

Juhani Pallasmaa

THE EYES OF THE SKIN

Architecture and the Senses

Preface by Steven Holl



PREFACE

THIN ICE

Steven Holl

When I sat down to write these notes in rainy New York City, thinking of the fresh white snow which had just fallen in Helsinki and the early thin ice, I remembered stories of Finland's cold winter, where every year short-cut roads are improvised across the thickly frozen north lakes. Months later as the ice begins to thin, someone will take the gamble to drive across the lake and crash through. I imagine the last look out over white ice cracks spread by cold black water rising up inside the sinking car. Finland's is a tragic and mysterious beauty.

Juhani Pallasmaa and I first began to share thoughts about the phenomenology of architecture during my first visit to Finland for the 5th Alvar Aalto symposium in Jyväskylä in August 1991.

In October 1992, we met again in Helsinki when I was there to work on the competition for the Museum of Contemporary Art. I remember a conversation about Merleau-Ponty's writings as they might be interpreted or directed toward spatial sequence, texture, material and light, experienced in architecture. I recall this conversation took place over

lunch below decks in a huge wooden boat anchored in the Helsinki harbour. The steam rose in curls above the vegetable soup as the boat rocked slightly in the partially frozen harbour.

I have experienced the architecture of Juhani Pallasmaa, from his wonderful museum additions at Rovaniemi to his wooden summerhouse on a remarkable little stone island in the Turku Archipelago, in southwestern Finland. The way spaces feel, the sound and smell of these places, has equal weight to the way things look. Pallasmaa is not just a theoretician; he is a brilliant architect of phenomenological insight. He practices the unanalysable architecture of the senses whose phenomenal properties concretise his writings towards a philosophy of architecture.

In 1993, following an invitation from Toshio Nakamura, we worked together with Alberto Pérez-Gómez to produce the book *Questions of Perception: Phenomenology of Architecture*. Several years later the publishers, A+U, chose to republish this little book, finding its arguments proved important to other architects.

Juhani Pallasmaa's *The Eyes of the Skin*, which grew out of *Questions of Perception*, is a tighter, clearer argument for the crucial phenomenological dimensions of human experience in architecture. Not since the Danish architect Steen Eiler Rasmussen's *Experiencing Architecture* (1959) has there been such a succinct and clear text which could serve students and architects at this critical time in the development of 21st-century architecture.

Merleau-Ponty's *The Visible and the Invisible*, the book he was writing when he died, contains an astonishing chapter: 'The Intertwining – The Chiasm'. (It was, in fact, the source of the name I gave my 1992 competition entry for the Museum of Contemporary Art in Helsinki – Chiasm was changed to Kiasma, there being no 'C' in Finnish.) In the chapter's text on the 'Horizon of Things', Merleau-Ponty wrote, 'No more than are the sky or the earth is the horizon a collection of things held together, or a class name, or a logical possibility of conception, or a system of "potentiality of consciousness": it is a new type of being, a being by porosity, pregnancy, or generality ...'¹

In the first decade of the 21st century these thoughts go beyond the horizon and 'beneath the skin'. Throughout our world consumer goods propelled by hyperbolic advertising techniques serve to supplant our consciousness and diffuse our reflective capacity. In architecture the application of new, digitally supercharged techniques currently join the hyperbole. With this noisy background the work of Pallasmaa evokes reflective solitude and resolve – what he has once called 'The Architecture of Silence'. I will urge my students to read this work and reflect on 'background noise'. Today the 'depth of our being' stands on thin ice.

INTRODUCTION

TOUCHING THE WORLD

Juhani Pallasmaa

In 1995 the editors at Academy Editions, London invited me to write a volume of their 'Polemics' series, in the form of an extended essay of 32 pages on a subject matter that I found pertinent in the architectural discourse of the time. The result – my little book *The Eyes of the Skin: Architecture and the Senses* – was published in the following year.

The second part of my manuscript took its basic ideas from an essay entitled 'An Architecture of the Seven Senses', published in *Architecture + Urbanism, Questions of Perception* (Special Issue, July 1994), a publication on Steven Holl's architectural work, which also included essays by Steven Holl himself and Alberto Pérez-Gómez. A somewhat later lecture given in a seminar on architectural phenomenology at the Royal Danish Academy of Fine Arts in Copenhagen in June 1995, where the three writers of *Questions of Perception* presented lectures, provided the basic arguments and references for the first part.

Somewhat to my surprise, the humble book was received very positively, and it became required reading on architectural theory courses in

numerous schools of architecture around the world. As a consequence, the edition was sold out rather quickly and, in the subsequent years, the book has circulated in the form of countless photocopies.

The polemical essay was initially based on personal experiences, views and speculations. I had become increasingly concerned about the bias towards vision, and the suppression of other senses, in the way architecture was conceived, taught and critiqued, and about the consequent disappearance of sensory and sensual qualities from the arts and architecture.

During the 10 years that have passed since I wrote the book, interest in the significance of the senses – both philosophically and in terms of experiencing, making and teaching architecture – has grown significantly. My assumptions of the role of the body as the locus of perception, thought and consciousness, and of the significance of the senses in articulating, storing and processing sensory responses and thoughts, have been strengthened and confirmed.

With the title 'The Eyes of the Skin' I wished to express the significance of the tactile sense for our experience and understanding of the world, but I also intended to create a conceptual short circuit between the dominant sense of vision and the suppressed sense modality of touch. Since writing the original text I have learned that our skin is actually capable of distinguishing a number of colours; we do indeed see by our skin.¹

The primacy of the tactile sense has become increasingly evident. The role of peripheral and unfocused vision in our lived experience of the world as well as in our experience of interiority in the spaces we inhabit, has also evoked my interest. The very essence of the lived experience is moulded by hapticity and peripheral unfocused vision. Focused vision confronts us with the world whereas peripheral vision envelops us in the flesh of the world. Alongside the critique of the hegemony of vision, we need to reconsider the very essence of sight itself.

All the senses, including vision, are extensions of the tactile sense; the senses are specialisations of skin tissue, and all sensory experiences are modes of touching and thus related to tactility. Our contact with the

world takes place at the boundary line of the self through specialised parts of our enveloping membrane.

The view of Ashley Montagu, the anthropologist, based on medical evidence, confirms the primacy of the haptic realm:

[The skin] is the oldest and the most sensitive of our organs, our first medium of communication, and our most efficient protector ... Even the transparent cornea of the eye is overlain by a layer of modified skin ... Touch is the parent of our eyes, ears, nose, and mouth. It is the sense which became differentiated into the others, a fact that seems to be recognised in the age-old evaluation of touch as "the mother of the senses".²

Touch is the sensory mode that integrates our experience of the world with that of ourselves. Even visual perceptions are fused and integrated into the haptic continuum of the self; my body remembers who I am and where I am located in the world. My body is truly the navel of my world, not in the sense of the viewing point of the central perspective, but as the very locus of reference, memory, imagination and integration.

It is evident that 'life-enhancing'³ architecture has to address all the senses simultaneously and fuse our image of self with our experience of the world. The essential mental task of architecture is accommodation and integration. Architecture articulates the experiences of being-in-the-world and strengthens our sense of reality and self; it does not make us inhabit worlds of mere fabrication and fantasy.

The sense of self, strengthened by art and architecture, allows us to engage fully in the mental dimensions of dream, imagination and desire. Buildings and cities provide the horizon for the understanding and confronting of the human existential condition. Instead of creating mere objects of visual seduction, architecture relates, mediates and projects meanings. The ultimate meaning of any building is beyond architecture; it directs our consciousness back to the world and towards our own sense of self and being. Significant architecture makes us experience ourselves as complete embodied and spiritual beings. In fact, this is the great function of all meaningful art.

In the experience of art, a peculiar exchange takes place; I lend my emotions and associations to the space and the space lends me its aura, which entices and emancipates my perceptions and thoughts. An architectural work is not experienced as a series of isolated retinal pictures, but in its fully integrated material, embodied and spiritual essence. It offers pleasurable shapes and surfaces moulded for the touch of the eye and other senses, but it also incorporates and integrates physical and mental structures, giving our existential experience a strengthened coherence and significance.

When working, both the artist and craftsman are directly engaged with their bodies and their existential experiences rather than focused on an external and objectified problem. A wise architect works with his/her entire body and sense of self. While working on a building or an object, the architect is simultaneously engaged in a reverse perspective, his/her self-image – or more precisely, existential experience. In creative work, a powerful identification and projection takes place; the entire bodily and mental constitution of the maker becomes the site of the work. Ludwig Wittgenstein, whose philosophy tends to be detached from body imagery, acknowledges the interaction of both philosophical and architectural work with the image of self: 'Work on philosophy – like work in architecture in many respects – is really more a work on oneself. On one's own interpretation. On how one sees things ...'⁴

The computer is usually seen as a solely beneficial invention, which liberates human fantasy and facilitates efficient design work. I wish to express my serious concern in this respect, at least considering the current role of the computer in the design process. Computer imaging tends to flatten our magnificent, multi-sensory, simultaneous and synchronic capacities of imagination by turning the design process into a passive visual manipulation, a retinal journey. The computer creates a distance between the maker and the object, whereas drawing by hand as well as model-making put the designer into a haptic contact with the object or space. In our imagination, the object is simultaneously held in the hand

and inside the head, and the imagined and projected physical image is modelled by our bodies. We are inside and outside of the object at the same time. Creative work calls for a bodily and mental identification, empathy and compassion.

A remarkable factor in the experience of enveloping spatiality, interiority and hapticity is the deliberate suppression of sharp, focused vision. This issue has hardly entered the theoretical discourse of architecture as architectural theorising continues to be interested in focused vision, conscious intentionality and perspectival representation.

Photographed architectural images are centralised images of focused gestalt; yet the quality of an architectural reality seems to depend fundamentally on the nature of peripheral vision, which enfolds the subject in the space. A forest context, and richly moulded architectural space, provide ample stimuli for peripheral vision, and these settings centre us in the very space. The preconscious perceptual realm, which is experienced outside the sphere of focused vision, seems to be just as important existentially as the focused image. In fact, there is medical evidence that peripheral vision has a higher priority in our perceptual and mental system.⁵

These observations suggest that one of the reasons why the architectural and urban settings of our time tend to make us feel like outsiders, in comparison with the forceful emotional engagement of natural and historical settings, is their poverty in the field of peripheral vision. Unconscious peripheral perception transforms retinal gestalt into spatial and bodily experiences. Peripheral vision integrates us with space, while focused vision pushes us out of the space, making us mere spectators.

The defensive and unfocused gaze of our time, burdened by sensory overload, may eventually open up new realms of vision and thought, freed of the implicit desire of the eye for control and power. The loss of focus can liberate the eye from its historical patriarchal domination.

'The hands want to see, the eyes want to caress.'

Johann Wolfgang von Goethe¹

'The dancer has his ear in his toes.'

Friedrich Nietzsche²

'If the body had been easier to understand, nobody would have thought that we had a mind.'

Richard Rorty³

'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 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 Borges⁴

'How would the painter or poet express anything other than his encounter with the world?'

Maurice Merleau-Ponty⁵

PART 1

Vision and Knowledge

In Western culture, sight has historically been regarded as the noblest of the senses, and thinking itself thought of in terms of seeing. Already in classical Greek thought, certainty was based on vision and visibility. 'The eyes are more exact witnesses than the ears,' wrote Heraclitus in one of his fragments.⁶ Plato regarded vision as humanity's greatest gift,⁷ and he insisted that ethical universals must be accessible to 'the mind's eye'.⁸ Aristotle, likewise, considered sight as the most noble of the senses 'because it approximates the intellect most closely by virtue of the relative immateriality of its knowing'.⁹

Since the Greeks, philosophical writings of all times have abounded with ocular metaphors to the point that knowledge has become analogous with clear vision and light is regarded as the metaphor for truth. Aquinas even applies the notion of sight to other sensory realms as well as to intellectual cognition.

