

Considering the Five Senses in Architecture

AREZOU ZARENDAR

Department of Architecture and Urban Planning, Shahid Beheshti University of Tehran, Iran.

<http://dx.doi.org/10.12944/CWE.10.Special-Issue1.19>

(Received: November, 2014; Accepted: April, 2015)

ABSTRACT

Despite fully attention of most current architects to the sense of eyesight, architecture stimulates all of our senses. This paper discusses the perception of senses in architecture, explaining how they work and influence on each other and the differences between them. Besides giving examples of programs to improve conscious perception in an architectural space. In author's Thesis announced with "Five Senses Museum" it has been attempted to consider all senses in frame of architecture because consciously or spontaneous they affect perception of space and also make it a place to remind with five senses. To approach this aim, this museum contains five main galleries to deal with five senses, notes the correct behavior to the senses and attempts to guide human to recognize itself with practicing domination to senses and recognizing them and learning to be in the moment concentrated. So a beyond perception among the traditional museums is possible.

Key words: Sensing Architecture, The Five Senses in Architecture, Phenomenology of Senses in Architecture.

INTRODUCTION

Every environments have a soul or space that takes effect from each existing element of the environment. Human in first seconds of entering to a space, without checking each element separately, through unconscious perceptions, achieves a total impression that shows the dominant soul of the environment.

In process of thinking and perception there was always dominance of the sense of eyesight to the other senses and the most problems of contemporary architecture rooted in dominance of the sense of eyesight and inhuman contemporary architecture is may be the result of unbalanced senses system. In other word isolating is the result of dominance of the eye; and it results repression of other senses and false perception of the environment because this subject prevent us from perception of variety dimension of our soul.

Ignoring one or more senses because they are not sensible used in a particular activity, is not correct. So if we want to have better influence on our soul, we need to control all of the parameters that impact our senses such as light, sound, color, form, objects, relatives and etc.

All of our information about our surrounding world is achieved by our senses. All of this information help us to have more complicated processes like perception and recognition. In fact these processes would not happen without senses and we could not use the other ability of our brain.

Our sense is not sensible to all of the physical or chemical energies out of our body. In fact the activators activate the sensors in a particular threshold.

Perception of space related to the senses of eyesight and tactility are so connected together. Space of tactility separates visitor from the object

while the space of eyesight separates the objects from each other.

Olfaction and taste work with two separate systems and act with different principal rules. But mostly they communicate with each other because the hole of the mouse is connected to the hole of the nose and the aromatic can stimulate the taste sensors in addition to the olfaction sensors and because of this reason, the sense of taste is a compound sense and it is surveying is difficult in separate. Also for this reason it is the combine sense of taste and olfaction while tasting.

Finally what the one receipt from the space is the result of him/her different senses collaborating with each other and although the sense that achieved from each of these senses are different to the other in case of the time, but mostly connected to each other in a complicated way.

DISCUSSIONS

We can get ready for our architecture only when we train ourselves a specified consciousness in the case of architectural phenomenology.

Spaces need to be innate in order to be a part of the visitor's sense to that. (Shirazi, 2010)

The history of sense recognition refers to the history of human creation. As babies use the senses perception to understand the other's language, human has used senses for communicating with nature and other people from the first of creature. If one of these senses will be eliminated, the role of other senses would be stronger and want to compensate this shortage.

Medical researchers believe that the result of the newest researches shows that innate blinds in order to improve the tactility and aural senses, use the part of brain which is usually used for eyesight.

"The possibilities of moving and orienting of each person in the built area are directly related to the quality and quantity of vision signs in the displaying elements of the area and to the perception potential of the visitor. In case of shortage of these signs especially in the contemporary architecture, it

is possible to use the conscious of the other senses and as a result the signs that are recognizable to everyone. The potentials of this style of designing, considering its benefits for disabled people is obvious. In the contemporary culture people cannot distinguish the meaning of "communication" from collection of communication devices such as newspaper, television, book, advertisements and pictures that contain too many visual information. Nevertheless there is another way to communicate: communicating through objects and elements that stimulate all of our senses. In fact we can consider space as a combination of sensing signs in order to use for orientation and moving." (Madani, 2006)

The related museum contains five main galleries in order: Olfaction, Tactility, Taste, Aural and the last gallery is Vision Gallery.

In order to realize each sense completely, we use the other senses (even all of five senses) so "presence" in space is a necessity. If visitors will not be present in the real meaning and do not pay attention to the objects and their relatives in the space, they would be in trouble in realizing materials, sound of different objects and as a result orientation and finding the right way or they would be trapped in optical illusions or perspective play.

