

To Summon All the Senses

Phoebe Crisman

University of Virginia

Wooden floors like light membranes, heavy stone masses, soft textiles, polished granite, pliable leather, raw steel, polished mahogany, crystalline glass, soft asphalt warmed by the sun... the architect's materials, our materials. We know them all. And yet we do not know them. In order to design, to invent architecture, we must learn to handle them with awareness.

- Peter Zumthor, Thinking Architecture 1998

The bodily senses—touch, taste, sight, smell and hearing—should be fully engaged throughout the process of both making and interacting with art and architecture. This holds true for the different stages in the life of a building: while a project is designed in the studio, while it is constructed on site, and ultimately while people dwell within. Three works by Swiss architect Peter Zumthor reveal the generative role of the senses in poetically orchestrating light, space, form, color and tactile material properties. Each exquisitely intertwines light and one primary material to great effect: concrete, stone and wood. The projects are located in three very different types of sites as well. The Bruder Klaus Chapel is the singular figure in a flat farming field in Wachendorf, Germany, the Thermal Baths are constructed from local gneiss and literally embedded into the mountain in the spa town of Vals, Switzerland, and the Saint Benedict Chapel delicately perches on a mountainside in Sumvitg, Switzerland. Just as installation art engages a specific place in time, so too does the most provocative architecture. Zumthor's buildings support a human sensory connection to place and a deep awareness of time and material transformation through natural forces. For instance, Zumthor clearly articulates his sensory intentions for the Baths (fig.1). "Right from the start, there was a feeling for the mystical nature of the world of stone inside the mountain, for darkness and light, for the different sounds that water makes in stone surroundings, for warm stone and naked skin, for the ritual of bathing."¹ These intentions together generate strong emotional, cognitive and physical responses in the inhabitants.

An essay that argues for a central role of the sensory in making may seem obvious, but the architectural design process has become increasingly distanced from the senses for several reasons. Today many buildings are designed with an uncritical use of digital processes that privilege the eye, the two-dimensional image, and the immaterial. Discussing the reliance on images in architecture, Andrew Saint notes: "the long-term challenge for the architectural profession...is to ride this exciting, undisciplined, licentious, and dangerous beast, to control this irresponsible lust for image that pervades our culture."² Because architecture and art is disseminated and legitimated in 2D media, it seems that more architects and artists are concerned with creating work that will appear well in magazines than aim to support human occupation or engender sensory engagement. The growing separation of architects from the building process has reduced their knowledge of material properties and assembly processes, while removing them from the thing itself.³ Physical study models have nearly disappeared in most professional offices and many university studios, but an adequate means of

spatial and tactile exploration has rarely replaced them. This is not an argument against the digital and its possibilities, but simply an observation that fewer architects touch, smell or listen to materials during the design process. The wood, plaster, metal, paper, fabric and other materials that have been used to conceptualize materiality as intertwined with form and space are disappearing. How then does the designer learn about the nature of materials and their assemblies? What is heavy or light, pliable or stiff, smooth or rough, and dense or luminous? The situation in architecture is not unique, however, for we live in an increasingly visual and image-conscious culture. This phenomenon is analyzed in numerous books about the senses that have appeared recently in the popular and academic press. In *The Book of Touch*, Constance Classen notes that within this image-saturated society there is little opportunity to actually feel something. “The endless appeal to the sense of touch that one finds in contemporary visual imagery, unaccompanied as it is by actual tactile gratification, may have helped make touch the hungriest sense of postmodernity.”⁴ This deficiency and desire for tactility is evident in art, film and literature, including recent popular and academic books about the senses. For instance, Diane Ackerman’s book, *A Natural History of the Senses*⁵ was a national bestseller and historian Robert Jütte proclaimed that “the five senses are back in fashion,” and writes about the proliferation of museum exhibitions, films, books, spas and advertising campaigns that focus on the senses.⁶ Amidst the images, a smaller number of architects remain attentive to the essential power of touch, sound, smell and even taste along with sight. Peter Zumthor’s work, perhaps the best contemporary example of this approach, is examined through four ideas about the senses in architecture.

