



search, storage, & beyond

History of Information

December 5, 2007

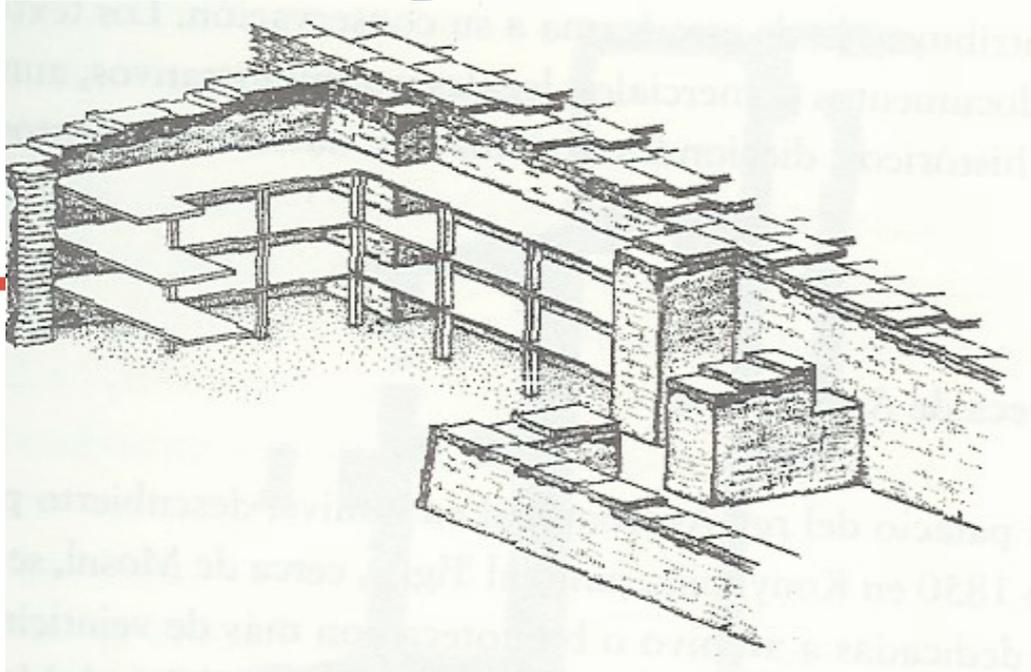


a new line?

