University of Texas at Dallas
Arts & Humanities
Fall 2013
Dr. Charissa N. Terranova

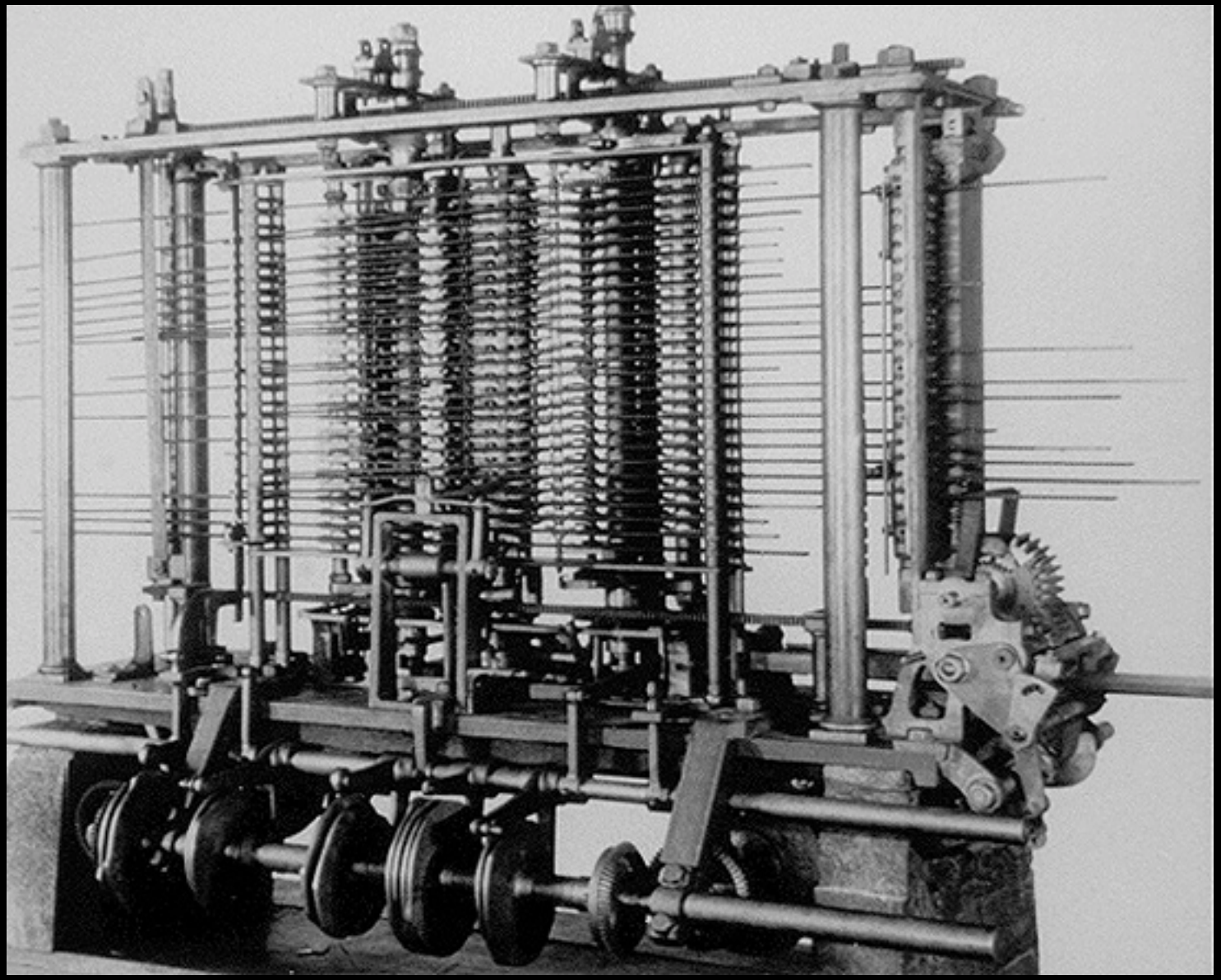
Contemporary Art History
AHST 3318-001
(88994)
M-W 2:30-3:45

AHST 3318-501
(88994)
W 7:00-9:45

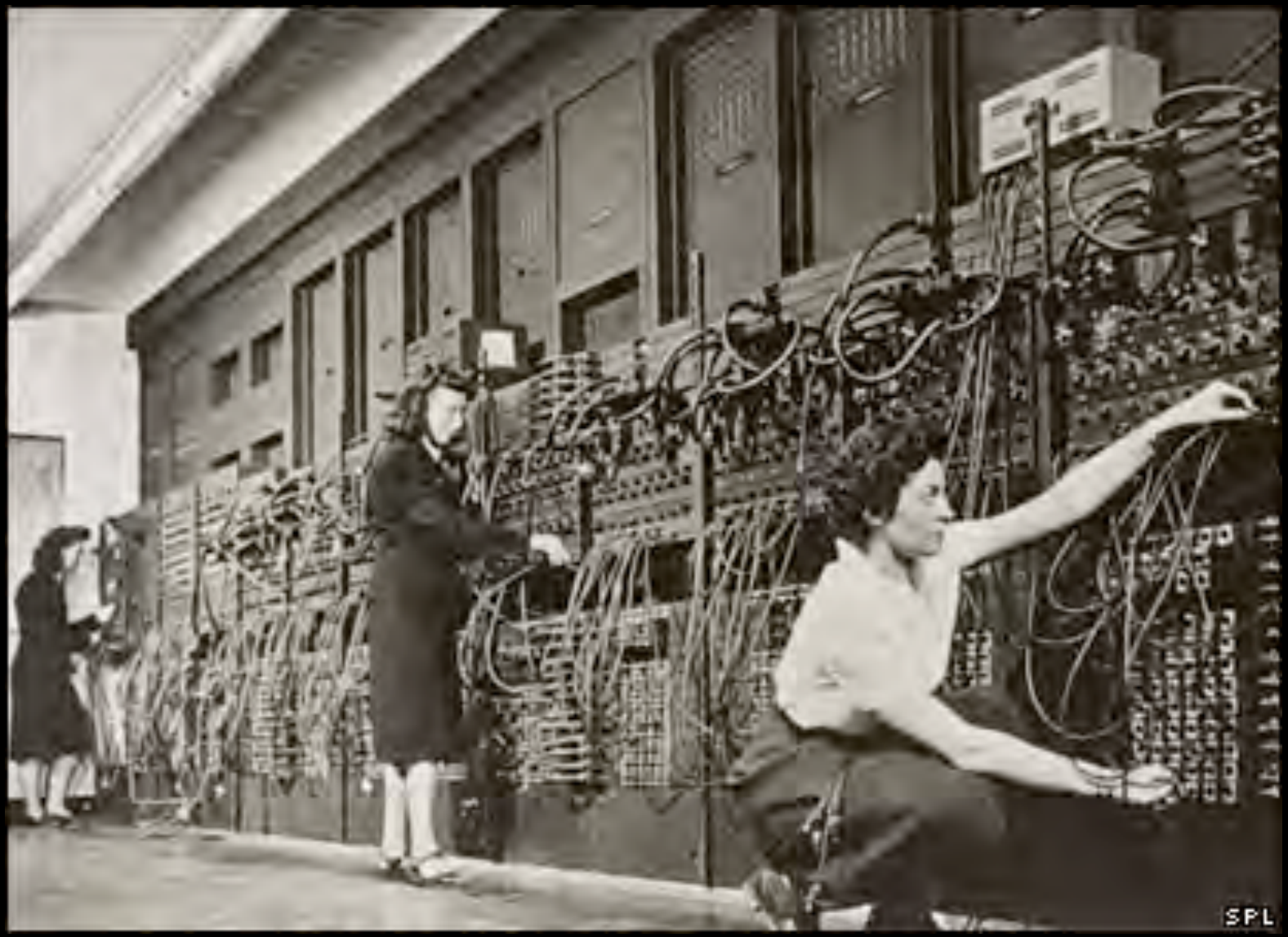
AH2 1.204
terranova@utdallas.edu

Office Hours: Wednesday 4:00-6:45
Office Location: JO 3.920

Monday November 5, 2013
The Rise of the Digital Image in Art: The Bell Labs, A. Michael Noll, and E.A.T.