The impact of the sense of vision on philosophy is well summed up by Peter Sloterdijk: 'The eyes are the organic prototype of philosophy. Their enigma is that they not only can see but are also able to see themselves seeing. This gives them a prominence among the body's cognitive organs. A good part of philosophical thinking is actually only eye reflex, eye dialectic, seeing-oneself-see.'¹⁰ During the Renaissance, the five senses were understood to form a hierarchical system from the highest sense of

vision down to touch. The Renaissance system of the senses was related with the image of the cosmic body; vision was correlated to fire and light, hearing to air, smell to vapour, taste to water, and touch to earth.¹¹

The invention of perspectival representation made the eye the centre point of the perceptual world as well as of the concept of the self. Perspectival representation itself turned into a symbolic form, one which not only describes but also conditions perception.

There is no doubt that our technological culture has ordered and separated the senses even more distinctly. Vision and hearing are now the privileged sociable senses, whereas the other three are considered as archaic sensory remnants with a merely private function, and they are usually suppressed by the code of culture. Only sensations such as the olfactory enjoyment of a meal, fragrance of flowers and responses to temperature are allowed to draw collective awareness in our ocularcentric and obsessively hygienic code of culture.

The dominance of vision over the other senses – and the consequent bias in cognition – has been observed by many philosophers. A collection of philosophical essays entitled *Modernity and the Hegemony of Vision*¹² argues that ‘beginning with the ancient Greeks, Western culture has been dominated by an ocularcentric paradigm, a vision-generated, vision-centred interpretation of knowledge, truth, and reality’.¹³ This thought-provoking book analyses ‘historical connections between vision and knowledge, vision and ontology, vision and power, vision and ethics’.¹⁴

As the ocularcentric paradigm of our relation to the world and of our concept of knowledge – the epistemological privileging of vision – has been revealed by philosophers, it is also important to survey critically the role of vision in relation to the other senses in our understanding and practice of the art of architecture. Architecture, as with all art, is fundamentally confronted with questions of human existence in space and time, it expresses and relates man’s being in the world. Architecture is deeply engaged in the metaphysical questions of the self and the world, interiority and exteriority, time and duration, life and death. ‘Aesthetic

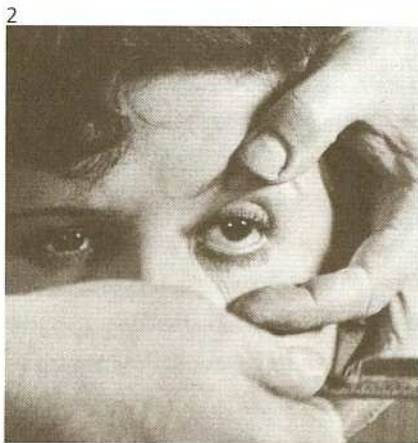
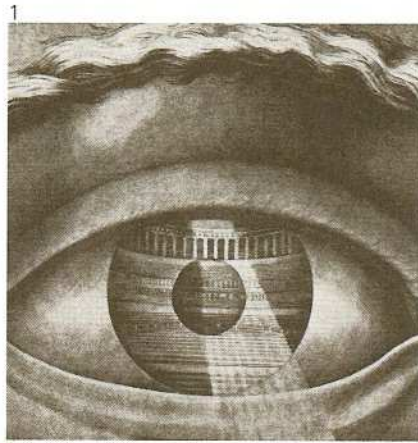
and cultural practices are peculiarly susceptible to the changing experience of space and time precisely because they entail the construction of spatial representations and artefacts out of the flow of human experience,’ writes David Harvey.¹⁵ Architecture is our primary instrument in relating us with space and time, and giving these dimensions a human measure. It domesticates limitless space and endless time to be tolerated, inhabited and understood by humankind. As a consequence of this interdependence of space and time, the dialectics of external and internal space, physical and spiritual, material and mental, unconscious and conscious priorities concerning the senses as well as their relative roles and interactions, have an essential impact on the nature of the arts and architecture.

David Michael Levin motivates the philosophical critique of the dominance of the eye with the following words: ‘I think it is appropriate to challenge the hegemony of vision – the ocularcentrism of our culture. And I think we need to examine very critically the character of vision that predominates today in our world. We urgently need a diagnosis of the psychosocial pathology of everyday seeing – and a critical understanding of ourselves, as visionary beings.’¹⁶

Levin points out the autonomy-drive and aggressiveness of vision, and ‘the specters of patriarchal rule’ that haunt our ocularcentric culture:

The will to power is very strong in vision. There is a very strong tendency in vision to grasp and fixate, to reify and totalise: a tendency to dominate, secure, and control, which eventually, because it was so extensively promoted, assumed a certain uncontested hegemony over our culture and its philosophical discourse, establishing, in keeping with the instrumental rationality of our culture and the technological character of our society, an ocularcentric metaphysics of presence.¹⁷

I believe that many aspects of the pathology of everyday architecture today can likewise be understood through an analysis of the epistemology of the senses, and a critique of the ocular bias of our culture at large, and of architecture in particular. The inhumanity of contemporary architecture and cities can be understood as the consequence of the negligence of the



OCULARCENTRISM AND THE VIOLATION OF THE EYE

1

Architecture has been regarded as an art form of the eye.

Eye Reflecting the Interior of the Theatre of Besançon, engraving after Claude-Nicholas Ledoux. The theatre was built from 1775 to 1784. Detail.

2

Vision is regarded as the most noble of the senses, and the loss of eyesight as the ultimate physical loss.

Luis Buñuel and Salvador Dalí, *Un Chien Andalou* (*Andalusian Dog*), 1929. The shocking scene in which the heroine's eye is sliced with a razor blade.

Aito Mäkinen/Finnish Film Archive.

body and the senses, and an imbalance in our sensory system. The growing experiences of alienation, detachment and solitude in the technological world today, for instance, may be related with a certain pathology of the senses. It is thought-provoking that this sense of estrangement and detachment is often evoked by the technologically most advanced settings, such as hospitals and airports. The dominance of the eye and the suppression of the other senses tends to push us into detachment, isolation and exteriority. The art of the eye has certainly produced imposing and thought-provoking structures, but it has not facilitated human rootedness in the world. The fact that the modernist idiom has not generally been able to penetrate the surface of popular taste and values seems to be due to its one-sided intellectual and visual emphasis; modernist design at large has housed the intellect and the eye, but it has left the body and the other senses, as well as our memories, imagination and dreams, homeless.

Critics of Ocularcentrism

The ocularcentric tradition and the consequent spectator theory of knowledge in Western thinking have also had their critics among philosophers already before today's concerns. René Descartes, for instance, regarded vision as the most universal and noble of the senses and his objectifying philosophy is consequently grounded in the privileging of vision. However, he also equated vision with touch, a sense which he considered to be 'more certain and less vulnerable to error than vision'.¹⁸

Friedrich Nietzsche attempted to subvert the authority of ocular thinking in seeming contradiction with the general line of his thought. He criticised the 'eye outside of time and history'¹⁹ presumed by many philosophers. He even accused philosophers of a 'treacherous and blind hostility towards the senses'.²⁰ Max Scheler bluntly calls this attitude the 'hatred of the body'.²¹

The forcefully critical 'anti-ocularcentric' view of Western ocularcentric perception and thinking, which developed in the 20th-century French

intellectual tradition, is thoroughly surveyed by Martin Jay in his book *Downcast Eyes – The Denigration of Vision in Twentieth-Century French Thought*.²² The writer traces the development of the modern vision-centred culture through such diverse fields as the invention of the printing press, artificial illumination, photography, visual poetry and the new experience of time. On the other hand, he analyses the anti-ocular positions of many of the seminal French writers, such as Henri Bergson, Georges Bataille, Jean-Paul Sartre, Maurice Merleau-Ponty, Jacques Lacan, Louis Althusser, Guy Debord, Roland Barthes, Jacques Derrida, Luce Irigaray, Emmanuel Levinas and Jean-François Lyotard.

Sartre was outspokenly hostile to the sense of vision to the point of ocularphobia; his oeuvre has been estimated to contain 7000 references to 'the look'.²³ He was concerned with 'the objectifying look of the other, and the "medusa glance" [which] "petrifies" everything that it comes in contact with'.²⁴ In his view, space has taken over time in human consciousness as a consequence of ocularcentrism.²⁵ This reversal of the relative significance accorded to the notions of space and time has important repercussions on our understanding of physical and historical processes. The prevailing concepts of space and time and their interrelations form an essential paradigm for architecture, as Siegfried Giedion established in his seminal ideological history of modern architecture *Space, Time and Architecture*.²⁶

Maurice Merleau-Ponty launched a ceaseless critique of the 'Cartesian perspectivalist scopic regime' and 'its privileging of an ahistorical, disinterested, disembodied subject entirely outside of the world'.²⁷ His entire philosophical work focuses on perception in general, and vision in particular. But instead of the Cartesian eye of the outside spectator, Merleau-Ponty's sense of sight is an embodied vision that is an incarnate part of the 'flesh of the world'.²⁸ 'Our body is both an object among objects and that which sees and touches them.'²⁹ Merleau-Ponty saw an osmotic relation between the self and the world – they interpenetrate and mutually define each other – and he emphasised the simultaneity and interaction of the

senses. 'My perception is [therefore] not a sum of visual, tactile and audible givens: I perceive in a total way with my whole being: I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once,' he writes.³⁰

Martin Heidegger, Michel Foucault and Jacques Derrida have all argued that the thought and culture of modernity have not only continued the historical privileging of sight, but furthered its negative tendencies. Each, in their own separate ways, has regarded the sight-dominance of the modern era as distinctly different from that of earlier times. The hegemony of vision has been reinforced in our time by a multitude of technological inventions and the endless multiplication and production of images – 'an unending rainfall of images', as Italo Calvino calls it.³¹ 'The fundamental event of the modern age is the conquest of the world as picture,' writes Heidegger.³² The philosopher's speculation has certainly materialised in our age of the fabricated, mass-produced and manipulated image.

The technologically expanded and strengthened eye today penetrates deep into matter and space, and enables man to cast a simultaneous look on the opposite sides of the globe. The experiences of space and time have become fused into each other by speed (David Harvey uses the notion of 'time-space compression'³³), and as a consequence we are witnessing a distinct reversal of the two dimensions – a temporalisation of space and a spatialisation of time. The only sense that is fast enough to keep pace with the astounding increase of speed in the technological world is sight. But the world of the eye is causing us to live increasingly in a perpetual present, flattened by speed and simultaneity.

Visual images have become commodities, as Harvey points out: 'A rush of images from different spaces almost simultaneously, collapsing the world's spaces into a series of images on a television screen ... The image of places and spaces becomes as open to production and ephemeral use as any other [commodity].'³⁴

The dramatic shattering of the inherited construction of reality in recent decades has undoubtedly resulted in a crisis of representation. We

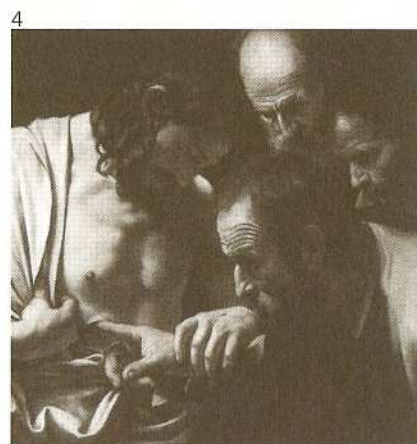
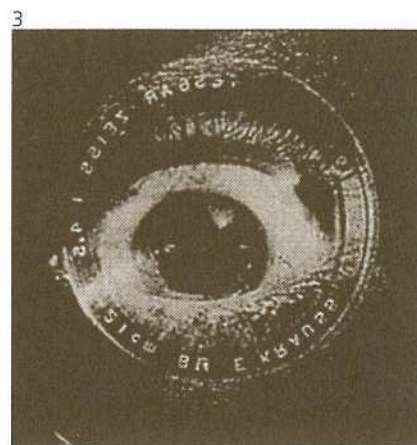
can even identify a certain panicked hysteria of representation in the arts of our time.

