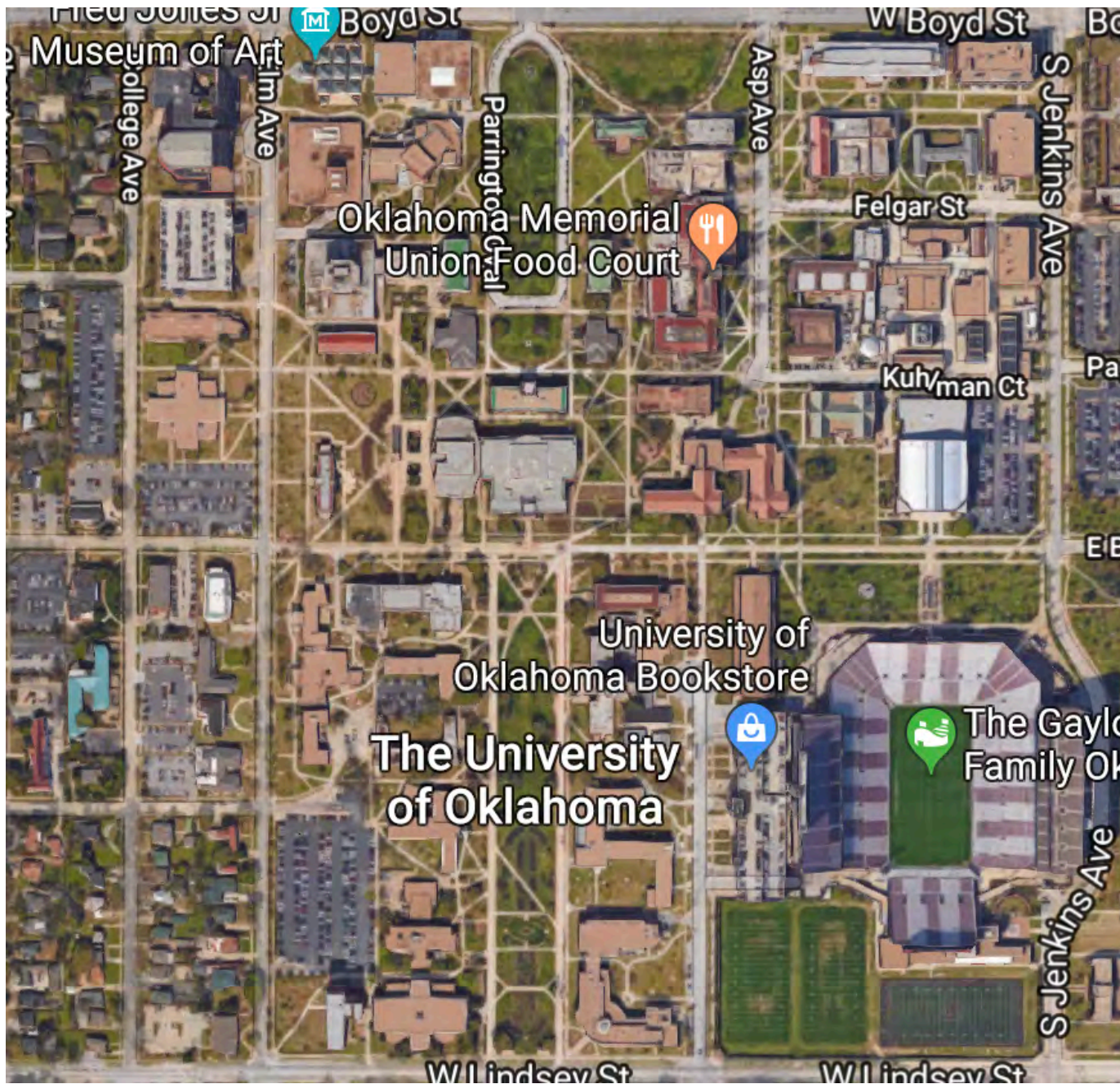


# Applying emerging technologies to library redesigns: Thoughts on promoting agility in non-agile environments

# Agenda

- Introduction – Context
  - Types of Change
  - Academic Libraries today
- Designing new spaces incrementally
- Emerging technologies – a moving target
- Combining new spaces and technology incrementally
- Conclusion



