



Design Communication II /// ARCH 222/// AAA /// Spring 2018

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Graduate Employee: Ryan Maruyama

Exercise 1.2 Purpose

To learn to differentiate relationships and create visualization tools to test design possibilities. (Lecture 1.3)

Exercise 1.2a Description /// Generative Diagrams

Use diagrams to synthesize (create) relationships in your Case Study. In the lecture we showed examples: **circulation from existing and new ideas, program, structure, volumetric parti, spatial modulation, 'fit to human scale' and natural ecology.**

Consider first diagrams (without scale) and then drawings (with scale), see reading *Between Diagrams and Matter* by Alejandro Zaera-Polo for diagrams/drawings. Control lines or text (line type, line weight, color, transparency, etc). **NO TEXT.**

Method, Generative Diagram:

- // 1. Observation: "d" diagram (communicate a single relationship)
- // 2. Catalog: differentiate (develop a visual language of line weight, line type, dot size, line geometry, transparency, etc)
- // 3. Calibrate: pattern (attenuate differences until a pattern emerges- you should be able to turn off the background)
- // ...you have a generative design tool...
- // 4. DESIGN: consider something that shifts the pattern (ie, use the tool)

Learning Objectives

- To learn to create a diagram in Adobe Illustrator.

Evaluation Criteria

- Ability to modify media in Adobe Illustrator.
- Proficiency to diagram in Adobe Illustrator that will inform synthesis of organizational strategies.

Deliverables

[1] 8 1/2 x 11, 4th degree generative diagrams with two-word title, name variations/conditions of gathering.

Schedule

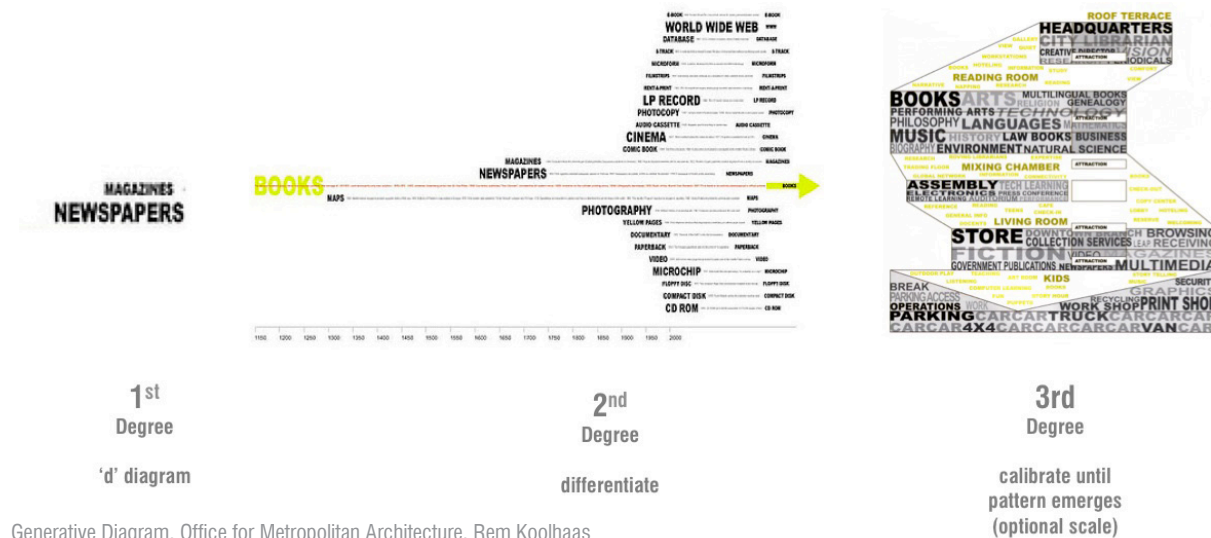
Assigned: Tuesday, April 17

Upload Due: Monday, April 23, 11:59pm

Print Due: Tuesday, April 24, 8:00am

Programs

Adobe Illustrator, Rhino 3D



Generative Diagram, Office for Metropolitan Architecture, Rem Koolhaas



Purpose

To learn to use 3D modeling to test spatial relationships in the site and building relationships in Studio.

Exercise 1.2b Description /// Geometry

Use Rhino to generate 3D geometry. Focus on the simple volumes. Use move, delete and boolean difference. Do not render (We will learn this later in the term). Use the Make2D function and Illustrator to make elegant **line** diagrammatic drawings adding text, lines and a subtle highlight color.

