



<Lecture 5>Promotion of Open Access and Open Science in Japan

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(Citation)

国際シンポジウム : HORIZON2020 によるオープンアクセス政策とオープンサイエンスの国際的課題, 7:1-36

(Issue Date)

2015-10-14

(Resource Type)

conference object

(Version)

Version of Record

(URL)

<https://hdl.handle.net/20.500.14094/90002915>

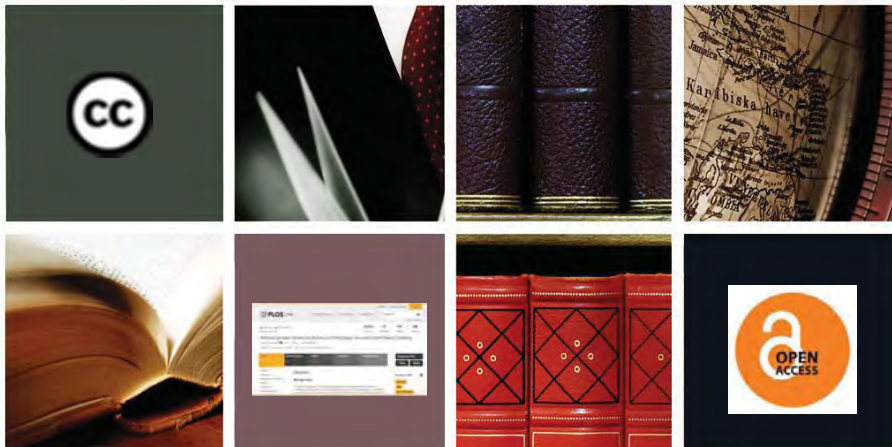


Promotion of Open Access and Open Science in Japan

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Oct 14, 2015



Who speaks?

ORCID ID: 0000-0003-1996-4259

Scientist, DC1

System Developer since 1995, EJ

Editor and Publisher, rapid publication

Project and Business Manager, OA

Researcher for policy makers, Foresight



- To see scholarly publishing from a bird-view and find a way to implement new paradigm such as Scholarly Communication (now Open Access(Science) and emerging metrics)
- To be: *enhancer, catalyzer, or translator* between stake holders to get all transferred to the next stage

Multi Roles

- [Publishing Industry]
 - Board member of ALPSP (2011)
 - J-STAGE & JaLC (2001-)
- [Library and OA]
 - SPARC Japan Steering Committee (2007-)
 - Open Access Week International Advisory Board (2014-)
- [Community of Science]
 - Specially appointed member of Science Council of Japan (2010-2014)
 - IUPAC Titular Member (2012-)
- [Policy and Administration]
 - NISTEP, MEXT (2006-)



The Expert Panel on Open Science based on Global Perspectives (Cabinet Office)



<http://www8.cao.go.jp/cstp/sonota/openscience/>

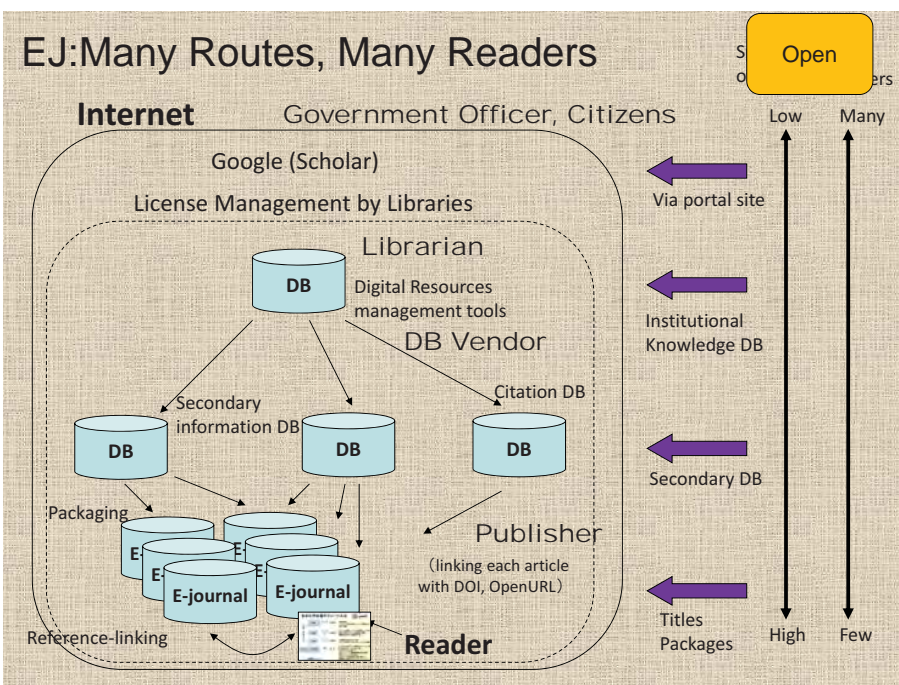


Agenda

1. Brief Review of the Backgrounds of EJ, Open Access and Open Science
2. Open Access and the 4th Science and Technology Basic Plan
3. An Overview of Open Access to Open Science
4. Open Science and the 5th Science and Technology Basic Plan
5. Driving Force of Open Science

