

Scientific information and open access - a systemic approach

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eScience and the Future of Scholarly Communication

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Berlin から

- The Max Planck Society (MPG) and scientific information within the Max-Planck Digital Library
- The Berlin Declaration and MPG Commitment to open access
- Open access policies vs. researchers' involvement
- Going further...



Locations and Figures

Max Planck Society in figures

- **80 Institutes**
 - basic research (excellence!)
 - all subject areas
 - distributed organization
- **Budget**
 - 1.3 bill. EUR (~1.6 bill. US-\$)
- **12,000 employees**
 - 3,500 scientists
 - 8,500 support staff
- **9,100 annual visiting scholars**



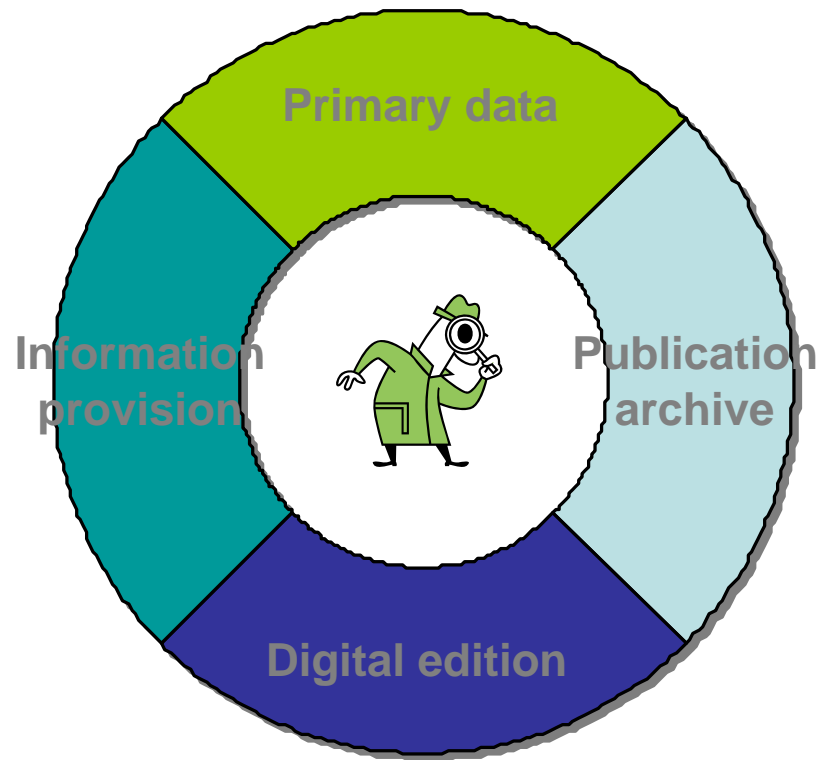
The Max-Planck Digital Library

- The newly created structure dedicated to scientific information within the MPG
- Information sources
 - Journal and database subscriptions
 - Primary data and publications from researchers/institutes
 - Digital edition support
- Actors
 - Scientists
 - Librarians, IT support
 - Publishers, scholarly associations
 - Other institutions in Germany and beyond...



The Scientist's ecology

The MPDL provides services to help the researchers manage their scientific information workflow.



Scientific information workflow



The eSciDoc project

- Joint project of the Max-Planck-Society and FIZ Karlsruhe
- 12 million US\$ five-year grant (2004 – 2009) from the German Federal Ministry of Education and Research
- Objective:
 - integrated information, communication and publishing platform for web-based scientific work, exemplarily demonstrated for multi-disciplinary applications in the MPG



Bundesministerium
für Bildung
und Forschung



More about eSciDoc...

- eSciDoc as a BMBF project
 - Specific schedule, funding, partnership with FIZ Karlsruhe
 - Target: eScience infrastructure for the German academic community
 - Two components: PubMan and Scholarly workbench
- eSciDoc as a strategic project for the MPG
 - The basis for our future digital object management activities
 - Towards a more modular approach



Berlin Declaration (Oct 2003)

Max Planck Society was host and initiator

1. Free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display open access contributions
2. The complete work and all supplemental materials is deposited in at least one online repository using suitable technical standards



Berlin Process

Berlin Declaration

185 signatories (13 Dec. 2006)

Only 3 signatories in Asia...