Diagram gathering. Use Exercise 1.3a to generate new conditions of gathering.

Additive: Begin in plan and section to diagram conditions of gathering additively using a 12" x 12" x 10' timber unit.

Subtractive: Use the 10' x 10' x 10' cube of timber units provided on the AAA server, to 1) delete timbers and 2) move. Document your steps. Provide a series of 7 iterations. Five example conditions are provided, add two more. **See template.**

Learning Objectives

- To learn to make 3D objects in Rhinoceros
- To learn to create 3D diagrams in Adobe Illustrator.

Programs

Adobe Illustrator, McNeel Rhinoceros

Schedule

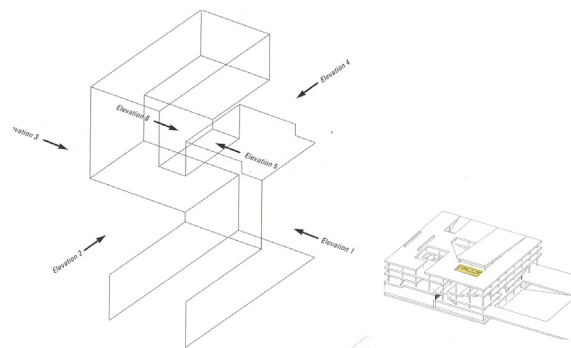
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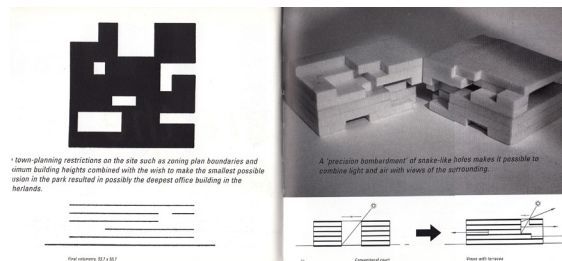
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Deliverables

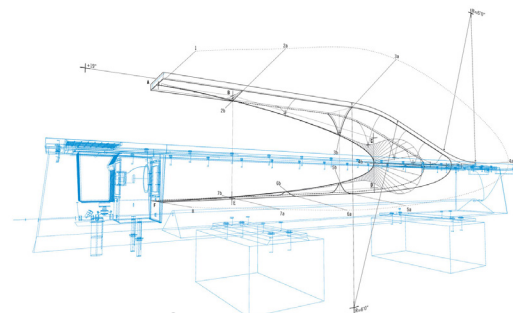
[1] 8 1/2 x 11, 1-3 3D perspectival diagrams in series.



Wooden House, Sou Fujimoto



3D Diagrammatic Drawings, VPRO Media Studios, MVRDV



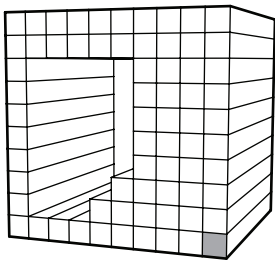
Pentagon Memorial, KBAS



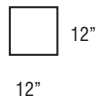
****Exercise 1.2b Template****

Diagram gathering. Use Exercise 3a to generative new conditions of gathering.

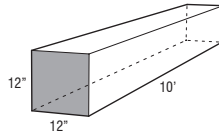
Additive: Begin in plan and section to diagram conditions of gathering additively using a 12" x 12" x 10' timber unit.



Final Outcome



Unit

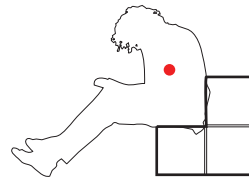
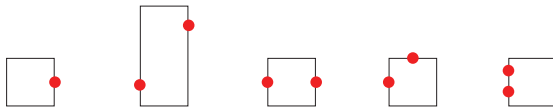


1. Solitude
2. Unfamiliar
3. Familiar
4. Companionship
5. Family
6. ?
7. ?

Gathering conditions:



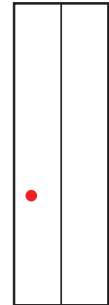
example diagrams from Exercise 3a



1. Solitude

Section

Plan

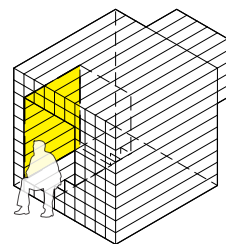
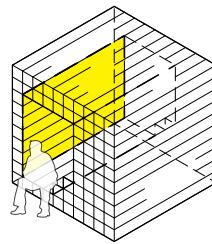
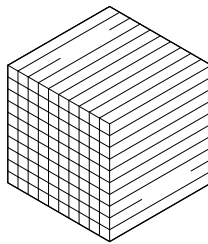




Exercise 1.2b Template

Diagram gathering. Use Exercise 3a to generative new conditions of gathering.

