

QUESTIONS OF PERCEPTION

PHENOMENOLOGY OF ARCHITECTURE

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This new edition of the A+U 1994 special issue *Questions of Perception* brings back one of the most important treatises on architectural theory in recent years. Authored by noted architectural scholars, Steven Holl, Alberto Pérez-Gómez, and Juhani Pallasmaa, the three separate essays are thematically linked: each one tries to explain the role that human perception and phenomenological experience play in architecture. In particular, Holl lucidly explains the importance of intuition in the construction and experience of built space. In a new introduction, Holl reflects upon the resonance of the book, his writings, and work over the years. The authors explain their goal thus: "Unlike the critic and philosopher, the architect must embrace the contradictions between perception and logic, the slippage between architectural intention and realization, and the unpredictability of the future's judgement upon the acting present.... This book represents a humble attempt to articulate words and images with this generative intention in mind."

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An Architecture of the Seven Senses

Juhani Pallasmaa





The taste of the apple...lies in the contact of the fruit with the palate, not in the fruit itself; in a similar way...poetry lies in the meeting of the poem and reader, not in the lines of symbols printed on the pages of a book. What is essential is the aesthetic act, the thrill, the almost physical emotion that comes with each reading.

-Jorge Luis Borges, Forward to Obra Poética

Perhaps thinking, too, is just something like building a cabinet. At any rate, it is a craft, a 'handicraft,' and therefore has a special relationship to the hand. In the common view, the hand is part of our bodily organism. But the hand's essence can never be determined, or explained, by its being an organ which can grasp. (...) The hand is infinitely different from all the grasping organs...different by an abyss of essence. (...) But the craft of the hand is richer than we commonly imagine. (...) The hand reaches and extends, receives and welcomes - and not just things: the hand extends itself, and receives its own welcome in the hands of others. (...) But the hand's gestures run everywhere through language, in their most perfect purity precisely when man speaks by being silent. (...) Every motion of the hand in every one of its works carries itself through the element of thinking, every bearing of the hand bears itself in that element. All the work of the hand is rooted in thinking.

-Martin Heidegger, "What Calls for Thinking?"

RETINAL ARCHITECTURE AND LOSS OF PLASTICITY

The architecture of our time is turning into the retinal art of the eye. Architecture at large has become an art of the printed image fixed by the hurried eye of the camera. The gaze itself tends to flatten into a picture and lose its plasticity; instead of experiencing our being in the world, we behold it from outside as spectators of images projected on the surface of the retina.

As buildings lose their plasticity and their connection with the language and wisdom of the body, they become isolated in the cool and distant realm of vision. With the loss of tactility and the scale and details crafted for the human body and hand, our structures become repulsively flat, sharp-edged, immaterial, and unreal. The detachment of construction from the realities of matter and craft turns architecture into stage sets for the eye, devoid of the authenticity of material and tectonic logic.

Natural materials - stone, brick and wood - allow the gaze to penetrate their surfaces and they enable us to become convinced of the veracity of matter. Natural material expresses its age and history as well as the tale of its birth and human use. The patina of wear adds the enriching experience of time; matter exists in the continuum of time. But the materials of today - sheets of glass, enameled metal and synthetic materials - present their unyielding surfaces to the eye without conveying anything of their material essence or age.

Beyond architecture, our culture at large seems to drift towards a distancing, a kind of chilling, de-sensualization and de-eroticization of the human relation to reality. Painting and sculpture have also lost their sensuality, and instead of inviting sensory intimacy, contemporary works of art frequently signal a distancing rejection of sensuous curiosity.

The current over-emphasis on the intellectual and conceptual dimensions of architecture further contributes to a disappearance of the physical, sensual and embodied essence of architecture.

ARCHITECTURE OF THE SENSES

In Renaissance times, the five senses were understood to form a hierarchical system from the highest sense of vision down to the lowest sense, touch. The system of the senses was related to the image of the cosmic body; vision was correlated to fire and light, hearing to air, smell to vapor, taste to water, touch to earth.



