

*Overview of the OAI  
and its  
Relation to Scientific Publishing in 2004*



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## Overview of this Talk

- The Original Goals of the OAI
- What Has the OAI Achieved?
- Developments Surrounding the OAI
- Implications of these Developments
- Changes in Scientific Publishing
- What can the OAI Achieve in the Future?

# The Open Archives Initiative (OAI)



## OAI Mission (1999-)

low-barrier, cross-disciplinary platform for searching scientific research results,  
simple standards for basic compatibility,  
digital library technology for interoperability ...

## What has the OAI Achieved?

- **A Second Version of the OAI-PMH** – being used as the basis for over 140 sites and various software developments ...
- **Basic Standards for Interoperability** among Subject-oriented E-Print Servers and Institutional Repositories
- An expanding **Community of Implementers** exchanging ideas and solutions to problems ...
- **Legitimation of Pre-Print and E-Print Servers** – now referred to as repositories or archives, this previously informal scientific communication has now established itself and is being recognized within the Scientific Community and by Vendors.

## Within its Community of Supporters,

- The OAI has contributed to a growing "Dis-Integration" and "Dis-Location" of Scientific Publishing from total control by a "mighty few" scientific publishers ...
- Serious challenges to the practice of signing away Authors' Rights to the publishers and growing awareness among scientists of their Freedom to Self-Publish and Self-Archive.
- While serving to challenge the Publishers' Economic Models on several fronts (pricing strategies, profit at the cost of educational institutions, actual cost of producing scientific journals, etc.), the OAI movement has also had the peripheral effect of challenging fundamental Scientific Concepts of internal Quality Control through Peer Review, Citation Frequency and Impact Factors
- and has contributed to spurring on new community-based methods of Peer Review and new strategies for measuring Quality of Content

## Who are OAI Supporters?



**National Funding Institutions: NSF, JISC, DFG, DFN, DINI**

**Some national academies of the sciences and major research societies**

**The Signees of the Berlin Declaration on Open Access to Scientific Knowledge**

**Many Librarians and Libraries**

**Some Learned Societies**

**The European Union in its funding policy**

**The Open Society Institute (2004 Evaluation of Institutional Repository Software)**

**\*\*Portal Vendors (MetaLib/Ex Libris, CSA, ...) include Acces to OA**

## Implementing the Benefits of OAI

- Major Repositories – Subject and Institutional – Built up in less than 5 years
- 7+ Institutional Repository Software Packages
- Recognition of the OAI Standards & Protocol
- OAI-PMH now one of the Criteria for Funding
- Rapid Development to Include Non-Text Formats
- Community-Building
- National Initiatives (FAIR, DARE, DINI, Italy)
- Once-Impossible Tasks are now Realistic Goals



OAI Repositories

Publishers

Open Philosophy =  
/= Free

Open Access

Identifying OAI  
Rights

Challenging the  
Problems / Solutions

Scientific Interests

*Antagonism*



*Synergy*

Proprietary-Oriented

Restricted Access:  
Terms & Conditions

Rights / Dis-Location of  
Rights

Solving the Problems  
Usually Means Sacrifice

Economical Interests




# OAI3

## Implications of these Developments



## OAI and Open Access

- OAI's initial technical approach to simply first give it a stable basis ("make it work") – and to avoid digression into philosophical discussions
- May have served to focus the energy surrounding the OAI (implementers, supporters), resulting in more concentrated Open Access Movement
- Increasing Awareness and Trust of OAI Servers   
more Involvement of Scientists and Learned Societies in support of Open Access (Budapest Open Access Initiative, Bethesda Statement, Berlin Declaration, etc.)
- Can Open Access & Scientific Publishing peacefully coexist? What Role does the OAI have here?

# OAI and New Forms of Publishing

- **E-Print Servers** – Society or Subject-Oriented Servers
- **Institutional Repositories** – Key developments including workflow management, submission management, download statistics, archiving aspects etc. (DSpace, Fedora, CDSware, ARNO, i-Tor, etc.)
- **Cross-Institutional Composite Servers** - at present primarily for educational purposes, based on modules or learning units, compliant with Creative Commons Copyright (Connexions)
- **Overlay Journals and Composite E-Books** – the greatest challenge to the publishers

# OAI and New Forms of Scientific Publishing (2)



## Networks of Institutional Repositories


- + **Commitment to Archiving and Sustainability**
- + **Expanding to including not only Text Documents, but also Digitized Images, Data Sets, etc.**
- + **New Status for Institutions, especially when integrated into fully searchable context – Scientific Information "set free of obstructions"**

