

The text is surrounded by six light purple circles. Three are in the top row (left is an outline, middle and right are solid) and three are in the bottom row (left and middle are solid, right is an outline).

# *As We May Think*

An essay by Vannevar Bush

Published in July 1945

(but conceived in 1936!)



Vannevar Bush with his Differential Analyzer (1935)



# Vannevar Bush's Legacy

- Led OSRD during WWII which coupled civilian researchers with armed services.
- Helped cement ties between academic science, industry and the military which had been forged during the war.
- Recommended the creation of what would eventually become National Science Foundation (NSF).
- Scientists should be left to self-organize and self-police. The government should be kept on tap, but not on top.

# *As We May Think*



- Essay conceived in 1936 but put on the shelf during WWII
- Published in 1945
- Desire to make all previous collected human knowledge more accessible
- Predicted hypertext, personal computers, the Internet, speech recognition and online encyclopedias



# The Memex

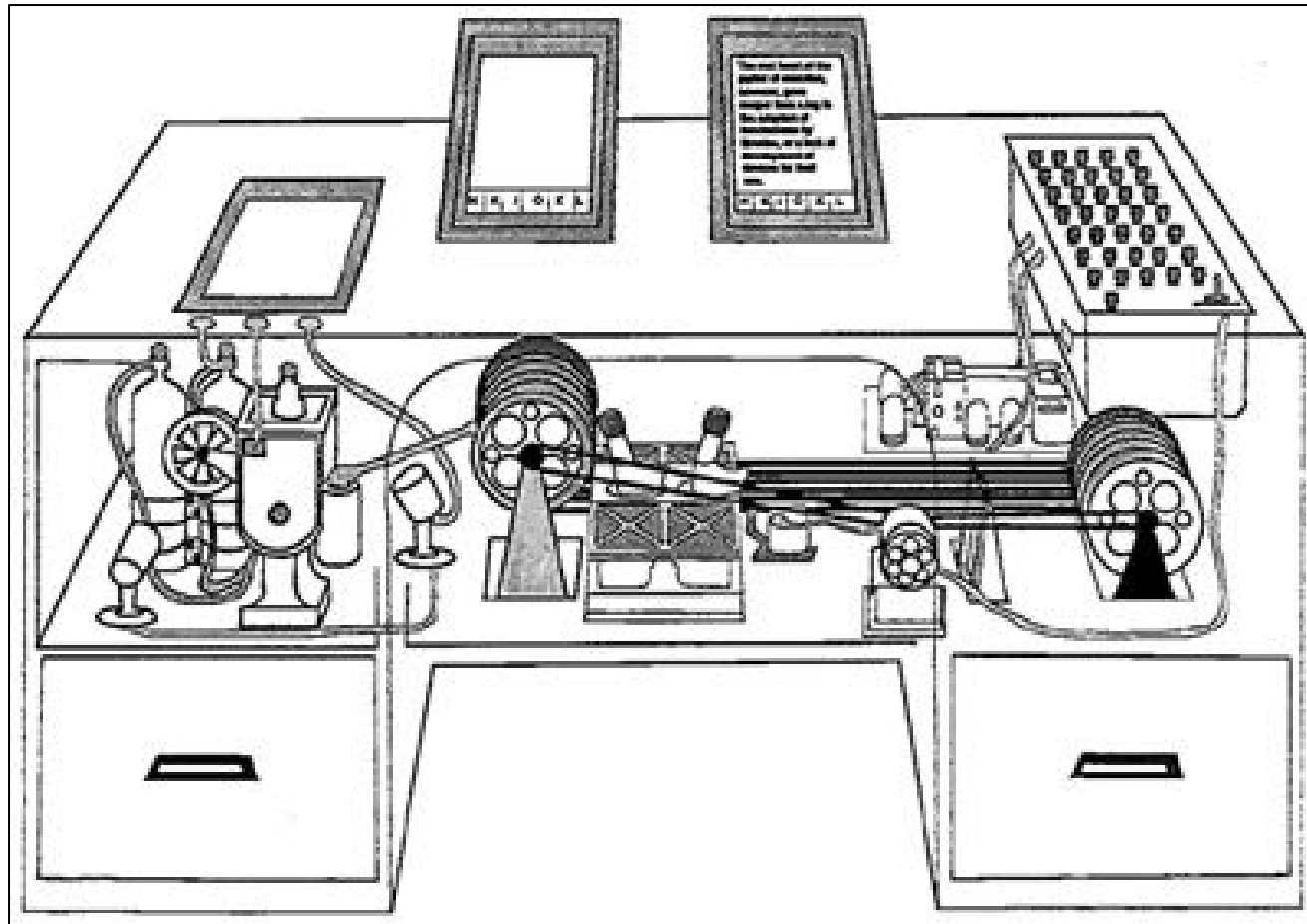
*“A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.”*



# The Memex

- A portmanteau of “memory extender”
- Theoretical computer
- Predicted hypertext and intellect augmenting computer systems
- “[The user] builds a trail of his interest through the maze of materials available to him.”

# The Memex



# The Successors



- J.C.R. Licklider

- Said computers and people will work together (1960)

- Ted Nelson

- Sought a computer network with a simple user interface (1960); published *Computer Lib/Dream Machines* in 1974

- Douglas Engelbart

- Helped develop the computer mouse, hypertext, etc. (1968)

# As *We May Think* in Action

- “Wholly new forms of encyclopedias will appear”
  - Wikipedia
- “A trail of interest through the maze of materials”
  - Amazon (Clickstreams)
- “Any item can be joined into numerous trails”
  - Flickr (tagging)
- “Selection by association rather than indexing”
  - Google (*See: Anatomy of a Large-Scale Hypertextual Web Search Engine*)



# *As We May Think* in Action

- “As [the user] has several projection positions, he can leave one item in position while he calls up another”
  - Firefox (tabbed browsing)
- “A lever runs through [material] at will, stopping at interesting items, going off on side excursions”
  - MySpace, Facebook (social networking)



# *As We May Think* in Action

- “The world has arrived at an age of cheap complex devices of great reliability; and something is bound to come of it.”
  - Mobile computing/cell phones
- “Excursions may be more enjoyable if [man] can reacquire the privilege of forgetting the manifold things he does not need to have immediately at hand, with some assurance that he can find them again if they prove important.

# As *\*Computers\** May Think

- Web 2.0 Name Generator
  - <http://www.lightsphere.com/dev/web20.html>
- Scientific Paper Generator
  - <http://pdos.csail.mit.edu/scigen/>
- Band Name Generator
  - <http://www.elsewhere.org/bandname>
- Always Amusing Euphemism Generator
  - <http://walkingdead.net/perl/euphemism>
- Advertising Slogan Generator
  - <http://thesurrealist.co.uk/slogan>