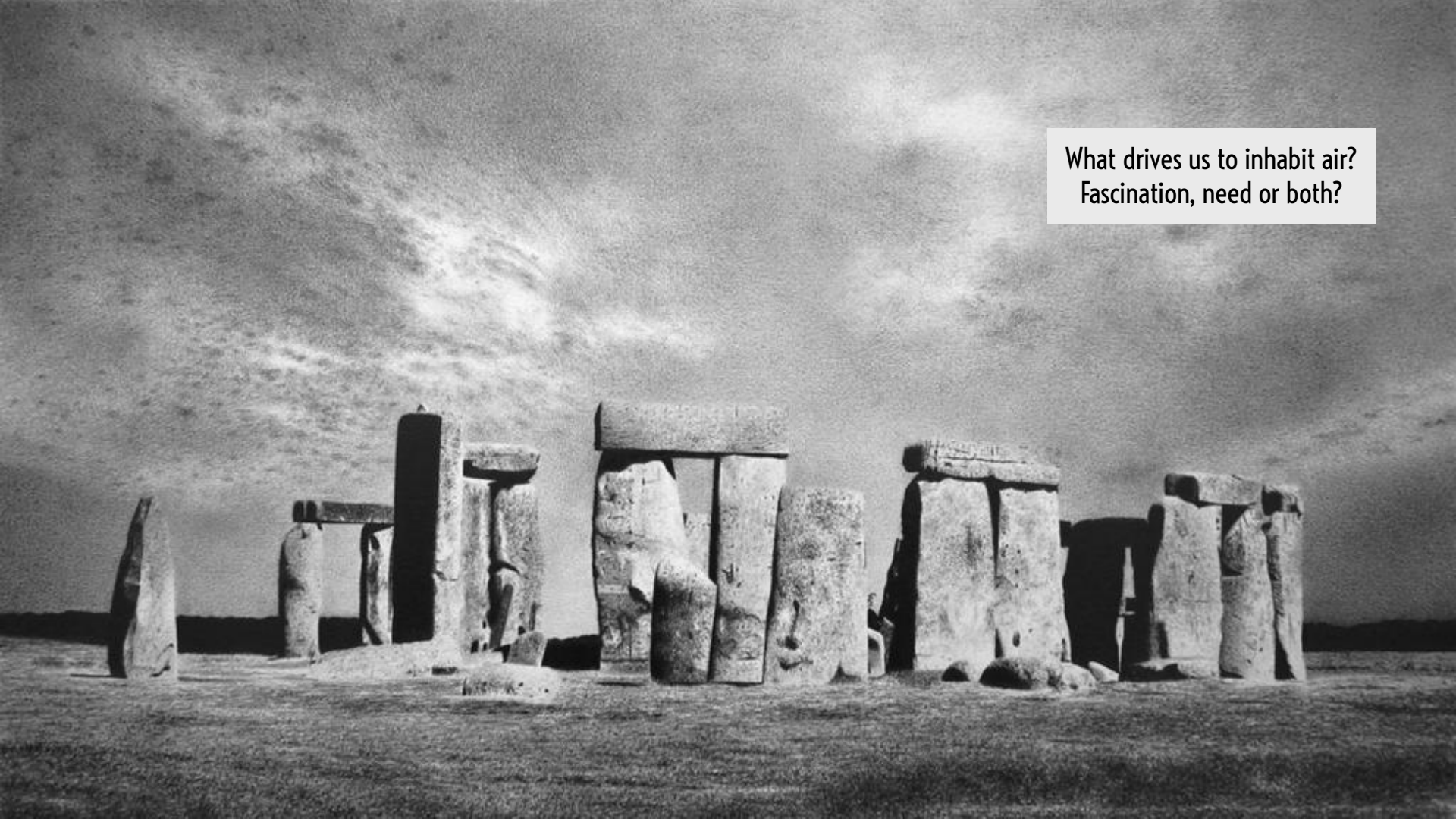


# How do you stack?

Potential and Perspectives in Mass Housing

Oikopolis | Mid Semester Seminar

Isha Mahajani  
UG190589

A black and white photograph of the Stonehenge monument in England. The large, ancient stone structures are arranged in their characteristic circular formation on a grassy plain. The sky is filled with dramatic, swirling clouds, and the lighting creates strong shadows and highlights on the weathered surfaces of the stones.

What drives us to inhabit air?  
Fascination, need or both?

