Seek

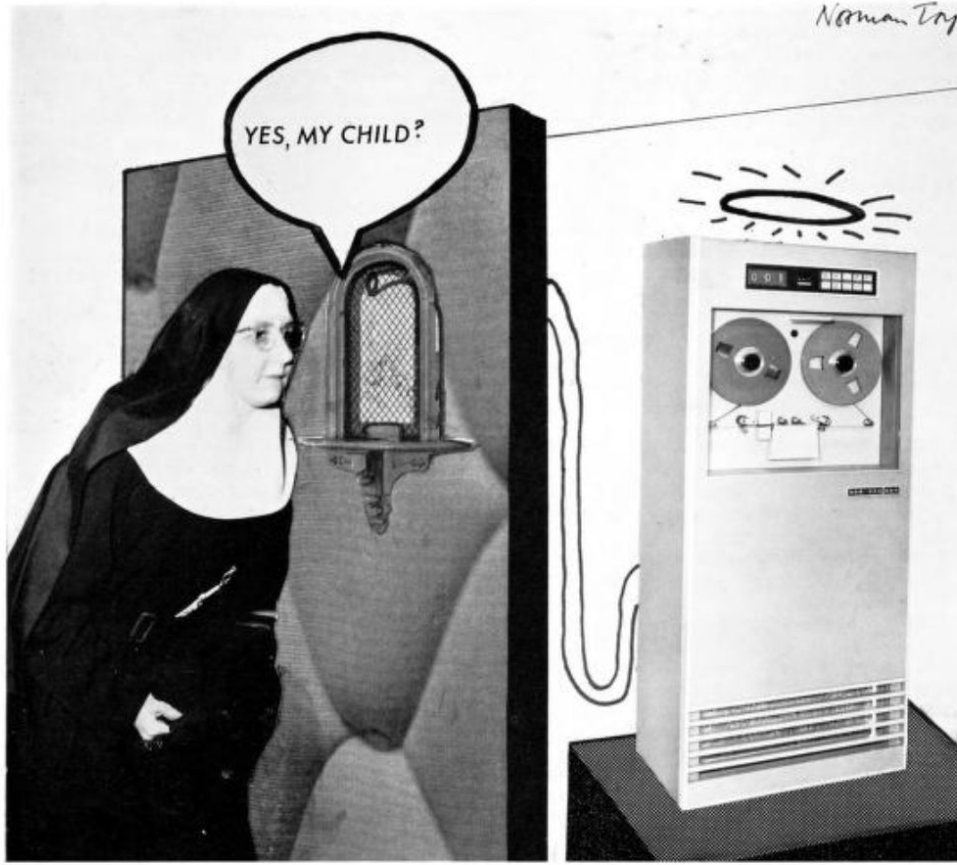
“I remember watching one gerbil who stood motionless on his little kangaroo matchstick legs, watching the Great Grappler rearranging his world”