"...this state is to hear without listening, to smell without breathing hard, to taste without the tongue and to touch without contact and press the object. And all of them is the perception of spirit. The spirit is real only when it acts perfectly and this situation is true only when we do not feel its presence. It means knowing will not act. Also the eye see properly only when it does not try to see itself." (Pashayi, 1986)

In order to pay attention to senses some elements can repeat in the interior space that when they exist, we get used to them but when they eliminate, we understand their existence and this is a kind of tendency to return back.

This movement through following the repeating shapes and colors -that also can be seen in Futuristic works- can be generalized to repeating aromas and sounds so that different sounds will be heard in the wrong path.

The following text is about to explain each sense and how to feel it in architecture. Although it is necessary to pay attention to the effects of each elements on five senses in all kind of buildings and for instance the programs that devised in related galleries.

Olfaction

Steam Element

Peter Zumthor explains the sense of olfaction in a building in the book of "Thinking Architecture":

"...(in the kitchen) The small hexagonal tiles of the floor, dark red and fitted so tightly together that the cracks between them were almost imperceptible, were hard and unyielding under my feet, and a smell of oil paint issued from the kitchen cupboard" (Zumthor, 1999)

Olfaction is more active in silence and lack of light. (when other senses are less important.)

As Juhani Pallasmaa believes nose can remember better than eyes and understands the space deeper and sharper and realizes the difference.

In olfaction gallery of the related museum visitors walk through a way, visiting earthen sculptures at first until they reach to a tow-way. They must pay attention to the smell of the clay and follow the rest of earthen sculptures. If they do not pay attention to this smell, they might miss the way and walk in a way that there is wooden sculptures that they can smell wax eaten wood of the roof. Gradually they will face to spaces with variety of aromas and they will see sculptures with different materials or they get in to a perfume exhibition and will stop where it needs less perception and attention to senses. Or they get in to a greenhouse and visit the season flowers.

When they close to the centre of the museum (the galleries are around a central void) they feel more vapor.

Tactility

The Earth Element

As Pallasmaa believes: Tactility is more

accurate than eyesight and is less exposed to mistake.

Tactility is the sense of closeness, proximity and effect.

Eye touches the distance but tactility sees the closeness!

All senses containing vision, can be attachments to the sense of tactility!

Doorknob is shaking hand to the building!

Tactility connect us to the time and tradition.

As Maurice Merleau-Ponty believes all of these senses are the expand of tactility!

As René Descartes believes eyesight is equal to tactility.

As Ashley Montagu believes tactility is the parent of the other senses.

"(...)while the tactile space separates the observer from the objects, the visual space separates the objects from each other (...) the perceptual world is guided by the touch, being more immediate and welcoming than the world guided by sight" (ZUMTHOR, Peter; Thinking Architecture, 2005)

Smoothness and roughness, bumps and hard, contact and touch, texture, weight, density, heat or material temperature are related to the sense of touch.

As existing the olfaction gallery while the visitors were following the smell of the clay, they will face to a place that the material of its walls is thatch and the floor is covered with clay tiles. If they understand this point, they will reach to clay arts while following the material, otherwise they will visit wooden arts.

"Mud structures seem to be native that are built more by tactility and muscular senses, not just the sense of sight." (Shirazi, 2010, p.34)

Taste

Water Element

This sense has a high flexibility. "May be we can say that Taste is the weakest part of the Pallasmaa's written. Pallasmaa believes that a stone surface which is colored and processed elegant is felt by tongue unconsciously and the oldest reference of

architectural space is in mouth. Besides he explains that how he has been convinced to kneel and touch the white bright marble entrance door threshold of James house in California (architecture of Charles and Henry Green) but we can add some points in how taste participates in perception of space. Taste of the space, is mostly related to those spaces which their function have directly relevance to tongue and the sense of taste such as grocery stores, restaurants, bakeries and so on. On the other hand the sense of taste also remembers and recalls and so creates an important part of memory. each city has its own taste of flavoring and special foods and name of that recalls the taste of bitterness, sweetness and saltiness to our body... materials that stimulate senses and masterful work of Carlo Scarpa that is full of architectural details as the role of color in houses of Luis Barragán, recall experiences of taste times and times. Bright colored plaster decorations, so bright colors or wood surfaces expose themselves to taste sensation too." (Pallasmaa, 2011, p.73)

In this gallery visitors pass through gutters filled with variety of liquids with different density and color that each of them recall on kind of taste. If they follow the more clear liquid, they will find the right way which is closer to water.

