

programming4Artists

City College DIAP | Spring 2018

rebecca (marks) leopold

Rebecca.Leopold@qc.cuny.edu

cc coming soon: ???@ccny.cuny.edu

“You can't think about thinking without thinking about thinking about something”

– Seymour Papert



Reb (not a dork) checks out 10.2 on an eMac.

portrait of the artist as herself, 2002



portrait of the artist as an art student taking a selfie, c. 2003







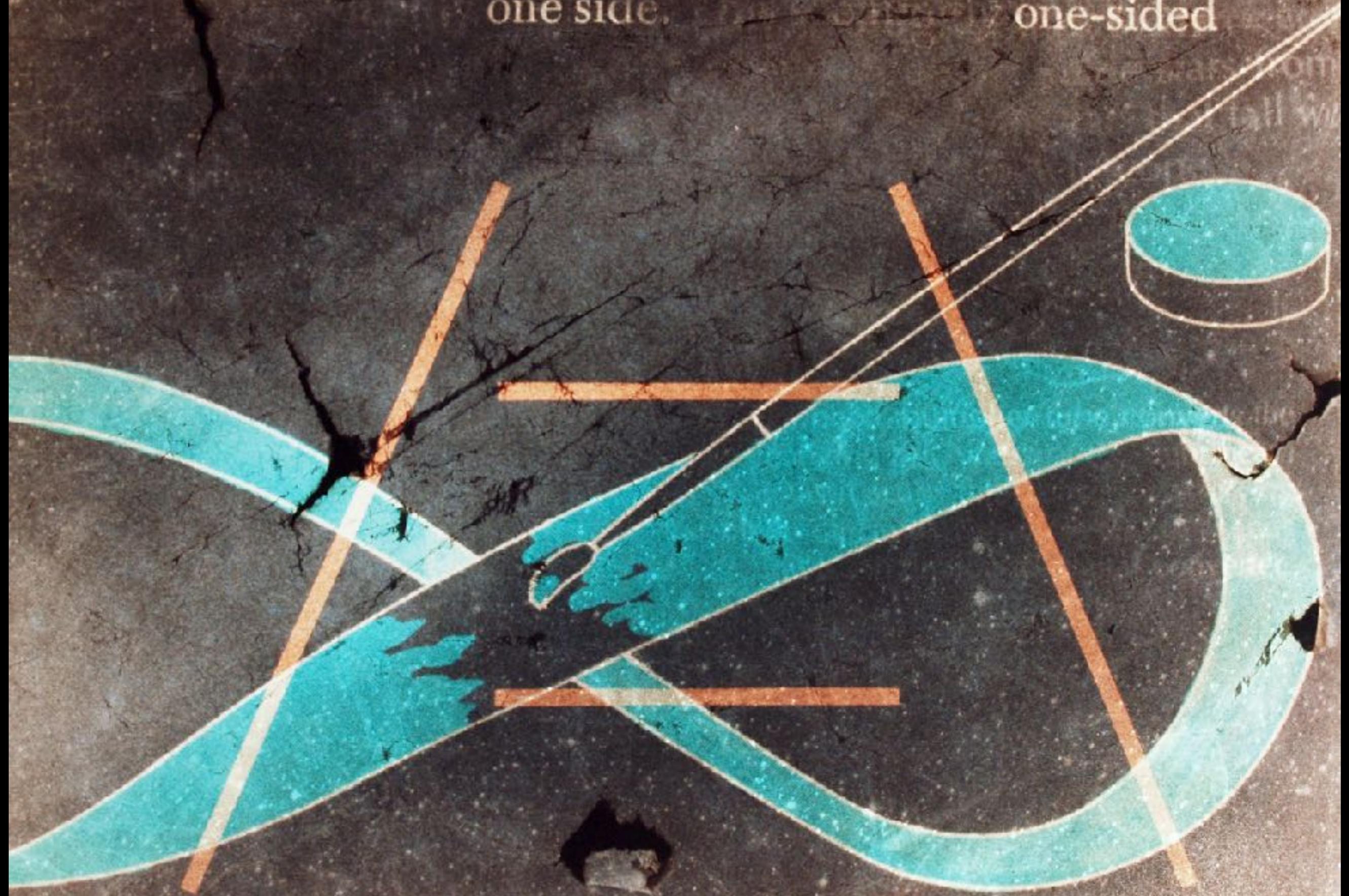


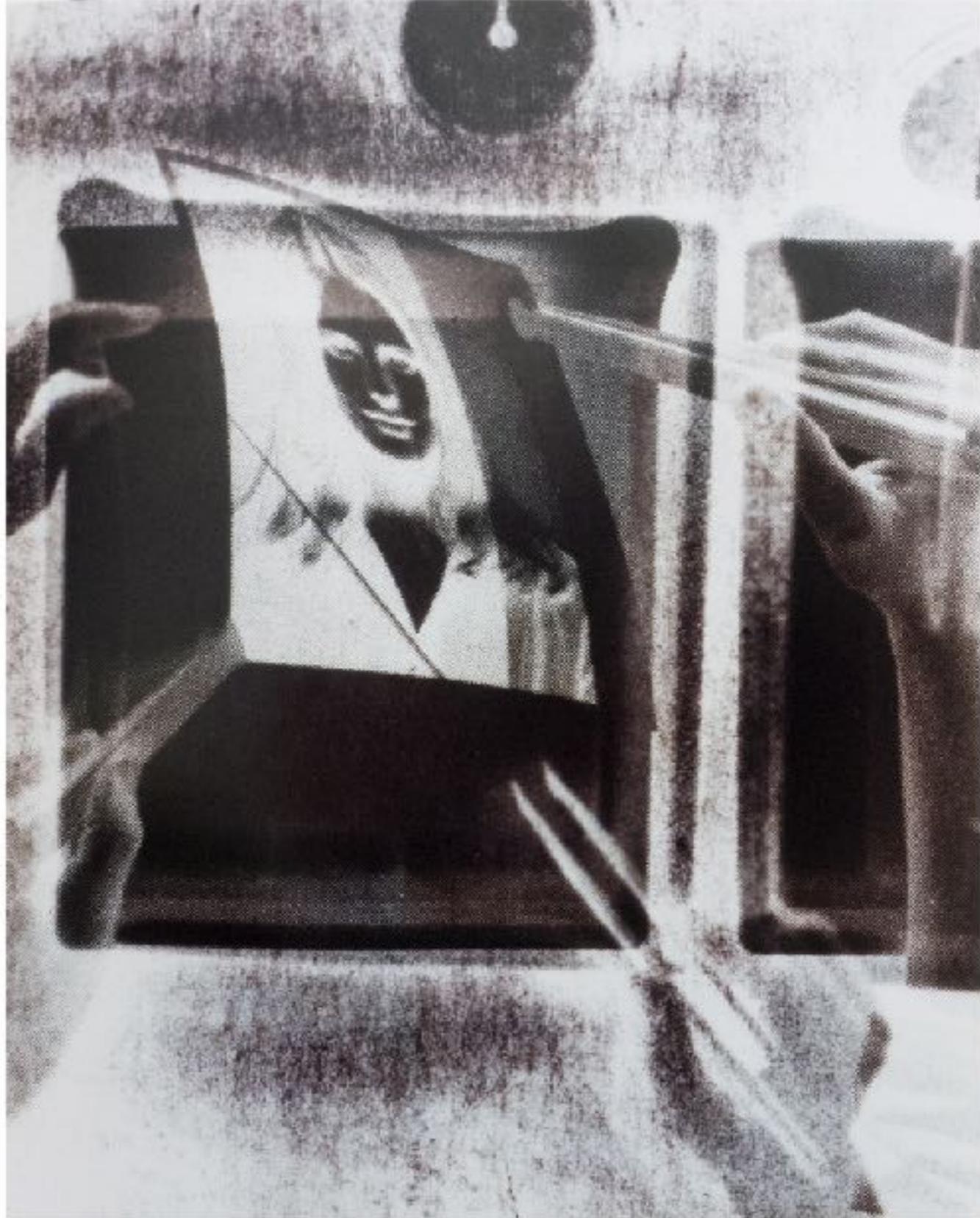
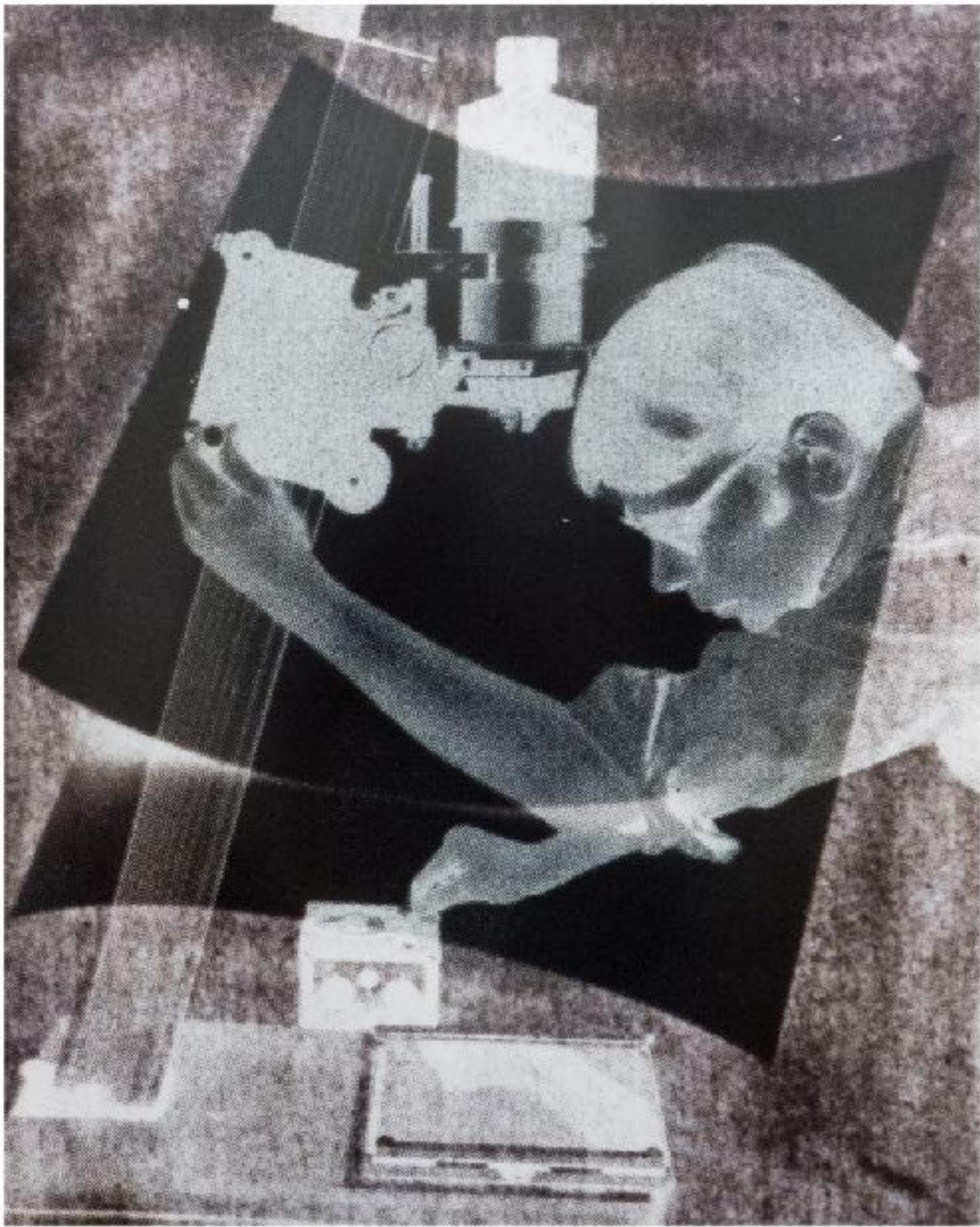
Look at this picture.

you will see

one side.