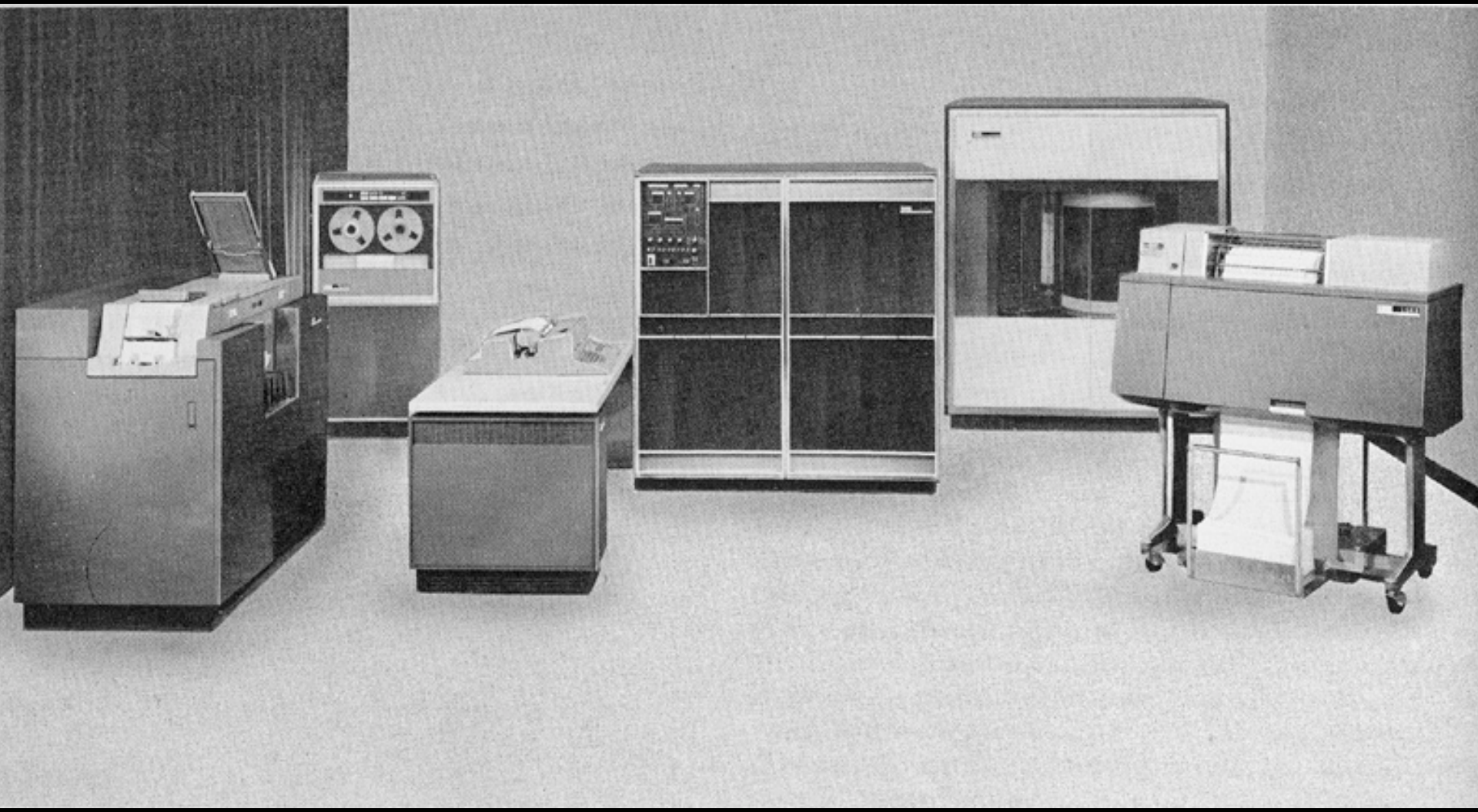


Babbage Engine 1822/1999
http://www.computerhistory.org/babbage/
Charles Babbage [1791-1871]

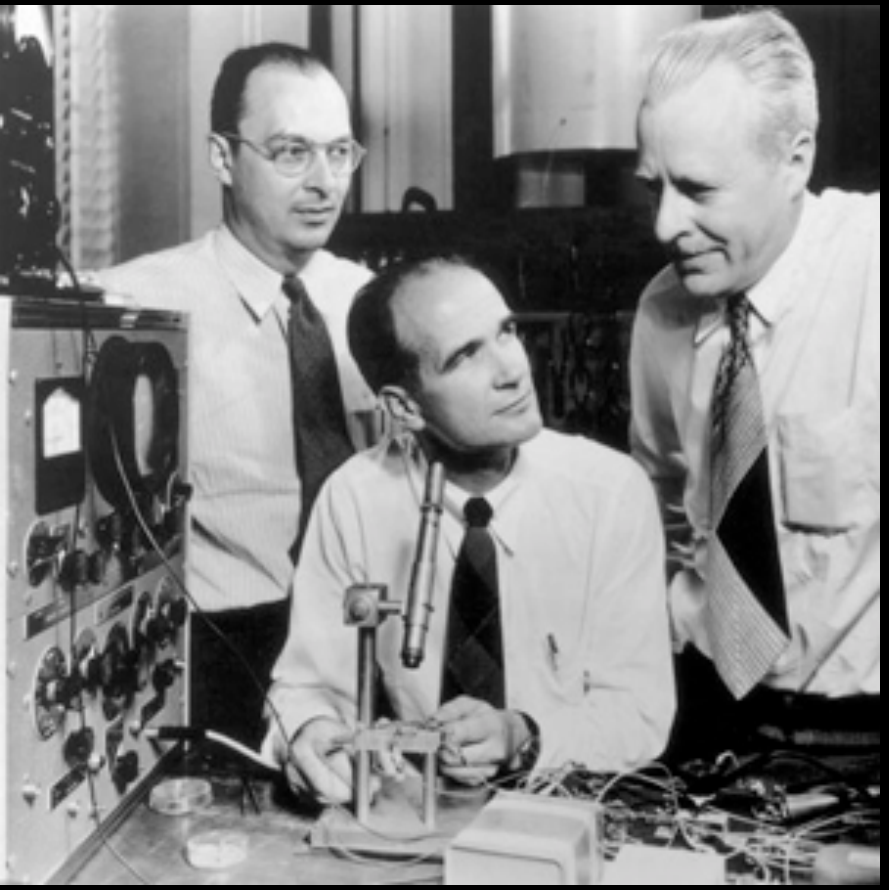


ENIAC [Electronic Numerical Integrator and Computer] Computer at the University of Pennsylvania, 1946, conceived by John Mauchly and J. Presper Eckert

