How Should We Think About Quality Assurance of Scholarly Outputs from a Library Perspective?

～With Reference to the Kyoto University Library Network Vision～

20 Slides

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JST/CHORUSオンラインフォーラム：プレプリントをめぐる動向、課題、そして政策的論点
JST/CHORUS FORUM: PREPRINTS – TRENDS, CHALLENGES, AND POLICY CONSIDERATIONS
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About Me

Hokkaido University Library (13 years)
Staff Member: 10 years
Section Chief: 3 years

Muroran Institute of Technology Library (3 years)
Section Chief: 3 years

The University of Tokyo Library (4 years)
Section Chief: 4 years

University of Toyama Library (3 years)
Division Head: 3 years

Kyoto University Library (Current)
Head, Research Support Division (3rd year)

Current Areas of Responsibility

Electronic journals and databases

Digital archives

Library systems and related infrastructure

Open access Institutional repositories

Today, I would like to share some observations based on my experience as a practicing librarian.

Topics Requested for This Presentation

【Request from CHORUS & JST】

- How do libraries view the growing adoption of preprints and the advancement of open science?
- What challenges and needs do libraries observe in supporting researchers?
- How do preprints relate to institutional repositories and the dissemination of research outputs?
- How is the role expected of libraries changing in response to advances in AI?
- What kinds of support and initiatives can libraries pursue in the future?

Today's Discussion

【What do we mean by quality assurance for scholarly outputs?】

- Today's topic is preprints.
- Traditionally, libraries have welcomed openness because our mission is to provide access to knowledge. At the same time, we have been concerned with quality assurance: can the information be trusted, and how should it be positioned within scholarly communication?
- Today, I would like to consider the current situation and future prospects from the perspective of quality assurance.

Today's Roadmap

1. Understanding the Current Situation (My Personal Perspective)
2. What Can Libraries Do?
3. Initiatives of the Kyoto University Library Network
4. Conclusions (Future roles of libraries)

1

Understanding the Current Situation

My Personal Perspective

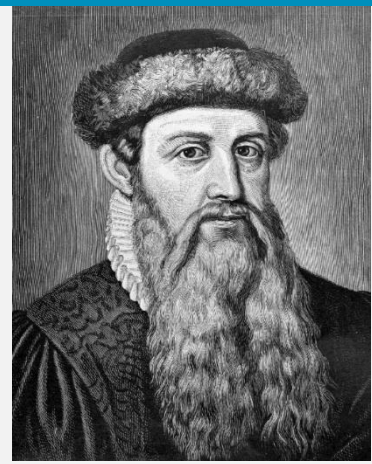
Understanding the Current Situation （Information Explosion and Quality Assurance）

ca. 500 years ago to the late 20th century: Gutenberg Revolution to the eve of the Digital Revolution

The First Information Explosion

- Mass reproduction and dissemination of text and images
- Rise of mass media

→Emergence of scholarly journals and peer review systems as mechanisms for quality assurance etc.