Ted Nelson, pioneer of hypertext

Software—Information Technology Its New Meaning for Art

Cybernetics

The Precursor to AI

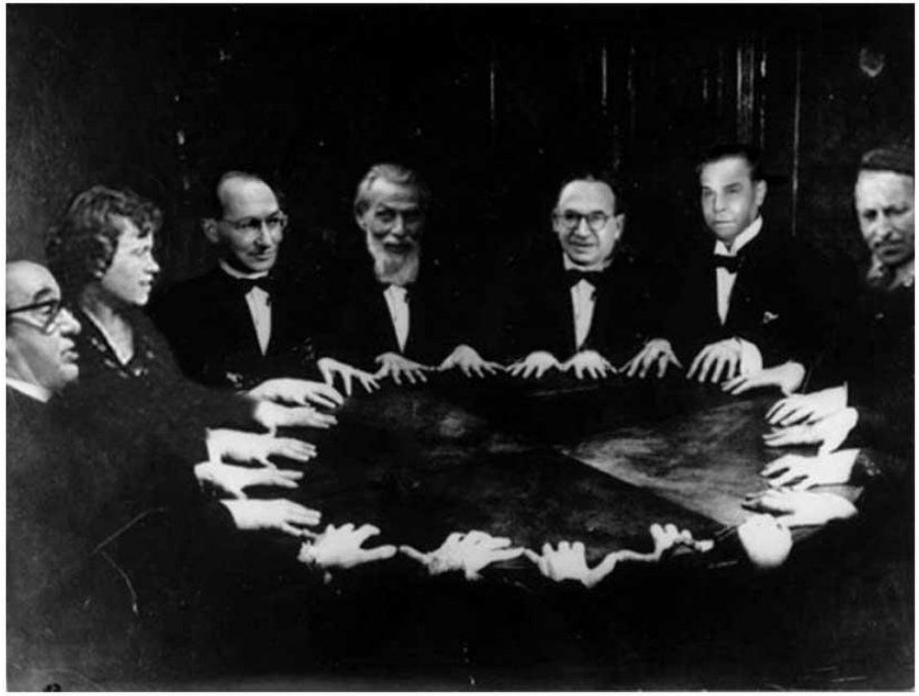


Cartoon by Norman Toynton

American Society for Cybernetics, October, 1968

The man from **Control Data Corp**, himself **a CIA confidant**, was there that day to sell a plan for what he called **“communal information centers”**, to make CDC’s supercomputers serve the public by providing news, recipes, public health monitoring, even dating advice.

Computers, he told the audience, were going to be our “**willing slaves . . .**



Cybernetic Séance - New York City, 1947
From Left to Right : Rafael Lorente De No (Neurophysiologist), Margaret Mead (Anthropologist), Kurt Lewin (Psychologist), Warren S. McCulloch (Neuropsychiatrist), Paul F. Lazarsfeld (Sociologist), Arturo Rosenblueth (Physiologist) and Gregory Bateson (Anthropologist). Front (missing from view): Molly Harrower (Psychologist), Heinrich Klüver (Psychologist), Norbert Wiener (Mathematician), Lawrence K. Frank (Social Scientist), Heinz von Foerster (Electrical Engineer), John von Neumann (Mathematician) and Ralph W. Gerard (Neurophysiologist). Observers (missing from view): Frank Fremont-Smith (Medical Director of the Macy Foundation), Julian Bigelow (Computer Engineer), Walter Pitts (Mathematician), George Evelyn Hutchinson (Ecologist), Leonard J. Savage (Mathematician), Henry Brosin (Psychiatrist), Theodore Schneirla (Comparative Psychologist), Hans Lukas Teuber (Psychologist), Gerhardt von Bonin (Neuroanatomist), Lawrence S. Kubie (Psychiatrist), Filmer S. C. Northrop (Philosopher), Alex Bavelas (Social Psychologist) and Donald Marquis (Psychologist).

The 1947 Macy Conference, aka the third cybernetics conference.

The Rebels :

Avery Johnson, Warren Brodey

I don’t know who you are, sir, and this isn’t personal…

But I’m tired of listening to this.”

The Battle Over Cybernetics

What is the relationship between humans and computers going to be?

