



talking about information

history of information

Jan 21 2010



information age:
continuity, evolution or revolution



aob

administrative matters?

wait list

check with departments

class website

http://blogs.ischool.berkeley.edu/i103s10/?page_id=5

class slides

http://courses.ischool.berkeley.edu/i103/s10/SLIDES/HofIPD_talking1-21.pdf

class reader

Copy Central, 2560 Bancroft Way

class room

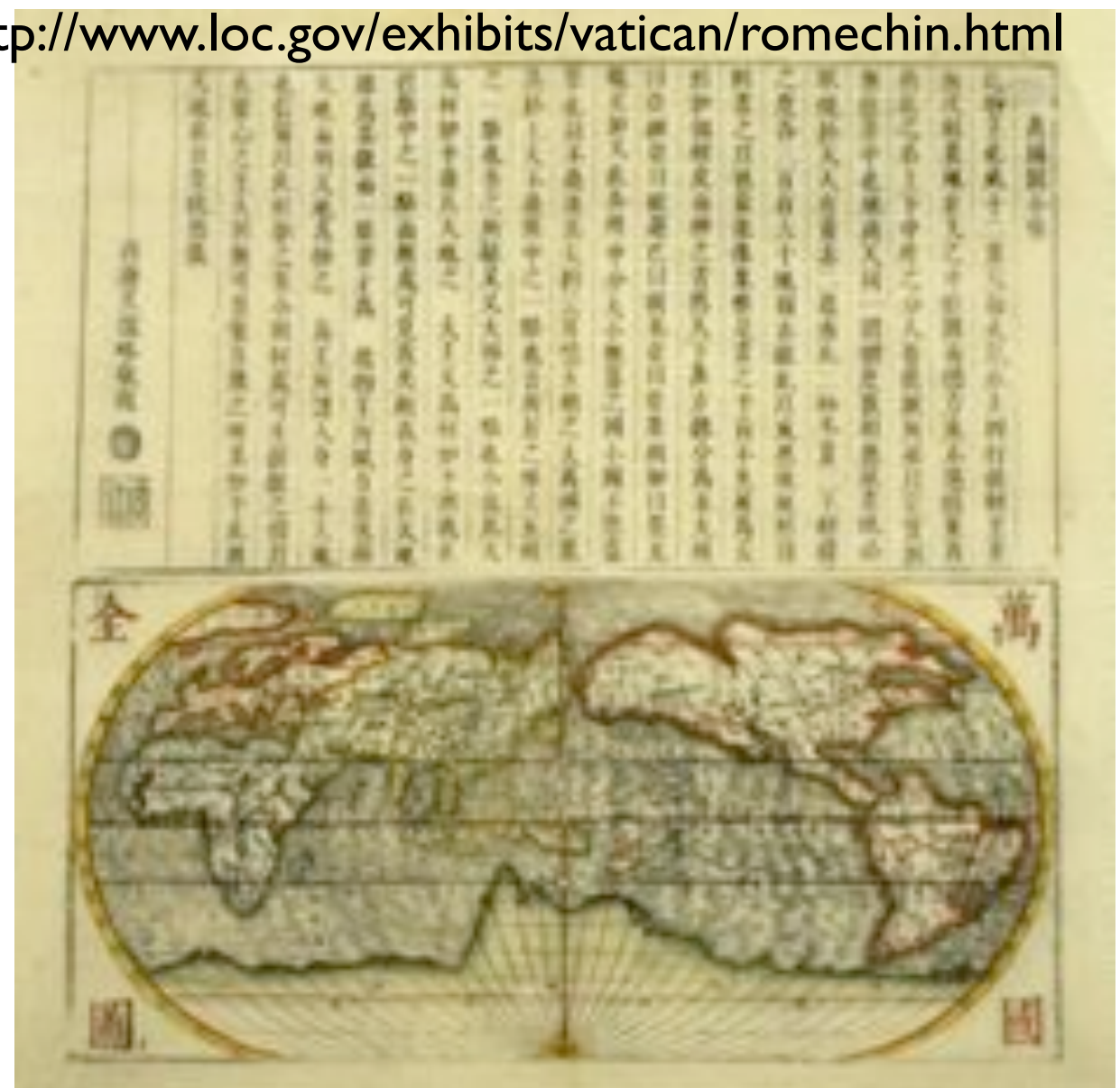
tba



aob

'how Rome went to China'

