

Art of Object

Architecture in the *state of the art*

- Columbia University | GSAPP | Fall 2016
- Tuesdays 8-10pm | 504 Avery
- Office hours : Tuesdays 9am - 12pm (by appointment)
- Instructors: Aaron Berman (amb2295) & Jonathas Valle (jlv2115)
- Tech Elective

Course Overview

In this course, students will explore the intersection between Art, Architecture, and Object. Through the use of various digital design and fabrication techniques, students will conceive a concept and fabricate an 'object' directly related to the human perception. Students will develop a strong conceptual argument for their object, and will then test, expand, and refine their argument throughout the semester. This testing ground will take place in the form of physical prototypes, designed to analyze techniques, materials, and methods.

The final objective is to create a physical piece. Habitable or not, this object must relate directly to the human perception, while challenging the distinctions between art and architecture. These pieces will not only be displayed in a formal presentation to architectural critics at the end of the course, but also in a public gallery setting in New York City, in order to measure reactions and perceptions with a wider audience.

The coursework will rely on digital modeling techniques using **Rhinoceros, Rhinocam & 3DSmax software**, no prior experience is required for this course and students are free to implement their own techniques.

Theme Description

The What

Contemporary Art is commonly understood as a free and abstract creation, without connection to significance and function, but essential to human emotional expression. In this sense, anything can be taken as Art: a painting, a sculpture, a book, a bidet and so on... including, of course, architecture.

How an object becomes "Art" is a cultural issue one must explore to understand the greater significance of a created object. If we move away from the traditional painting/sculpture realm, any creation to be considered as art must at first be original, ideally bringing some kind of novelty to its field. Essential to all (and best) cases: "Art" should evoke a strong emotion in its observer. Finally, in some rare and precious cases, the "Art" will make use of the most refined skills even to the point of

revolutionizing the skill itself. To that point, we have the expression "state of the art", which has unfortunately become one of the most exaggerated and misused terms in the contemporary lexicon. Most often referring to electronics, "state of the art" is rarely properly used, except perhaps when referring to the original Apple products under Steve jobs, which could fall under all categories.

The rules for defining art in other mediums are more flexible than in architecture. For architecture to be considered art, it must first be true architecture. Even if one creates habitable structures built with simple engineering, it could be argued that little to no architecture is involved (or at least of any quality). To create an object that can be classified as "Architecture," one would need a good combined knowledge of a variety of skills including writing, drawing, designing and building. Furthermore, in order for "Architecture" to exist, one must embrace not just a strong need for function, but also meaning and significance (cultural, formal, social, etc.) as well. And whatever that meaning is, it needs to relate to us, as humans. In that sense, Architecture is very much a **Human science**.

For something to become Architecture we need to either build it or envision it being built. Architecture cannot be just a discussion or design that lives only in the realm of ideas and speculations. Acknowledging that 'free thought' inspires us to create in the meta-physical world, the relationship between thought and creation can be compared to the way theoretical and applied physics work together. Architectural thought is based on some underlying assumptions and ground rules. While some of those rules may be changed or modified, one must first have a deep understanding of the mechanics of reality to be able to make the idea true in the physical world. And in that sense Architecture is very much an **Exact Science**.

The purpose of this class, is to define (or at least to question) the lines that separate and bind architecture and art. This exploration will be the basis for the design task of the semester, and will be explored in terms of light, space and proportion. Students will move away from pure formalism or pure function, or from "Free Art", to create a well-defined and full quality Physical Object that is not entirely Art and not entirely Architecture; an object or process that could be defined as a true prototype or novelty - truly "**state of the art**."

Students will attempt to define the proportions, geometries, contrasts, structural rhythm, and meaning within their Object. They will study how form, light and space can find significance and become the letters and words that build the language of Architecture. Can an object that was fabricated as a result of a rigorous study of pure form become architecture? Or art? Or both? One can easily say yes, and recognize "Architectural Art", but our main question is how; How, in physical, rational, and emotional terms, does this happen? And how do we define the process scientifically. This is the deeper research -- to verbalize and experiment in simple and objective ways, through the use and study of these built objects.

In addition to presentations and reviews, students will also be required to attend site visits (set up and coordinated by the instructors) to different environments used for making and displaying objects. This will include contemporary artist studios, fabrication shops, and galleries.

The How

It is essential for any architect to have an expertise in mathematical geometry, and understand how to control it by using any tool available -- from ruler and compass and physical models (for the

nostalgic), to the more complex and sophisticated computer software we now have available (3dmax, Grasshopper, Scripting, Maya, Rhino etc.). The mastery of these tools is essential to manipulate and create architectural knowledge.

Through the study and practice of 3d geometry and the basic shapes, students will master their own techniques focusing on the excellence of execution. They will come to greater realizations of their own understanding of proportions, and of contrasts between empty and full, elegant and heavy, use of light and shadows, etc. In addition, students will gain understanding of how to relate to the human scale and perception; aggressive x calm, speed x static, flow, seduction, etc. Ultimately, students will develop a more complex architectural and artistic language, that is filled with significance and meaning on the perceptions and emotions that it evokes from contemporary society.