# Problems Still Facing E-Print Repositories

- **Filling the Repositories with Content**
- **Ease of Uploading, Format Diversity and Conversion, Metadata Capture and Automatic Indexing**
- **Convincing Authors to Self-Archive – Institutional Policies**
- **Who Owns Scientific Publishing?**
- **Are there basic non-discipline-oriented Quality Criteria?**
- **Can Self-Archived Documents be "Official"? Cited? What Mechanisms are there for Identification, Version Control, Avoidance of Duplication and Scholarly Recognition?**

**What Role can and do Libraries Play?**

## Impact on Journal Publication and Journal Forms

- New Roles for Journal Editors and for Scholarly Societies – can they take over the publisher activities?
- Self-Archiving and Peer-Reviewed Journals  is there really a controversy, or is it only the question of the "old boys' world"?
- What does it mean for Publishers? Can Publishers be convinced to change their strategies? Their economic models?
- Is there a point in the scale that might mean compromise, but produce a space with a general degree of equilibrium?

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Non-publisher  
Self-Archiving,  
Self-Publishing



Fair Access,  
Economical  
Peer Review



Publisher  
Control --  
Access by Toll

## Charting Use: Counting Readers, Citations, Downloads?

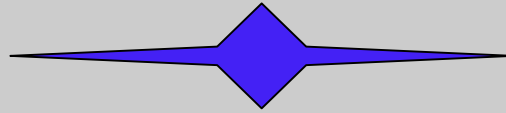
- Will the traditional invisible college allow expansion of its coverage to the medium of e-print servers?
- Can traditional citation instruments be adjusted to include new factors? (i.e., number of views, combinations of downloading, traditional citations, broader coverage for citation above and beyond selected journals ... )
- What new viable usage measurements, citation frequency and citation capture mechanisms can be technically furthered by the OAI?
- Does downloading "count" as quality measurement?


- **Increased Cooperation between OAI Projects and Society Publishers**
- **Greater Involvement of Learned Societies which have limited publishing activities – perhaps on an international level (i.e., educational researcher associations)**
- **Merging of fee-based and non-fee-based content in Society-Based Portals with Cooperating Publishers (e.g. Subscription and allotment model)**
- **Disciplinary Diversity in degree of dependency on commercial publishers and the publishers' willingness to cooperate in the experiment with "moderated change"**



# How Strong is the Dissatisfaction with the Publishing Model of the Past?

Can OAI-compatible networks of repositories challenge, augment or even substitute for parts of the network of scholarly publication?



- Can they compete with the legacy of Scientific Recognition (i.e., Guardians of Scientific Prestige)?
- (How) can Quality Evaluation be Modified?  Shift of Emphasis for Professional Quality Criteria
- Can OAI Rights and other service overlays build the bridges between Open Access, Open Archives and Publisher Tolls?
- Or will usage "tolls" that remain be dealt with in truly innovative way – not at the point of use?

## What else can OAI achieve?

- **Globalization of Metadata and DTDs – Cross-Disciplinary Navigation Standards**
- **Domain-Specific Qualifications – Perhaps also for Quality Control**
- **Involvement in Document Provision as Archival Source**
- **Legal Status via National Legislation and Recommendations**
- **New Services for tracing developmental patterns in scholarly ideas, aggregating groups of researchers doing work on similar topics, research influence, and use of research results**
- **Linking to Association Communications, Events, etc.**

- **Open Archives / E-Print Repositories Bridging Cost Problems**
- **Raising the Motivation for Contributing to Open Archives / E-Print Repositories**
- **Self-Archiving Required by Institutions?**
- **Publication Chain Modified – Move to Dissemination**
- **Quality Control within the Institutional Community – vs. within the Peer Community controlled by Publisher**
- **Relationship of Institutional Repositories to Peer-Reviewed Journals**
- **New Types of Journals – Overlay Journals, E-Composites? -- back to the Question “What is a Journal?”**

*Arnoud de Kemp (Springer):*

*"Not Content is king ... Context is king."*

*-- IFLA presentation, 2003, Berlin*

## *Scientists' view: Quality of Content*

*Is Quality of Content based on the  
Context of Publishing in a high impact journal?  
Number of citations an author receives?*

*Does the Quality of Content change when  
the Context of Publishing is a national or international  
network of OAI repositories with new services to  
enhance search and retrieval, possibilities and  
means of identifying high impact research?*



## Open Archives Initiative and its Relation to Scientific Publishing in 2004

The Time has Come  
To Scale the Heights –  
Transcend the Hurdles –  
And Move into the Vision



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