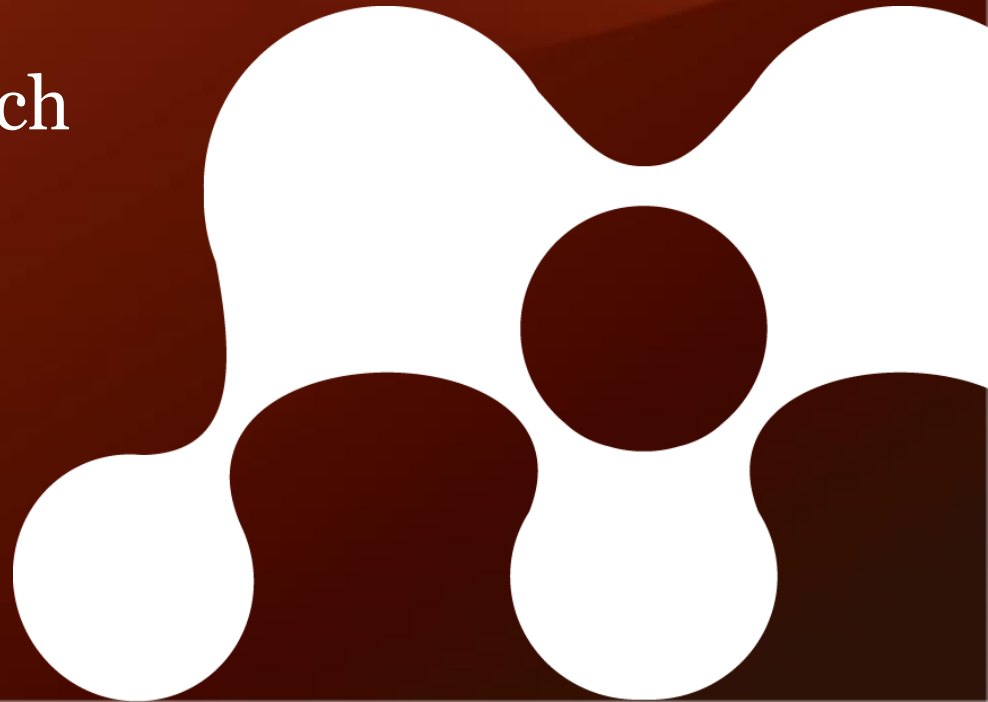


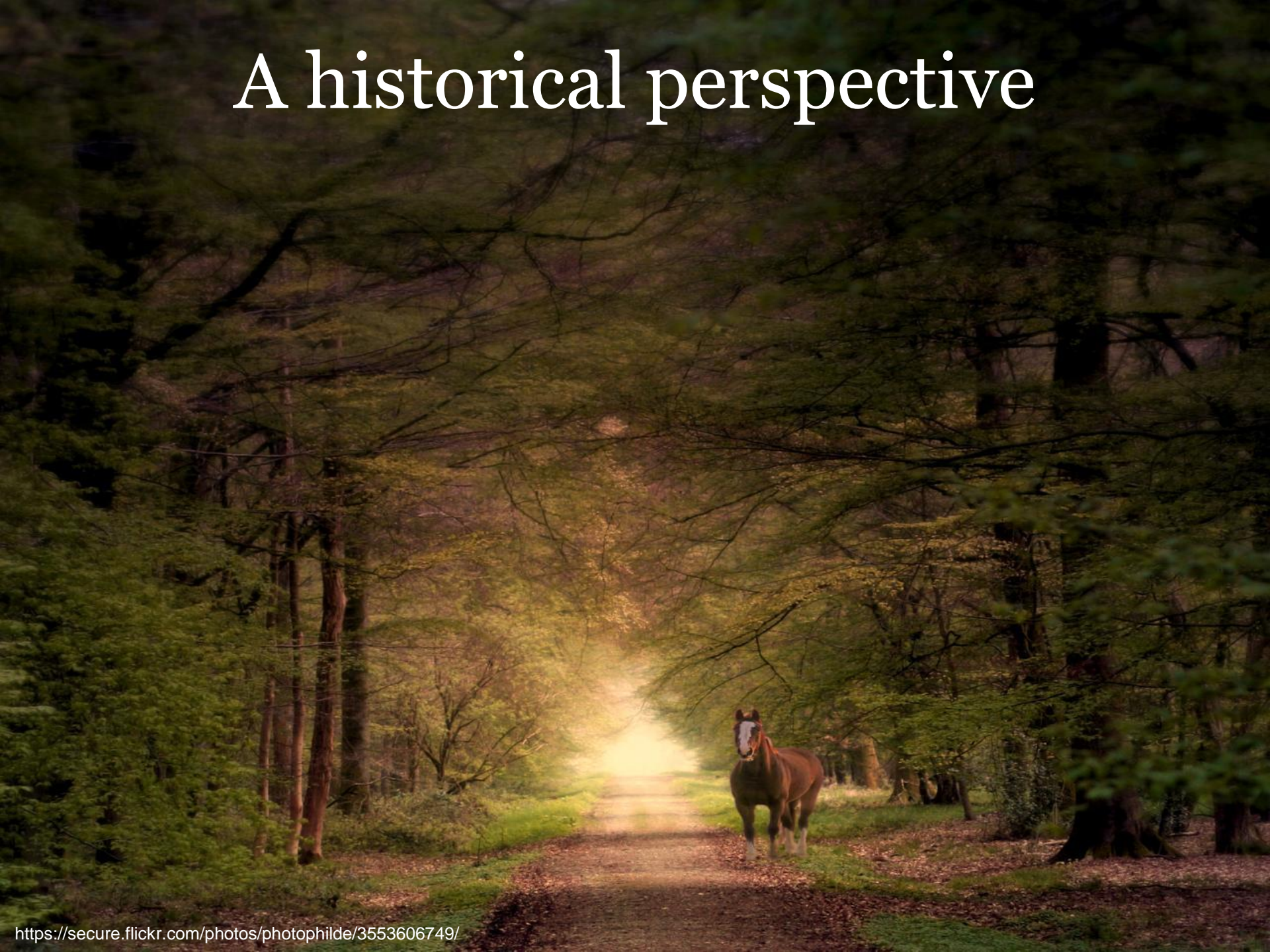
