

Graphics I_EVDA 541_ARST 451: Boutin + Parker Fall 2017
Assignment 5: Image Manipulations
Assigned: 2017.10.16
Due: 11:59 PM, 2017.10.22

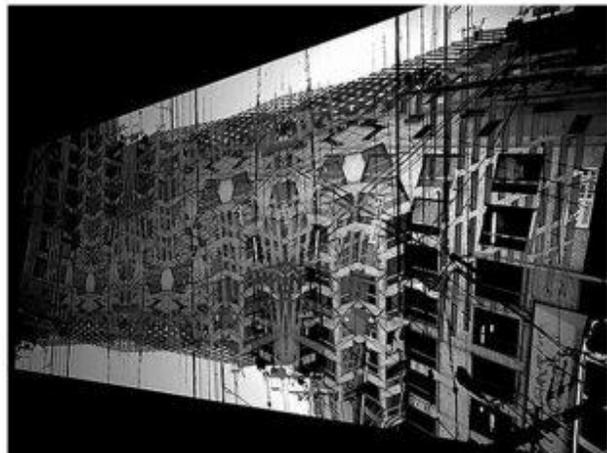
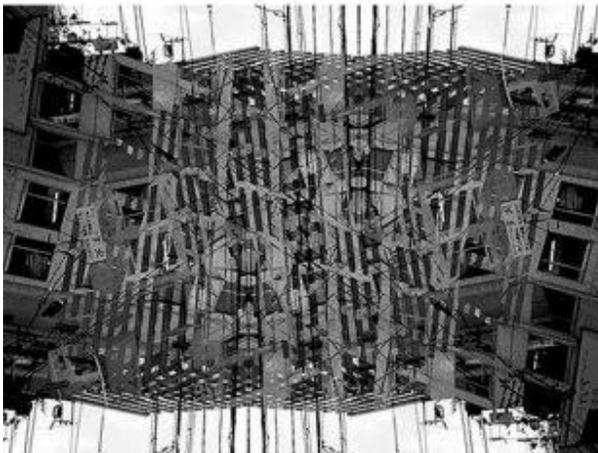
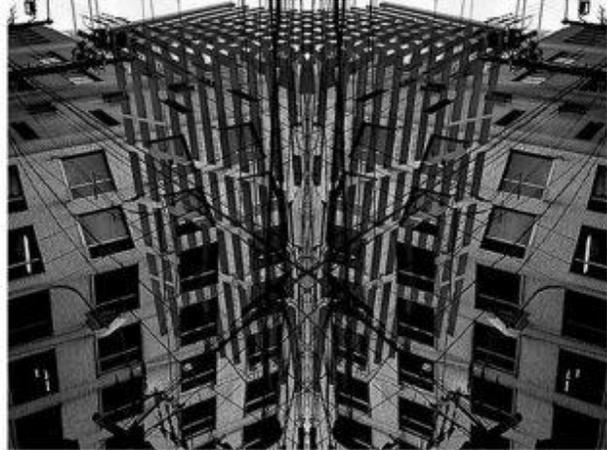


Image manipulation sequence. Original image manipulated using a technique of mirroring. Image by PALLALINK <http://www.pallalink.net/>

Description

Algorithms are sets of rules that produce outputs within the governing logics of the system they deploy – simply put, algorithms are recipes. In this assignment you will create a series of non-deterministic outputs by developing a strategy (algorithm) for the procedural distortion and manipulation of an image. The strategy will be a series of common commands (such as mirror, scale, rotate, crop, etc.) that will be applied to your image in three different software: Photoshop, Illustrator and Rhino.

Procedure:

Step 1. Select an image. The image can be relatively simple. Contrast is helpful as are geometric elements like lines, distinct color/tonal regions, or clear geometries.

Step 2. Develop an image distortion/manipulation strategy. This strategy should rely on simple manipulation techniques such as, mirror, rotate, skew, stretch, scale, move/translate, etc. Your strategy should be a **minimum** of 5 techniques.

Step 3. Describe the strategy as *Pseudo-code*. Pseudo-code is a way of outlining a set of procedures in shorthand without the need to understand coding languages. An example pseudo-code might be written as:

Select Image Region > Rotate 30 degrees Around Center Point > Mirror Along X Axis > Scale 15% Along the Y Axis > Mirror Along Z Axis > Rotate 17 degrees Around Lower Left Corner > Crop

Supplement your pseudo-code with diagrams that illustrate each step.

