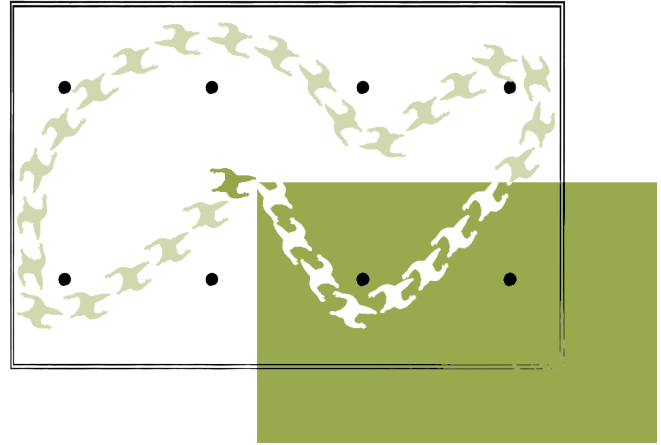
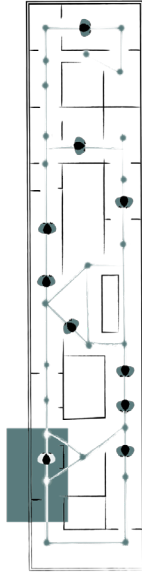


Architecture is like a great hollow structure, within which humans enter and comprehend the space by moving in it.
Bruno Zevi, 1959



Architectural Space Perception

Written by Noemie Llaurency

In the 1950s, the American biologist and physician Jonas Salk (1914-1995) was looking for a treatment for polio in a dark basement laboratory in Pittsburgh. Progress was slow, and to clear his head, Salk took a trip to Assisi, Italy, where he visited the 13th-century Basilica of St. Francis of Assisi, walking among the columns and through the cloister gardens. There, new ideas arose in his mind, including one that eventually led to an effective polio vaccine in 1955. The researcher became convinced that the environment of a building can influence the mind.

In the 1960s, he teamed up with architect Louis Kahn (1901-1974) to build the Salk Institute in La Jolla, near San Diego, California; it was to be a research facility capable of stimulating the creativity of scientists. Salk was rediscovering what architects have long intuited: that the places we inhabit can affect our thoughts, feelings, and behaviours. (Anthes, 2009, para. 2)

For several years, behavioural scientists have been making empirical arguments in this direction. Their research shows that it is possible to **design living spaces that promote creativity, attention and alertness, or relaxation and conviviality**, (Anthes, 2009, para. 3) and that can **change our states of mind**. This is the concept that I propose to introduce in this white paper.

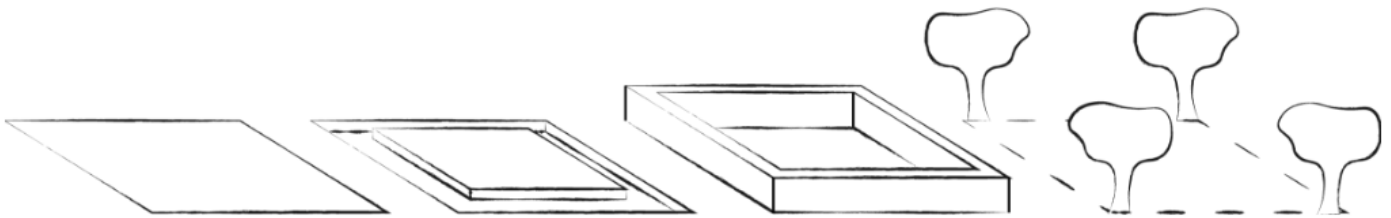
Perception

Architecture is the art of designing--of shaping spaces. The first sense of the architect is sight, followed by touch. Human beings have the ability to perceive the world through their five senses. We are all unique and different, and we all have our own perceptions of the environment, of external objects, of reality. We each have a representation--a perception. This perception depends on our five senses, but not on the senses alone. It also depends on our psychology and our psyche. Humans interact permanently according to their capacities of perception, as well as physical and psychological capacities. For example, harmonious places help us to blossom and to feel safe, whereas unhealthy or dark places lead to fear and aggressiveness. We have all had the experience of a public place that is well-lit at night and close to other buildings being more frequented and feeling safer than a more isolated and unlit place, which gives a feeling of fear because of a sense of insecurity and vulnerability. In the same way, a dark parking lot will not inspire confidence and will be less used than a very bright parking lot, despite the late hour of the night.