Social Tools for Serious Science

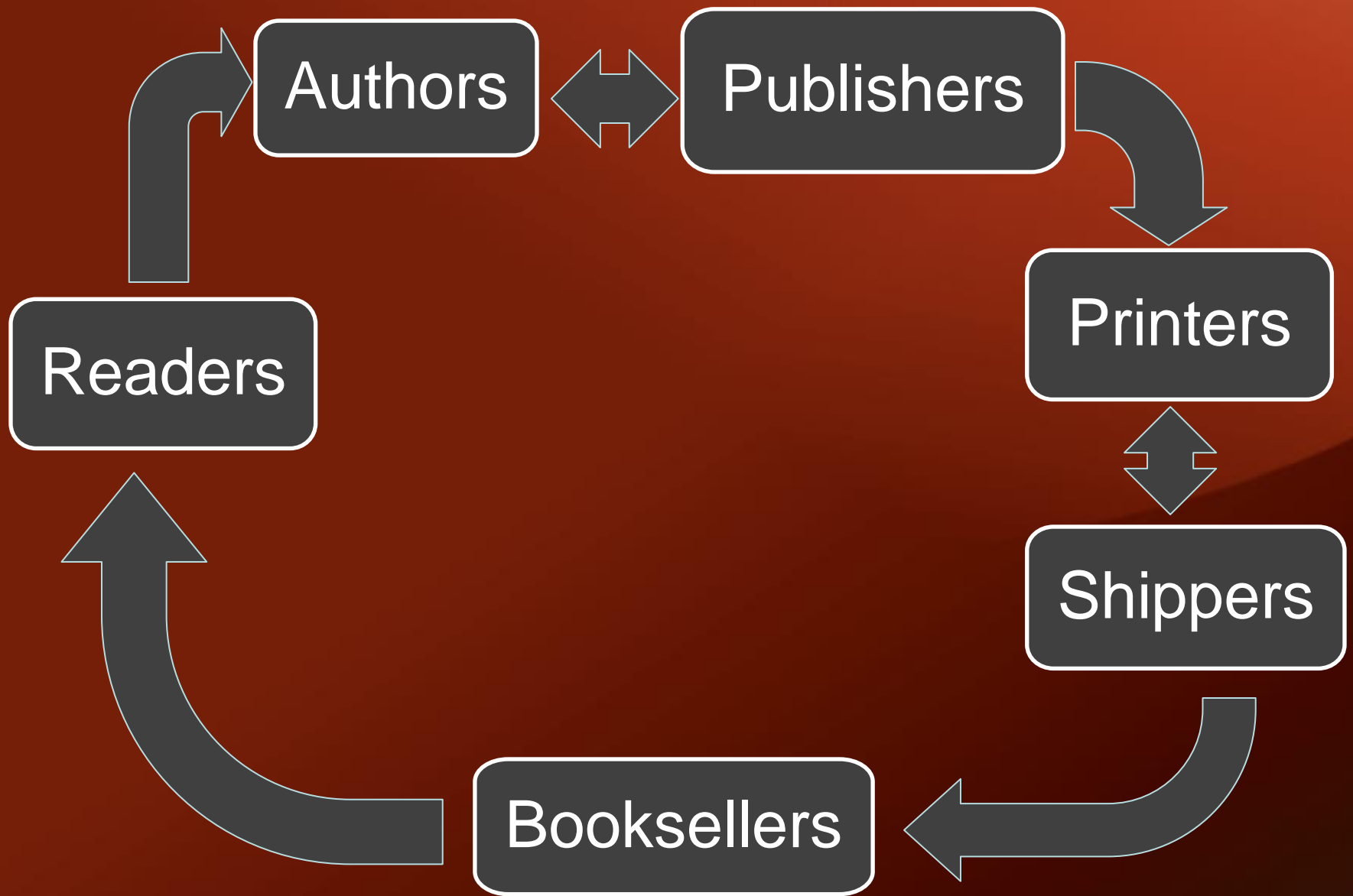
William Gunn, Ph.D.
Head of Academic Outreach
Mendeley

