

Architecture as a Cognitive Space

Exploring the Sense of a Space

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Abstract: *In simple terms, one's approach to a built space is its response to Architecture. This response comes merely by his or her cognitive thinking. The following write up clears one's deceptive ideas with context to architecture- It just being an edifice serving a function which could be built and demolished. Whereas the space he or she is actually in impacts the senses, mind and mood of the inhabitant serving a purpose to his/her life. Through various instances and theories, this paper is an attempt to prove that architecture needs cognitive thinking.*

Keywords: blooms taxonomy, cognitive revolution, neurosciences, neolithic man.

"First life, then spaces, then buildings - the other way around never works."

-Jan Gehl, Public space, public life.

When a brick is placed one on the other, side by side; we're building a wall. Borrowing space from nature we're building an edifice. By adding volume to this space, we're making it habitable. And thus, where form and space come together; Architecture happens. But there is so much more to unceasing architecture where one has to broaden their speculation of thoughts by reviving the rudiments. By speculation, merely; there comes questioning, contemplation, absorption and reflection. By rudiments I purely mean to define a space with respect to architecture which is the art of either creating or destroying a space. This space is seemed to be more organised in the field of built environment with the interlaced use of materials, shapes, forms, geometry, anthropometry, colours, etc. by responding to the deep human drive to explore and occupy new places. Space is made by carving out and chiselling a piece of space again; from nature with the help of these architectural tools. And thus, a balance is created with the unbuilt environment if an architect tries to create harmony with what is innate. In an edifice, by creating a space means to add life to it.

Every space pacifies the human mind. Did you ever consternate why? It is the visual language of that space which tries to communicate with the habitant. For an instance, music beholds the power to change the mood, calm the brain, excite the brain, make one sad / happy or even put a stressed mind to sleep.

"I call architecture frozen music"

- Johann Wolfgang von Goethe

Thus, just by a mere glance through the space, it is the visual language of the colours, materials, lights, furniture and most importantly design or form of the space that holds the audacity to play tricks with a human brain.

This evokes a feeling of stimulation of thought processes into the brain but only when it feels the connect with the space.

When the brain starts its questioning or contemplating with regards to the space he is surrounded by; his neurosciences are redefining the space with respect to how he perceives it.



Bloom's taxonomy

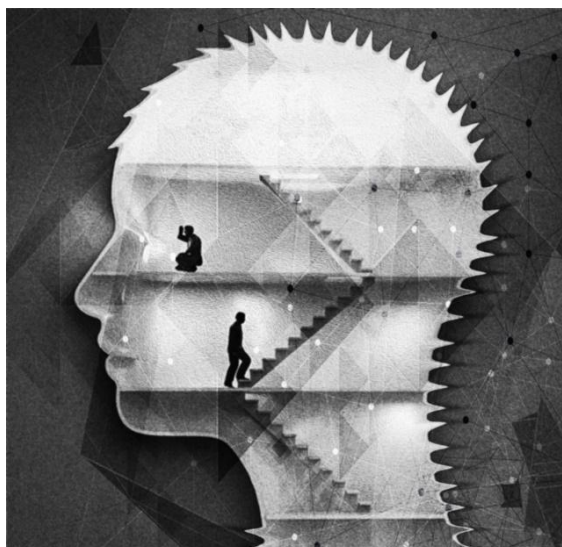
[1] <https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Blooms-Taxonomy.pdf>

Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Verb examples that represent intellectual activity on each level are listed here.

- 1) **Knowledge:** arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
- 2) **Comprehension:** classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
- 3) **Application:** apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
- 4) **Analysis:** analyse, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
- 5) **Synthesis:** arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.

6) **Evaluation:** appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

- [2] <https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Blooms-Taxonomy.pdf>
We define a space by what we feel about it, by what we perceive through it, how comfortable we in and around that space are. For a toddler's instance, a small child would feel scared to enter a dark, dim and dull room with furniture not according to his anthropometry. He might not even enter the room twice. On the other hand, he receives enthusiasm while entering a bright, colourful room with playful chairs and sittings. This proves that children do have the simple but an important ability to judge, to understand and to respond to a space. Also, it becomes very important to imbibe the fundamentals of space creation, design through the power of observation purely be it a child or an adult. Only then architecture will gain more importance and attention from society.

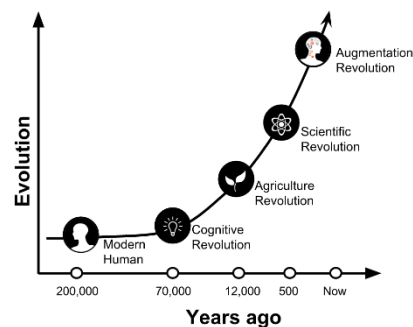


- [3] <https://medium.com/archilyse/2-the-impact-of-architecture-on-our-psyche-cd48f4206016>

But how did the human tribe start to rationalise every minute detail? What made his brain churn so as to think about these elements and factors? It so happened when the human brain started using cognitive thinking methods. The cognitive paradigm explores the internal functioning of the brain about how people sense or perceive experiences and thus act as a reflex action so as to interpret situations and surroundings. But the common doubt what comes across is that every mind and all brains interpret these experiences as per their accumulation of knowledge and thinking abilities. This changes the experience of every individual of seeing and perceiving things. Just like one key cannot be unlocking multiple locks, similarly one thinking process and methodology is not applicable to every human brain nor to architecture.