Evans Hall



Bizzell Memorial Library

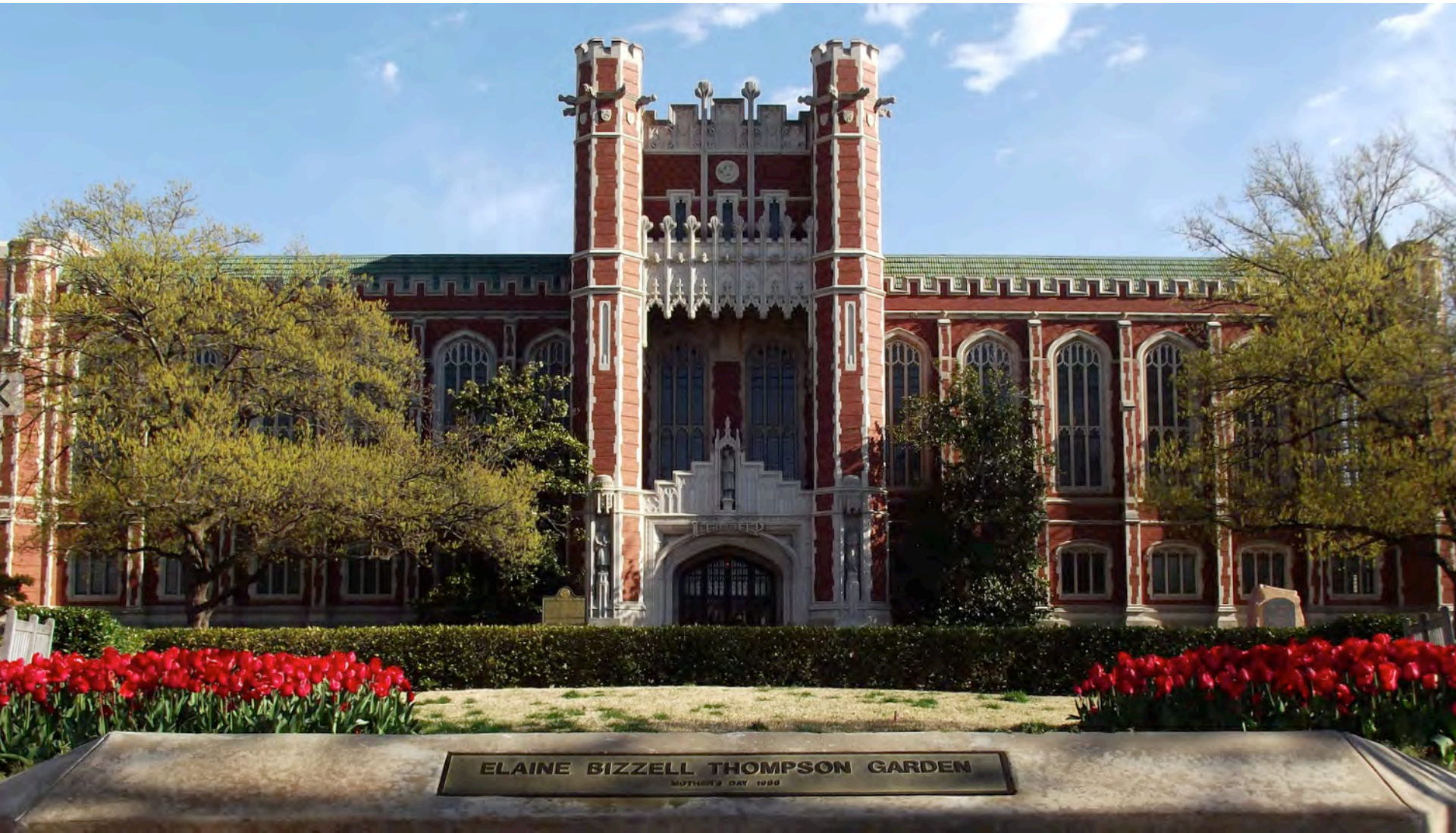


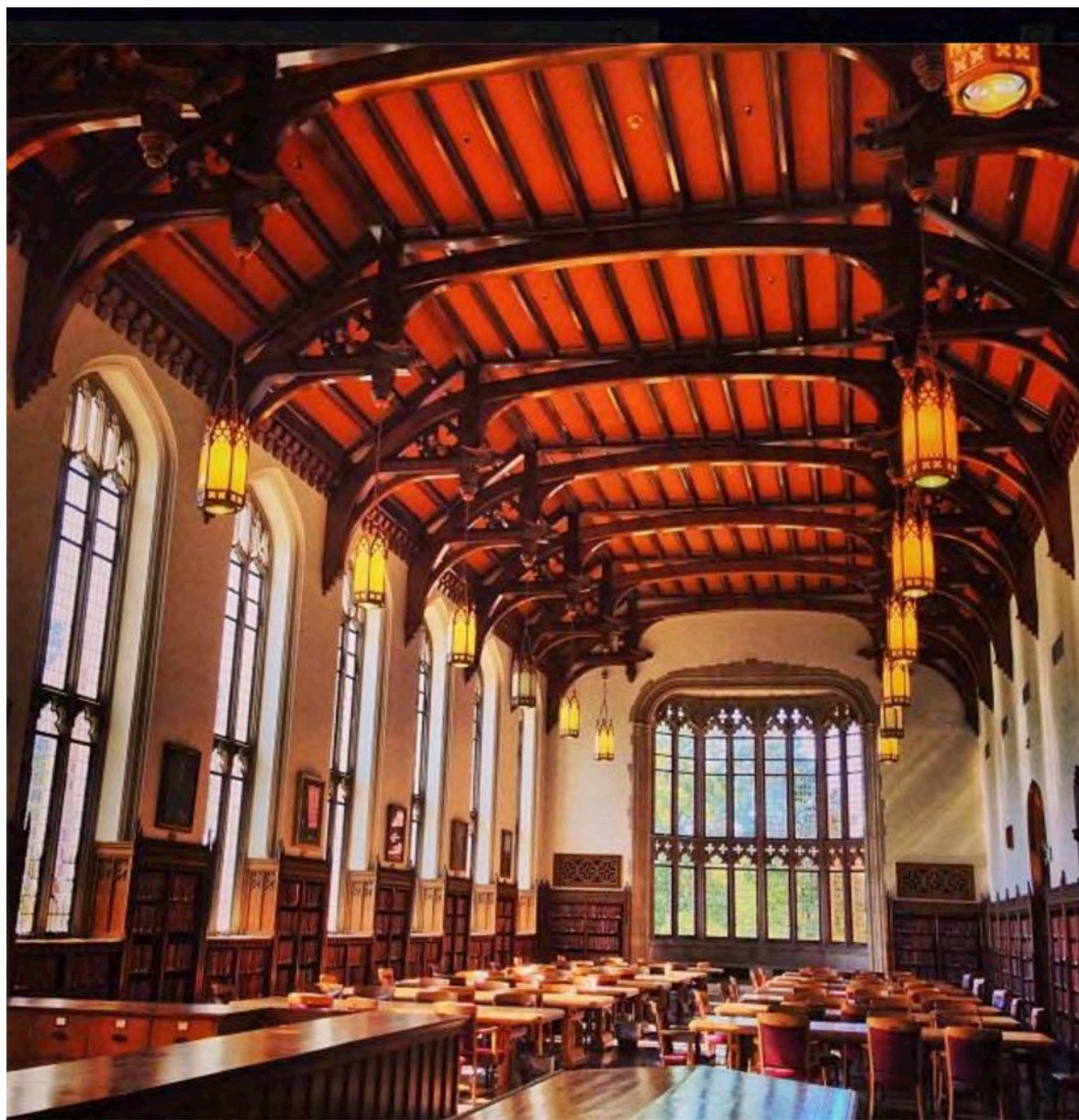
Bizzell Memorial Library

The Bookmark Cafe



Google



















The New Horizon  
*for*  
**OU LIBRARIES**  
*The University of Oklahoma.*

<https://masterplan.libraries.ou.edu/publications>

**University Goals**

**Library Strategic Plan**

**Library experience: virtual & physical**

**Special Collections**

**Research & Scholarly Communications**

**Workforce**

**Community Outreach**

**21<sup>st</sup> C. Library**

**Collections**

**Staff**

**Services**

**Facilities**

**Technology**

**Financial Resources**

of the University

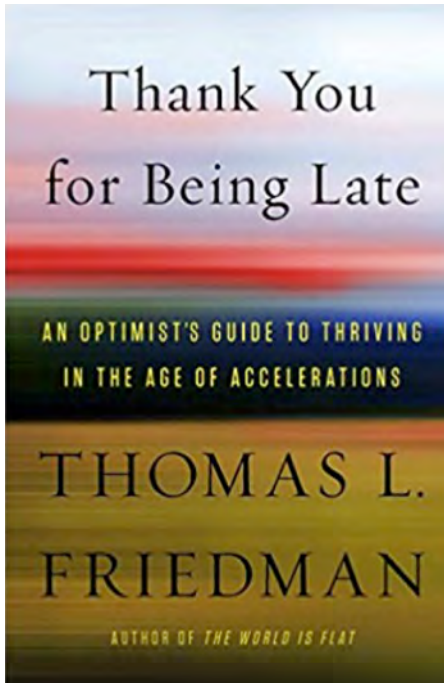
**External forces**

# The kind of change preferred in non-agile environments... like academia



[https://www.facebook.com/pg/RobGonsalves.Official/photos/?ref=page\\_internal](https://www.facebook.com/pg/RobGonsalves.Official/photos/?ref=page_internal)