<http://www.loc.gov/exhibits/vatican/romechin.html>





talking about information

history of information

Jan 21 2010



information age:
continuity, evolution or revolution



where we're going

"Information:
there's growing
agreement
it's the name of the
age we live in"
IBM ad, 1977

Information age
information technology
assignment

what (and when) is an age
continuity
evolution
revolution

the current age

why look back

looking forward (to next week)

what
(and when)
is an age



assignment

what is information technology?

bicycle

necktie

blanket

piece of string

electric transmission tower

dishrack



what
(and when)
is an age



what's in an age?

"Not an Heroical,
Devotional,
Philosophical, or
Moral Age, but
above all others
the Mechanical Age.
It is the Age of
Machinery."

Thomas Carlyle,
"Sign of the
Times," 1829

ages past

stone, iron, bronze, agricultural, industrial

dark, middle, modern

renaissance, enlightenment

print, machine, telegraph, steam, telephone,
car, flight, jet, space, nuclear, television,
computer ...

consumer, communications ...

what
(and when)
is an age



types of agism

continuity

evolution

revolution

what
(and when)
is an age



revolting

first wave

agrarian revolution

second wave

industrial revolution

third wave

post-industrial society

Alvin Toffler, *The Third Wave*, 1980

what
(and when)
is an age



outbidding

waves

first
agrarian revolution

second
industrial revolution

third
post-industrial society

four revolutions

There have been three revolutions in the history of human thought. The first ... when language first emerged. ... The second cognitive revolution was the advent of writing ... The third ... the invention of a type and the printing press. ... the fourth cognitive revolution, which is just about to take place with the advent of "electronic skywriting."

Steven Harnad, "Post-Gutenberg Galaxy: The Fourth Revolution in the Means of Production of Knowledge," 1991

what
(and when)
is an age



on revolution

"The world now taking shape is not only new but
new in entirely new ways."

Richard J. Barnet,

"Defining the Moment" *New Yorker* 1990



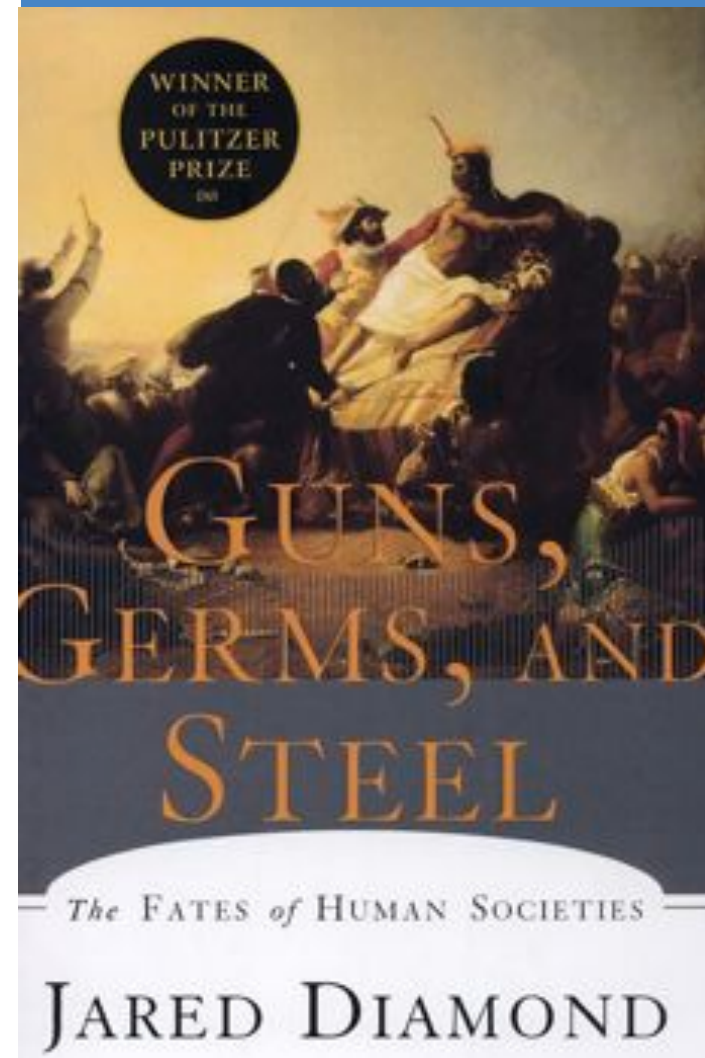
all much the same?

