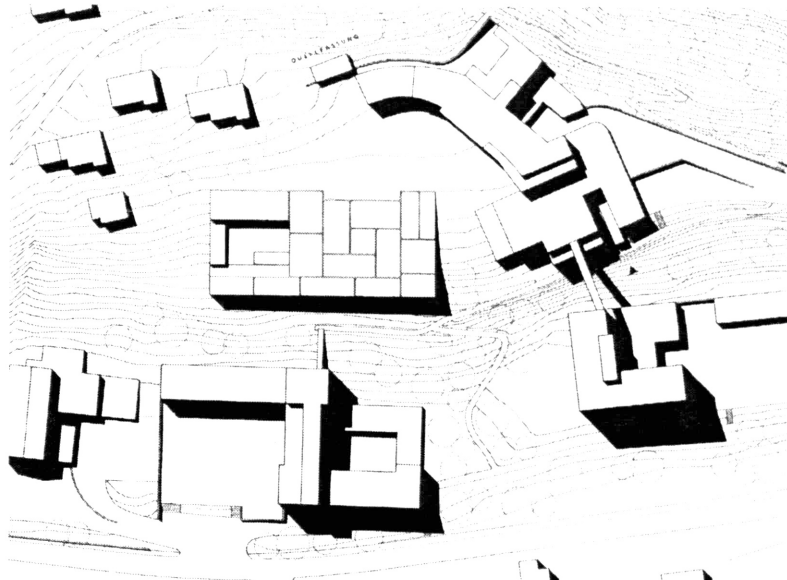


Figure 15: Peter Zumthor, Thermal Baths in Vals, 1986-96, Vals, Switzerland. Site plan.



Figure 16: Peter Zumthor, Thermal Baths in Vals. View of the roof.

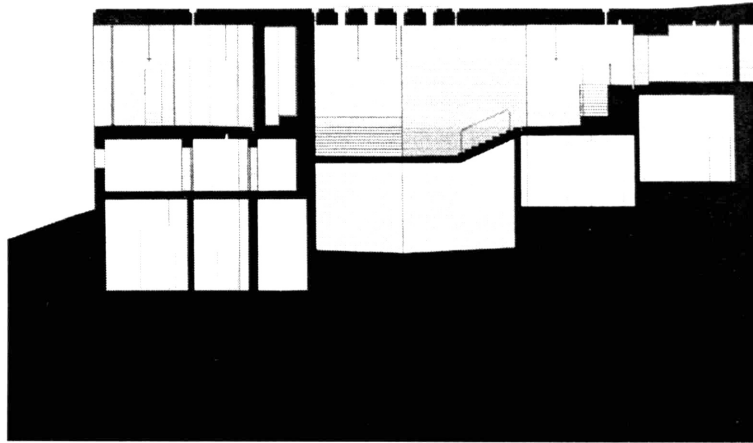


Figure 17: Peter Zumthor, Thermal Baths in Vals.  
Transversal section.



Figure 18: Peter Zumthor, Thermal Baths in Vals.  
View of the balcony and stairway

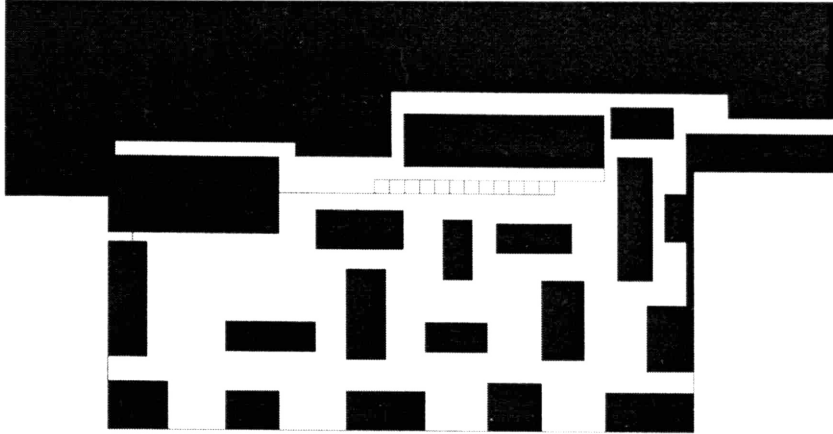


Figure 19: Peter Zumthor, Thermal Baths in Vals.  
Plan diagram showing void and structural blocks.