The Narcissistic and Nihilistic Eye

The hegemony of sight first brought forth glorious visions, in Heidegger's view, but it has turned increasingly nihilistic in modern times. Heidegger's observation of a nihilistic eye is particularly thought-provoking today; many of the architectural projects of the past 20 years, celebrated by the international architectural press, express both narcissism and nihilism.

The hegemonic eye seeks domination over all fields of cultural production, and it seems to weaken our capacity for empathy, compassion and participation with the world. The narcissistic eye views architecture solely as a means of self-expression, and as an intellectual-artistic game detached from essential mental and societal connections, whereas the nihilistic eye deliberately advances sensory and mental detachment and alienation. Instead of reinforcing one's body-centred and integrated experience of the world, nihilistic architecture disengages and isolates the body, and instead of attempting to reconstruct cultural order, it makes a reading of collective signification impossible. The world becomes a hedonistic but meaningless visual journey. It is clear that only the distancing and detaching sense of vision is capable of a nihilistic attitude; it is impossible to think of a nihilistic sense of touch, for instance, because of the unavoidable nearness, intimacy, veracity and identification that the sense of touch carries. A sadistic as well as a masochistic eye also exists, and their instruments in the fields of contemporary arts and architecture can also be identified.

The current industrial mass production of visual imagery tends to alienate vision from emotional involvement and identification, and to turn imagery into a mesmerising flow without focus or participation. Michel de Certeau perceives the expansion of the ocular realm negatively indeed:



THE POWER AND THE WEAKNESS OF THE EYE

3

Particularly in modern times, vision has been strengthened by numerous technological inventions. We are now able to see both deep into the secrets of matter and immensities of outer space.

The eye of the camera, from the film *The Man with a Movie Camera* by Dziga Vertov, 1929. Detail. © 2005 The Museum of Modern Art, NY/Scala, Florence.

4

Regardless of our prioritisation of the eye, visual observation is often confirmed by our touch.

Caravaggio, *The Incredulity of Saint Thomas*, 1601–2. Detail. Neues Palais, Potsdam.

© Stiftung Preussische Schlösser und Gärten, Berlin-Brandenburg.

'From television to newspapers, from advertising to all sorts of mercantile epiphanies, our society is characterised by a cancerous growth of vision, measuring everything by its ability to show or be shown, and transmuting communication into a visual journey.'³⁵ The cancerous spread of superficial architectural imagery today, devoid of tectonic logic and a sense of materiality and empathy, is clearly part of this process.

Oral versus Visual Space

But man has not always been dominated by vision. In fact, a primordial dominance of hearing has only gradually been replaced by that of vision. Anthropological literature describes numerous cultures in which our private senses of smell, taste and touch continue to have collective importance in behaviour and communication. The roles of the senses in the utilisation of collective and personal space in various cultures was the subject matter of Edward T Hall's seminal book *The Hidden Dimension*, which, regrettably, seems to have been forgotten by architects.³⁶ Hall's proxemic studies of personal space offer important insights into instinctual and unconscious aspects of our relation to space and our unconscious use of space in behavioural communication. Hall's insight can serve as the basis for the design of intimate, bio-culturally functional spaces.

Walter J Ong analyses the transition from oral to written culture and its impact on human consciousness and the sense of the collective in his book *Orality & Literacy*.³⁷ He points out that 'the shift from oral to written speech was essentially a shift from sound to visual space',³⁸ and that 'print replaced the lingering hearing-dominance in the world of thought and expression with the sight-dominance which had its beginning in writing'.³⁹ In Ong's view, '[t]his is an insistent world of cold, non-human facts'.⁴⁰

Ong analyses the changes that the shift from the primordial oral culture to the culture of the written (and eventually the printed) word has caused on human consciousness, memory and understanding of space. He argues that as hearing-dominance has yielded to sight-dominance, situational

thinking has been replaced by abstract thinking. This fundamental change in the perception and understanding of the world seems irreversible to the writer: 'Though words are grounded in oral speech, writing tyrannically locks them into a visual field forever ... a literate person cannot fully recover a sense of what the word is to purely oral people.'⁴¹

In fact, the unchallenged hegemony of the eye may be a fairly recent phenomenon regardless of its origins in Greek thought and optics. In Lucien Febvre's view: 'The sixteenth century did not see first: it heard and smelled, it sniffed the air and caught sounds. It was only later that it seriously and actively became engaged in geometry, focusing attention on the world of forms with Kepler (1571–1630) and Desargues of Lyon (1593–1662). It was then that vision was unleashed in the world of science as it was in the world of physical sensations, and the world of beauty as well.'⁴² Robert Mandrou makes a parallel argument: 'The hierarchy [of the senses] was not the same [as in the twentieth century] because the eye, which rules today, found itself in third place, behind hearing and touch, and far after them. The eye that organises, classifies and orders was not the favoured organ of a time that preferred hearing.'⁴³

The gradually growing hegemony of the eye seems to be parallel with the development of Western ego-consciousness and the gradually increasing separation of the self and the world; vision separates us from the world whereas the other senses unite us with it.

Artistic expression is engaged with pre-verbal meanings of the world, meanings that are incorporated and lived rather than simply intellectually understood. In my view, poetry has the capacity of bringing us momentarily back to the oral and enveloping world. The re-oralised word of poetry brings us back to the centre of an interior world. 'The poet speaks on the threshold of being,' as Gaston Bachelard notes,⁴⁴ but it also takes place at the threshold of language. Equally, the task of art and architecture in general is to reconstruct the experience of an undifferentiated interior world, in which we are not mere spectators, but to which we inseparably belong. In artistic works, existential understanding arises

from our very encounter with the world and our being-in-the-world – it is not conceptualised or intellectualised.

Retinal Architecture and the Loss of Plasticity

It is evident that the architecture of traditional cultures is also essentially connected with the tacit wisdom of the body, instead of being visually and conceptually dominated. Construction in traditional cultures is guided by the body in the same way that a bird shapes its nest by movements of its body. Indigenous clay and mud architectures in various parts of the world seem to be born of the muscular and haptic senses more than the eye. We can even identify the transition of indigenous construction from the haptic realm into the control of vision as a loss of plasticity and intimacy, and of the sense of total fusion characteristic in the settings of indigenous cultures.

The dominance of the sense of vision pointed out in philosophical thought is equally evident in the development of Western architecture. Greek architecture, with its elaborate systems of optical corrections, was already ultimately refined for the pleasure of the eye. However, the privileging of sight does not necessarily imply a rejection of the other senses, as the haptic sensibility, materiality and authoritative weight of Greek architecture prove; the eye invites and stimulates muscular and tactile sensations. The sense of sight may incorporate, and even reinforce, other sense modalities; the unconscious tactile ingredient in vision is particularly important and strongly present in historical architecture, but badly neglected in the architecture of our time.

Western architectural theory since Leon Battista Alberti has been primarily engaged with questions of visual perception, harmony and proportion. Alberti's statement that 'painting is nothing but the intersection of the visual pyramid following a given distance, a fixed centre and a certain lighting' outlines the perspectival paradigm which also became the instrument of architectural thinking.⁴⁵ Again, it has to be empha-

sised that the conscious focusing on the mechanics of vision did not automatically result in the decisive and deliberate rejection of other senses before our own era of the omnipresent visual image. The eye conquers its hegemonic role in architectural practice, both consciously and unconsciously, only gradually with the emergence of the idea of a bodiless observer. The observer becomes detached from an incarnate relation with the environment through the suppression of the other senses, in particular by means of technological extensions of the eye, and the proliferation of images. As Marx W Wartofsky argues, 'the human vision is itself an artifact, produced by other artifacts, namely pictures'.⁴⁶

The dominant sense of vision figures strongly in the writings of the modernists. Statements by Le Corbusier – such as: 'I exist in life only if I can see';⁴⁷ 'I am and I remain an impenitent visual – everything is in the visual';⁴⁸ 'One needs to see clearly in order to understand';⁴⁹ '... I urge you to *open your eyes*. Do you open your eyes? Are you trained to open your eyes? Do you know how to open your eyes, do you open them often, always, well?';⁵⁰ 'Man looks at the creation of architecture with his eyes, which are 5 feet 6 inches from the ground';⁵¹ and, 'Architecture is a plastic thing. I mean by "plastic" what is seen and measured by the eyes'⁵² – make the privileging of the eye in early modernist theory very clear. Further declarations by Walter Gropius – 'He [the designer] has to adapt knowledge of the scientific facts of optics and thus obtain a theoretical ground that will guide the hand giving shape, and create an objective basis'⁵³ – and by Laszlo Moholy-Nagy – 'The hygiene of the optical, the health of the visible is slowly filtering through'⁵⁴ – confirm the central role of vision in modernist thought.

Le Corbusier's famous credo, 'Architecture is the masterly, correct and magnificent play of masses brought together in light',⁵⁵ unquestionably defines an architecture of the eye. Le Corbusier, however, was a great artistic talent with a moulding hand, and a tremendous sense of materiality, plasticity and gravity, all of which prevented his architecture from turning into sensory reductivism. Regardless of Le Corbusier's

5



6



THE SUPPRESSION OF VISION – THE FUSION OF VISION AND TACTILITY

5

In heightened emotional states and deep thought, vision is usually repressed.

René Magritte, *The Lovers*, 1928. Detail.
Richard S. Zeisler Collection, New York.

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Vision and the tactile sense are fused in actual lived experience.

Herbert Bayer, *The Lonely Metropolitan*, 1932. Detail.

© DACS 2005.

Cartesian ocularcentric exclamations, the hand had a similar fetishistic role in his work as the eye. A vigorous element of tactility is present in Le Corbusier's sketches and paintings, and this haptic sensibility is incorporated into his regard for architecture. However, the reductive bias becomes devastating in his urbanistic projects.

In Mies van der Rohe's architecture a frontal perspectival perception predominates, but his unique sense of order, structure, weight, detail and craft decisively enriches the visual paradigm. Moreover, an architectural work is great precisely because of the oppositional and contradictory intentions and allusions it succeeds in fusing together. A tension between conscious intentions and unconscious drives is necessary for a work in order to open up the emotional participation of the observer. 'In every case one must achieve a simultaneous solution of opposites,' as Alvar Aalto wrote.⁵⁶ The verbal statements of artists and architects should not usually be taken at their face value, as they often merely represent a conscious surface rationalisation, or defence, that may well be in sharp contradiction with the deeper unconscious intentions giving the work its very life force.

With equal clarity, the visual paradigm is the prevailing condition in city planning, from the idealised town plans of the Renaissance to the Functionalist principles of zoning and planning that reflect the 'hygiene of the optical'. In particular, the contemporary city is increasingly the city of the eye, detached from the body by rapid motorised movement, or through the overall aerial grasp from an airplane. The processes of planning have favoured the idealising and disembodied Cartesian eye of control and detachment; city plans are highly idealised and schematised visions seen through *le regard surplombant* (the look from above), as defined by Jean Starobinski,⁵⁷ or through 'the mind's eye' of Plato.

Until recently, architectural theory and criticism have been almost exclusively engaged with the mechanisms of vision and visual expression. The perception and experience of architectural form has most frequently been analysed through the gestalt laws of visual perception. Educational philosophy has likewise understood architecture primarily

in terms of vision, emphasising the construction of three-dimensional visual images in space.

An Architecture of Visual Images

The ocular bias has never been more apparent in the art of architecture than in the past 30 years, as a type of architecture, aimed at a striking and memorable visual image, has predominated. Instead of an existentially grounded plastic and spatial experience, architecture has adopted the psychological strategy of advertising and instant persuasion; buildings have turned into image products detached from existential depth and sincerity.

