

Introduction to Computation

Assignment 2

Represent a natural phenomenon

Approach this assignment with a scientific understanding of “representation” that values operation rather than appearances. In the classification of art, we often use “representational” as synonymous with “figurative” and in contrast to “abstract.” In fact, all representation is an abstraction. A representation of a chess game, for example: “1. e4 c5 2. c3 d5 3. ed5 Qd5 4. d4 Nf6 5. Nf3 Bg4 6. Be2 e6 7. h3 Bh5 8. O-O Nc6 9. Be3 cd4 10. cd4 Bb4 11. a3 Ba5 12. Nc3 Qd6 13. Nb5 Qe7 14. Ne5 Be2 15. Qe2 O-O 16. Rac1 Rac8 17. Bg5 Bb6 18. Bf6 gf6 19. Nc4 Rfd8 20. Nb6 ab6 21. Rfd1 f5 22. Qe3 Qf6 23. d5 Rd5 24. Rd5 ed5 25. b3 Kh8 26. Qb6 Rg8 27. Qc5 d4 28. Nd6 f4 29. Nb7 Ne5 30. Qd5 f3 31. g3 Nd3 32. Rc7 Re8 33. Nd6 Re1 34. Kh2 Nf2 35. Nf7 Kg7 36. Ng5 Kh6 37. Rh7” (A 1996 game in which Garry Kasparov, lost to the IBM computer Deep Blue) looks nothing like a chess board. Consider that Ellsworth Kelly’s canonical drawing of the Seine represents an optical effect through an organizational structure—columns of pixels colored by a weighted random algorithm—that has nothing to do with the optical behavior of light reflecting off a fluid. Adapt the following the principle articulated by Jean-Pierre Hébert when discussing his work, *Six Transitions of Four Palettes Two by Two*, “They reveal not what I see in Nature, but what I think about Nature. They have to be approached and thought about at different distances and scales.” Begin by observing a natural phenomenon, then proceed with your process of interpreting, analyzing, and abstracting in the Processing programming environment. Embrace what is likely your non-expert level prowess at coding as a productive limitation. Embrace the reality that an artificial representation of a natural phenomenon will be profoundly imperfect. If you’re not sure what natural phenomena to choose, pick randomly from this list: cracking ice, fire, a growing tree, a field of grass in the wind, rock strata, metallic crystals.

Due 10/7: A first draft of your work as a video, image or drawing. Post to Instagram using the tag #risdIntroToComputationAssignment2. Speculate on the algorithms involved in one of the following works of art. Sketch, experiment, research and discuss with your colleagues until you reach a conclusion. Be prepared to present and discuss your findings in class.

Untitled: Computer assisted drawing, Paul Brown (1975)

Untitled, Jean-Pierre Hébert, (2001)

p-300b, Manfred Mohr (1980)

Programme 21 Band-Structures, Manfred Mohr (1970)

Untitled, Hiroshi Kawano (1972)

Untitled, Frieder Nake (1972)

Interruptions, Vera Molnár (1969)

Shoe-Field Map, Sonya Rapoport, (1982)

Large Landscape: Ochre and Black, Charles Jeffries Bangert and Colette Stuebe Bangert (1970)

Due 10/14: The final version of this work as a video, image or drawing. Post again to Instagram using the tag #risdIntroToComputationAssignment2