**"to organize the world's
information"**

**store
order
access**





storing

Mesopotamia

Ebla (Syria) c 2250 bce

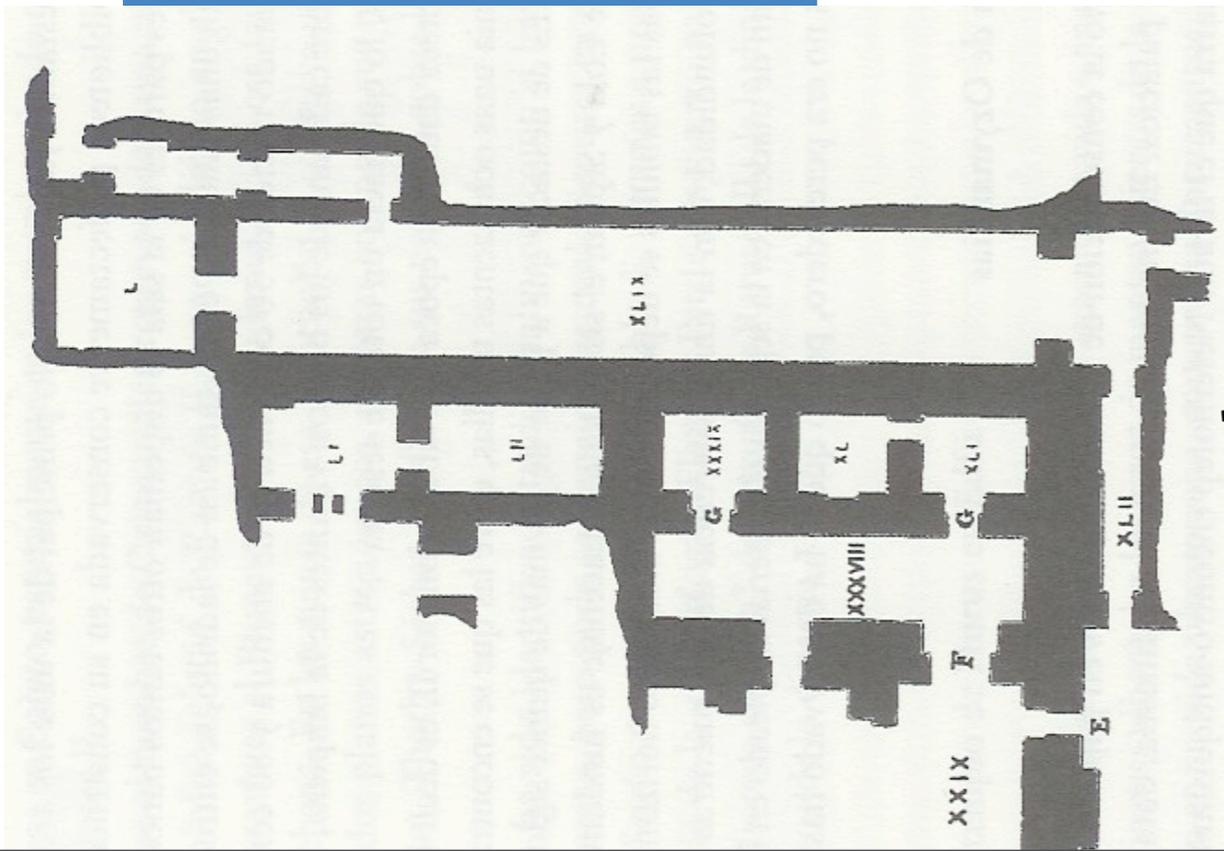
Babylon (Iraq) 15,000 tablets

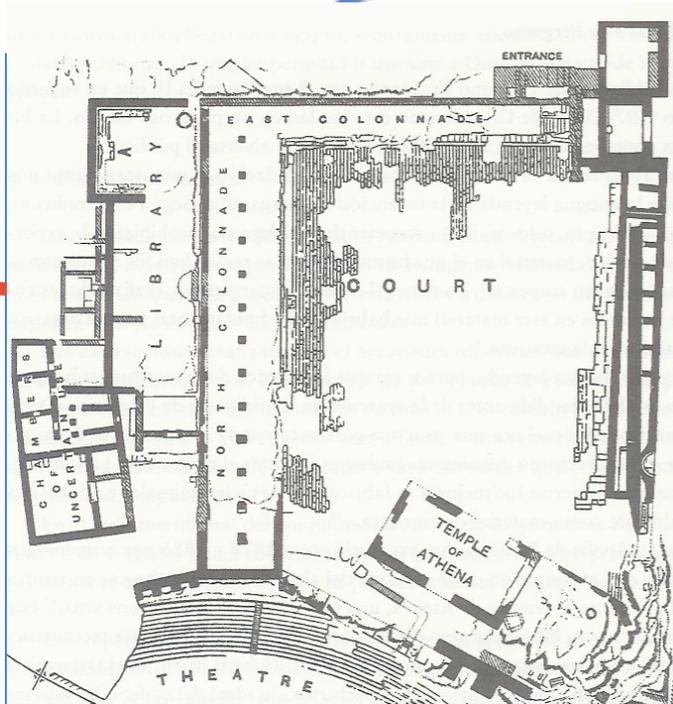
Nineveh (Iraq) c. 650 bce

Gilgamesh

Shin-equi-unninni

"and then he carved his story on a stone"





storing: Mediterranean

Lyceum
(Aristotle)

Pergamum [Turkey] (c 197 bce)
200,000 scrolls
parchment





storing: Alexandria(s)

libraries

royal library, Mouseion, "daughter", Serapion
Caesarion



Ptolomies

I (367/6-283/2 bce)

II (308-246 bce)