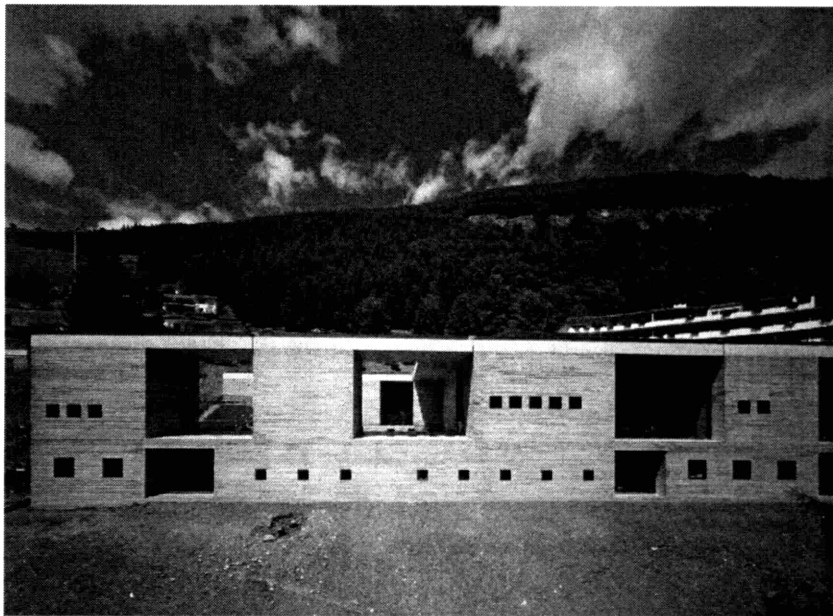


Figure 20: Peter Zumthor, Thermal Baths in Vals.  
Exterior view.

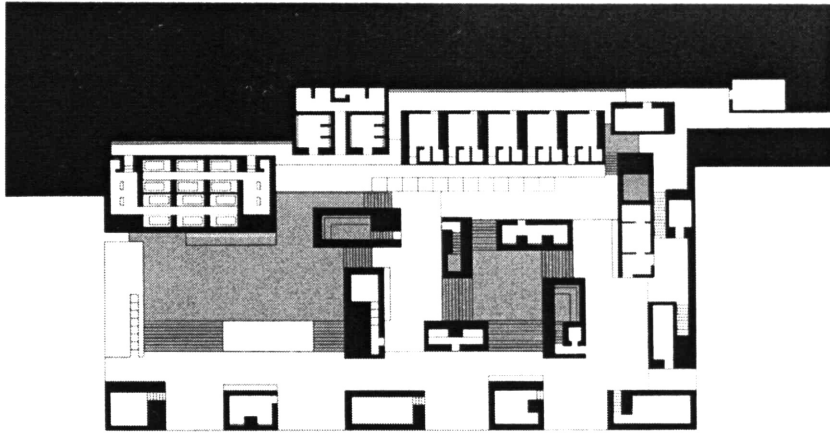


Figure 21: Peter Zumthor, Thermal Baths in Vals.  
Plan diagram showing "hollowed out" blocks.

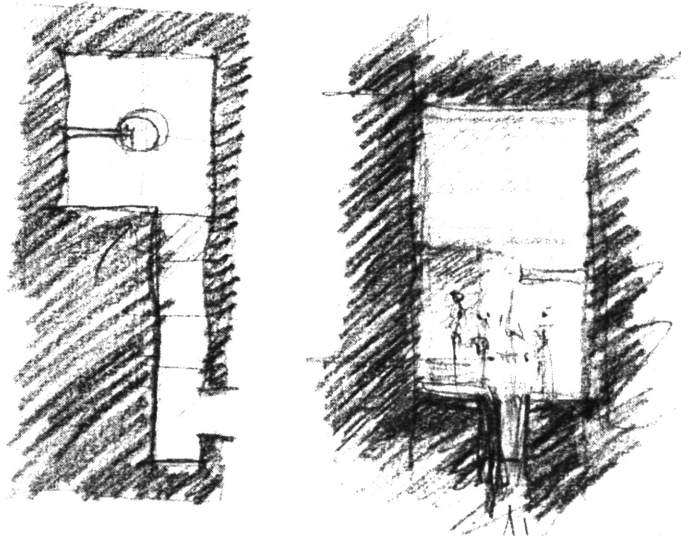


Figure 22: Peter Zumthor, Thermal Baths in Vals.  
Sketch for the interior of a block.

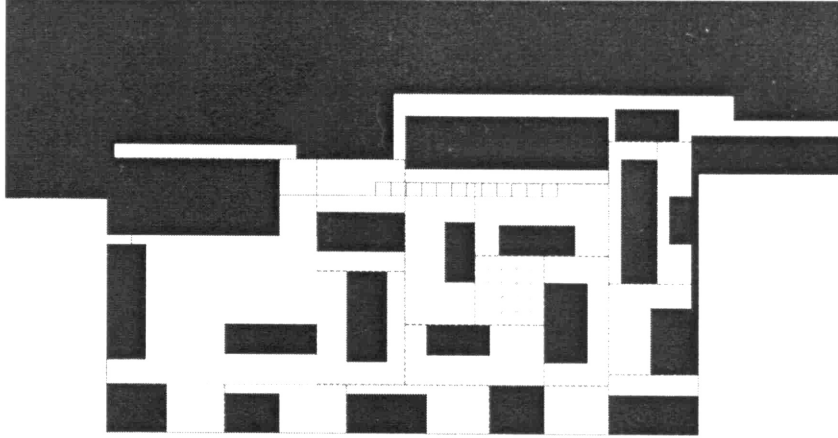


Figure 23: Peter Zumthor, Thermal Baths in Vals.  
Plan diagram showing “fissures” in the ceiling.

