

# Digital Libraries: the Future

“It's hard to make predictions, especially about the future“  
(Yogi Berra)

“The best way to predict the future is to invent it” (Alan Kay)

More digital, less paper.

More searching, less organizing.

Bigger, fewer.

Universities, libraries, society.

More options, or fewer?

# Everything Digital

*“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’s State of the Union message, January 1998.

Similarly: H. G. Wells, *World Brain*, “There is no practical obstacle whatever now to the creation of an efficient index to *all* human knowledge, ideas and achievements, to the creation, that is, of a complete planetary memory for all mankind.”

“If the human race has produced since the invention of movable type a total record, in the form of magazines, newspapers, books, tracts, advertising blurbs, correspondence, having a volume corresponding to a billion books, the whole affair, assembled and compressed, could be lugged off in a moving van.” – Vannevar Bush, *As We May Think*.

# Large and small libraries

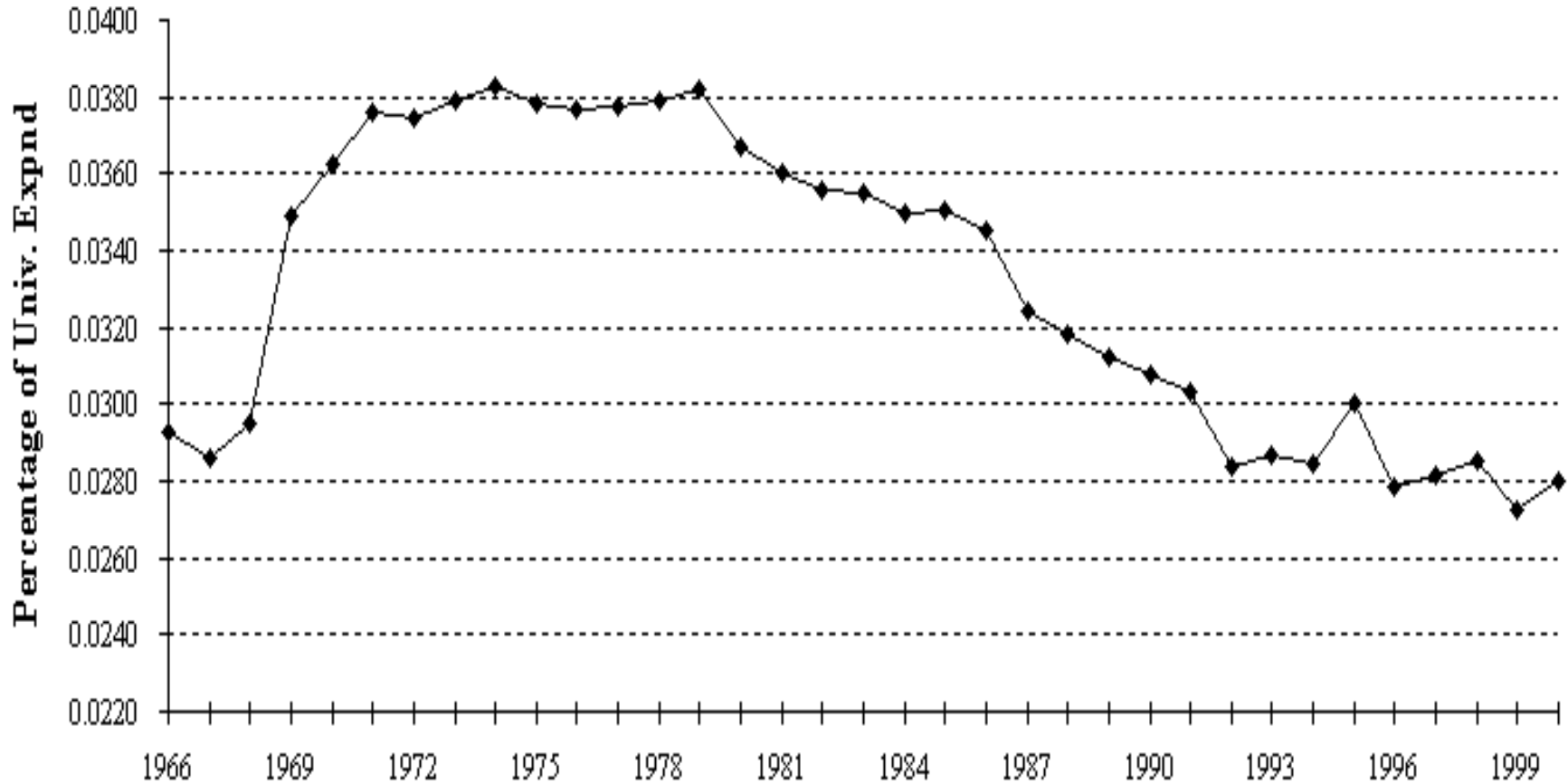
If libraries are about access rather than holdings; if they are accessible from far away; why have small libraries?