490,000 "main"
42,000 "daughter"



sorting

Zenodotus

alphabetical ordering

Callimachus

categories

Aristophanes & Aristarchus

scholarly versions
editorial commentary

Dionysius the Thracian

Greek grammar



volumen to codex





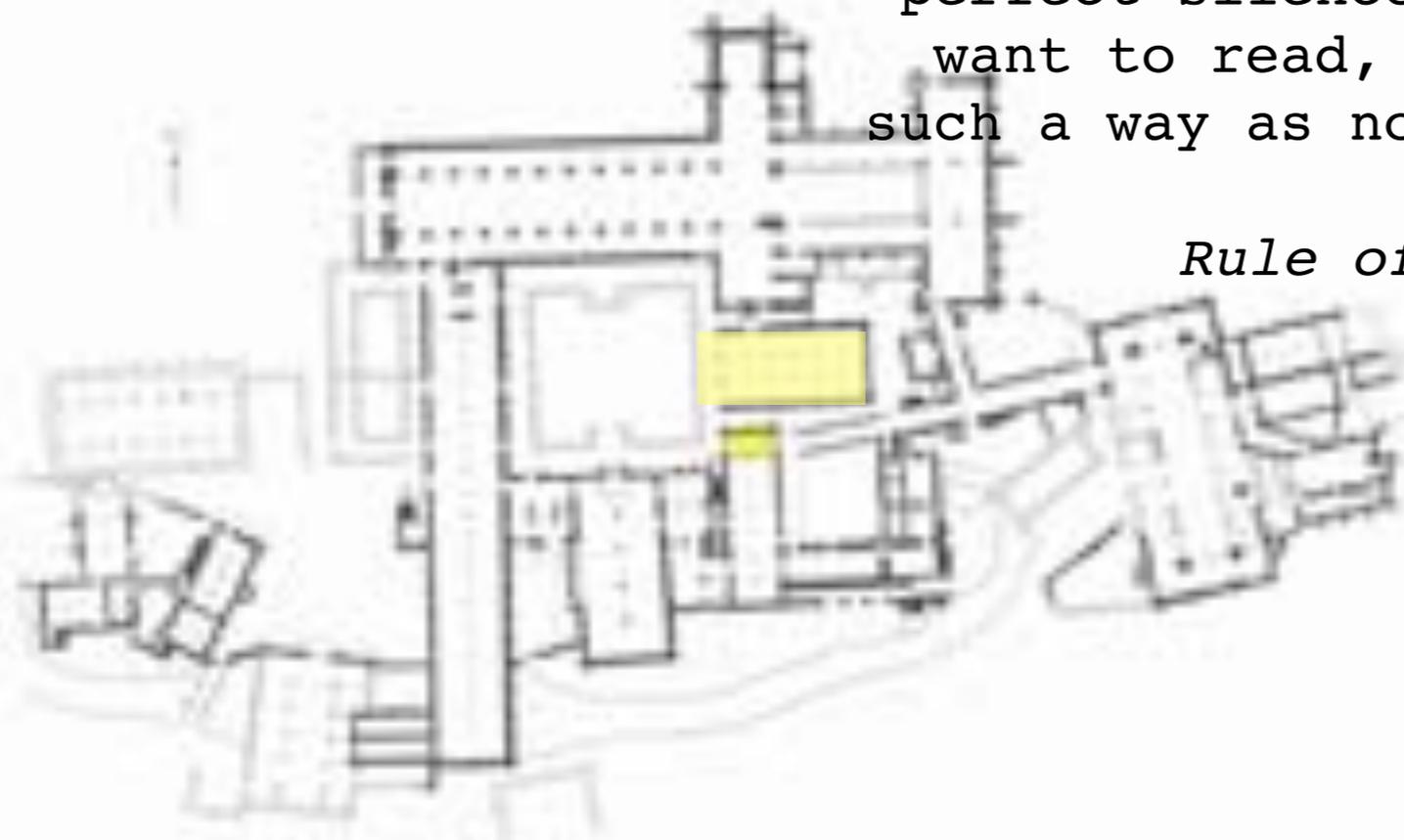
monastic libraries



intensive to extensive

"[F]rom the fourth hour until about the sixth let them apply themselves to reading. After the sixth hour, having left the table, let them rest on their beds in perfect silence; or if anyone may perhaps want to read, let him read to himself in such a way as not to disturb anyone else."