The Berlin Process and Its Results

Berlin

Berlin 10/2003

signing Berlin Declaration

Berlin2

CERN 05/2004

discussion practical guidelines
draft „roadmap“

Berlin3

Southampton 02/2005

a) deposit policy recommendation
b) encourage OA publications
*i.e. enforce **green** and **golden** strategy*

Berlin4

Golm 03/2006

political and strategic discussions
focus on practical implementations
*= > watch for CERN initiated OA
consortium in particle physics*

Berlin5

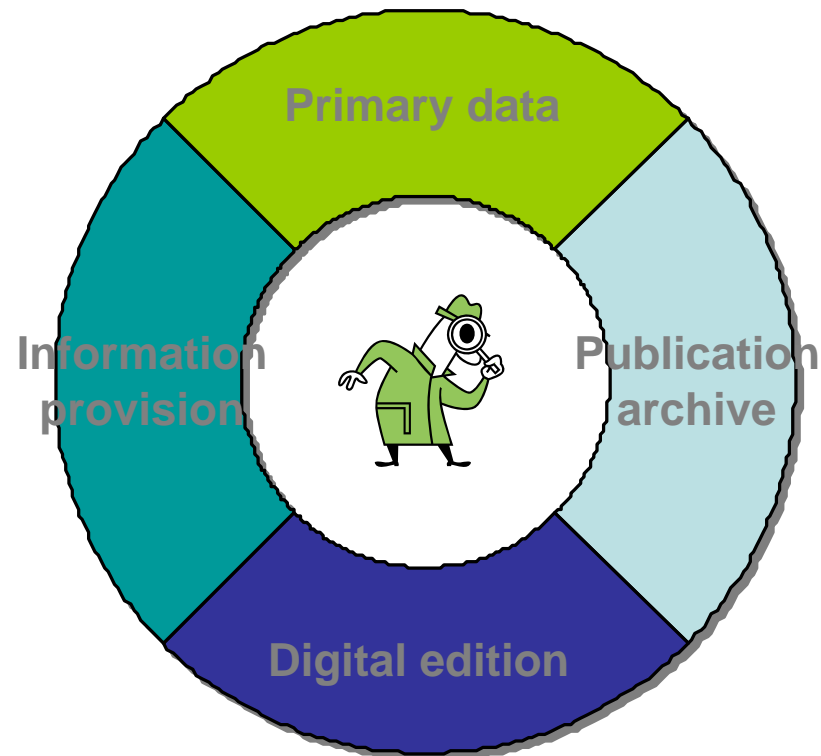
projected Padua, 09/2007

to be defined



The Scientist's ecology

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Scientific information workflow



Information provision

- Support for **golden road** (OA publishing)
 - Acknowledgment that publication costs are research costs (policy & budget preparations)
 - Article charge agreements with OA journals (not hybrid); ready to support further tests



Publication archive

- Support for **green road** (institutional archiving)
 - Preparation of institutional publishing policy with mandate to self-archive (cf. CERN and some others)
 - Preparation of MPG copyright transfer agreement; to be subsequently negotiated with publishers
 - Enhancing our institutional repository (eDoc server)
 - Study with pilot institutes on publishing behavior



