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EMBODIED AND EMPATHIC KNOWLEDGE
- intuiting experience and life in architecture

VISION AND IMAGINATION

Contemporary architecture and design are frequently accused of exclusive and restrictive aesthetics and an emotional coldness. Contemporary design tends to seek formal perfection and aesthetic autonomy, and this aspiration is often in conflict with the spontaneity of lived life and the nature of human existential and experiential life-world. Especially the technological and pragmatic formalism of the past two decades has distanced buildings from the realities of lived life. Having been regarded as a significant ingredient of culture, architecture is currently increasingly marginalized. It has been loosing its artistic, cultural and ethical autonomy and turned into a narrow professionalist practice, serving the interest of clients and investors. In addition to economic interests, architecture serves increasingly the purposes of social and commercial visibility, business or cultural identity and sheer profit.

Yet, designed environments are not just empty and meaningless spaces for various activities. They guide, tune, choreograph and stimulate actions, interests and moods, while in the negative case, they stifle and prohibit these interactions. Every space is placed and every space, place and situation is tuned in a specific way, and this tuning conditions our emotions and minds. We live in resonance with the world, and architecture creates, articulates and mediates this existential resonance. Buildings are products of imagination, and there are two qualitative levels of imagination; the first one is capable of projecting formal and material structures, the second of imagining the encounter with and the experience of the concieved physical entity. In the design phase, the designer must be capable of sensing and experiencing the imagined entity before any material structure exists. Imagination is not a quasi-visual projection, as is usually assumed, because we imagine through all our senses, and our entire embodied existence. I suggest that vision is not the most important

sense in design at all, and the most essential qualities are encountered through our senses of touch, existence and self. I wish to argue that an architecture that only addresses vision is unsatisfactory. Today's buildings usually aim at an appealing and memorable image, but they are empty of existential meaning. Yet, the task of architecture is to ground us in our lives and settings, not to alienate us, or give us false realities.

I want to argue firmly that true architectural qualities are not merely aesthetic qualities, as the true qualities are existential, poetic, embodied, emotive and archetypally grounded. Buildings do not only give us our foothold in place and time; they also fuse our consciousness with culture and tradition. As designers and artists, our most important collaborator is tradition, the continuum of culture. This may sound regressive, but existential meanings cannot be invented, as they have to be encountered. Architecture is essentially about the world, not about itself. "We come not to see the work of art, but the world according to the work", Maurice Merleau-Ponty suggests wisely.[1]

THE REALITIES OF ARCHITECTURE

In our time, architectural projects arise from and through thoroughly different realities. The client thinks of the future building through his interests and viewpoints, the architect sees the project through her artistic aspirations and values, the builder through his operational, technical and economic perspectives, and finally, the user through her experiential and practical everyday reality. The architectural critic and the historian set the building in yet another context, in a historical continuum, often rather fictitious and intellectualized. How can intentions be mediated succesfully between these differing and often conflicting realities? Alvar Aalto offers a solution to the problem of conflicting points of departure and intentions, when he writes; "In every case one must achieve a simultaneous soluion of opposites…This harmony cannot be achieved by any other means than those of art".[2]

A meaningful artistic experience always extends simultaneously our understanding of the past, present and future. All architectural qualities are constituted in the act of encountering and experiencing the work. Architecture has been regarded, theorized, taught and practiced primarily as a visual discipline, and consequently, environments and buildings are developed through visual images, means and representations.

Researchers on soundscapes have, however, suggested that earliest spaces occupied by humans were selected for sonic qualities rather than vision. There is also convincing historical evidence that the human sensory world was still in the 16th century dominated by hearing and smell, and vision was far behind these two primary senses. I also wish to remind you that humans build grave structures for their dead long before they constructed any shelters for themselves. This means that the mental dimension and the imaginary reality were more important in architecture than the

practicalities of the life world. It is alarming to realize that this originary focus of architecture has almost entirely disappeard in contemporary construction.