# Another kind of change... Agile.

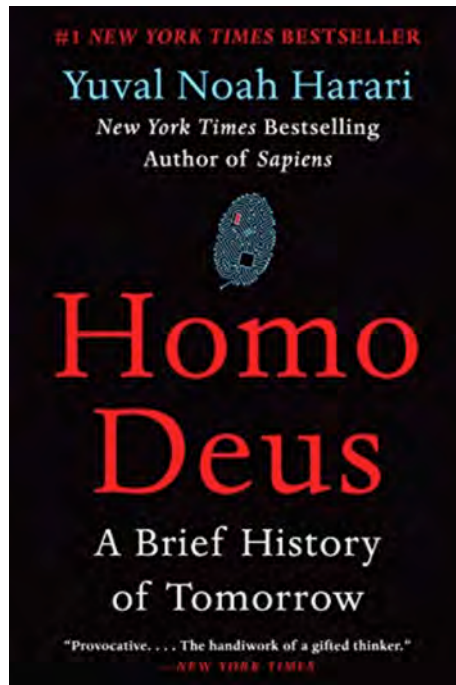


## What happened around 2007?

- iPhone
- Hadoop (big data)
- GitHub
- Facebook (Sept 2006)
- Twitter
- Google bought YouTube (2006)
- Android launched
- Kindle released
- IBM released Watson
- Intel released high-k-metal gate microchips

**“One of the greatest leaps in history”**

# Another kind of change... Agile.



“Scientific research and technological developments are moving at a far faster rate than most of us can grasp.”



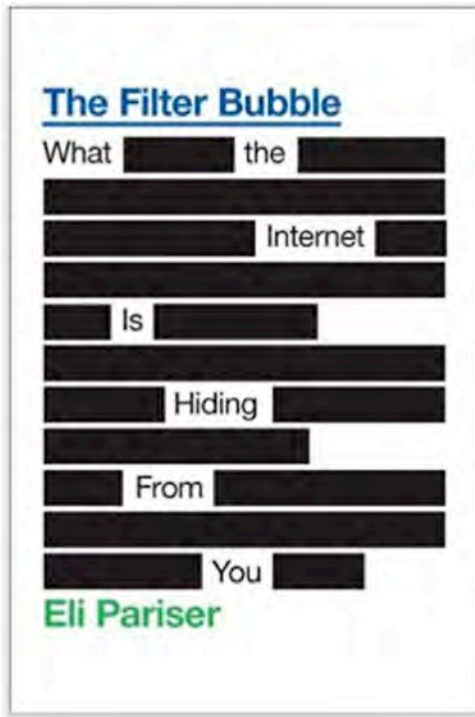
# Academic Libraries Today (Context)

## The result of all this change?

- Many countries are struggling with: pace-of-change, tribalism, massive financial disparity, resentment, alternative facts, ignorance, racism and more.
- Libraries need to factor these realities into their work with people, technologies or spaces.

