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Digital Repositories, Publishing and Scholarship

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Past

Present

Future

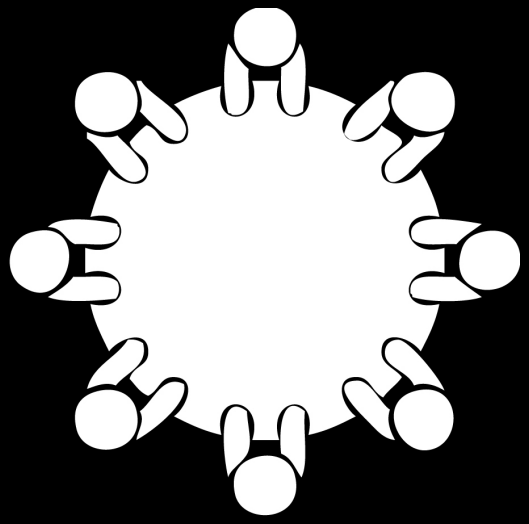
Chance

Transition

Disruption

Discussion Framework:

- Platform for Disruption
- Knowledge Creation / Knowledge Management
- Partnerships



Platform for Disruption

Digital technologies, the Internet and the World Wide Web, provide a platform for disruption that is changing the established scholarly publishing paradigm.

A Defining Moment For Me: Framing the Phenomenon

- *The Innovator's Dilemma: Disruptive Change in Academic Libraries* by David W. Lewis, 2004

Library Administration & Management 18(2):68-74 Spring 2004

Led me to

- *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* by Clayton M. Christensen, 1997

Defining Disruption

- Disruption is a break, disturbance, dislocation, the act of causing disorder
- Christensen identifies two types of technologies:
  - Sustaining technologies improve the performance of established products
    - "market overproduction" -- when a product improves beyond requirements
  - Disruptive technologies
    - initially underperform, so easy to ignore
    - new features, which gain value quickly
    - improve at fast rate (parallel open source movement)

Experience becomes more valuable than comprehensive planning, regardless of the success. (Christensen, 1997)

More important to try different approaches. (Lewis, 2004)

… Of Disruptive Technologies …

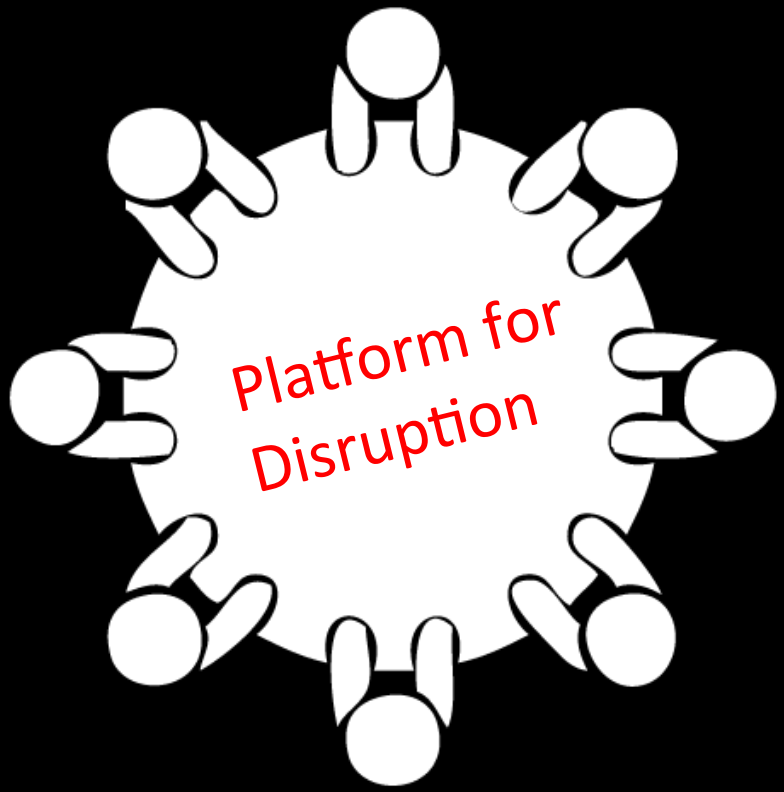
"Disruptive technologies are often developed before applications are known, and it is only after several fits and starts that applications for the technology and users of it are found. Invariably cheaper and faster, disruptive technologies are often easier to use even if quality is not high and capacity is not large at the outset."

(Lewis, 2004 discussing Christensen,1997, p.68)

Quick History of the IDR

- 1991 -- arXiv, Paul Ginsparg, Los Alamos National Lab, New Mexico (@ Cornell University since 2001)
  - early focus high-energy physics
  - expansion to include mathematics and computer science
- 1997 -- arXiv success led to establishment of RePec, CogPrints & Education Line
- 1999 -- Open Archives Initiative, enables institutional repositories interoperability (OAI-PMH: XML over HTTP)
- 2001 -- ePrints developed. Soon after (2002) DSpace, Bepress (EdiKit) (eventually, Digital Commons)
- 2002 -- *The Case for Institutional Repositories*, Raym Crow
- 2010 -- IR listings: CSIC, ROAR, OpenDOAR …
- "... more than one per working day established over the past three years…"

Swan. *Institutional repositories - now and next*. *In* **University Libraries and Digital Learning Environments**, Dale, Beard and Holland, 2011. (In Press)


Platform for
Disruption

Knowledge Creation / Knowledge Management

Producer → Manager → Consumer

A Few Details

- Complex Digital Objects (unit of scholarly communication)
- OAIS Reference Model (SIP, AIP, DIP)
- Semantic Web (RDF, RDFs, OWL, distributed computing, AI, NLP)
- Writing → Encoding (integrating content and metadata)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Technological Determinism vs. Scene of Media Encounters
- Consumption Patterns vs. Production/Dissemination Patterns
- Peer-Review (certification, imprimatur, validation)
- Authority 3.0 (good, better, best; system-assisted / new metrics)
- Tenure & Promotion (changing methodologies and mind sets)

A Few More Details

- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids, provenance)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IDR Contents (theses, learning objects, special collections…)
- Document Submission & Distribution (intelligent systems, 1:M)
- Visualization and Presentation (object hierarchy, spatial and temporal)
- Layers and Context (logical and/or created relationships)
- Open Access, Hybrid Access,... (private / public good)
- IP & Reuse (who owns what and how do you keep track)


Creation &
Management

Partnerships

Changing Landscape

- Rampant commodification of academic output
- Imbalance of private rights vs. public good
- Complexity and expense of evolving tools
- Team-oriented production and management
- ePresses & Centers for Digital Scholarship / Digital Humanities
- Virtual organizations / leveraging distributed resources
  - leveling the playing field


Partnerships

"The question for our scholarly research communications infrastructure is: if we were not burdened with the legacy print system and associated methodology, what system would we design for our scholarly communications infrastructure?"

Paul Ginsparg. *Can Peer Review be better Focused?*
Science & Technology Libraries, Volume 22, Issue 3 & 4 January 2004

Be Bold!