Man has not always been isolated in the realm of vision; a primordial dominance of hearing has gradually been replaced by that of vision. In his book *Orality & Literacy* Walter J. Ong points out that "The shift from oral to written speech is essentially a shift from sound to visual space ... print replaced the lingering hearing - dominance in the world of thought and expression with the sight - dominance which had its beginning in writing ... This is an insistent world of cold, non-human facts."

Every touching experience of architecture is multi-sensory; qualities of matter, space, and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture involves seven realms of sensory experience which interact and infuse each other.

In the words of Merleau - Ponty, "We see the depth, speed, softness and hardness of objects - Cézanne says we see even their odor. If a painter wishes to express the world, his system of color must generate this indivisible complex of impressions, otherwise his painting only hints at possibilities without producing the unity, presence and unsurpassable diversity that governs the experience and which is the definition of reality for us."

A walk through a forest or a Japanese garden is invigorating and healing because of the essential interaction of all sense modalities reinforcing each other; our sense of reality is thus strengthened and articulated.

Images of one sensory realm feed further imagery in another modality. In *The Book of Tea* Kakuzo Okakura gives a fine description of the multi-sensory imagery evoked by the extremely simple situation of the tea ceremony, "...quiet reigns with nothing to break the silence save the note of the boiling water in the iron kettle. The kettle sings well, for pieces of iron are so arranged in the bottom as to produce a peculiar melody in which one may hear the echoes of a cataract muffled by clouds, of a distant sea breaking among the rocks, a rainstorm sweeping through a bamboo forest, or of the sighing of pines on some faraway hill."

The senses do not only mediate information for the judgment of the intellect; they are also a means of articulating sensory thought.

ACOUSTIC INTIMACY

One who has half-risen to the sound of a distant train at night and, through his sleep, experienced the space of the city with its countless inhabitants scattered around its structures, knows the power of sound to the imagination; the nocturnal whistle of a train makes one conscious of the entire sleeping city. Anyone who has become entranced by the sound of water drops in the darkness of a ruin can attest to the extraordinary capacity of the ear to carve a volume into the void of darkness. The space traced by the ear becomes a cavity sculpted in the interior of the mind.

We can recall the acoustic harshness of an uninhabited and unfurnished house as compared to the affability of a lived home in which sound is refracted and softened by the surfaces of numerous objects of personal life. Every building or space has its characteristic sound of intimacy or monumentality, rejection or invitation, hospitality or hostility.

Sight makes us solitary, whereas hearing creates a sense of connection and solidarity; the gaze wanders lonesomely in the dark depths of a cathedral, but the sound of the organ makes us realize our affinity with the space. We stare alone at the suspense of the circus, but the burst of applause after the relaxation of suspense unites us to the crowd. The sound of church bells through the streets makes us aware of our citizenship. The echo of steps on a paved street has an emotional charge because the sound bouncing off the surrounding walls puts us in direct interaction with space; the sound measures space and makes its scale comprehensible. We stroke the edges of the space with our ears. But, the contemporary city has lost its echo.

SILENCE, TIME, AND SOLITUDE

However, the most essential auditory experience created by architecture is tranquillity. Architecture presents the drama of construction silenced into matter and space; architecture is the art of petrified silence. After the clutter of building has ceased and the shouting of workers has died away, the building becomes a museum of a waiting, patient silence. In Egyptian temples we encounter the silence of the pharaohs, in the silence of a Gothic cathedral we are reminded of the last dying note of a Gregorian chant, and the echo of Roman footsteps has just faded on the walls of the Pantheon.

An architectural experience silences all external noise; it focuses attention on one's very existence. Architecture, as all art, makes us aware of our fundamental solitude. At the same time, architecture detaches us from the present and allows us to experience the slow, firm flow of time and tradition. Buildings and cities are instruments and museums of time. They enable us to see and understand the passing of history.

Architecture connects us with the dead; through buildings we are able to imagine the bustle of the medieval street and fancy a solemn procession approaching the cathedral. The time of architecture is a detained time; in the greatest of buildings time stands firmly still. Time in the Great Peristyle at Karnak has petrified into a timeless present.