## Why/How?

# Academic Libraries Today (Context)



“Ultimately, democracy works only if we citizens are capable of thinking beyond our narrow self-interest. But do do so, we need a shared view of the world we cohabit. We need to come into contact with other people’s lives and needs and desires.”

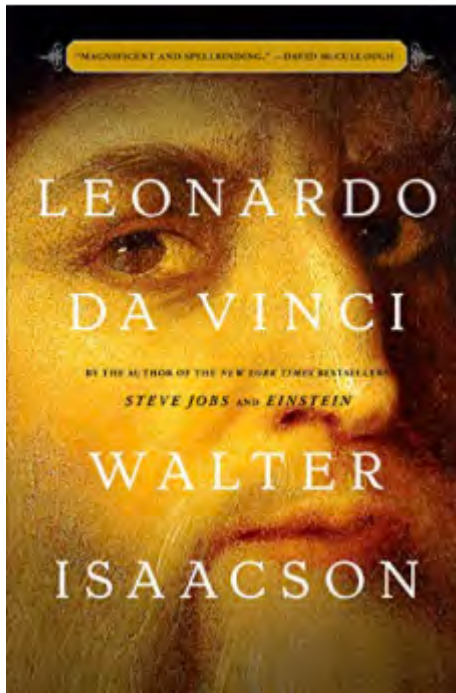
Page

# Academic Libraries Today (Context)



OU Libraries  
*Crossroads of the University*

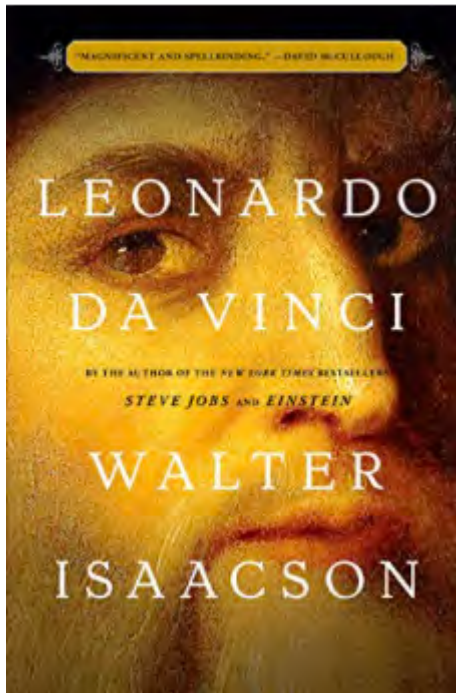
# Academic Libraries Today (Context)



“Leonardo da Vinci is the ultimate example of how the ability to make connections across disciplines – arts and sciences, humanities and technology – is a key to innovation, imagination and genius.”

Pg 3

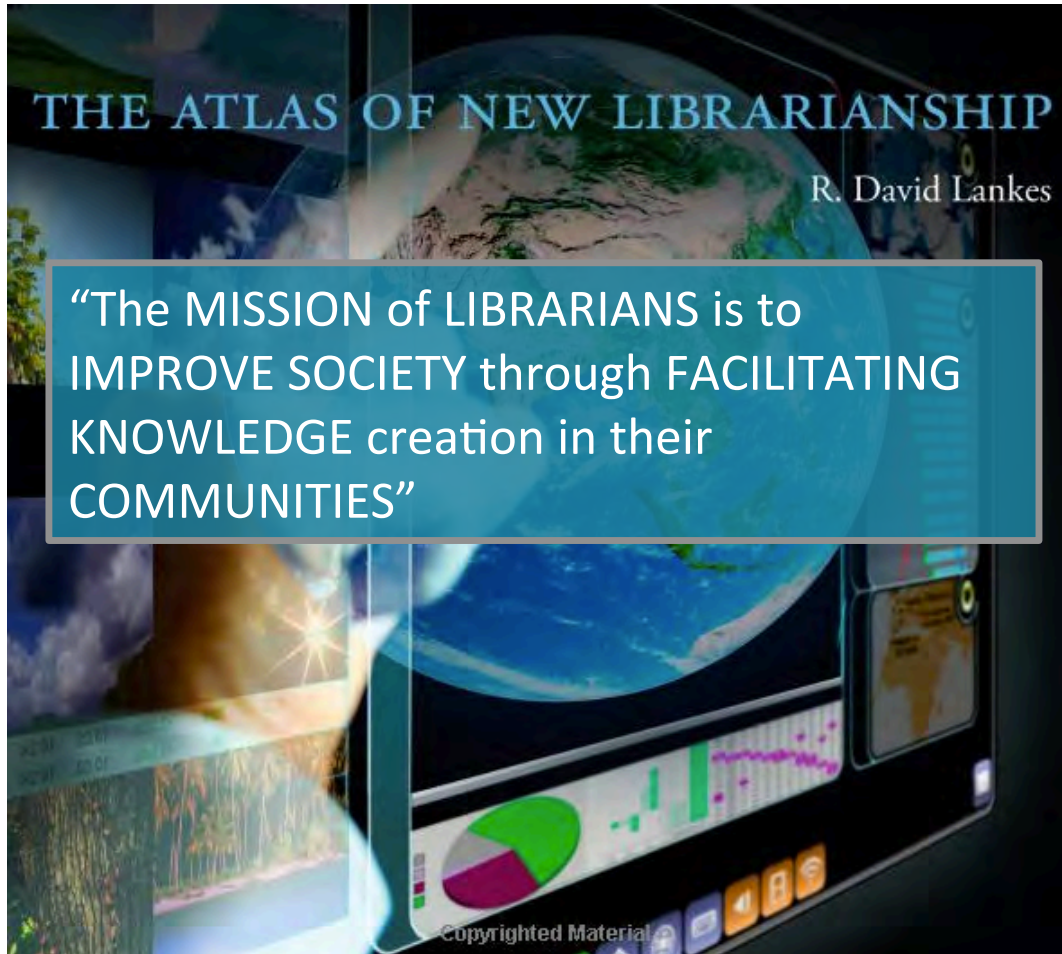
# Academic Libraries Today (Context)



“Genius is often considered the purview of loners who retreat to their garrets and are struck by creative lightning. Like many myths, that of the lone genius has some truth to it. But there’s usually more to the story..... Genius starts with individual brilliance. But executing it often entails working with others. Innovation is a team sport. Creativity is a collaborative endeavor.”