@mrgunn



A historical perspective







Readers

Internet

Authors



Change and Disruption

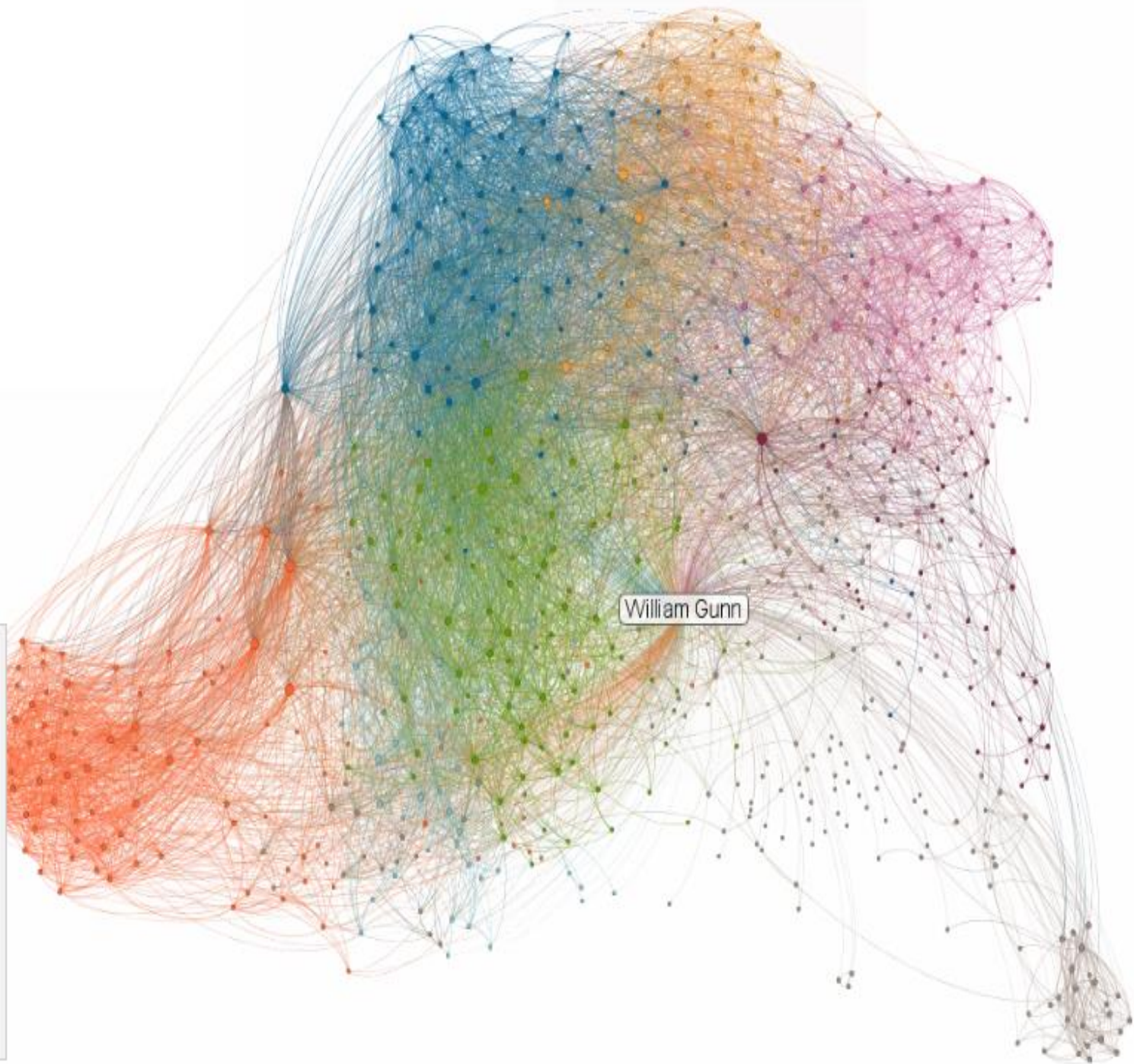
- The music industry was first
- worst fears not confirmed
- providing a product very many people want is in fact quite sustainable
- The Web changed **discovery** and **delivery**

More Change and Disruption

- Blogging changed how we communicated
- Professional media organizations still exist
- A service that gives people what they want is a quite sustainable business model
- The Web changed **engagement**

Label your
Professional Networks

- Biogang
- Mendeley
- Scholarly Comm
- DIYBio
- Science Online #scio
- Publishing
- Biotech/startups
- Tulane



