

# The relationship between our senses and architecture



“... we all begin as hearing beings – our four and a half month baptism in a sea of sound must have a profound and everlasting effect on us – but from the moment of birth onward, hearing seems to recede into the background of our consciousness and functions more as an accompaniment to what we see. Why this should be, rather than the reverse, is a mystery: why does not the first of our senses to be activated retain a life long dominance of all the others?”

-Walter Murch

In modern times, the eye has become the central point of the perceptual world. The primal dominance of hearing has been progressively replaced by the sense of vision. The hierarchy of the senses was not the same as it is today, where the eye, which dominates today, was in third place behind the sense of hearing and touch. The eye which is the governing organ of today was not the superior organ of the time which preferred hearing. Walter J Ong points out that ‘ the shift from oral to written speech was essentially a shift from sound to visual space’. (Pallasmaa, 2005, pg 24). “ The will to power is very strong in vision. There is a very strong tendency in vision to grasp and fixate, to reify and totalize: a tendency to dominate, secure and control’ states David Michael Levin(Pallasmaa, 2005, pg 17).

Architecture is considered to be the mother of all arts as it provides spaces for daily activities of life unlike the other forms of art. But it should be more than simply just for utilitarian purposes; it should also appeal to our aesthetic sensibilities. By combining colours, materials and shapes together, architects give out their artistic message in the structures that we see, hear and feel.

(Blessner and Salter, 2007) Nonetheless the architecture of our time is turning into the retinal art of the eye: architecture has greatly become an art of the printed image. " Instead of experiencing our being in the world, we behold it from the outside as spectators of images projected on the surface of the retina". (Holl, Pallasmaa and Gomez, 2006, pg 29). Archdaily and other such websites are daily reminders that architecture is a slave to its image. The callousness of contemporary architecture has resulted in an outcome of the negligence of the body and the senses, leading to an imbalance in our sensory system. The suppression of the other senses due to the domination of the sense of sight has resulted in the isolation, detachment and alienation of the individual (Pallasmaa, 2005). The aim of most architects is to have their buildings looking great in a set of photographs. However anyone who has visited a great piece of architecture knows that the experience is very different and often much better than that of seeing it in photos. This is not only because of the added dimensions of depth and time are absent in the photographs, but because touch, taste, smell and, of course sound are also missing. The mission of architecture in general is to renovate the experience of an undifferentiated interior world, in which we are not mere spectators, but to which we inseparably belong. In their book, Questions of Perception; Phenomenology of Architecture, Holl, Pallasmaa and Gomez imply that architecture involves all the senses interacting and infusing with each other. In comparison to a painting which is only two-dimensional, the painter will have to express his world with his system of colours which must generate this invisible complex of impressions. Sight is solitary and tends to separate us from the world where as the other senses unite us with it. A walk through a forest is said to be invigorating and healing because it interacts with all of

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our senses and not just a few. We can hear the sound of the leaves rustling in the wind, get the scent of berries or raisins, and feel the warmth of sunlight filtering through the leaves.

Blessner and Salter point out that, similar to poetry, architecture also contains symbolic meaning which portrays the culture and background of the architect, which he would depict through spatial elements. Not only poetry, but even music is compared to architecture. Libeskind refers to the relationship of music and architecture not only by metaphor, but also through concrete spaces. He goes on to say, "Every building that I have admired is, in effect a musical instrument whose performance gives space a quality that often seems to be transcended and immaterial". Goethe refers to architecture as being frozen music as architecture and music share the same vocabulary; rhythm, proportion, harmony, repetition and contrast. In architecture these 5 elements can be represented in form, layout, circulation and site location. Zaha Hadid designed a music chamber which holds the solo performances of composer JS Bach, and the design is a visual representation of Bach's music.

Yet architects generally consider the visual aspect of the building. The writings of modernist architect Le Corbusier state: 'I exist in life only if I can see' and 'one needs to see clearly to understand' (Pallasmaa 2005, pg 27). The gestalt laws of visual perception are frequently used to analyse the experiences and perceptions of architectural form. Very rarely is the aural perception or acoustic aspect considered. This is because the modern culture has essentially adapted towards visual communications and has little appreciation for the emotional influence of hearing, and hence attaches little

