TWENTY FIRST CENTURY FORM: Disrupted Continuous Surface

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TWENTY FIRST CENTURY FORM: Disrupted Continuous Surface

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Primary: Ted Brown
Secondary: Bruce Coleman
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“FORM FOLLOWS FUNCTION” or “function follows form” is part of a larger dual thinking that has captivated the western mind for generations. Farshid Moussavi describes this duality in *The Function of Form* as “…opposing views of function and the role of architectural form are typical of a whole range of binary oppositions that dominated the twentieth century: East v. West, Left v. Right, culture v. nature, mind v. matter.”

This bipolar mind set, however, fails to take into account the complexity and multiplicity of our society brought up by trade, globalization, immigration, and conquest. Our cities are no longer singular; they are constantly infiltrated with foreign ideas to create a collection of cultural values, overlaid one on top of another. It is this multiplicity that the twenty-first century architectural form needs to address.

Throughout the twentieth century form has been set in a direct competition with some other architectural aspect. For example, the problem of form v. function, where form competes with function; the problem of form v. form, where form competes with itself and function is ignored; and, with a recent shift towards ‘Green Architecture’, form is somehow seen in competition with performance or technology.

In order to respond to the needs and demands of the twenty-first century, dual architectural thinking must be abandoned in favor of form & multiplicity. Here form should act as a canopy under which multiple functional aspects including programmatic, performative, cultural, economic, historical, geographic, infrastructural, and climate considerations can coexist simultaneously. Form can no longer be thought of as a counter argument to function, visa versa, but rather as an independent medium in which function operates. Since function is now defined as multiplicity, consequently, form becomes the study of the method of articulating multiple conditions. There may be several ways by which form can act as a tendon between different aspects but the condition I want to explore is of jump cuts and sharp breaks in continuous surface projects.

DISTURBED CONTINOUS SURFACE
Flat Continuous Surface
The surface (usually roof) simply lays on top of the programmatic elements irrespective of functional variations

Function: Shelter covering

Lofted Continuous Surface (program)
Responsive to height changes of programmatic elements

Function: Programmatic

Lofted Continuous Surface (topography)
Surface is designed with topography in mind; the boundaries between roof and ground are blurred

Function: Topographic

Disturbed Continuous Surface (Proposed)
Responsive and able to accommodate Functional Multiplicity, which not only includes programmatic and topographic considerations but also pays attention to contextual, sustainable, and technological issues.

Function: Multiplicity
Continuous surface, whether it is roof, floor, or some hybrid condition in-between, is singular and progressive in nature. In order for architecture to accommodate functional multiplicity, the one dimensional sequential progression must be broken apart and reevaluated. Instead I propose a disrupted continuous surface which retains the coherence of continuity and yet provide flexibility for functional diversity.

DISTURBED CONTINUOUS SURFACE: Formal Explorations

Continuous surface, whether it is roof, floor, or some hybrid condition in-between, is singular and progressive in nature. In order for architecture to accommodate functional multiplicity, the one dimensional sequential progression must be broken apart and reevaluated. Instead I propose a disrupted continuous surface which retains the coherence of continuity and yet provide flexibility for functional diversity.
Every sixth strip is set at random
Every fourth strip is set at random
Every strip is switched with an adjacent strip
Strips are inverted
All strips are set at random
Pioneers in time lapse photography like Harold E. Edgerton, E. J. Marey, and Eadweard Muybridge tried to capture multiple views of a subject in the same photograph (see figure). In some of their work they tried to change the singular nature of a photograph by adding a factor of time, which introduced possibilities for gaps and multiple experiences within the same continuous motion.

Figure 4: Etienne-Jules Marey's photograph is edited by splitting it into segments and then rearranging them at random to explore possibilities for gaps.
Continuity as a film term refers to the physical continuousness of one scene to the next. Meaning if a glass is empty in one shot then in the next shot the glass should not be full. This rule is broken however in some cases to introduce new techniques in film such as jump cuts and montages.4

Jump cut: a sudden often jarring cut from one shot or scene to another without intervening devices (as fade-outs); broadly: an abrupt transition (as in a narrative)5

Montage: the production of a rapid succession of images in a motion picture to illustrate an association of ideas6

5. 6. Definition from Merriam Webster Dictionary
Figure 5: Jean-Luc Godard's film Breathless is a collection of sharp jump cuts. Two stills are taken from the movie per second. This clip contains five cuts over ten seconds of duration.
When Jean-Luc Godard was asked to shorten his 1960 film, Breathless, from two and a half hours to one and a half hour, instead of shortening each shot so that the continuity of the scene remained, he cherry picked and cut out entire shots.

“...first films are very long...instead of slightly shortening one [shot] and then slightly shortening the other, and winding up with short little shots of both of them, we’re going to cut out four minutes by eliminating one or the other altogether, and then we will simply join the [remaining] shots, like that, as though it were a single shot.” - Jean-Luc Godard

BREATHLESS (1960)

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Figure 5: Jean-Luc Godard's film Breathless is a collection of sharp jump cuts. Two stills are taken from the movie per second. This clip contains five cuts over ten seconds of duration.
Sergei Eisenstein used montage in his 1928 film October: Ten Days That Shook the World to show relationship between apparently connected things. He described this technique as “intellectual montage.”

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ARCHITECTURAL PRECEDENTS

1. Four Sports Scenarios
2. City Culture of Galicia
3. Santa Catarina Market
4. Yokohama International Port Terminal
FOUR SPORTS SCENARIOS

Architects: Giancarlo Mazzanti + Felipe Mesa
Location: Medellin, Colombia
Year: 2010
Photograph: Iwan Baan

“The north and south façades are open to the let the major winds pass and the east and west façades have the tribunes and eaves that control the morning and the afternoon sun. In this way we are inside of a single and perpendicular bioclimatic diagram”10 - Architects

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CITY OF CULTURE OF GALICIA

Architects: Peter Eisenman
Location: Santiago de Compostela, Spain
Year: 2012

Peter Eisenman creates a topographic surface and then extends roads from the city to create circulation paths within the complex. The project itself is one million square feet and is conceived of six buildings.