Experiencing a work of art is a private dialogue between the work and the viewer that excludes other interactions. "Art is made by the alone for the alone," as Cyrille Connolly writes in *The Unquiet Grave*. Melancholy lies beneath moving experiences of art; this is the tragedy of beauty's immaterial temporality. Art projects an unattainable ideal.





SPACE OF SCENT

The strongest memory of a space is often its odor; I cannot remember the appearance of the door to my grandfather's farm-house from my early childhood, but I do remember the resistance of its weight, the patina of its wood surface scarred by a half century of use, and I recall especially the scent of home that hit my face as an invisible wall behind the door.

A particular smell may make us secretly re-enter a space that has been completely erased from the retinal memory; the nostrils project a forgotten image and we are enticed to enter a vivid daydream.

"...Memory and imagination remain associated," Gaston Bachelard writes. "I alone in my memories of another century can open the deep cupboard that still retains for me alone that unique odor, the odor of raisins, drying on a wicker tray. The odor of raisins! It is an odor that is beyond description, one that it takes a lot of imagination to smell."

And what a delight to move from one realm of odor to the next in the narrow streets of an old town; the scent sphere of a candy store makes one think of the innocence and curiosity of childhood; the dense smell of a shoemaker's workshop makes one imagine horses and saddles, harness straps and the excitement of riding; the fragrance of a bread shop projects images of health, sustenance and physical strength, whereas the perfume of a pastry shop makes one think of bourgeois felicity.

Why do abandoned houses always have the same hollow smell; is it because the particular smell is caused by the visual emptiness observed by the eye?

In his Notebook of Malta Laurids Brigge, Rainer Maria Rilke gives a dramatic description of images of past life in an already demolished house conveyed by traces imprinted on the wall of its neighboring house. "There were the midday meals and sicknesses and the exhalations and the smoke of years, and the sweat that breaks out under the armpits and makes the garments heavy, and the stale breath of mouths, and the oily odour of perspiring feet. There were the pungent tang of urine and the stench of burning soot and the grey reek of potatoes, and the heavy, sickly fumes of rancid grease. The sweetish, lingering smell of neglected infants was there, and the smell of frightened children who go to school and the stuffiness of the beds of nubile youths.

Contemporary images of architecture appear sterile and lifeless as compared to the emotional and associative power of Rilke's olfactory imagery.

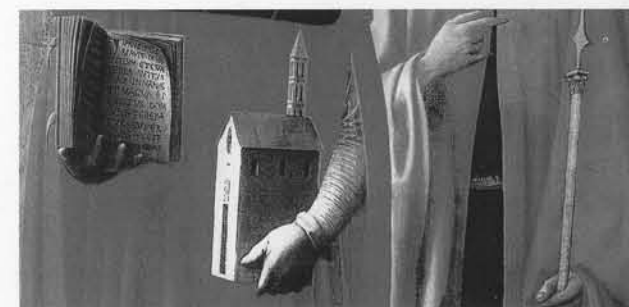
THE SHAPE OF TOUCH

The skin reads the texture, weight, density and temperature of matter. The surface of an old object, polished to perfection by the tool of the craftsman and the assiduous hands of its users, seduces the stroking of our hand. It is pleasurable to press a door handle shining from the thousand hands that have entered the door before us; the clean shimmer of ageless wear has turned into an image of welcome and hospitality. The door handle is the handshake of the building. The tactile sense connects us with time and tradition; through marks of touch we shake the hands of countless generations.

The skin traces spaces of temperature with unerring precision; the cool and invigorating shadow under a tree or the caressing sphere of warmth in a spot of sun. In my childhood-images of the countryside, I can vividly recall walls against the angle of the sun, walls which intensified the heat of radiation and melted the snow, allowing the first smell of pregnant soil to announce the approach of summer. These pockets of spring were identified by the skin and the nose as much as by the eye.

