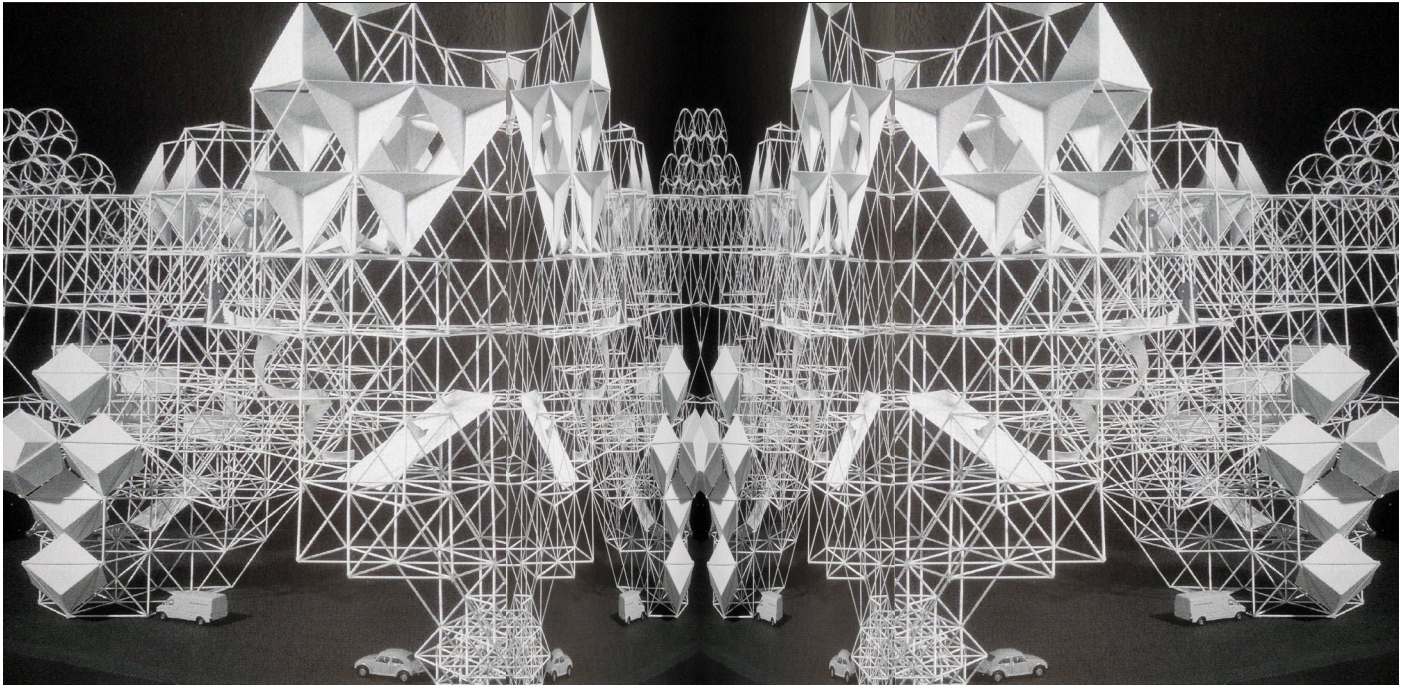


DEEP FUTURES EXPO II

PROTOTYPES FOR THE FUTURE CITY



Eckhard-Schulze-Fielitz (transformed): Raumstadt (Space-City), 1959

Within the spectrum of the evolutionary history of cities from their origins (research DF1) as places of mercantile exchange, gathering of a polis (agora, forum), development around arable land, food supply, access to goods, climatic and environmental opportunities, access to natural resources etc...cities have historically evolved over time for the most part organically, in some cases randomly and usually without anticipation of inevitable change and futures. Traffic congestion, pollution, energy consumption, disrepair, gentrification, obsolescence etc are all unanticipated events that define our contemporary cities and urban environments. Today however the very real premise of building new cities from scratch, as centers of intense human interaction, can anticipate and even calibrate constant flux and change as we shift from predominantly geographically centered city thinking to economically and technologically tethered sustainable urbanisms. A new city today does not necessarily need (although it is by no means a hindrance) access to connected waterways, or fertile arable land, nor do they necessarily need to be located in close proximity to existing infrastructure, sources of un-renewable energy, mineral resources or even be attentive to climatic variables and stability (especially given the gyrations in climate change now being manifest by global warming). Rather in devising cities from scratch one could envision urban viability in almost any place, circumstance or domain providing there is political stability and a need to build. Some variables and necessities for rapidly implementable, sustainable and viable city growth and economic success include amongst other things certain core staples as far as urbanism is concerned.