1. The senses are particular, not abstract.

Sensory engagement is immediate and specific to place, time and material. Makers must find methods of investigating the particularity of texture, temperature, weight, smell, sound and temporal qualities. In architecture, place is a term used to reference the specificity of spatial experience. In a recent interview Zumthor stated, “You always build in a place. One possibility is to impose your own style wherever you go. Another possibility is that the place inspires you to do something special. I belong to the second category. I see the site as a source of inspiration and my desire is to create something which corresponds with it.”⁷ A comparison of his Saint Benedict Chapel and Thermal Baths clearly exemplify his position.

Place and Time

While designing the Chapel, Zumthor studied the surrounding vernacular architecture of the alpine village. The naturally weathering wood shingles seek a unity with the place, but do not replicate the stylistic language found there (fig.2). Wood, an affordable and sustainable material in the region, also carries a metaphorical significance. Zumthor is part of a generation of Swiss architects who returned to local materials in the 1970’s and 1980’s as a reaction to the trivialization of historical references such as the Swiss chalet form. Through the use of this native material, architects sought a deeper connection to Swiss history and place through “a grammar of materials—not a grammar of symbols.”⁸ Though again building in a Swiss mountain village, Zumthor’s Thermal Baths are not made of wood. As a formal and material means of connecting with the specific place, the building is constructed of local stone and embedded in the hillside. Zumthor eloquently describes the project. “The building takes the form of a large, grass-covered stone object set deep into the mountain and dovetailed into its flank. It is a solitary building, which resists formal integration with the existing

structure in order to more clearly—and achieve more fully—what seemed to us a more important role: the establishing of a special relationship with the mountain landscape, its natural power, geological substance and impressive topography. In keeping with this idea, it pleased us to think that the new building should communicate the feeling of being older than its existing neighbour, or always having been in this landscape. Mountain, stone, water, building with stone, building into the mountain, building out the mountain—our attempts to give this chain of words an architectural interpretation, to translate into architecture its meaning and sensuousness, guided our design for the building and step by step gave it form.”⁹ The use of local gneiss led to a particular way of cutting and laying the stone that generated the form itself. Like the architect Louis Kahn’s use of “hollow stones,” Zumthor structures the building around massive, seemingly solid stone blocks or piers that are each hollowed out to contain discrete rooms for massage, changing and other discrete functions. Major spaces and pools flow around, and are defined by, these hollow stones that emerge out of the mountain. This idea is clearly depicted in Zumthor’s plan sketches for the project.

Material

Zumthor’s choice of building materials is also informed by the specifics of place. In his recent book *Atmospheres*, he reflects, “Material is endless. Take a stone: you can saw it, grind it, drill into it, split it, or polish it – it will become a different thing each time.”¹⁰ In the village of Vals, rough found stone was traditionally used to make the timber farmhouse roofs. Zumthor cuts this same local green gneiss into thin blocks that are stacked layer upon layer like the stone strata of the mountainside, thereby forming a heavy, monolithic mass. The way the stone is cut and layered determines all the spatial junctures and details inside and out (fig.3). In this way, Zumthor uses traditional materials—wood, stone, concrete—assembling or transforming them in unprecedented and magical ways.

2. Sensory awareness encourages an open process of making.

Serendipity and spontaneity are inherent in a process of making grounded in the senses because of its specificity. Things are different every time. Developing ideas through real materials ensures that makers discover as they make, thereby establishing reciprocity between intention and discovery. In architecture, this exchange is a crucial aspect of both the design and construction processes. When asked about how he was able to achieve the different textures of stone in the Thermal Baths, Zumthor replied: “It’s loving the material, loving the atmosphere, the radiance it has, and then, if you work a long time with these materials, a set of materials, all of a sudden you get it...material is stronger than an idea, it’s stronger than an image because it’s really there, and it’s there in its own right.”¹¹ The distinctness of each site presents another open condition for the architect. For instance, touch operates at multiple scales – from door handle to wall surface to the entire building as it touches the site. Again at the Thermal Baths, “the design process was a playful but patient process of exploration independent of rigid formal models. Right from the start, there was a feeling for the mystical nature of the world of stone inside the mountain, for darkness and light, for the different sounds that water makes in stone surroundings, for warm stone and naked skin, for the ritual of bathing.”¹² Zumthor’s open design process, informed by material explorations, a critical dialogue with the qualities of each site and chance discoveries along the way, invariably generates a distinct building that looks like *it is simply there*.