David Harvey relates 'the loss of temporality and the search for instantaneous impact' in contemporary expression to the loss of experiential depth.⁵⁸ Fredric Jameson uses the notion of 'contrived depthlessness' to describe the contemporary cultural condition and 'its fixation with appearances, surfaces and instant impacts that have no sustaining power over time'.⁵⁹

As a consequence of the current deluge of images, architecture of our time often appears as mere retinal art of the eye, thus completing an epistemological cycle that began in Greek thought and architecture. But the change goes beyond mere visual dominance; instead of being a situational bodily encounter, architecture has become an art of the printed image fixed by the hurried eye of the camera. In our culture of pictures, the gaze itself flattens into a picture and loses 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. David Michael Levin uses the term 'frontal ontology' to describe the prevailing frontal, fixated and focused vision.⁶⁰

Susan Sontag has made perceptive remarks on the role of the photographed image in our perception of the world. She writes, for instance, of a 'mentality which looks at the world as a set of potential photographs',⁶¹ and argues that 'the reality has come to seem more and more

what we are shown by camera',⁶² and that 'the omnipresence of photographs has an incalculable effect on our ethical sensibility. By furnishing this already crowded world with a duplicate one of images, photography makes us feel that the world is more available than it really is.'⁶³

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, measures and details crafted for the human body – and particularly for the hand – architectural structures become repulsively flat, sharp-edged, immaterial and unreal. The detachment of construction from the realities of matter and craft further turns architecture into stage sets for the eye, into a scenography devoid of the authenticity of matter and construction. The sense of 'aura', the authority of presence, that Walter Benjamin regards as a necessary quality for an authentic piece of art, has been lost. These products of instrumentalised technology conceal their processes of construction, appearing as ghostlike apparitions. The increasing use of reflective glass in architecture reinforces the dream-like sense of unreality and alienation. The contradictory opaque transparency of these buildings reflects the gaze back unaffected and unmoved; we are unable to see or imagine life behind these walls. The architectural mirror, that returns our gaze and doubles the world, is an enigmatic and frightening device.

Materiality and Time

The flatness of today's standard construction is strengthened by a weakened sense of materiality. Natural materials – stone, brick and wood – allow our vision to penetrate their surfaces and enable us to become convinced of the veracity of matter. Natural materials express their age and history, as well as the story of their origins and their history of human use. All matter exists in the continuum of time; the patina of wear adds the enriching experience of time to the materials of construction. But the

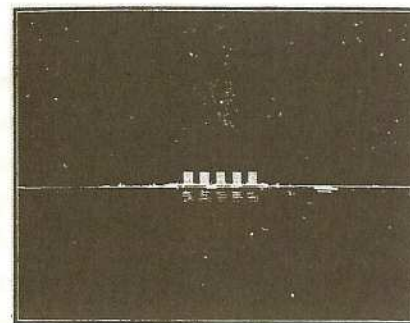
machine-made materials of today – scaleless sheets of glass, enamelled metals and synthetic plastics – tend to present their unyielding surfaces to the eye without conveying their material essence or age. Buildings of this technological age usually deliberately aim at ageless perfection, and they do not incorporate the dimension of time, or the unavoidable and mentally significant processes of aging. This fear of the traces of wear and age is related to our fear of death.

Transparency and sensations of weightlessness and flotation are central themes in modern art and architecture. In recent decades, a new architectural imagery has emerged, which employs reflection, gradations of transparency, overlay and juxtaposition to create a sense of spatial thickness, as well as subtle and changing sensations of movement and light. This new sensibility promises an architecture that can turn the relative immateriality and weightlessness of recent technological construction into a positive experience of space, place and meaning.

The weakening of the experience of time in today's environments has devastating mental effects. In the words of the American therapist Gotthard Booth, 'nothing gives man fuller satisfaction than participation in processes that supersede the span of individual life'.⁶⁴ We have a mental need to grasp that we are rooted in the continuity of time, and in the man-made world it is the task of architecture to facilitate this experience. Architecture domesticates limitless space and enables us to inhabit it, but it should likewise domesticate endless time and enable us to inhabit the continuum of time.

The current over-emphasis on the intellectual and conceptual dimensions of architecture contributes to the disappearance of its physical, sensual and embodied essence. Contemporary architecture posing as the avant-garde, is more often engaged with the architectural discourse itself and mapping the possible marginal territories of the art than responding to human existential questions. This reductive focus gives rise to a sense of architectural autism, an internalised and autonomous discourse that is not grounded in our shared existential reality.

7



8



THE CITY OF THE EYE – THE HAPTIC CITY

7

The contemporary city is the city of the eye, one of distance and exteriority.

Le Corbusier's proposed skyline for Buenos Aires – a sketch from a lecture given in Buenos Aires in 1929.

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The haptic city is the city of interiority and nearness.

The hill town of Casares, southern Spain.

Photo Juhani Pallasmaa.

Beyond architecture, contemporary culture at large drifts towards a distancing, a kind of chilling de-sensualisation and de-eroticisation of the human relation to reality. Painting and sculpture also seem to be losing their sensuality; instead of inviting a sensory intimacy, contemporary works of art frequently signal a distancing rejection of sensuous curiosity and pleasure. These works of art speak to the intellect and to the conceptualising capacities instead of addressing the senses and the undifferentiated embodied responses. The ceaseless bombardment of unrelated imagery leads only to a gradual emptying of images of their emotional content. Images are converted into endless commodities manufactured to postpone boredom; humans in turn are commodified, consuming themselves nonchalantly without having the courage or even the possibility of confronting their very existential reality. We are made to live in a fabricated dream world.

I do not wish to express a conservative view of contemporary art in the tone of Hans Sedlmayr's thought-provoking but disturbing book *Art in Crisis*.⁶⁵ I merely suggest that a distinct change has occurred in our sensory and perceptual experience of the world, one that is reflected by art and architecture. If we desire architecture to have an emancipating or healing role, instead of reinforcing the erosion of existential meaning, we must reflect on the multitude of secret ways in which the art of architecture is tied to the cultural and mental reality of its time. We should also be aware of the ways in which the feasibility of architecture is being threatened or marginalised by current political, cultural, economic, cognitive and perceptual developments. Architecture has become an endangered art form.

The Rejection of Alberti's Window

The eye itself has not, of course, remained in the monocular, fixed construction defined by Renaissance theories of perspective. The hegemonic eye has conquered new ground for visual perception and expression. The

paintings of Hieronymus Bosch and Pieter Bruegel, for instance, already invite a participatory eye to travel across the scenes of multiple events. The 17th-century Dutch paintings of bourgeois life present casual scenes and objects of everyday use which expand beyond the boundaries of the Albertian window. Baroque paintings open up vision with hazy edges, soft focus and multiple perspectives, presenting a distinct, tactile invitation and enticing the body to travel through the illusory space.

An essential line in the evolution of modernity has been the liberation of the eye from the Cartesian perspectival epistemology. The paintings of Joseph Mallord William Turner continue the elimination of the picture frame and the vantage point begun in the Baroque era; the Impressionists abandon the boundary line, balanced framing and perspectival depth; Paul Cézanne aspires 'to make visible how the world touches us';⁶⁶ Cubists abandon the single focal point, reactivate peripheral vision and reinforce haptic experience, whereas the colour field painters reject illusory depth in order to reinforce the presence of the painting itself as an iconic artifact and an autonomous reality. Land artists fuse the reality of the work with the reality of the lived world, and finally, artists such as Richard Serra directly address the body as well as our experiences of horizontality and verticality, materiality, gravity and weight.

The same countercurrent against the hegemony of the perspectival eye has taken place in modern architecture regardless of the culturally privileged position of vision. The kinesthetic and textural architecture of Frank Lloyd Wright, the muscular and tactile buildings of Alvar Aalto, and Louis Kahn's architecture of geometry and gravitas are particularly significant examples of this.

A New Vision and Sensory Balance

Perhaps, freed of the implicit desire of the eye for control and power, it is precisely the unfocused vision of our time that is again capable of opening up new realms of vision and thought. The loss of focus brought

about by the stream of images may emancipate the eye from its patriarchal domination and give rise to a participatory and empathetic gaze. The technological extensions of the senses have until now reinforced the primacy of vision, but the new technologies may also help 'the body [...] to dethrone the disinterested gaze of the disincarnated Cartesian spectator'.⁶⁷

Martin Jay remarks: 'In opposition to the lucid, linear, solid, fixed, planimetric, closed form of the Renaissance ... the baroque was painterly, recessional, soft-focused, multiple, and open.'⁶⁸ He also argues that the 'baroque visual experience has a strongly tactile or haptic quality, which prevents it from turning into the absolute ocularcentrism of its Cartesian perspectivalist rival'.⁶⁹

The haptic experience seems to be penetrating the ocular regime again through the tactile presence of modern visual imagery. In a music video, for instance, or the layered contemporary urban transparency, we cannot halt the flow of images for analytic observation; instead we have to appreciate it as an enhanced haptic sensation, rather like a swimmer senses the flow of water against his/her skin.

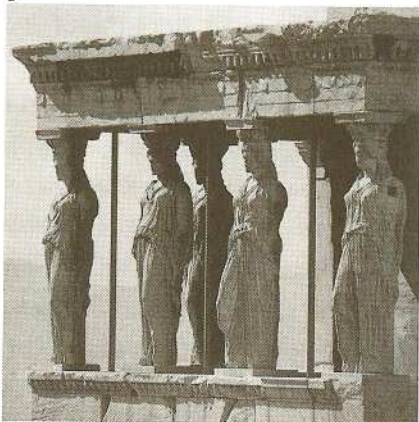
In his thorough and thought-provoking book *The Opening of Vision: Nihilism and the Postmodern Situation*, David Michael Levin differentiates between two modes of vision: 'the assertoric gaze' and 'the aletheic gaze'.⁷⁰ In his view, the assertoric gaze is narrow, dogmatic, intolerant, rigid, fixed, inflexible, exclusionary and unmoved, whereas the aletheic gaze, associated with the hermeneutic theory of truth, tends to see from a multiplicity of standpoints and perspectives, and is multiple, pluralistic, democratic, contextual, inclusionary, horizontal and caring.⁷¹ As suggested by Levin, there are signs that a new mode of looking is emerging.

Although the new technologies have strengthened the hegemony of vision, they may also help to re-balance the realms of the senses. In Walter Ong's view, 'with telephone, radio, television and various kinds of sound tape, electronic technology has brought us into the age of "secondary orality". This new orality has striking resemblances to the

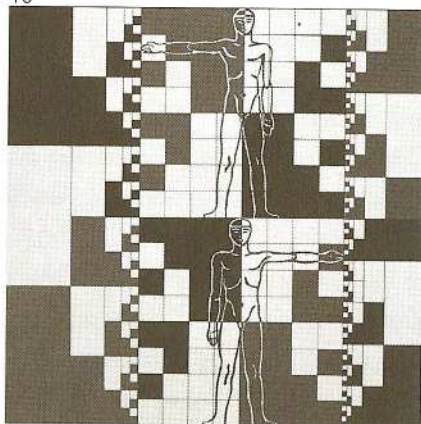
old in its participatory mystique, its fostering of communal sense, its concentration on the present moment ...'.⁷²

'We in the Western world are beginning to discover our neglected senses. This growing awareness represents something of an overdue insurgency against the painful deprivation of sensory experience we have suffered in our technologised world,' writes the anthropologist Ashley Montagu.⁷³ This new awareness is forcefully projected by numerous architects around the world today who are attempting to re-sensualise architecture through a strengthened sense of materiality and hapticity, texture and weight, density of space and materialised light.

9



10



ARCHITECTURE AND THE HUMAN FIGURE

9

We tend to interpret a building as an analogue to our body, and vice versa.

Caryatids of the Erechtheum on the Acropolis (421– 405 BC).

© Copyright The Trustees of the British Museum.

10

Since the dynasties of ancient Egypt, measures of the human body were used in architecture. The anthropocentric tradition has been almost entirely forgotten in modern times.

Aulis Blomstedt's study of a proportional system for architecture based on the Pythagorean subdivision of a basic 180 cm measure (presumably from the early 1960s). The Aulis Blomstedt Estate/S. Blomstedt.

