A Response to *As We May Think* (Vannevar Bush, 1945)

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I find myself immediately agreeing with Bush’s basic premise that as the sciences (and to generalise, societies) become more specialized the difficulty of disseminating knowledge outside of the academic disciplines in which research was conducted naturally becomes greater. And, therefore, as this specialization occurs methods and technologies related to the efficient and effective storage, organization, and dissemination of this knowledge becomes increasingly vital to prevent wisdom from being lost forever within departments or with academic elites.

I am also in accord with Bush’s philosophy of effective organization which from my understanding is the organization information not by index (nested markers which organizes the text rather arbitrarily in the context of their contents and meaning), but instead by association, for this takes into account the content and context of texts and relates them accordingly when one selects/searches. From my understanding this parallels the contemporary difference between the looking up of an individual website via a completely unique (but rather arbitrary) url versus typing in a bunch of keywords into a search engine and being presented with a countless number of related articles, videos, books etc.

I find his imagined technology, *Memex,* which realizes his association-over-indexing philosophy, especially interesting. I find *Memex* intriguing not so much at its face value: as a blueprint for a contemporary realization of the technology; but rather as a primary historical account: for through Bush’s predictions of future technology and comments on the realism or absurdity of his prophecies we we can make informed guesses as to the technological paradigms that existed at the time of authoring. For instance, the idea of storing and accessing information purely digitally must have been unfathomable at the time for Bush imagines ameliorated microfilm technology instead of floppy disks or hard drives as the solution to condensing the storage of information. I know that this particular paradigm is more largely indicative of Bush’s general time and place as the same technologies were present in sci fi classics written at the same time. In Frank Herbert’s *Dune* published in 1965 thousand page books are condensed to occupy no more than the space of a matchbook by using thin *filament paper* (26, Dune), the *filament paper* is then rendered legible to the naked eye using projections and/or magnifiers – an identical technology to Bush’s hypothesizes.

I love how because Bush cannot fathom a world in which computers and algorithms can deal meaningfully with content and organize and associate it meaningfully Bush instead employs crowd sourcing to meaningfully associate related texts in what he terms *trails.* I think Memex seems incredibly insightful: as it seems both private, collaborative, and allows for precise index based and more organic association-based searches just like the contemporary internet.

However, I would have to disagree with Bush’s basic assumption which necessitates that the grouping-by-association be crowdsourced in the first place: that is the assumption that computers can only be used for logically or repetitive tasks, and are essentially uncreative, and work in essentially different ways than human minds. I believe that the recent rise in popularity of neural networks and machine learning and just AI in general directed towards not only scientific and logical but also creative and cultural endeavours shows how technically deterministic entities can behave (by all practical definitions) in very creative ways. These developments blur hard lines which were reasonably yet mistakenly drawn seventy years ago between (to use the gendered language present in the article) man and machine.

(In fact even before the rise of neural networks algorithms used in web browsers could already meaningfully group texts by their content without having to rely on crowd sourcing as a creative crutch.)