Thus, through the different spaces that architects can create, they can enhance the growth of human beings and their well-being by influencing their perceptions.

We perceive space mainly through what we see, and we are able to classify the spaces we apprehend by these similarities: shapes, colours, dimensions, proximity, orientation, and inclusion within another space. The space is thus created by the organization of matter.

In the end, composition is the art of conceiving by shaping the spaces.



Nebout E.

Boundaries

We also differentiate spaces by drawing boundaries. The separations can be created thanks to different means: a section in the plan, a relief, an elevation, walls, posts, fences, and so on. All of these means can generate a new space and enable us to associate form, strength, and meaning.

The sketches above illustrate four types of separation. A simple boundary is drawn, a ditch is dug, a fence is erected, and simple trees are positioned to create a virtual boundary. These different organizations of matter all create a limit, but they don't create the same level of perception for the human being. They each have a different strength.

The first separation, practically invisible, makes us wonder if a real separation exists; the second gives us a feeling of physical separation, but leaves us with a visual connection. The third makes us feel enclosed and concretely separated from anything beyond the fence; while the last one, although it delimits a space and thus separates two spaces, leaves us with a feeling of freedom of movement.

All these separations have a different form, therefore, a different strength and a different meaning.

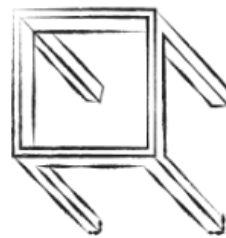
Organization

The organization of space can be volumetric, planar, or linear, and space is also defined by its degree of openness: open, closed, or oriented. These degrees of openness will be easily perceived by the user, as previously mentioned.

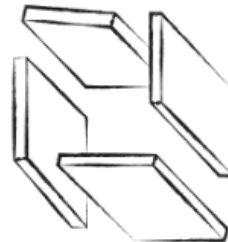
Another element is “haptic perception”, that is to say, the perception of the body in the environment. Depending on the way we position the elements of material and structuring of the floor, we will obtain different spatial effects and, therefore, different perceptions for the user.

For example, a diagonal grid will give the impression that the space is larger. Two walls facing each other along this grid will generate a space that seems more open.

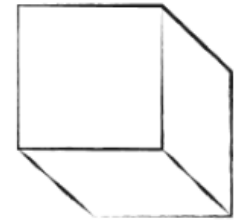
Leonardo da Vinci, architect, artist, engineer, and genius inventor of the Italian Renaissance, said, “All your knowledge comes from your perception.” The knowledge we acquire forms us, our culture, our creations, and our sensitivity to things. The relationships we have with others form this knowledge but also shape our experiences, our encounters, our debates, our destiny.



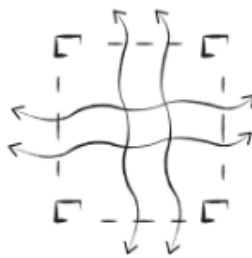
Linear



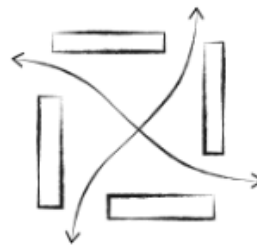
Planar



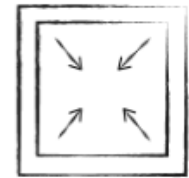
Volumetric



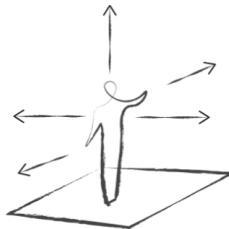
Open



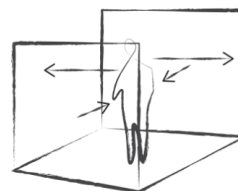
Oriented



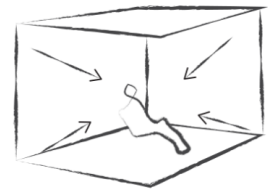
Closed



Space diffusion



Space orientation



Space concentration

Nebout E.

Summary

The organization of space influences our perceptions and our feelings, which are the starting points of all our experiences and relationships. As a result, we can then affirm that architecture has a consequent impact on those it shelters and the events it hosts.