PART 2

As the preceding brief survey suggests, the privileging of the sense of sight over the other senses is an inarguable theme in Western thought, and it is also an evident bias in the architecture of our century. The negative development in architecture is, of course, forcefully supported by forces and patterns of management, organisation and production as well as by the abstracting and universalising impact of technological rationality itself. The negative developments in the realm of the senses cannot, either, be directly attributed to the historical privileging of the sense of vision itself. The perception of sight as our most important sense is well grounded in physiological, perceptual and psychological facts.⁷⁴ The problems arise from the isolation of the eye outside its natural interaction with other sense modalities, and from the elimination and suppression of other senses, which increasingly reduce and restrict the experience of the world into the sphere of vision. This separation and reduction fragments the innate complexity, comprehensiveness and plasticity of the perceptual system, reinforcing a sense of detachment and alienation.

In this second part, I will survey the interactions of the senses and give some personal impressions of the realms of the senses in the expression and experience of architecture. In this essay I proclaim a sensory architecture in opposition to the prevailing visual understanding of the art of building.

The Body in the Centre

I confront the city with my body; my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections; my body weight meets the mass of the cathedral door, and my hand grasps the door pull as I enter the dark void behind. I experience myself in the city, and the city exists through my embodied experience. The city and my body supplement and define each other. I dwell in the city and the city dwells in me.

Merleau-Ponty's philosophy makes the human body the centre of the experiential world. He consistently argued, as Richard Kearney summarises, that '[i]t is through our bodies as living centres of intentionality ... that we choose our world and that our world chooses us'.⁷⁵ In Merleau-Ponty's own words, 'Our own body is in the world as the heart is in the organism: it keeps the visible spectacle constantly alive, it breathes life into it and sustains it inwardly, and with it forms a system';⁷⁶ and '[s]ensory experience is unstable and alien to natural perception, which we achieve with our whole body all at once, and which opens on a world of interacting senses'.⁷⁷

Sensory experiences become integrated through the body, or rather, in the very constitution of the body and the human mode of being. Psychoanalytic theory has introduced the notion of body image or body schema as the centre of integration. Our bodies and movements are in constant interaction with the environment; the world and the self inform and redefine each other constantly. The percept of the body and the image of the world turn into one single continuous existential experience; there is no body separate from its domicile in space, and there is no space unrelated to the unconscious image of the perceiving self.

'The body image ... is informed fundamentally from haptic and orienting experiences early in life. Our visual images are developed later on, and depend for their meaning on primal experiences that were acquired haptically,' Kent C Bloomer and Charles W Moore argue in their book

Body, Memory, and Architecture, one of the first studies to survey the role of the body and of the senses in architectural experience.⁷⁸ They go on to explain: 'What is missing from our dwellings today are the potential transactions between body, imagination, and environment';⁷⁹ ... 'To at least some extent every place can be remembered, partly because it is unique, but partly because it has affected our bodies and generated enough associations to hold it in our personal worlds.'⁸⁰

Multi-Sensory Experience

A walk through a forest is invigorating and healing due to the constant interaction of all sense modalities; Bachelard speaks of 'the polyphony of the senses'.⁸¹ The eye collaborates with the body and the other senses. One's sense of reality is strengthened and articulated by this constant interaction. Architecture is essentially an extension of nature into the man-made realm, providing the ground for perception and the horizon of experiencing and understanding the world. It is not an isolated and self-sufficient artifact; it directs our attention and existential experience to wider horizons. Architecture also gives a conceptual and material structure to societal institutions, as well as to the conditions of daily life. It concretises the cycle of the year, the course of the sun and the passing of the hours of the day.

Every touching experience of architecture is multi-sensory; qualities of space, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture strengthens the existential experience, one's sense of being in the world, and this is essentially a strengthened experience of self. Instead of mere vision, or the five classical senses, architecture involves several realms of sensory experience which interact and fuse into each other.⁸²

The psychologist James J Gibson regards the senses as aggressively seeking mechanisms rather than mere passive receivers. Instead of the five detached senses, Gibson categorises the senses in five sensory systems: visual system, auditory system, the taste-smell system, the basic-orienting

system and the haptic system.⁸³ Steinerian philosophy assumes that we actually utilise no less than 12 senses.⁸⁴

The eyes want to collaborate with the other senses. All the senses, including vision, can be regarded as extensions of the sense of touch – as specialisations of the skin. They define the interface between the skin and the environment – between the opaque interiority of the body and the exteriority of the world. In the view of René Spitz, ‘all perception begins in the oral cavity, which serves as the primeval bridge from inner reception to external perception’.⁸⁵ Even the eye touches; the gaze implies an unconscious touch, bodily mimesis and identification. As Martin Jay remarks when describing Merleau-Ponty’s philosophy of the senses, ‘through vision we touch the sun and the stars’.⁸⁶ Preceding Merleau-Ponty, the 18th-century Irish philosopher and clergyman George Berkeley related touch with vision and assumed that visual apprehension of materiality, distance and spatial depth would not be possible at all without the cooperation of the haptic memory. In Berkeley’s view, vision needs the help of touch, which provides sensations of ‘solidity, resistance, and protrusion’;⁸⁷ sight detached from touch could not ‘have any idea of distance, outness, or profundity, nor consequently of space or body’.⁸⁸ In accord with Berkeley, Hegel claimed that the only sense which can give a sensation of spatial depth is touch, because touch ‘senses the weight, resistance, and three-dimensional shape (gestalt) of material bodies, and thus makes us aware that things extend away from us in all directions’.⁸⁹

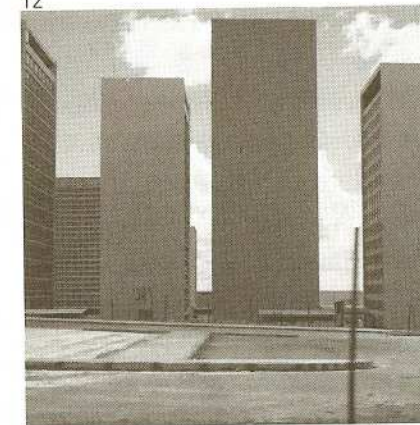
Vision reveals what the touch already knows. We could think of the sense of touch as the unconscious of vision. Our eyes stroke distant surfaces, contours and edges, and the unconscious tactile sensation determines the agreeableness or unpleasantness of the experience. The distant and the near are experienced with the same intensity, and they merge into one coherent experience. In the words of Merleau-Ponty:

We see the depth, the smoothness, the softness, the hardness of objects; Cézanne even claimed that we see their odour. If the painter is to express

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THE CITY OF PARTICIPATION – THE CITY OF ALIENATION

11

The city of sensory engagement.

Peter Bruegel the Elder, *Children's Games*, 1560. Detail.

Kunsthistorisches Museum mit MVK und ÖTM, Vienna.

12

The modern city of sensory deprivation.

The commercial section of Brasília, Brasil, 1968.

Photo Juhani Pallasmaa.

the world, the arrangement of his colours must carry with it this indivisible whole, or else his picture will only hint at things and will not give them in the imperious unity, the presence, the insurpassable plenitude which is for us the definition of the real.⁹⁰

In developing further Goethe's idea that a work of art must be 'life-enhancing',⁹¹ Bernard Berenson suggested that when experiencing an artistic work, we imagine a genuine physical encounter through 'ideated sensations'. The most important of these he called 'tactile values'.⁹² In his view, the work of authentic art stimulates our ideated sensations of touch, and this stimulation is life-enhancing. Indeed, we do feel the warmth of the water in the bathtub in Pierre Bonnard's paintings of bathing nudes and the moist air of Turner's landscapes, and we can sense the heat of the sun and the cool breeze in Matisse's paintings of windows open to a view of the sea.

In the same way, an architectural work generates an indivisible complex of impressions. The live encounter with Frank Lloyd Wright's Fallingwater weaves the surrounding forest, the volumes, surfaces, textures and colours of the house, and even the smells of the forest and the sounds of the river, into a uniquely full experience. An architectural work is not experienced as a collection of isolated visual pictures, but in its fully embodied material and spiritual presence. A work of architecture incorporates and infuses both physical and mental structures. The visual frontality of the architectural drawing is lost in the real experience of architecture. Good architecture offers shapes and surfaces moulded for the pleasurable touch of the eye. 'Contour and profile (modénature) are the touchstone of the architect,' as Le Corbusier put it, revealing a tactile ingredient in his otherwise ocular understanding of architecture.⁹³

Images of one sensory realm feed further imagery in another modality. Images of presence give rise to images of memory, imagination and dream. '[T]he chief benefit of the house [is that] the house shelters day-dreaming, the house protects the dreamer, the house allows one to dream in peace,' writes Bachelard.⁹⁴ But even more, an architectural space

frames, halts, strengthens and focuses our thoughts, and prevents them from getting lost. We can dream and sense our being outdoors, but we need the architectural geometry of a room to think clearly. The geometry of thought echoes the geometry of the room.

In *The Book of Tea*, Kakuzo Okakura gives a subtle description of the multi-sensory imagery evoked by the 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.'⁹⁵ In Okakura's description the present and the absent, the near and the distant, the sensed and the imagined fuse together. The body is not a mere physical entity; it is enriched by both memory and dream, past and future. Edward S Casey even argues that our capacity of memory would be impossible without a body memory.⁹⁶ The world is reflected in the body, and the body is projected onto the world. We remember through our bodies as much as through our nervous system and brain.

The senses not only mediate information for the judgement of the intellect; they are also a means of igniting the imagination and of articulating sensory thought. Each form of art elaborates metaphysical and existential thought through its characteristic medium and sensory engagement. 'Any theory of painting is a metaphysics,' in Merleau-Ponty's view,⁹⁷ but this statement might also be extended to the actual making of art, for every painting is itself based on implicit assumptions about the essence of the world. 'The painter "takes his body with him", says [Paul] Valéry. Indeed we cannot imagine how a mind could paint,' Merleau-Ponty argues.⁹⁸

It is similarly inconceivable that we could think of purely cerebral architecture that would not be a projection of the human body and its movement through space. The art of architecture is also engaged with

metaphysical and existential questions concerning man's being in the world. The making of architecture calls for clear thinking, but this is a specific embodied mode of thought that takes place through the senses and the body, and through the specific medium of architecture. Architecture elaborates and communicates thoughts of man's incarnate confrontation with the world through 'plastic emotions'.⁹⁹ In my view, the task of architecture is 'to make visible how the world touches us', as Merleau-Ponty said of the paintings of Cézanne.¹⁰⁰

The Significance of the Shadow

The eye is the organ of distance and separation, whereas touch is the sense of nearness, intimacy and affection. The eye surveys, controls and investigates, whereas touch approaches and caresses. During overpowering emotional experiences, we tend to close off the distancing sense of vision; we close the eyes when dreaming, listening to music, or caressing our beloved ones. Deep shadows and darkness are essential, because they dim the sharpness of vision, make depth and distance ambiguous, and invite unconscious peripheral vision and tactile fantasy.

How much more mysterious and inviting is the street of an old town with its alternating realms of darkness and light than are the brightly and evenly lit streets of today! The imagination and daydreaming are stimulated by dim light and shadow. In order to think clearly, the sharpness of vision has to be suppressed, for thoughts travel with an absent-minded and unfocused gaze. Homogenous bright light paralyses the imagination in the same way that homogenisation of space weakens the experience of being, and wipes away the sense of place. The human eye is most perfectly tuned for twilight rather than bright daylight.

Mist and twilight awaken the imagination by making visual images unclear and ambiguous; a Chinese painting of a foggy mountain landscape, or the raked sand garden of Ryoan-ji Zen Garden give rise to an unfocused way of looking, evoking a trance-like, meditative state. The

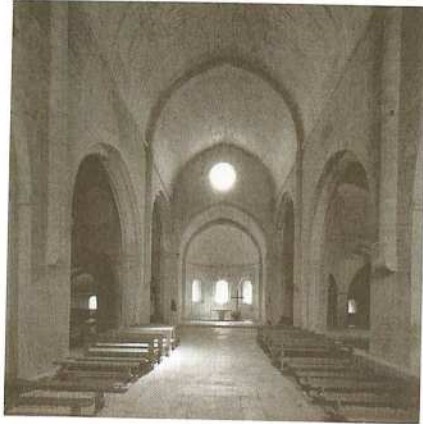
absent-minded gaze penetrates the surface of the physical image and focuses in infinity.