Rule of St Benedict, Chapter 48.





reading



Humbert de Romanis (1194-1257)

Dominican libraries:

dry, well ventilated, ample shelving, subject categories, catalogue, titles on spines; up to date, selling old and duplicates to buy new; regular hours; 'reference' book chained, others portable; loans recorded

Dominican reading:

the search for truth



reading

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organizing (again)

alphabetized

Elementarium Doctrinae Erudimentum, 1053

topical indexes

Deusdedit's *Canons*, 1083-87

thematic classification

Gilbert of Poitiers's *Psalms*, c. 1150

running headlines, chapter titles, cross references, citations, "chapter & verse",

authoritative texts (*Correctoria*)



Alexandrian phantasies

"These Libraries in a few years, will be full and compleat, being furnished, not only with all the valuable and usefull Old Books in any Art of Science, but also with all the valuable New Books, so soon as every they are heard of or seen in the World"

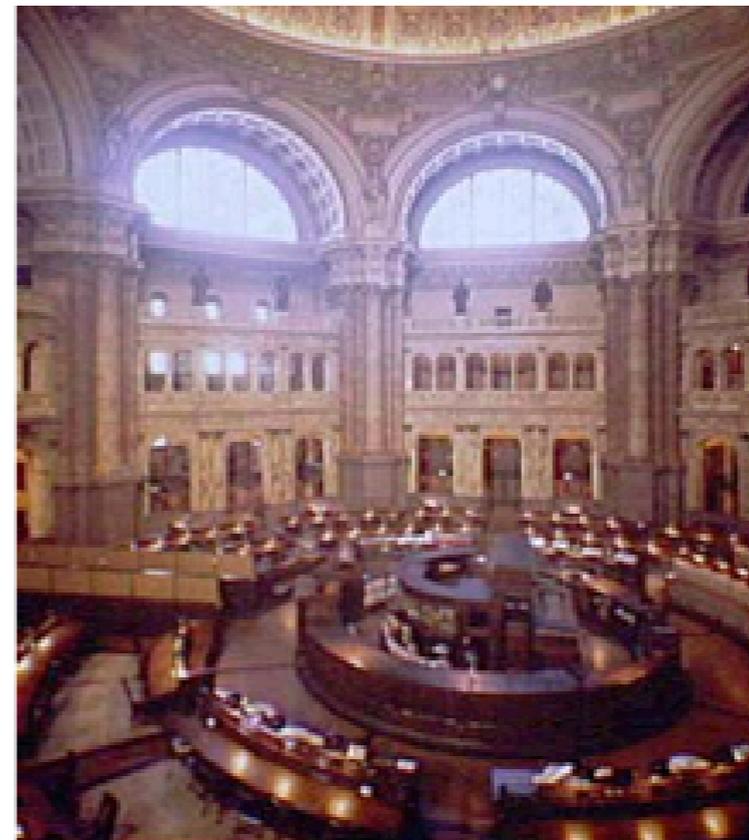
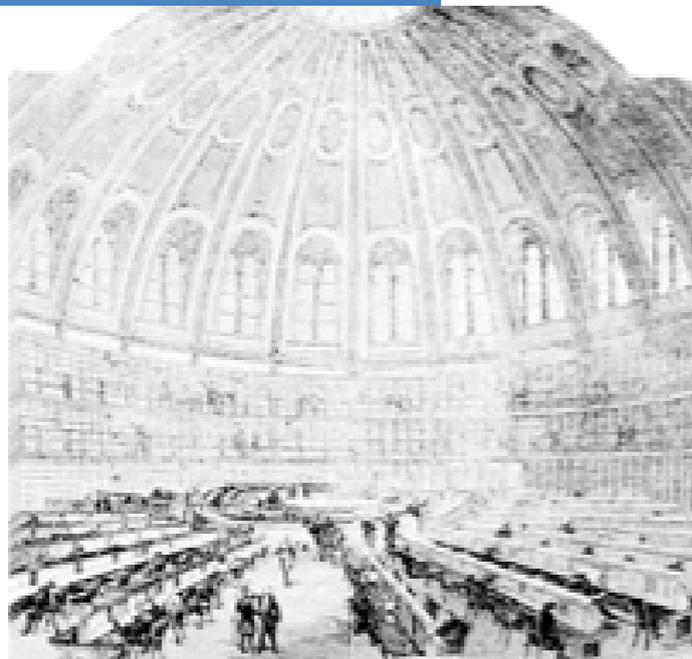
An Overture for Founding and Maintaining of Bibliothecks in Every Paroch Throughout this Kingdom, James Kirkwood,