Pg 523

# Academic Libraries Today (Context)



# Designing new spaces – Incrementally

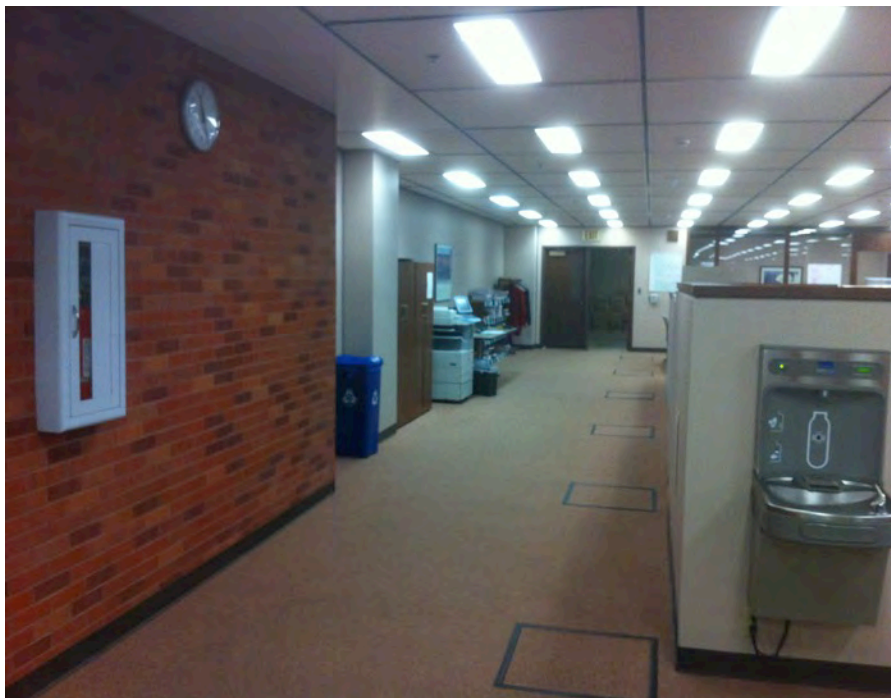
New library spaces should support:

- Knowledge creation
- Collaboration / Unification
- Versatility
- Color (institutional beige & green must die!)
- Tech support:
  - Outlets (via USB and standard power outlets)
  - Video conferencing support
  - Physical space to use technology
- Offer many styles of seating with various levels of privacy



# Designing new spaces – Incrementally

Lower Level 2 – Conference Room,  
Zarrow Family Faculty and Graduate Student Center



Before



After



# Designing new spaces – Incrementally

Lower Level 2 – Conference Room,  
Zarrow Family Faculty and Graduate Student Center



# Designing new spaces – Incrementally

Lower Level 2 – Conference Room,  
Zarrow Family Faculty and Graduate Student Center





Lower Level 2 – Before



# Designing new spaces – Incrementally

## Learning Lab: Lower Level 1, 1958 Building

The “before” pictures

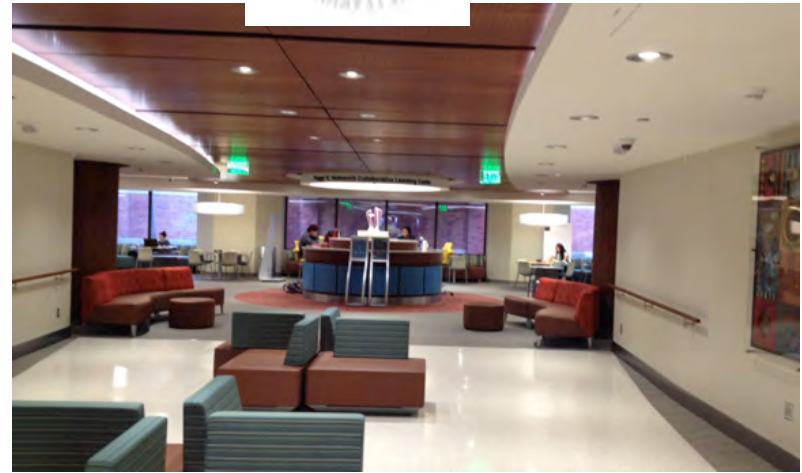


# Designing new spaces – Incrementally

Learning Lab: Lower Level 1, 1958 Building  
The “after” pictures



# Designing new spaces – Incrementally



 **Welcome!**  
 ○●○○●○○●

**We encourage you to:**

- Collaborate with classmates and friends.
- Enjoy food & beverage from the Bookmark throughout the space, please help us keep the area clean for others to enjoy.
- Reserve a group study room for you and your classmates.
- Experiment with the technologies.
- Write on the white and glass surfaces using dry erase markers.
- Ask for help & consultation at the Help Hub; look for our staff wearing blue lanyards.

 @OUHCLC


#OUHCLC

#Lavish

بہر امانہ!!! زونچہ  
 خفاہ یا امانہ

nice pretty

Welcome to THE FUTURE!!

Bravo! THIS IS AWESOME. 

