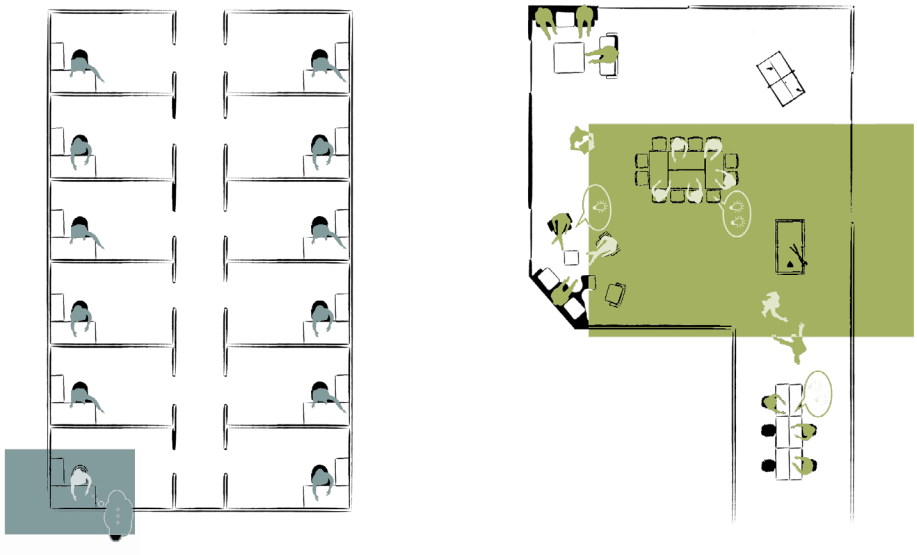


Architecture's Impact on Communication

Written by Noémie Llaurency

> ***" In an age of non-physical communication through various means, it is the architect's responsibility to provide spaces for direct communication between people. "***
>
> SANAA

Within the framework of the impact of architecture on communication, elements to consider are space, height, and light and how they help us to better understand the effect of the architecture. In this white paper, I will try to explain the importance of taking these aspects into consideration.

SPACE / ENVIRONMENTAL PSYCHOLOGY

Environmental psychology is the study of the interactions between the individual and his or her physical and social environment in its spatial and temporal dimensions. (Moser, 2003) It is only since 1975 that the notion of environmental psychology has existed in architecture and urban planning.

D. Stokols was one of the first to promote the development of a psychosocial approach to environmental psychology, through the concept of socio-physical environment.

This identifies and explains the processes of interaction between humans and their environment through perceptions (visual, auditory, tactile, etc.), emotions, attitudes, representations, and behaviours. The concept addresses two major questions:

- How can the environment influence our behaviour, our mood, or our physical or mental health?

- What are the consequences that our behaviours can have on our environment?

Lewin proposes the notion of "**living space**". Human behaviour must be considered in the context of a global field or "vital space". This vital space is conceived as a whole in which many forces intervene and influence the human simultaneously. (Lewin, 1956)

"*Space is therefore not an objective medium, but a living psychological reality. It is not imposed on us as an absolute constraint, it can and must be modelled according to our personality.*" (Mesmin, 1973)

We see in this research that environmental aspects are integrated into certain models and measurements of global quality of life, such as those found in the World Health Organization's Quality of Life Assessments Scale.

To summarize, it explores four domains of quality of life: physical health, psychological state, social relationships, and relationships to the environment. In the "environment" facet, we find the characteristics of the physical environment (including the built environment) as well as the social characteristics of this living space. (WHO, 1995)

We understand through these elements the place of space in a construction and how it can interact with the individual.

In April 2007, Joan Meyers-Levy, professor at the University of Minnesota, published a study showing that the volume of a room affects the way its occupants think. According to J. Meyers-Levy, ceiling height influences how we process information.

She randomly assigned 100 people to rooms with either 2.5m or 3m high ceilings. She then asked them to group ten sports activities into categories that they had to choose from.

Subjects in the room with the highest ceiling suggested abstract categories, such as sports that were "challenging" or that they would like to do. Participants in the low-ceilinged rooms proposed more concrete groupings, such as the number of players per team.

