Columbia University GSAPP
A6853 Advanced Architecture Design Studio AAD
600 Avery: M, W & F (2:00-6:00pm) Summer 2014
Studio Professor: Phu Hoang (pdh4@columbia.edu)
Studio TA: TBD

Conditioned Urbanism:

Indoor "Air Rights" in New York City

"There is a very specific kind of anxiety associated with the subjugation of air, an anxiety especially evident in responses to instances when air is commodified, privatized or militarized. At the core of this lies air's enduring role as a cipher for personal freedom..."

- *Mark Dorrian*

Objective:
The studio will investigate the conditioning of indoor air and the public's access to the conditioned air in New York City. Unlike the zoning requirements that regulate the city's outdoor air rights, the properties of indoor air, until recently, have been mostly left to speculation. Indoor "air rights" is the access to information about the air we breathe. From early technologies developed to measure temperature and humidity, it is now possible to detect properties of air pollution, scent, static electricity and electromagnetism. The conditioning, or modification, of air occurs invisibly within buildings while its effects remain undetected. Recent economical consumer electronics has led to citizen-based social networks that provide unprecedented access to information about our environments' interior airs.

"Air rights" exists in our cities through a wide range of social networks– from Twitter feeds to crowd sourced air mapping. These technologies constitute new methods to experience, analyze and navigate cities. The studio will replace traditional notions of architectural context with the air-based concept of conditioning. Instead of focusing on ground-based contextual relationships, conditioning creates an understanding of the city focused on the spaces in-between buildings—both exterior and interior airs. The studio will ask the essential questions: How will the newfound access to indoor air quality affect the boundaries between the urban and interior scales of architecture? If this access prompts us to actively design our conditioned air, how will the architecture itself change?

Project Description:
The studio will be a "research and design" format in which the conditioning-- and access to-- indoor air will form the conceptual ground of an architecture project. It is suggested that students work in groups (individual work is also allowed). Each group or individual will propose radical scenarios in which the research will be tested in the design of an aquatic and fitness center located in New York City. The studio's research will explore indoor "air rights" as a topic to develop unique design methodologies for each project.

The "air rights" implicit to the design of an aquatic center will address the conditioning of indoor air for programs of health, fitness, and recreation. This commodified—and consumed-- air will inform the design of a new kind of aquatic center. The design of the center will combine conceptually based architectural methodologies with an understanding of exterior urban environments and interior air programs. The studio will produce a set of proposals that radically rethinks the program for an aquatic and fitness center through the design of its interior—as well as exterior-- airs. Students will be asked to design the spaces in-between architecture before designing the architecture itself!

Access to Indoor "Air Rights":
Access to indoor "air rights"—and its political effects-- is perhaps most evident in the cities of China. In Beijing, the air and weather is constantly politicized. A diplomatic row occurred recently when the U.S. embassy in Beijing installed an air quality sensor on its roof and made its readings publically accessible via Twitter. The Chinese government, in turn, installed its own sensor, and regularly disputes the accuracy of the U.S. readings. Public access to the U.S. embassy readings, as well as local media coverage about air purifying systems in the homes of the wealthy, has prompted the Chinese government to acknowledge the widespread health issues. Environmental protests have become increasingly common—as well as more violent—in the past few years. The government recently openly declared Beijing as the frontline of a "war against pollution," and stringent environmental regulations are beginning to be enforced.

Program:
The studio program is an aquatic and fitness center. In New York City, aquatic centers and pools have transformed during the city's history. No longer used for hygiene (bathing), the pool is primarily used for fitness and recreation. The requirements of active urban lives have integrated traditional aquatic and fitness programs with commercial programs for socializing and entertainment. The aquatic center typology has transformed into a privatized world in which the consumption of air has become a commercial activity. The studio will research the existing aquatic and fitness centers in the design of a new kind of center.

Site:
There will be two different kinds of site for the project. The physical site will in Brooklyn's waterfront neighborhood of Dumbo. The other site is the studio's air-based site. This virtual site is constituted by the air that surrounds the future project as well as fills its interior volumes. The conditioning—and conditions--of the air-based site will provide a set of properties that each project will modify. Examples of these properties are temperature, humidity, air movement, or static electricity. The modification of the air-based conditions will also provide a design methodology to address the physical site of the studio, as well as the program for an urban aquatic center.

Schedule:

Project 01: Air Research (10%)

(Review on June 23rd; 10 days)

Research of indoor "air rights" will be initially conducted on an individual basis. This air-based "live research" will occur in the Dumbo neighborhood. Using readily accessible air sensor technologies, the research will establish an argument towards the project site. The research must be iteratively explored for their potentials in reformulating indoor "air rights."

- June 5th-6th: Software tutorial (Rhino Primer & Grasshopper Introduction)
- June 21st-22nd: Software tutorial (Vray and Grasshopper visualization)

Project 02: Mid-review (20%)

(Mid-review on July 11th, 3 weeks)

Each group will present at the mid-review their "air rights" research and their iterative process for designing an aquatic and fitness center. The iterations should clearly and precisely define the project's argument relative to both site and program.

Project 03A (15%)

(Pre-final review on July 30th, 3 weeks)

Project 03B (25%)

(Final review on August 7th, 1 week)

Grading Policy:

In general, grading for the semester will proceed as follows:

30%	Material presented at the mid-review
40%	Material presented at final review
30%	Development of the work through the semester

Evaluation in this course will adhere to University guidelines as outlined in the student handbook. Grades will be given in relation to the student's ability to meet the course deadlines, deliverables and course objectives.

Students are entitled to one unexcused absence. A second unexcused absence will result in the lowering of your final grade one full letter. Three absences are grounds for unofficial withdrawal. Absences will be excused in accordance with university policy and will require a note from a physician. Please notify your instructor in advance if you know that you will not attend class for any reason.

Studio References:

1. Abalos, Inaki. "Aesthetics and Sustainability: Alternatives", 2008.
2. Dorrian, Mark. "Utopia on Ice" in Cabinet: Logistics, Fall 2012 (pgs. 25-32).
3. Koolhas, Rem. "Definitive Instability: The Downtown Athletic Club" and "The Story of the Pool" in Delirious New York: A Retroactive Manifesto for Manhattan, 1997 (pgs. 152-159 and 307-310).
4. Rahm, Phillippe. "Form and Function Follow Climate" in environ(ne)ment: approaches for tomorrow, 2006 (pgs. 152-159)
5. Serlin, David. "Some Like it Cold: Engineering the 'Personal Environment'" in Cabinet: Weather, Summer 2001 (pgs. 13-17).