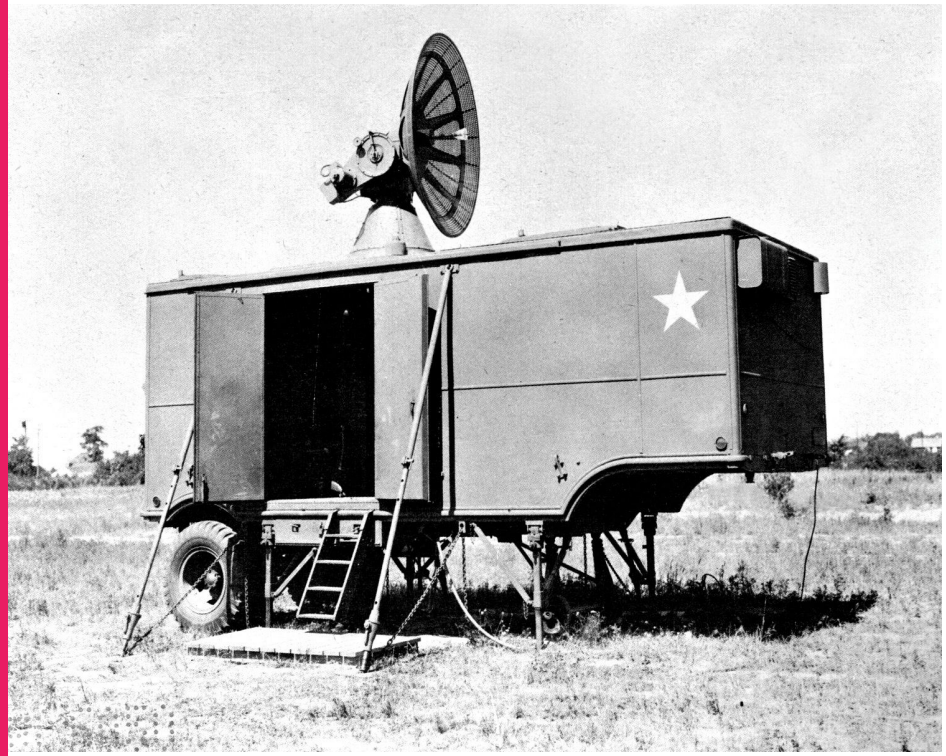
More importantly, how do we see human beings, as machines or organism ?

70 Years of Consequences

MIT and WWII

The US military funds MIT to develop:

Computers
for Flight Simulators

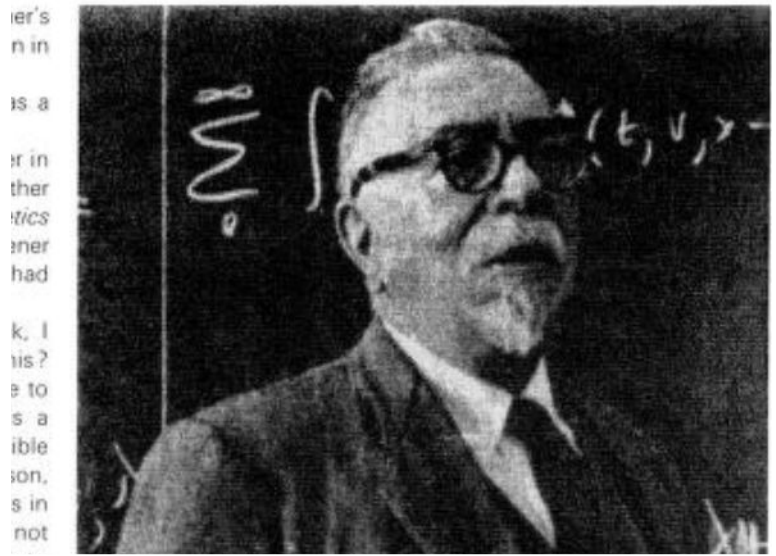


Norman Weiner

Mathematician @ MIT

Communication control in animals and humans.

1948, Author of Cybernetics, *Or Control and Communication in the Animal and the Machine*



“When I give an order to a machine, the situation is not essentially different from that which arises when I give an order to a person.”