Access Roads
SANTA CATARINA MARKET

Architects: EMBT (Enric Miralles)
Location: Barcelona, Spain
Year: 1997-2005

Although Santa Catarina Market is an example of lofted surface condition there is potential of rupture. You see this at the two breaks in the surface (highlighted in red) that end up creating sky lights.

SANTA CATARINA MARKET
Architects: EMBT (Enric Miralles)
Location: Barcelona, Spain
Year: 1997-2005

Roof Surface
Primary and Secondary Structure
Existing Walls
YOKOHAMA INTERNATIONAL PORT TERMINAL

Architects: Foreign Office Architects
Location: Yokohama, Japan
Year: 2002

Although Yokohama International Port Terminal is an example of lofted surface condition there is potential of rupture. You see this at the four breaks in the surface (highlighted in red) that end up creating outdoor amphitheater, viewing area, and opportunities to insert large curtain walls.

YOKOHAMA INTERNATIONAL PORT TERMINAL
Architect: Foreign Office Architects
Location: Yokohama, Japan
Year: 2002

Parking Level
Terminal Level
Public Park Level
Figure 18: Every fourth section has been replaced by a random section to create sharp cuts in the gradual changes of the surface.
Figure 18: Every fourth section has been replaced by a random section to create sharp cuts in the gradual changes of the surface.
The Empire State Plaza provides ideal site conditions to test form & functional multiplicity through disturbing continuity due to its complexity in terms of history and its relationship to the adjacent neighborhoods. The entire plaza acts like a city within a city. It is so deeply integrated with the freeway infrastructure of the city that the workers on the site never engage the city itself. Like aliens they arrive in their pods (cars) and after work they are spit back onto the Mall arterial, on their way to the suburbs.

The plaza consists of ten buildings, which include: a forty-four story main office tower, four twenty-two story office towers, a seven story Justice Building, nine story Legislative Office Building, a six story (one thousand two hundred feet long) Swan St. Building, the Meeting Center (also known as The Egg), and an eight story Cultural Education Center, which also contains the Archives Center, the State Library, and the State Museum. Furthermore the six story podium, which elevates the entire complex, contains parking, service areas, mechanical systems, and laboratories.14

EMPIRE STATE PLAZA and ROCKEFELLER PLAZA
Empire State Plaza was a pet project of Nelson A. Rockefeller, who was the governor at the time, and it was perhaps one of the most expensive projects ever undertaken by a state government for its office workers.

Rockefeller wanted to get rid of 100 acres of poor neighborhoods that were so embarrassing and, according to him, had no space in the elite status of Albany.\textsuperscript{15}

\textbf{EMPIRE STATE PLAZA HISTORY}

Empire State Plaza was a pet project of Nelson A. Rockefeller, who was the governor at the time, and it was perhaps one of the most expensive projects ever undertaken by a state government for its office workers.

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Drawing received from the architect on site
The proposed program is inspired from the informal existing uses on the site. It mainly aims to introduce several public activities in order to open up the plaza to the immediate context.

### EVENT SPACE 30 000 SF
- Albany film festival (indoor & outdoor)
- Theater
- Weekend Farmer’s Market
- Ice skating
- Offices 1 000 SF
- Storage 5 000 SF
- Bathrooms 500 SF

### PARK 50 000 SF
- Children’s play ground
- Basketball court
- Tennis court
- 5k Running track
- Meditation Garden 5 000 SF
- Storage 2 000 SF
- Bathrooms 500 SF
DESIGN PROJECTIONS

Disturbed continuity will do for architecture that time lapse did for photography or jump cuts and montage techniques did for film. It will encourage designers to step away from singular, monolithic, and absolute solutions to complex problems. In case of the Empire State Plaza the singular narrative that relies so heavily on vehicular traffic and ignores the immediate context needs to be reevaluated. By allowing the history and the surrounding urban context to coexist with the current singularity and layering them one on top of another will give way to functional multiplicity.
GORDON MATTA CLARK (1943-1978)

Gordon Matta-Clark carved or cut out sections through buildings most of which were scheduled to be destroyed. He called his interventions “anarchitectecture.” This technique provides a good strategy for inserting additional program into the Empire State Plaza.


An overview of various works by Edgerton.


The book contains a collection of essays by Peter Eisenman. There are several essays on form-form problem and basic formal understanding.


Peter Eisenman goes through ten projects and explains their formal qualities. It contains good diagraming techniques.


The book explains symbolism in architecture with a focus on modern architecture of 19th and 20th century.

Godard, Jean-Luc. “A bout de souffle (Breathless).” Recorded 1960. Fox Lorber Films. 2001. DVD


Good for an overview of form-function problem.


The book goes through details of various roof connections. This will be important in the development phase of my project.


Sustainability is a major part of my argument of multiplicity, this article will help me with water collection. Pragmatic and symbolic implications of the rain.


The book goes through several projects and explains the problems of dual thinking (top-down system v. bottom up system) and proposes an alternative condition _ transverse system.


The book goes through several projects with a focus on roof conditions. Basically it is a picture book for quick reference.


Rowe compares Palladio and Le Corbusier’s projects in formal terms. This article was very helpful for me in understanding basic formal issues.


Alongside formal issues technical matters also hold importance for my argument. This article will help me understand some of the technical issues behind curved roofs.