Social Networks

Opportunities for
discovery

Opportunities for building
relationships



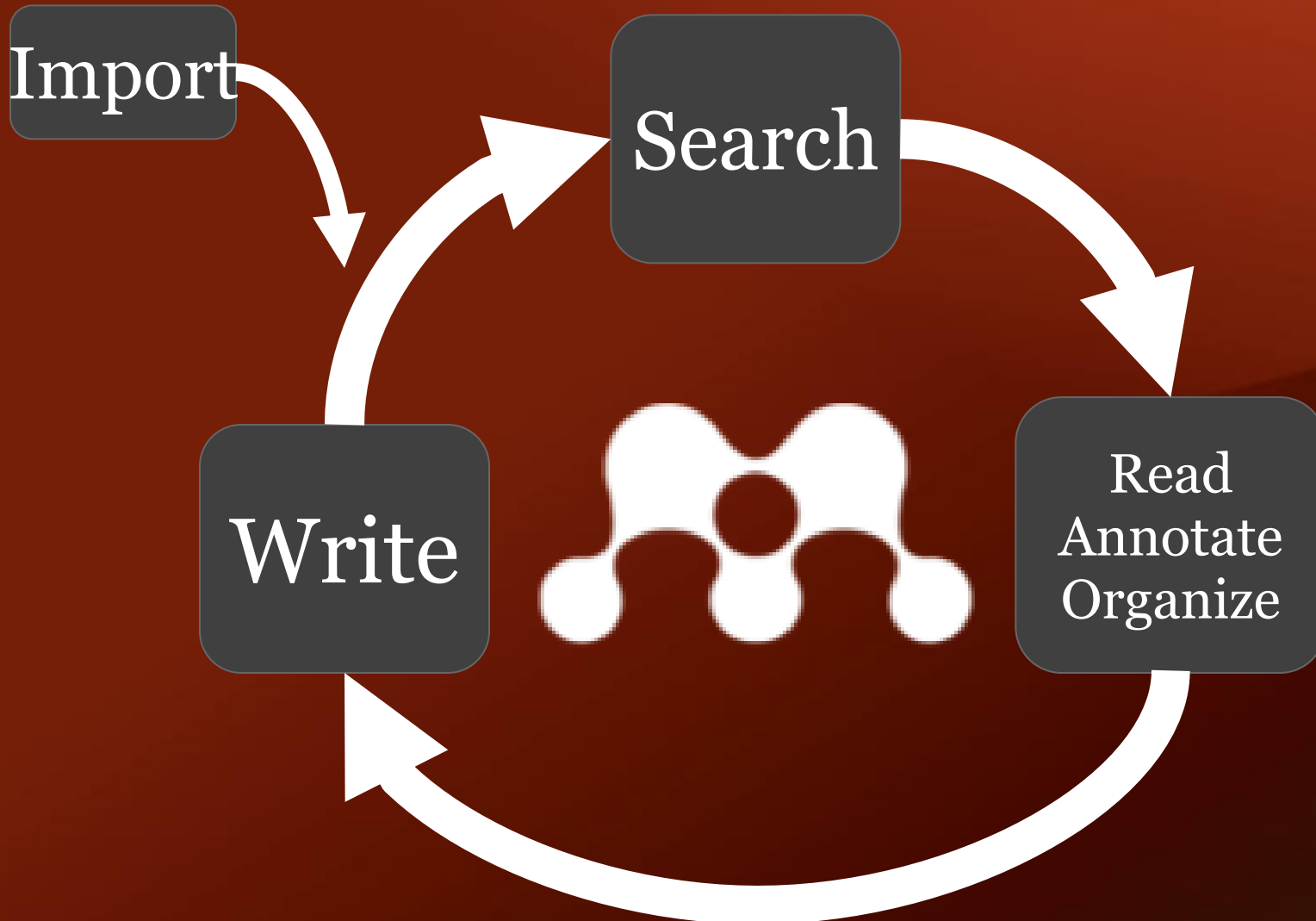
From consumer to provider

- Can we bring tools and user experience from other parts of the web to scholarly communication?
- People expect to easily share and discover music and photos, why not academic papers?

Leveraging the Web requires an open infrastructure

- HTML: open standard
- TCP/IP: open standard
- Wordpress: open source, open API
- Twitter: open source, open API
- Mendeley: open API

Connecting researchers



...and aggregates research data in the cloud

Install
Mendeley Desktop



Mendeley extracts
research data...



Collecting rich signals
from domain experts.

Read papers + keep track of notes

The image shows a screenshot of the Mendeley Desktop application. The main window displays a research paper with several annotations. A yellow sticky note is placed over a paragraph, and a grey callout box highlights a specific sentence. On the right side, there is a 'Document-wide notes' panel with a 'Notes' tab, containing a list of notes. Below that is an 'Index of annotations' panel with a list of annotations. The bottom of the window shows the page number 'Page 1 of 11'.

Document-wide notes

Notes:

General findings are that Ang2 (angiopoietin-2) inhibition slows tumor growth and VEGF inhibitor slows down vascular development.

Each on their own demonstrate good results but together they present complementary inhibitory activity by reducing tumour growth.

Index of annotations

Annotations:

01 You Page no. 1
16/11/10 19:38 in My Library
Tyrosine-protein kinase receptor: TIE-1 and TIE-2 comprise the cell-surface receptors which bind and are activated by the angiopoietins, (Ang1, Ang2, Ang3, Ang4).

02 You Page no. 1
16/11/10 19:42 in My Library
Ang1 - Stabilizes blood vessels and promotes vascular maturation.
Ang2 - Destabilizes blood vessels and promotes tumour growth.