The highest levels of architectural imagination are empatic imagination and compassion, which enable the designer to imagine the sensations, experiences and moods of the other, the future user of the space, "the little man", that Alvar Aalto often spoke of [3]. A gifted and experienced designer develops a syncretic imagination, which enables her to experience the designed entity and its complex atmospheres and resonances as a multi-sensory and existential entity. We architects can learn significantly from the thematic, atmospheric and emotive richness in the works of artists; writers, film makers, theater and film directors, dancers and visual artists. Architecture has historically developed hand in hand with the arts, but during the past decade , we have abandoned this interaction and fusion with catastrophic consequences. "It all began in painting" [4], Aalto confessed and revealed that one of his masterpieces, the Villa Mairea, was decisively inspired by modern art. Artistic works fire and attune our imaginations instead of attempting to be the end results. I can confess myself that in my design work I have never looked at the works of other architects to feel inspired; I have studied paintings of Giotto, Duccio and other masters of the Siena School as well as Fra Angelico, to feel the secret life of buildings and their interplay with the human figure. True architectural images are choreographic invitations for action and feeling, and they are also always promises and gifts.

SENSORY MULTIPLICITY IN ARCHITECTURE

Regardless of the historical dominance of vision, architecture is essentially an artform of all the senses in interaction. Especially, when we confront it in real life and experience, not in a secondary representation or theory. Our experiential sense of reality calls for the interplay and fusion of the senses. Fused into a unified experience, these sensations give rise to a multi-sensory experience and the sense of reality. "My perception is 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", Maurice Merleau-Ponty observes [5]. Only this fully integrated experience can project the veracity of the real, the experiential reality of our life world..

It is evident that the visually perceived aspects of design are developed and communicated through visual means, drawings, schemes, photographs and models. But how do we conceive the auditory, haptic, olfactory or taste qualities of the building in our imagination, or the peripherally experienced atmospheres and feelings of the designed setting? We have taken the primacy of vision as given in architecture and its education, but there is evidence that man's earliest spaces were concieved or selected for sound and acoustic effects rather than visual qualities. Cultural historians also testify that until the seventeenth century

the most important senses in everyday environmental experiences were hearing and smell, and vision came far behind these primary senses. Lucien Febvre, historian, gives a convincing evidence of the hierarchy of the sense: "The sixteenth century did not see first: it heard and sniffed the air and caught sounds" [6]. Another historian, Robert Mandrou, maks a parallel statement: Th hierarchy of the senses was not the same [as in the twxentieth century] because the eye , which rules today, found itself in third place, behind hearing and touch , and far after them. The eye that organizes, classifies and orders was not the favourxed organ of a time that preferred hearing. [7]

Even in visual perception there is an ideated haptic experience that informs us of materiality, weight, hardness, surface texture, and temperature. This tactile experience integrated in vision was called *modénature*, the soft rounding of the molding´ by Le Corbusier in his manifesto of modern architecture [8] Gaston Bachelard, the philosopher of science and poetic imagery, divided images in two categories, imageries of form and material images, and he argued that the latter convey deeper emotional experiences. [4] The haptic qualities mediated by visual perceptions, usually unconsciously, have a crucial role in the feel of buildings and objects. The frequent uninvitingness and hardness of contemporary architecture seems to arise largely from the rejection of this hidden hapticity. As a young architect, I was thinking of my drawings solely as visual entities, but for the past four decades I have been imaginatively touching the edges and surfaces signified by the lines. I do not look at the drawing , I touch the depicted object. We touch, hear, smell and taste through vision in addition to the specialized senses. Besides, as designers we are taught to be aware of only focused vision, but unfocused peripheral, and largely unconscious, perceptions, seem to have a more important role in our experience of spatial qualities, environmental situations, atmospheres and feelings. But, how does the designer concretize these multiple and often vague experiences in his working process and how are they communicated to others participating in the design process, clients, authorities, engineers, craftsmen and builders? In fact, the experiential reality of a meaningful piece of architecture is not only the sum of its sensory properties, as it generates its own existential world, which we interact with through our sense of self and consciousness. "In a word, the cinematic [artistic] image is not a certain meaning expressed by the director [the artist], but an entire world reflected as in a drop of water", Andrei Tarkovsky, the poet of cinematic experiences argues.[9] Or, as Jean-Paul Sartre writes poetically. " If the painter presents us with a field or a vase of flowers, his paintings are windows which are open on the whole world" [10]. Memorable architectural entities are similarly also entire open worlds. How do we discuss, communicate and teach these mediated and imaginary qualities, which are not physical and rational aspects of the design, as they exist in our expercience, imagination and dreams.

