Living Online: Any Time, Any Where, Any Device

Howard Ratner, Chief Technology Officer, EVP
Nature Publishing Group
Miles Conrad Lecture
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Who am I?

- technology geek
- pragmatist
- publisher
Who am I?

- High school – 1981
- College – 1985
- Nature Publishing Group – 2000 – present
Question Time

1. How many people in this room are carrying a phone?

2. How many people in this room are using a laptop?

3. How many people in this room are using a tablet (iPad, etc.)

4. How many people are using a cloud app?
“I think there is a world market for about five computers.”
1946 ENIAC: Electronic Numerical Integrator and Computer
Centralized

- Computers and information centralized
- Only in specific locations
- Only obtainable locally
“A computer on every desktop in every home.”

Bill Gates, CEO, Microsoft, 1975-2000
mid 1980s – My College PCs
1980s
Personal Computing Era
Decentralized
Late 80s - Portable PCs
+ 1990s → 2000s
We are more computer savvy. Mobile but tethered. Not very social.
Rise of search engines of all kinds.
Audio, Podcasts, MP3, Video
Rise of Social Media

Traditional Media:
- Television
- Movies
- Radio
- Print

Media Outlets:
- Does Old Media Matter?

Social Media:
- Blogoshere
- Podcasts
- Vlogs
- Forums
- Wikis
- Enterprise 2.0 Platforms

Shift:
- Institutional Control
- Consumer Control

Network Effects:
- Comments
- Trackbacks
- IM
- Feedback
- Etc.

Social Consumption:
- Pull
- Us

Centralized Mediation:
- Observe
- Push

Distributed Mediation:
- Contribute

Source: http://web2.wsj2.com (CC BY)
Blogs found a place

Welcome to Free Association, the Nature Genetics blog. Check here regularly for links and editorial comment on research and news in genetics, as well as reader feedback. To contact the editors directly with confidential questions or feedback, please email freeassociation@nature.com.

FEBRUARY 02, 2006

Paper trail: Lincoln’s lineage

You may be aware of the recent story out of Austria, which culminated in the documentary “Mozart: The Search for Evidence,” on an ancient skull purported to be that of Mozart. DNA tests on the skull, which has been in the possession of the International Mozarteum Foundation in Salzburg, were inconclusive, as the tested skeletal remains thought to be that of Mozart’s maternal grandmother and niece turned out to be unrelated to each other, making any inference about the “Mozart” skull impossible (you’d think they would get the result first, before committing to a TV documentary, but that’s another issue). In a recent op-ed piece in The New York Times, novelist Richard Powers notes that the remains of Mozart and Beethoven have been probed for years in hopes of learning something new about their life histories and their deaths. Powers comments:

Diagnosing art's unsolved mysteries with state-of-the-art medical knowledge is irresistible... But what can the bones know that the notes don’t?

Forget the forensics and face the music. The mysteries hidden in Mozart’s skull are everywhere for the hearing.

Agreed. And yeL

Human transmission genetics, by definition, is the study of history. All of this came to mind upon the recent publication in Nature Genetics by Ilieva et al. of the mutation underlying spinocerebellar ataxia type 5, a form of ataxia quite common in the descendants of Abraham Lincoln. This is far from the first time that the search for genetic disorders in Lincoln’s pedigree has been at issue. But in addition to advancing research in ataxia, it surely would be of more than passing interest if the 16th president of the United States were affected with ataxia, even if our appreciation of the Gettysburg and second inaugural addresses remain unchanged.

The senior author of the paper, Laura Rarum, comments on the 15-year-long search for the SCAT gene:

In 1992 I received a phone call from a neurologist with an ataxia patient that had a strong family history of the disease. Impressed upon hearing there were at least eight affected family members, I asked if I could contact the patient directly. After talking to this woman about her family history, she paused and said “But you know, you really ought to talk to my mother...I think she knows of some more cousins”; the SCAT odyssey began. I called her mother, then her mother’s cousins, and their cousins. A common theme of these calls was that these family members all knew that they were related to President Lincoln, but not necessarily how they were related to each other or that there was so much ataxia in the family. After obtaining a few DNA samples and ruling out the SCAT locus, Dr. Larry Schut, a neurologist working at the University of Minnesota, and I traveled to visit the family. Family members were very proactive, wanting to find the source of what they called “Lincoln’s disease”, and invited us into their communities and to family reunions, where we performed neurological evaluations and collected blood samples. Eager to brag about the family connection to Lincoln and also to increase awareness of ataxia, a family member arranged for the local newspaper to do an article about our research on our second of many trips. Although at the time we didn’t know that the disease went back as far as President Lincoln’s grandparents, because at that time we were only working with the branch of the family descended from President Lincoln’s uncle Isabel, the reporter wrote that
Social Networks took off!
User behavior changed.
We are now social.
Wireless is in!
Connectivity gets faster and cheaper

100mbps-1GBps

It's Optimum, or it's not.®
New tech extends battery life

7-10+ hours!
We and our devices are untethered.
“What we want to do is make a leapfrog product that is way smarter than any mobile device has ever been, and super-easy to use. This is what iPhone is. OK? So, we're going to reinvent the phone.”
Apple taught us how to be mobile

Nature.com

7 hours ago
Chinese students stay on Nature

John Grunfeld
Nature

Research output falls

Big Apple biotech

India plans science boost Nature

yesterday
The future of European research Nature News

Big Apple biotech

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New York City is known as a fast-paced centre of finance, big business, fashion, the arts and, with the aid of several esteemed universities, education. It has never, however, been a centre for biotechnology or big pharmaceutical companies. To many, this is puzzling.