We trace the density and texture of the ground through our soles. Standing barefoot on a smooth glacial rock by the sea at sunset and sensing through one's soles the warmth of the stone heated by the sun is a healing experience; it makes one part of the eternal cycle of nature. One senses the slow breathing of the earth.

There is a strong identity between the skin and the sensation of home. The experience of home is essentially an experience of warmth. The space of warmth around a fireplace is the space of ultimate intimacy and comfort. A sense of homecoming is never stronger than seeing a light in the window of a house in a snow-covered landscape at dusk; the remembrance of its





warm interior gently warms one's frozen limbs. Home and skin turn into a single sensation.

But the eye also touches; the gaze implies an unconscious bodily mimesis, identification. Perhaps, we should think of touch as the unconscious of vision. Our gaze strokes distant surfaces, contours and edges, and the unconscious tactile sensation determines the agreeableness or unpleasantness of the experience. The distant and the near are experienced with the same intensity.

Great architecture offers shapes and surfaces molded for the pleasurable touch of the eye.

The eye is the sense of separation and distance, whereas touch is the sense of nearness, intimacy and affection. During overpowering emotional states we tend to close off the distancing sense of vision; we close our eyes when caressing our loved ones. Deep shadows and darkness are essential, because they dim the sharpness of vision and invite unconscious peripheral vision and tactile fantasy. Homogeneous light paralyzes the imagination in the same way that homogenization eliminates the experience of place.

In his *In Praise of Shadows*, Jun'ichiro Tanizaki points out that even Japanese cooking depends upon shadows and is inseparable from darkness. "And when yokan is served in a lacquer dish, it is as if the darkness of the room were melting on your tongue." In olden times the blackened teeth of the geisha and her green-black lips and white face were also intended to emphasize the darkness and shadows of the room. In Luis Barragan's view most of contemporary houses would be more pleasant with only half of their window surface.

In emotional states, sense stimuli seem to shift from the more refined senses towards the more archaic, from vision down to touch and smell. A culture that seeks to control its citizens is likely to value the opposite direction of interface; away from the intimate identification towards the publicly distant detachment. A society of surveillance is necessarily a society of a voyeurist eye.

IMAGES OF MUSCLE AND BONE

Primitive man used his body as the dimensioning and proportioning system of his constructions. The builders of traditional societies shaped their buildings with their own bodies in the same way that a bird molds its nest by its body. The essence of a tradition is the wisdom of the body stored in the haptic memory. The essential knowledge of the ancient hunter, fisherman and farmer, as well as of the mason and stone cutter, was an imitation of an embodied tradition of the trade, stored in the muscular and tactile senses.

"The word habit is too worn an word to express this passionate liaison of our bodies, which do not forget, with an unforgettable house," writes Bachelard of the strength of bodily memory.

There is an inherent suggestion of action in images of architecture, the moment of active encounter or a promise of use and purpose. A bodily reaction is an inseparable aspect of the experience of architecture as a consequence of this implied action. A real architectural experience is not simply a series of retinal images; a building is encountered - it is approached, confronted, encountered, related to one's body, moved about, utilized as a condition for other things, etc.

Stepping stones set in the grass of a garden are images and imprints of human steps.

As we open a door, our body weight meets the weight of the door; our legs measure the steps as we ascend a stair, our hand strokes the handrail and our entire body moves diagonally and dramatically through space.

A building is not an end to itself; it frames, articulates, restructures, gives significance, relates, separates and unites, facilitates and prohibits. Consequently, elements of an architectural experience seem to have a verb form rather than being nouns. Authentic architectural experiences consist then of approaching, or confronting a building rather than the facade; of the act of entering and not simply the frame of the door, of looking in or out of a window, rather than the window itself.

In the analysis of Fra Angelico's *Annunciation* in his essay "From the Doorstep to the Common Room: (1926) Alvar Aalto recognizes the verb essence of architectural experience; he speaks of entering a room, not of the porch or the door, for instance.