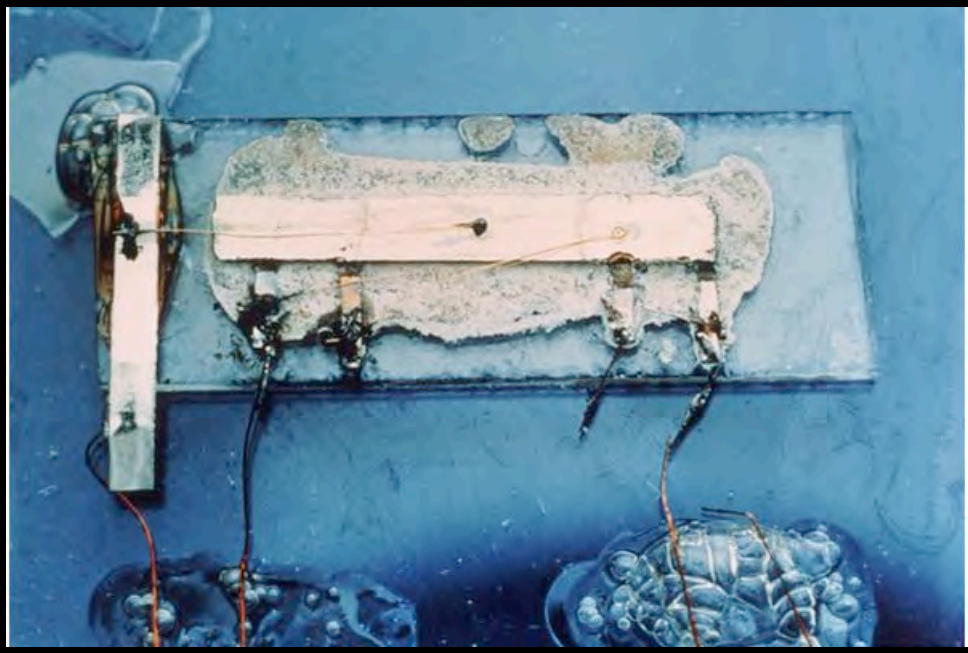
ENIAC vacuum tubes



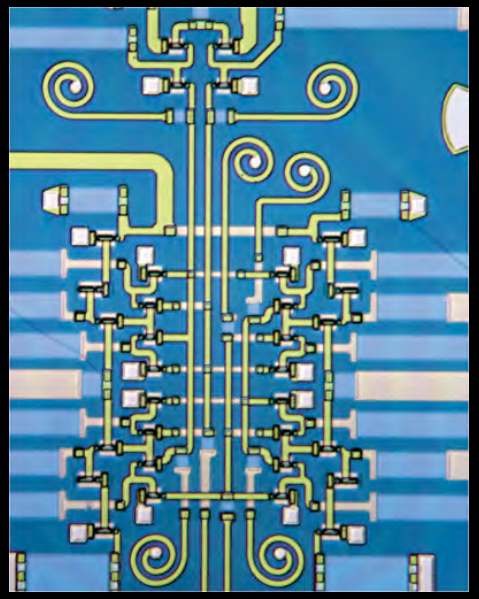
IBM 1401 Data Processing System, 1959



The Bell Labs team of John Bardeen, Walter Brattain and William Shockley won the 1956 Nobel Prize in Physics for their work in developing transistors.



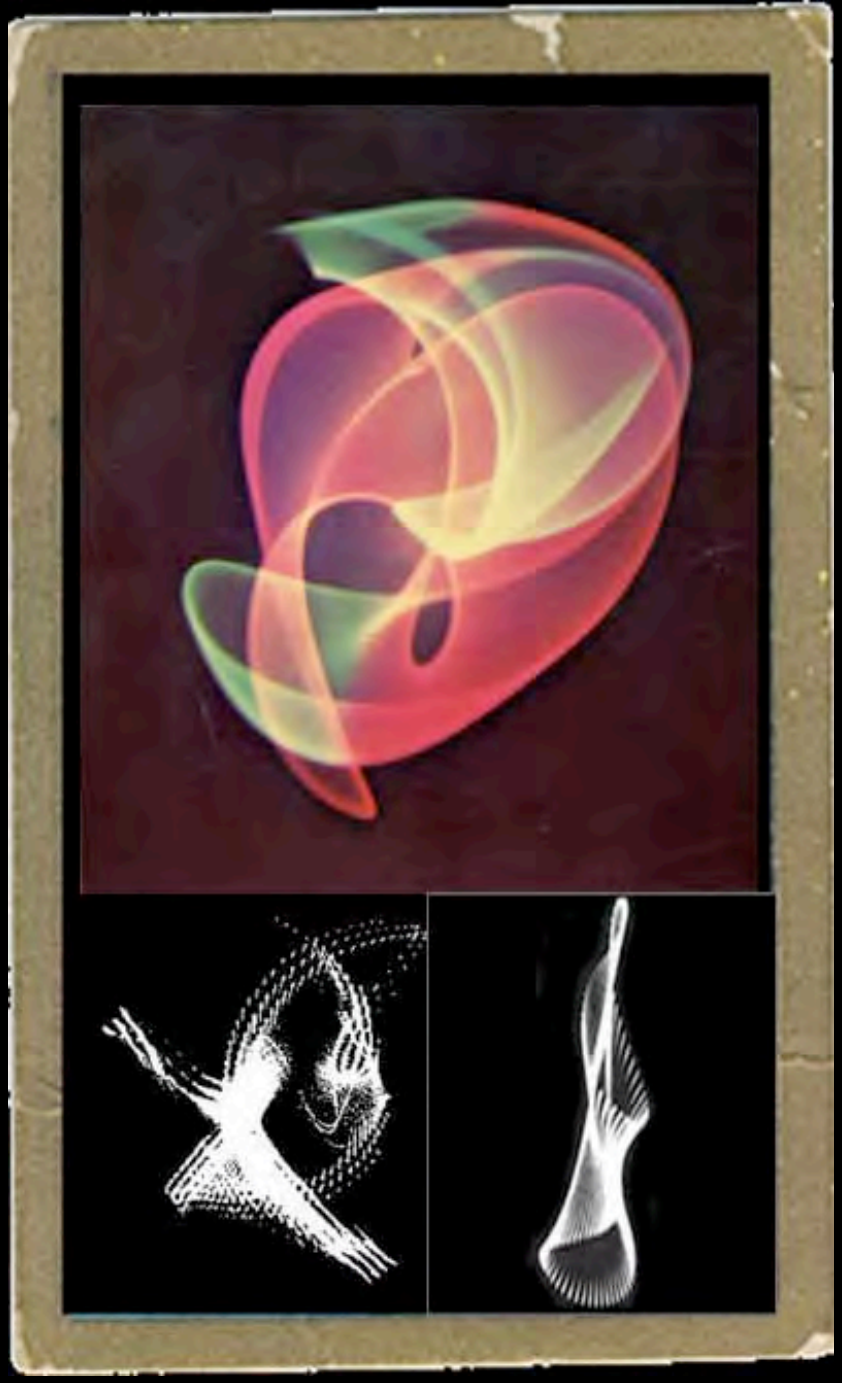
Jack Kilby's original integrated circuit, 1958