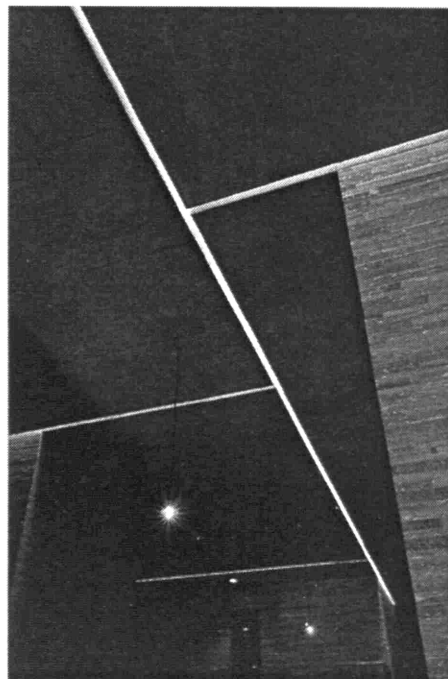


Figure 24: Peter Zumthor, Thermal Baths in Vals.  
Interior view of the ceiling.



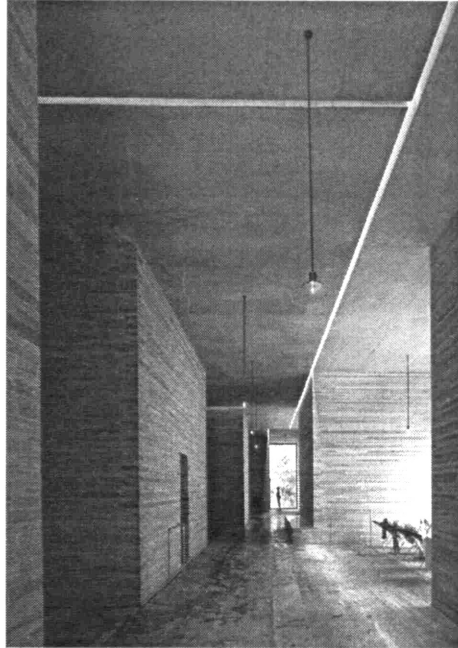


Figure 25: Peter Zumthor, Thermal Baths in Vals.  
Interior view.

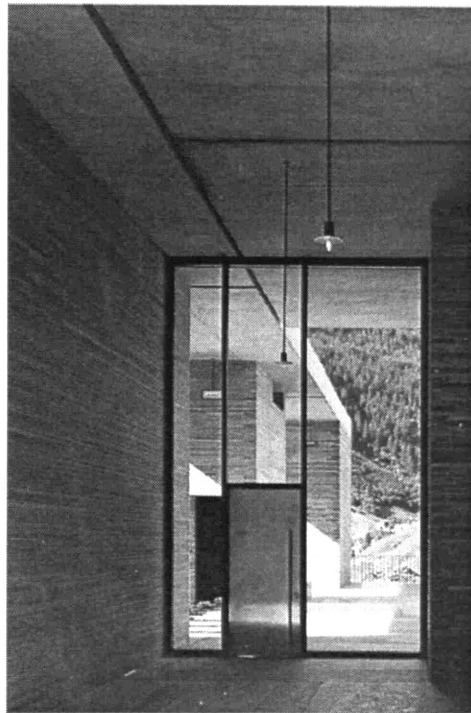


Figure 26: Peter Zumthor, Thermal Baths in Vals.  
Interior view.

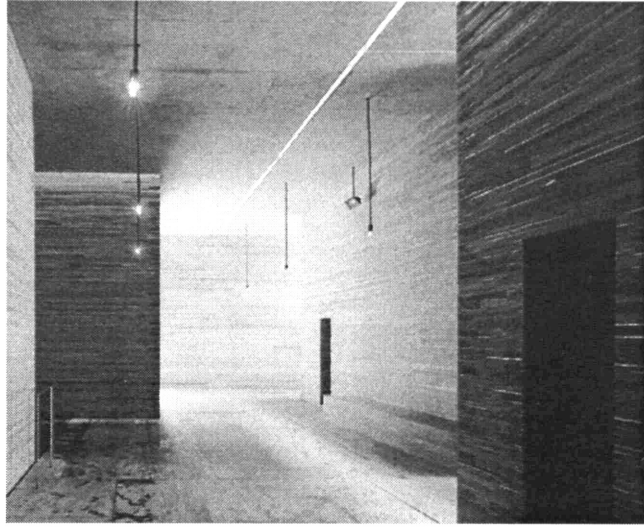


Figure 27: Peter Zumthor, Thermal Baths in Vals.  
Interior view.