The cognitive revolution is said to be one of the three, also the first revolution that entirely changed the world or if framed any better; it was an eye opener. Richard Klein, a

paleoanthropologist at Stanford University, suggested that a genetic mutation occurred 40,000 years ago and caused an abrupt revolution in the way people thought and behaved. A science of human behaviour began to shift back to its roots of focus on mental processes. The emergence of neuroscience and computer science aided this transition. But the cognitive revolution took a hold, and people slowly came to realize that cognition was crucial to a true appreciation and understanding of human behaviour with respect to progress in human actions.



- [4] <https://ai4wifi.com/augmentation-revolution/>

Cognitive in simple terms is how one perceives things, how they acquire the knowledge of it, how they solve their problems and eventually how they react over analytical situations. Cognitive is nothing but the functioning process of the human brain.

The spatial and navigational abilities of humans have made architecture possible first of all; with the development and culmination of vivid ideologies in the thinking processes and mental representation of a space first, architecture too has shown progress.



- [5] <http://ala.keralascholars.org/issues/3/rock-arts-of-kerala/>

The Neolithic man stepped his first foot forward to look for modes of communication by creating signages, voices of various tones and pitches to indicate danger/calamity/animal attack, he innovated his own language or maybe just created symbolic drawings to prove his presence. He started carving and scribbling on the walls of the caves he lived in with the help of sharp stone tools that he himself created. Not only that but he also tried to characterise his presence in the caves along with symbolic presentation of the members of his family too.

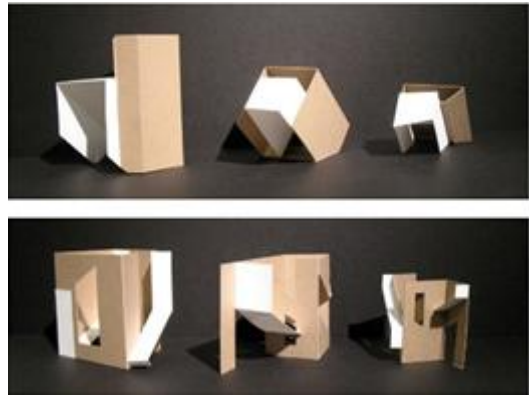


[6] https://en.wikipedia.org/wiki/List_of_Stone_Age_art

This Neolithic man realised the wise use of fire, tricks and tactics to dodge a wild animal away from his cave in order to protect his family. While the men went out for hunting, the females automatically knew their responsibilities of keeping the rest of the family safe, cooking and taking care of her children. In many of the cases he made paintings too on huge rocks depicting his domination over that space. That's how the stone age man gave a head start to his thinking processes. This also proves that a human gets emotionally attached with spaces where they are most comfortable. Humans who were not even completely humans but apes who eventually even fought with the dinosaurs with their clever and purposeful stone tools could understand ways to respond towards spaces with respect to how it would reflect on their lives. Their cognitive thinking abilities built them a safe and secure space inside the cave which protected them against all odds. That's how humans are different than animals... because After all it is all about chiselling your brain!

This being the biggest instance by the Neolithic man that cognitive thinking processes leads to development. His experiences made him counter question, contemplate and argue which did nothing but chiselled his analytical approach making his life much easier. With this cognitive approach one needs no more explanation about the impeccable progresses the human kind has made.

Thus, each person has his/her own analytical approach towards a form or space. They have their own definition for it. There is no good space or bad space. It is all about the differences in the point of views of various people approaching it. When people start to give a thought to the design with the maximum use of their cognitive thinking abilities for a specific space, it can be believed that they are doing nothing but apprehending the depths of architecture. On the other hand, when the same space starts inviting maximum strata of people likely- aged, male, female, child, transgender, physically or mentally challenged, etc it becomes a universal space- moreover an inclusive space. Hence Architecture proves to be non-bias just like nature from whom it borrows nothing but a space!

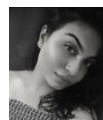


The spatial condition

[7] <https://in.pinterest.com/pin/308637380692326935/>

This proves undoubtedly that we are intertwined with the natural environment. The nature lends us space and with our cognitive perspective, we make this space habitable. Furthermore, that is where architecture happens!

Author Profile



Niharika. J. Desai has completed her four years in the profound profession of Architecture from Mumbai, India. While she is still pursuing her further studies in the field, she has set her goals and ambitions for her passion for writing and research as well. **“Architecture as a cognitive space”** her second research paper is a club of her passion for writing, research and her career in Architecture.