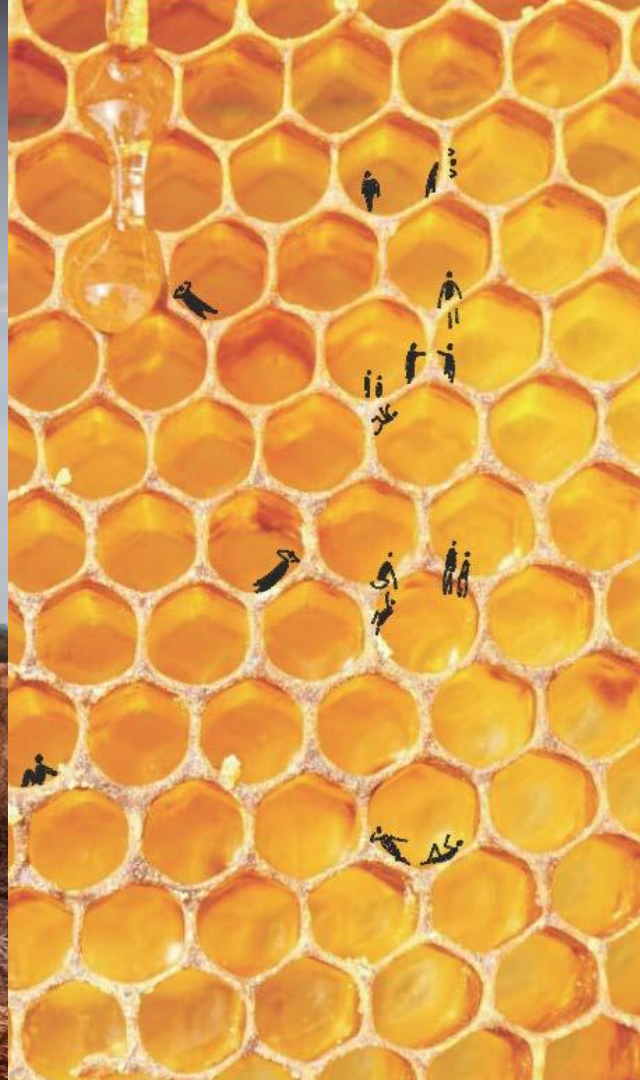


**To stack is to only go vertical?**



**What happens when you stack different volumes, floor plates or even styles?**





Notions of conventional and  