Gutenberg

Late 20th century to the present: Digital Revolution

The Second Information Explosion

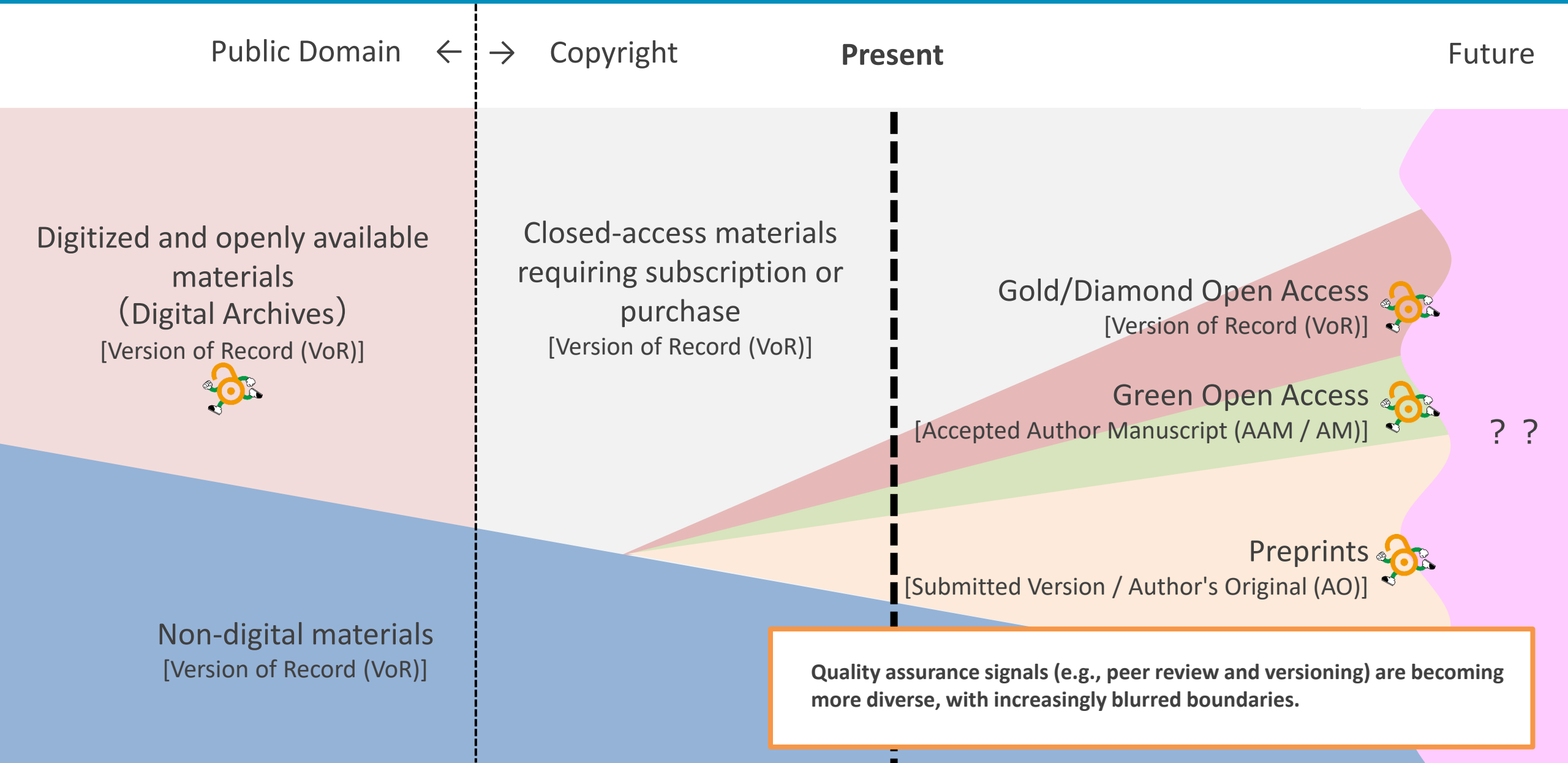
- The advent of the Internet enabled anyone to create and disseminate information.
- The digital revolution led to a global information explosion.

Has quality assurance become even more important?

→Growing Need for Information Selection and Evaluation etc.

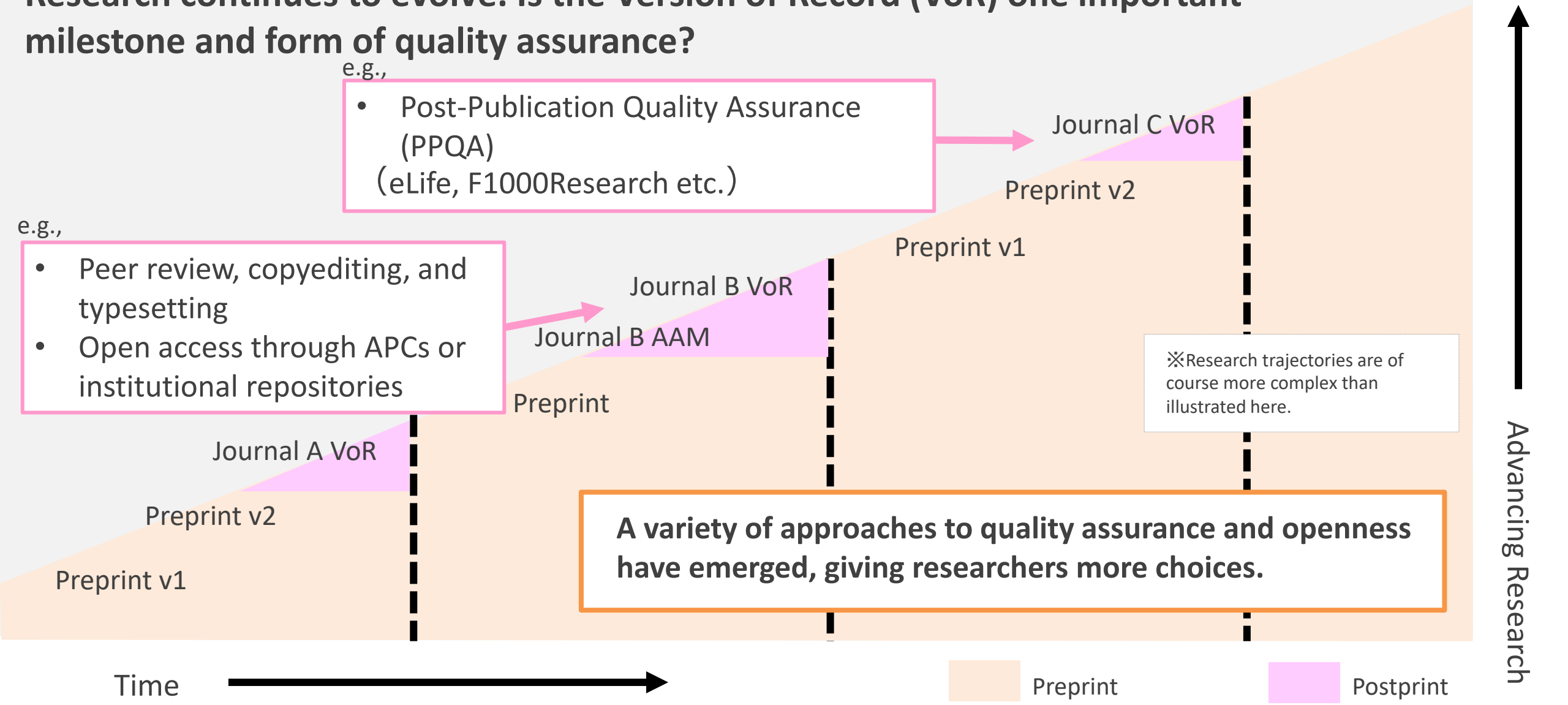
参考：吉見俊哉. (2013). デジタル時代における知識循環型社会の価値創造基盤. https://doi.org/10.1241/johokanri.56.491
Yoshimi, Shunya. (2013). *Value Creation Infrastructure for a Knowledge-Circulation Society in the Digital Age*.