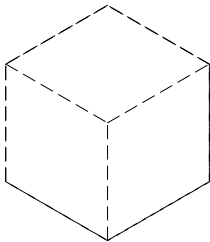
Subtractive: Use the 10' x 10' x 10' cube of timber units provided on the AAA server, to 1) delete timbers and 2) move. Document your steps. Provide a series of 5 iterations. Five example conditions are provided, add two more. **See template.**



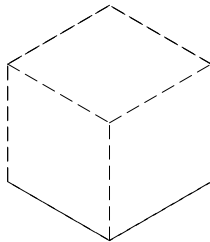
operation: *_delete*

operation: *_move _+z_5'*

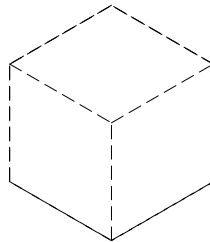
Example



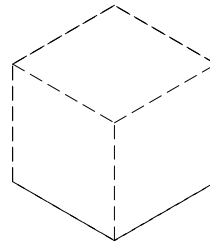
label:
operation:



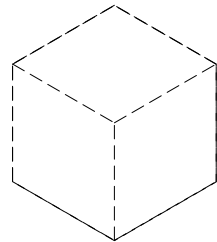
label:
operation:



label:
operation:

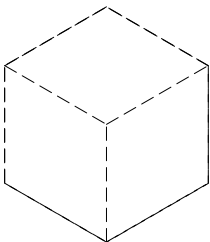


label:
operation:

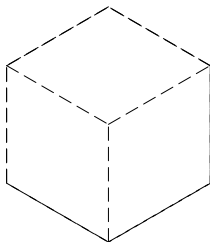


label:
operation:

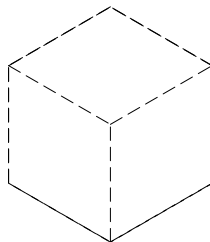
Delete



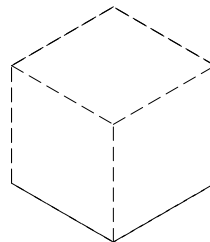
label:
operation:



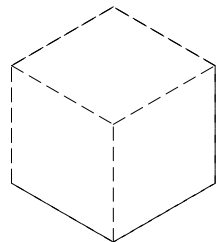
label:
operation:



label:
operation:



label:
operation:



label:
operation:

Move



Purpose

To learn to use make a 3D parti identifying important external forces (natural or anthropological)

**Use can use the Precedent for content.

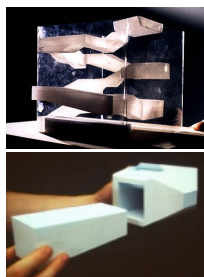
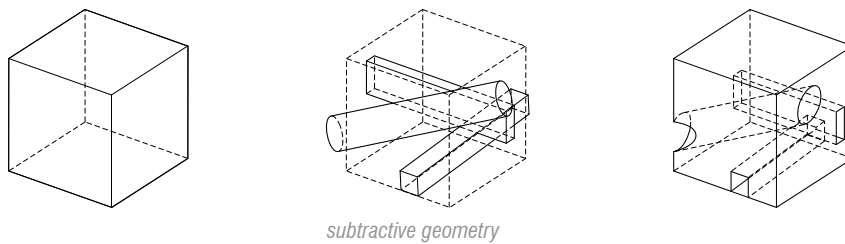
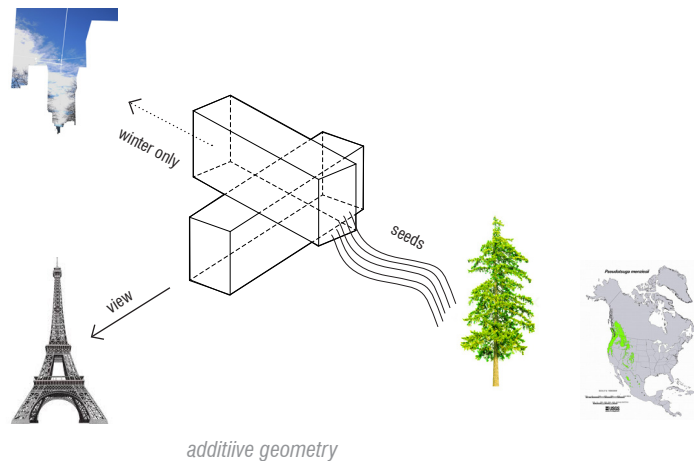
Exercise 1.2C Description /// 3D Parti