This digital Norbert Wiener is the work of H. Philip Peterson of the Control

Cybernetics

"Human beings simply are part of a system"

- Noah Wardrip-Fruin and Nick Montfort

MIT, 1960s

The **center** of **Technological development** but also **resistance** in academia to the **Vietnam War.**

Protesting the research on

- Guidance systems for Nuclear missiles
- Helicopters, smart bombs

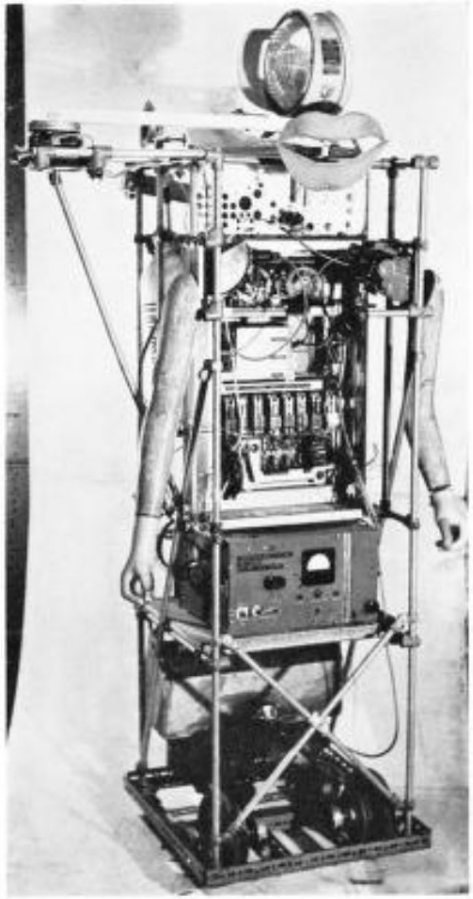
The Crisis

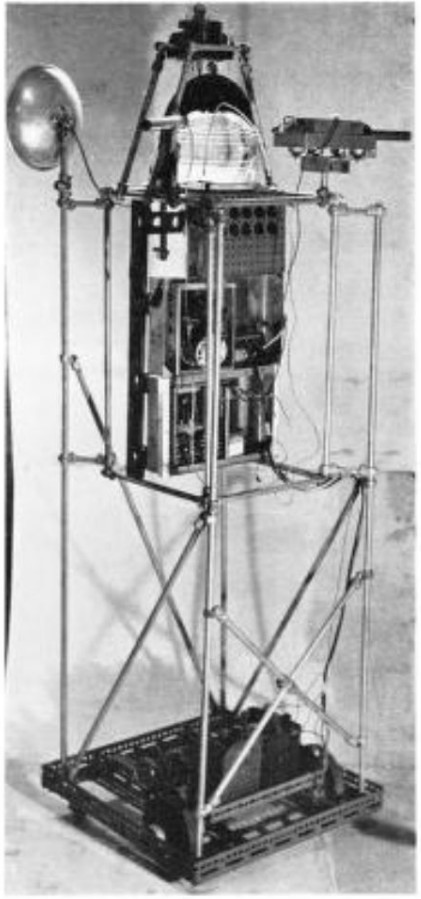
- 2 Visions of Computation

Cybernetics Serendipity,

Institute of Contemporary Arts, London, England,

September, 1968





Cybernetics Serendipity

-Jasia Reichardt, Curator

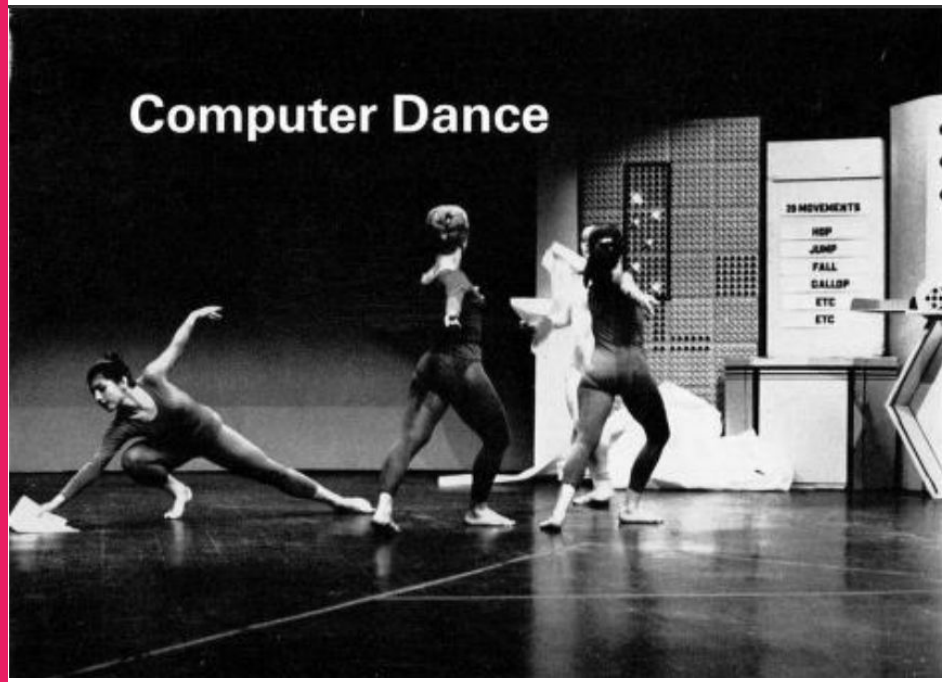
“To show the random systems employed by artists, composer and poets, and those involved with the making and use of cybernetic devices”

Computer Dance

Random dances computer output
Dancer 2 at 4
Dance 1

Stationary dance

1. Stay at 4, nine medium beats, rotate left shoulder clockwise, diag rt bkwd then return then diag left bkwd.
2. Stay at 4, five medium tempo triplets, rotate both shoulders clockwise, make a pentagon.