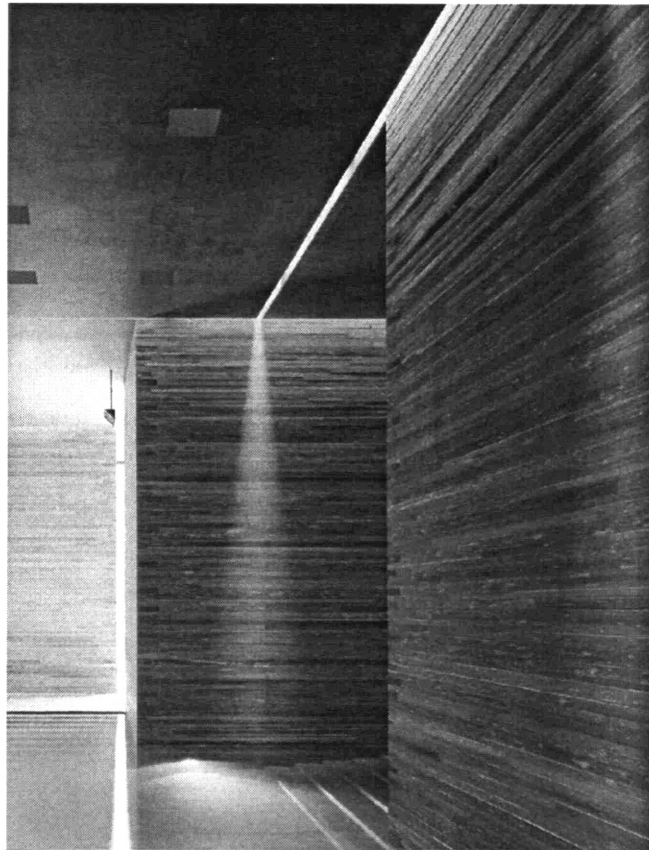


Figure 28: Peter Zumthor, Thermal Baths in Vals.  
Interior view.

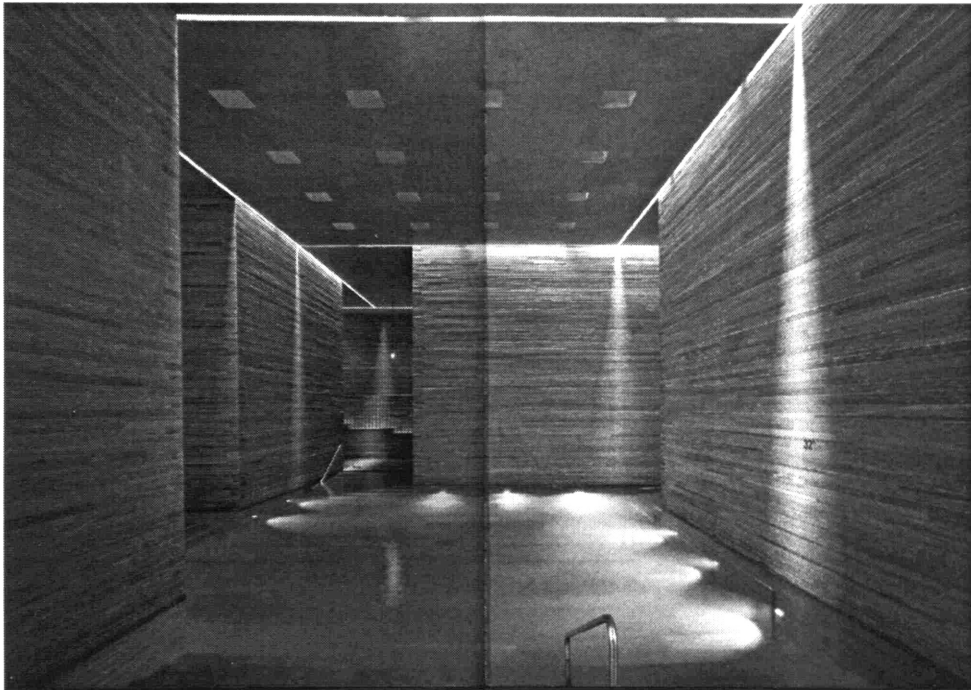


Figure 29: Peter Zumthor, Thermal Baths in Vals.  
View of the interior pool.

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