Use Rhino to generate a 3D Parti and series of plan sections via “clipping plane” and “make2d.”

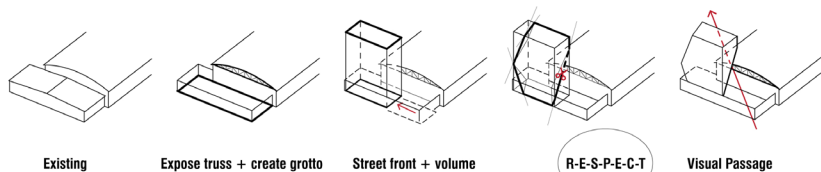
(1) Diagram external environmental forces that may inform your 3D parti (examples: views to trees, views to icons, solar orientation, thermal orientation, wind orientation, arrival circulation by foot or car, etc).

(7) Series of sections.

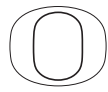
(7) Series of plans.



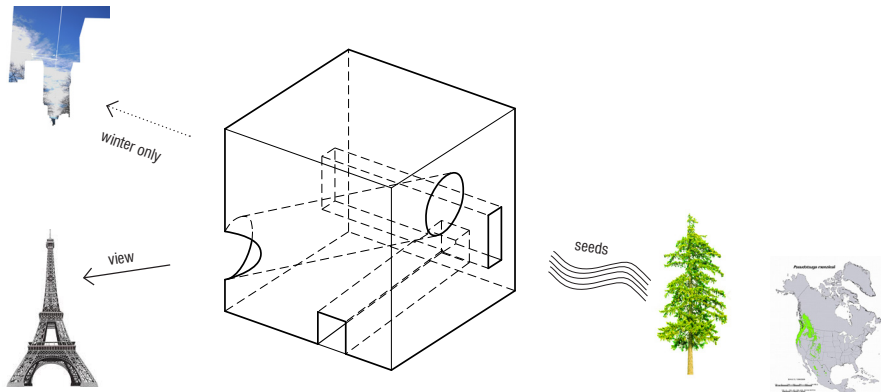
OMA, Dutch Embassy and Casa de la Musica



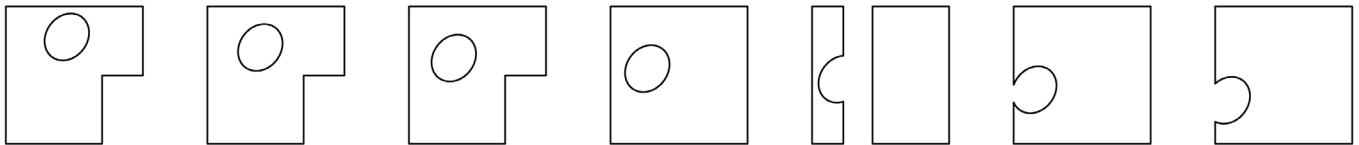
Speranza Architecture + Urban Design, Stephen Maher



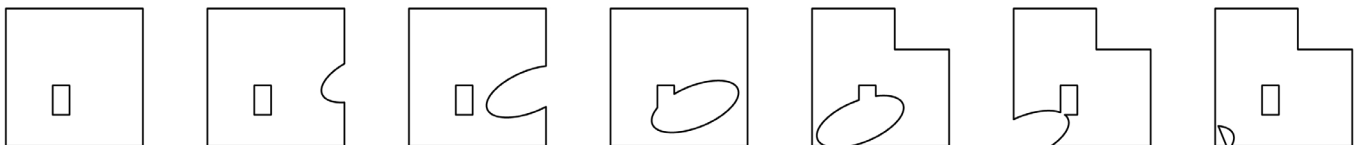
Exercise 1.2C Description /// 3D Parti



Example



SECTION



PLAN