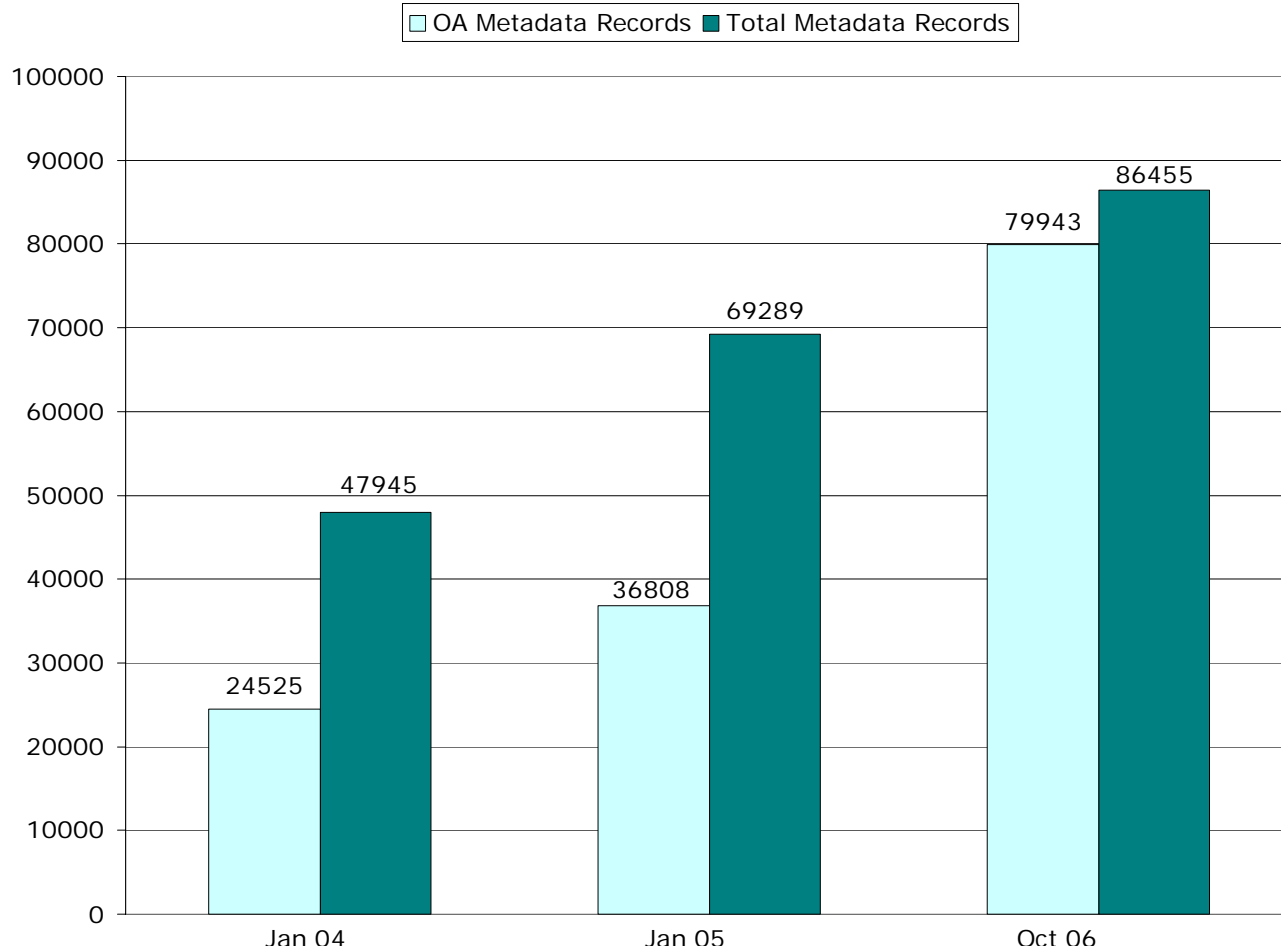
eDoc as Open Access Repository

Goal: Make full use of **eDoc** as IR of MPG

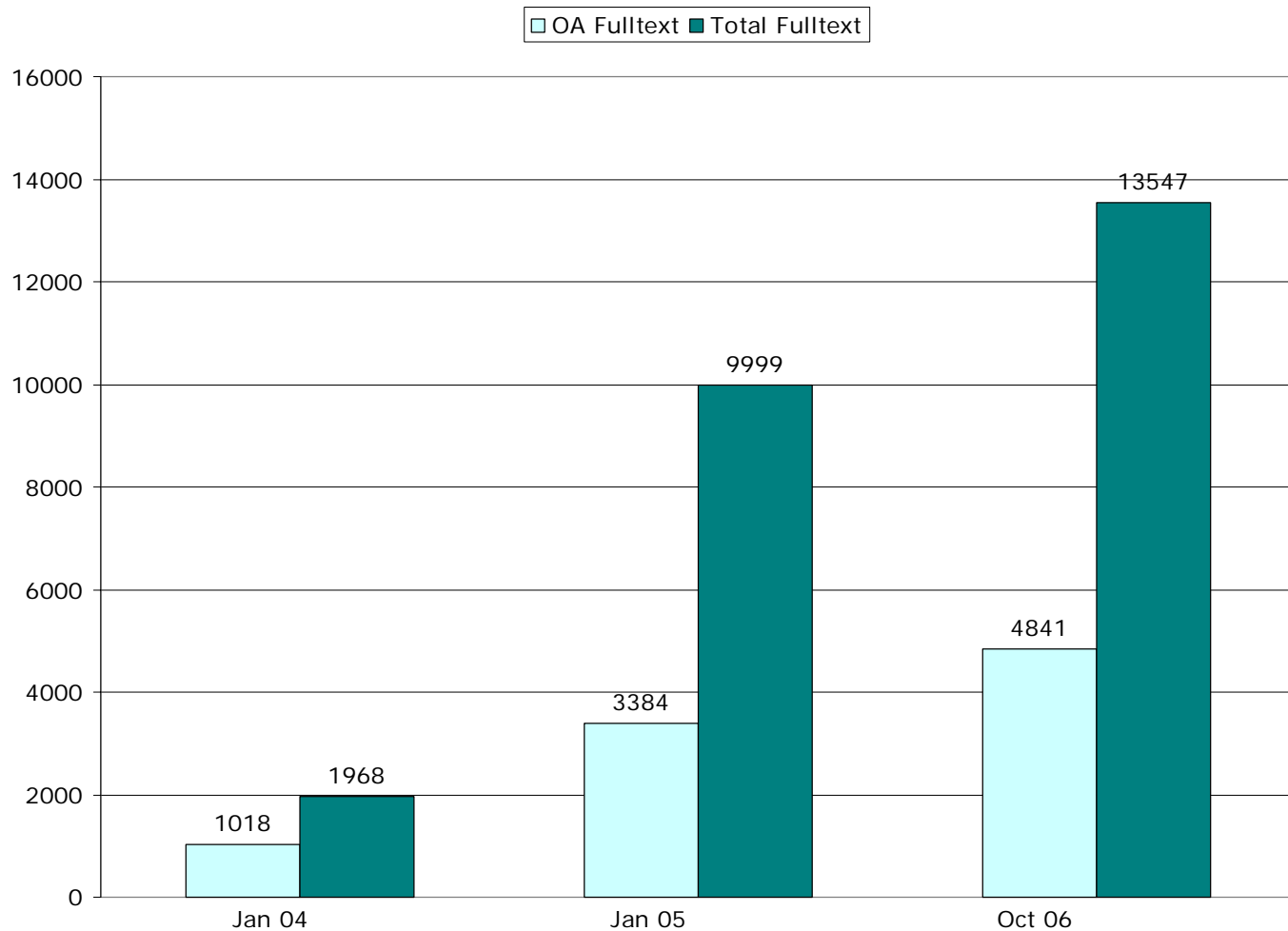
- As many articles/documents as possible
 - Preprints or postprints
- Reliable and safe legal framework
 - free of most copyright and licensing restrictions
- As fast as possible
- Free of charge for users worldwide