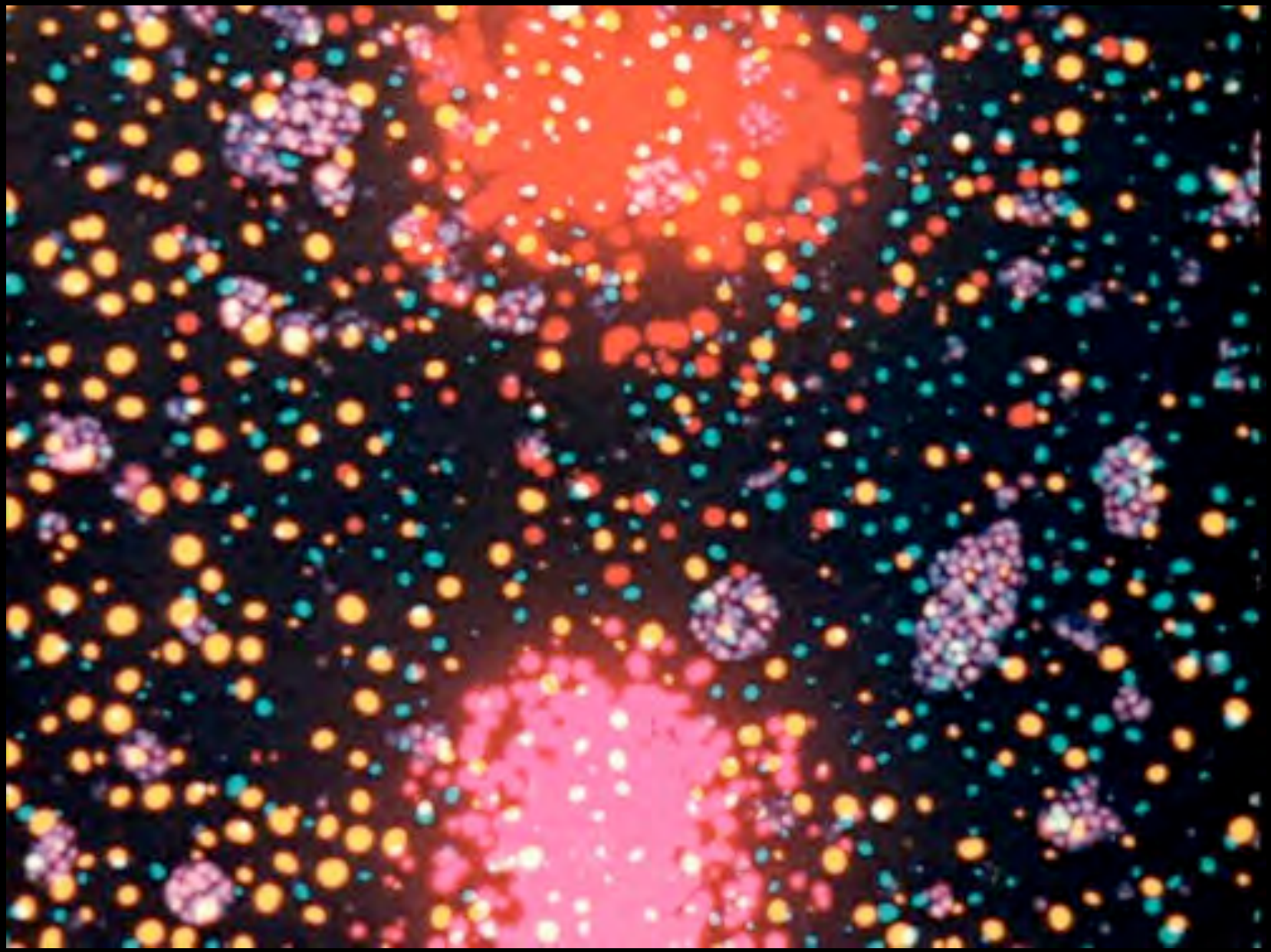
Integrated Circuit 1958

Microprocessors and personal computers, 1970s

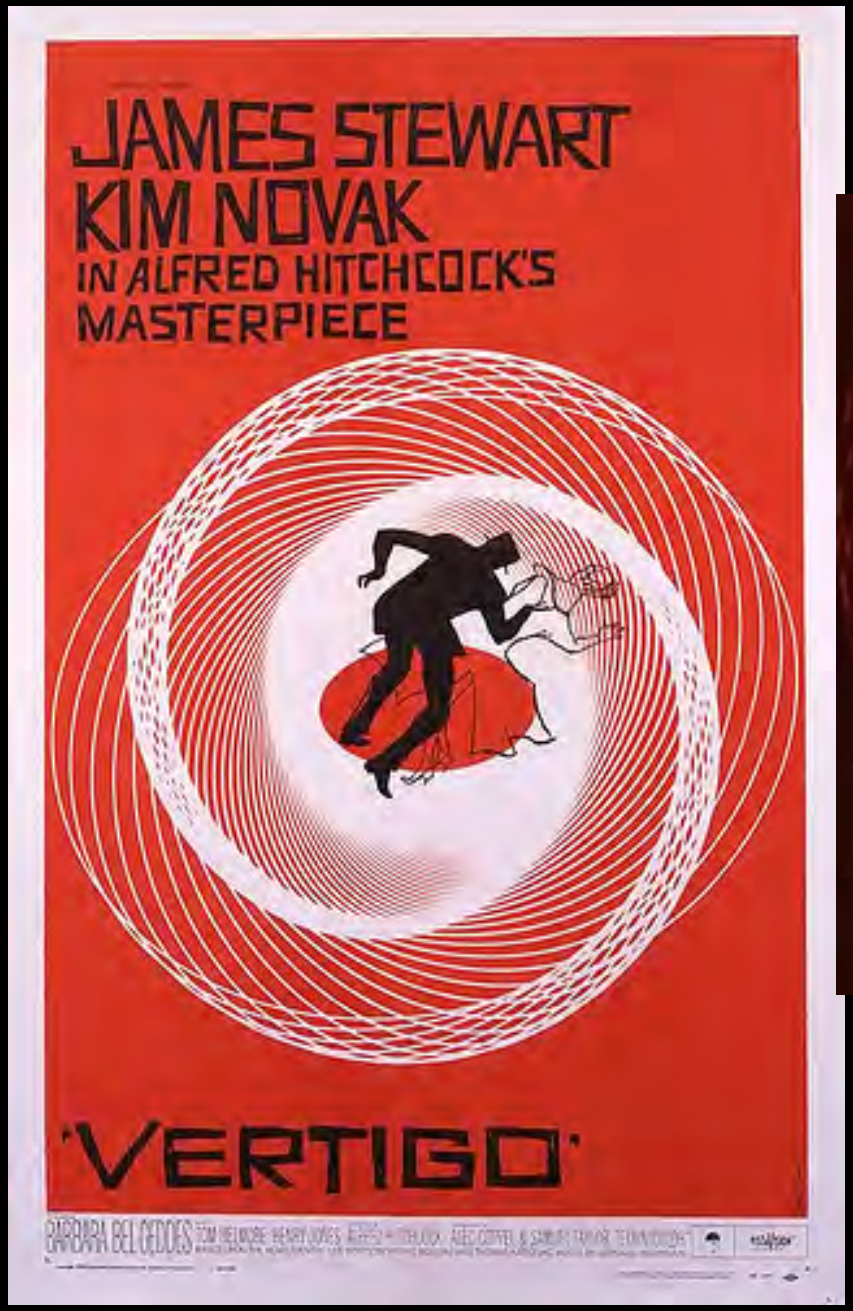
Ben F. Laposky with oscilloscope, 1956



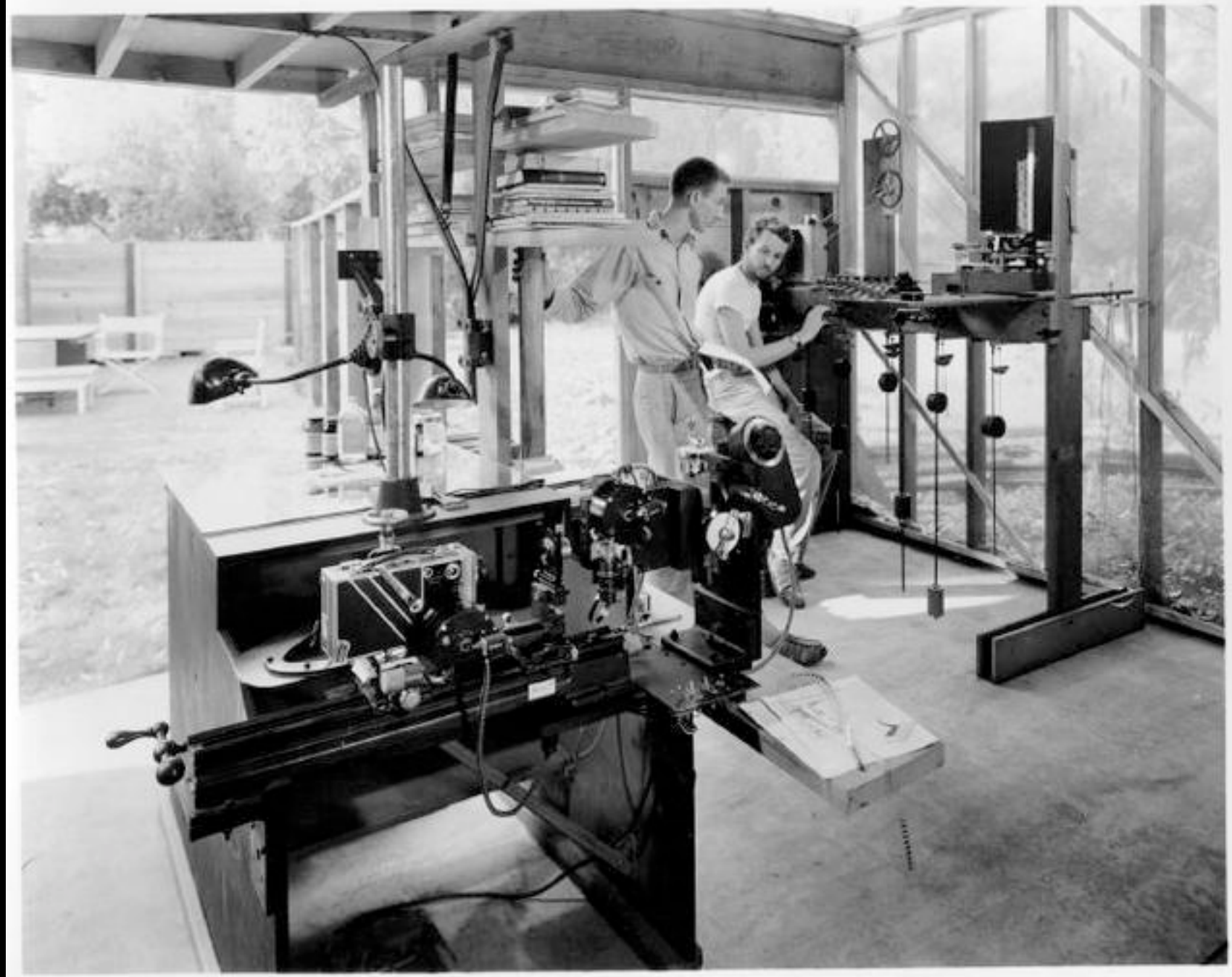
Ben Laposky, Oscillons, 1956