3. Stay at 4, three medium beats, leap then run, diagonally right backward.
4. Stay at 4, eight beats S to F to S, run as many as desired, no change in space.
5. Stay at 4, three slow beats, plie in second position and rise, alternate diag rt forwd and diag left bkwd.
6. Stay at 4, three slow beats, fall and do not rise until next line, diagonally left backward.
7. Stay at 4, seven medium beats, move left arm only, arc forward.
8. Stay at 4, ten beats S to F to S, quarter turn counterclockwise, make a hexagon.



Jeanne H Beaman

Paul Le Vasseur
Computer and Data Processing Center
the University of Pittsburgh.

Dancing Suit

A garment that would allow a dancer to influence the music they were listening to by changing their movements

“This is a two way feedback system influence the music’s ‘ecology’”

- **Sansea Sparlin**

Environmental Ecology Lab

Closed Systems != Open Systems

Command & Control

Humans are Systems

Ecology

Humans are Organisms

Environmental Ecology Lab 1968-70

The Hippie Lab

Lewis Wharf Gang

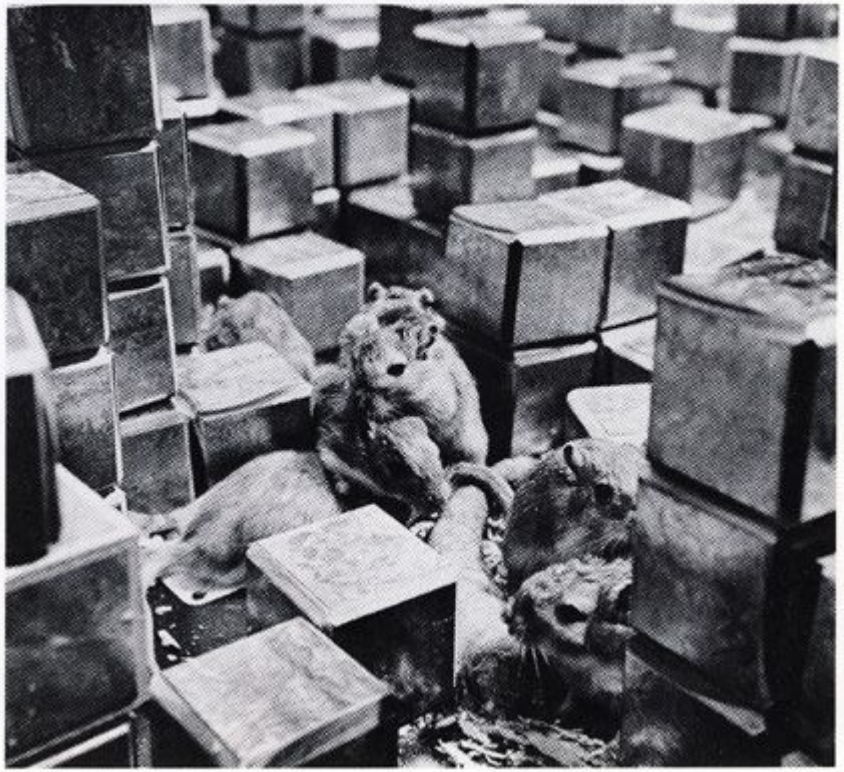
- **intelligent environments**
- **soft infrastructure**