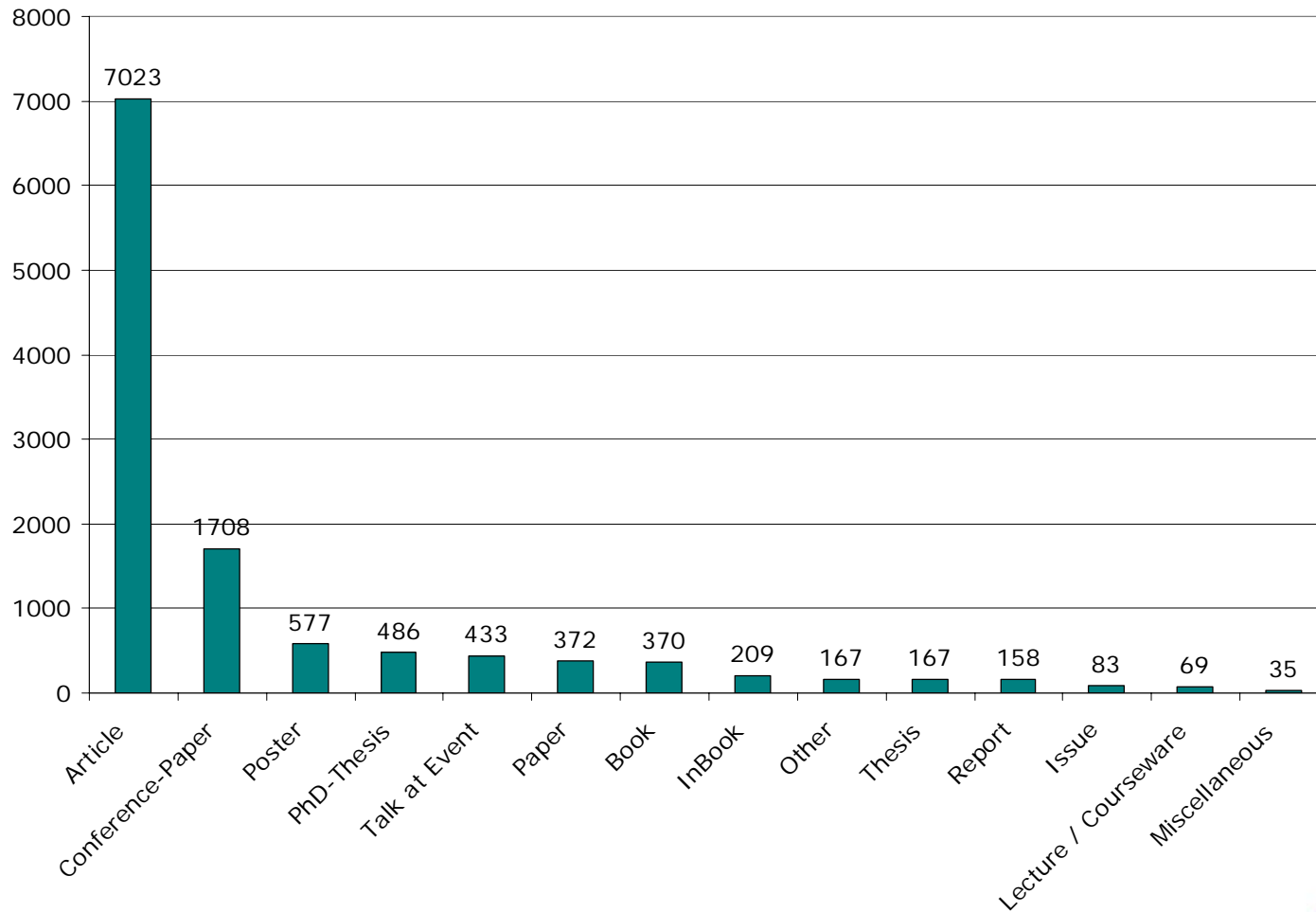
eDoc: Number of Metadata Records



eDoc: Number of Fulltext Items



Fulltext by Resource Types



Digital edition

- Setting up and supporting OA journal family with back-office support
 - The Living Review concept
 - State of the art surveys
 - Online access
 - Updates
 - New models of scientific communication
 - e.g. primary data and commentaries in the humanities



www.LivingReviews.org



MAX-PLANCK-GESELLSCHAFT

LIVING REVIEWS

Online-only refereed review journals. An open access service.