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Turning Point

Beyond just "Publishers and Librarians"
(2005- Weak signals, 2010- Trends)

- Gold OA journal "Rush"
- OA mega-journal
- Mendeley, ResearchGate
- Altmetrics
- Rubriq
- Data journal
- figshare



EJ and its backgrounds have casted

Questions to the significance of

- Journal 「雑誌」の意義
- Peer Review 「査読」の意義
- Evaluation 「評価」の在り方
- Research Outputs 「研究成果」の在り方
- Reuse of Outputs 「成果の再利用」の在り方
- Research itself 「研究」の在り方

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Various IDs and multidimensional impact assessments

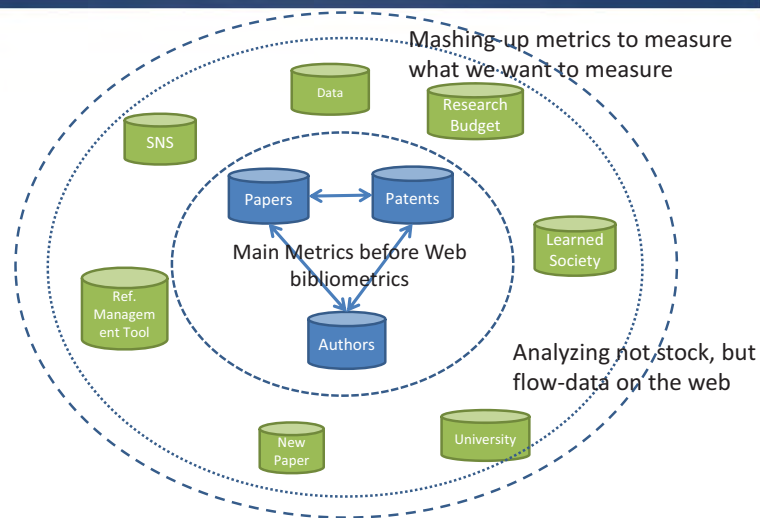
From **Journal** Level Metrics (ISSN, IF)

- **Article** Level Metrics (DOI, CrossRef)
- **Author** Level Metrics (ORCID)
 - **Institution** Level Metrics InCites, SciVal
 - **National** Level Metrics OECD, NISTEP

In addition to **Scholarly** Impact

- **Societal** Impact
- **Economic** Impact
- **Educational** Impact
- **ROI** (Return of Investment)

Beyond Papers, Patents and Citation



Learning from the history

• Towards post-Gutenberg's worlds

Print based dissemination

Web native dissemination



Past Design

Future Design

Reinvention of Scholarly activities

K. Hayashi, "Current States of Impact Assessment of Research Outputs in Japan and Some Challenges to Measure New Impacts for Japan's Stakeholders," OECD-ESTONIA WORKSHOP ON IMPACT ASSESSMENT: PRACTICES, TECHNIQUES AND POLICY CHALLENGES, May 15-16 2014, Estonia. (revised)

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1. The 4th Science and Technology Basic Plan

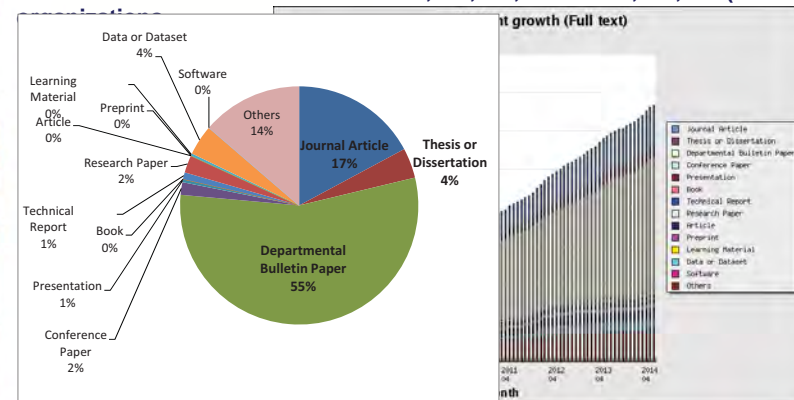
- The 4th Science and Technology Basic Plan (FY2011-FY2015) of Japan states the promotion of open access mentioned the importance of open access
- 「国は、大学や公的研究機関における機関リポジトリの構築を推進し、論文、観測、実験データ等の教育研究成果の電子化による体系的収集、保存やオープンアクセスを促進する。また、学協会が刊行する論文誌の電子化、国立国会図書館や大学図書館が保有する人文社会科学も含めた文献、資料の電子化及びオープンアクセスを推進する。」
- **Stated clearly but not concrete directions for implementation**