1699

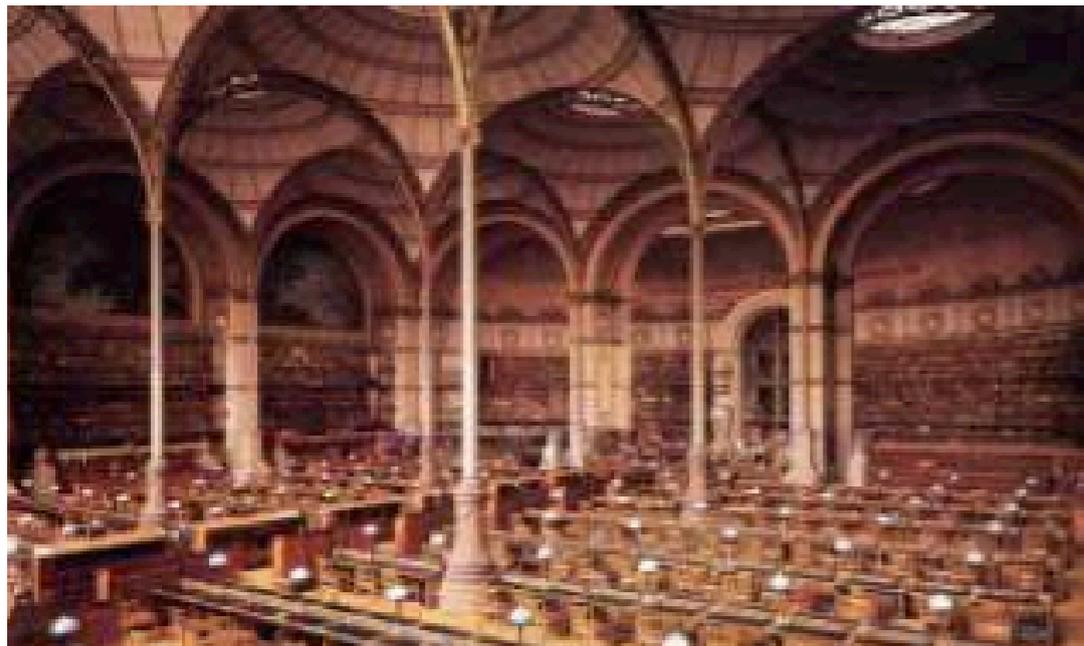


collecting or selecting

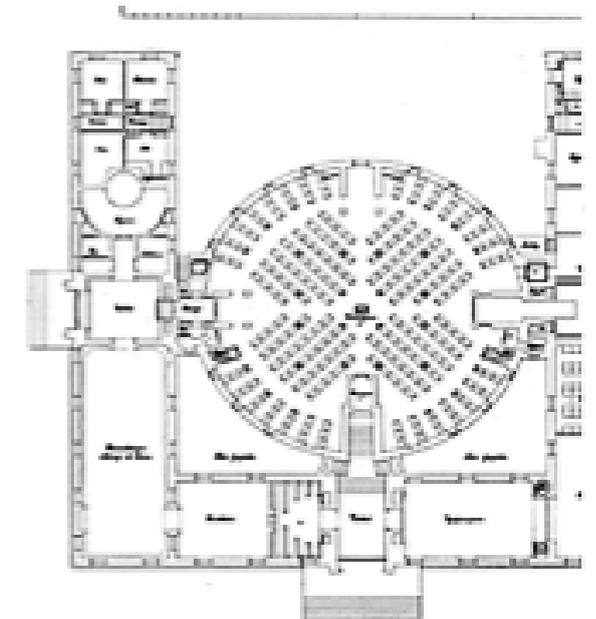
Smirke, British
Museum Reading
Room, 1851



Pelz/Casey Reading Room,
LOC, ca 1898



Labrouste, Bibliothèque
Nationale 1868



Asplund, Stockholm City
Library, 1928

Strong room. Ab [Valla]

VALLA (Laurentius).