“What can we discover that allows the person in the loop to learn and progress with whatever they are trying to do?”

–Sansea Sparlin

Seek, 1970

Architecture
Machine Group
at MIT

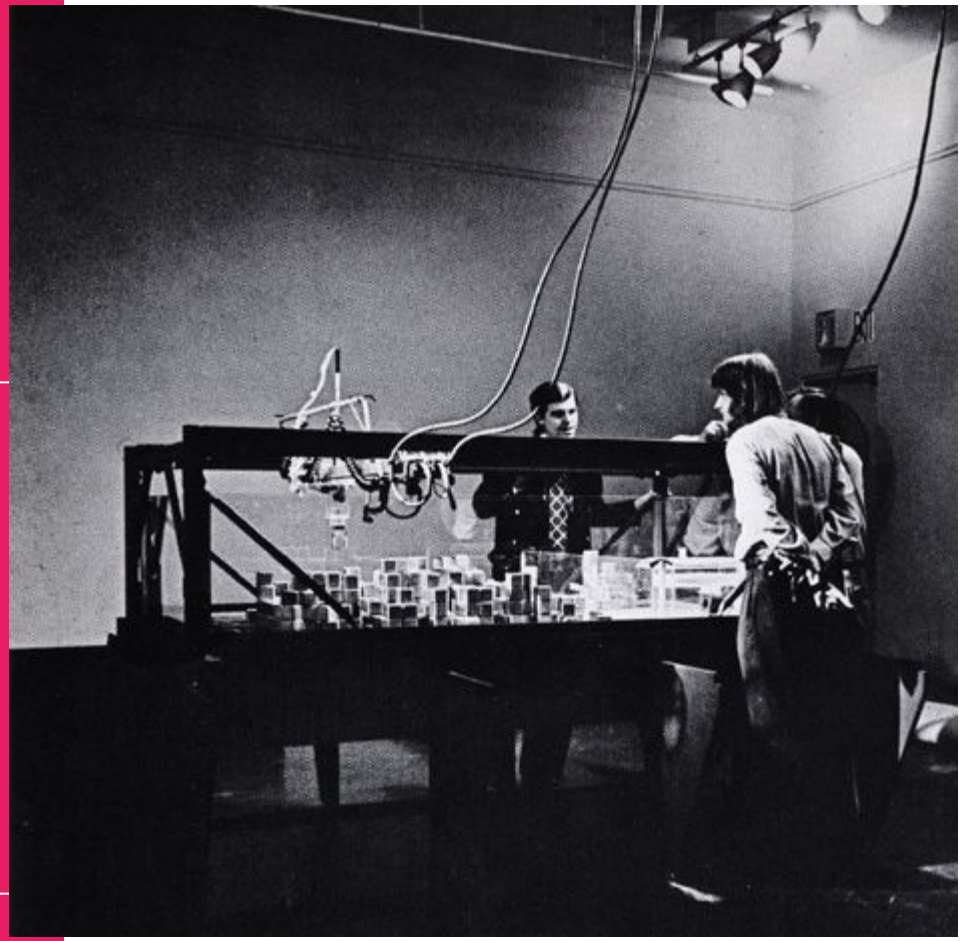


Intelligent Environments
Soft Infrastructure

Architecture Machine Group

“Seek will become a frame for experiments conducted by students in computer-aided design and in **artificial intelligence”**

