the activated medium
modern architectural representation and transposition
process
representations
“In operations of transposition, conversions from one sign system to another are performed mechanically on the basis of part-to-part relationships without regard for the whole... internal relationships are transposed moved part by part from the graphic material or the spatial, by means of operations that are always partial, arbitrary, and incomplete” (Allen, 1998, p. 23.17).
“I was soon struck by what seemed at the time the peculiar disadvantage under which architects labour, never working directly with the object of their thought, **always working at it through some intervening medium**, almost always the drawing, while painters and sculptors... all ended up working on the thing itself which, naturally, absorbed most of the attention and effort” (Evans, 1997, p. 156).

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latent circumstance of the medium
Questions

What role do modern and traditional modes of architectural representation play in the act of making?

or simply - how do the things we draw (represent) influence the way they are made (built)?

and - how have these methods evolved over time?
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What role do modern and traditional modes of architectural representation play in the act of making?

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The modern architectural drawing has become a system of prosaic information transcription and it is having an adverse effect on our built environment.

*Actors: representations*
*Action: transposition*
*Object: physically manifested buildings*

- Representations heavily influenced by changes in modern building industry standards
- Functional demands
- Computer for efficiency - disconnect to a meaningful practice
- Un-questioned and un-examined change in medium
- Prosaic information transcriptions.
- What is the status and future of the architectural representation?
“We shape our buildings, and then our buildings shape us.”

-Winston Churchill
History of Representational Events and Mediums

F9: Plan drawing of St. Gall Switzerland - Believed to be the only surviving architectural drawing before the 12th century. (Unknown, 2004-2012)
The Middle Ages

• Master builder & guilds
• Making and thinking were the same act
• 1 to 1 scale, on site, detail, and Styles

“First, all skills, even the most abstract, begin as a bodily process. Second... technical understanding develops through the powers of imagination: The first argument focuses on knowledge gained in the hand through touch and movement. The argument about imagination begins by exploring language that attempts to direct and guide bodily skills” (Sennet, 2009, p. 44).

-Richard Sennet in “The Craftsman”
Renaissance & Perspective

- artistic experiments with perspective and optics
- Leone Batista Alberti (1404-72) compiles a written treatise on one point perspective
- “not by deceptive appearances” but “exactly on the basis of controllable measures.” (Gomez, 2009, p. 27)
- geometric quantification of space
- making of decisions prior to construction via drawing and verbal exchange - “Architect Builder”
- elevation of architecture from that of a labor to that of a science-art
- catalyst for society to view (and desire to view) architecture and space in a quantifiable way.
- architects role becomes one of measurement, geometry, and drafting, as separate from physical building
Post-Perspective Developments

- Perspective drawings, birds-eye depictions, plans, sections, and elevations
- Axonometric revival - “to represent the actual space of an object rather than an object in space” (Scolari, 2012)
- Refinement of styles and the geographically broad development of architectural drawing conventions.
“Because of the interaction of their material qualities with the conceiving of future buildings, the various kinds of drafting paper... should be taken into account as inspiring the more meditative aspects of architectural factures”

-Maro Frascari in *From Models to Drawings*
The Camera & Imagery

“I’m an eye. A mechanical eye. I, the machine, show you a world the way only I can see it... I coordinate any and all points of the universe, wherever I want them to be. My way leads towards the creation of a fresh perception of the world. Thus I explain in a new way the world unknown to you”

-Dziga Vertov excerpt from Kino Eye Manifesto

“When the camera reproduces a painting, it destroys the uniqueness of its image. As a result its meaning changes. Or, more exactly, its meaning multiplies and fragments into many meanings” (Berger, 1977, p. 17).

“Still photography’s meaning and poetry come from its incompleteness. A photograph can imply a narrative but it never really is narrative. It can describe but it explains very little... A photographer combines a perception, with an understanding of its transformations” (Shore, 2010).