Love it!

LOVE IT HERE

Out of World



# Designing new spaces – Incrementally

## Community Classroom and Digital Scholarship Lab





# Designing new spaces – Incrementally



This was a student break-room before we converted it.



# Designing new spaces – Incrementally



“The real power of virtual reality may lie in bringing us closer to reality. It isn’t always pretty, but it has the potential to effectively foster empathy and learning *in a world made weary by too much of the same information.*” (emphasis is my own)

*Dan Costa, Editor, PC Magazine  
February 2018 Edition*

# Designing new spaces – Incrementally

September 2017 - 1st time ever, that we're aware that a Virtual Reality Class was held in H.E. across 7 remote locations (2 in Arizona, 5 in Oklahoma), 15 total participants, with an instructor in Arizona giving a tour of a cave, pointing out archaic cave art.

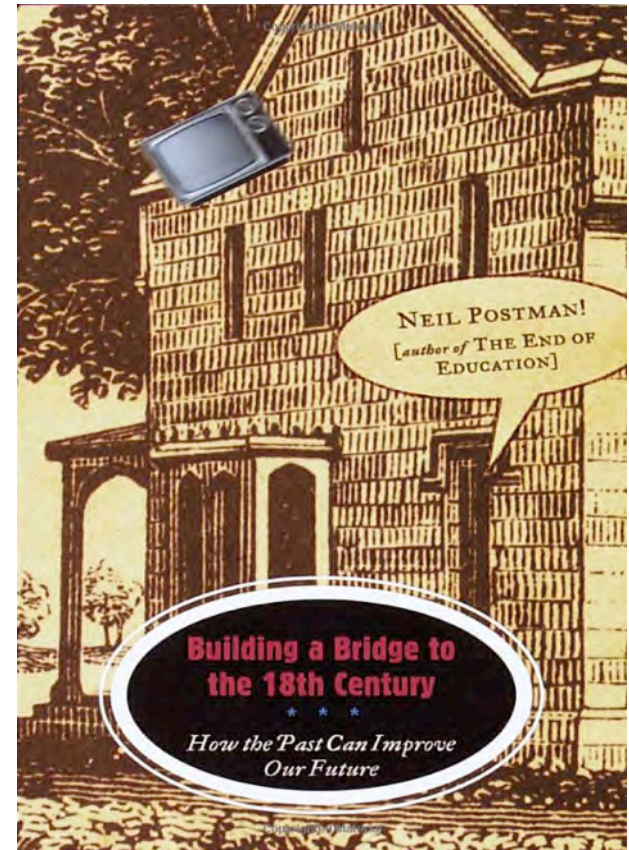


What does all of this mean for workspace design?

## Emerging technologies... A moving target

Questions we need to ask in adopting emerging technologies:

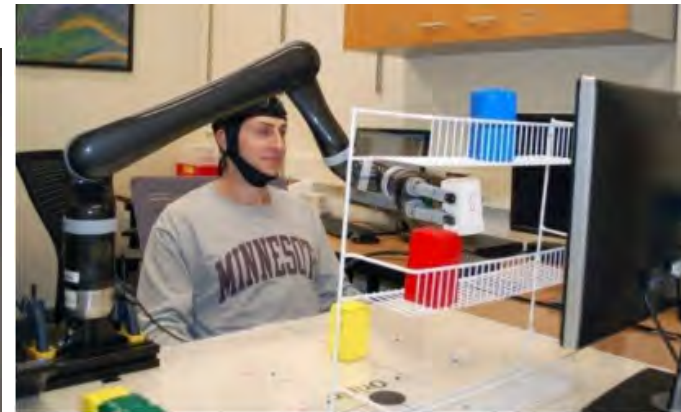
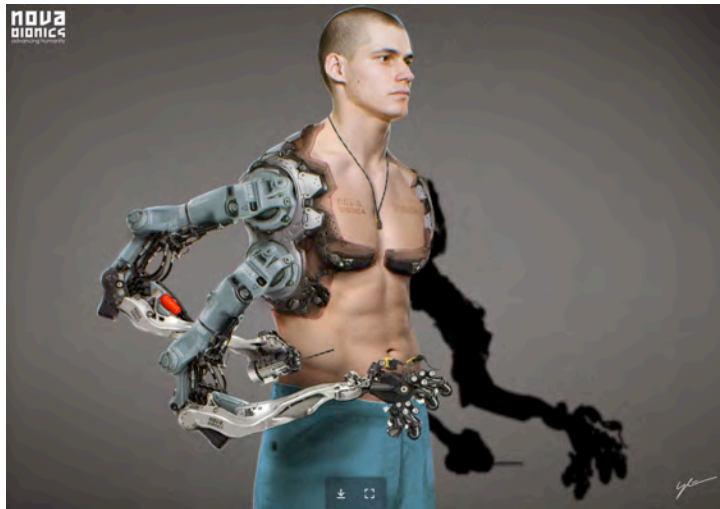
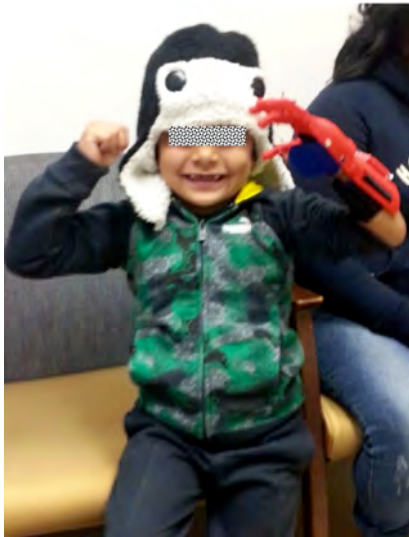
- “Technology maybe be life-enhancing or life-diminishing; which is it?”
- What is the problem to which this technology is a solution? Whose problem is it?
- What problem does it solve for me?
- Will its advantages outweigh its disadvantages?
- Which people and what institutions might be most seriously harmed by a technological solution?
- What sort of people and institutions might acquire special economic and political power because of technological change.”