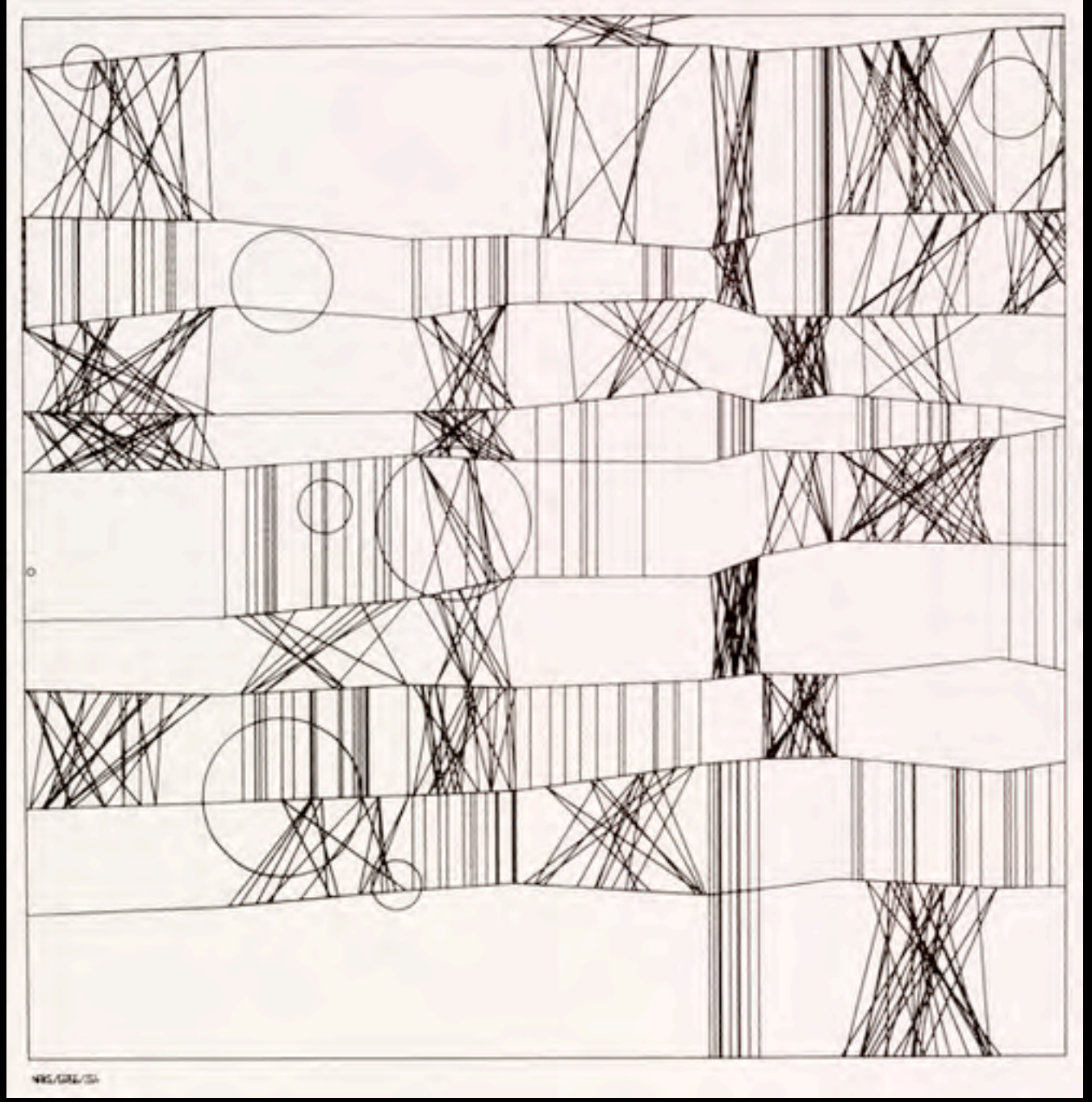


James Whitney, Yantra, 1950-57
http://www.youtube.com/watch?v=3lSnowrJvCM

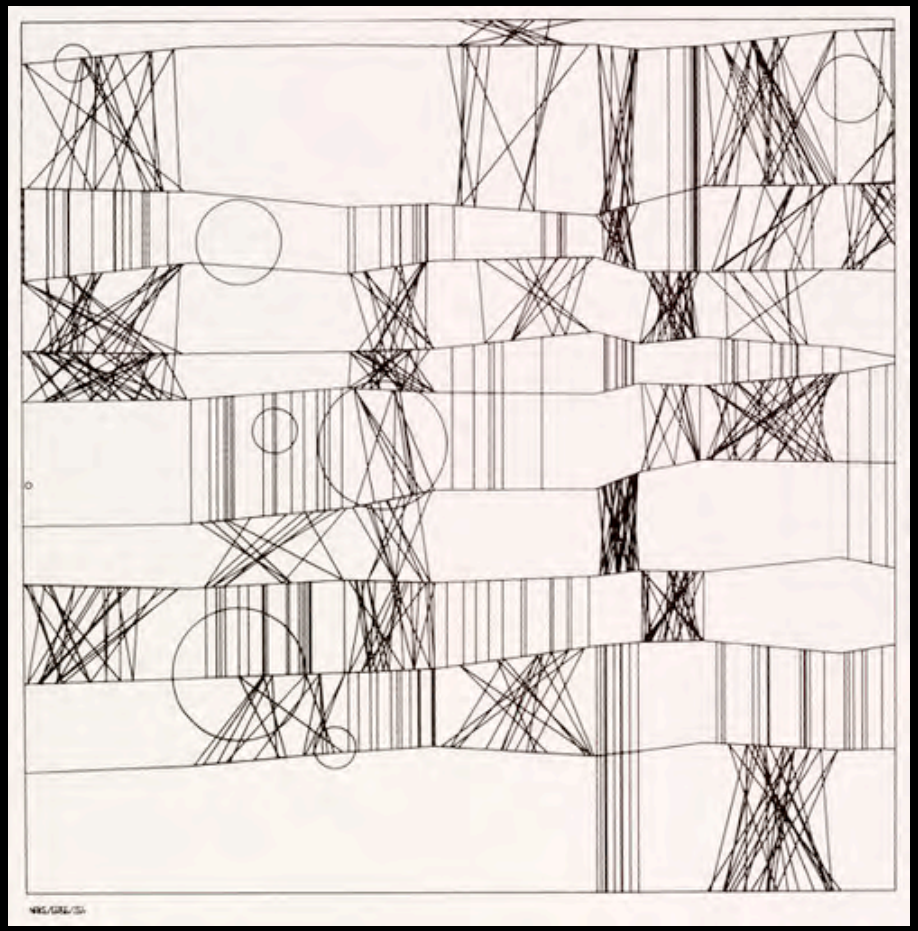


Saul Bass and John Whitney, Title Sequence to Alfred Hitchock's Vertigo (1958)
http://www.youtube.com/watch?v=5qtDCZP4WrQ