Understanding the Current Situation （Knowledge as a Whole and Increasing Openness） ※Highly Simplified



Understanding the Current Situation （Research Progression and Quality Assurance） ※Highly Simplified

Research continues to evolve. Is the Version of Record (VoR) one important milestone and form of quality assurance?



2

What Can Libraries Do?

How Have Libraries Responded to Information Explosion?

- **Various mechanisms have been developed to help users identify and select information**
  → More sophisticated cataloging and classification, enhanced subject headings and access points, thesaurus development, persistent identifiers (PIDs), license information, standardized versioning information, and more

- **Especially since the second information explosion, education has also become increasingly important → Information literacy education**
  → Have librarians emphasized information reliability?
  e.g,. Internet content (a mix of reliable and unreliable information) < books

- **The emergence of large-scale search services such as Google and generative AI**
  → Navigation to subscription-based content that is not readily accessible; metadata enhancement; promotion of open knowledge (digitization of collections, promotion of open access, etc.); support for information discovery and evaluation, as well as information dissemination.

A New Role for Libraries?

- Quality assurance signals and mechanisms, which play a critical role in helping readers assess and select knowledge, are evolving into a diverse range of forms with increasingly blurred boundaries.

- Against this backdrop, the rules and technologies that help users identify and select relevant knowledge from vast amounts of information continue to evolve.
  - Standardization of versioning and peer review information, together with the development of metadata schemas and services such as Crossmark
  - With the advent of AI and LLMs, it may become possible to extract meaning from a wide range of quality assurance signals, including unstructured natural-language information, and dynamically structure, summarize, and present that information to readers in a metadata-like manner.

A New Role for Libraries? (Continued)

- As the volume and diversity of information continue to grow, will greater transparency and visibility of quality assurance processes and mechanisms become increasingly important for informed decision-making?
  - Standardized information, such as versioning metadata that can be interpreted mechanically and intuitively, is important and useful, but does it also have limitations?

- Universities, as the source of knowledge creation, are increasingly able to provide researchers with direct technological support for disseminating their work. Direct dissemination by universities can offer closer connections to researchers, enabling more detailed communication of quality assurance information. It can also provide forms of assurance and meaning, such as institutional endorsement of the source and commitments to long-term access and preservation. Might the significance of university-based dissemination therefore continue to grow?

Libraries may be able to play a greater role not only in supporting knowledge discovery, but also in supporting the entire knowledge cycle, including the dissemination of knowledge.

3

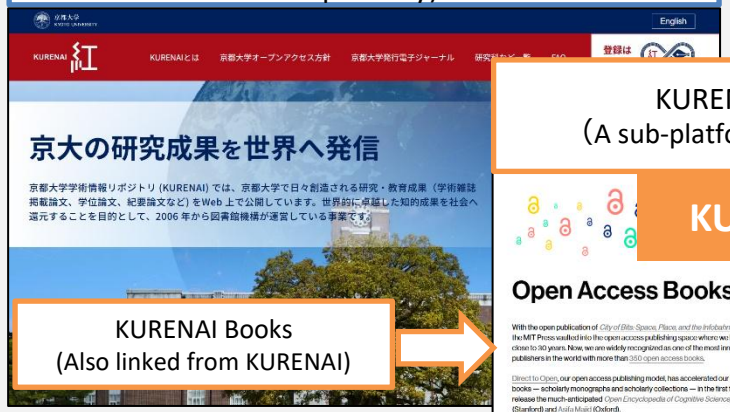
Initiatives of the Kyoto University Library Network