one-sided







Invisible Landscape Number 2012 installed at The Knockdown Center

Chrome File Edit View History Bookmarks People Window Help

emojiYrFace.js Fetch Temporary Folder 5 emojiYrFace.js

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70 } // end
71 //
72 // funct
73 // this
74 // this
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92 //whate
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95 socket
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98 // dra
99 setTim
100 }
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audunc/clmtrackr: Jav... Face Tracker (emoji myFace) Inbox (1,543) - rml444 CSS visibility property

https://rml444.itp.io:8085/index.html

Apps NYU Mail oldobject:enewideas github a2z LiveWeb ROSENTHAL ECMAScript _workingon PYTHON ra:Code

Elements Console Sources

top

Filter Regex Hide n

AI Errors Warnings Info Logs Debug

Resource interpreted as Stylesheet but transferred with MIME type text/html

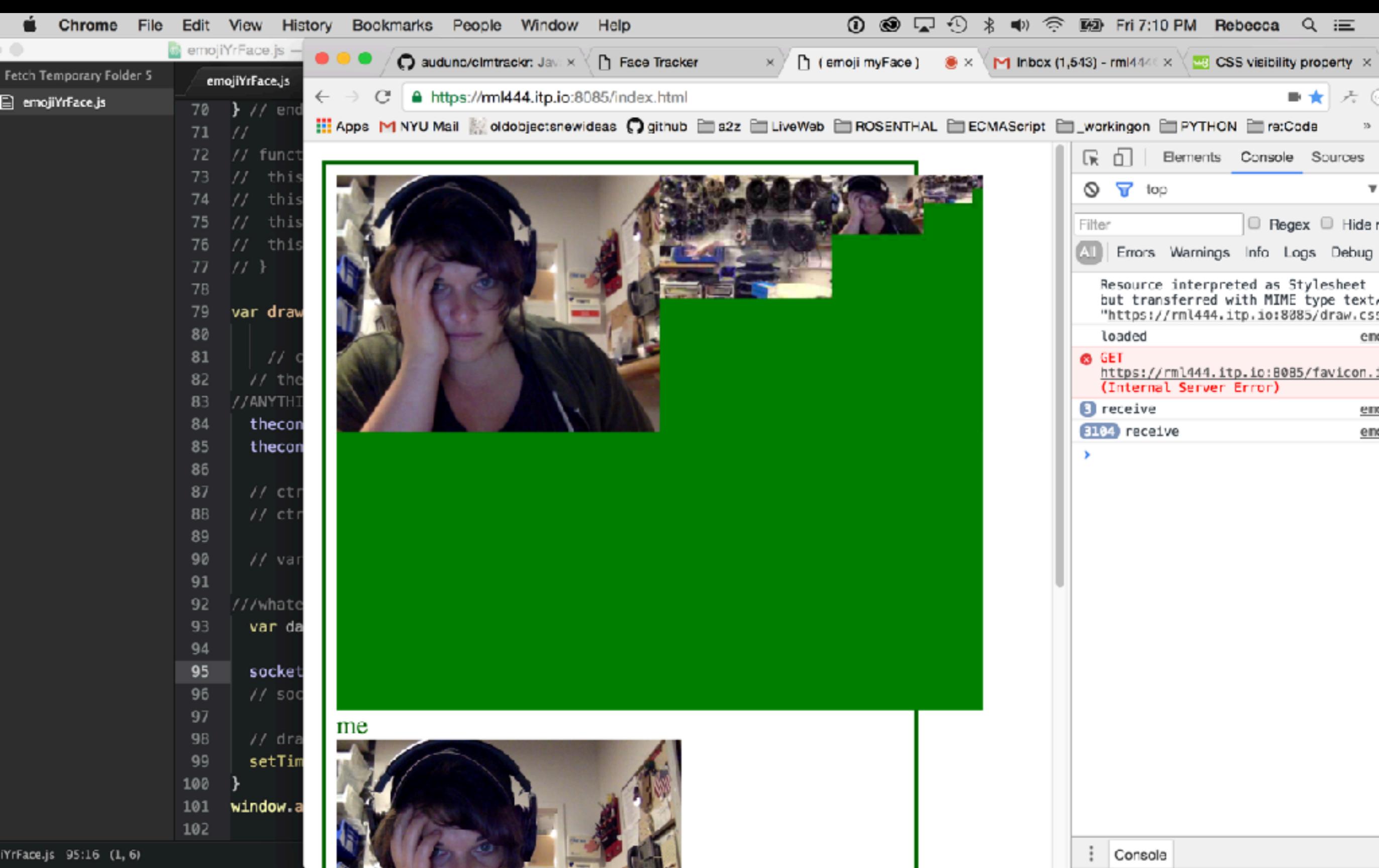
loaded em

GET https://rml444.itp.io:8085/favicon... (Internal Server Error)

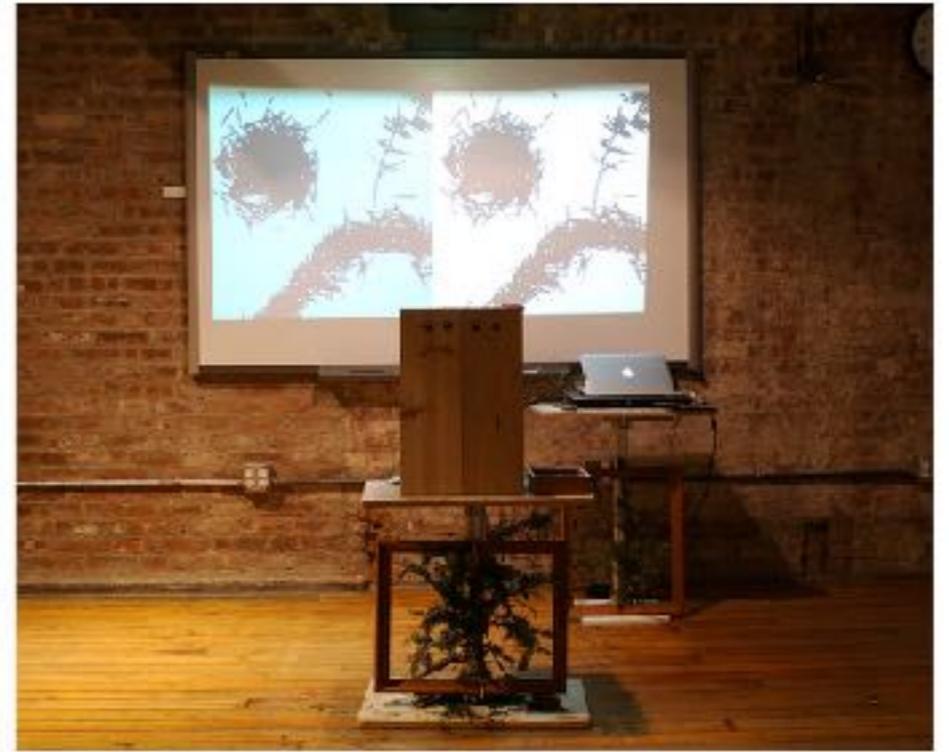
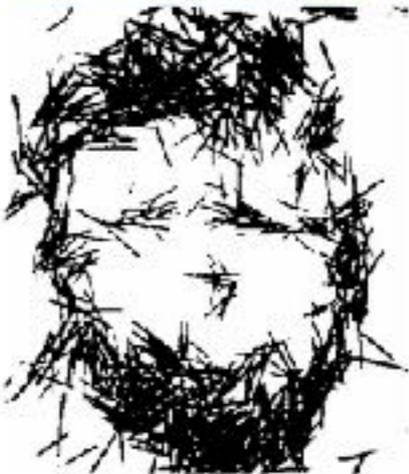
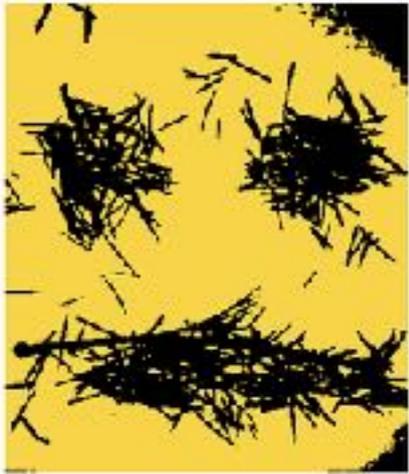
3 receive em

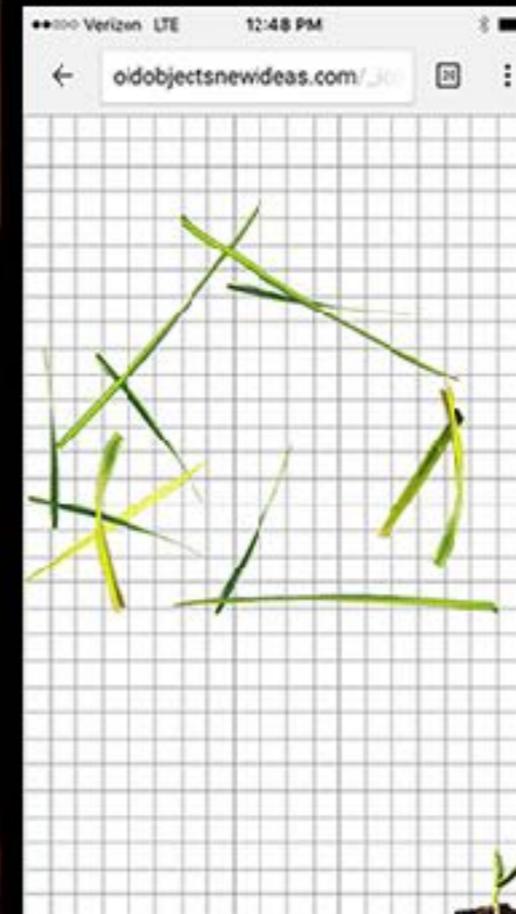
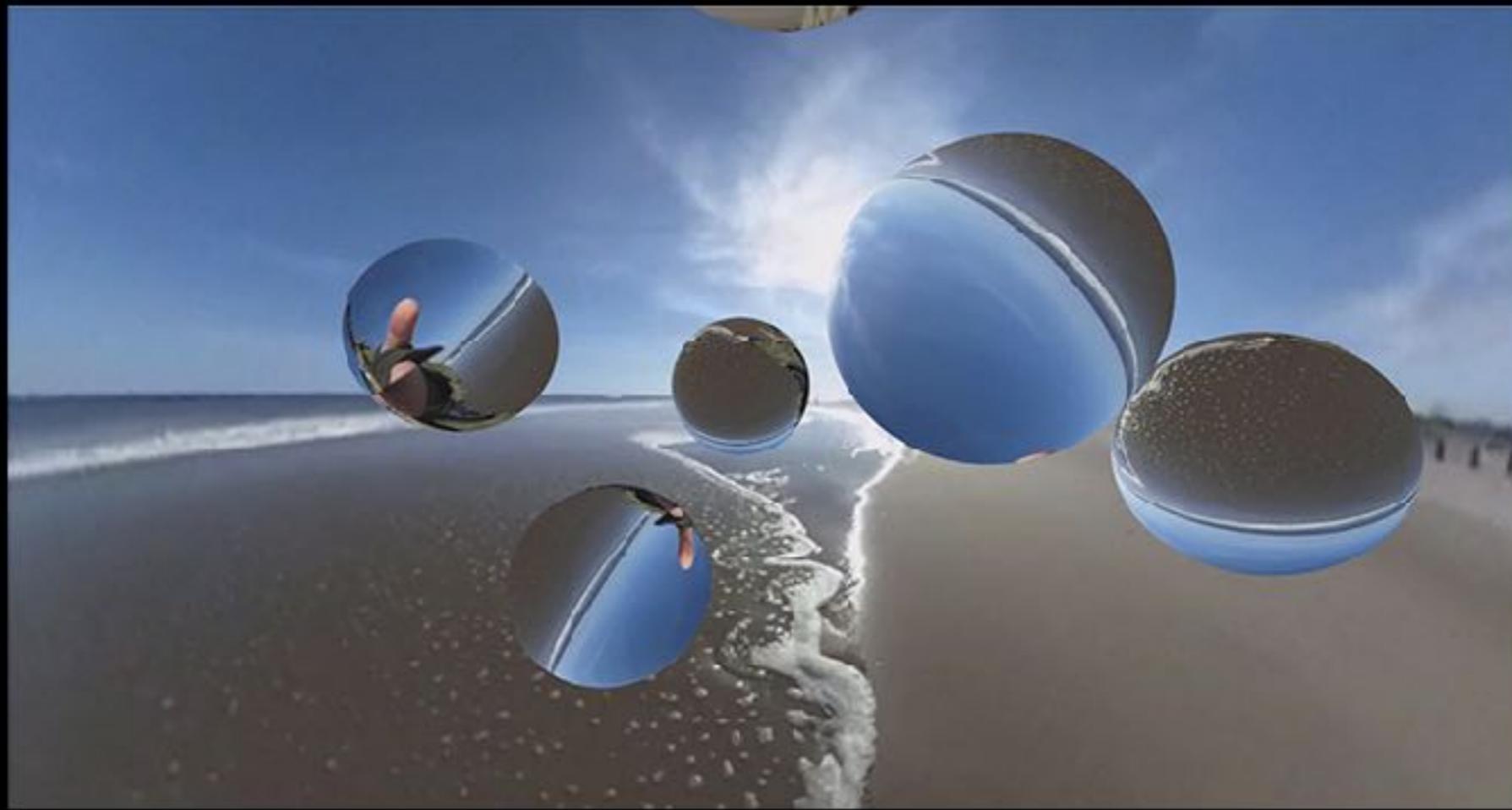
3104 receive em