There’s no shortage of brain power. The city is home to nine leading academic medical research centres — the largest concentration in the world. It also has the country’s third-largest concentration of Howard Hughes Medical Investigators (after Boston/Cambridge in Massachusetts and California’s San Francisco Bay Area). And eight New York City institutions were ranked in the top 100 nationwide for National Institutes of Health funding in 2008, pulling in a total of US$6.6 billion. Spending for life-sciences research and development at the city’s colleges and universities, at more than US$1.5 billion in fiscal year 2007, according to the National Science Foundation, was the highest of any city in the country. Five New York City institutions were ranked in the top 50 on the basis of total life-sciences research and development spending, compared with just two each in the Research Triangle Park area of North Carolina and in Boston.

For years, New York’s public officials and business leaders have bemoaned the lack of a New
Mobility spreads like wildfire
We own many devices
Computing travels with us
Users just expect their information to be available anytime they want it, anywhere they are and in whatever format they need it.
Dropbox

Sync your files online and across computers
Computing is becoming ubiquitous.
“Ubiquitous computing names the third wave in computing, just now beginning.

First were mainframes, each shared by lots of people.

Now we are in the personal computing era, person and machine staring uneasily at each other across the desktop.

Next comes ubiquitous computing, or the age of calm technology, when technology recedes into the background of our lives.”

-- Mark Weiser, Xerox Parc (1990s)
Ubiquitous Computing

- The purpose of a computer is to help you do something else
- The best computer is a quiet, invisible servant
- The more you can do by intuition the smarter you are; the computer should extend your unconscious
- Technology should create calm

-- Weiser’s principles (source Wikipedia)
Pervasive Computing

- **Decentralization**
  - Local or mobile devices
  - Information is “networked”

- **Diversification**
  - Specialized tasks
    (e.g., Internet access on (laptop, mobile phone, games console, Palm PDA))

- **Connectivity**
  - Data exchanged between devices
  - Wireless connection / internet

- **Simplicity**
  - Seamless, interfaces, intuitive, calm

*Credit: Andy Hunt, Pervasive Computing*
PC + Tech Companies are seeing it

Old OS are merging with the New!

Hardware? Irrelevant!
The Future of Mobile Internet

http://www.youtube.com/watch?v=lUljrP6ILN0&feature=related

Credit: Crowdsauce.com, Uploaded April 30, 2011
What Should the Publishing Community Do?
Article Particles

• Break articles down into major sections (e.g. scientific methods, data, results)
• Semantically mark-up entities and terms
• Surface concepts with annotations
• Use people, place, thing identifiers
• Build particle connections to other datasets
• APIs allow the building of bolt-on tools and allow us to leverage community efforts

Dicing and slicing breaks apart journal silos and allows users to search across the corpus of knowledge.

We can offer compelling services on a publisher-neutral destination for researchers.
Linked Open Data?
+ Research Objects?

Credit: S. Bechhofer et al., “Research Objects: Towards Exchange and Reuse of Digital Knowledge,” 2010
Developer Platforms & APIs

SciVerse Hub

Search quality content from multiple publishers, repositories, and scientific web.

Getting Started with Hub

1. Enter a few terms, sentences, or even paragraphs in the search box above. Click on "Refine" for a little extra help. Example: gene therapy subtype (fts) year (2012)

2. Browse, refine, and save results from millions of journals, patents, and scientific web content.

3. Watch one of our Online Tutorials for a few more tips.

Science News

The New York Times Science News
Side Effects: Siphneus, the First Horse, Got Even Tinier as the Planet Heated Up
NYT - 15 hours ago
Siphneus, which lived 56 million years ago, shrank from about 12 pounds to about eight and a half pounds as the climate warmed over thousands of years, researchers report.

Neutrinos' Speed in Question Because of Technical
Divide it up!
Mark it up!
Share and shake it up!
References


- Andy Hunt, “Pervasive Computing: History and Key Topics” (University of York course) http://tinyurl.com/8432mk7

- Anna Faherty, “The future for publishers is content creation, with a dash of Martini” (7 December 2011, Kingston Publishing: inspiring future publishers) http://tinyurl.com/79ymwo3

Thank you!

Howard Ratner
CTO & EVP, Nature Publishing Group
h.ratner@us.nature.com
@hratner