

Institutional Repositories: A Disruptive Response To an Established Paradigm

“Preserving our Roots, Growing our Future”

What remains the same:

- Commitment to **serv**ing our communities
- Commitment to **access**

Who am I?

- Earlier training as a painter and ceramist
- Information professional for the last decade
- 2 year hiatus sweeping across the digital landscape picking up shiny things
- Currently Digital Services and Cataloging Librarian at Providence College
- Research interest in the Digital Humanities
- Open Access enthusiast and occasional evangelist
- Information container agnostic

Who am I?

- Earlier training as a painter and ceramist
- Information professional for the last decade
- 2 year time out sweeping across the digital landscape picking up shiny things
- **Currently Digital Services and Cataloging Librarian at Providence College**
- Research interest in the Digital Humanities
- Open Access enthusiast and occasional evangelist
- Information container agnostic

Who am I?

- Earlier training as a painter and ceramist
- Information professional for the last decade
- 2 year hiatus sweeping across the digital landscape picking up shiny things
- Currently Digital Services and Cataloging Librarian at Providence College
- **Research interest in the Digital Humanities**
- **Open Access enthusiast and occasional evangelist**
- **Information container agnostic**

Presentation In 3 Parts:

- Part 1: Framing the Discussion (25 minutes)
- Part 2: Sharing Our Knowledge and Experience (25 minutes)
- Part 3: Hearing From Scholars (10 minutes)

Presentation In 3 Parts:

- Part 1: Framing the Discussion (25 minutes)
- **Part 2: Sharing Our Knowledge and Experience (25 minutes)**
- Part 3: Hearing From Scholars (10 minutes)

Presentation In 3 Parts:

- Part 1: Framing the Discussion (25 minutes)
- Part 2: Sharing Our Knowledge and Experience (25 minutes)
- **Part 3: Hearing From Scholars (10 minutes)**

Part 1

(25 minutes)

Framing the Discussion



*We have 1 hour to define
the IR phenomenon, review
the past and present, and to
discuss the future!*

Digital technologies (IRs), 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

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)

“In a disruptive environment, a years worth of experience [trumps] a year’s worth of planning” (Christensen, 1997)

“It becomes more important to try different approaches.” (Lewis, 2004)

Defining Disruption

- Disruption is a break, disturbance, dislocation, the act of causing disorder
- Christensen identifies 2 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)

“In a disruptive environment, a years worth of experience [trumps] a year’s worth of planning” (Christensen, 1997)

“It becomes more important to try different approaches.” (Lewis, 2004)

Defining Disruption

- Disruption is a break, disturbance, dislocation, the act of causing disorder
- Christensen identifies 2 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)

In a disruptive environment, a years worth of experience [trumps] a year's worth of planning (Christensen, 1997)

It becomes 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)

The Established Paradigm

... a paradigm in which the **unit of scholarly communication** is the document.

Van de Sompel, Payette, et al. *Rethinking Scholarly Communication: Building the System that Scholars Deserve*, D-Lib Magazine
September 2004, Volume 1, Number 9

“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?”

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

The Established Paradigm

... a paradigm in which the **unit of scholarly communication** is the **document**.

Van de Sompel, Payette, et al. *Rethinking Scholarly Communication: Building the System that Scholars Deserve*, D-Lib Magazine
September 2004, Volume 1, Number 9

“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?”

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

The Established Paradigm

... a paradigm in which the unit of scholarly communication is the document.

Van de Sompel, Payette, et al. *Rethinking Scholarly Communication: Building the System that Scholars Deserve*, D-Lib Magazine
September 2004, Volume 1, Number 9

“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?”

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

Unit of Scholarly Communication

IRs: essential system for supporting the emerging unit of scholarly communication, that is, the **complex digital object**, parts of which may exit in distributed systems over time (value chain has dimension).

TANGENT:

Is there an authoritative *visuality* - hierarchy, space, time - to the unit of scholarly communication?

LEADS TO:

“*Visuality* has a specific rhetoric, with significant communicative and mnemological laws, not only effective in the sphere of so-called high art but in the production, design, and interpretation of scientific representations and records as well.”

Bruhn and Dunkel. *The Image as Cultural Technology*, p. 166
In Visual Literacy, Elkins, 2008

Unit of Scholarly Communication

IRs: essential system for supporting the emerging unit of scholarly communication, that is, the complex digital object, parts of which may exit in distributed systems over time (value chain has dimension).

TANGENT:

Is there an authoritative *visuality* - hierarchy, space, time - to the unit of scholarly communication?