me



portrait of the artist as herself in the browser, 2016



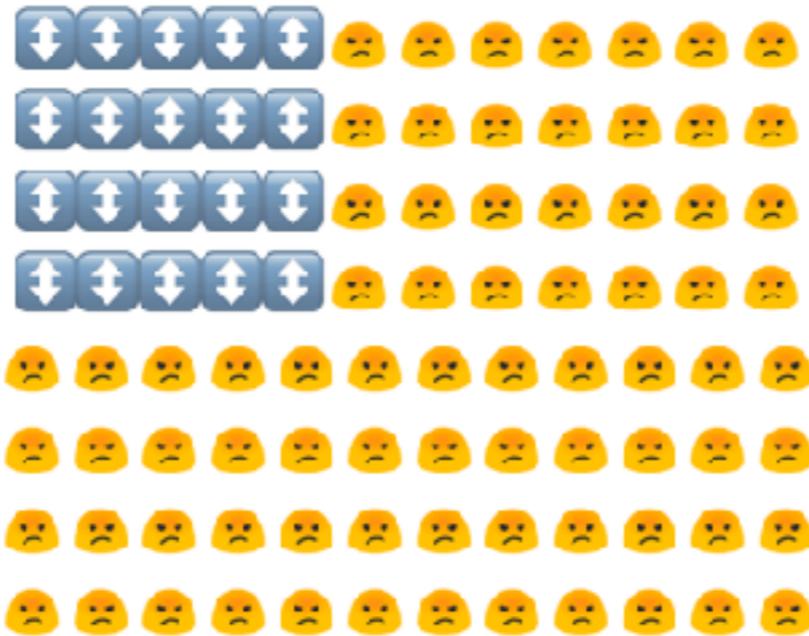


worldFake, 2016

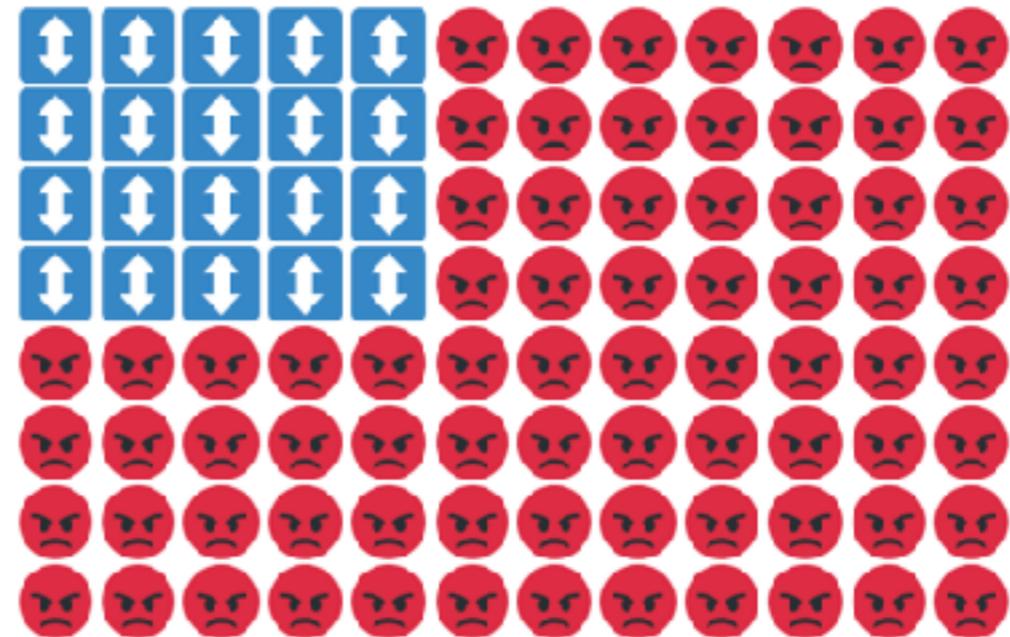
worldMake, 2015



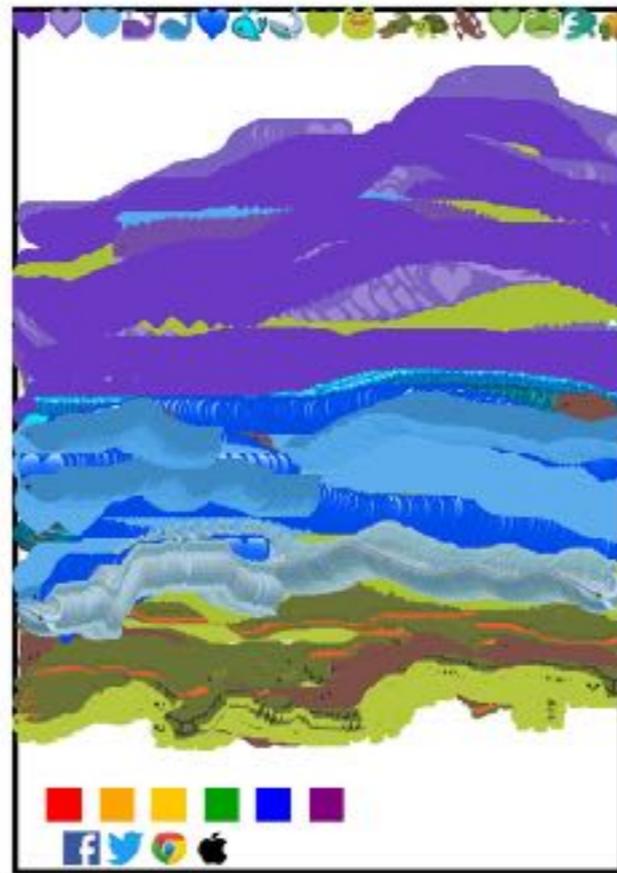
Apple



Google



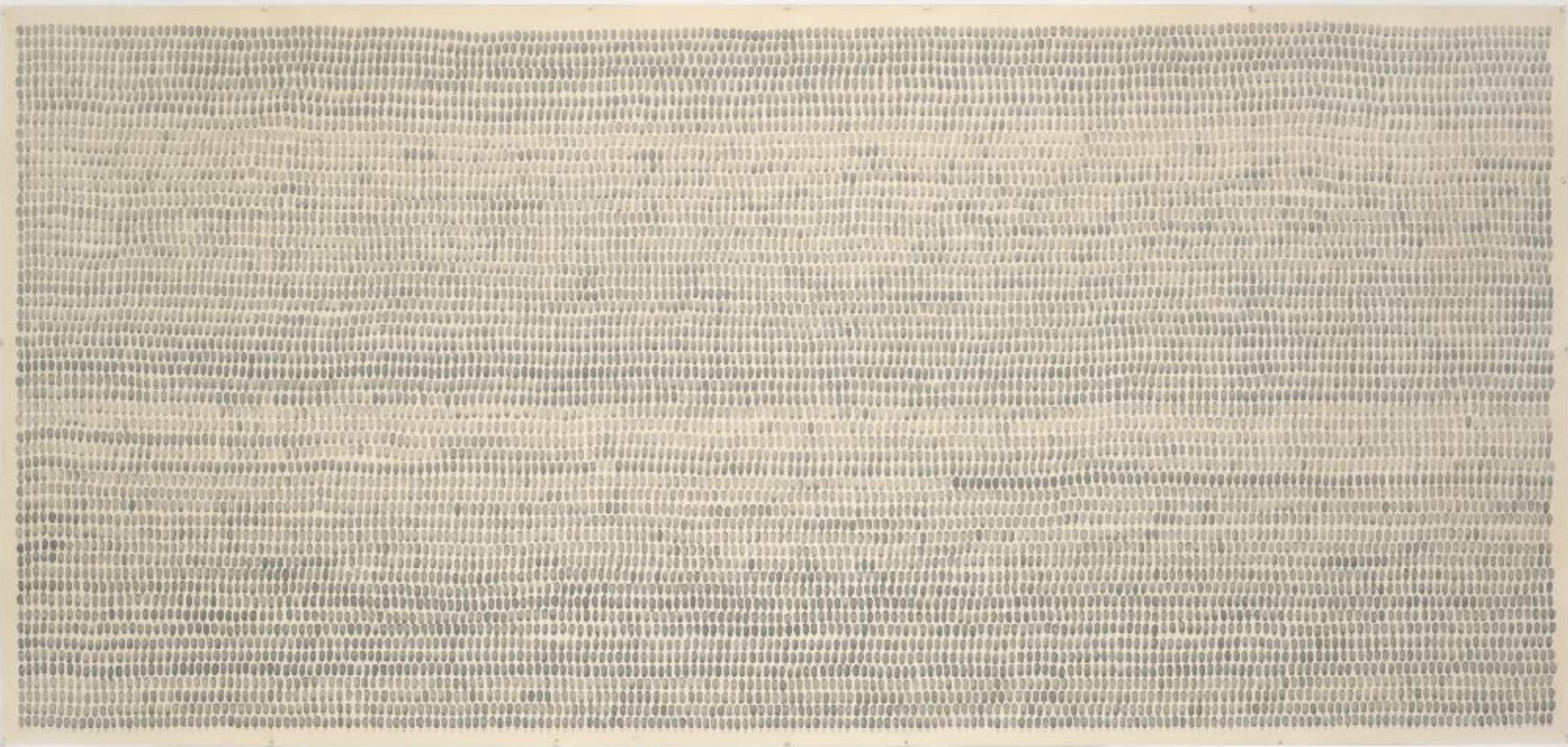
Twitter



the Em😊ji Palette

the mind at work:

the relationship btw technology + expression



Joel Shapiro, 1969
untitled, Ink on Paper



FRANCESCO
ARREWERI
L. 18
P. 17
L. 17
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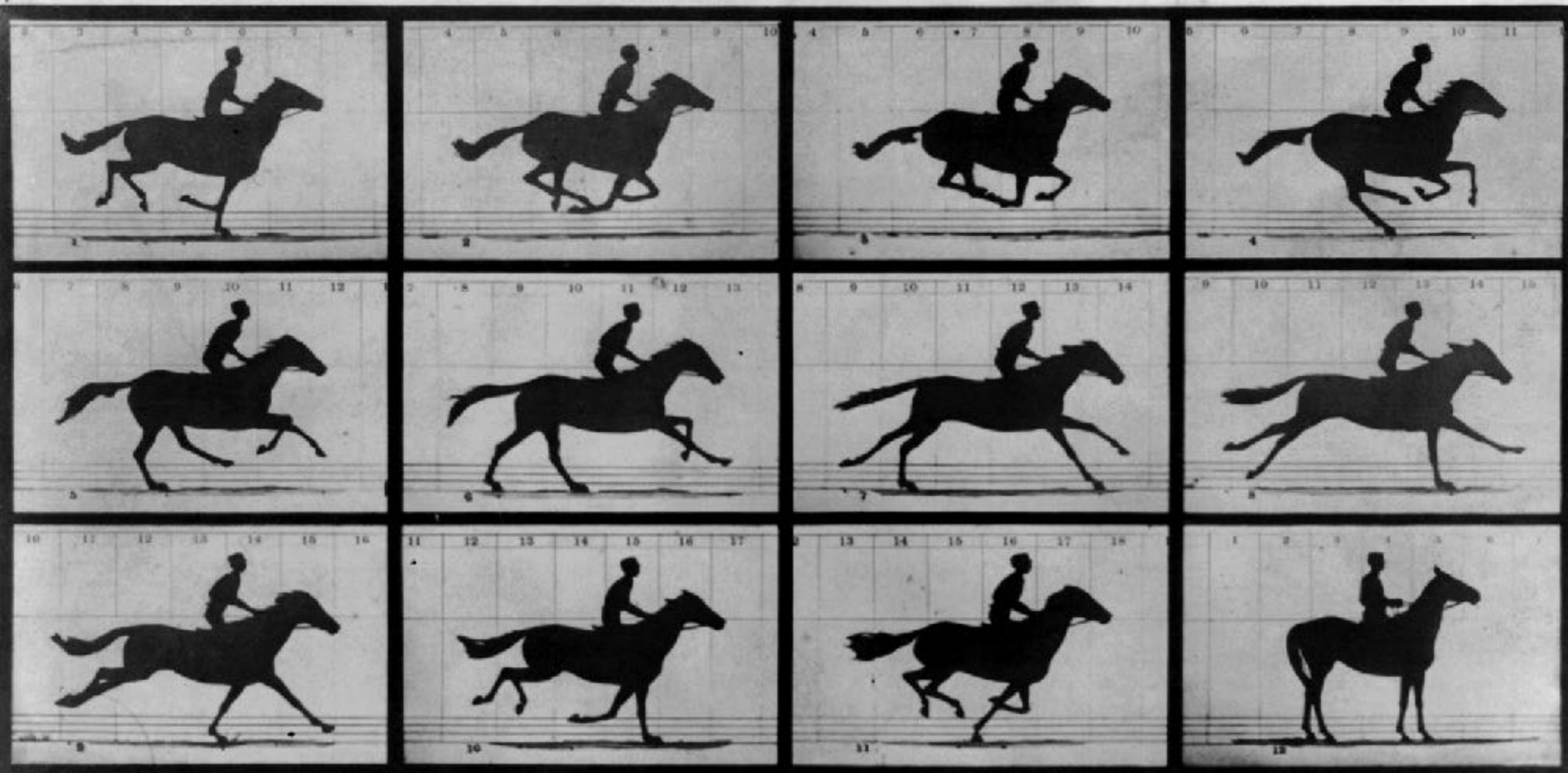
Van Gogh, *Wheat Field with Reaper*
1889



Oldest Surviving Photograph
Nicéphore Niépce, France
View from the Window at Le Gras, 1826-27



First Photograph of a Person
Louis Daguerre, France
Boulevard du Temple, 1838



Copyright, 1878, by MUYBRIDGE.

MORSE'S Gallery, 417 Montgomery St., San Francisco.

THE HORSE IN MOTION.

Illustrated by
MUYBRIDGE.

AUTOMATIC ELECTRO-PHOTOGRAPH

"SALLIE GARDNER," owned by LELAND STANFORD; running at a 1.40 gait over the Palo Alto track, 19th June, 1878.

The negatives of these photographs were made at intervals of twenty-seven inches of distance, and about the twenty-fifth part of a second of time; they illustrate consecutive positions assumed in each twenty-seven inches of progress during a single stride of the mare. The vertical lines were twenty-seven inches apart; the horizontal lines represent elevations of four inches each. The exposure of each negative was less than the two-thousandth part of a second.

Eadweard Muybridge

Horse Bet: 1872



Gustave Caillebotte
Paris Street: Rainy Day, 1877



George Seurat
A Sunday Afternoon on the Island of La Grande Jatte, 1884-86

what is code?

code

/kōd/ 

noun

1. a system of words, letters, figures, or other symbols substituted for other words, letters, etc., especially for the purposes of secrecy.

"the Americans cracked their diplomatic code"

[synonyms: cipher, key, Morse](#)

verb

1. convert (the words of a message) into a particular code in order to convey a secret meaning.
"only Mitch knew how to read the message—even the name was coded"

2. write code for (a computer program).

"most developers code C + + like C"

what is programming?

code

/kōd/ 

noun

1. a system of words, letters, figures, or other symbols substituted for other words, letters, etc., especially for the purposes of secrecy.

"the Americans cracked their diplomatic code"

synonyms: [cipher](#), [key](#); [More](#)

2. **COMPUTING**

program instructions.

"hundreds of lines of code"



verb

1. convert (the words of a message) into a particular code in order to convey a secret meaning.

"only Mitch knew how to read the message—even the name was coded"

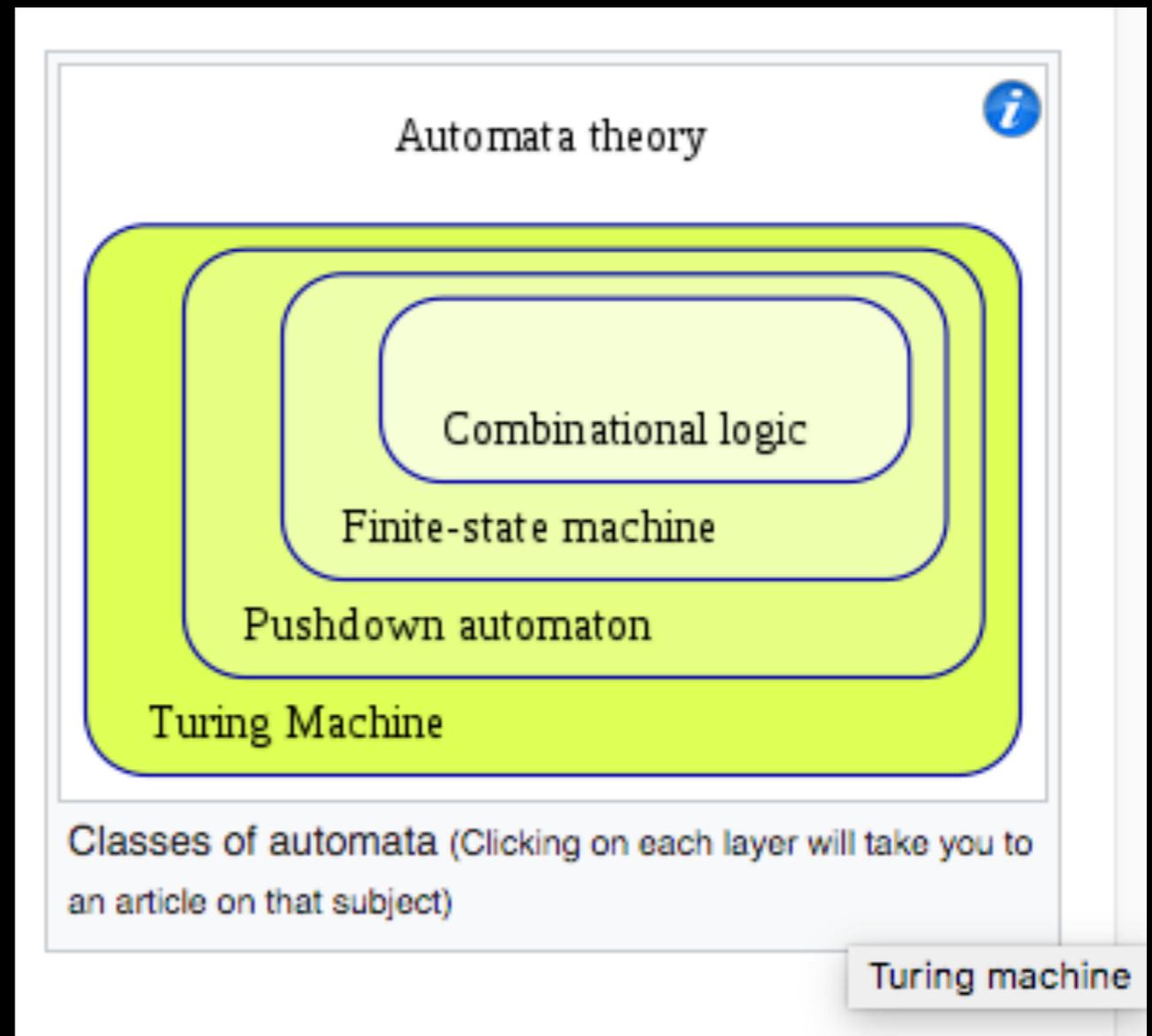
2. write code for (a computer program).

"most developers code C + + like C"



Alan Turing, 1912 - 1954
Mathematician, Educator,
Hero.

Imprisoned for being gay.



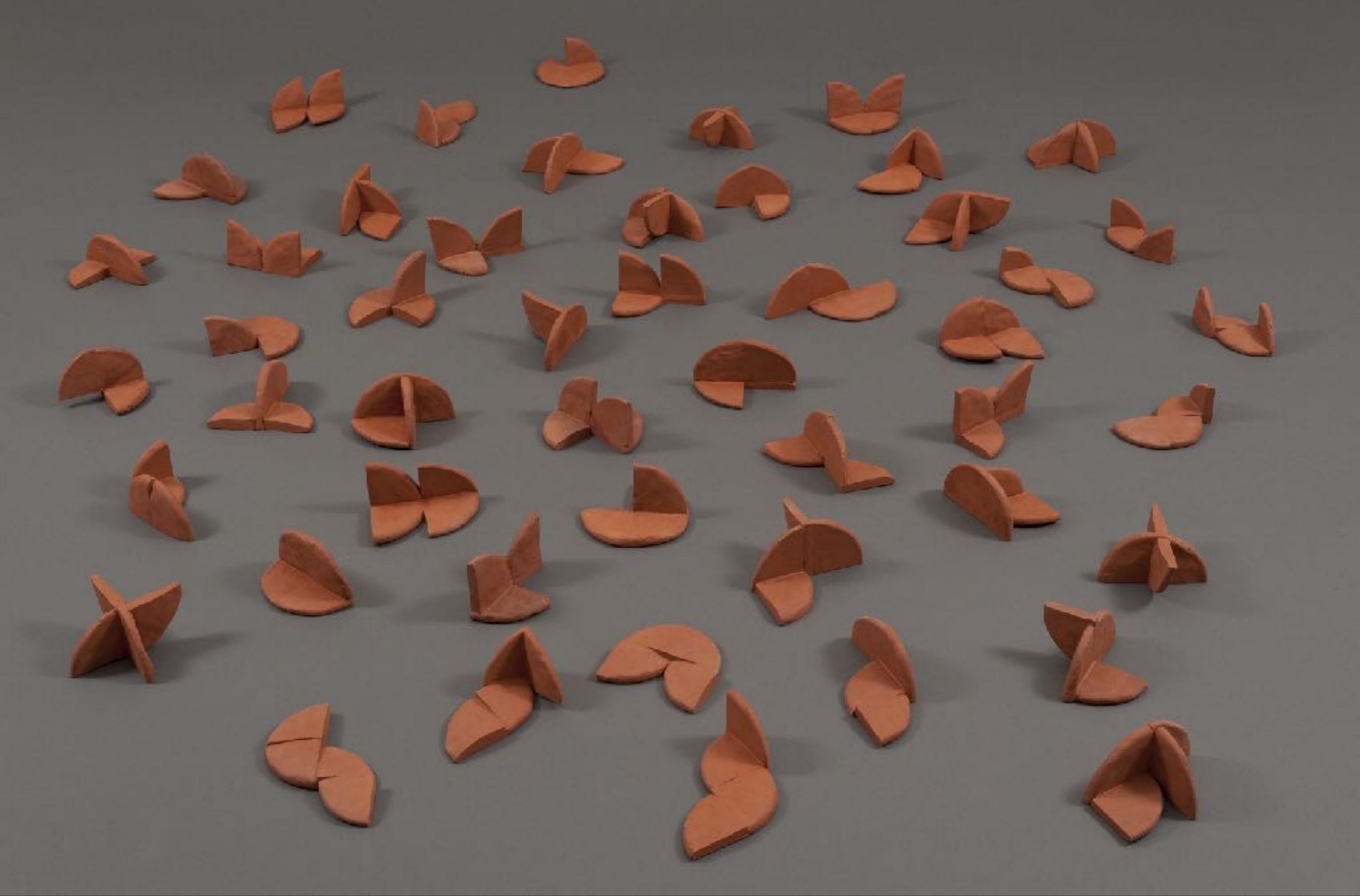
wiki [Automata](#) theory

1936 - Alan Turing invents The Turing Machine

A mathematical model of computation that defines an abstract machine, which manipulates symbols on a strip of tape according to a table of rules. Despite the model's simplicity, given any computer algorithm, a Turing machine capable of simulating that algorithm's logic can be constructed. –[wikipedia](#)

a computer is like a bicycle for the mind.