unconventional stacking





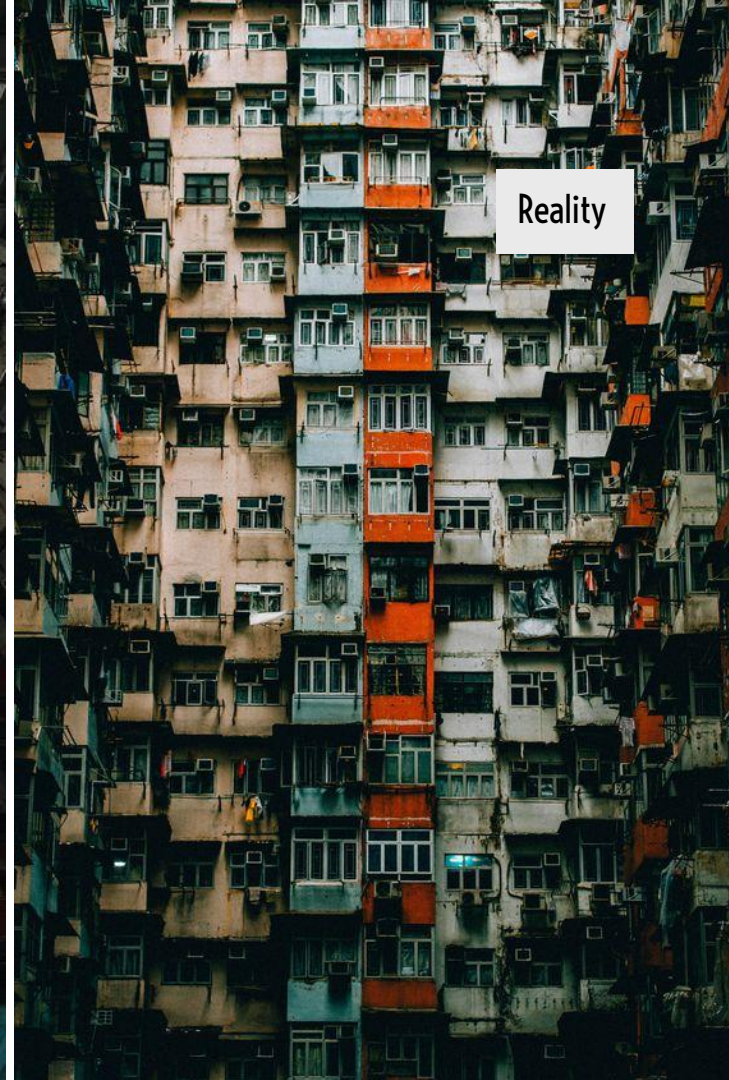
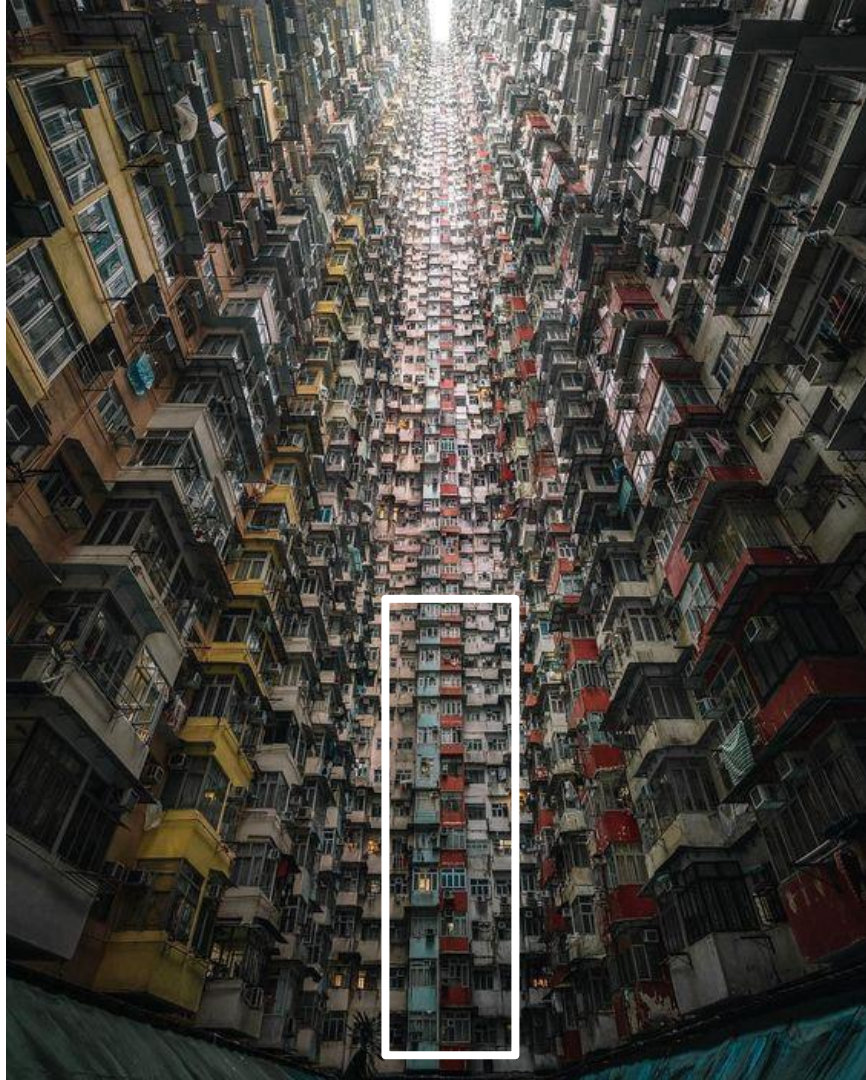
How's moving castle?  
Unconventional stacking?



The burrow in Harry Potter?  
Maybe usual for the Weasleys.