Laurentii Valle Elegantiarum libri sex, deq;
reciprocatōe libellus, cū Antoni Mancinelli
lima suis locis apposita. Et cum Iodoci Badij
Ascensij epitomatib; singulis capitibus ante-
positis, & subinde non contemnendis explanati-
onibus. Adnotaciones eiusdem in Antonium Raudens-
em. Apologus seu actus scenico9 in Pogiū florent-
inum. ff.(4) + ccxxvi + (12).

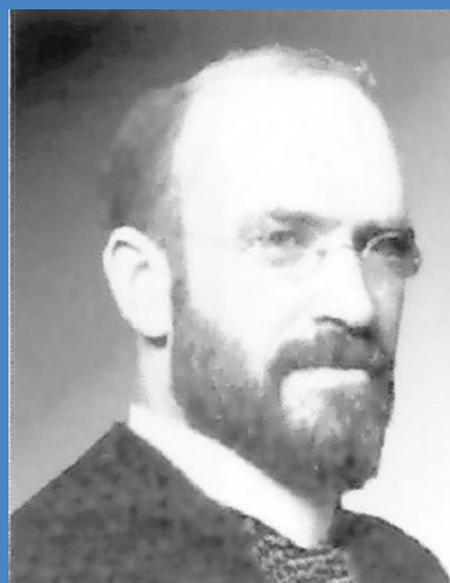
4^o. [Mathias Schürer: Strassburg,
1512.]

Imperfect: wanting five signatures (A-E) from the end
of the volume, containing the In Antonium Raudensem
and In Poggium.

cataloging



Gibbon (1737-1794)
& playing cards



Melvil Dewey (1851-1931)
000-099 General Works
100-199 Philosophy
200-299 Religion ...



film of the book

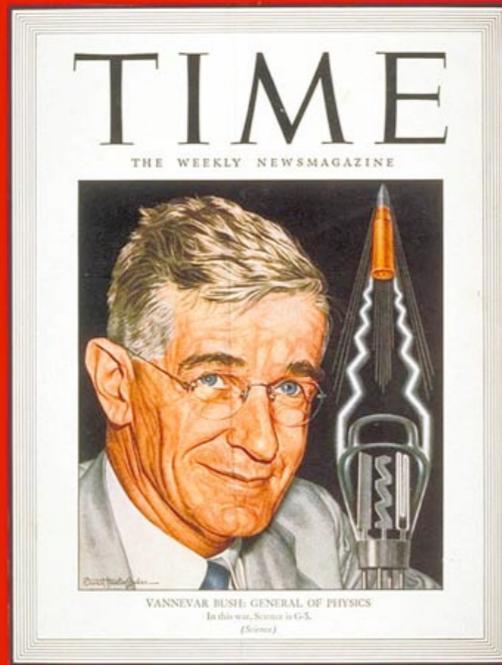
Notes & Queries, 1854, 1855

Photography applied to Catalogues of Books.—May not photography be usefully applied to the making of catalogues of large libraries? It would seem no difficult matter to obtain any number of photographs, of any required size, of the title-page of any book. Suppose the plan adopted, that five photographs of each were taken; they may be arranged in five catalogues, as follows:—Era, subject, country, author, title. These being arranged alphabetically, would form five catalogues of a library probably sufficient to meet the wants of all. Any number of additional divisions may be added. By adopting a fixed breadth—say three inches—for the photographs, to be pasted in double columns in folio, interchanges may take place of those unerring slips, and thus librarians aid each other. I throw out this crude idea, in the hope that photographers and librarians may combine to carry it out. ALBERT BLOR, LL.D.

Dublin.