In the rooms with the lowest ceiling, the experiment showed that subjects tended to focus on more or less important details.

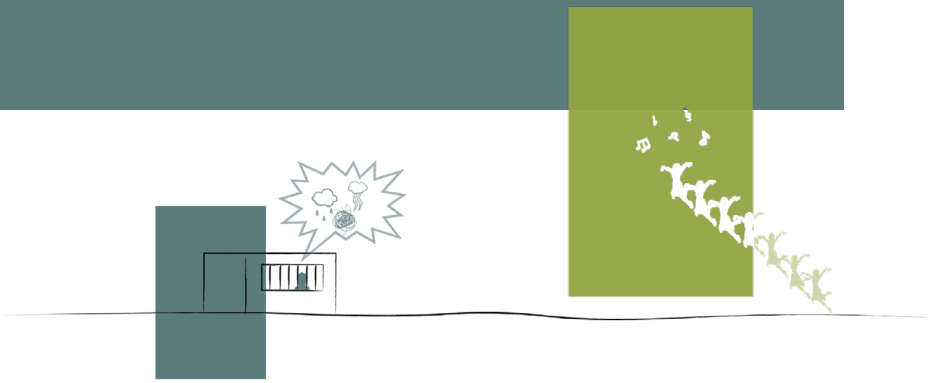
They also felt more physically constrained, so an impression of confinement would inspire a more focused vision on details, which is preferable in some circumstances, such as in an operating room where a low ceiling is better suited as the surgeon must focus on the details.

Conversely, the large volumes encouraged the occupants to think freely.

Thus, she concluded that great artistic works are more likely to be born in spacious studios.

We can assume that this feeling of "freedom" or "constraint", can have an impact on the relationships of a group of people occupying the space.

Architecture awakens states of mind in humans. The task of the architect is to clarify these states of mind.
Adolf Loos



HEIGHT

From other research by Meyers-Lévy, we know that a group of people in a low-ceilinged space will tend to cluster in a particular area of the space. This agglomeration or clustering could generate or reinforce a feeling of suffocation.

Therefore, an appropriate ceiling height will avoid the feeling of suffocation that J. Meyers-Levy talks about and will encourage users to "think and to be more creative".

LIGHT

Light is not only essential for vision, but also plays a role in a set of so-called "non-visual" functions such as the synchronization of our biological clocks with the alternation of day and night (Czeisler & Gooley, 2007). Light is the main synchronizer of circadian rhythms, but it is also a signal that promotes wakefulness, reduces sleepiness, and modulates cognitive performance. (Cajochen, 2007)

Daylighting stimulates a better mood, acts on serotonin, and helps to increase productivity in individuals.

We also know that a room bathed in natural light, and its variations throughout the day or during the seasons, induces the proper functioning of the circadian system (24-hour cycle) and thus contributes to the development of the human being, and also to the attention.

Humans are thus influenced by the light conditions in which they live and move.

Although bright light is likely to stimulate cognition, research suggests that it interferes with relaxation and openness to others.

In a 2006 study, 80 students were interviewed one after the other in an office with either dim or bright lighting, before completing a questionnaire assessing their reactions to the interview. The students interviewed in the dimly lit office felt more relaxed, perceived the interview more positively, and provided more information about themselves than students in the brightly lit office.

This result confirms that dim light is a source of relaxation. The brightness of a room can therefore have relaxing, stimulating, or stressful effects.

The light, the level of luminosity, the spaces and their heights, are therefore architectural parameters that impact our relationship to others and our inner feelings.

"The architectural form reflects and determines our relationship to ourselves, to others, to nature, to materials, and to the environment. Take the small island that is Japan and the spaces that are created there, with wood and paper, compare that with the United States or Germany. All these architectures reflect the place and the cultures who have learned to inhabit the specificities of their land. The challenge in each case is to protect the individuals and create an environment that unites them to form a society."

(Ando, Auping, 2007, p. 23)

Every stage of our lives is framed by spaces. Whatever the space we encounter, it is always a matter of how best to use it and share it with others.

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