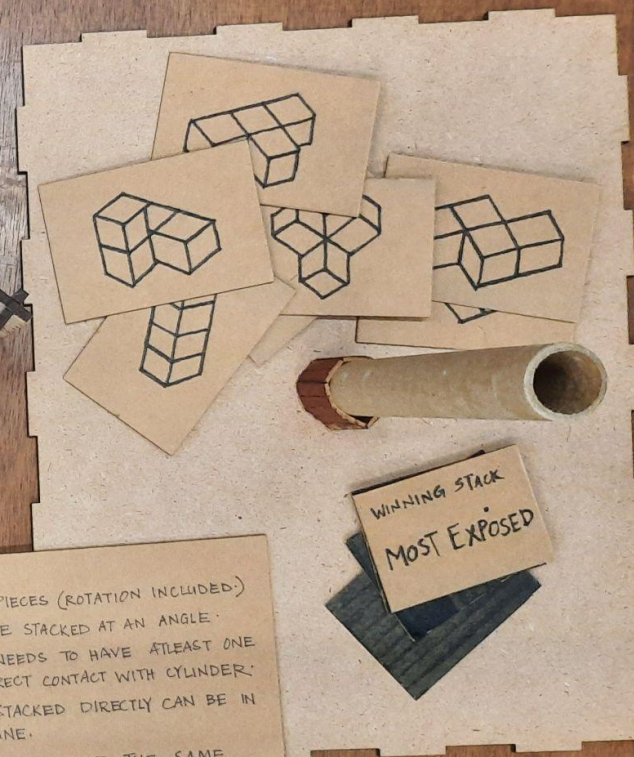


Reality





***StackAbout***



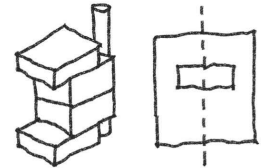
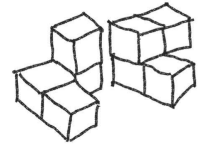
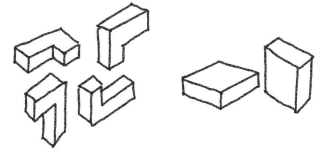
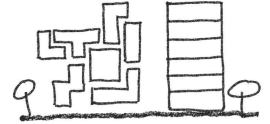
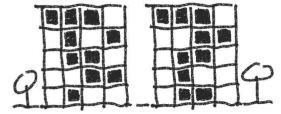
**RULES:**

- NO CHANGE IN PIECES (ROTATION INCLUDED)
- NO PIECE CAN BE STACKED AT AN ANGLE
- EVERY PIECE NEEDS TO HAVE ATLEAST ONE SURFACE IN DIRECT CONTACT WITH CYLINDER
- NO 2 PIECES STACKED DIRECTLY CAN BE IN THE SAME PLANE
- NO 2 PIECES CAN HAVE THE SAME ORIENTATION
- 3 MINUTES

WINNING STACK  
MOST EXPOSED

# Game Experiment | Objectives behind designing and playing the game

- To explore variations in stacking within a simple structure
- To use different types of dwellings in one stack unlike the usual vertical repetition of a house
- To compare and understand the potential and limitations of different types of dwellings
- To explore the variations possible in a stack using only one type of dwelling
- To use the game as a tool to come up with strategies and concepts that can be used at mass housing scale





# StackAbout 3.0

Given: **Maximum 12 pieces** (of one type of tetromino) **and a cylinder**

Rules:

1. Cannot change the pieces
2. Every piece needs to have at least one square face directly attached to the cylinder
3. No pieces stacked directly on top of each other can be in the same plane
4. No two pieces can have the same orientation

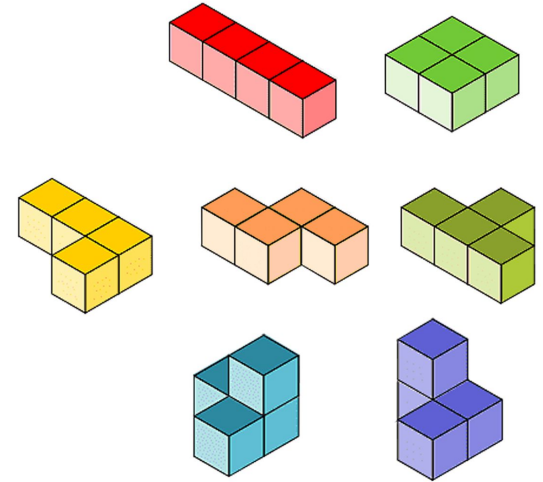
***Cylinder MANDATORY to use.***

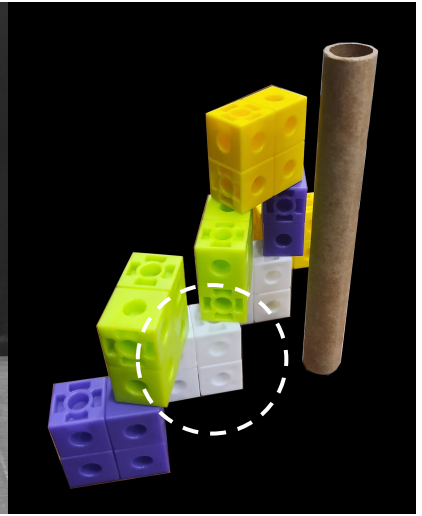
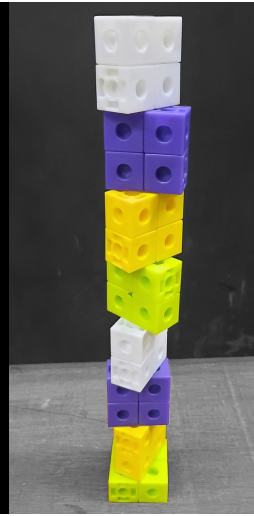
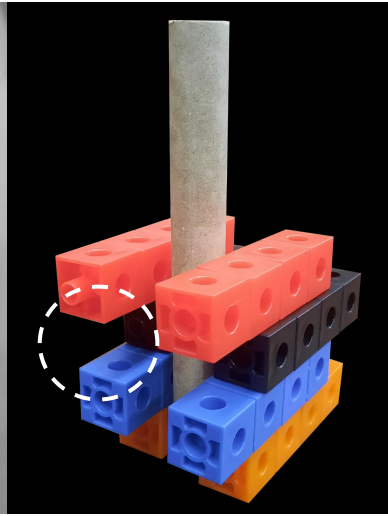
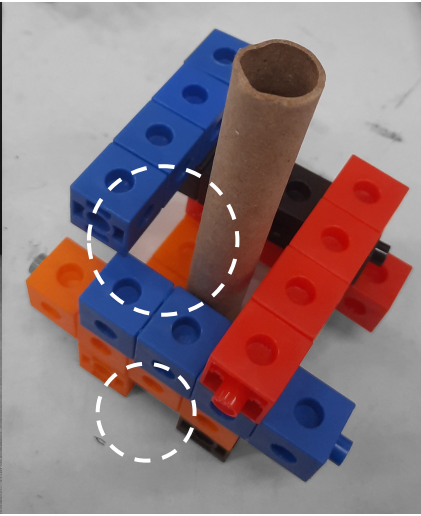
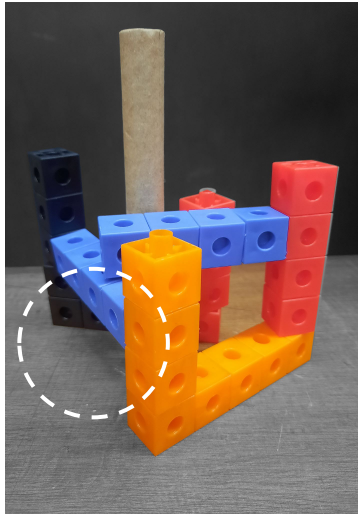
***Different winning criteria were given.***