Frieder Nake, Homage to *Paul Klee* 13/9/65 No. 2, 1965

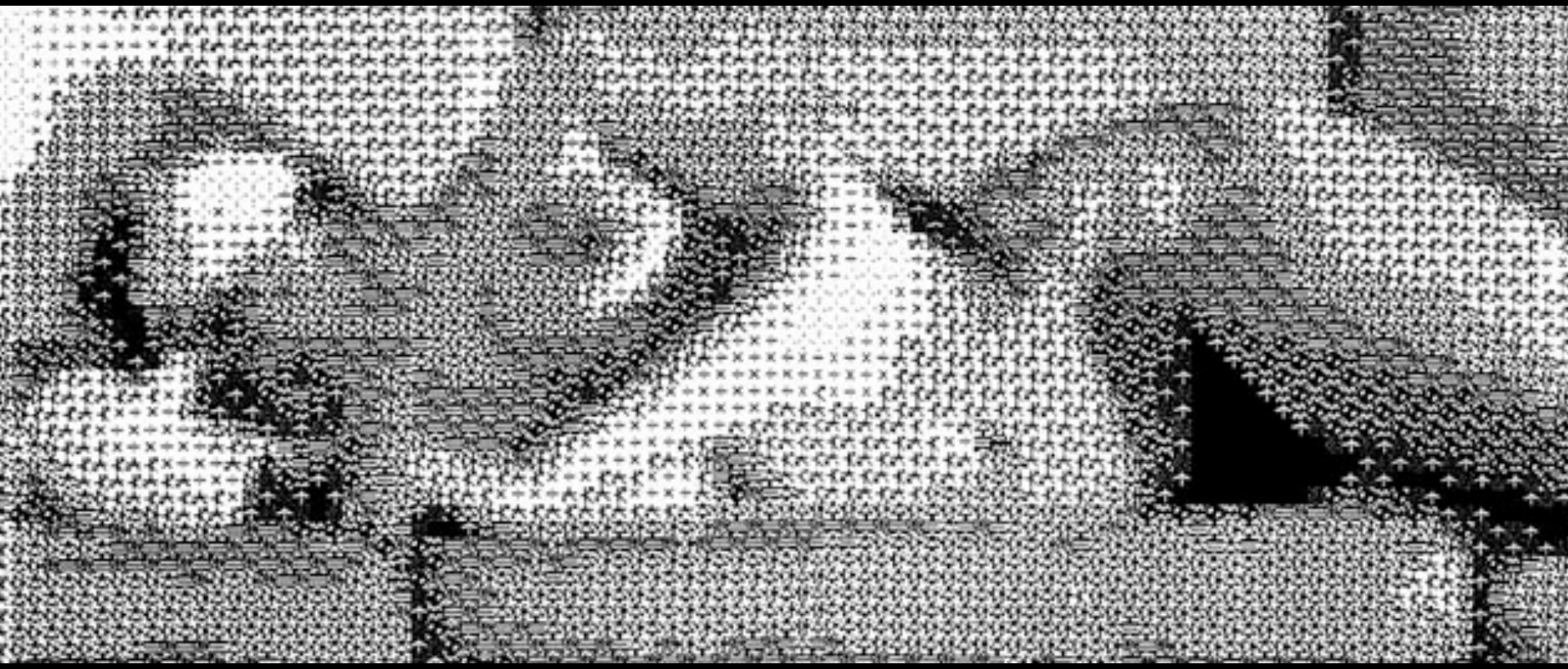


Frieder Nake, Hommage to *Paul Klee* 13/9/65 No. 2, 1965

Paul Klee, Haupt- und Nebenwege [Main and Sideways], 1929

Max Bense [1910-1990]

- *Information Aesthetic* (1957)
- The scientist's creative work to be swinging between "chaos and Gestalt" to reach a "whole" [Ganzes]
- There is "no substance without form" and "no reality without Gestalt idea", or "no ideality without matter"…
- Bense correctly stated that there are no specific aesthetic signs, rather aesthetic functions fulfilled in given contexts of interpretation. Firmly anchored in the realm of reality, Bense was obsessed with how much of the object represented in an art work is present and identifiable as such in the work. This is where he introduced the notion of semiotic information, i.e., degree of presence of the object in the material embodiment of signs participating in a work of art. The inverse of semiotic information is semioticity, i.e., degree of independence of the object from its representation. Later on, semioticity was to define the conventional nature of aesthetic artifacts.
- As Bense stated, art—and modern art especially—can no longer be grasped along classical lines with terms like proportion, symmetry or harmony, which stress contrasts and reject standards.
- Aesthetic process and physical world tend in opposite directions, and are different in principle: the world of physics is existent, that of aesthetics is constructed. Bense was convinced that a theory was lacking which could objectively evaluate this field and offer a ‹programming of the beautiful.
- His theory took the shape of an attempt to systematize basic aesthetic principles. The information aesthetics (1957) was based on the statistical analysis of art objects and consigns the subject—the recipient—to the background by substituting the usage of adequate rules in the aesthetic evaluation.
- Bense would later use the term “generative aesthetics,” which was to be understood as “the compound of all operations, rules and theorems through whose application to a quantity of material elements able to function as signs can deliberately and methodically generate in the latter aesthetic states (distributions and/or arrangements).”



Kenneth Knowlton and Leon Harmon, Studies in Perception 1, 1966

Stan Vanderbeek and Ken Knowlton, Poem Field No. 2, Life LIke, 1967
http://www.youtube.com/watch?v=BMaWOp3_G4A