Photographic Copies of Ancient Manuscripts.—Might not photography be well employed in making facsimiles of valuable, rare, and especially of unique ancient manuscripts? If copies of such manuscripts could be multiplied at a moderate price, there are many proprietors of libraries would be glad to enrich them by what, for all purposes of reference, would answer equally well with the originals. A.

[This subject, which has already been touched upon in our columns, has not yet received the attention it deserves. We have now before us a photographic copy of a folio page of a MS. of the fourteenth or fifteenth century, on which are inscribed a number of charters; and, although the copy is reduced so as to be but about 2 inches high and 1½ broad, it is perfectly

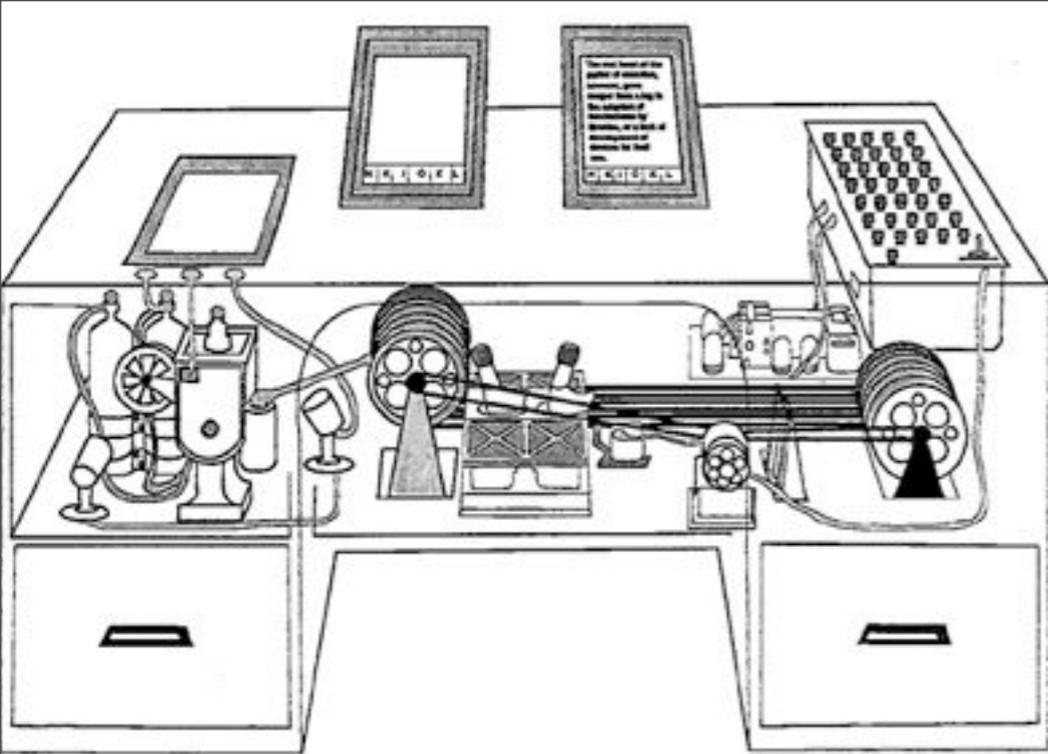


new technology

Vannevar Bush (1890-1974)

"There is a growing mountain of research.
But there is increased evidence that we
are being bogged down today as
specialization extends. ... A record if it
is to be useful to science, must be
continuously extended, it must be stored,
and above all it must be consulted"
--As we may think, 1945





memex

revision course

Two centuries ago Leibnitz invented a calculating machine which embodied most of the essential features of recent keyboard devices ... Babbage, even with remarkably generous support for his time, could not produce his great arithmetical machine ... progress in photography is not going to stop dry photography ... is already here ... a scheme for facsimile transmission ... microphotography ... compression ... advanced arithmetical machines will select their own data and manipulate it

looking ahead

A memex is a device in which an individual stores all his books, records and communications ... mechanized ... associative indexing ... his trails do not fade



global memex

"an America where every child can stretch a hand across a keyboard and reach every book ever written, every painting ever painted, every symphony ever composed". Bill Clinton, 1966

"A young generation of entrepreneurs asked what if we could take all the information in a library and put it on a little chip the size of a fingernail? We did that and changed the world forever". John Kerry, 2004

"universal access to all knowledge". Brewster Kahle



first the net

**WAIS
ARCHIE**



then the web

"the web is a global library produced by
millions of people"
--Yochai Benkler

Alta Vista
Yahoo



then google



beyond hierarchy

"to organize the world's information"

beyond organization

"making the incredible breadth of information that librarians so lovingly organize searchable online".