The objective is to create a piece of Design -- a physical object that can stand by itself, and by this meaning; clearly communicating what it is -or at least what it isn't- with clear intentions and directions in physical form, function, and expression. Habitable or not, this object must relate directly to the human perception, while challenging the distinctions between art and architecture.

To put the hypothesis to test, these designed 'objects' will not only be displayed in a formal presentation to architectural critics at the end of the course , but also in a public gallery display in New York City, in order to measure reactions and perceptions with a wider audience.

The Why

The University is a place for learning, experimentation, and the encouragement of free and unbound thought. To truly get the most from this experience, one must ultimately learn to harness that thought and physically create something real (through the use of fabrication) with a specific design goal. Through the constant discussion, feedback, constructive criticism and questioning of all phases of this design and fabrication process, a student's argument will become stronger, clearer, and more refined. Further, the greater issue of interdisciplinary distinctions is a subject too often forgotten outside of the academic realm. This course is designed to expand this type of dialogue can only be beneficial for the students, the school, and the field of Architecture in general.

General Topics

- Advanced geometry understanding; curve types, geometric relationships
- Develop a sophisticated conceptual understanding of Proportion, Contrast, Space, Mass, as it relates to a designed object and its human perception and emotional impact.
- Historic Design examples & inspirations
- Advanced modeling techniques, Polygons & Nurbs/Nurms
- Digital Fabrication techniques
- Presentation and discourse development

Evaluation and Grading

- 5% Attendance
- 20% Class participation and discussion
- 10% Individual assignments
- 15% Final project proposal and midterm presentation
- 50% Final project and final presentation and report

Resources and Materials

Course files, tutorials and presentations will be located on Courseworks, and additional online source TBD.

The readings for the class will be duly uploaded to Courseworks. Similarly, students will be required to submit their assignments by uploading them to Courseworks. Finally, the class will also rely heavily on submissions to the blog. Students will be required to upload some of their own work as well as inspirational material, encouraging and developing a critical stance and visual skills; Students will be required to present a new physical object (or developed version of a previous one) at every class, where documentation of the object, process and techniques used must be uploaded to the course blog (in free format, i.e.; photos, renderings, drawings, texts etc., in visually rich and 300dpi min resolution layouts) immediately following each presentation.

Schedule

Week 1: Introduction to course

Tuesday, September 13th

- Instructors Introduction
- Course administration and syllabus
- Understanding 3D models and geometry
- Great object design examples
- *tutorial 01- rhino modeling*
- Readings:
 - [Sartre, Jean-Paul, \(1944\) No Exit / Huis clos](#) (Required)
 - [To be updated](#) (Required)

Week 2: Developing concepts and techniques

September 20th

- **Assignment:** tutorial 01 work review – physical model required
- *tutorial 02 – 3ds max modeling*
- Readings:
 - [To be updated](#) (Required)
 - [To be updated](#) (optional)

Weeks 3: Object proposal pitch

September 27th

- **Assignment:** *tutorial 02 work review* - new physical model required
- **Assignment:** *Object proposal-Student Pitch*
- Readings:
 - [To be updated](#) (optional)
 - [To be updated](#) (optional)

Week 4 & 5: Work development 1

October 4th & 11th

- Reviews & work support: new physical model required
- Scheduled visit to FABRICATOR xx facility – date TBD
- Readings:
 - [To be updated](#) (optional)
 - [To be updated](#) (optional)

Week 6: Peer presentation 1

October 18th

- Preliminary Midterm presentation to class : new physical model required
- Work critic and support.

Week 7: MIDTERM REVIEW - October 25th

Week 8: Work development2

November 1st

- Reviews & work support: new physical model required
- Scheduled visit to TBD Artist facility – date TBD
- Readings:
 - [To be updated](#) (optional)
 - [To be updated](#) (optional)

Week 9: Election Day Holiday - no class

November 8th

Week 10 & 11: Work development2

November 15th & 22nd

- Reviews & work support: new physical model required
- Scheduled visit to TBD- Gallery, architect and artist facilities – date TBD
- Readings:
 - [To be updated](#) (optional)
 - [To be updated](#) (optional)

Week 12: Peer presentation 2

November 29th

- Preliminary Final presentation to class: new physical model required
- Work critic and support.

Week 13: FINAL PRESENTATION – DECEMBER 6th

- *Assignment: Final report (individually)*

References

Books *(to be updated)*

- Sartre, Jean-Paul, (1944) No Exit / Huis clos
- Newson, Marc & Neri, Louise,(2007) Marc Newson
- Neri, Louise & Rawsthorn, Alice & Castle, Alison (2012) Marc Newson: Works
- Editors of Phaidon Press,(2006) PHAIDON DESIGN CLASSICS
- Editors of Phaidon Press,(2002) SPOON
- Editors of Phaidon Press,(2007) &FORK
-

Blogs & Websites *(to be updated)*

- <http://artfcity.com/>
- [car stuff & cloth tutorials 3dmax](#)
- [vray techniques tutorials - 3dmax](#)
- [The Tim Ferriss Show](#)