“We read a scene in a novel or the report of some event in a newspaper and, according to the greater or lesser effectiveness of the text, we are brought to witness the scene as if it were taking place before our eyes, or at least witness certain fragments or details of the scene that are singled out” (Calvino, 1988, p. 83).
Model[Making]

F12: Domenico Cresti di Passignano’s Painting *Michelangelo Shows Pope Paul IV the Model of the Dome of St Peter’s*, 1620 (Dunn, 2010)

• used throughout history
• less [re]-presentational?
• depth and the material void

“in its role as a miniature isomorph of the building, the model has on occasion simulated stability where in fact there was none, and it has also concealed many a compositional and distributional uncertainty.” (Scolari, 2012, p. 137)
The Computer

“All media work us over completely. They are so pervasive in their personal, political, economic consequences that they leave no part of us untouched, unaffected, unaltered. The medium is the massage. Any understanding of social and cultural change is impossible without a knowledge of the way media work as environments. All media are extensions of some human faculty - psychic or physical.”

- Quentin Fiore in The Medium is the Massage (1967)

• power of a tool
• illusion & latency
• digital crafting?
“Societies have always been shaped more by the nature of the media by which men communicate than by the content of the communication” (Fiore, 1967)

“We look at the present through a rear-view mirror. We march backwards into the future.” (Fiore, 1967)

- Ethical use of technology
- the thing vs the experience
middle ages - master builder
rennaisance - drawing revolution
modern practice - multiplication and diversification of medium
potential future model of “closeness”
First, all skills, even the most abstract, begin as a bodily process.

Richard Sennet - The Craftsman

Drawings would be neither interesting nor productive, if they showed us what we can otherwise or normally see without them


what do representations do?

potential future model of “closeness”
Theoretical Goals

1) Use representations to enhance the “making” or “crafting” of architecture.

2) Use representation and representation technology to **reveal** and study qualitative spatial design attributes.

3) Propose ways to integrate goals 1 and 2 into modern practice.
The Data Center

- "Tubes" By Andrew Blum
- "Data Space" - Publication From CLOG
Why Data?

ACCORDING TO THIS, THE PLANET EARTH WAS ONCE POPULATED BY HUMANS, THEN IN 2012...

...THEY ALL MOVED TO THE CLOUD.
“anti-monuments that declare their own un-importance”

-Andrew Blum
Tour and Expansion
**Major Elements**

**Physical Exchange:**
The physical point where fiber optic cables are connected and exchanged.

**Cooling system:**
A sustainable way to cool the buildings servers and equipment.

**Power Generation:**
A sustainable way to supply the buildings massive energy demands.

**Stacks:**
A physical volume for archiving general data.

**Vault:**
A more private volume for archiving restricted access data.

**Lens:**
A point of focus to promote an ethical relationship to technology.

**Data Garden:**
Gathering space for the public to interact both physically and digitally with the building and each other.

**Auxiliary Heat Exchange:**
The nature of data centers causes them to put off a lot of heat. This resource will create a potential for seasonal alternate uses.
Siting a Data Center

- Geographic Diversity
- Disaster Avoidance
- Low power cost - robust & reliable
- Inexpensive cooling
Siting a Data Center
across from site looking southwest
site sketch & time-lapse
Design Challenges

• How to design something timeless, out of a building program that is so timely

• How to reflect the culture and specificity of place through a typology that is so universal, undefined, and pragmatic

• Creating culturally significant architecture without a museum, theatre, or celebratory event
initial concept

...with model
developing site layout
adjusting configuration for more open street side
process modelling
adapting to actual site conditions
interactive plaza
thinking about user arrivals
Movement + Dwelling

Is a warm place to stop and dwell within a network of movement. A place within a connection of locations.

Not symbolic of movement!!

Is movement itself.
earth dwelling idea

EARTH DWELLINGS
Schematic Site Plan

- parking
- data center
- public landscape
Plan / Elevation Process
Plan / Elevation Process
Structure
29,600 or approximately 91 stalls

\[ \times 2 \times 3 \times 4 = \text{approximately 364 stalls total} \]
entry space
Vaults

Upper level "vault" view looking north

PAN EL: INSIDE MOVABLE FLOOR GRID
STRUCTURAL CORE/BUILDING CONDUIT
COLD WATER SUPPLY
Materiality
Material Details
structure & spaces
photo-like
Gallery Roof
Cinimetric Measurement
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• a way of thinking
• you represent that which you are concerned with
• material knowledge
More... Questions... Challenges

Who cares?  How can we create a more non-destructive environment for architectural process?  Is there such thing as an ethical relationship to technology?