In his book *In Praise of Shadows*, Junichiro Tanizaki points out that even Japanese cooking depends upon shadows, and that it is inseparable from darkness: 'And when *Y'kan* is served in a lacquer dish, it is as if the darkness of the room were melting on your tongue.'¹⁰¹ The writer reminds us that, in olden times, the blackened teeth of the geisha and her green-black lips as well as her white painted face were all intended to emphasise the darkness and shadows of the room.

Likewise, the extraordinarily powerful sense of focus and presence in the paintings of Caravaggio and Rembrandt arises from the depth of shadow in which the protagonist is embedded like a precious object on a dark velvet background that absorbs all light. The shadow gives shape and life to the object in light. It also provides the realm from which fantasies and dreams arise. The art of chiaroscuro is a skill of the master architect too. In great architectural spaces, there is a constant, deep breathing of shadow and light; shadow inhales and illumination exhales light.

In our time, light has turned into a mere quantitative matter and the window has lost its significance as a mediator between two worlds, between enclosed and open, interiority and exteriority, private and public, shadow and light. Having lost its ontological meaning, the window has turned into a mere absence of the wall. 'Take [...] the use of enormous plate windows [...] they deprive our buildings of intimacy, the effect of shadow and atmosphere. Architects all over the world have been mistaken in the proportions which they have assigned to large plate windows or spaces opening to the outside [...] We have lost our sense of intimate life, and have become forced to live public lives, essentially away from home,' writes Luis Barragan, the true magician of intimate secrecy, mystery and shadow in contemporary architecture.¹⁰² Likewise, most contemporary public spaces would become more enjoyable through a lower light intensity and its uneven distribution. The dark womb of the council chamber of Alvar Aalto's Säynätsalo Town Hall

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ARCHITECTURES OF HEARING AND SMELL

13

In historical towns and spaces, acoustic experiences reinforce and enrich visual experiences.

The early Cistercian Abbey of Le Thoronet, first established at Florielle in 1136, transferred to its present site in 1176.

Photo David Heald.

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In rich and invigorating experiences of places, all sensory realms interact and fuse into the memorable image of the place.

A space of smell: the spice market in Harrar, Ethiopia.

Photo Juhani Pallasmaa.

recreates a mystical and mythological sense of community; darkness creates a sense of solidarity and strengthens the power of the spoken word.

In emotional states, sense stimuli seem to shift from the more refined senses towards the more archaic, from vision down to hearing, touch and smell, and from light to shadow. A culture that seeks to control its citizens is likely to promote the opposite direction of interaction, away from intimate individuality and identification towards a public and distant detachment. A society of surveillance is necessarily a society of the voyeuristic and sadistic eye. An efficient method of mental torture is the use of a constantly high level of illumination that leaves no space for mental withdrawal or privacy; even the dark interiority of self is exposed and violated.

Acoustic Intimacy

Sight isolates, whereas sound incorporates; vision is directional, whereas sound is omni-directional. The sense of sight implies exteriority, but sound creates an experience of interiority. I regard an object, but sound approaches me; the eye reaches, but the ear receives. Buildings do not react to our gaze, but they do return our sounds back to our ears. 'The centring action of sound affects man's sense of cosmos,' writes Walter Ong. 'For oral cultures, the cosmos is an ongoing event with man at its centre. Man is the *umbilicus mundi*, the navel of the world.'¹⁰³ It is thought-provoking that the mental loss of the sense of centre in the contemporary world could be attributed, at least in part, to the disappearance of the integrity of the audible world.

Hearing structures and articulates the experience and understanding of space. We are not normally aware of the significance of hearing in spatial experience, although sound often provides the temporal continuum in which visual impressions are embedded. When the soundtrack is removed from a film, for instance, the scene loses its plasticity and sense of continuity and life. Silent film, indeed, had to compensate for the lack of sound by a demonstrative manner of overacting.

Adrian Stokes, the English painter and essayist, makes perceptive observations about the interaction of space and sound, sound and stone. 'Like mothers of men, the buildings are good listeners. Long sounds, distinct or seemingly in bundles, appease the orifices of palaces that lean back gradually from canal or pavement. A long sound with its echo brings consummation to the stone,' he writes.¹⁰⁴

Anyone who has half-woken up to the sound of a train or an ambulance in a nocturnal city, and through his/her sleep experienced the space of the city with its countless inhabitants scattered within its structures, knows the power of sound over the imagination; the nocturnal sound is a reminder of human solitude and mortality, and it makes one conscious of the entire slumbering city. Anyone who has become entranced by the sound of dripping water 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 in the darkness becomes a cavity sculpted directly in the interior of the mind.

The last chapter of Steen Eiler Rasmussen's seminal book *Experiencing Architecture* is significantly entitled 'Hearing Architecture'.¹⁰⁵ The writer describes various dimensions of acoustical qualities, and recalls the acoustic percept of the underground tunnels in Vienna in Orson Welles' film *The Third Man*: 'Your ear receives the impact of both the length and the cylindrical form of the tunnel.'¹⁰⁶

One can also 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 numerous surfaces of objects of personal life. Every building or space has its characteristic sound of intimacy or monumentality, invitation or rejection, hospitality or hostility. A space is understood and appreciated through its echo as much as through its visual shape, but the acoustic percept usually remains as an unconscious background experience.

Sight is the sense of the solitary observer, whereas hearing creates a sense of connection and solidarity; our look wanders lonesomely in the

dark depths of a cathedral, but the sound of the organ makes us immediately experience our affinity with the space. We stare alone at the suspense of a circus, but the burst of applause after the relaxation of suspense unites us with the crowd. The sound of church bells echoing through the streets of a town makes us aware of our citizenship. The echo of steps on a paved street has an emotional charge because the sound reverberating from surrounding walls puts us in direct interaction with space; the sound measures space and makes its scale comprehensible. We stroke the boundaries of the space with our ears. The cries of seagulls in the harbour awaken an awareness of the vastness of the ocean and the infiniteness of the horizon.

Every city has its echo which depends on the pattern and scale of its streets and the prevailing architectural styles and materials. The echo of a Renaissance city differs from that of a Baroque city. But our cities have lost their echo altogether. The wide, open spaces of contemporary streets do not return sound, and in the interiors of today's buildings echoes are absorbed and censored. The programmed recorded music of shopping malls and public spaces eliminates the possibility of grasping the acoustic volume of space. Our ears have been blinded.

Silence, Time and Solitude

The most essential auditory experience created by architecture is tranquillity. Architecture presents the drama of construction silenced into matter, space and light. Ultimately, architecture is the art of petrified silence. When the clutter of construction work ceases, and the shouting of workers dies away, a building becomes a museum of a waiting, patient silence. In Egyptian temples we encounter the silence that surrounded the pharaohs, in the silence of the Gothic cathedral we are reminded of the last dying note of a Gregorian chant, and the echo of Roman footsteps has just faded away from the walls of the Pantheon. Old houses take us back to the slow time and silence of the past. The silence of architec-

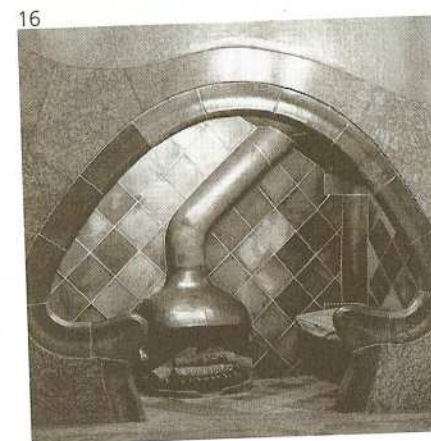
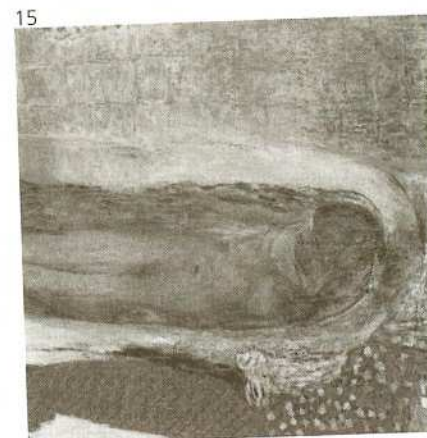
ture is a responsive, remembering silence. A powerful architectural experience silences all external noise; it focuses our attention on our very existence, and as with all art, it makes us aware of our fundamental solitude.

The incredible acceleration of speed during the last century has collapsed time into the flat screen of the present, upon which the simultaneity of the world is projected. As time loses its duration, and its echo in the primordial past, man loses his sense of self as a historical being, and is threatened by the 'terror of time'.¹⁰⁷ Architecture emancipates us from the embrace of the present and allows us to experience the slow, healing flow of time. Buildings and cities are instruments and museums of time. They enable us to see and understand the passing of history, and to participate in time cycles that surpass individual life.

Architecture connects us with the dead; through buildings we are able to imagine the bustle of the medieval street, and picture a solemn procession approaching the cathedral. The time of architecture is a detained time; in the greatest of buildings time stands firmly still. In the Great Peristyle at Karnak time has petrified into an immobile and timeless present. Time and space are eternally locked into each other in the silent spaces between these immense columns; matter, space and time fuse into one singular elemental experience, the sense of being.

The great works of modernity have forever halted the utopian time of optimism and hope; even after decades of trying fate they radiate an air of spring and promise. Alvar Aalto's Paimio Sanatorium is heartbreaking in its radiant belief in a humane future and the success of the societal mission of architecture. Le Corbusier's Villa Savoye makes us believe in the union of reason and beauty, ethics and aesthetics. Through periods of dramatic and tragic social and cultural change, Konstantin Melnikov's Melnikov House in Moscow has stood as a silent witness of the will and utopian spirit that once created it.

Experiencing a work of art is a private dialogue between the work and the viewer, one that excludes other interactions. 'Art is memory's *mise-en-scène*', and 'Art is made by the alone for the alone', as Cyril Connolly



SPACES OF INTIMATE WARMTH

15
Heightened experiences of intimacy, home and protection are sensations of the naked skin.

Pierre Bonnard, *The Nude in the Bath*, 1937. Detail. Musée du Petit-Palais, Paris.

©Photothèques des Musées de la Ville de Paris

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The fireplace as an intimate and personal space of warmth.

Antonio Gaudí, Casa Batlló, Barcelona, 1904–06.

writes in *The Unquiet Grave*. Significantly, these are sentences underlined by Luis Barragan in his copy of this book of poetry.¹⁰⁸ A sense of melancholy lies beneath all moving experiences of art; this is the sorrow of beauty's immaterial temporality. Art projects an unattainable ideal, the ideal of beauty that momentarily touches the eternal.

Spaces of Scent

We need only eight molecules of substance to trigger an impulse of smell in a nerve ending, and we can detect more than 10,000 different odours. The most persistent memory of any space is often its smell. I cannot remember the appearance of the door to my grandfather's farmhouse in my early childhood, but I do remember the resistance of its weight and the patina of its wood surface scarred by decades of use, and I recall especially vividly the scent of home that hit my face as an invisible wall behind the door. Every dwelling has its individual smell of home.

A particular smell makes us unknowingly re-enter a space completely forgotten by the retinal memory; the nostrils awaken a forgotten image, and we are enticed to enter a vivid daydream. The nose makes the eyes remember. 'Memory and imagination remain associated,' as Bachelard writes; 'I alone in my memories of another century, can open the deep cupboard that still retains for me alone that unique odour, the odour of raisins, drying on a wicker tray. The odour of raisins! It is an odour that is beyond description, one that it takes a lot of imagination to smell.'¹⁰⁹

What a delight to move from one realm of odour to the next, through 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, saddles, and 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. Fishing towns are especially memorable because of the fusion of

the smells of the sea and of the land; the powerful smell of seaweed makes one sense the depth and weight of the sea, and it turns any prosaic harbour town into the image of the lost Atlantis.