English
American
French
Haitian
Russian

what
(and when)
is an age



what makes a revolution?



guns, germs, and steel?
England? US?? France??? Russia????



Battle of Bosworth, 1485

what
(and when)
is an age



what makes a revolution?

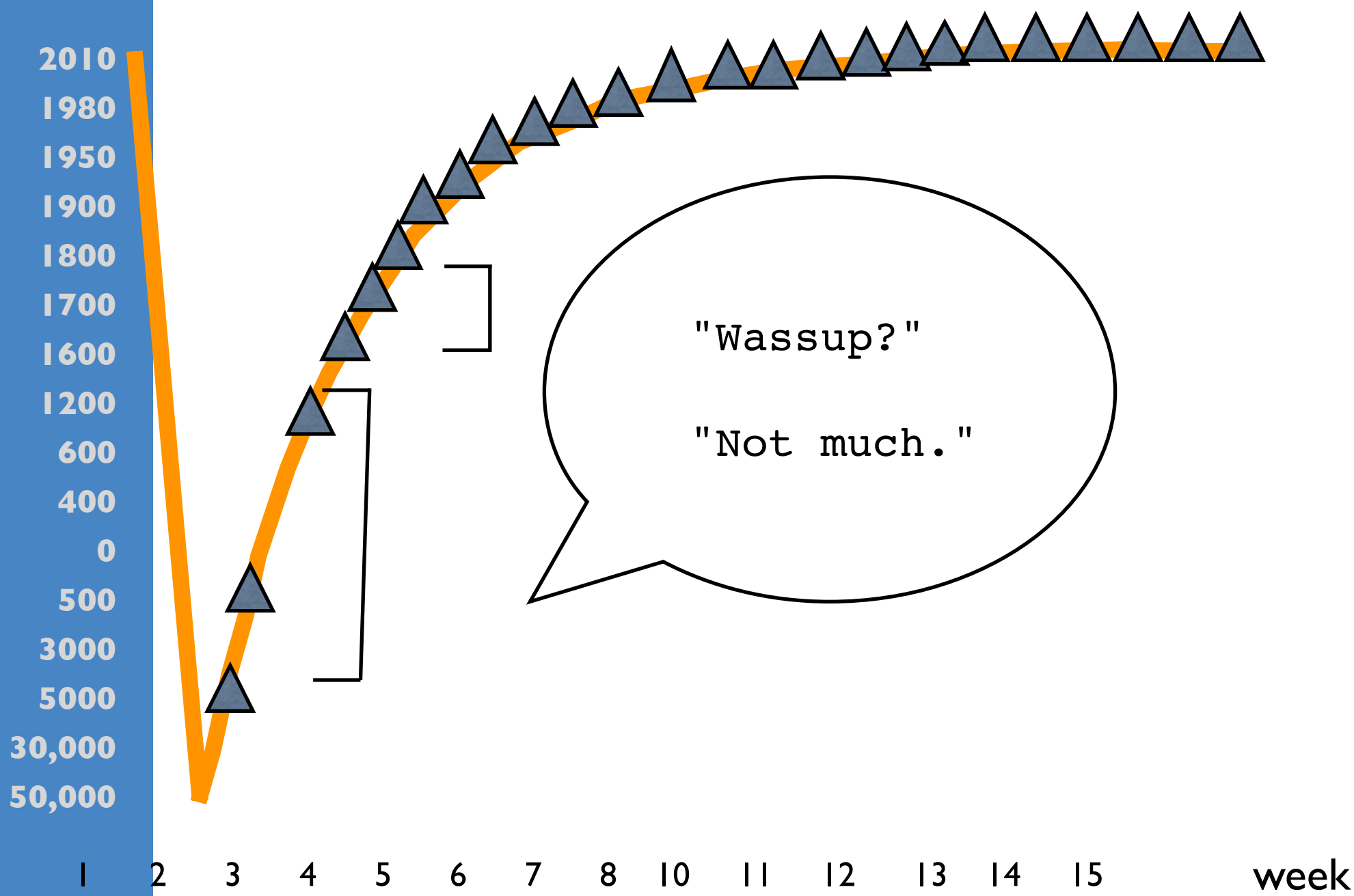


print
steam
electricity
telegraph
telephone
train
flight
car
space
computer
information
internet
digital

what