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or no value for the art of auditory spatial awareness. Secondly, the aural experience of a space is continuously fleeting and disappearing instantly. There is no method of capturing and storing the aural experience of a space in museums, journals or archives. In contrast, the visual aspect of architecture can be recorded by means of sketches or photographs, and in this way the works of the previous generations can be learned about, even if the building does not exist anymore. Also the aural architecture of a space cannot be experienced without having dynamic events that produce sound, and inhabitants who complete the aural architecture. Another reason for the overlooking of aural architecture is that for most people the aural memory of the space and the language for describing this memory is weak and insufficient. Think about describing the sounds of a place, other than describing the events that caused the sound. Finally, most architects are awarded with prizes based on their visual portfolio, and they in turn train the next generation of architects to concentrate on the visual experience of a space. Questions about acoustic architecture are generally not familiar and professional architecture and design schools provide little or no training in aural aesthetics (Blessner and Salter, 2007)

Nevertheless the aural experience of a space is very important as it has significant influence on the mood and behavior of the people within those settings. Sound is necessary for the social and emotional well-being of the user. It has the ability to touch our souls and speak to us at a very profound level. It has the power to calm us, inspire us, uplift as well as heal. The way we experience a space is largely determined by our aural perceptions of that space. Unfortunately, as mentioned earlier, modern culture has little

appreciation for the emotional influence of hearing. “ Without music in movies, there would be no suspense, no excitement and no horror”.

Architecture without its aural properties would be like a movie without music (or sound track).

There is no such thing as a silent room. Sound always exists in a space, and every space has acoustic properties which influence and change the sound. For this reason sound never exists in pure form because the space it exists in will alter it. Move a symphony orchestra to the forest and it will not sound the same even though the sound source is consistent. It would lose the aural impact and intimacy of a concert hall. Ever wondered why you sound better when singing in the bathroom in comparison to the living room? This is due to the acoustic properties of the bathroom, which is taking advantage of the resonance of a small space.

Likewise every space has aural qualities which have the ability to affect the social and emotional well-being of the inhabitant although they may not be consciously aware of it. The acoustics of a grand cathedral can create an exalted mood; those of a chapel can enhance the privacy of quiet contemplation; those of an elevator can produce the feeling of encapsulation and, in the extreme, claustrophobia (Blessner and Salter, 2007). The aural architecture of a space could have a social meaning as well. The marble floors and walls of a lobby would indicate an approaching visitor by the loud echo of their footsteps. In contrast, the materials used in the living room would be thick carpeting, heavy draperies and upholstered furniture which would tone down the sound of footsteps. The aural aspects of the lobby therefore verify whether one is entering a public or private space. If these

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same materials were applied to the living room, the acoustic attributes would convey a different feeling; cold, hard and barren, in comparison to warm, soft and intimate. (Blesser and Salter, 2007,)

Many times the visual and aural meaning of the space goes hand in hand, and reinforce each other. The vastness of the cathedral can be related through vision, whilst the engulfing echoes communicate through the ears. However this is not the case all the time as there are instances where the visual and aural aspects are not mutual. For instance an expensive restaurant may give the visual impact of having a relaxed and elegant atmosphere, but the echo of clattering produces stress, anxiety and tension, making it difficult to socialize. (Blesser and Salter, 2007)

The natural ability for human beings to sense a space by listening is hardly ever recognized. Many people think that sensing spatial attributes requires a special skill, but all individuals do it almost naturally and on a daily basis. Observing that ordinary people hear dormant objects and sense spatial geometry needs a valid explanation (Blesser and Salter, 2007). Architecture does not radiate light and yet it can be seen. This is because it reflects light, and this gives us knowledge about the form and material of the building. This same principle applies to sound, where we hear the sound that is reflected off the surfaces of the building and this too gives us an impression of the form and material of the building (Steen Eiler Rasmussen). The reverberation is the auditory mean by which we become conscious about spaces around us, and their properties. The space becomes audible. We then begin to ' see' with our ears (Blesser and Salter, 2007). Each building or space will

reverberate differently depending on the material used and the shape of the rooms.

“ Sound is invisible, but has the power to change the character of the space we occupy.”

-Julia Schulz-Dornburg

Aural architecture refers to the properties of space that can be experienced by listening. These properties are volume (or form) and material, and they help an individual in perceiving an aural space. By viewing the form and size of a space, one may be able to speculate what kind of aural intensity it possesses. But the visual perception does not prepare us for the actual aural experience the space reveals. Some spaces may seem to be acoustically impotent, but may surprise us with astonishing sound properties. An individual's behavior in a space as well as their perception of the significance of the space are greatly influenced by the sonic quality that the spaces possesses (Mateo Zlatar, 2003). For instance, the acoustics of a governmental chamber strengthens the importance of the speeches held within the space. The amount of sound a material will absorb or reflect depends on its properties. Not only do materials evoke different feelings, but they can be combined and manipulated in different