–steve jobs



Joel Shapiro, 1971
untitled, terracotta 49 units

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[3 Permutations](#), 1960

Brion Gysin

- visualization software by [Joseph Moore](#), 2010

you describing, to love

you describing, to love
you describing, to love

describing, to love you

to you describing, love

to you love describing,

to describing, you love

to describing, love you
to love you describing,

to love you describing, to

love you to describing,

love describing, you to

love describing, to you

love describing, to you

[you describing, to love]

you describing, to love

you describing, to love
you love describing, to

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describing, to love you

describing, to love you

to love you describing,

love to you describing,

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[you describing, to love]

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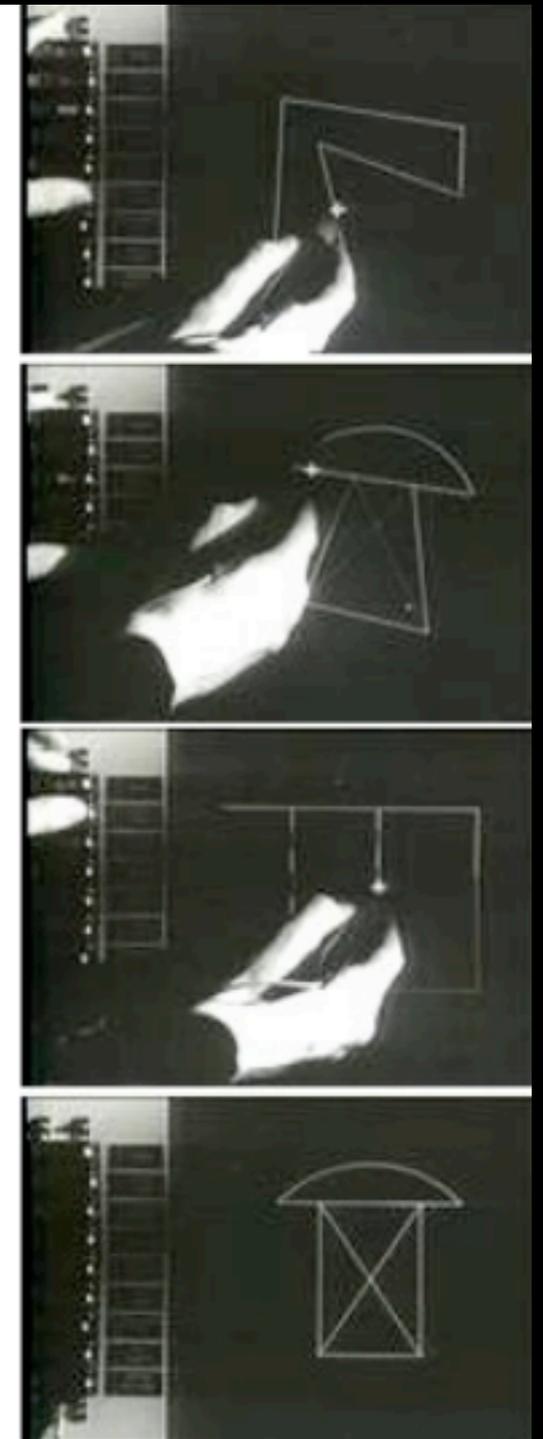
to describing, love you
to love describing, you

love you describing, to

love you describing, to you

[you describing, to love]

love to describing, you



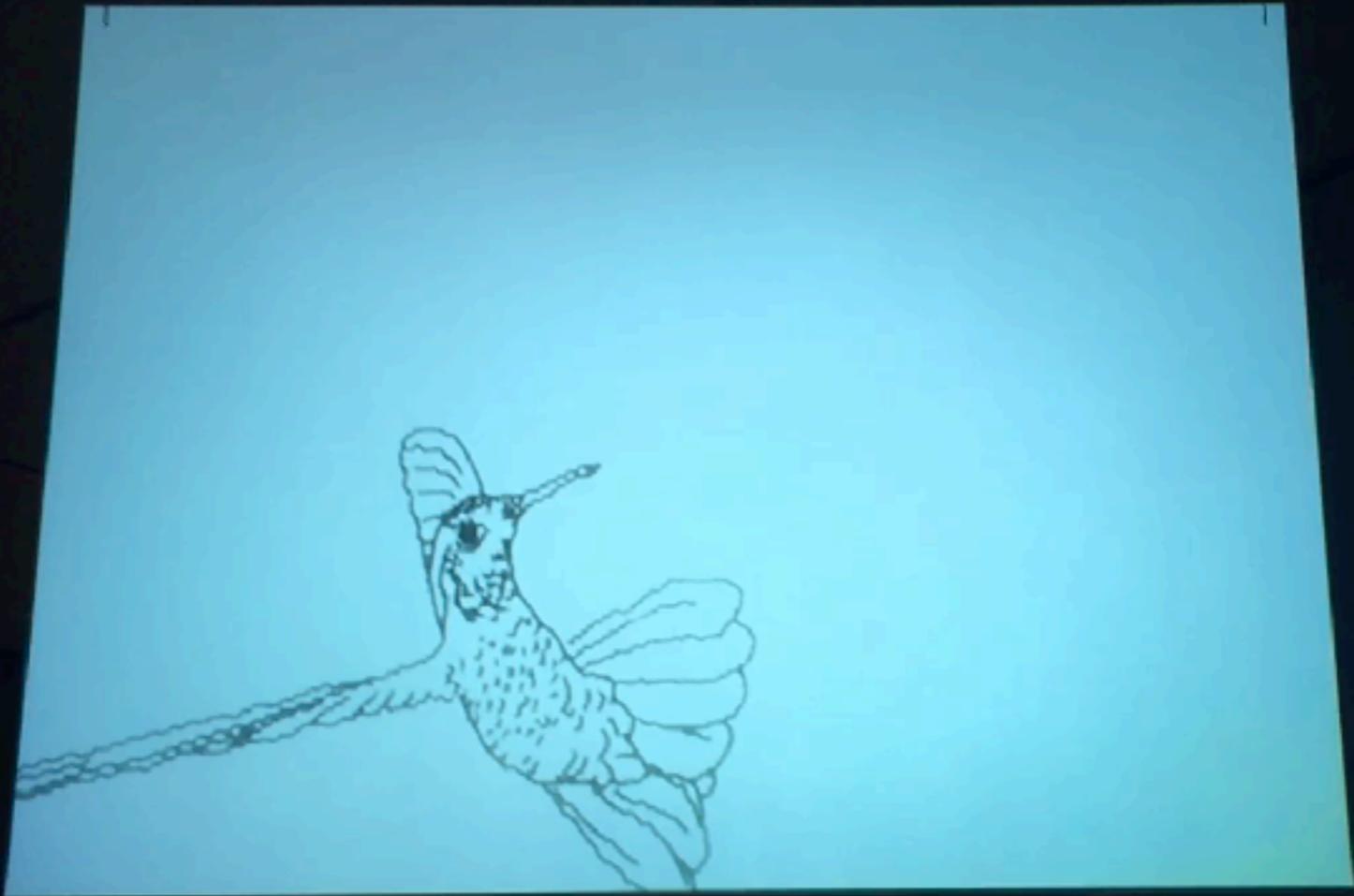
Ivan Sutherland, "The Father of Computer Graphics"
Invents [Sketchpad](#) at MIT/Lincoln Labs
The First GUI (Graphical User Interface), 1963

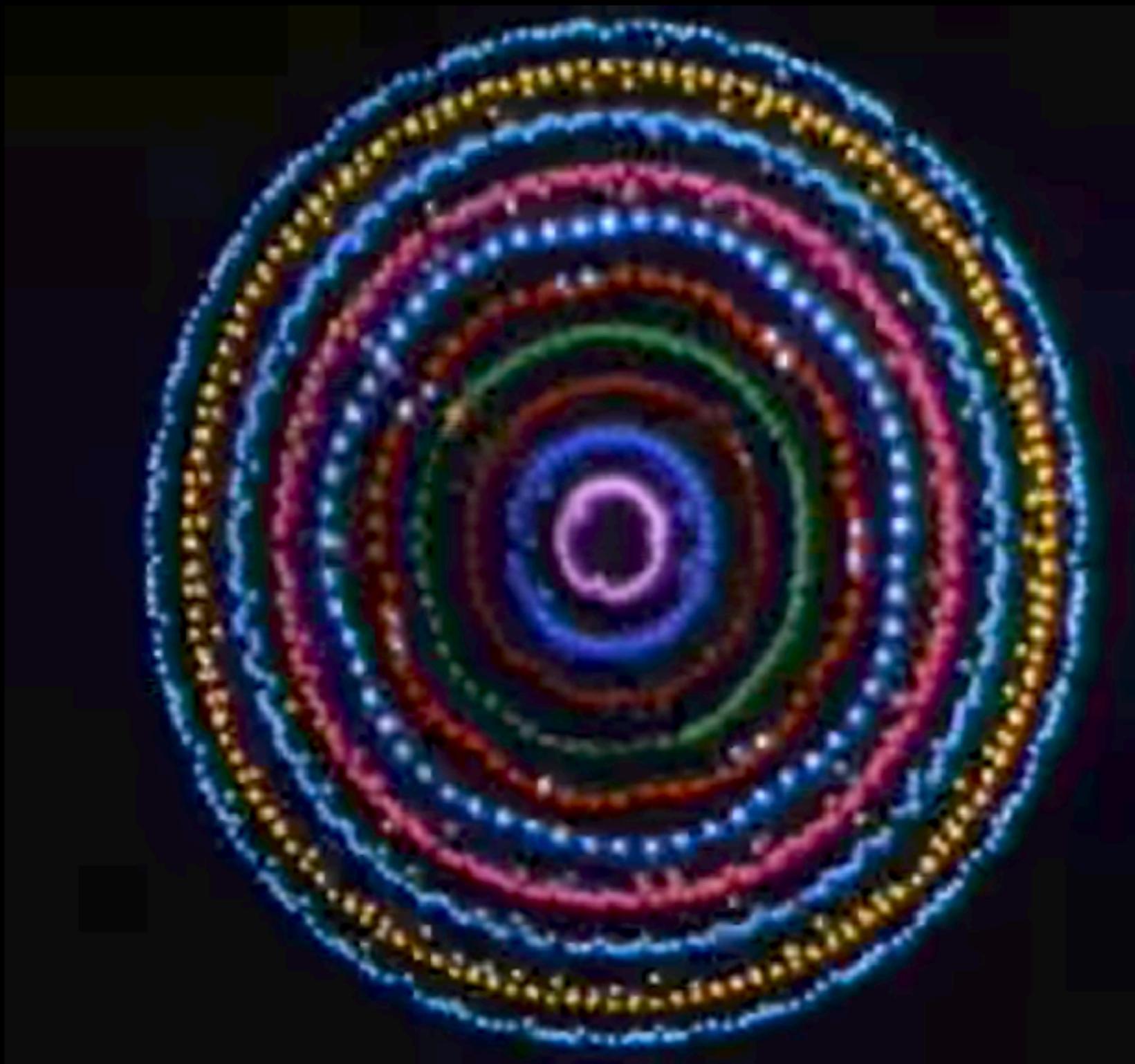
**The camera does not move. All movements,
size changes, orientation, distortion, and time
were under computer program control.**