Time: 3-5 minutes

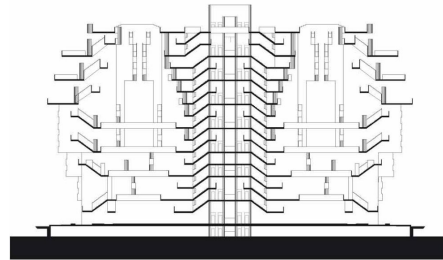
Result:

- Majority of the people who played the game thought that the **L, Z and T** pieces were easy to stack according to the rules when compared to the other pieces.
- Equal number of people thought that the easiest piece to stack between these 3, was the **L or the T piece**.

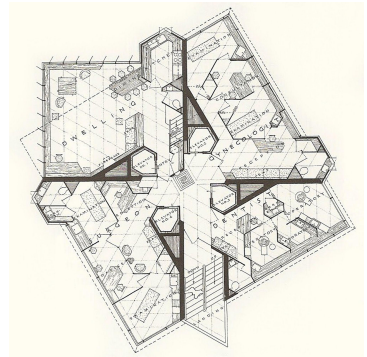




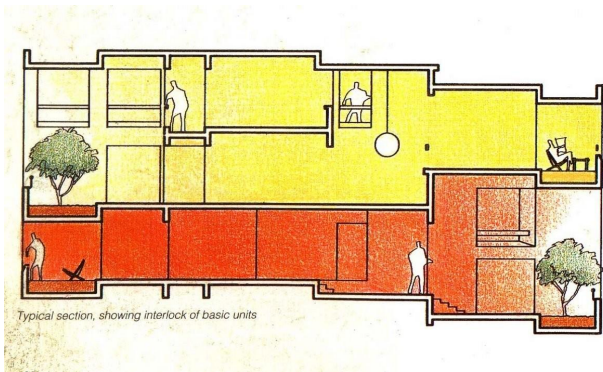
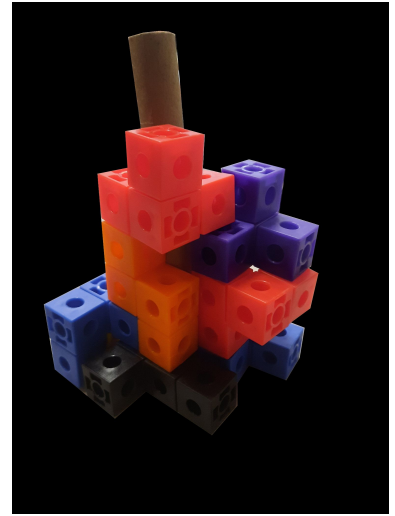
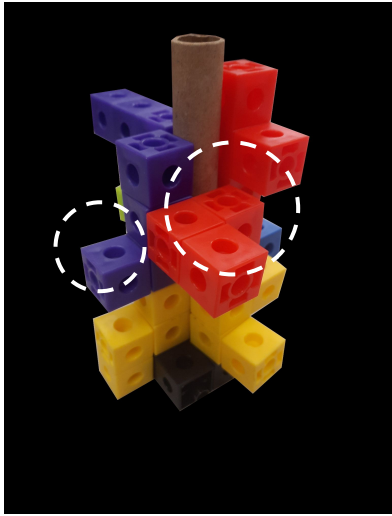
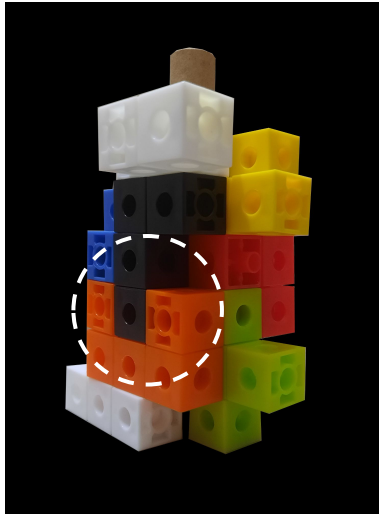
Vitrahaus, Herzog and de Meuron