Essentials such as state of the art people and goods transport systems (namely manifest in and around airport infrastructure, high speed rail, data driven shipping cargo ports and channels and the like). People movers such as rapid rail, maglev rail (Shanghai), personal electric vehicles and other forms of technologically driven intelligent means of mass and personal physical mobility. Environmentally sustainable and state of the art designed and engineered structures capable of rapid implementation, constant change and able to deal with variables such as extreme weather, temperature fluctuations and potential ca-

lamity. - State of the art agricultural facilities, green-houses, hydroponic farms, and fresh water supply by utilizing technologies such as desalination, distillation, sewage and waste purification by means of natural organic systems. Waste management and reuse, refurbishment, grey water, rainwater retention, recycling (cradle to cradle) biodegradable building systems and so on. Robotics is central to any new city from zero scenarios, as a means of transport of goods, use in construction, urban renewal, rapid replacement at all scales, refurbishment, delivery, maintenance etc.

A city from zero would effectively be centered on these and other criteria where data is above all the key driver and data in every form would be the means by which such a city would not only sustain itself but also thrive. In some ways a data centric city has its roots in the deep past of urbanism and city growth, be that cities predicated on military efficiency, goods transport, industrial production, and even geomancy and more esoteric mystical motivations. All cities in one form or another have been places working around information as seamless exchange. Today that exchange is predominantly if not entirely electronic and digital, one only needs to look at a place like the world's stock exchanges, which in many way mimicked city growth and emergence by being places of the exchange of information and goods, quantities, values etc, which from their humble beginnings as gathering posts for trading and bartering, have evolved into virtual microcosms of urbanism yet existing only as data centers and virtual locales. In fact the advent of virtual reality as spatiality (3d virtual space) coinciding with data proliferation is the very basis from which new city space itself can be seen as emerging. Data driven, electronically seamless and technologically robust environments effectively are now the places of exchange of services, goods, sustenance, entertainment, sport, education, finance, healthcare and so on, and one could say data and technology are also capable now of dealing with the more ineffable and abstract aspects of city growth and existence in such territories as delirium, distraction, chance, and desire.

DEEP FUTURES EXPO II

PROTOTYPES FOR THE FUTURE CITY



EXERCISES & RESULTS

Students will follow four sequential exercises, which will build upon each previous exercise ultimately leading to the development of a complete design and the detailed development of their expo pavilion.

Summary of the last Semester

Final outcome

- Last semester focused on singularity and large expansive space delineated by the studios geometric primitive the truncated octahedron.

The first exercise,

Cleaning // Refining // Volume & Manipulation

- will focus on the potential of current digital techniques for configuring ranges of massing geometries.
- Students will position their previous explorations in relation to a precedent from the classical to the contemporary to better articulate the agenda in architectural terms.
- By first diagramming and exploring the strengths of the group project and then merging these geometric and programmatic findings back into their project a recursive loop is started that further intensifies and refines the geometric explorations that eventually should condense in the creation of a singular element.

The second exercise,

Object to field // Part to whole relationships

- Using new digital techniques, students will begin working on proliferating their new primitive to 3 dimensionally subdivide and organize the octahedron, thereby also working on the transition between their components, predetermined site and neighboring pavilion

The third exercise,

Implementation & Adaptation,

- will apply the findings of the previous two exercises from abstract to concrete refined systems, culminating to a working self sustaining building.
- The site will be located in a mountain region of the Gobi desert. Students will construct a 1060m x 600m section of the mountain side creating an oblique wall measuring 5.3m x 3m. we will then divide it into 9 regions making each groups site approximately 340m x 130m.
- Focusing on the transition into the oblique wall/site students will begin to excavate the given terrain creating a transition from the site/poché to their truncated octahedron pavilions. Using boolean operations, students will tackle the site with a range of impacts from surface articulation to cavernous voids that will become spatial and programmable. This exercise will also allow for the beginning of site integration regarding program, circulation and a framework to accept and create an intermediate transition to the new geometry of the pavilion.
- A focus on an oblique boulevard as a well known typology of transitory public space that each project group has to take care of and incorporate will serve as a driving force for the first few exercises examining how the "user" will transition from each cell and connect into the larger field consisting of all the studio projects.

- Continuing on our topic of transitions students will begin to not only transition spatial sequencing they will also work on transitioning materials, textures and colors.

Finally, the fourth exercise,

Representation

- will investigate new drawing techniques and question existing orthographic representation i.e. the plan and section. The outcome of the studio will be extensively documented and will include large models, high-end visualizations and sophisticated 3d drawing, and representational techniques.