Hummingbird, 1967

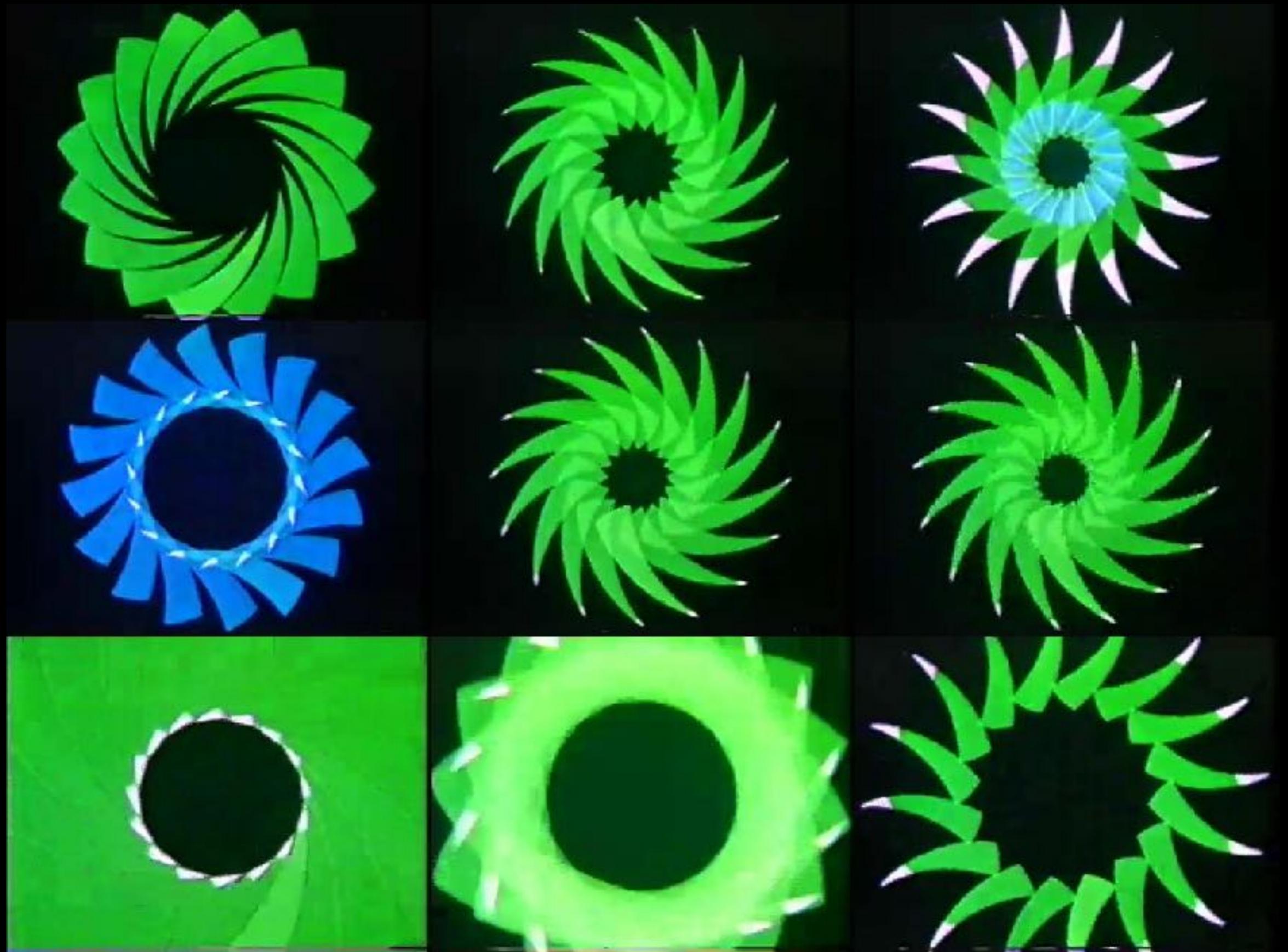
Charles Csuri

16 mm film





[Permutations](#), 1968
John Whitney



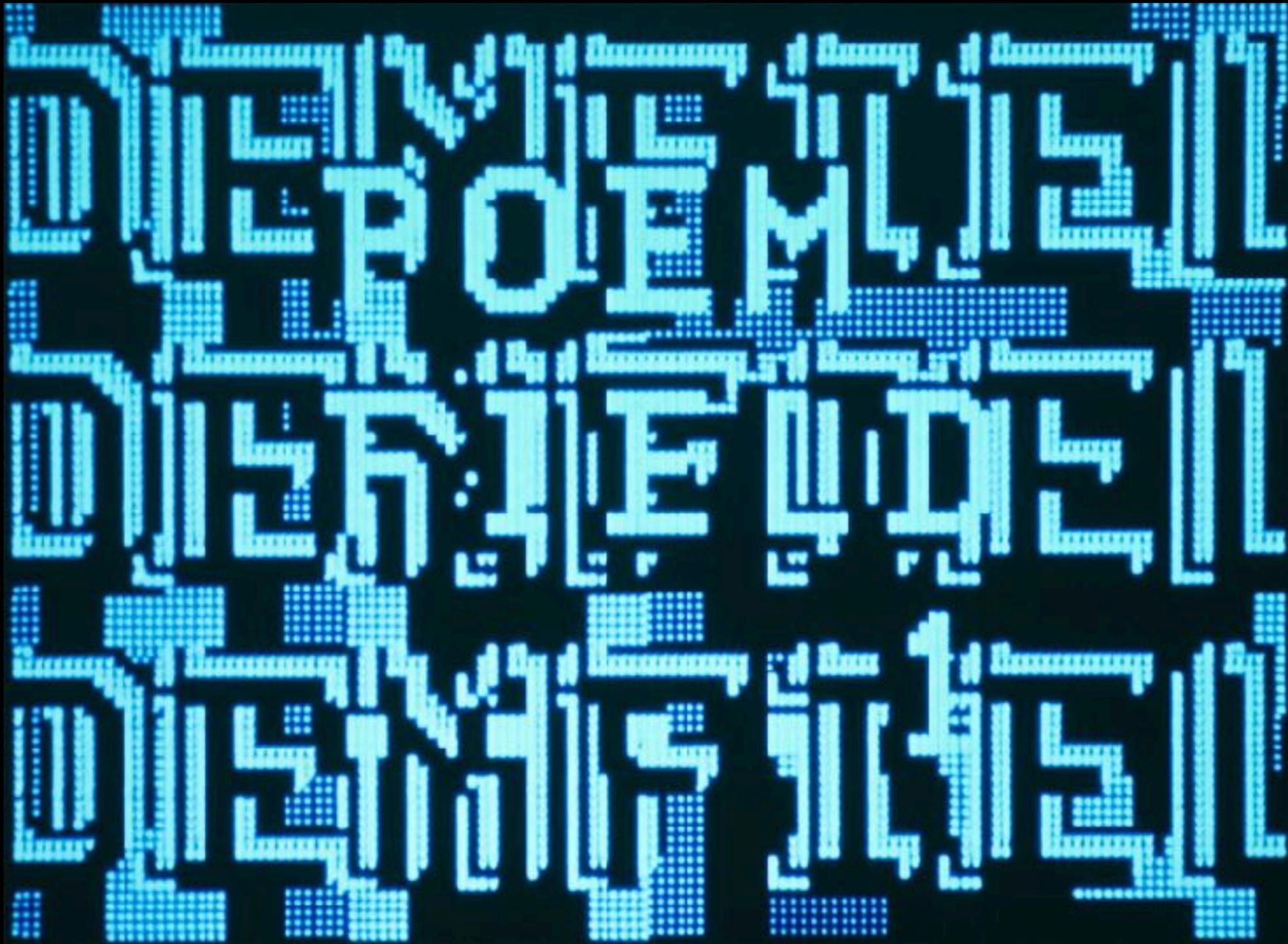
[Catalog](#), 1961

John Whitney, first artist in residence at IBM



[Pixelation](#), 1970

Lillian Schwartz, first artist in residence at Bell Labs



[PoemField Films](#), 1964 -1967
Stan Vanderbeek + Ken Knowlton

MINDSTORMS

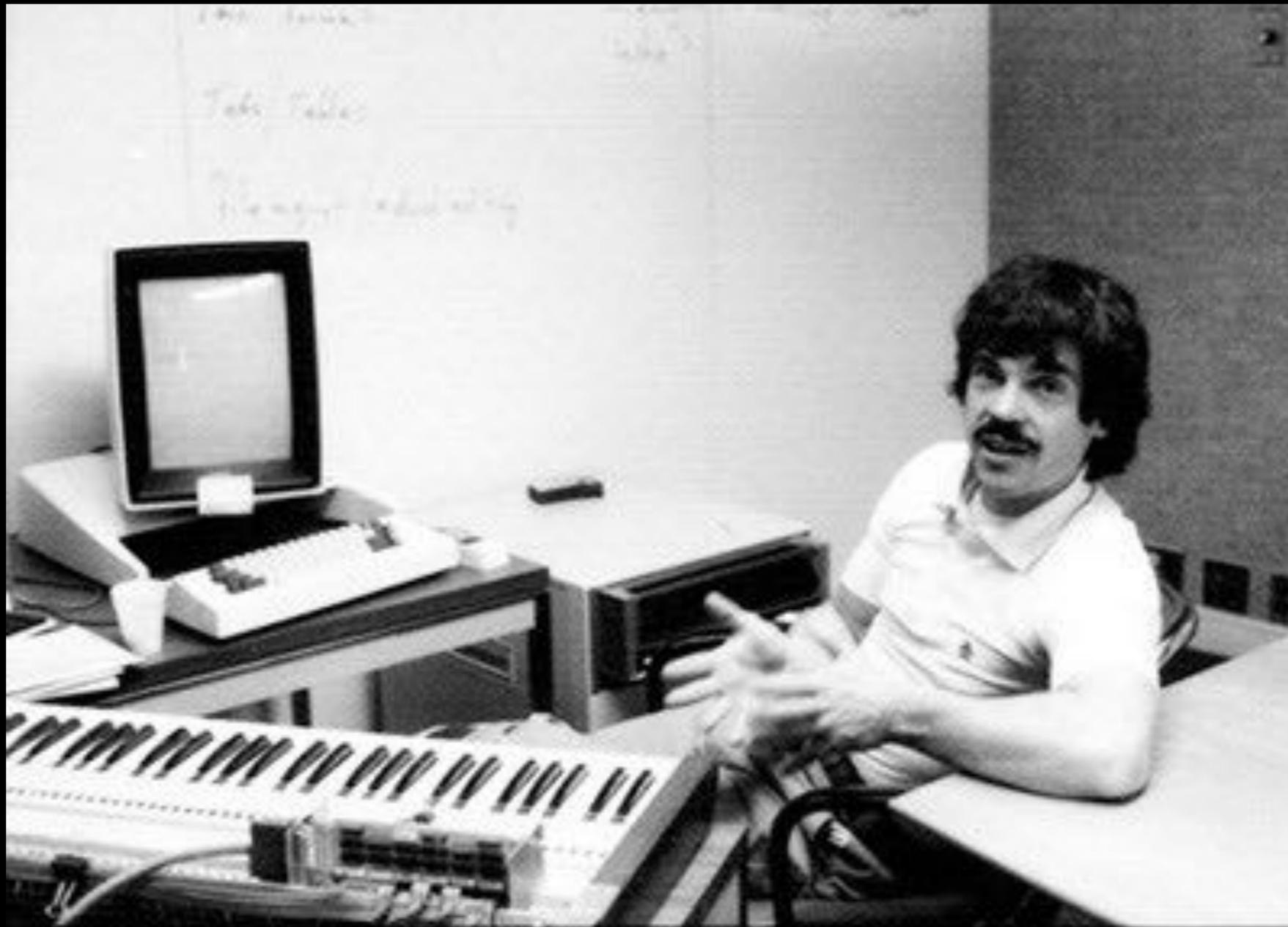
**CHILDREN, COMPUTERS,
AND POWERFUL IDEAS**

