Due to a shortage of robots, some of our staff are human and therefore react unpredictably when abused or under pressure.
America says hello
Three parts

1. Technology
2. Non-tech contexts
3. Stories
Part 1: present future trends

- Monthly environmental scan report
- Trends identified, tested, projected
Did we just experience peak higher education in the United States?

I want to try out this hypothesis as a way of thinking about many current trendlines. Readers and listeners know I have been tracking a large number of grim developments in the American higher education world. Synthesizing them is what I’m currently addressing.

Peak higher ed means we’ve reached the maximum size that colleges and universities can support. What we see now, or saw in 2012, is as big as it gets. After two generations of growth, American higher education has reached its upper bound.

Consider recent news and data:

**Student population:** The number of students enrolled in American higher education dropped by more than 400,000 from 2011 to 2012, according to Census data. The number of graduate students also dropped over the same period, falling 2.3% after a decade of growth. Additionally, the number of full-time equivalent students has fallen by about 4% since 2011.
Technology trends

- Rise of the stacks
- Post-Snowden
- Hardware + networks: multiple ecosystems
- Digitization
Technology trends

- digital video
- cloud wars
- augmented reality
- automation and artificial intelligence
Technology trends

social media triumphing

**ECOMMERCE**

Pinterest’s popularity as a sharing destination was most evident on eCommerce sites and apps, where it continued to lead all social networks in shares. Pinterest recently released APIs that will allow businesses to showcase their most popular pins on their own websites and mobile apps, a new development that could help Pinterest increase its lead in ecommerce sharing in particular.

**MEDIA/PUBLISHING**

While Facebook maintained its lead as the top social network for sharing on Media and Publishing web properties, its lead shrank considerably in Q3, while Twitter and Pinterest continued making significant strides.
My Dad died from cancer at the age of 44. We were still paying off his law school loans. We are the 99%.

occupywallst.org

OccupyTogether.org
Technology trends

- crowdfunding growing
- copyright battles continue
- durability of Moore’s Law
- office versus Web office
Changes in smartphone ownership, 2011–2013
% of all U.S. adults who own...

Source: Pew Research Center’s Internet & American Life Project April 26-May 22, 2011, January 20-February 19, 2012, and April 17-May 19, 2013 tracking surveys. For 2013 data, n=2,252 adults and survey includes 1,127 cell phone interviews. All surveys include Spanish-language interviews.
Design for mobile *first*

**Tablet and e-reader ownership**

% of Americans ages 16+ who own e-book readers, tablet computers, and at least one of those devices

Source: Most recent findings come from Pew Research Center Internet Project Library User survey. July 18-September 20, 2013. N=6,224 Americans ages 16 and older. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 1.4 percentage points for the total sample.

Note: The 2010 and 2011 surveys were conducted among those ages 18 and older.
- PCs getting crowded out
- Mouse and keyboard declining
- 3D TV dying
3d printing

https://www.flickr.com/photos/collegeofsanmateolibrary/15373589050/
Away from physical media

**DVDs vs. Streaming: How Movies Make Money**

- **US Rev ($ Billions)**
- **2010**  
  - **DVDs**
  - **Streaming**
- **2011**
- **2012**
- **2013**
Are ebooks about to plateau?

Nicholas Carr, linked http://bryanalexander.org/2013/08/15/have-ebooks-plateaued/
Contexts beyond technology

Demographics:
- Increasing nonwhite population
- Youth population shrinkage
- Ballooning senior population...
Education: a tale of two pyramids

[Diagram showing population pyramid for Morocco in 2014, comparing males and females by age group and population (in millions)].
Economic contexts

US labor market changes

1 job/career -> many gigs

Declining participation

Automation
Education trends

- manufacturing->service

Alfred's Basics

Live your life and let Alfred handle the rest.

https://www.helloalfred.com/
Anxieties about employment
Top and bottom vs middle

INCOME INEQUALITY IN ANGLO-SAXON COUNTRIES, 1910-2010

SHARE OF TOP PERCENTILE IN TOTAL INCOME

U.K.  CANADA  U.S.  AUSTRALIA

Education trends

Education systems

- Reform movements (K-12, higher ed)
- Rising student debt
- Alternative certification pilots (competency, badges)
Education trends

- International higher ed systems building up
- More international students heading to the US
- US campuses expanding overseas presence
Enrollment decline?