A special joy of travel is to acquaint oneself with the geography and microcosm of smells and tastes. Every city has its spectrum of tastes and odours. Sales counters on the streets are appetising exhibitions of smells: creatures of the ocean that smell of seaweed, vegetables carrying the odour of fertile earth, and fruits that exude the sweet fragrance of sun and moist summer air. The menus displayed outside restaurants make us fantasise the complete course of a dinner; letters read by the eyes turn into oral sensations.

Why do abandoned houses always have the same hollow smell: is it because the particular smell is stimulated by emptiness observed by the eye? Helen Keller was able to recognise 'an old-fashioned country house because it has several levels of odours, left by a succession of families, of plants, of perfumes and draperies'.¹¹⁰

In *The Notebooks of Malte 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 neighbouring house:

There stood the middays and the sicknesses and the exhaled breath and the smoke of years, and the sweat that breaks out under armpits and makes clothes heavy, and the stale breath of mouths, and the fusel odour of sweltering feet. There stood the tang of urine and the burn of soot and the grey reek of potatoes, and the heavy, smooth stench of ageing grease. The sweet, lingering smell of neglected infants was there, and the fearsmell of children who go to school, and the sultriness out of the beds of nubile youths.¹¹¹

The retinal images of contemporary architecture certainly appear sterile and lifeless when compared with the emotional and associative power of the poet's olfactory imagery. The poet releases the scent and taste concealed in words. Through his words a great writer is capable of constructing an entire city with all the colours of life. But significant works

of architecture also project full images of life. In fact, a great architect releases images of ideal life concealed in spaces and shapes. Le Corbusier's sketch of the suspended garden for a block of flats, with the wife beating a rug on the upper balcony, and the husband hitting a boxing bag below, as well as the fish and the electric fan on the kitchen table of the Villa Stein-de Monzie, are examples of a rare sense of life in modern images of architecture. Photographs of the Melnikov House, on the other hand, reveal a dramatic distance between the metaphysical geometry of the iconic house, and the traditionally prosaic realities of life.

The Shape of Touch

'[H]ands are a complicated organism, a delta in which life from the most distant sources flows together surging into the great current of action. Hands have histories; they even have their own culture and their own particular beauty. We grant them the right to have their own development, their own wishes, feelings, moods and occupations,' writes Rainer Maria Rilke in his essay on Auguste Rodin.¹¹² The hands are the sculptor's eyes; but they are also organs for thought, as Heidegger suggests: '[the] hand's essence can never be determined, or explained, by its being an organ which can grasp [...] 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 [...].'¹¹³

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 the hand. It is pleasurable to press a door handle shining from the thousands of 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 impressions of touch we shake the hands of countless generations. A pebble polished by waves



THE SIGNIFICANCE OF SHADOW AND DARKNESS

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The face is embedded in darkness as a precious object on a dark surface of velvet.

Rembrandt, *Self-Portrait*, 1660. Detail.
Musée du Louvre, Paris.

18
The darkness and shadows of the Finnish peasant's house create a sense of intimacy and silence; light turns into a precious gift.

The Pertinotsa House from the late 19th century in the Seurasaari Outdoor Museum, Helsinki.

Museum of Finnish Architecture/Photo István Rácz

is pleasurable to the hand, not only because of its soothing shape, but because it expresses the slow process of its formation; a perfect pebble on the palm materialises duration, it is time turned into shape.

When entering the magnificent outdoor space of Louis Kahn's Salk Institute in La Jolla, California, I felt an irresistible temptation to walk directly to the concrete wall and touch the velvety smoothness and temperature of its skin. Our skin traces temperature spaces with unerring precision; the cool and invigorating shadow under a tree, or the caressing sphere of warmth in a spot of sun, turn into experiences of space and place. In my childhood images of the Finnish countryside, I can vividly recall walls against the angle of the sun, walls which multiplied the heat of radiation and melted the snow, allowing the first smell of pregnant soil to announce the approach of summer. These early pockets of spring were identified by the skin and the nose as much as by the eye.

Gravity is measured by the bottom of the foot; 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 the warmth of the sun-heated stone through one's soles, is an extraordinarily healing experience, making one part of the eternal cycle of nature. One senses the slow breathing of the earth.

'In our houses we have nooks and corners in which we like to curl up comfortably. To curl up belongs to the phenomenology of the verb to inhabit, and only those who have learned to do so can inhabit with intensity,' writes Bachelard.¹¹⁴ 'And always, in our daydreams, the house is a large cradle,' he continues.¹¹⁵

There is a strong identity between naked skin and the sensation of home. The experience of home is essentially an experience of intimate warmth. The space of warmth around a fireplace is the space of ultimate intimacy and comfort. Marcel Proust gives a poetic description of such a fireside space, as sensed by the skin: 'It is like an immaterial alcove, a warm cave carved into the room itself, a zone of hot weather with floating boundaries.'¹¹⁶ A sense of homecoming has never been

stronger for me than when seeing a light in the window of my childhood house in a snow-covered landscape at dusk, the memory of the warm interior gently warming my frozen limbs. Home and the pleasure of the skin turn into a singular sensation.

The Taste of Stone

In his writings, Adrian Stokes was particularly sensitive to the realms of tactile and oral sensations: 'In employing smooth and rough as generic terms of architectural dichotomy I am better able to preserve both the oral and the tactile notions that underlie the visual. There is a hunger of the eyes, and doubtless there has been some permeation of the visual sense, as of touch, by the once all-embracing oral impulse.'¹¹⁷ Stokes writes also about the 'oral invitation of Veronese marble',¹¹⁸ and he quotes a letter of John Ruskin: 'I should like to eat up this Verona touch by touch.'¹¹⁹

There is a subtle transference between tactile and taste experiences. Vision becomes transferred to taste as well; certain colours and delicate details evoke oral sensations. A delicately coloured polished stone surface is subliminally sensed by the tongue. Our sensory experience of the world originates in the interior sensation of the mouth, and the world tends to return to its oral origins. The most archaic origin of architectural space is in the cavity of the mouth.

Many years ago when visiting the DL James Residence in Carmel, California, designed by Charles and Henry Greene, I felt compelled to kneel and touch the delicately shining white marble threshold of the front door with my tongue. The sensuous materials and skilfully crafted details of Carlo Scarpa's architecture as well as the sensuous colours of Luis Barragan's houses frequently evoke oral experiences. Deliciously coloured surfaces of *stucco lustrato*, a highly polished colour or wood surfaces also present themselves to the appreciation of the tongue.

Junichiro Tanizaki describes impressively the spatial qualities of the sense of taste, and the subtle interaction of the senses in the simple act of uncovering a bowl of soup:

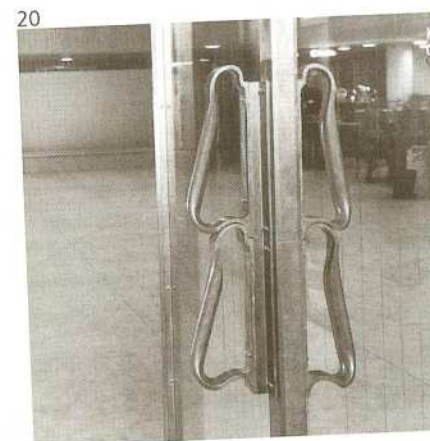
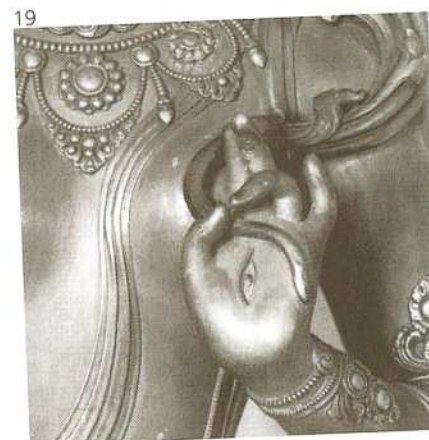
With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm 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. ... A moment of mystery, it might almost be called, a moment of trance.¹²⁰

A fine architectural space opens up and presents itself with the same fullness of experience as Tanizaki's bowl of soup. Architectural experience brings the world into a most intimate contact with the body.

Images of Muscle and Bone

Primitive man used his own body as the dimensioning and proportioning system of his constructions. The essential skills of making a living in traditional cultures are based on the wisdom of the body stored in the haptic memory. The essential knowledge and skill 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. Skill was learned through incorporating the sequence of movements refined by tradition, not through words or theory.

The body knows and remembers. Architectural meaning derives from archaic responses and reactions remembered by the body and the senses. Architecture has to respond to traits of primordial behaviour preserved and passed down by the genes. Architecture does not only respond to the functional and conscious intellectual and social needs of today's city-dweller; it must also remember the primordial hunter and farmer concealed in the body. Our sensations of comfort, protection and home are



VISION AND HAPTICITY

19

A tactile ingredient is concealed in vision.

The Buddhist goddess Tara possesses five additional eyes, on the forehead and in her hands and feet. These are considered as signs of enlightenment. Bronze figure from Mongolia, 15th century.

State Public Library, Ulan Bator, Mongolia

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The door pull is the handshake of a building, which can be inviting and courteous, or forbidding and aggressive.

Alvar Aalto, The Iron House, Helsinki, 1954. Doorpulls.

Museum of Finnish Architecture/Photo Heikki Havas

rooted in the primordial experiences of countless generations. Bachelard calls these 'images that bring out the primitiveness in us', or 'primal images'.¹²¹ '[T]he house we were born in has engraved within us the hierarchy of the various functions of inhabiting. We are the diagram of the functions of inhabiting that particular house, and all the other houses are but variations on a fundamental theme. The word habit is too worn a word to express this passionate liaison of our bodies, which do not forget, with an unforgettable house,' he writes of the strength of the bodily memory.¹²²

Modern architecture has had its own conscience in recognising a bias towards the visual nature of designs. 'Architecture of the exterior seems to have interested architects of the avant-garde at the expense of architecture of the interior. As if a house were to be conceived for the pleasure of the eye rather than for the wellbeing of the inhabitants,' writes Eileen Gray,¹²³ whose design approach seems to grow from a study of the minute situations of daily life rather than visual and compositional preconceptions.

Architecture cannot, however, become an instrument of mere functionality, bodily comfort and sensory pleasure without losing its existentially mediating task. A distinct sense of distance, resistance and tension has to be maintained in relation to programme, function and comfort. A piece of architecture should not become transparent in its utilitarian and rational motives; it has to maintain its impenetrable secret and mystery in order to ignite our imagination and emotions.

Tadao Ando has expressed a desire for a tension or opposition between functionality and uselessness in his work: 'I believe in removing architecture from function after ensuring the observation of functional basis. In other words, I like to see how far architecture can pursue function and then, after the pursuit has been made, to see how far architecture can be removed from function. The significance of architecture is found in the distance between it and function.'¹²⁴

Images of Action

Stepping stones set in the grass of a garden are images and imprints of footsteps. As we open a door, the body weight meets the weight of the door; the legs measure the steps as we ascend a stairway, the hand strokes the handrail and the entire body moves diagonally and dramatically through space.

There is an inherent suggestion of action in images of architecture, the moment of active encounter, or a 'promise of function'¹²⁵ and purpose. 'The objects which surround my body reflect its possible action upon them,' writes Henri Bergson.¹²⁶ It is this possibility of action that separates architecture from other forms of art. As a consequence of this implied action a bodily reaction is an inseparable aspect of the experience of architecture. A meaningful architectural experience is not simply a series of retinal images. The 'elements' of architecture are not visual units or gestalt; they are encounters, confrontations that interact with memory. 'In such memory, the past is embodied in actions. Rather than being contained separately somewhere in the mind or brain, it is actively an ingredient in the very bodily movements that accomplish a particular action,' Edward Casey writes of the interplay of memory and actions.¹²⁷

The experience of home is structured by distinct activities – cooking, eating, socialising, reading, storing, sleeping, intimate acts – not by visual elements. A building is encountered; it is approached, confronted, related to one's body, moved through, utilised as a condition for other things. Architecture initiates, directs and organises behaviour and movement.