SEYMOUR PAPERT

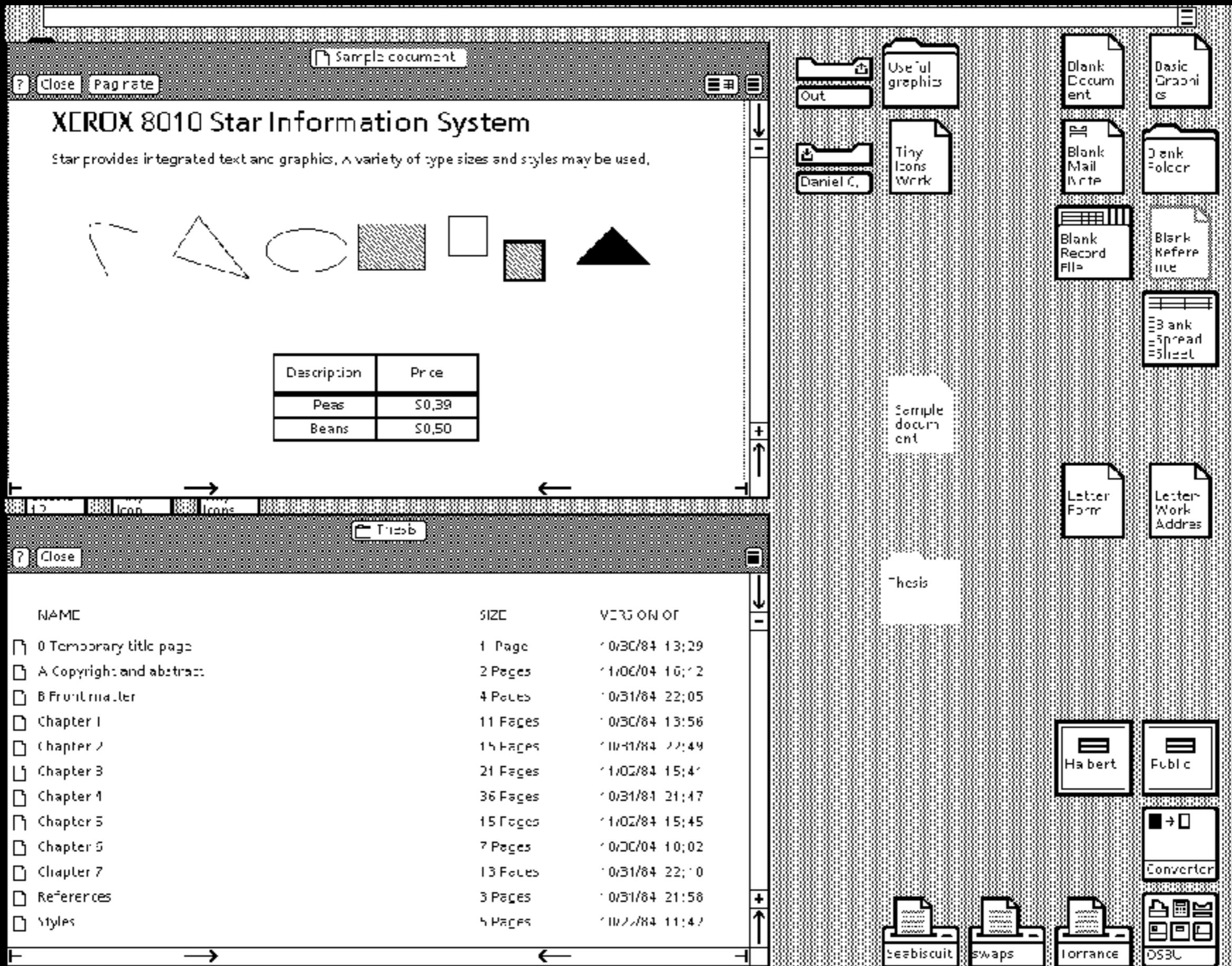


materiality + form

+ technological authorship



Alan Kay
Xerox Parc Research Lab



GUI for the Xerox Star, 1981
Xerox Park

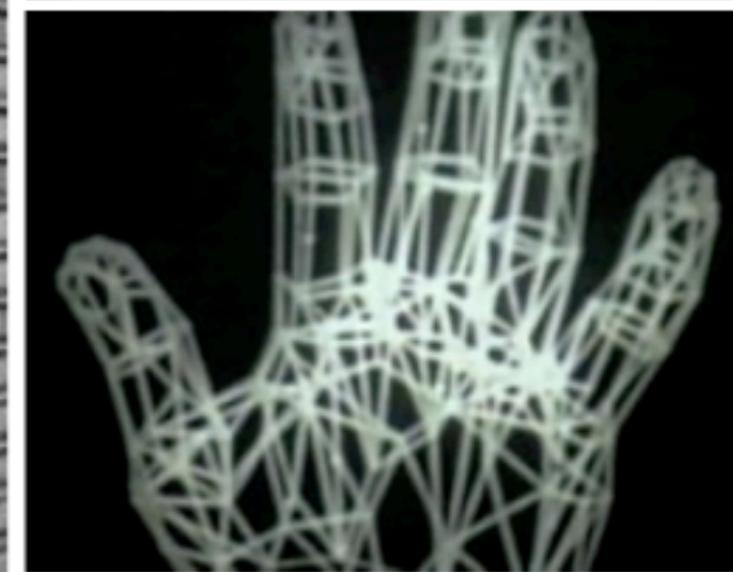
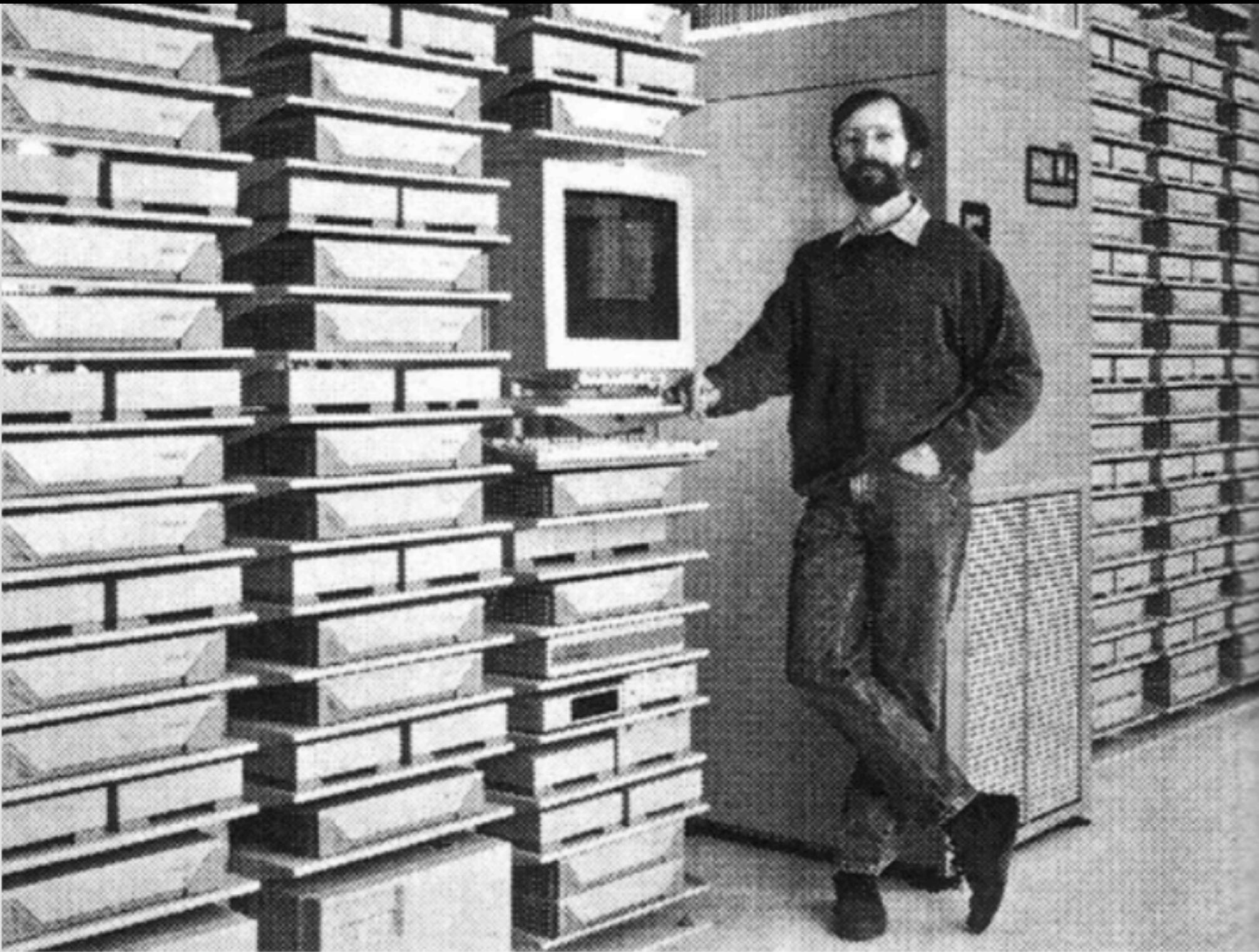


Xerox Star, 1981



Steve Wozniak + Steve Jobs

what is open source?



Edwin Catmull Invents Digital 3D Modeling Systems
(will go on to co-found Pixar), 1974



Pixar: [Luxo Jr.](#), John Lasseter, director

1st CGI film nominated for an Academy Award, 1986

Steve Jobs Comes Back

At 33, the computer wunderkind has a slick new product and sales pitch to match. It may be the most exciting machine in years. But will it sell?

It's less than a week before the most important day of his life, and Steve Jobs is doing what comes naturally: fussing over details. At a high-school gym in Berkeley, Calif., he's rehearsing the rollout that will introduce his new baby, the NeXT computer, to the world. Dressed in blue jeans and a red flannel shirt, Jobs paces back and forth, reading lines into a wireless microphone. Jobs has hired multimedia artist George Costes to stage the unveiling in San Francisco's futuristic Davies Symphony Hall. When the first slide appears on the screen, Jobs enthuses. "I really like that green." Around him, other NeXT executives chime in: "Great green. Great green."

The computer goes through its paces, playing music with the sound of a live orchestra, pulling up images as clear as photographs, retrieving quotes from a memory bank big enough to hold a bookshelf full of classics. Then a software glitch makes the image on the sleek black monitor freeze. NeXT employees tense up, expecting an infamous Jobs outburst. Jobs just stares at the screen, then shrugs. "We're hosed," he says calmly. "We'll fix that. No problem." Later, a video shows the automated assembly plant that Jobs has built to manufacture the NeXT machines. Wandering back to sit with a handful of employees, Jobs watches as robot hands install the state-of-the-art chips that will power the computer.

software with the Macintosh. Now, at 33, he's billing the NeXT as a computer that will revolutionize the higher-education market and point the industry toward the 1990s (next story). Love him or hate him, people in the computer world couldn't wait to see what Jobs had secretly worked on for three years in his Palo Alto headquarters. When a NeXT marketer called The Wall Street Journal to buy an ad for the rollout, the salesman quipped, "Why bother?"