6.5 billion searches August 2006
\$2.9 billion, 3d quarter, 2006

beyond search

"the database of intention".
--John Batelle



releasing information

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Book Search BETA

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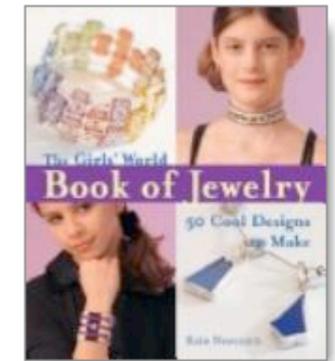
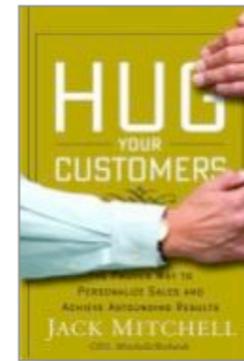
Non-fiction

[Philosophy](#)
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[Political science](#)
[Linguistics](#)
[Mathematics](#)
[Physics](#)
[Chemistry](#)
[Biology](#)

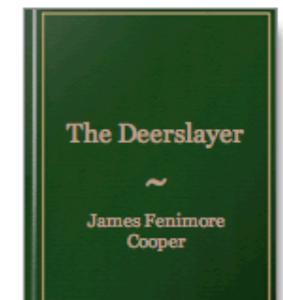
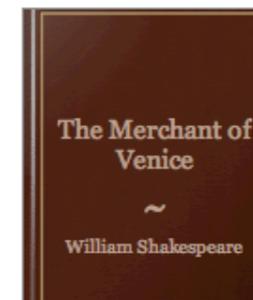
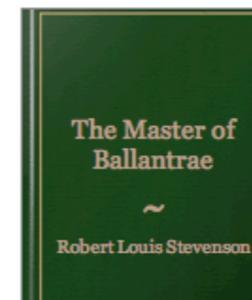
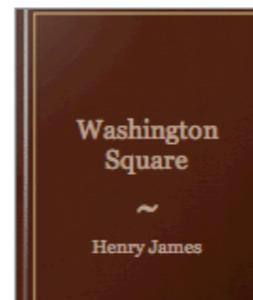
Random subjects

[Semantics](#)
[Stomach Fiction](#)
[Wit and humor](#)
[Poets](#)
[Art](#)
[Historical fiction](#)
[Signal processing](#)
[Sea stories](#)

Interesting



Classics





beyond google?

web 2.0

Web 1.0		Web 2.0
DoubleClick	-->	Google AdSense
Ofoto	-->	Flickr
Akamai	-->	BitTorrent
mp3.com	-->	Napster
Britannica Online	-->	Wikipedia
personal websites	-->	blogging
evite	-->	upcoming.org and EVDB
domain name speculation	-->	search engine optimization
page views	-->	cost per click
screen scraping	-->	web services
publishing	-->	participation
content management systems	-->	wikis
directories (taxonomy)	-->	tagging ("folksonomy")
stickiness	-->	syndication



beyond the page?



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History of Information

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Robinson, Andrew. 2002. *The Story of Writing*. London Hudson. [available here](#)

(OPTIONAL) Newhall, Beaumont. 1982. *History of Pho 1839 to the Present*. Bulfinch. [available here](#)

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Index</title>
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# democracy?

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the promise of using technology to bring *more* culture to the masses had been drowned out by FOO Campers' collective cry for a democratized media

... Everybody was simultaneously broadcasting themselves but nobody was listening.

...democratization ... is undermining truth, souring civic discourse, and belittling expertise, experience, and talent ... threatening the very nature of our cultural institutions

... today ... there is an even more threatening Big Brother lurking in the shadows: the search engine