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**Heera Mani Thapliyal**  
Scholar OPJS University,  
Rajasthan, India

**Dr. Awari Mahesh Babu,**  
Research Supervisor,  
OPJS University, India

**Rakesh Alawadhi**  
Scholar OPJS University,  
Rajasthan, India

**Himmat Bhatia**  
Professor, Lovely professional  
University, Phagwara,  
Punjab, India

**Corresponding Author:**  
**Heera Mani Thapliyal**  
Scholar OPJS University,  
Rajasthan, India

## Sensory architecture

**Heera Mani Thapliyal, Dr. Awari Mahesh Babu, Rakesh Alawadhi and Himmat Bhatia**

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### Abstract

“The body is the soul’s prison unless the five senses are fully developed and open” – Jim Morrison. Humans have five main senses which are used to understand themselves and world around them. The visual sense has dominated over the other senses, especially in architecture. The five senses from the hierarchy from the highest sense of vision down to earth. Architecture is deeply engaged with senses. Eyes are the most delicate part of our body and the loss of eye sight is a ultimate physical loss. The eyes are more accurate than the ears, it can be regarded as humanity’s greatest gift. According to western culture, sight is noblest of all the senses. It has been regarded as an art form of the eye. There is very strong tendency in vision to hold and attach to someone. As contemporary architecture is becoming more popular, senses are being neglecting and imbalance in sensory system is occurring. The dominance of the eye and suppression of the other senses tend to push us into detachment and isolation.

**Keywords:** Contemporary architecture, sensory architecture

### Introduction

The role of the body is essential to understand the spatial formation. “Our bodies and movements are in constant interaction with the environment the world and the self-inform and redefine each constantly” - Juhani Pallasmaa. With the interactions between body, imagination and environment in the architectural experience, one will eventually gain some memories in every place he or she has visited. As the eye collaborates with the body and the other senses, one’s sense of reality is strengthened and articulated by this interaction of the senses. In other words, when the architectural experience becomes multisensory, all the senses are equally experiencing the equality of the space, which will strengthen the existential experience.

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

The architectures of Le Corbusier and Richard Meyer cleverly favors sight. Lloyd wright’s and Alvar Alto’s architecture are based on a full recognition of the embodied human condition and of the multitude of instinctual reactions hidden in the human unconscious. Alvar alto was consciously concerned with all the senses in the architecture. His comment on the sensory inventions in his furniture design clearly reveal this concern.

### Literature review

Human have five basic senses: sight, hearing, smell, taste and touch. The sensing organs associated with each sense send information to the brain to help us understand and perceive the world around us. Senses plays a dominating role in spatial perception in humans, i.e. the ability to recognize surrounding environment. We understand buildings through our senses. The role of the body is essential to understand the spatial formation. “Our bodies and movements are in constant interaction with the environment the world and the self-inform and redefined each other constantly.” – Juhani Pallasmaa.

In early times, the Vision was the leading sense. Plato regarded vision as humanity’s greatest gift. It is a most important sense which gives us knowledge of three dimensions and colour. All too often, architectural design trust more heavily on visual one. The other senses are unfortunately frequently neglected. “Vision and hearing are now the privileged sociable senses, whereas the other three are considered archaic sensory remnants with a merely private function, and they are usually suppressed by the code of culture.” – Juhani Pallasmaa

Listening help us to feel the building from a safe and relaxing point of view, so that we can stay in comfort. It is a very incorporating sense. It is omni-directional, not focused like vision. The sense of hearing provide a three dimensional atmosphere. "We are not aware of the significance of hearing in spatial experience, although sound often provides the temporal continuum in which visual impressions are embedded." – Juhani Pallasmaa. Like a soundtrack in a movie, where music is increasing the tension in a thriller or the drama in a love story, sounds in architecture can increase the intensity of its perception.