Figure 1: Percent Change from Previous Year, Enrollment by Sector (Title IV, Degree-Granting Institutions)
Education trends
Adjunctification rising
Athletics are doing just fine.
Bad forecasting

- Inter-institutional collaboration (except SUNY)
- Senior admin compensation
- Intergenerational strife
- Library budget massacre
3. Teaching and learning and tech

At School
Teaching and learning and tech

- blended/flipped classroom
- rise of the net.generation
- distance learning grows
- gaming in education
Teaching and learning and tech

- educational entrepreneurship
- big data and data analytics develop
- campus digital security threats growing
- Uses of social media
- Uses of Web video
- Changes in the LMS world
- Blended learning
- Learning analytics
- Changes in library role
- Digital humanities (in classroom)
- The rise of the Maker movement
Credit for MOOCs
STEM vs humanities
Sustainability?
xMOOC vs cMOOC
Liberal arts campuses entering
Changes in scholarship

STM Commercial Journal Publisher Consolidation

1998: 8 Key Players

- Academic ($1892M)
- Blackwell ($657M) (1996)
- Kluwer ($498M)
- Plenum ($53M) (1997)
- Wiley ($204M)
- T&F ($61M)
- Elsevier ($995M)

2008: 4 Key Players

- Wiley ($1,235M)
- Springer ($1,334M)
- Elsevier ($9,168M)
- Taylor & Francis ($2,274M)

(Shown very roughly to scale)

(Rewards in US dollars)

Acquired:
- Wiley: Blackwell
- Springer: Plenum, Kluwer, Humana
- Taylor & Francis: CRC Press, Routledge, merged with Informa
Open content
Possible divide growing between research and teaching
Changes to the scholarly publication ecosystem
Rise of the digital humanities (as scholarly work)
The library role
Reading and/versus digital

- How much reading is being done?
- How is digital reading different?
- Literacies changing?
Which of these trends are the most powerful?
Which of these trends are the most unpredicatable?
What comes next?

Extrapolations:
- Transnational campuses
- Average student age: 40
- Hourly faculty
- Hogwarts vs CCs

- Disintegrated computing as a service
- Extensive surveillance, creativity
- Student as producer
How does your life change?

1. Fall of the Silos
2. Triumph of Closed
3. The Age of Automation
4. Renaissance
1. Fall of the Silos
Open...

- Content
- Teaching
- Access
- Source
Social changes

- Rise of the sharing mindset
- Gig economy: rapid switching, less employee loyalty
Good things

- Global conversations increase, filter bubble pops
- More access, more information
- Lots of creativity
Good things on campus

- Information prices drop
- Faculty creativity, flexibility grow
- IT
- Academic content unleashed on the world
Not so good things

- Industries collapse
- Authorship mysterious
- Some low quality tech (videoconf.)
Not so good things

- Some higher costs
- More malware + less privacy
- Increased fallibility of scholarship
How does this impact campuses?

- Tech challenges
- Outsourcing and offshoring
- PLE beats LMS
- Crowdsourcing faculty work
- Information literacy central
Internet has always been open
Web <> money
Online identity has always been fictional, playful
2. Triumph of closed

How it happens:
- User preference for simplicity + convenience
- Failure of open business models
- Closed source outperforms open
The post-open world

- Enormous entertainment industries
- Major IP policies
- Multiple levels of surveillance and intrusion protection
- Simpler computational hardware
The post-open world

- Stronger policies against hacking
- Elaborate identity mechanisms
- Sharing via federated systems
- Widespread micropayments
Closed on campus

- Information publishers locked in
- Major security protocols in place
- Larger roles of businesses on campus
The internet is a settled frontier
Students identify with major brands
Some certificates
The Age of Automation

- Robotics and AI mature
- End of creative destruction

Due to a shortage of robots, some of our staff are human and therefore react unpredictably when abused or under pressure.
The Age of Automation

- Tutoring software
- Commodity and enterprise versions
How it happened

- Continuous developments in AI, HCI, learning science
- Commercial, governmental, academic projects
- Open education to draw upon
Higher education landscape:

- Two Cultures implementation divide
- Boom in CS, robotics departments
- Scholarship battles
Higher education landscape:

- Further adjunctification
- F2f undergrad, grad enrollments drop
- Math Emporium model
Higher education challenges:

- Shifting curricula to emphasize skills machines do badly
- Coping w/rapidly changing career paths
- Increasing automation of learning
 Expanded study halls in high school
 Beloved tutors carried to college, life
 Value humans for eccentricity, style
IV. Renaissance

- Storytelling
- Social media
- Gaming
This is the digital story I created during a 3 day introductory workshop at the CDS during May of 2008. It is a merger of two related...