DEEP FUTURES EXPO II

PROTOTYPES FOR THE FUTURE CITY

STUDIO HOURS

mo 2:00-6:00 pm pin up
tue, fr 2:00-6:00 pm desk crits and tutorials

ARCHIVING

folder structure on server (shared data)

-01 STUDIO

-00 Full Name

- 01 raw text (word, text doc)
- 02 digital presentation (pdf)
- 03 printed boards (jpeg 150 dpi)
- 04 renderings/drawings/photographs/diagrams (jpeg 300 dpi, 3750x2500pixel)
- 05 renderings/drawings/photographs/diagrams (jpeg 72 dpi, 900x600pixel)

-02 DIPLOMA

-00 Full Name

- 01 raw text (word, text doc)
- 02 digital presentation (pdf)
- 03 printed boards (jpeg 150 dpi)
- 04 renderings/drawings/photographs/diagrams (jpeg 300 dpi, 3750x2500pixel)
- 05 renderings/drawings/photographs/diagrams (jpeg 72 dpi, 900x600pixel)

For all future interim presentations and skype reviews, please copy your pdf/animations to present from the server under following:

-03 INTERIM PRESENTATIONS STUDIO

-04 INTERIM PRESENTATIONS DIPLOMA

We will use the archive for publications and maintaining the website, therefore please keep it up to date.

PRODUCTION

- Students are expected to produce new work for each studio meeting.
- Extreme emphasis will be placed on work that is tangible or visible, and not in “sketch” form.
- It is highly recommended that work for desk-crits be in the form of: digitally-produced drawings, renderings, animations, prototype models, 3d-prints.

TECHNOLOGY

- Exchanging new techniques and helping others is highly encouraged.
- Students are expected to have their personal computers in studio during each class session.
- Students should have the following programs: Maya, Mudbox, Z-brush, Rhino, Grasshopper, V-Ray for Rhino, Maxwell, Illustrator & Photoshop.

TECHNICAL TUTORIALS

<http://www.arch.columbia.edu/work/courses/visual-studies/fudd/>
<http://www.digitaltoolbox.info/>
<http://www.geometrie.tuwien.ac.at/ig/>
<http://www.grasshopper3d.com/>
<http://think.maxwellrender.com/index.php>
<http://www.mathworld.wolfram.com/Tessellation.html>

ABSENCE

- Students should notify the Instructors by email of a planned studio absence at least one week in advance.
- Students should notify the Instructors by email of an emergency studio absence at least 24-hours in advance.

E MAILING

If you do not receive a reply to your email immediately please continue working.

DEEP FUTURES EXPO II

PROTOTYPES FOR THE FUTURE CITY

REFERENCE PROJECTS

- Le Corbusier: Unité d'Habitation, 1925
- Eckhard-Schulze-Fielitz: Raumstadt (Space-City), 1959
- Yona Friedman: Paris Spatial 1958
- Paolo Soleri: Mesa City, 1959
- Kisho Kurokawa: Wall City, 1959
- Kenzo Tange: Tokyo Bay, 1960
- Kikutake Kiyonori: Marine City 1958, Ocean City 1962, Statiform Structure Module, 1972
- Hans Hollein, Walter Pichler: Architektur (Galerie nächst St. Stephan 1963)
- Claude Parent, Paul Virilio: La Ville Oblique, 1966
- Moshe Safdie: Habitat 67, Montreal 1967
- Zvi Hecker, Alfred Neumann, Apartments Rabat -Gan 1966
- Paul Rudolph, Expressway Project 1967
- Engelbert Zobl, Helmut C. Schulitz, and Dale Dashiell, The caravan city in the Mojave Desert, 1967
- Buckminster Fuller, Tetrahedron City, 1968
- OMA, RAK Gateway, "City in the Desert", 2006

- Kenji Ekuan, Tortoise House, 1964
- Carl Fingerhuth, Pavillion Wehrhafte Schweiz, Expo Lausanne, 1964
- Peter Cook: Plug-In City
- Coop Himmelblau: Villa Rosa
- Richard Rogers, Renzo Piano, Centre Georges Pompidou, 1970
- Toshiba-IHI Pavilion, Osaka 1970
- Expo Tower, Osaka 1970
- Switzerland Pavilion, Osaka 1970
- Green Pavilion, Osaka 1970
- Nicolas Grimshaw, The Eden Project, 2001
- Thomas Heatherwick, UK Pavilion, Shanghai 2010
- Miralles Tagliabue, Spanish Pavilion, Shanghai 2010
- Mero System

- Michel Ragon: ou vivrons nous demain? Paris 1963 (where do we live tomorrow?)
- Keith Critchlow: Order in Space. London 1969
- Eckhard Schultze-Fielitz: Metasprache des Raumes. Ed. Wolfgang Fiel. Wien 2012
- Larry Busbea: Topologies. The Urban Utopia in France 1960-70
- Arnulf Lüchinger: Structuralism in Architecture and Urban Planning. Stuttgart 1980

- London 1851, crystal palace
- Paris 1889, eiffel tower, halle des machines
- Queens New York 1939, futurama
- Brussels 1958, phillips pavillon, atomium
- Montreal 1967, habitat, fuller dome
- Osaka 1970, metabolism
- Sevilla 1992, high tech sustainability