The authenticity of architectural experience is grounded in the tectonic language of building and the comprehensibility of the act of construction to the senses. We behold, touch, listen and measure the world with our entire bodily existence and the experiential world is organized and articulated around the center of the body. Our domicile is the refuge of our body, memory and identity. We are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the Self from its spatial and situational existence. "I am the space, where I am," as the poet Noel Arnaud established.

BODILY IDENTIFICATION

Henry Moore wrote perceptively of the necessity of a bodily identification in art, "This is what the sculptor must do. He must strive continually to





think of, and use, form in its full spatial completeness. He gets the solid shape, as it were, inside his head - he thinks of it, whatever its size, as if he were holding it completely enclosed in the hollow of his hand. He mentally visualizes a complex form from all round itself; he knows while he looks at one side what the other side is like; he identifies himself with its center of gravity, its mass, its weight; he realizes its volume, and the space that the shape displaces in the air."

The encounter of any work of art implies a bodily interaction. A work of art functions as another person, with whom we converse. Melanie Klein's notion of projective identification suggests that, in fact, all human interaction implies projection of fragments of the Self to the other person. The painter Graham Sutherland expresses the same view in regards to his own work, "In a sense the landscape painter must almost look at the landscape as if it were himself - himself as a human being." In Paul Cézanne's view the landscape thinks through him and he is the consciousness of the landscape.

Similarly, an architect internalizes a building in his body; movement, balance, distance and scale are felt unconsciously through the body as tension in the muscular system and in the positions of the skeleton and inner organs. As the work interacts with the body of the observer the experience mirrors these bodily sensations of the maker. Consequently, architecture is communication from the body of the architect directly to the body of the inhabitant.

Understanding architectural scale implies the unconscious measuring of an object or a building with one's body, and projecting one's bodily scheme on the space in question. We feel pleasure and protection when the body discovers its resonance in space.

When experiencing a structure, we unconsciously mimic its configuration with bones and muscles; the pleasurable animated flow of a piece of music is subconsciously transformed into bodily sensations, the composition of an abstract painting is experienced as tensions to the muscular system. The structures of a building are unconsciously imitated and comprehended through the skeletal system unknowingly, as we perform the task of the column or the vault with our body. The brick wants to become a vault, as Louis Kahn has said, but this metamorphosis takes place through the mimesis of our own body.

The sense of gravity is the essence of all architectonic structures and great architecture makes us conscious of gravity and earth. Architecture strengthens verticality of our experience of the world. At the same time that architecture makes us aware of the depth of earth, it makes us dream of levitation and flight.

TASTE OF ARCHITECTURE

Adrian Stokes writes about the "oral invitation of Veronese marble." There is a subtle transference between tactile and taste experiences. Vision also becomes transferred to taste; certain colors as well as delicate details evoke oral sensations. A delicately colored polished stone surface is subliminally sensed by the tongue. Many years ago I felt compelled to kneel and touch the white marble threshold of the James residence in Carmel, California designed by Charles and Henry Greene. Carlo Scarpa's architecture also frequently presents similar experiences of taste.

Tanizaki gives an impressive description of the subtle interaction of the senses,

"With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm senses the gentle movements of the liquid, vapor rises from within forming droplets on the rim, and a fragrance carried upon the vapor brings a delicate anticipation."

THE TASK OF ARCHITECTURE

The timeless task of architecture is to create embodied existential metaphors that concretize and structure man's being in the world. Images of architecture reflect and externalize ideas and images of life; architecture materializes our images of ideal life. Buildings and towns enable us to structure, understand, and remember the shapeless flow of reality and, ultimately, to recognize and remember who we are. Architecture enables us to place ourselves in the continuum of culture.

All experience implies the acts of recollecting, remembering and comparing. An embodied memory has an essential role as the basis of remembering a space or a place. Our home and domicile are integrated with our self-identity; they become part of our own body and being.

In memorable experiences of architecture, space matter and time fuse into one single dimension, into the basic substance of being, that penetrates the consciousness. We identify ourselves with this space, this place, this moment and these dimensions as they become ingredients of our very existence. Architecture is the art of mediation and reconciliation.