Text highlighting

Text: Inhibitors of vascular endothelial growth factor (VEGF) that are widely used in cancer therapy reduce angiogenesis (1), cause regression of tumor vessels, slow tumor growth (2, 3), and may improve drug delivery (4, 5). VEGF inhibitors have documented antitumor effects (6-8), but drug resistance eventually occurs, and other strategies for affecting the tumor vasculature are being sought (9). Inhibitors of angiopoietins are among the promising antiangiogenic approaches under development (10-13).

Annotations:

You 2010-11-16 2:39 PM
Tyrosine-protein kinase receptor: TIE-1 and TIE-2 comprise the cell-surface receptors which bind and are activated by the angiopoietins, (Ang1, Ang2, Ang3, Ang4).

Post-its!

Toward this end, we used an Ang2-binding peptidobody called L1-7(N) to block the action of Ang2 in human Colo205

Page 1 of 11



William Gunn, PhD

Head of Academic Outreach, Mendeley Ltd.
San Francisco, California, United States

Research field: **Biological Sciences - Cellular Biology**

Adult Stem Cell Research, Bone Biology, Statistical Analysis, Cancer, single molecule analytical techniques

Publications

▼ Journal Article (6)

W Grady Gunn, Ulf Krause, Narae Lee et al. (2011) Pharmaceutical inhibition of glycogen synthetase kinase-3 β reduces multiple myeloma – induced bone disease in a novel murine plasmacytoma xenograft model, 1641-1651. In *Bone* 117 (5).

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Muzammil Iqbal, Martin A Gleeson, Bradley Spaugh et al. (2010) Label-Free Biosensor Arrays Based on Silicon Ring Resonators and High-Speed Optical Scanning Instrumentation, 654-661. In *IEEE Journal of Selected Topics in Quantum Electronics* 16 (3).

<http://ieeexplore.ieee.org/lpdocs/epi...>

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Carl A Gregory, Angela Green, Narae Lee et al. (2006) The promise of canonical Wnt signaling modulators in enhancing bone repair., 445-52. In *Drug news & perspectives* 19 (8).

<http://www.ncbi.nlm.nih.gov/pubmed/17...>

Carl A Gregory, William G Gunn, Emigdio Reyes et al. (2005) How Wnt signaling affects bone repair by mesenchymal stem cells from the bone marrow., 97-106. In *Annals of the New York Academy of Sciences* 1049 (1).

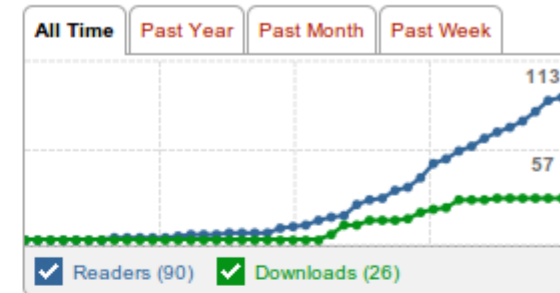
<http://www.ncbi.nlm.nih.gov/pubmed/15...>

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Carl A Gregory, W Grady Gunn, Alexandra Peister et al. (2004) An Alizarin red-based assay of mineralization by adherent cells in culture: comparison with cetylpyridinium chloride extraction., 77-84. In *Analytical biochemistry* 329 (1).

Publication Statistics

Graphed by cumulative total



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Pedro Beltrao



Lochana Menikarachch



Micah Modell



Joseph Hughes

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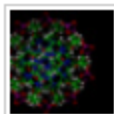
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Sjúrdur Hammer

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Earth Sciences

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New forms of discovery

- Mendeleev Suggest
 - personalized recommendations based on reading history
- related articles
 - relatedness based on document similarity
- recommender frameworks
 - implement recommendations as a service
- third-party recommender services
 - serve niche audiences

What would people build if they could get the data?

- Impact Story – get credit for all your work
- PLOS ALM – article-level metrics for papers
- Plum Analytics – bespoke analytics for libraries
- Altmetric.com – altmetrics for publishers.
(from Digital Science/NPG)

KEEP OUT
EXPERIMENT
IN
PROGRESS

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THANK
YOU!

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