Walden 7, Ricardo Bofill



Price Tower, Frank Lloyd Wright

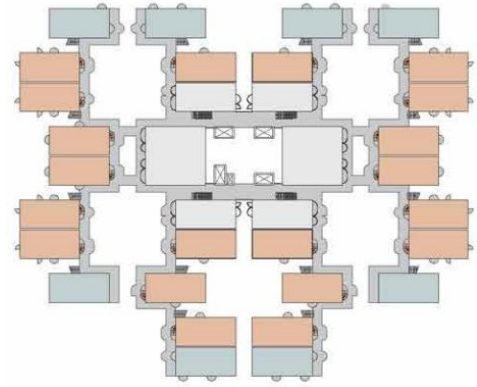
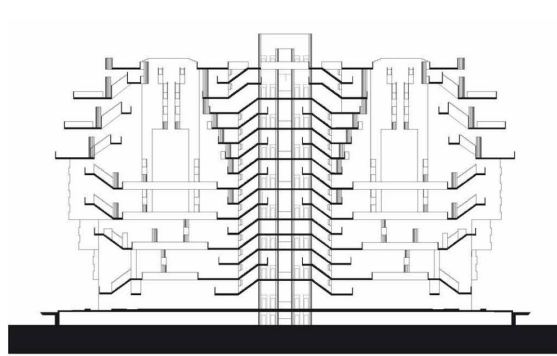


Kanchanjunga, Charles Correa



Habitat 67, Moshe Safdie

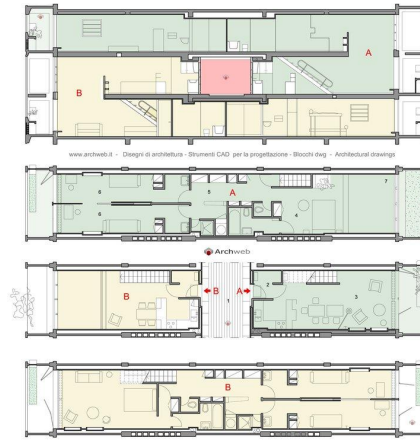
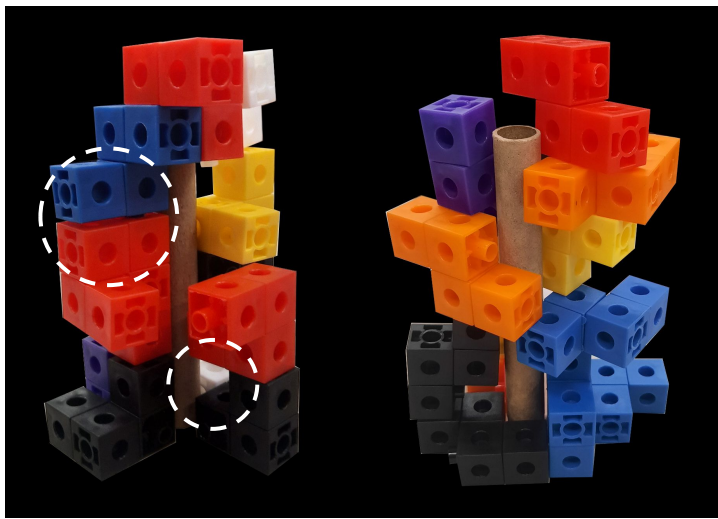