An open process of making through drawings and models can draw out and articulate material possibilities, rather than merely *represent* a future building.¹³ For instance, Zumthor's studies for the Bruder Klaus Chapel's lead floor are experiments with how particular textures may be created by different pouring processes. The realized Chapel floor is a soft topography that collects rainwater falling through the oculus and changes color and texture over time. *Baukunst*, the art of building, the actual process of how one builds—is a lost concept for many architects. The construction process itself was a source of inspiration and realization for Zumthor's spatial and material conception of the Bruder Klaus Chapel. Commissioned and built by a rural farming community, the enigmatic shrine honors the fifteenth-century hermit of the same name. First, a teepee-like or elongated conical structure of tree trunks was erected on the site and shored up from within. Over the course of twenty-four days the local farmer/clients poured fifty centimeters of concrete each day, thereby creating a rough, striated exterior surface. The surface records the method of its making and colors of the local soil (fig.4). A complex interior volume was created within the orthogonal concrete solid. Using a charcoal-burning process, the logs were burned out of position to reveal a strongly formed surface that modulates light from the oculus above. Though intentional, this hands-on and relatively uncontrollable process—of setting the building on fire to remove the formwork and achieve a charred patina—is perhaps the epitome of an open process of making in studio and on site. The highly tactile, exquisite and sublime interior space of the shrine could not have been achieved otherwise (fig.5).

3. The senses create bodily experience and exceed mere image.

Even a creative endeavor like painting, which is often understood as purely visual, relies heavily on imaginary touch: on seeing the surface's rough impasto or smooth, transparent layers and imagining their touch. Though some artists have rejected the "do not touch" policy of museums and galleries, paintings are rarely literally touched by anyone other than the painter. Conversely, built architecture is touched. That is why a doorknob, handrail or step is so crucial. They are frequently touched places that physically register human touch over time through burnished bronze and worn surfaces. The touch of natural forces is inscribed on buildings through the weathering of materials. "The tactile sense connects us with time and tradition; through marks of touch we shake the hands of countless generations."¹⁴ Thus, embodied experience is intensely relevant for both the maker and the inhabitant. Phenomenology, in its desire to restore the sensory plenitude of lived experience, has been revelatory for the disciplines of art and architecture. An examination of the body's direct sensory engagement with its environment connects with how things are made. Juhani Pallasmaa's writing, rooted in the ideas of Husserl, Merleau-Ponty, Heidegger, Bachelard and Norberg-Schulz, laments the loss of sensuality in culture and architecture. "The detachment of construction from the realities of material and craft turns architecture into stage sets for the eye, devoid of the authenticity of material and tectonic logic."¹⁵

Representation

How can the creative process of the architect grapple with the question of representation then? Are the drawings and models made by the architect primarily representations of a future building, studies to help the architect conceive of that environment, or legal instructions for the builder? Phenomenologists claim that architecture should not be representational, but that the work of architecture presents, or "brings something into presence."¹⁶ In discussing the role of drawings in his work, Zumthor claims, "A real representation of something would destroy it. The best images of

something not yet built are the ones that give you a broad, open feeling, like a promise...”¹⁷ Other than conceptual sketches and construction drawing details, Zumthor rarely publishes his drawings. This stance is quite unusual in an image-conscious world where many architects are more known for their slick digital drawings than the built things that the drawings represent.

4. Touch is synergetic with all the senses.

Though painting and architecture most strongly share the overlap of sight and touch experiences, architecture must be understood through a multi-sensory experience of a place in time. In *The Eyes of the Skin: Architecture and the Senses*, Pallasmaa describes the contemporary dominance of vision or ocularcentrism, probes the importance of peripheral vision to spatial experience, and argues that the senses are not independent, but interactive and synergetic.¹⁸ From a related position, Zumthor articulates nine things in his creative process that produce a unified sensory approach. For instance, he writes about sound: “Interiors are like large instruments, collecting sound, amplifying it, transmitting it elsewhere. It has to do with the shape peculiar to each room and with the surfaces of the materials they contain and the way those materials have been applied”¹⁹ (fig.6). He considers how human bodies find pleasure and protection in specific thermal conditions.²⁰ “So temperature in this sense is physical, but presumably psychological too. It’s in what I see, what I feel, what I touch, even with my feet.”²¹ Zumthor describes the essential nature of sensory engagement in a very direct way. “People interact with objects. As an architect that is what I deal with all the time. Actually, it’s what I’d call my passion. The real has its own magic. Of course, I know the magic that lies in thought. The passion of a beautiful thought. But what I’m talking about here is something I often find even more incredible: the magic of things, the magic of the real world.”²² (fig.7)