© 1997-2005
Max Planck
Society

welcome to

LIVING  REVIEWS
in relativity

LIVING  REVIEWS
in solar physics

LIVING  REVIEWS
in european governance

- * Learn **more** about this project (FAQ)
- * Start your **own** Living Reviews journal
- * Use our processing **software** (ePubTk)

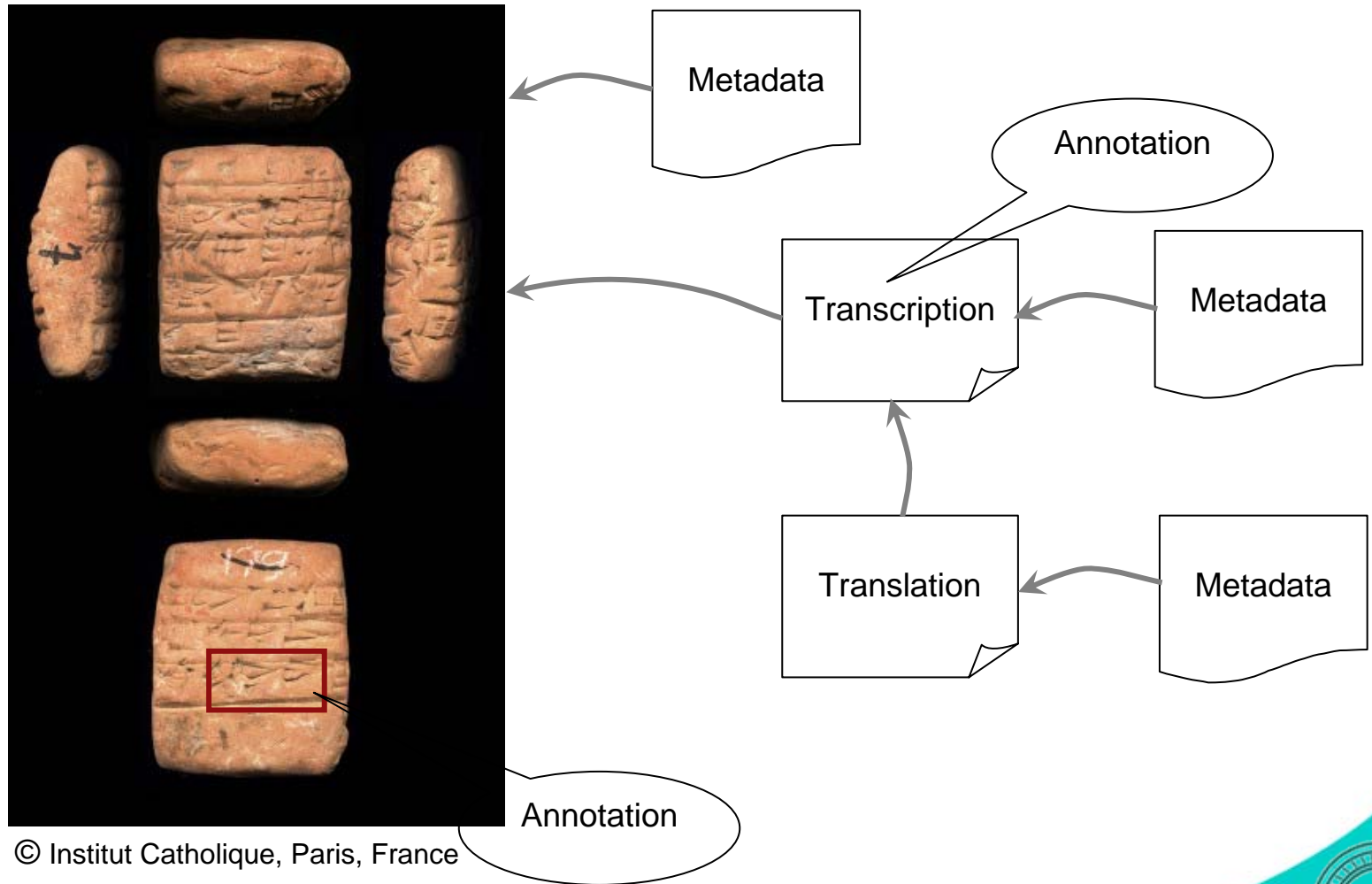


Digital (re)sources management

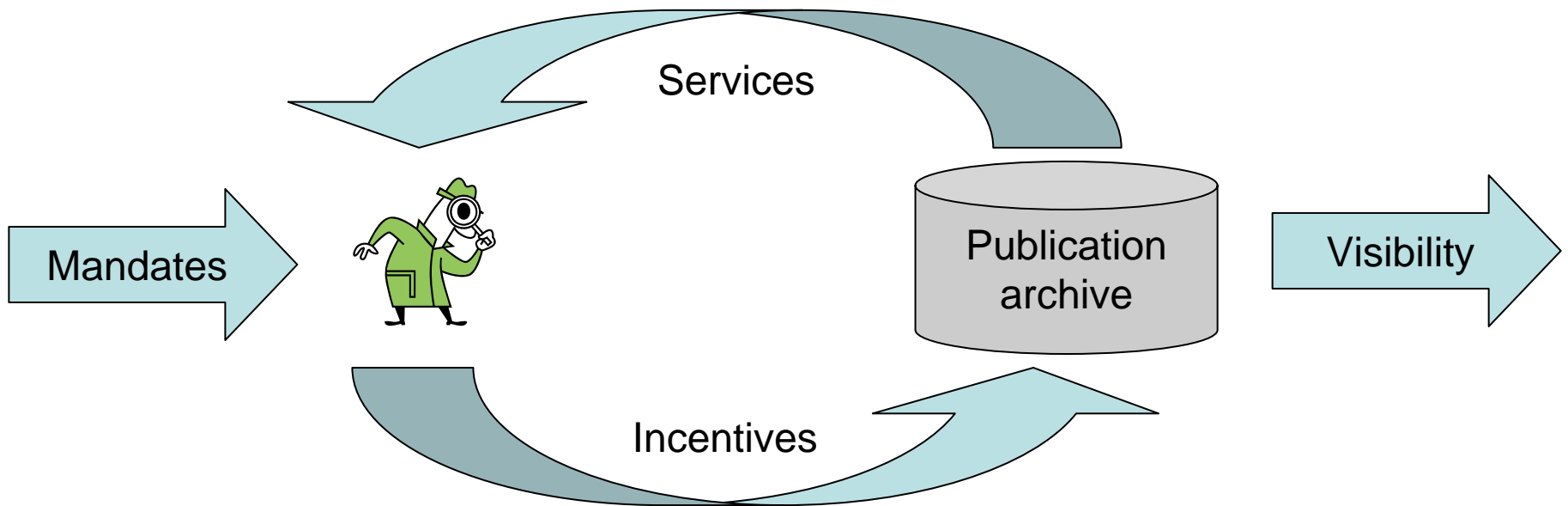
- Primary sources
 - Variety of document types and descriptors
 - Specificity of scientific communities
- Central role of institutes
 - Needs, projects
 - Existing infrastructures
- Wide accessibility
 - Pooling together digital assets
- Generic features
 - Structured documents, document dependencies, annotations, quotations, visualization
- Long term preservation
 - Standards (metadata, content), data semantics
- Sharing expertise
 - Technical and editorial aspects
 - Designing a common open access policy for research data†



Example of a Knowledge Network



The factors of success



A researcher centred strategy



The usual suspects

- Visibility

- Strong evidence that OA increases impact, but...
- Hard to make this known to researcher

Cf. statistics (service...)