# Emerging technologies... A moving target



# Emerging technologies... A moving target



Research subjects at the University of Minnesota fitted with a specialized noninvasive brain cap were able to move the robotic arm just by imagining moving their own arms.

*Credit: University of Minnesota*

<https://www.sciencedaily.com/releases/2016/12/161214085926.htm>

## What does all of this mean for workspace design?

# Emerging technologies... A moving target



zSpace



# Emerging technologies... A moving target



<https://youtu.be/hRmkkrafboo?t=19s>



<https://www.youtube.com/watch?v=xI0uGBEPMTs>

What does all of this mean for workspace design?



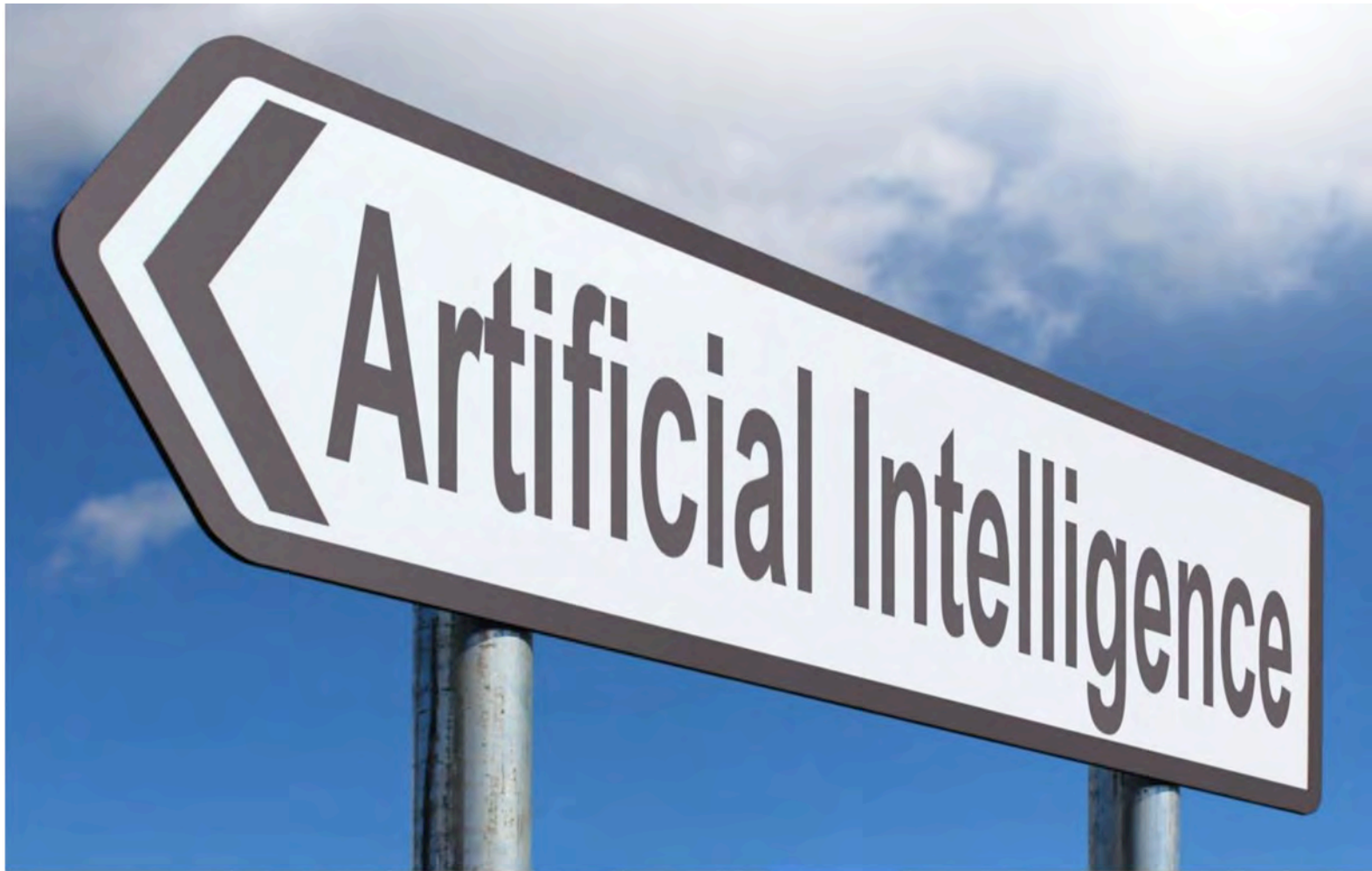
## Emerging technologies... A moving target



Ubtech Robotics' Walker is the world's first commercialised biped (walking on two legs) robot for the consumer market, offering a complete "home butler" service. The robot is designed to provide smart assistance and support across a wide range of people's daily lives.

What does all of this mean for workspace design?

# Emerging technologies... A moving target



Artificial Intelligence by Nick Youngson CC BY-SA 3.0 Alpha Stock Images

## Emerging technologies... A moving target

- Using Amazon Dots and Ivy.ai software in dorms
- Creating a Digital Skills Hub
  - Virtual hub at this point, physical will come later.
  - Partnership with College of Journalism, CTE, OU/IT, Bursur's Office, Provosts Office, Computer Science and many others.
  - Teaching courses in use of AI, VR, Algorithms, Blockchain, Digital Literacy, Digital Privacy, etc.
  - Running workshops in building Google AI kits.