(and when)
is an age



a quiet time?



what
(and when)
is an age



continuity

of an age or for all time?

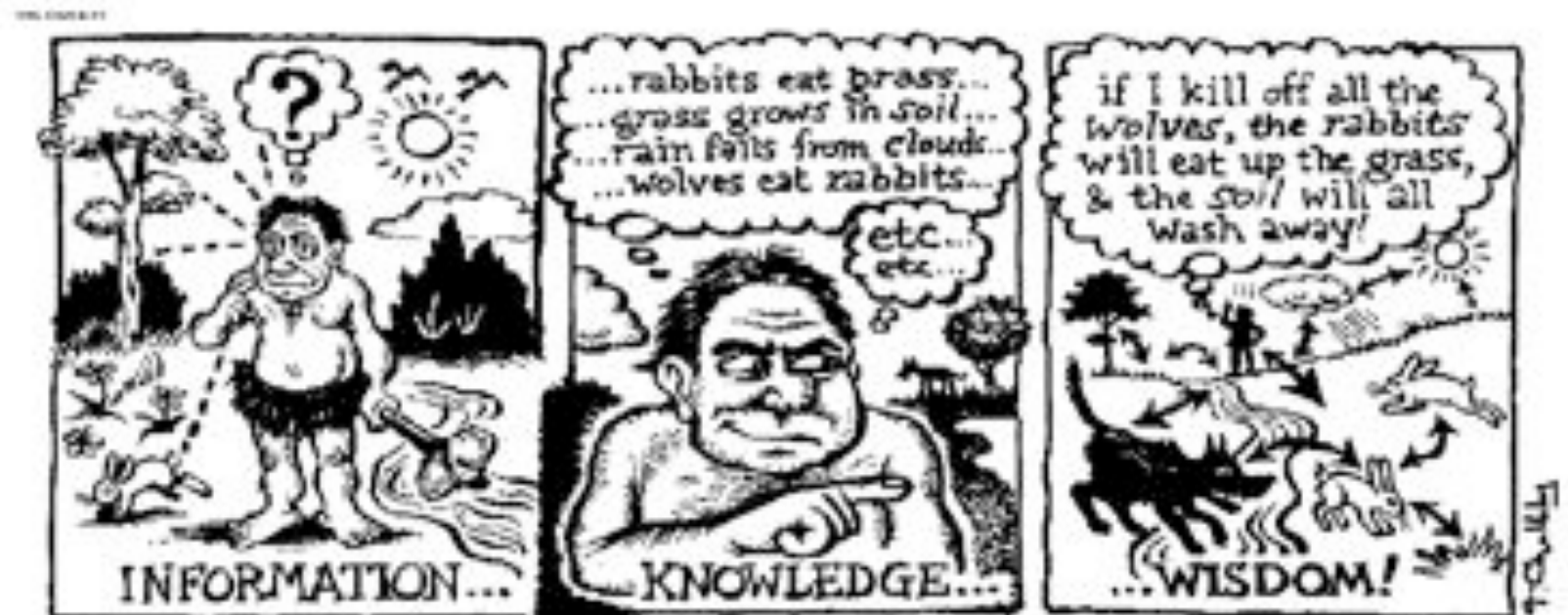
"Every society is an information society and every organization an information organization, just as every organism is an information organism. Information is necessary to organize and run everything from a cell to General Motors or the Pentagon"