DESIGNING FOR THE SUPPRESSED SENSES

Sounds and acoustic qualities are usually consciously and methodically dealt with only in the design of concert halls, auditoria and churches, but every built room and outdoor space projects its specific aural qualities. During the past two decades, sonic environments and soundscapes have become the subject of study for musicians, sound artists, psychologists and dancers, but regrettably less for architects. I have personally participated in conferences on sounscapes in Toronto, Bonn, Azor Island, Berlin and Brandenburg, and these meetings have drawn only very few architects. Are we as a profession deliberately isolating ourselves from essential interactions and inspirations? Are we defining our craft in a restricting manner?

Some of the international conferences on sonic environments have included soundwalks, excursions through ordinary urban, industrial and park environments focusing on the multitude of sounds, natural or generated by man, and their emotional meanings, both pleasurable and disturbing. The participants, including myself, are usually surprised of the richness of ordinary soundscapes, as we treat them as a peripheral phenomenon and do not notice them. We push them to the background in our conscious observation. How can an architect sense the sonic ambience of her design and communicate her intentions? How do sonic qualities become conscious objectives in the design process?

THE NEGLECTED SENSES

Most of us would probably concider smells and tastes the least meaningful sensations in architecture. Yet, the smell of burned candles and incents of centuries, give an identifiable and memorable character to an old cathedral, and even the nearly subliminal odours of stone, brick, lime, concrete and wood materials, of which the space is built, contribute to the emotional atmosphere and sense of place, identity and reality. Every home has its unique odour, and biologists even suggest that we unconsciously select our mate through odour. Smells are everywhere and they give unnoticed identities to our experiences. Elimination of smells and often the entire sense of olfaction in our experience of space and place, is evidently a cultural choise, a form of cultural sensorship. Already in the 1960s and 70s Edward T. Hall, the American anthropologist revealed the cultural conditioning of our senses. [11] Even professions are identifiable with specific odours – just think of the smell of a cabinetmaker's, shoemaker's, blacksmith's or printer's workshop, or the studios of various artists. We recognize the specific smells of railway stations, libraries, department stores, market halls and sports facilities, but how can we articulate and specify the odours of the spaces we are designing? How could we expand our architectural reality to the rich world of odours? We believe that we humans have a poor sense of smell, but we rather censor this sense from our experience. As a matter of fact, we need only eight molecules of a smell in our nostrils to trigger the sensation and we can differentiate over 10.000 odours.

Most architects would probably entirely deny the role of tastes in their design work. Yet, tastes and smells interact, and most materials, especially natural materials, such as various kinds of stones, woods, metals and textiles give rise to subliminal sensations of smell and taste, and we are especially emotionally turned to odours and tastes arising from the organic world; as we sense intutively our affinity with the living world. Colourful and polished marbles envoke experiences of taste, and even the desire to touch the surfaces with one's tongue. in the early infancy takes place through the mouth; it takes place through taste and the feel of the mouth. Psychoanalytical literature calls this internalization of the world through the mouth 'introjection'. We are not usually conscious of it, but sublminal experiences and invitations of taste are part of the architectural reality. Are there ways of utilizing smells and tastes as conscious qualities of architectural design? Shop decorators and department store designers are more sensitive to the power of smells in human experiences, association, desire and behaviour, than we architects. Why are we always directed to enter a departmnet store through the section containing fragrances and parfumes?