Walden 7, Ricardo Bofill



Project Idea- Cantilevering and Landscape



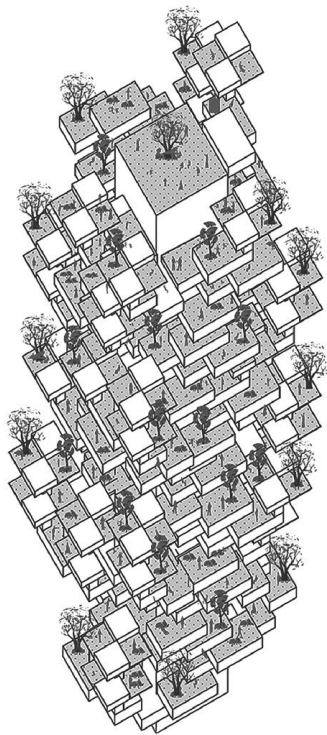
Most exposed  
stacking

Unite d'Habitation

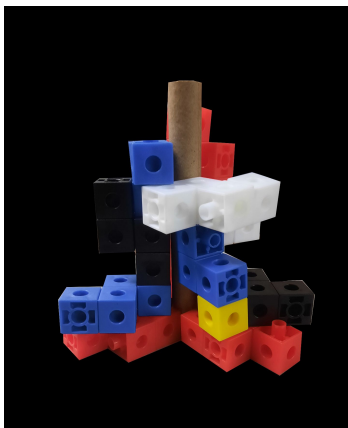


Nakagin Tower

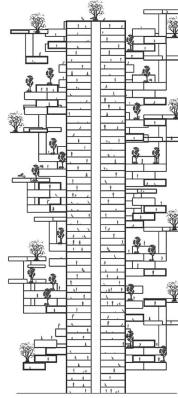
Most exposed  
stacking



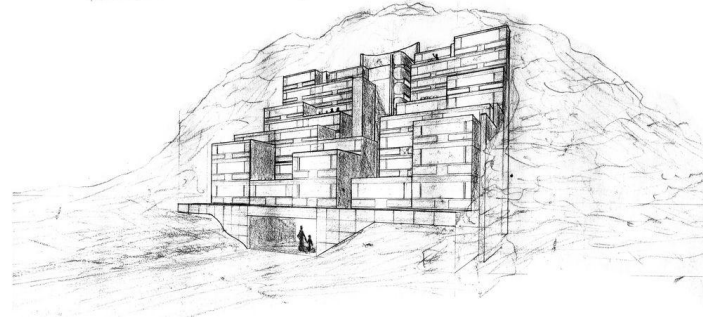
Hybrid Model of building







Project Idea

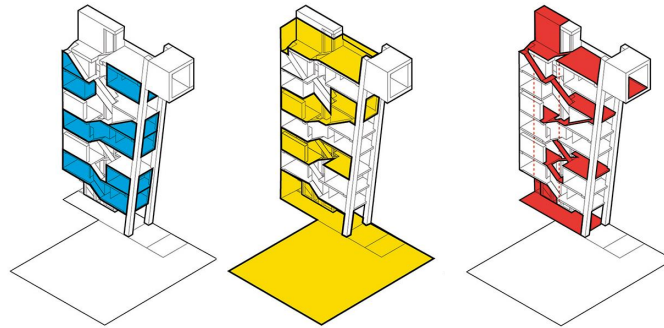
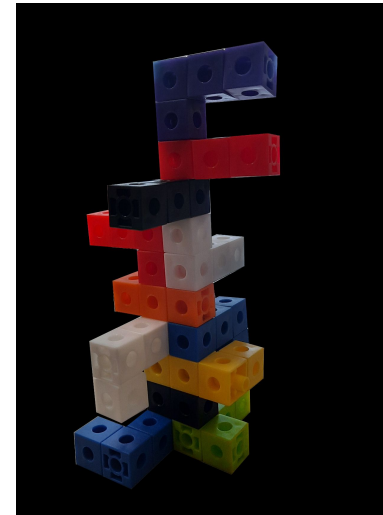
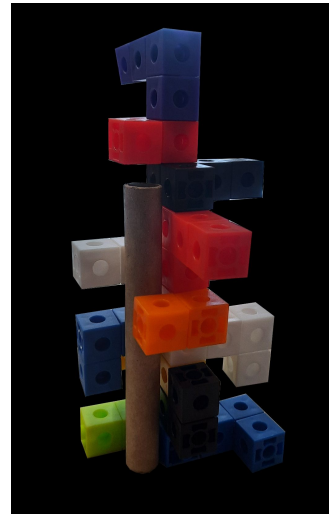
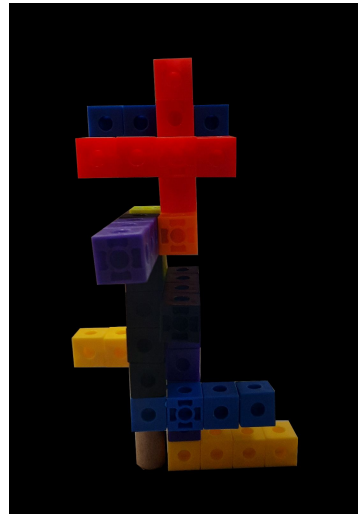
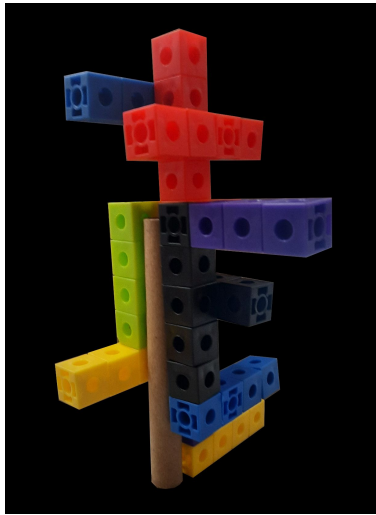


