



More New Media

Information Technology and Social Life

Feb. 4, 2005



Vannevar Bush

- 1890-1974
- Director of Federal Office of Scientific Research and Development
- “As We May Think” appeared in Atlantic Monthly in 1945
- Considered insightful in regard to technology and human thinking processes.
- Writing post-WWII, questions role of scientists in the future



As We May Think

- Proposal for how scientific effort should be used in a post-war environment
- Industrial revolution increased specialization
- Increased information; ability to bridge disciplines
- Research process is tedious and inefficient
- Inability to make use of the knowledge being created
- Critical of indexing systems
- Recognition that human mind works by association; yet memory is transitory



Memex

- Randomly named; concept rather than an actual device
- “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
- “enlarged intimate supplement to memory”
- Desk with screens, keyboard, buttons, and levers
- Large store of information; saved on microfilm
- Data could be purchased or input directly
- Concept of “dry photography”; stylus input device
- Access via numeric or mnemonic codes
- Several projection positions; view many documents at a time
- Process of tying two items together - associative indexing
- Predictions of “wholly new forms of encyclopedias” with ready-made associations.

Concept of joined items constituting a new book



Question

- Bush talks about trails of association. “There is a new profession of trailblazers, those who find delight in the task of establishing useful trails through the enormous mass of the common record.”
- What is the significance of the trailblazer metaphor and what are some alternatives?

also talks about construction -scaffolding and erecting.

Containers and sharing/collaboration

natural metaphors - plants, growth

Relationship

anchor

spatial metaphor - house/rooms/cities



Douglas Engelbart

- Born in 1925- currently director of his own company, Bootstrap Institute which focuses on CollectiveIQ.
- Electrical engineer; Radar technician in Navy during WWII
- Influenced by “As We May Think”
- 1948 worked for NACA Ames Laboratory- precursor to NASA
- Professor at Berkeley then researcher at Stanford Research Institute
- Invented many defining features of computer interfaces - mouse, window, word processor

Collective intelligence as characterized by Tom Atlee, Douglas Engelbart, Cliff Joslyn, Ron Dembo, and other theorists, is that which overcomes "groupthink" and individual cognitive bias in order to allow a relatively large number of people to cooperate in one process - leading to reliable action. In this context, it refers to a very rigorous consensus decision making, and may properly be considered a subfield of sociology.



Augmenting Human Intellect

- “increasing the capability of a man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems.”
 - more-rapid comprehension
 - better comprehension
 - the possibility of gaining a useful degree of comprehension in a situation that previously was too complex
 - speedier solutions
 - better solutions
 - the possibility of finding solutions to problems that before seemed insoluble
- “Extensions” of means used in the past, sensory, mental, motor capability
- Realized associative linking - trains of thought
- Using computer to organize thoughts, arguments, moving text, creating relationships.

This piece summarized a research report from 1962

And by "complex situations" we include the professional problems of diplomats, executives, social scientists, life scientists, physical scientists, attorneys, designers—whether the problem situation exists for twenty minutes or twenty years.

Books, traditionally serial in nature; counter to human intelligence;

Card system he describes quickly became unwieldy with linkages; proposed



Question

- Would you consider the ideas of Bush and Engelbart to be media deterministic or socially determined?