DESIGNING EXPERIENCE

Design takes place primarily through visual media and communication, but during the past couple of decades the experiential and phenomenological interest has gained ground and challenged design based merely on visual composition, geometry and formal intentions. An interest in architectural ambiences and atmospheres is emerging and widening the understanding of the scope of architectural experiences and impacts beyond focused visual percepts and pure form, the determined ideals of modernism. The sense of scale and proportion alone can evoke specific ambiances, both appealing and irritating. Yet, proportional harmony, the longest western scientific tradition is hardly taught in any school of architecture today. I must confess that the proportions of Robert Venturi and Robert Stern make my head ache, as if I were forced to listen to music being played off-note.

The new interests and sensibilities suggest novel perceptions and design methods, such as the use of 'scores' and literary means for the purposes of concretizing and articulating layered, multi-sensory and dynamic experiences and temporal sequences, such as a walk through a park or a shopping street. They also suggest new realms of teaching, such as atmospheres, attunements, empathy and compassion. Most of all, we need to strenghten the training of our imaginations. Rainer Maria Rilke, one of the greatest poets of all time, suggested to his fellow poets that they should exercise their imaginations in the same way that bodies and muscles are trained. [12]Why should imagination have a lesser role in architecture?

An architectural entity has often the temporal sequencing and narrative context similar to literary, theatrical and cinematic entities, the approach, the first confrontation, entry lobby, main stair, main space, the interplay of space and details, etc..The artform of dance has developed ways of choreographing the temporal continuum of movements and fusion of sound and movement, whereas new music has introduced ways of scoring complex musical entities beyond traditional notation; even paintings have been used as visual sources for musical improvisation. Architecture is similarly a choreography of movements, actions, intentions, experiences and emotions. An experienced designer is able to read the dynamic progression of a projected building and its setting, but shouldn't we assist the clients and other participants in the design process to read the dynamic architectural score, not just the functional and technical qualities.

DESIGNING CHANGE AND AGING

Altogether, we architects tend to focus our attention on form, spatial relations, proportions and material juxtapositions, but we do not usually think of the buildings through time - how time, weather and wear effect its surfaces and atmosphere. Recently a collegue of mine asked me what I think of his idea of requiring some kind of a document anticipating the future character of the building, say after fifty years, as part of the application documnets for building permit. In fact, Alvar Aalto once said in an interview that his buildings should be judged only when fifty years have passed since their construction.

Garden and landscape design are engaged in processes of gradual and slow change , such as growth and decay, and the changing aesthetic effects of flowers and plants. The traditional techniques of architectural presentation depict static forms, not dynamic situations or processes of becoming and change. The notion of scores was introduced in the context of architecture in the 1960s by the American landscape architect Lawrence Halprin in his projects ranging from shopping streets to landscapes, parks and fountains. [13] Especially Halprin's waterfalls, such as the Fountain in the Civic Center of Portland, Oregon, are inspiring examples of an architecture that is fused with elements of movement, change and life. "Why is it that architecture and architects, unlike film and filmmakers, are so little interested in people during the design process? Why are they so theoretical, so distant from life in general", Jan Vrijman, the Dutch filmmaker asks. [14]

LITERARY DESCRIPTION IN ARCHITECTURE

Along with the phenomenological and experiential interests in architecture and environments, new means of concretizing and mediating sensory and expressive realities have also emerged, especially the use of literary description and poetic suggestion. When reading a fine literary text, we imagine complex environmental entities, spaces, buildings, human situations and characters, on the basis of the author's verbal suggestions.