Step 4. **In Photoshop**, import your selected image and apply your image distortion/manipulation strategy. Refer to Deliverables for a description of the required outputs.

Step 5. **In Illustrator**, import your selected image and convert the raster image into vectors using the *live trace* command (note: this command will be covered in tutorial on Wednesday) Export the vector lines from Illustrator as a DWG file for use in Step 7.

Step 6. **In Illustrator**, apply your image distortion/manipulation strategy to the vector lines. Refer to Deliverables for a description of the required outputs.

Step 7. **In Rhino**, import the unmodified vector lines from Step 5. Apply your image distortion/manipulation strategy to these lines. Refer to Deliverables for a description of the required outputs.

Deliverables:

- A graphic describing your pseudo-code;
- From **Photoshop**: Sequence of images illustrating the distortion/manipulation produced through the implementation of your strategy.
- From **Illustrator**: Sequence of vector drawings illustrating the distortion/manipulation produced through the implementation of your strategy.
- From **Rhino**: Sequence of line drawings illustrating the distortion/manipulation produced through the implementation of your strategy.
- One composite image or drawing that situates your final output(s) within an “appropriate” urban context. This requires a critical evaluation of your outputs to determine how it might operate within an urban environment. Does your output operate as a building, a landscape,

infrastructure or something else? The imaged output should not operate as a stand-alone object, such as a piece of furniture, a painting in a gallery, or a wall application, but as a part of a larger system. Critically address how adjacencies between your output and its context might constrain and intersect it.

- **Compose all deliverables onto one 20" X 30" board.**

Bonus:

Automate your distortion/manipulation strategy by creating **actions** in Photoshop and Illustrator and a **macro** in Rhino (the steps for doing this will be covered in Wednesday's tutorial). Recursively deploy your image distortion/manipulation strategy. Run the action/macro 3X, 5X and 10X on your input image in all three software (Photoshop, Illustrator and Rhino) and compose these additional outputs on a second 20" X 30" board. Write a short paragraph that critically evaluates the use of automation with respect to your image manipulation strategy. Comment on how you might augment your strategy given the opportunities afforded through automation.

Post all deliverables to your blog by 11:59 pm on Sunday October 22, 2016.

Recommended Reading

Gage, Mark Foster. "Project Mayhem: Architecture in the Age of Dissensus," *Fulcrum: The AA's Weekly Free Sheet*, 18 (2011)

Johnson, Jason Scott; Vermillion, Joshua. "Exercises for Volumes and Aggregate Assemblies," *Digital Design Exercise for Architecture Students*. Routledge, New York, NY (2016)

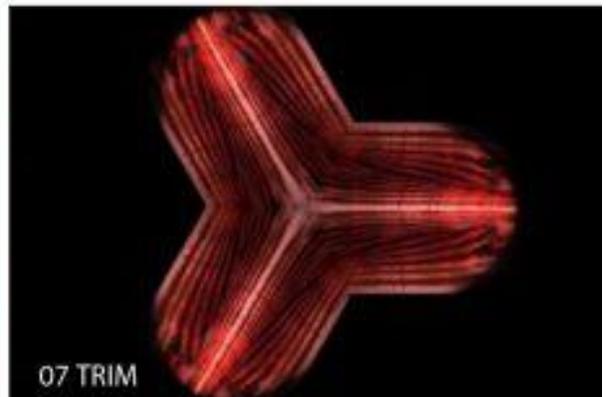
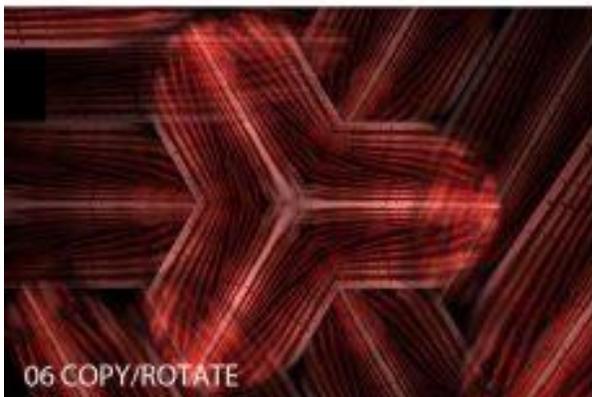


Image Manipulation Sequence: Bahar Khonsari