Anthony Oettinger, 1980

what
(and when)
is an age



continuity



what
(and when)
is an age



continuity



"On an average weekday, the *New York Times* contains more information than any contemporary of Shakespeare's would have acquired in a lifetime"

How Much Information? 2003

Summary

Exec Summary

Stored Information

Paper | Film | Magnetic | Optical

Information Flows

Broadcast | Telephony | Internet



what
(and when)
is an age



evolution?

new or enduring needs

"Printed books evolved into
better-designed packages of information."

Paul Grendel, *Cambridge History
of Renaissance Philosophy*

1988

"[I]n order to satisfy the new
needs for information and
education, more books,
...and soon newspapers were required."

Lucien Febvre & Henri-Jean Martin,
The Coming of the Book, 1984

what
(and when)
is an age



evolution?

information as the dynamo of history?

"The need for readily available information, which had been steadily rising, was accelerated by the advent of Christianity ..."

"The need to find information more rapidly than is possible in a papyrus-roll-form book initiated the development of the Greco-Roman codex in the second century ..."

Frederick Kilgour,
*The **Evolution** of the Book*, 1998

evolution?

"Glittering proof that a
new information age was dawning in
Europe, fuelled by the power of
the printed word"

Stephen Fry,
The Machine That Made Us. BBC 2008

[YouTube]



what
(and when)
is an age



or revolution?



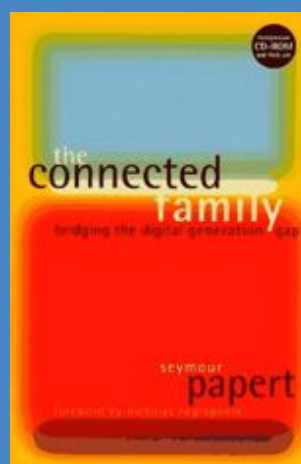
"The day the universe changed"
James Burke,
Printing Transforms Knowledge
BBC 1986

[Media Center]

coming up
Jan 26: technological determinism



now we're talking



digital natives

"Today's students think and process information fundamentally differently, and these differences ... run much deeper than most educators would like to have it."

Edith Ackermann,
"Anthropology of Digital Natives" 2008

The Keyboard Becomes a Hangout For a Computer-Savvy Generation

By JOHN MARKOFF

Sixteen-year-old Jon Leger, a high school student in Port Arthur, Tex., does not consider himself a computer whiz. In fact he doesn't see himself as

Encountering
The Digital Age

An occasional look at computers in everyday life.

NYT Aug 31, 1993



cosmetic change?

"Today's students think and process information fundamentally differently, and these differences ... run much deeper than most educators would like to have it. "

Edith Ackermann,
"Anthropology of Digital Natives" 2008

"One of the first known references to the "generation gap" came in 1925, when people referred to the gap between generations of mother and daughter being signified by one wearing lipstick and the other not"

Jessica Pallington, *Lipstick*, 1998





gap years

The Children of Cyberspace: Old Fogies by Their 20s

By BRAD STONE

Published: January 9, 2010

The New York Times

"I've begun to think that my daughter's generation will also be utterly unlike those that preceded it.

Researchers ... theorize that the ever-accelerating pace of technological change may be minting a series of mini-generation gaps ...