LEADS TO:

“*Visuality* has a specific rhetoric, with significant communicative and mnemological laws, not only effective in the sphere of so-called high art but in the production, design, and interpretation of scientific representations and records as well.”

Bruhn and Dunkel. *The Image as Cultural Technology*, p. 166
In Visual Literacy, Elkins, 2008

Quick History of the IR

- 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)
- 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)

Quick History of the IR

- 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)
- 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)

Quick History of the IR

- 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)
- 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)

Quick History of the IR

- 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)
- 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)





Part 2

(25 minutes)

- Semantic Web (RDF, RDFs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, validation)
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- **IP & Reuse (who owns what and how do you keep track)**
- **DOIs, Handles, IDs (creating permanent links to digital objects)**
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, validation)
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- **Tenure & Promotion (changing methodologies and mind sets)**
- **Peer-Review (certification, validation)**
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, imprimatur, validation)
- **Brand Value (core journals, prestige)**
- **Data (small-to-medium sized data sets)**
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, imprimatur, validation)
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- **Authority (FRAD, researcher ids)**
- **OAI-PMH (harvesting, interoperability, machine-to-machine)**
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, imprimatur, validation)
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- **IR Contents (theses, learning objects, special collections...)**
- **Document Submission & Distribution (intelligent systems, 1:M)**
- Authority (influence)

- Semantic Web (RDA, RDAs, OWL, distributed computing, AI, NLP)
- Complex Objects (unit of scholarly communication, value chain)
- IP & Reuse (who owns what and how do you keep track)
- DOIs, Handles, IDs (creating permanent links to digital objects)
- Tenure & Promotion (changing methodologies and mind sets)
- Peer-Review (certification, imprimatur, validation)
- Brand Value (core journals, prestige)
- Data (small-to-medium sized data sets)
- Authority (FRAD, researcher ids)
- OAI-PMH (harvesting, interoperability, machine-to-machine)
- IR Contents (theses, learning objects, special collections...)
- Document Submission & Distribution (intelligent systems, 1:M)
- **Authority (influence)**

Getting Us Started: Authority 3.0

- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- Quality of the context: What else is on the site that holds the document, and what's its authority status?
- Percentage of phrase that are valued by a disciplinary community
- Quality of author's institutional affiliation(s)
- Significance of author's other work
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41

Getting Us Started: Authority 3.0

- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- Quality of the context: What else is on the site that holds the document, and what's its authority status?
- Percentage of phrase that are valued by a disciplinary community
- Quality of author's institutional affiliation(s)
- Significance of author's other work
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41

Getting Us Started: Authority 3.0

- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- Quality of the context: What else is on the site that holds the document, and what's its authority status?
- Percentage of phrase that are valued by a disciplinary community
- Quality of author's institutional affiliation(s)
- Significance of author's other work
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41

Getting Us Started: Authority 3.0

- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- **Quality of the context: What else is on the site that holds the document, and what's its authority status?**
- **Percentage of phrase that are valued by a disciplinary community**
- **Quality of author's institutional affiliation(s)**
- **Significance of author's other work**
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41