A building is not an end in itself; it frames, articulates, structures, gives significance, relates, separates and unites, facilitates and prohibits. Consequently, basic architectural experiences have a verb form rather than being nouns. Authentic architectural experiences consist then, for instance, of approaching or confronting a building, rather than the formal apprehension of a facade; of the act of entering and not simply the visual design of the door; of looking in or out through a window, rather than the window itself as a material object; or of occupying the sphere

of warmth, rather than the fireplace as an object of visual design. Architectural space is lived space rather than physical space, and lived space always transcends geometry and measurability.

In his analysis of Fra Angelico's *Annunciation* in the charming essay 'From the Doorstep to the Common Room' (1926), Alvar Aalto recognises the *verb-essence* of architectural experience by speaking of the act of *entering* the room, not of the formal design of the porch or the door.¹²⁸

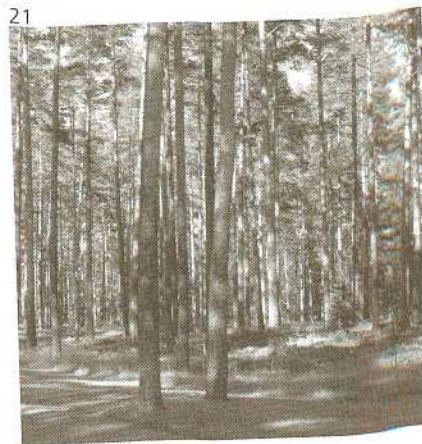
Modern architectural theory and critique have had a strong tendency to regard space as an immaterial object delineated by material surfaces, instead of understanding space in terms of dynamic interactions and interrelations. Japanese thinking, however, is founded on a relational understanding of the concept of space. In recognition of the verb-essence of the architectural experience, Professor Fred Thompson uses the notions of 'spacing' instead of 'space', and of 'timing' instead of 'time', in his essay on the concept of *Ma*, and the unity of space and time in Japanese thinking.¹²⁹ He aptly describes units of architectural experience with gerunds, or verb-nouns.

Bodily Identification

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 becomes organised and articulated around the centre 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 my body,' Gabriel Marcel claims,¹³⁰ but 'I am the space, where I am,' establishes the poet Noël Arnaud.¹³¹

Henry Moore writes perceptively of the necessity of bodily identification in the making of art:

21



22



PERIPHERAL VISION AND A SENSE OF INTERIORITY

21

The forest enfolds us in its multisensory embrace. The multiplicity of peripheral stimuli effectively pull us into the reality of its space.

Finnish pine forest in the vicinity of Alvar Aalto's Villa Mairea in Noormarkku.

Mairea Foundation/Photo Rauno Träskelin.

22

The scale and painterly technique of American Expressionist painters provide peripheral stimuli and invite us into the space.

Jackson Pollock, *One: Number 31*, 1950. Detail.

© 2005 The Museum of Modern Art, NY/Scala, Florence.

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 centre of gravity, its mass, its weight; he realizes its volume, and the space that the shape displaces in the air.¹³²

The encounter of any work of art implies a bodily interaction. The painter Graham Sutherland expresses this view on the artist's work: 'In a sense the landscape painter must almost look at the landscape as if it were himself – himself as a human being.'¹³³ In Cézanne's view, 'the landscape thinks itself in me, and I am its consciousness.'¹³⁴ A work of art functions as another person, with whom one unconsciously converses. When confronting a work of art we project our emotions and feelings on to the work. A curious exchange takes place; we lend the work our emotions, whereas the work lends us its authority and aura. Eventually, we meet ourselves in the work. Melanie Klein's notion of 'projective identification' suggests that, in fact, all human interaction implies projection of fragments of the self on to the other person.¹³⁵

Mimesis of the Body

A great musician plays himself rather than the instrument, and a skilful soccer player plays the entity of himself, the other players and the internalised and embodied field, instead of merely kicking the ball. 'The player understands where the goal is in a way which is lived rather than known. The mind does not inhabit the playing field but the field is inhabited by a "knowing" body,' writes Richard Lang when commenting on Merleau-Ponty's views on the skills of playing soccer.¹³⁶

Similarly, during the design process, the architect gradually internalises the landscape, the entire context, and the functional requirements as well

as his/her conceived building: movement, balance and scale are felt unconsciously through the body as tensions 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 the bodily sensations of the maker. Consequently, architecture is communication from the body of the architect directly to the body of the person who encounters the work, perhaps centuries later.

Understanding architectural scale implies the unconscious measuring of the object or the building with one's body, and of projecting one's body scheme into 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 our 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 in the muscular system, and the structures of a building are unconsciously imitated and comprehended through the skeletal system. Unknowingly, we perform the task of the column or of the vault with our body. 'The brick wants to become an arch,' as Louis Kahn said, and this metamorphosis takes place through the mimetic capacity of the body.¹³⁷

The sense of gravity is the essence of all architectonic structures and great architecture makes us aware of gravity and earth. Architecture strengthens the experience of the vertical dimension of the world. At the same time as making us aware of the depth of the earth, it makes us dream of levitation and flight.

Spaces of Memory and Imagination

We have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interaction; the domain of presence fuses into images of memory and fantasy. We keep constructing an immense city of evocation and remembrance, and all the

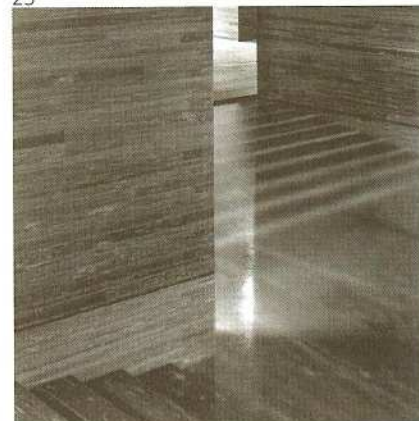
cities we have visited are precincts in this metropolis of the mind.

Literature and cinema would be devoid of their power of enchantment without our capacity to *enter* a remembered or imagined place. The spaces and places enticed by a work of art are real in the full sense of the experience. 'Tintoretto did not choose that yellow rift in the sky above Golgotha to signify anguish or to provoke it. It is anguish and yellow sky at the same time. Not sky of anguish or anguished sky; it is an anguish become thing, anguish which has turned into yellow-rift of sky,' writes Sartre.¹³⁸ Similarly, the architecture of Michelangelo does not present symbols of melancholy; his buildings actually mourn. When experiencing a work of art, a curious exchange takes place; the work projects its aura, and we project our own emotions and percepts on the work. The melancholy in Michelangelo's architecture is fundamentally the viewer's sense of his/her own melancholy enticed by the authority of the work. Enigmatically, we encounter ourselves in the work.

Memory takes us back to distant cities, and novels transport us through cities invoked by the magic of the writer's word. The rooms, squares and streets of a great writer are as vivid as any that we have visited; the invisible cities of Italo Calvino have forever enriched the urban geography of the world. The city of San Francisco unfolds in its multiplicity through the montage of Hitchcock's *Vertigo*; we *enter* the haunting edifices in the steps of the protagonist and see them through his eyes. We *become* citizens of mid-19th-century St Petersburg through the incantations of Dostoyevsky. We *are* in the room of Raskolnikov's shocking double murder, we *are* among the terrified spectators watching Mikolka and his drunken friends beat a horse to death, frustrated by our inability to prevent the insane and purposeless cruelty.

The cities of filmmakers, built up of momentary fragments, envelop us with the full vigour of real cities. The streets in great paintings continue around corners and past the edges of the picture frame into the invisible with all the intricacies of life. '[The painter] makes [houses], that is, he creates an imaginary house on the canvas and not a sign of a

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24



LIFE-ENHANCING ARCHITECTURE OF THE SENSES

23

An architecture of formal restraint with a rare sensuous richness addressing all the senses simultaneously.

Peter Zumthor, Thermal Baths, Vals, Graubünden, 1990–6.

24

An architecture that addresses our sense of movement and touch as much as the eye, and creates an ambience of domesticity and welcome.

Alvar Aalto, Villa Mairea, Noormarkku, 1938–9. Entry hall, living room and the main staircase.

Mairea Foundation/Photo Rauno Träskelin.

house. And the house which thus appears preserves all the ambiguity of real houses,' writes Sartre.¹³⁹

There are cities that remain mere distant visual images when remembered, and cities that are remembered in all their vivacity. The memory re-evokes the delightful city with all its sounds and smells and variations of light and shade. I can even choose whether to walk on the sunny side or the shaded side of the street in the pleasurable city of my remembrance. The real measure of the qualities of a city is whether one can imagine falling in love in it.

An Architecture of the Senses

Various architectures can be distinguished on the basis of the sense modality they tend to emphasise. Alongside the prevailing architecture of the eye, there is a haptic architecture of the muscle and the skin. There is architecture that also recognises the realms of hearing, smell and taste.

The architectures of Le Corbusier and Richard Meyer, for instance, clearly favour sight, either as a frontal encounter, or the kinesthetic eye of the *promenade architecturale* (even if the later works of Le Corbusier incorporate strong tactile experiences in the forceful presence of materiality and weight). On the other hand, the architecture of the Expressionist orientation, beginning with Erich Mendelsohn and Hans Scharoun, favours muscular and haptic plasticity as a consequence of the suppression of ocular perspectival dominance. Frank Lloyd Wright's and Alvar Aalto's architectures are based on a full recognition of the embodied human condition and of the multitude of instinctual reactions hidden in the human unconscious. In today's architecture, the multitude of sensory experiences is heightened in the work of Glenn Murcutt, Steven Holl and Peter Zumthor, for instance.

Alvar Aalto was consciously concerned with all the senses in his architecture. His comment on the sensory intentions in his furniture design clearly reveals this concern: 'A piece of furniture that forms a

part of a person's daily habitat should not cause excessive glare from light reflection: ditto, it should not be disadvantageous in terms of sound, sound absorption, etc. A piece that comes into the most intimate contact with man, as a chair does, shouldn't be constructed of materials that are excessively good conductors of heat.'¹⁴⁰ Aalto was clearly more interested in the encounter of the object and the body of the user than in mere visual aesthetics.

Aalto's architecture exhibits a muscular and haptic presence. It incorporates dislocations, skew confrontations, irregularities and polyrhythms in order to arouse bodily, muscular and haptic experiences. His elaborate surface textures and details, crafted for the hand, invite the sense of touch and create an atmosphere of intimacy and warmth. Instead of the disembodied Cartesian idealism of the architecture of the eye, Aalto's architecture is based on sensory realism. His buildings are not based on a single dominant concept or gestalt; rather, they are sensory agglomerations. They sometimes even appear clumsy and unresolved as drawings, but they are conceived to be appreciated in their actual physical and spatial encounter, 'in the flesh' of the lived world, not as constructions of idealised vision.

The Task of Architecture

The timeless task of architecture is to create embodied and lived existential metaphors that concretise and structure our being in the world. Architecture reflects, materialises and eternalises ideas and images of ideal life. Buildings and towns enable us to structure, understand and remember the shapeless flow of reality and, ultimately, to recognise and remember who we are. Architecture enables us to perceive and understand the dialectics of permanence and change, to settle ourselves in the world, and to place ourselves in the continuum of culture and time.

In its way of representing and structuring action and power, societal and cultural order, interaction and separation, identity and memory,

architecture is engaged with fundamental existential questions. 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. We transfer all the cities and towns that we have visited, all the places that we have recognised, into the incarnate memory of our body. Our domicile becomes integrated with our self-identity; it becomes part of our own body and being.

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

In 1954, at the age of 85, Frank Lloyd Wright formulated the mental task of architecture in the following words:

What is needed most in architecture today is the very thing that is most needed in life - Integrity. Just as it is in a human being, so integrity is the deepest quality in a building ... If we succeed, we will have done a great service to our moral nature - the psyche - of our democratic society ... Stand up for integrity in your building and you stand for integrity not only in the life of those who did the building but socially a reciprocal relationship is inevitable.¹⁴¹

This emphatic declaration of architecture's mission is even more urgent today than at the time of its writing 50 years ago. And this view calls for a full understanding of the human condition.

NOTES

Preface

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Introduction

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