Software—Information Technology Its New Meaning for Art



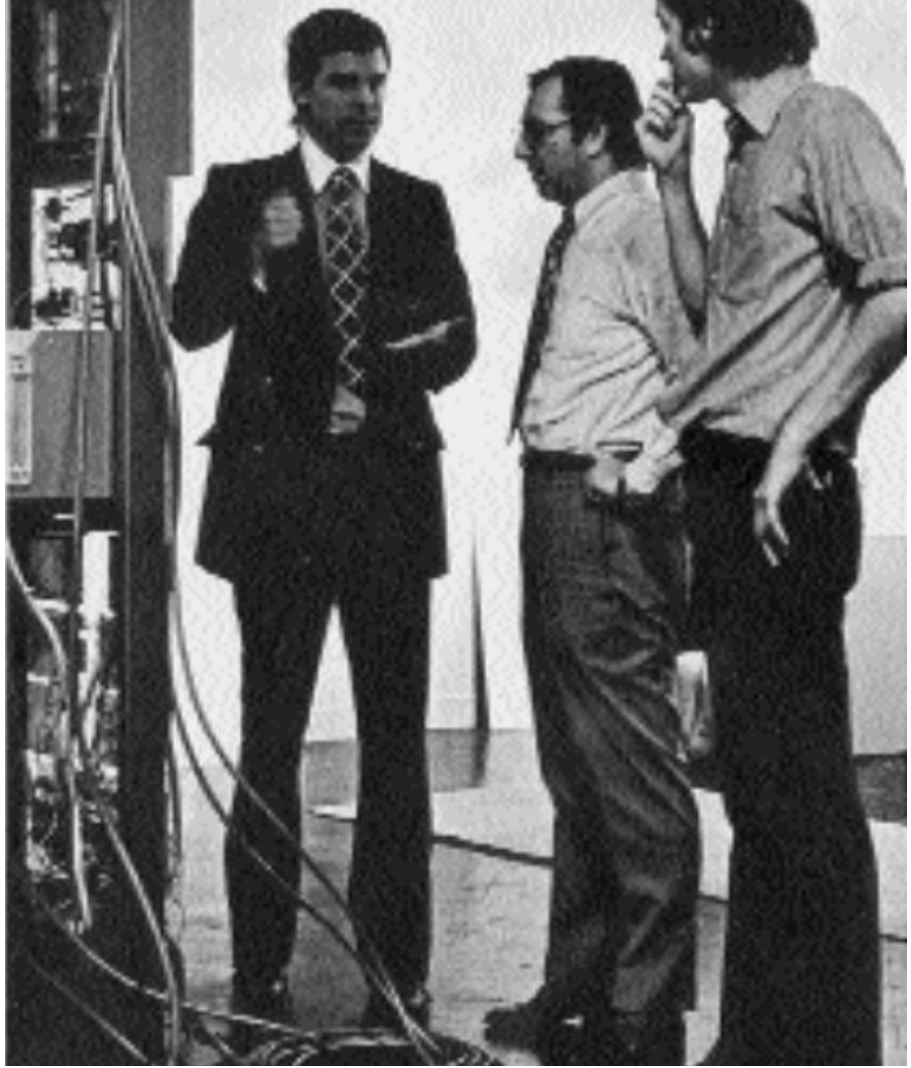
Command and Control

MIT MEDIA Lab is formed and expands throughout the 1970s, taking grants from **Defense Department, Pentagon** to work on interactive projects such as early forms of virtual reality.