In a world where every bookstore, video store, hardware store and drugstore are now branches of national chains, is an independently run library an anomaly?

Small colleges are disappearing; will small libraries go too?

Must emphasize personal services: just delivering books is not going to be enough.

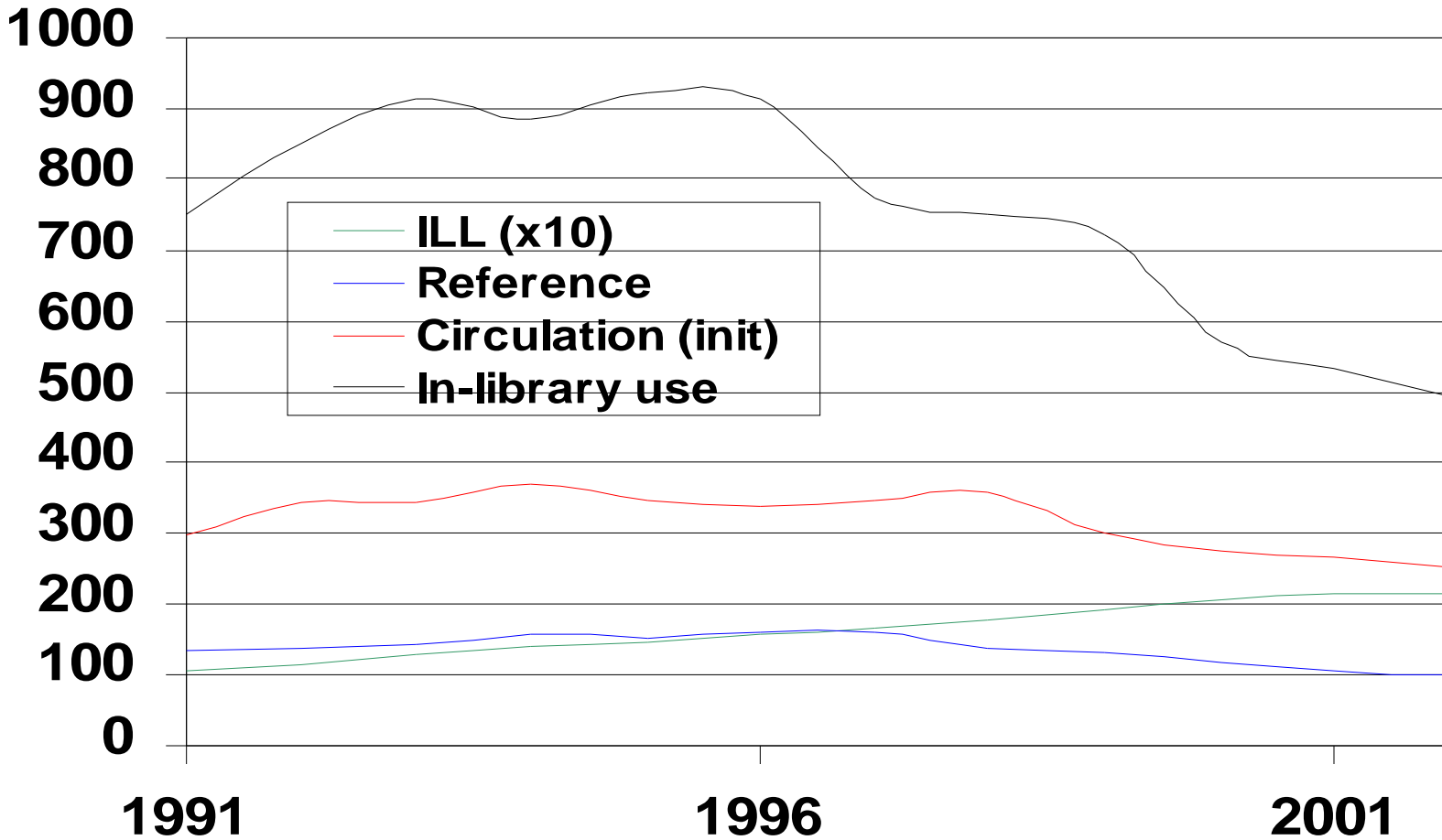
# Pressure on libraries



Copyright Association of Research Libraries, 2002

Budget as fraction of total university budget, 17 ARL libraries

# Library service trends



ARL statistics again.

# Services of the future

Cataloging: not much left, all done centrally

Acquisitions: mostly becomes large and bundled

Circulation: largely automated, replaced by on-line access

Reserve shelf: almost certainly gone

Reference: perhaps more complex, and different

- Remote clients

- Emphasis on electronic searching & delivery

Special collections: increased in importance

Children's material, or "study hall" function at college: same?

Data services: more of a struggle, but might centralize

# Online learning

“Distance learning” was a large hope, or hype.

It doesn't seem to work for undergraduates: note the abandoned distance-learning campus for the Cal State system, or Western Governor's University.

It might work for adults. See U of Phoenix, and Rutgers SCILS has started a distance learning degree.

UMass Online:

\$14M in 2003-04; up from \$10M 2002-03, \$7M 2001-02.

15,741 students enrolled.

US as a whole: 914,000 students (up from 315,000 two years ago) and \$4.57B (up from \$1.58B).

Online learning means online libraries.

# How diverse will our information be?

Books and plays normally have one author; musicals three; TV and the movies are made by committee.

80% of video rentals are the top 20 movies; book sales are much more varied. In 2002 the UK produced 105 feature films and published 125,390 books.