**Tags** fire sparks ideas flint steel
Leola Lewis

- Studied at UNR
- Lives in Reno, Nevada
- In a relationship with Joe McDonald
- Knows American English, Ancient Greek, Latin, French
- From Reno, Nevada
- Born on July 13

Work and Education

College

- University of Nevada

- UNR
  - Class of 1915

Arts and Entertainment

Music

- Ragtime
- Percy Wenrich
- Scott Joplin
- Arthur Fields

More →
HI, TUMBLR.

It's nice to meet you.

There are lots of reasons we're excited to be launching the Obama 2012 campaign's new Tumblr today. But mostly it's because we're looking at this as an opportunity to create something that's not just ours, but yours, too.

We'd like this Tumblr to be a huge collaborative storytelling effort—a place for people across the country to share what's going on in our respective corners of it and how we're getting involved in this campaign to keep making it better.

It's possible because of Tumblr's submission feature.

You can send us a few paragraphs about how your latest phonebanking gig went or why you're in for 2012. Share the latest chart you saw that made you go “woah.” Ask a question. Upload a photo of 2012 t-shirts or signs you see out in the wild. Pass along jokes, particularly if they’re funny. And if you're among the Tumbl-inclined, send us posts you've published on your own Tumblr that we should look at re-blogging.

There will be trolls among you: this we know. We ask only that you remember that we’re people—fairly nice ones—and that your mother would want you to be polite.

Thanks, Tumblr. We're looking forward to getting to know you.
I am 71 and well off. But the economic woes of others impacts my well being. We are linked to one another — and only as strong as the weakest among us. I too am the 99%.
The extent of Titanic's rigging is staggering, lots more still to be done before launch.

All flags packed and organised for display. The White Star Line flags, Blue Ensigns, Pilot Jacks and Royal Mail Pennants.

Just checked the ventilation systems. They consist of overhead supply trunks with branches going into various blocks of rooms.

The capacity of the lifeboats is somewhat of a concern, only 1,178. If anything were to happen there won't be enough space...

Next on the list is the lifeboats, 20 overall. 14 of them are the 30-footers, which should carry 65 people.

Just checking all 48 solid white lifebuoys; these are to be placed at various locations about the weather deck.
Gaming world
Gaming as part of mainstream culture

- Median age of gamers shoots past 30
- Industry size comparable to music
- Impacts on hardware, software, interfaces, other industries
- Large and growing diversity of platforms, topics, genres, niches, players
Games serious, public, and

- Oligarchy, Molle Industries
- Jetset, Persuasive Games
- The Great Shakeout, California
- DimensionM, Tabula Digita
- Curriculum content
- Delivery mechanism
- Creating games

Simulation - History

Revolution - 18th century America RPG, Education Arcade
Game studies as academic field

• Frans Mayra, *An Introduction to Game Studies* (Sage, 2008)
Use games to impact society
Some impacts on campuses

- Changes in hardware, software
- Part of undergraduate life
- Learning content, both informal and formal
- Career paths
Interface changes

- Gartner: end of the mouse
- Touch screen (iOS)
- Handhelds (Wii)
- Nothing (Kinect)
Most students identified with one+ game characters in K-12
Leading game developers are as well known as movie directors
Most of their work and school is gamified
Higher education landscape:

- Accreditation: drives project-based, studio-style pedagogy
- Libraries: rare and/or smaller
- Professional development: distance, DiY
- Faculty multimedia production is the norm

Both sides of the API
War on IP rages
Nostalgia waves for old media
Competing storytelling schools
How does your life change?

1. Fall of the Silos
2. Triumph of Closed
3. The Age of Automation
4. Renaissance