1995, Being Digital

"Imagine a future where your **interface agent** can read every newswire and newspaper, catch every TV and radio broadcast on the planet, and then construct a personalised summary.

Nicholas Negroponte



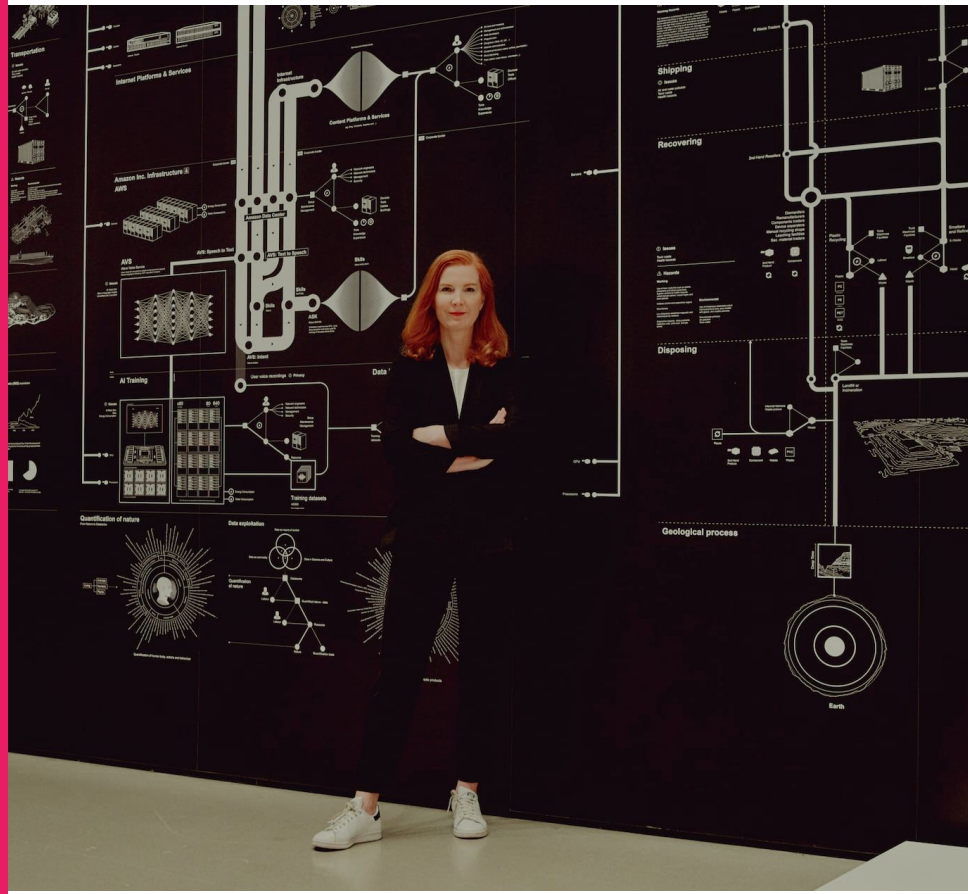
Nicholas Negroponte

Consumed w/ the idea that **human curiosity can be assessed, predicted and satisfied by clever programming**, with a touch of algorithmically injected serendipity in the mix

Atlas of AI

"You shall know them by their meta-data"

- Kate Crawford, p185



Classification

Generation

Humans are **data objects**

Human creative work is **random** therefore it is **reproducible**

Warren Brodey

“There is no ideal anything, because we are constantly changing. **We’re not like machines.”**

– Financial Times

[A Sense of Rebellion]

Media Arts Technology

Media Information Technology

Books

Atlas of AI
Cybernetic Serendipity
New Media Reader
Digital Art : 1960s to Now
Cybernetics, *Or Control and Communication in the Animal and the Machine*

Articles

Software—Information Technology Its New Meaning for Art
A Sense of Rebellion, Archive
The AI We Could Have Had, Evgeny Morozov