If we expect multi-media production values in everything, we are likely to have very few of them.

(Negroponte once told me that Homer might have survived the transition from oral recitation to manuscript and then to printing, but he might have to be redone for digital.)

# This has happened before

Once upon a time every town had a vaudeville theatre, and they all closed when radio came along. Even book publishing is moving more to “blockbusters”. What will happen with the Web?

- greater economy of scale should imply fewer producers

- lower cost of entry should imply more producers

We don't know yet, but more seems to be the answer so far.

Some worrisome issues: have online physics papers made it easier or harder for unknowns to be recognized?

# Can new technology be stopped?

There are some examples: nuclear power, childhood vaccines, supersonic flight. Sometimes economics, sometimes fear.

An older example: “Giving Up the Gun”, by Noel Perrin, about Japan’s rejection of firearms in favor of swords.

Is it likely to happen to digital libraries, as RIAA and MPAA would probably wish? No.

# Cliff Lynch's top questions

Personal information management

Long term interactions: systems that learn about people and vice versa.

How can we support learning?

Supporting collaboration

Also: digital preservation

# Guess at the future

Technology moves on to make digital libraries of sound, image and moving pictures easy & common, including 3-D representations of objects.

Virtual reality makes tourism “better than being there”.

Data storage takes over from written text.

Libraries might be marginalized, with only old stuff.

Large libraries prey on small ones.

Most information is digital: some form of payment arrives for copyrighted material.

When computers took over accounting, accountants took over companies.