We also imaginatively sense the illumination, sound and smell of the spaces. This magical capacity of the poet's or novelists´s word could well expand the planner's and architect's spatial, situational and material imagination and communication beyond normal concepts of architecture. There are already studies in the architectural imagery in literature, such as Marilyn Chandler's book *Houses in American Fiction*. [15] I have myself written several essays on architecture in the history of paintings as well as cinema. [16]

In their Amangiri Resort hotel project in Kane County, Utah (1999-2008), Marwan Al-Sayed, Wendell Burnette and Rick Joy consciously focused on the fused and true experiential qualities through literary description, instead of showing the features of the visual design to the client through drawings. [17] Their project description begins as follows: 'Your car leaves thw highway, the rumble of the dirt road is felt, and the indication that you have arrived at the resort is marked by a simple yet exquisite metal "ranch gate" and a curving entry road that brings you up against the tall, mysterious sphinx-like rock formation that signals your arrival somewhere special. The sheer verticality of this rock formation mysteriously guards and and screens the view beyond. Passing by the horse stable on your right, the guests arrive around the bend of this entry rock and suddenly a distant view of wider landscape reveals itself. The road the straightens and heads towards a beautiful rock formation. An island in the midst of the ¨rock garden¨, A continuous fire emanates , sparkling reflections from up on the rock, luring the tires traveller to explore further'. The project description continues at length through the sequence of spaces, yet hardly mentions any ordinary architectural features. Instead, it points out views, feeling, and sensations revealed and articulated by the setting. It registers haptic experiences, sounds, smells and temperature differences with the same weight as visual impressions. The project is presented as a sequential narrative, like a film, not as a static formal composition.

A recent study in the use of verbal and literary means in urban design is Klaske Havik's book *Urban Literacy: Reading and Writing Architecture* (2016).[18] 'Writing architecture' is now turning into a valid concept. I wish to say in passing, that I have closed the design activities of my architecture office eight years ago, and have been writing ever since ten hours every day. But in my view, I have not changed my profession, I am now articulating architectural thoughts and experiences through words. But, words do also evoke and convey images and other sensory experiences.

THE BIOLOGICAL DIMENSION

In addition to the five Aristotelian senses, we have sensory systems that we have not consciously recognized or utilized in architecture at all. Steinerian philosophy categorizes twelve senses – touch, life sense, self-movement sense, balance, smell, taste, vision, temperature sense, hearing, language sense, conceptual sense, and ego sense. [19] Interestingly, also

Buddhist thought identifies twelve modes of human sensing. In my view, the most important sense in architectural experience is the existential sense (the Steinerian life sense and ego sense combined). We respond to architecture through our entire sense of being rather than vision in isolation.

ARCHITECTURE AND THE FLESH OF THE WORLD

We do not really look at architecture through our eyes, as we are right there in the middle of it, in the shared "flesh of the world" – to use a notion by Merleau-Ponty.[20] Architectural experience is always an exchange and fusion; when I enter a space, the space enters me. How does an architect imagine, conceptualize and communicate experiences evoked by the existential sense? How do we communicate the sense of being at home, or the meaning of solitude and silence? Doesn´t it appear that we are poorely equipped to articulate and communicate fundamental experiential experiences? To complicate the question of the senses and concretize their impacts, we have biologically determined mechanisms, such as unconsciously manipulated spatial distances in different behavioural situations, which the anthropologist Edward T. Hall revealed in his seminal books during the 1960s and 70s. [11] These unconscious mechanisms are amazingly precise. An actor needs to intuite the distances that individuals automatically take when they are furious, angry or in a sentimental mood. Do we architects understand these internal biological dynamics of spatial dimensions? Hall also showed the culture specific roles and hierarchies of the senses, and these anthropological facts question the ethical ground of design activities across cultural boundaries. Design in an alien cultural context implies necessarily the danger of misinterpretation and oversimplification of subliminal behavioural codes and the neglect of sensory realities alien to the differing cultural background of the designer. Due to the essential role of culture in the field of architecture, the uncritically accepted processes of globalization are fundamentally disputable. We have been witnessing uncritical architectural export accross all cultural boundaries, but in an anthropoligical or psychological analyses they are doomed to fail. Should architectural export be banned? In my view it shoudl, or at least subjected to an examination of the designer's sensitivity to cultural isues. Hall also pointed out that research had revealed that even our endoctrine glands communicate with the outside world and with other humans.[12] The latest expansion in the understanding of how we are interacting with the world is the research on our intestinal bacteria, which process vital information and reactions of our metabolism in relation to our life situation. What are the consequences of the fact that we have more bacterial DNA than human DNA in our understanding of environmental design?