Jobs has much more at stake than the \$12 million he has invested in NeXT. He's rebuilding his reputation, too. Critics say Jobs's success at Apple was an accident, and that he is little more than a showman with a knack for packaging other people's engineering. Jobs is still smarting over his



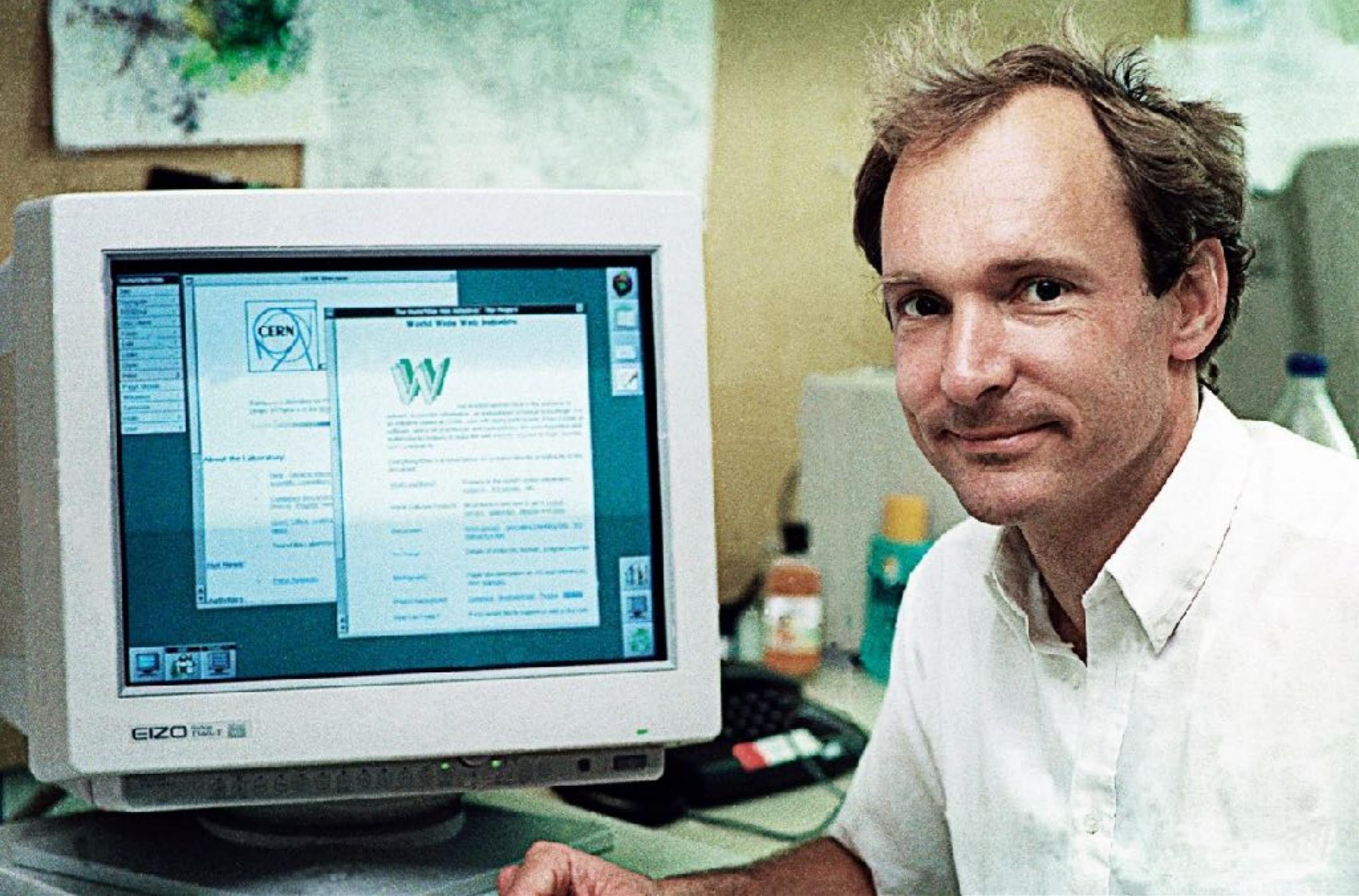
A meticulous showman: The boss and his logo (above), introducing the system
PHOTOS BY CHUCK NACKE—PICTURE GROUP



'A Neat, Neat Box'

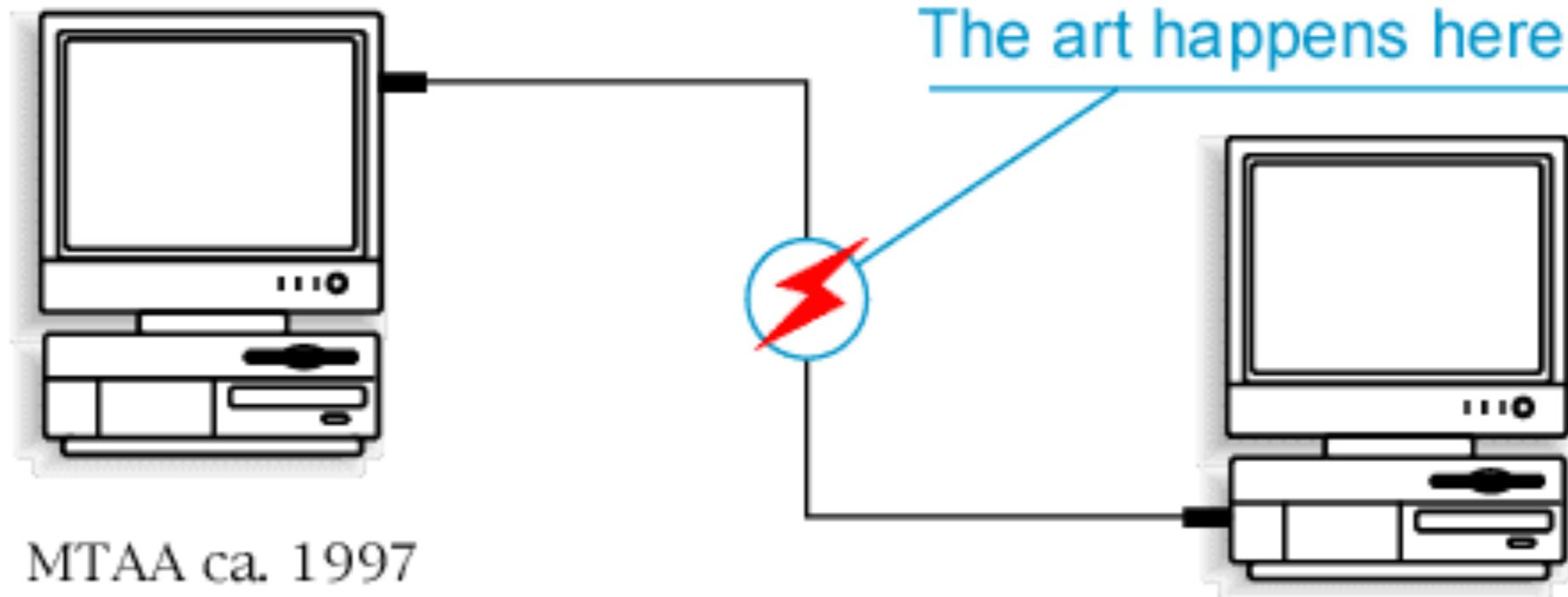
The NeXT computer wowed industry analysts by offering more bang—and byte—for the buck. Whatever its commercial chances, it qualifies as state of the art in six areas.

- **Sight:** The high-resolution black-and-white monitor shows exactly what will come out of the laser printer.
- **Sound:** A Motorola chip helps record and play back music and voices with the fidelity of a compact disc.
- **Memory:** The removable, erasable optical-disk drive can hold enough information to fill hundreds of books.



1989 - Berners-Lee invents the WWW on a NeXT machine

Simple Net Art Diagram





[Text Rain](#)

Romy Achituv + Camille Utterback, 1999



[Path \(Software 1\)](#)

Custom software, computer, screen or projector

Dimensions variable, portrait or landscape

Casey Reas, 2001/2014

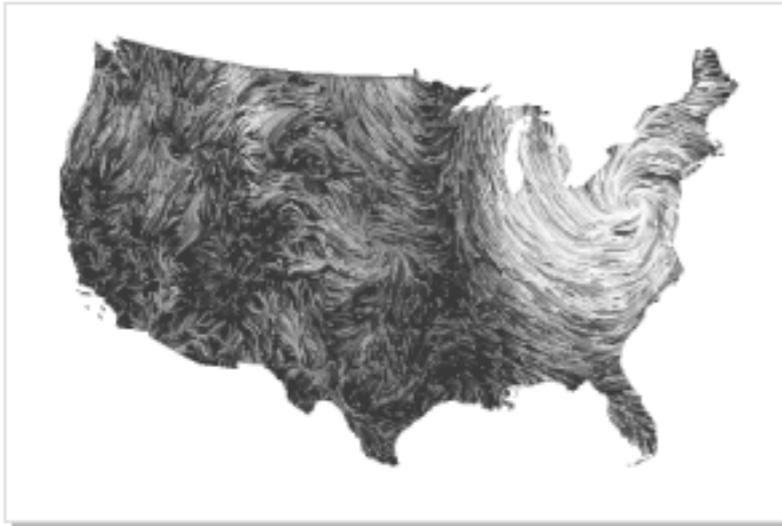
Tweets Tweets & replies

-  Pinned Tweet
-  [everyword](#) @everyword · 16 Jul 2008 ⌵
book
 10  226  544 
-  [everyword](#) @everyword · 7 Jun 2014 ⌵
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-  [everyword](#) @everyword · 7 Jun 2014 ⌵
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-  [everyword](#) @everyword · 7 Jun 2014 ⌵
émigré
 7  88  87 

[Every Word,](#)

Twitter Bot, 2007 - 2014

[Allison Parrish](#)



Oct. 30, 2012 - Hurricane Sandy



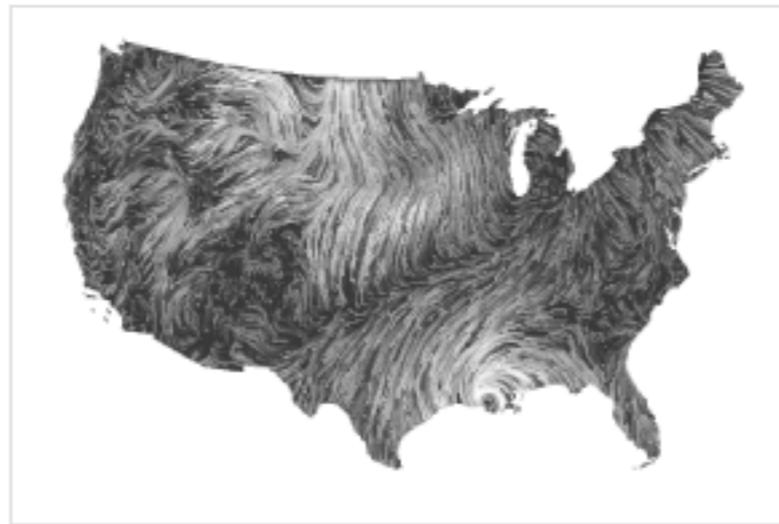
Oct. 29, 2012 - Hurricane Sandy: landfall



Sept. 19, 2012



Sept. 7, 2012



August 29, 2012 - Hurricane Isaac

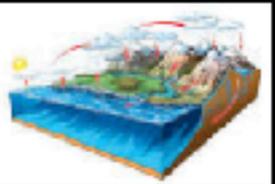


August 28, 2012 - Hurricane Isaac

Image Atlas Rebecca

www.imageatlas.org/search?countries=AF%20BR%20CN%20EG%20FR%20DE%20IN%20IR%20IL%20CN%20KP%20RU%2...

water Atlas Selection Sort results alphabetically Sort results by GDP About

AFGHANISTAN آب						
BRAZIL água						
CHINA 水						
EGYPT الماء						
FRANCE eau						
GERMANY Wasser						
INDIA पानी						



iPad, 2013
Taeyoon Choi



Processing, 2001 - present
Casey Reas + Ben Fry
@ MIT Media LAb



p5.js, 2010 - present
Lauren McCarthy

the canvas