Still in the planning phase
Target period: 2026-2027

Open Access Scholarly Book Publishing（so-called Library Publishing）

Platform and Publishing Service

KURENAI (Kyoto University Research Information Repository)



KURENAI Books
(Also linked from KURENAI)

KURENAI Books
（A sub-platform of KURENAI）

Publishing Service of KURENAI

KURENAI Publishing（Publisher）

Publish

ISBN
DOI

Providing data

Access

Distribution through:

【Bookstores】
- ProQuest Ebook Central
- Maruzen eBook Library
- Amazon

OA eBook

【Libraries】
- National Diet Library
- CiNii Research
- Kyoto University Libraries
- WorldCat

OA eBook

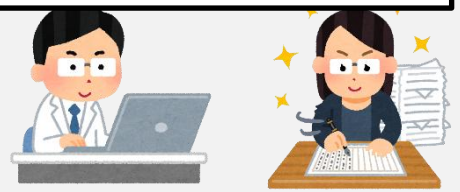
【Open Access Directories】
- DOAB（Directory of Open Access Books）
- OAPEN（Open Access Publishing in European Networks）

etc.

HTML
PDF
ePub
POD

Free access to OA e-books

Submit manuscripts for publication



Kyoto University researchers

Readers worldwide

- For scholarly books with limited commercial viability, universities can develop publishing platforms and infrastructure, expanding researchers' options for disseminating their work and supporting the communication of research outputs.
- Providing different forms of quality assurance depending on the content type and discipline
  - Monographs: peer review (blind, open, etc.), endorsement by a dean, etc.
  - Collected papers, textbooks, manuals, and similar works: recommendation by two or more faculty members

  etc.
- Quality assurance processes and mechanisms should be made as open and transparent as possible.

Open Access Journal Publishing Support （Diamond Open Access Journals）

Publisher:

Faculties
Research groups
Editorial boards

- Hosts approximately 100 journals
- Editorial boards determine their own quality-assurance practices.
  KURENAI itself does not impose quality-assurance requirements.

Platform and Services

KURENAI（Kyoto University Research Information Repository）

KURENAI Journals
(Also linked from KURENAI)

KURENAI Journals
（A sub-platform of KURENAI）

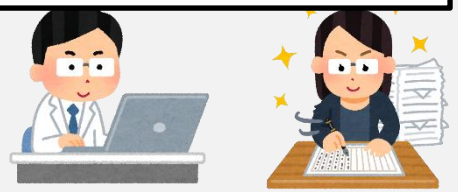
Manuscript submission and peer-review system

Publishing support for university journals

CrossRef DOI

HTML(JATS)
PDF

Submit manuscripts for publication



Kyoto University researchers

Readers worldwide

- Migrate to a new electronic journal platform equipped with a manuscript submission and peer review system.
- Approaches to quality assurance vary depending on the mission and policies of the publisher.
  - Peer-reviewed / non-peer-reviewed.
  - Open to submissions from institutional members only / open to external contributors
  - Indexed in DOAJ / not indexed in DOAJ.
- Quality assurance can take many forms.
- At the same time, we would like quality assurance processes and practices to be made as open and visible as possible, so that they can help readers evaluate and select information.

4

Conclusions
（Thinking About the Future Role of Libraries）

Updating Knowledge Selection Methods for the AI Era

- Without being constrained by traditional library collections, we need to continually consider how to build an environment in which people can access the knowledge they need, when they need it, across the entire knowledge landscape. Perhaps libraries should be more confident in saying, "Libraries are the ones that can see the whole knowledge ecosystem!“

- To ensure and expand access to knowledge, the promotion of open knowledge is important (while taking into account economic, security, and other practical considerations where appropriate).

- Furthermore, diverse forms of "quality assurance" are emerging in a gradual spectrum across different regions and academic disciplines, and the traditional model of uniform "quality assurance" is changing. In light of the AI era, it is necessary to develop and implement mechanisms that enable readers to evaluate and select information for themselves, including methods for making "quality assurance" more visible.

Contributing to the Entire Knowledge Cycle

- Specifically, in the AI era, there is a renewed need to determine what should be treated as controlled metadata, what should be treated as dynamic metadata, and what should not be touched. → Can libraries, with their ability to oversee the entire knowledge ecosystem, contribute through the organizational expertise they have built up over time?

- Including by creating diverse venues for sharing knowledge, I believe that libraries still have much to contribute to the entire knowledge cycle, beyond supporting access to knowledge.