## Combining new spaces and technology incrementally

Methodologies we're using at OU Libraries to interweave emerging technologies into existing domains:

- Do presentation to staff on why change is needed, what the technology can do that is new and adds value.
- Fireside chats
- Work next with Deans, Chairs, Students and then... faculty.
- Describe what new jobs will look like
- Have them help create job descriptions
- Tell them about training they'll receive



# Combining new spaces and technology incrementally

## Methodologies – cont'd:

- Seated managers of Digital Scholarship Laboratory and Emerging Technology Librarians (ETL) on Sr. Management Team meetings.
- Named an ETL to work with departments to integrate appropriate tech.
- Creating a syllabus builder
- Discovery system searches 3D models
- Decide on your goals/objectives for the space. That determines:
  - Metrics to be measured to determine success?



# Combining new spaces and technology incrementally

## Methodologies – Cont'd:

- What space/hardware/software/furniture is needed?
- How to staff space & at what level?
- How to build a community around the space?
  - Ensure every person gets welcomed/greeted
  - Showcase what is created
  - Those with a talent, we ask to teach sessions
  - Rotate user training w/formal training
  - Create whiteboards for collaborative brainstorming
  - Programs (Classes, seminars, guest lectures)
  - Volunteer programs
  - VR Club run by students



## Combining new spaces and technology incrementally



Innovation @ the  
Edge

Entrance – before.

# Combining new spaces and technology incrementally



## Innovation @ the Edge

Entrance – after. Difference?

- Met with women’s engineering group. They suggested:
  - Seats outside
  - Showcase work
  - Put women on Edge staff
  - Offer textile sessions
  - Make lab easy to approach



# Combining new spaces and technology incrementally

UNIVERSITY LIBRARIES  
The UNIVERSITY of OKLAHOMA

DISCOVER!

Discover Local (Catalog) | Advanced Search

virtual%20reality

Books

Virtual Reality  
Ortiz-Catalan, Max Jair, Nijenhuis, S., Ambrosch, K., Bovenind Eardt, T., Koenig, S., Lange, B., (2014)  
Material Type: book\_chapter

Articles & More

Virtualreality (Online)  
No creator information available., (1995)  
Material Type: journal

Library Websites

OU Libraries Shares Virtual Reality Expertise  
Material Type: Library Stores

Research Guides

Technology Lending  
Material Type: guide

eResources

Engineering Information Willage  
A web-based virtual community for engineers and other technical professionals. Access to ISI COMPENDEX WEB database, which indexes and abstracts engineering journals, conferences, and reports.  
Material Type: Database

Research Specialists

Matthew Cook  
Emerging Technologies Coordinator

ShareOK

Psychodynamic Treatment of Excessive Virtual Reality Environment Use  
Lori D. Franklin, Scott A. Swan, (2016)  
Material Type: Online resource

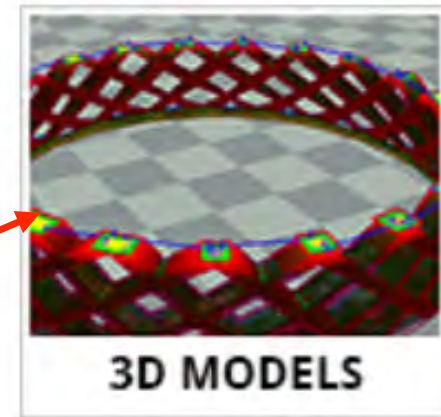
Special Collections

The fall of the towers : a classic science fiction trilogy  
Delany, Gordon R., (1970)  
Material Type: book

Other Searches

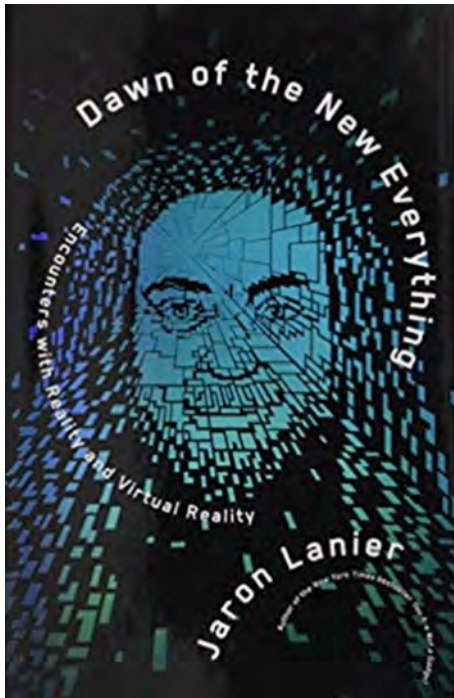
Perform this search on another platform (with our libraries website).

GOOGLE SCHOLAR 3D MODELS WORLDICAT DPLA HATHITRUST OPEN TEXTBOOK LIBRARY



Which can then be pushed directly to one of our VR stations in the Library.

## Combining new spaces and technology incrementally



“Test your world with diverse people. Better yet, add diverse people to your team. Cultural background, age, sex and cognitive style have a big impact on how people to take to VR.”

Page 235.

# Combining new spaces and technology incrementally

VR spaces best serve user needs through defined space.



## Combining new spaces and technology incrementally



# Conclusion



UNIVERSITY LIBRARIES  
*The* UNIVERSITY of OKLAHOMA

# Conclusion

**The End**

Carl Grant

Dean (Interim)

University of Oklahoma Libraries

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Twitter: @carl\_grant