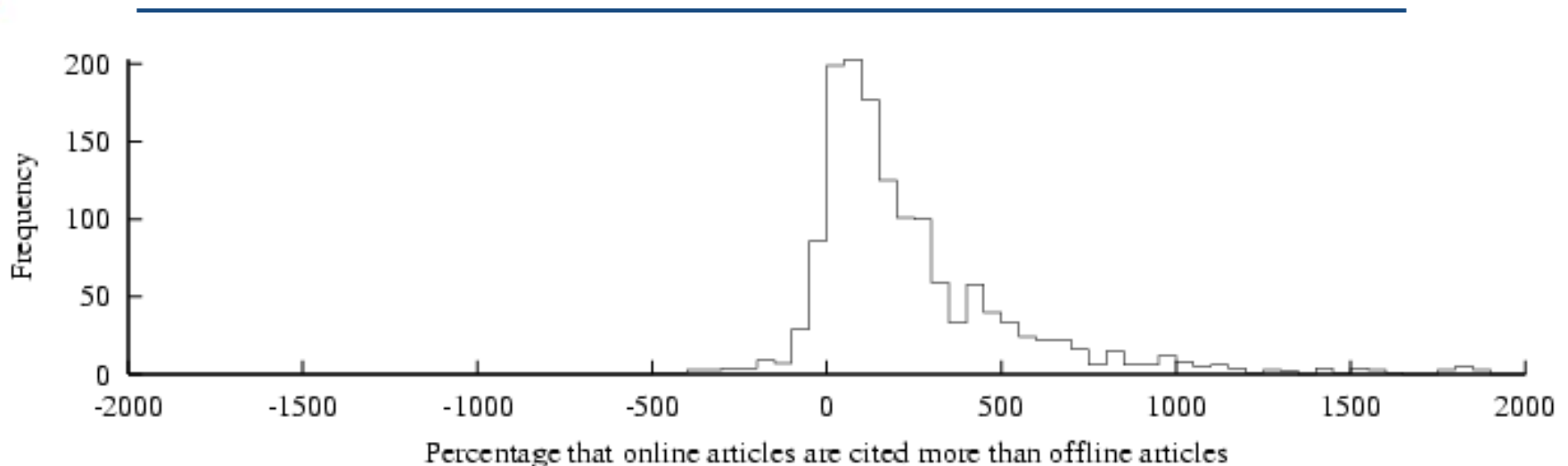
- Mandates

- Immediate efficiency, but...
- Slow expansion of the mandating institutions
- Go against the researcher personal implication on open access

- Decoupling self-archiving mandates and open access



***"Online or Invisible?"* (Lawrence 2001)**



**"average of 336% more citations to online articles
compared to offline articles published in the same venue"**

Lawrence, S. (2001) Free online availability substantially increases a paper's impact *Nature* 411 (6837): 521.

<http://www.neci.nec.com/~lawrence/papers/online-nature01/>



General observation

The driving force behind open access is...

- ...to contribute to a worldwide, emerging scholarly communication system exploiting the full potential of the internet
- ...this is where the debates on Open Access and eScience/cyber infrastructure converge



Services and incentives

- Editorial

- Librarians
- Affiliations
- Reference bibliographical description

- Technical

- Ease of use (e.g. favourite co-authors)
- Long term preservation and access
- Selection-export facilities, web pages
- Workspace, statistics

- Scientific

- Link to assesment campains

Towards an indirect (yet strong) mandate



The Motivation for OA

- Economic arguments of „serials crisis“ are serious, valid and true (and widely discussed)...
- ...but more important are inherent scientific requirements, expectations and opportunities



The Ultimate Cause for OA

- Scientists want to read and to be read
 - This is the beginning and the end of all science
 - Given the potential of the internet, Open Access is but a modern expression of the nature and mission of science – this time with the greatest promise of maximum proliferation ever
-
- In this sense, OA can be seen as a telos of science; and it will be through the „selfishness“ of scientists that this principle will ultimately prevail
 - Toll and other barriers will not withstand the tide of unleashed opportunities, as they will be taken up with increasing consequence by scientists



東京まで

- Institutional repositories as part of the scientist's ecology
 - Requires to be aware and respect the practices and expectations of the various research communities
 - Anticipate technical needs by exploring new scientific information management paradigms
- What we can do together:
 - Signing the Berlin Declaration
 - An immediate step to share our weight and visibility
 - Sharing policies and infrastructures
 - E.g. the EU ESFRI roadmap - Dariah
- "Any viable OA model needs to be intertwined with technological innovation and eScience"
 - *Chris Armbruster*