Touch is very important, as an architectonic feeling of each and every and every object is perceived by this sense. It is impossible to apply only vision to comprehend materiality, distance and depth without the sense of touch. The sense of touch for the blind can provide solid information comparing to sound, which is very abstract. However, it is different for a sighted person to experience the sense of touch. The sense of touch is most intimate when buildings are considered. "Vision needs the help of touch, which provides sensation of solidity and resistance. Sight detached from touch could not have any idea of distance, out-ness, and consequently of space or body." - Peter Lord Smell gives us a sense of cleanliness or dirtiness, of a turbid or rotten or fresh feel, and the ambience is felt first hand with this sense. Scent is essential to capture one's memory of the place. The nose makes the eyes remember. For the blind people, the sense of smell can help awareness of one's location. The own smell of a person is so familiar that it is possible to recognize your shirt out of 100 identical and your flat when you come home just by taking a deep breath. These associations could be used in architecture. Taste is not directly effective in buildings. The human tongue can only distinguish among 7-8 distinct types of taste, while the nose can distinguish among hundreds of substances, even in minute quantities. It turns out clear that there is not a literal taste of architecture since the fairy tale of Hansel and Gretel. And still architecture can stimulate the sense of taste. "Certain colors and delicate details evoke oral sensation. A delicately colored, polished stone surface is subliminally sensed by the tongue" - Juhani Pallasmaa.

## Case study

### 1. Coca cola beat box pavilion

The Coca-Cola Beat box, designed by Asif Khan and Pernilla Ohrstedt is an experimental fusion of architecture, sport, music and technology that creates a stunning sensory experience. We can touch, feel, see or visualize architecture, but what if we could hear it too.? We share the common platform in Music and Architecture. We have Rhythm, Repetition in music and as well as in architecture. Not only the music inspires architecture but also the musical instruments inspires the architecture in modern world. The Coca-Cola Beat box Pavilion inspired from music has shown the tremendous output in architecture. The form of the building is like a composition of playing cards. And the inflated cushions structure, blast the music with the gestures of visitors.



Source: Hufton & crow/archdaily.com/2012

Fig 1: Coca Cola Beatbox Pavilion

### 2. The cargo guitar

We have another example of the same, The Cargo-Guitar. It is a shipping container turned into a large scale electric guitar consisting of 8-meter long strings that flare through the space in a hyperbolic paraboloid shape. This piece of architecture helps to connect to music and makes you feel how it is like to be inside a guitar. The cargo has eight steel strings inside it making visitor feel the music visual means. This is not the end, the steel strings are tuned and has a tuning pegs too, for the visitor to play the music and can feel, see and hear architecture. The steel strings glow in the dark enabling users to play the instrument while discovering the kinetic experience of the light partition. Cargo Guitar is a spatial intervention that explores the threshold between architecture, art and sound through a live interactive sound sculpture.



Source: Kobe/stereotank.com/2011

Fig 2: The Cargo Guitar

### 3. Ancient greek and roman theatres

The Ancient Greek and Roman Theatres were the early examples of attempting to apply the acoustical intention into architecture. The reason that the Greek theatres had a semicircular form with raking seating was to locate the audience closer to the stage so that actors movement and dialogue could be clearly visible and audible. On the other hand, the Romans took an ambitious approach to make steeper seating on top of the masonry instead of hillside, and a building located behind the stage. This type of design was beneficial for sound reflections from the stage that could produce audible sound. Such reflections had only short time delay relative to the direct sound when heard in the auditorium and so speech articulation was aided rather than impaired.



Source: Bryan Hill/ ancient-origins.net/2018

**Fig 3:** Greek Theatre

### **Conclusion**

Examples to experience playing senses in architecture were given above in order to pay more attention to senses conscious so a better perception of all environments will be the result. Besides existing of these spaces as a building helps improving perception and consciousness and could have benefits for all people.

### **Recommendation**

As the science of brain plasticity develops, architecture can make use of new findings and gadgets. The human senses basically collect data from stimuli (Like light and sound) and feed it into our brain for assembly and interpretation. By arranging spatial sensorial features, an architect can lead occupants through the functional and aesthetic rhythms of a created place.

Architectural building for all the senses can serve to move occupants – elevating their experience.

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