It is beyond doubt that the architect's task calls for an understanding of phenomena beyond vision, and subtleties of interaction that can hardly be conceived and communicated through visual means. The seminal requirement in today's research, education and practice, is to expand the

designer's imaginative, experiential and empathic capacities beyond the visual realm into an embodied, empathic and immersive identification and understanding. Our senses and behaviour are fundamentally biologically conditioned, and architectural education should also include aspects of anthropology and biology. Again, Alvar Aalto saw the connection of architecture and biology: Ì have developed a feeling that architecture and its details are somehow part of biology.´[23] I wish to argue that the veracity of our experienced reality is in its layered, orchestrated, and interactive essence, which engages us as complete human beings with all our senses, emotions, instincts, memories and imagination. The reality of both architecture and our life world is a ´thick´and multi-layered reality.

These questions call for a biological and bio-historical understanding of ourselves, and that understanding may eventually answer the questions that have been posed above. 'Our greatest problem arises from the fact that we do not know what we are, and do not agree on what we want to become', Edward O. Wilson, the biologist and spokesman of *Biophilia,* 'the science and ethics of life', argues thoughtprovokingly. [24] Design also needs to be grounded in a biologically informed undertanding. In one of his essays, the Nobel laureate poet, Joseph Brodsky, makes an unexpected remark: "The purpose of evolution, believe it not, is beauty." [25] This argument appears as a polemical expression of a poet, but scientist have recently turned back to Charles Darwin's theory of the evolution of species published in 1859 and especially the second book, which he wrote a few years later, *The Decent of Man,* in 1871. [26] He wrote the second book after having realised that his first theory of evolution does not explain all the variations in species. The second book was silenced in the Victorian age, because it suggests that there are two interacting processes of evolution, the evolutionary mechanism, which he described in his first book, and an autonomous aesthetic choise excercised by the female sex of the animal species in selecting the mate. Scientists have recently modelled the evolutionary process mathematically, and they confirm that, indeed, only the combination of the two Darwinian processes explains all the natural variation. So, beauty seems to be a constitutive force in the processes of nature, "believe it not", to quote Brodsky's visionary statement.

Notes, sources:

1 Maurice Merleau-Ponty, "The Film and the New Psychilogy", *The Visible and the Invisible* (Evanston, IL: Nortwestern University Press, 1968), p. 48.
2 See, for instance, Robert Mandrou as quoted in Jay Martin, *Downcast Eyes – The Denigration of Vision in Twentieth-century French Thought* (Berkeley and Los Angeles: California University Press, 1994), pp. 34-35.
3 Le Corbusier, *Towards a New Architecture* (London: The Architectural Press, 1959).
4 Gaston Bachelard, *Water and Dreams: An Essay On the Imagination of Matter*. (Dallas, Texas: The Pegasus Foundation, 1983), p. 1.

5 Andrei Tarkovsky, *Sculpting in Time: Reflections on the Cinema* (London: Bodley Head, 1986), p. 110.
6 Lawrence Halprin, *The RSVP Cycles: creative processes in the human environment* , and *Process Architecture*
7 Juhani Pallasmaa, *Rick Joy: Desert Works* (New York: Princeton University Press, 2002), p. 20.
8 Klaske Havik, *Urban Literacy: Reading and Writing Architecture* (Delft: nai010, 2015).
9 Albert Soesman, *Our Twelve Senses: Wellsprings of the Soul* (Troud, Glos: Hawthorne Press, 1998).
10 See, Edward T. Hall, *The Hidden Dimension* (New York: Anchor Books, Doubleday, 1966
11 The research on the chemical communication of the endoctrine glands was carried out by A.S.Parkes and H.M. Bruce in 1961, *The Hidden Dimension,* op.cit., pp 33-34.
12 Edward O Wilson, *Biophilia: The human bond with other species* (Cambridge: Massachusetts and London, England: Harvard University Press, 1984), p. 20.

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