'People two, three or four years apart are having completely different experiences with technology,' said

Lee Rainie, director of the Pew Research Center's Internet and American Life Project. 'College students

scratch their heads at what their high school siblings

are doing, and they scratch their heads at their

younger siblings. It has sped up generational

differences.' "



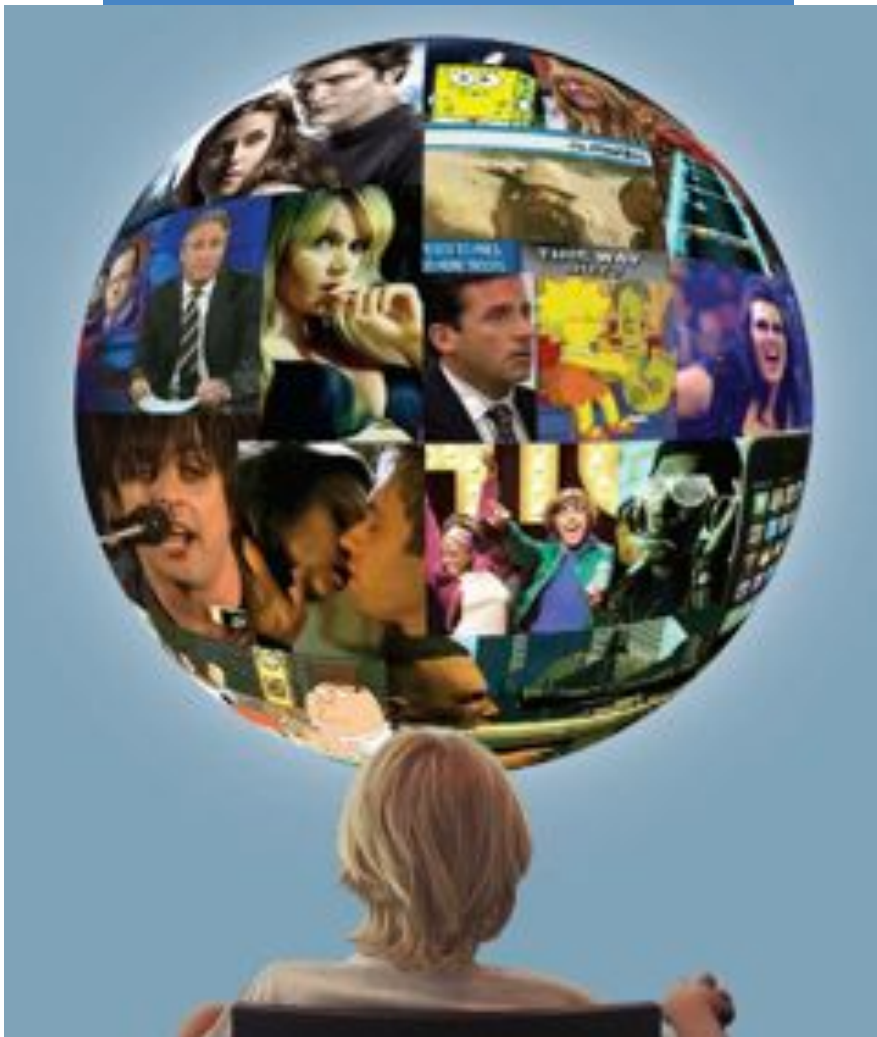


move over M¹

Generation M² **Media in the Lives of 8- to 18-** **Year-Olds**

<http://www.kff.org/entmedia/upload/8010.pdf>

Five years ago, we reported that young people spent an average of nearly 6-1/2 hours (6:21) a day with media—and managed to pack more than 8-1/2 hours (8:33) worth of media content into that time by multitasking. At that point it seemed that young people's lives were filled to the bursting point with media. Today, however, those levels of use have been shattered.