One facade aligned

Rokko Housing, Tadao Ando

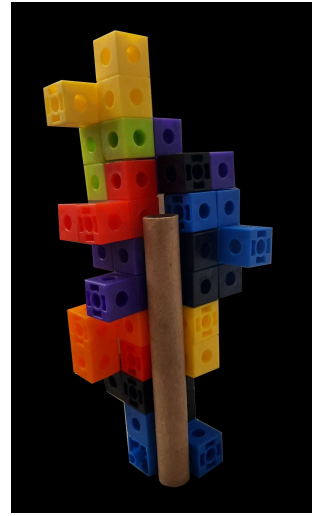
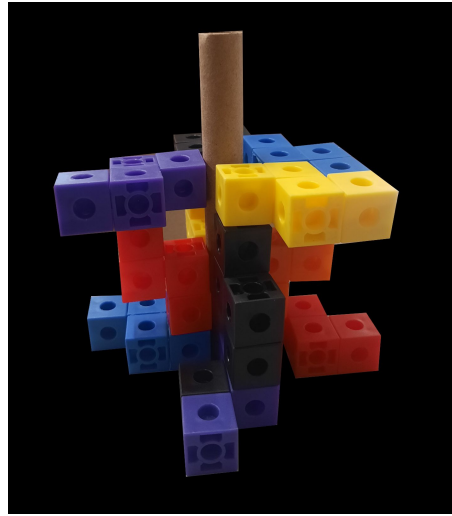
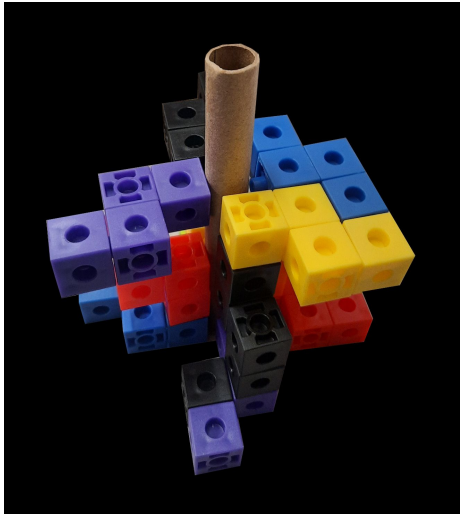


Mirador, MVRDV

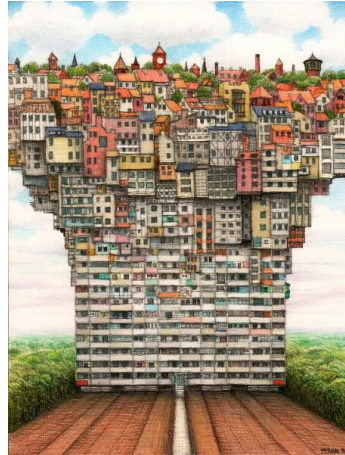


Least surface area of the cylinder used

Project Idea- Exposed and Integrated circulation



Least surface area on the ground



Project Idea- Units branching out

# Prospects of StackAbout

1. Instead of a 3D tetromino, different 3D polyomino are used to play the game ( thereby allowing different sized dwellings as variety ).
2. Same rules as StackAbout 3.0,
  - Not allowing angle rotation of pieces
  - Only 50% of the down facing surface area of a piece can be exposed ( To limit extreme cantilevering )
  - Not more than one piece stacked on top of the other
  - To maximize voids
3. The pieces can be stacked without the cylinder; the stack that requires least number of cylinders to connect all the pieces wins ( understanding and exploring unit-circulation relationship ).
4. Game of 3D Tetris of stacking different pieces in one plane ( imagine like a section of a building ), stack with minimum surfaces closed off wins.





## Food for Thought

- In a high-rise apartment, does the repetition of a house discourage expression of individual identity?
- Do you feel isolated from the ground in mass housing? How can stacking strategize to provide a sense of groundedness?
- What is the future of stacking?
- Is irregular stacking (intending to break monotony) doing the exact opposite i.e. creating a new style/ sense of monotony-chaos and confusion?