Getting Us Started: Authority 3.0

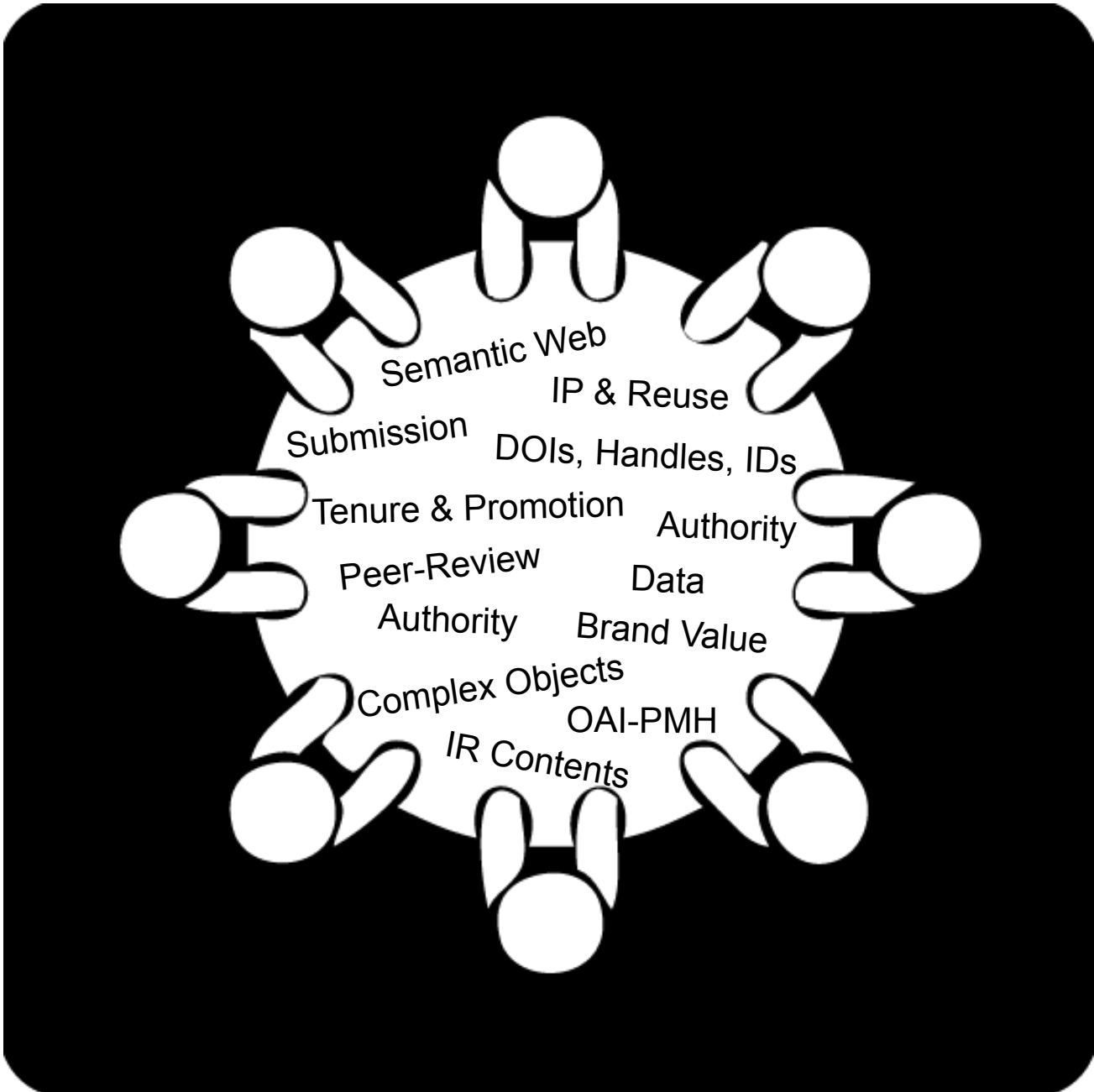
- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- Quality of the context: What else is on the site that holds the document, and what's its authority status?
- Percentage of phrase that are valued by a disciplinary community
- Quality of author's institutional affiliation(s)
- Significance of author's other work
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41

Getting Us Started: Authority 3.0

- Prestige of the publisher (if any)
- Prestige of peer prereviewers (if any)
- Prestige of commentators and other participants
- Percentage of a document quoted in other documents
- Raw links to the document
- Valued links, in which value of the linker and all his or her other links are also considered
- Obvious attention: discussions in blogspace, comments in posts, reclarification, and continued discussion
- Nature of language in comments: positive, negative, interconnective, expanded, clarified, reinterpreted
- Quality of the context: What else is on the site that holds the document, and what's its authority status?
- Percentage of phrase that are valued by a disciplinary community
- Quality of author's institutional affiliation(s)
- Significance of author's other work
- Amount of author's participation in other valued projects, as commenter, editor, etc.
- Reference network: the significance rating of all the texts the author had touched, viewed, read
- Length of time a document has existed
- Inclusion of a document in lists of "best of," in syllabi, indexes, and other human-selected
- Types of tags assigned to it, the terms used, the authority of the taggers, the authority of the tagging system.

Jensen. *The New Metrics of Scholarly Authority*.
Chronicle of Higher Education, 6/15/2007, Vol. 53 Issue 41



Part 3

(10 minutes)

The Momentum is There!

- SPARC (Scholarly Publishing and Academic Resources Coalition)
<http://www.arl.org/sparc/>
- Digital Scholarship (Charles W. Bailey, Jr.)
<http://www.digital-scholarship.org/>
- Open Access Directory
http://oad.simmons.edu/oadwiki/Main_Page
- Alliance for Taxpayer access
<http://www.taxpayeraccess.org/>
- Open J-Gate
<http://www.openjgate.com/>
- ROAR (Registry of Open Access Repositories)
<http://roar.eprints.org/>
- OpenDOAR (Directory of Open Access Repositories) -- Academic
<http://www.opendoar.org/>
- DOAJ (Directory of Open Access Journals)
<http://www.doaj.org/>



“... publishing through Open Access is doing the **right** thing.”

Dr. Simon Hughes, King's College London

If you're doing anything at all, you're doing it right!

Thank You