USC / A605a // EX: 01 / Precedent Studies / Analysis & Critique // Group: Geometry Form

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Project 1> House in Leiria by Aires Mateus / Leiria, Portugal

The House in Leiria by Aires Mateus uses scale and volume to control the visual output to its viewers. The use of simple shapes with large scales makes the house a centerpiece due to the contrast of the chaotic context that surrounds. Simple shapes are subtracted from a symmetric pitched roof house, providing a clean aesthetic from the exterior with a whitewashed finish.

Geometry Subtraction

The primary shape of a pitched roof house is subtracted by two different sized rectangles The primary geometry is subtracted both horizontally and vertically by the two rectangle leaving two large voids.

Final Geometry

Two voids pierce through geometry to provide more natural sunlight through the skylight above and providing a large entrance to home.









Project 2> Architecture School by Aires Mateus / Tournai, Belgium

The goal of the prestigious Portuguese office Aires Mateus within the design of the new headquarters of the University of Architecture in Tournai, Belgium was to be as neutral as possible without disappearing into the background. The use of Subtractive architecture provides a strong presence of the non-existing; As the negative space is what attracts the eye at first as visitors visualize a small pitched roof house. Aires Mateus wanted to treat the architecture not only as a form but primarily as a space.

Geometry Subtraction

The primary shape of a cube is subtracted by a figure shaped as a pitched roof house and a rectangle.

Void

The primary geometry is subtracted on the same plain to provide an extrusion that exits all the way through the figure.

Final Geometry

The two voids that pierced through the geometry interconnect providing a passageway through the geometry, creating an entrance way for the architecture school.









Project 3> The Orange Cube by Jakob + Macfarlane Architects / Lyon, France

The Orange Cube uses a simple orthogonal cube and two different shaped spheres that punches giant voids through the building responding to necessities of light, air movement and views. These piercings face towards the river located close to the site providing a larger range of usable views and natural light. The circular shape is repetitive throughout the building as a circular pattern is used to provide a screen protection from direct sunlight.

Geometry Subtraction

The primary shape of a orthogonal cube is subtracted by two different sized spheres.

Void The primary geometry is carved out horizontally by two spheres leaving two large voids.

Final Geometry

Two voids pierce through geometry to provide exposure to more natural sunlight, air flow, and views.

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