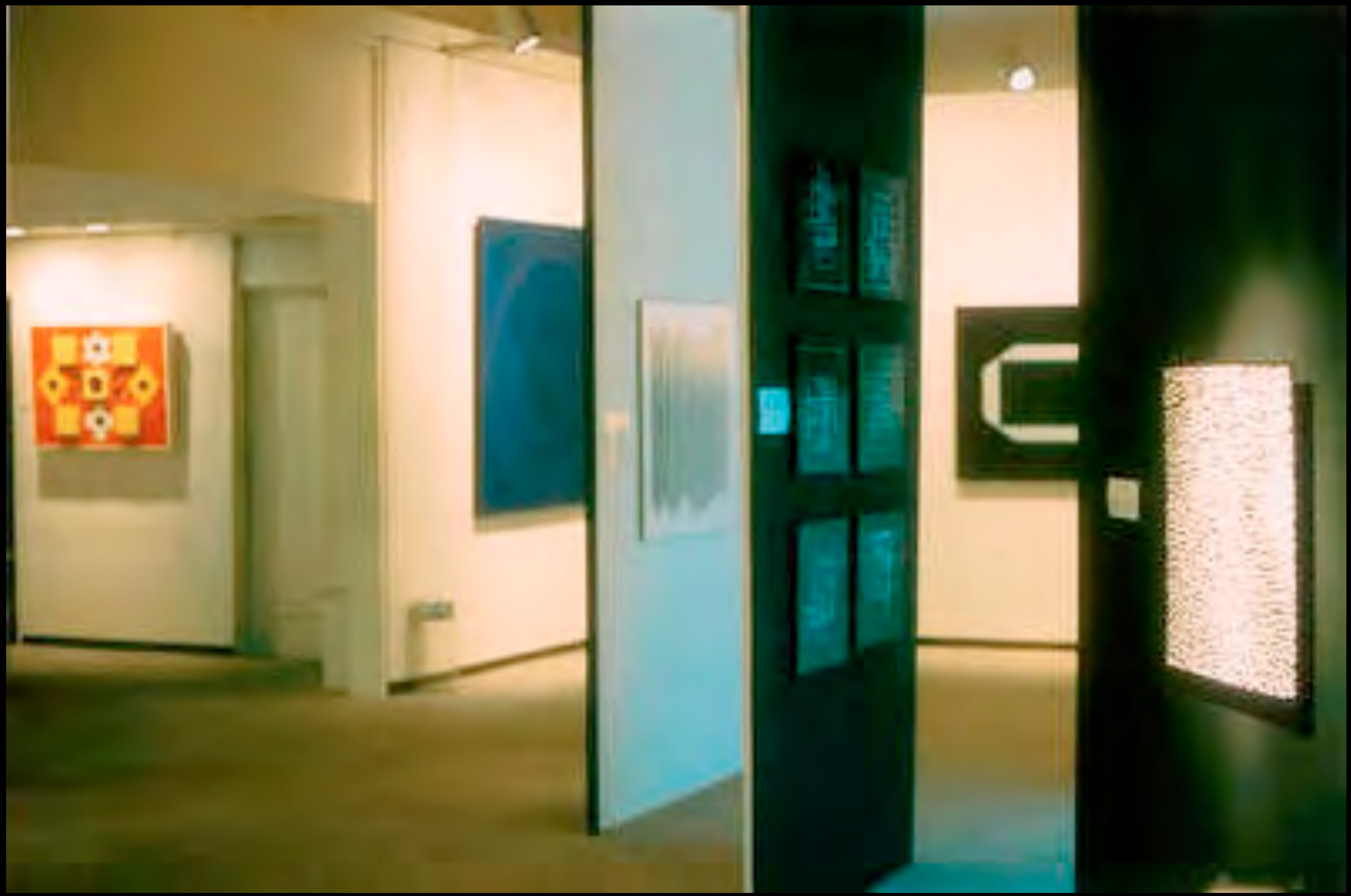
Bell Labs, Murray Hill, NJ

BELL LABS MEMOIRS:

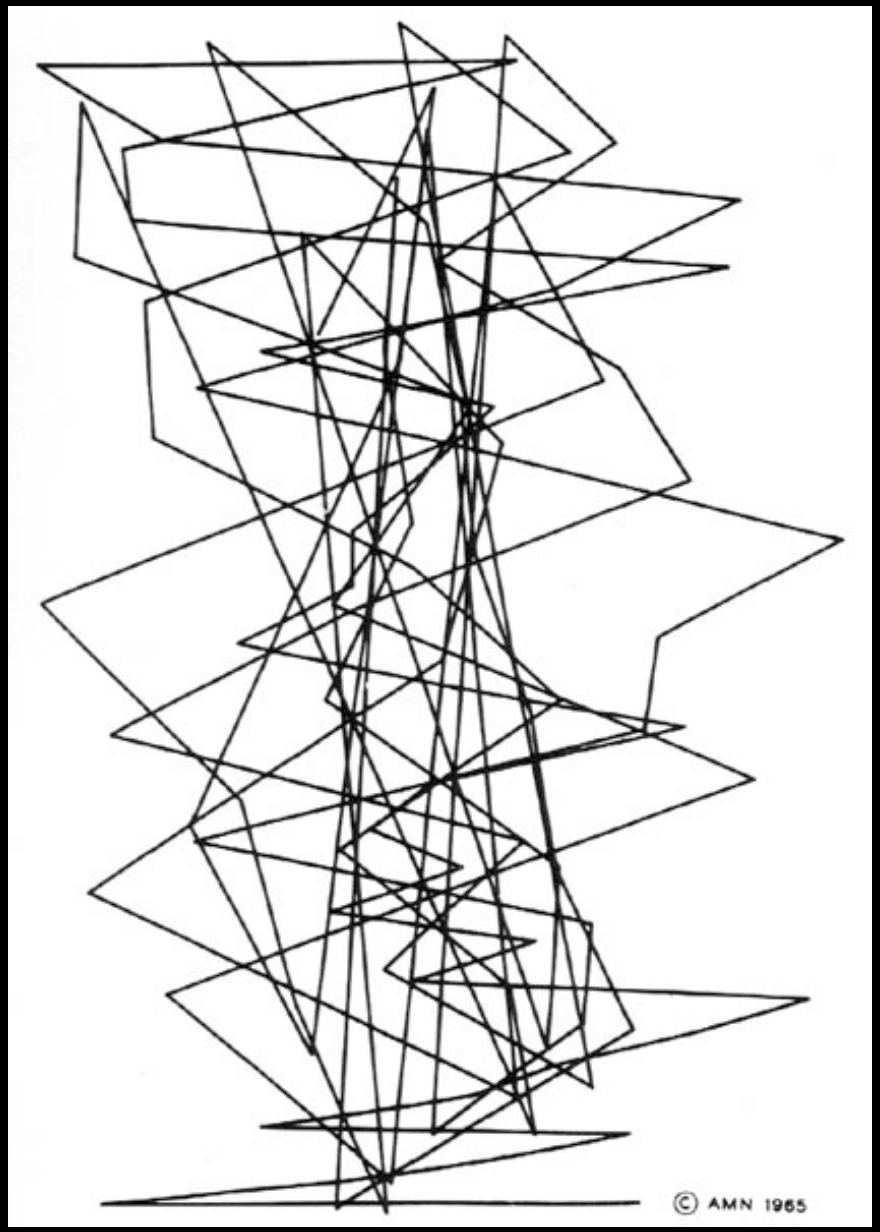
Voices of Innovation

EDITED BY A. MICHAEL NOLL
AND MICHAEL GESELOWITZ

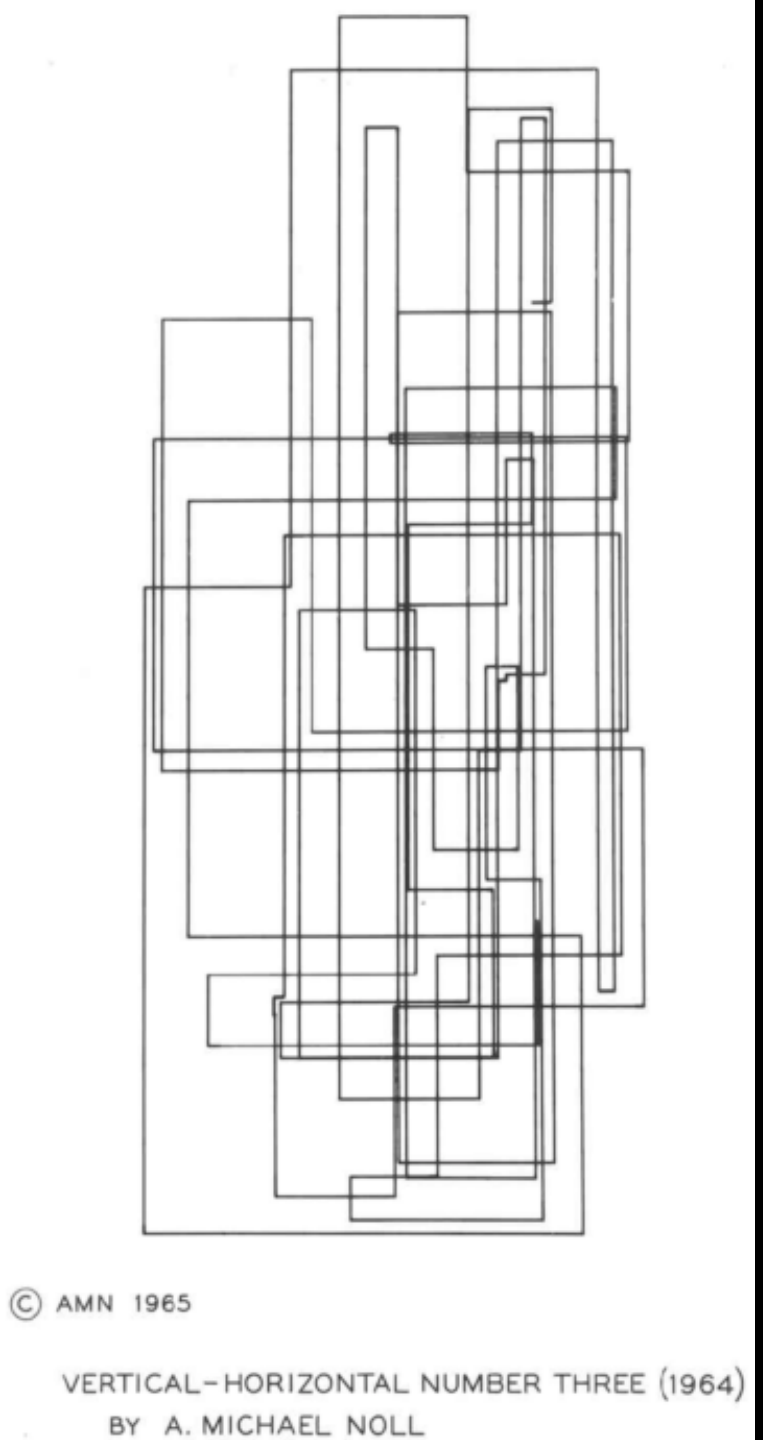
howard wise gallery



Exhibition of works by A. Michael Noll and Bela Julesz at the Howard Wise Gallery in New York City in 1965



A. Michael Noll, Gaussian Quadratic, 1962

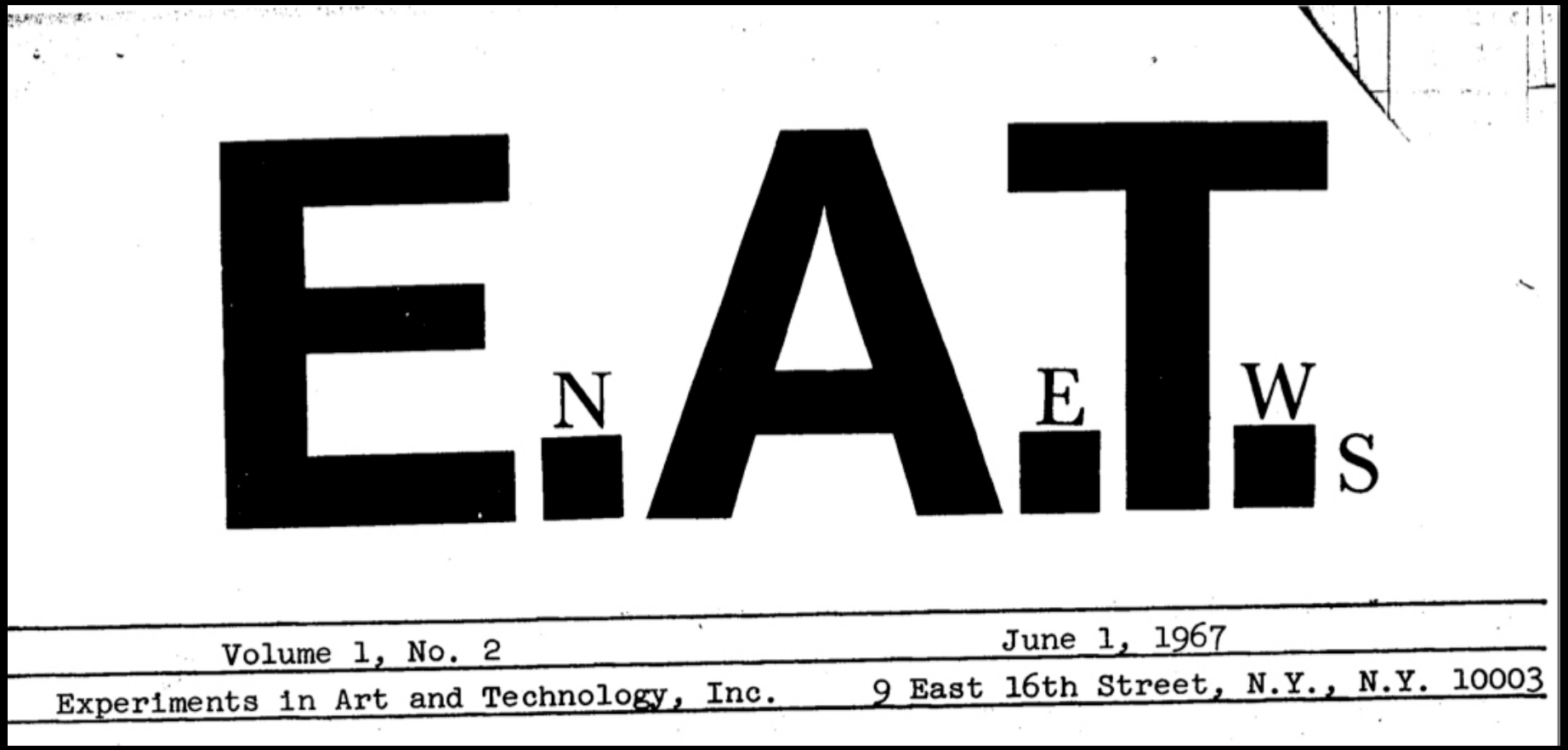


Mondrian

Noll

In the late 1960 and early 1970's, he constructed interactive three-dimensional input devices and displays and a three-dimensional, tactile, force-feedback ("feelie") device that were the forerunners of today's virtual-reality systems. He also was one of the first researchers to demonstrate the potential of scanned displays for computer graphics.

From A. Michael Noll's website
http://noll.uscannenberg.org/



Experiments in Art and Technology was founded in 1966 by engineers Billy Klüver and Fred Waldhauer and artists Robert Rauschenberg and Robert Whitman.

Billy Klüver, Fred Waldhauer, Robert Rauschenberg, John Cage, David Tudor, Yvonne Rainer, Deborah Hay, Robert Whitman, Steve Paxton, Alex Hay, Lucinda Childs and Öyvind Fahlström

E.A.T.

PROJECTS OUTSIDE ART

December 8, 1969 — 235 Park Avenue South, New York, New York 10003

E.A.T. announces an exhibition, PROJECTS OUTSIDE ART — an exhibition of realizable projects in the environment — and requests submission of proposals.

Projects for the exhibition

—deal with such subjects as education, health, housing, concern for the natural environment, climate control, transportation, energy production and distribution, communication, food production and distribution, women's environment, cooking, entertainment, sports, etc.;

—use state-of the-art technology;

—recognize, in particular, the scale adequate for the problem undertaken, social and ecological effects, organizational methods necessary for realizing the projects;

EAT/John Cage, Variations VII, 1966

EAT/Lucinda Childs, Still from *Vehicle*, 1966
http://www.fondation-langlois.org/html/e/page.php?NumPage=1734

EAT/Robert Rauschenberg, Open Score, 1966

Each time Frank Stella and Mimi Kanarek hit the ball the vibrations of the racquet strings were transmitted to the speakers around the armory, and a loud BONG was heard.

http://www.youtube.com/watch?v=juo0OHsQTWE

John Cage, Merce Cunningham, Billy Cluver, et. al., Variations V, 1965
http://www.youtube.com/watch?v=Ca2iVll-N0g&feature=related