Using sharp red colors can recall tang taste and warm brown can recall sweetness such as the taste of chocolate and colors of yellow and orange can remind the sense of tasting sour. Also a kind of green can recall bitterness and even sourness.

As in tactility gallery that they finally reach to a fireplace -which is hot- near to the centre of museum, in taste gallery also they should follow warmth and warm colors; They can know this from the signs that they had seen before in previous galleries that showed the right way.

In this gallery watercolor paintings are visited more.

Aural Air Element

Peter Zumthor explains the aural sense in a building so:

"I remember the sound of the gravel under my feet, the soft gleam of the waxed oak staircase; I can hear the heavy front door closing behind me as I walk along the dark corridor and enter the kitchen, the only really brightly lit room in the house3." (Peter Zumthor, *Thinking Architecture* (Basel: Birkhäuser, 1999, p. 246, 248-250)

Sound contributes. Sound is multi directional (internality). (pallasmaa, 2011, p.38)

Eyesight isolates the object while sound invites it to contribute. (pallasmaa, 2011, p.38)

Ear is more closer than eye. (pallasmaa, 2011, p.39)

Form of diamond can resonate sound as it can resonate light. As if it is used for ceiling form, like a part of Golconda Fort in Hyderabad, India, that in a semi-open space under a dome, the sounds resonate but with just a few steps far from the dome, we cannot feel this effect.

In this gallery these programs is being suggested beside Musical performances:

Music rhythm perception through visual rhythm: In first floor of aural gallery upon entrance, there is a hall with twelve sections and in each section it is played one scherzo of "The Four Seasons" of Vivaldi. So that visitors can understand rhythm of the music with walking on each step on the lines drawn on the floor which they are lightened by the first of each time signature of the scherzo and also they can watch the graphic pictures of the notes shown on the interactive wall beside them; So it is felt that the four seasons has been traversed and with walking step by step in the place, they have made time; but not a real one!

In one part of this floor, there are fragile hanging partitions staying nested, that move with blowing of the wind produced in gallery. As getting closer to the centre of the museum, the variety of the sound hearing, will be diminished and a more clear tone will be heard.

In the second floor of the Aural gallery there is a situation to introduce, discovering talent or interest of different music instruments.

Eyesight

Fire Element

In the opinion of Maurice Merleau-Ponty, Eyesight is an embodied vision and an embodied part of the fabric of world.

Pallasmaa states that the sight separates us from the world, while the rest of the senses joins him (Pallasmaa, *The Eyes of the Skin*, 1994)

Eyesight isolates; Eyesight is directional (externality). (pallasmaa, 2011, p.38)

This sense has common points with the other senses.

“By tracking image, eye receives its effects. Elements with similar or repeated distances are known by eyes as beats or rhythms that receiving them is similar to receiving the sound from music by ear; Architecture is frigid music.” (Neufert 2010, p 31)

In a part of this gallery that is op-art exhibition, visitors facing to some pictures tend to go closer and touch them in order to realize the fact better. It seems that we cannot rely on one sense to find out the truth and we need to get help from other senses too. It is like op-art pictures that are fixed but seems to move and with the help of tactility we want to find out the truth.

In a part of the path there is an element that we see its shadows with different angles when we are far; But as getting closer to the element, shadows becoming less so that the orientation of the main light will be emerged and we can see the fact of element.

In another part, along a dark corridor, there is a window in front of a door that we can see the window

through the frame of the door. We will go closer to the window (light), while it was felt that the window is in the frame of the door -because of perspective- we will not find it there unless we pass from the frame of the door (a door with background of the past experiences)

CONCLUSIONS

Human percepts and reminds the environment through the senses, conscious or unconscious.

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.

In this experience visitors are addressed by senses so that if there is not attention and presence, they miss the correct path until they return to the first point. In processes that visitors pass on this museum, they see and feel forms and shapes but at the end that they reach to the truth, they understand that all of the views were just imagination of the truth because the truth is bigger than being embodied.

Paying attention to this practice, helps us to see every items brilliant and feel them with deeper perception in order to find its real meaning.

ACKNOWLEDGEMENTS

I would like to thank my family for their love, support and help. I owe special thanks to my supervisor Architect Prof. Behzad Atabaki for his valuable guidance during my BA thesis in Architecture and for the horizons he opened for my further studies. And many thanks to my colleagues for their encouragement.

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