Many would disagree with Zumthor’s passion for “the magic of the real world” and this essay’s claim that the senses are essential in architecture and that localization is a powerful concept to challenge the “post-critical” sense of exhilaration or resignation in the face of globalization. Jean Baudrillard, Christine Boyer, and Peter Eisenman have all argued that when the physical world is dematerialized by electronic media, then appearance is valued over existence.²³ Although digital technology certainly has a role in shaping the experience of space, the powers of touch shows no sign of waning. The bodily senses are particular, experiential and generative of an open process of making. As Peter Zumthor’s work eloquently exemplifies, the senses together spur enlightened reflection and amplify human experience of architecture and art.

Notes

¹ Peter Zumthor, *Three Concepts* (Basel: Birkhauser): 11.

² Andrew Saint, “Architecture as Image: How Can We Rein in this New Beast?,” *Reflections on Architectural Practice in the Nineties*. Rowe and Saunders (New York: Princeton Architectural Press, 1996). Jean Baudrillard, *The Ecstasy of Communication* (New York: Semiotext(e), 1988).

³ Ignaci de Sola-Morales examined this condition in “The Work of Architecture in the Age of Mechanical Reproduction,” *Differences: Topographies of Contemporary Architecture* (Cambridge: MIT Press, 1997): 133-137.

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- ⁴ Contance Classen, *The Book of Touch* (Oxford: Berg, 2005): 2.
- ⁵ Diane Ackerman, *A Natural History of the Senses* (New York: Vintage Books, 1991).
- ⁶ Robert Jutte, *A History of the Senses. From Antiquity to Cyberspace* (Cambridge: Polity Press, 2005).
- ⁷ "Zumthor goes to the essence of things," Royal Academy interview.
- ⁸ For more on this situation in Switzerland, see Martin Steinman's essay, "The Presence of Things" in *Construction Intention Detail*. Kevin Alter and Mark Gilbert, eds. (Zurich: Artemis, 1994): 8-25.
- ⁹ Peter Zumthor, *Three Concepts* (Springer Verlag, 1997): 11-13.
- ¹⁰ Peter Zumthor, *Atmospheres* (Basel: Birkhauser, 2006): 25.
- ¹¹ Steven Spier, "Place, Authorship and the Concrete: three conversations with Peter Zumthor," *arq*, v.5, n.1 (2000): 19.
- ¹² Peter Zumthor, *Three Concepts*: 11.
- ¹³ The question of representation is inseparable from the architect's creative process. What are the drawings and models made by the architect: representations of a future built environment, studies to help the architect conceive of that environment, or legal instructions for the builder? Phenomenologists claim that architecture should not be representational, but that the work of architecture presents, or "brings something into presence." Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1979).
- ¹⁴ Juhani Pallasmaa, "An Architecture of the Seven Senses," *Questions of Perception: phenomenology of architecture*, *A+U* (July 1994): 33.
- ¹⁵ Pallasmaa: 29.
- ¹⁶ Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1979).
- ¹⁷ "Zumthor goes to the essence of things," Royal Academy interview.
- ¹⁸ Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses* (London: Academy Editions, 1996).
- ¹⁹ Peter Zumthor, *Atmospheres*: 29.
- ²⁰ For a detailed and poetic study of temperature and physiological response in buildings, see Lisa Heschong, *Thermal Delight in Architecture* (Cambridge: MIT Press, 1979).
- ²¹ Zumthor, *Atmospheres*: 35.
- ²² *Ibid.*, 17-18. Also see Peter Zumthor, "The Hard Core of Beauty," *Thinking Architecture* (Boston: Birkhauser, 1999).
- ²³ Christine Boyer, *Cybercities: Visual perception in the Age of Electronic Communication* (New York: Princeton Architectural Press, 1996); Peter Eisenman, "Visions' Unfolding: Architecture in the Age of Electronic Media," *Domus* 734 (Jan 1992): 20-24.