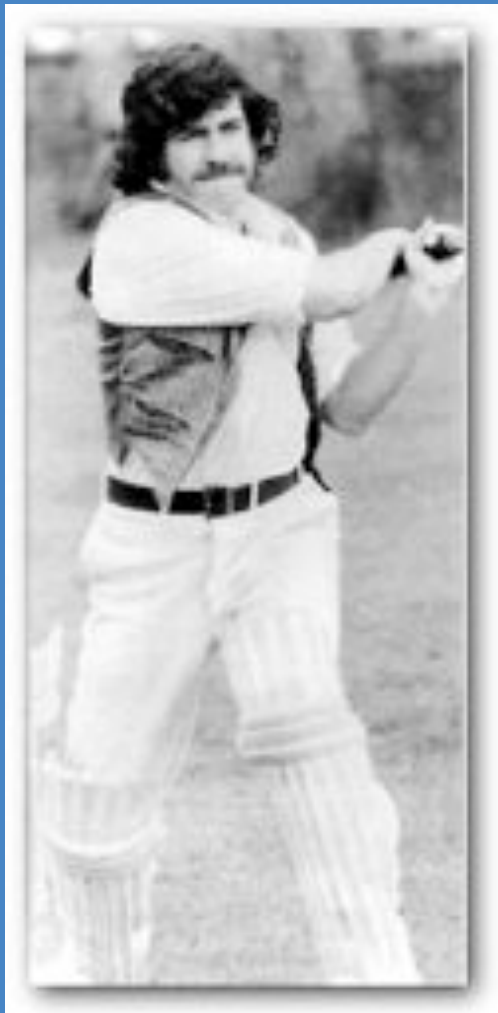
continuity/evolution/ revolution?

**not that change isn't significant,
but how would we know when it is?**

"What should they know of England
Who only England know?"

Rudyard Kipling

"The English Flag," 1899



challenges of looking backwards

evolution?

Reading Strategies for Coping
With Information Overload
ca. 1550-1700

Ann Blair

revolution

"The past is another country.
They do things differently there."
L.P. Hartley, *The Go-Between*, 1953



central themes

Plato

Trithemius

Sprat

Sun Tzu

Morse

Babbage

Bush

Marshall

"Every Age Gets the Future it Thinks It Needs"

(and the past it finds convenient to have)

"The real, central theme of history is not
what happened, but what people felt about it
when it was happening"

George M Young, *Victorian England: Portrait of
an Age*, 1960



even the present can surprise us

To coincide with this year's Reith Lectures, entitled the **Triumph of Technology**, You and Yours asked what has been the most significant technological innovation since 1800.

From the hundreds of listeners' nominations and together with our five experts, voting was opened on a final 10. Here are the results...

[http://www.bbc.co.uk/radio4/youandyours/technology_launch.shtml]



but first

the wired view

10 gadgets that changed the world





most significant technologies



- 59.4% - Bicycle**
- 7.8% - Transistor**
- 7.8% - Electro-magnetic induction ring**
- 6.3% - Computer**
- 4.6% - Germ theory of infection**
- 4.5% - Radio**
- 4.0% - Internet**
- 3.4% - Internal Combustion Engine**
- 1.1% - Nuclear Power**
- 1.1% - Communications satellite**



Required reading:

- Hughes, Thomas P. 1993. "War and Acquired Characteristics." pp 285-323 in *Networks of Power: Electrification in Western Society, 1880-1930*. Baltimore and London: The Johns Hopkins University Press.
- Heilbroner, Robert L. 1994. "Do Machines Make History?", pp. 53-65 in Merrit Roe Smith & Leo Marx eds., *Does Technology Drive History?* Cambridge, MA: MIT Press

assignment

59.4% - Bicycle
 7.8% - Transistor
 7.8% - **Electro-magnetic induction ring**
 6.3% - Computer
 4.6% - Germ theory of infection
 4.5% - Radio
 4.0% - **Internet**
 3.4% - Internal Combustion Engine
 1.1% - **Nuclear Power**
 1.1% - Communications satellite

how is the world changed?

Heilbroner lays out a case for technological determinism. Does Hughes's account of the development of the electricity network seem to support or question Heilbroner's view? Give examples to support your case.