Still

- The 4th Science and Technology Basic Plan leads
 - A) Growth of IR
 - B) JSPS policy for promoting OA scholarly publishing
 - C) (JST's mandate)

A) Growth of IR

2014/09/30 Number of organization: 476 (#1 country)
2014/09/30 Number of records ALL: 1,876,661, Full text 1,390,374 (in 391



source: http://irdb.nii.ac.jp/analysis/index_e.php

B) JSPS policy for promoting OA scholarly publishing

JSPS policy for promoting Open Access

- ◆ JSPS supports society publishers in publishing their research achievements (e.g. in scientific journals) under its "Grants-in-Aid for Scientific Research" Programs
- ◆ In 2013, a new grant category "Strengthening International Scholarly Communication" (403.9M JPY in FY2013) added with old ones revised:
 - ✓ Provide start-up funds for launching or converting to open access journals
 - ✓ Allocate separate funds for publication of journals in English
 - ✓ Introduce criteria for "measures with which to strengthen international scholarly communication" in review process

◆ FY2013: supported 31 projects for publishing open access journals (including *SPACE AND GEOSPHERE*, *Progress of Theoretical and Experimental Physics*, *Cancer Science*, etc.), with 298M JPY

Syun Tutiya, The Current Status of Open Access in Japan At GRC Asia-Pacific Regional Meeting, November 18, 2013
<http://www.slideshare.net/tutiya/jst-presentation-grcrm2013tutiya11151300r>

Japan's state of scholarly STM publishing

- Japan's states are unique in some points.
- There are almost no commercial scholarly publishers that are active in global. Japan's commercial publishers are very domestic and rather conservative. So scholarly publishing in Japan is mostly by learned societies.
- There are over 1800 societies in this small country. And they publish their own small number of journals. Then they could not take advantage of "scale-merit" which is one of the significant merits of e-journals.
- Still, Japan Science Technology Agency (JST) has a aggregated platform called J-STAGE. But the number of journals are over 800, smaller than China's one (>3000).
- One good thing is over 75% of J-STAGE journals provide their journal free of charge, however, it is just free and copyrights are on publishers. (not adopt to Creative Commons)

C) JST challenges for OA mandates

- JST announced a policy of open access for research outputs funded by JST (recommendation) on Apr. 2013
 - Clear state of promotion of OA
 - Annotating IR and J-STAGE as platforms
 - 1 year's embargo
 - Author final version
- JSPS seemed to be silent about this policy.
- Researchers are still indifferent to OA, depending on their research fields
 - OA mandate of dissertations (Mar. 2013) made them aware of OA

Growth of OA articles published by Japanese organizations

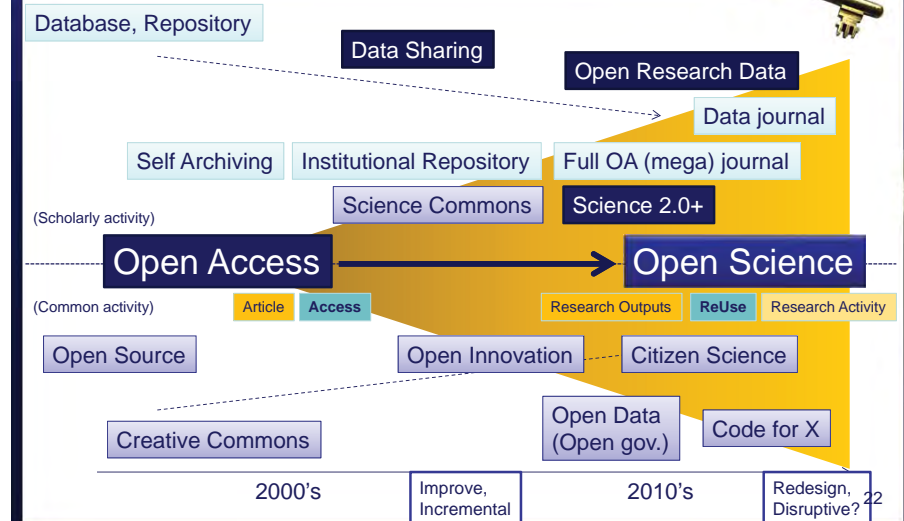


Source: web of science

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Open Access to Open Data and Open Science Overview example



Main Three Components

- **Science 2.0**
 - Changing Science itself
 - Data Driven Science
 - Collaborative Team Science on a platform
 - **Open Innovation**
 - Changing a game of Industry and IP
 - Industry 4.0, Industrial Internet
 - Copyright, Patent
 - **Citizen Science**
 - Expanding of Scientists
 - Public Engagement to Science and Technology
- Under Open Education and Open (Gov.) Data

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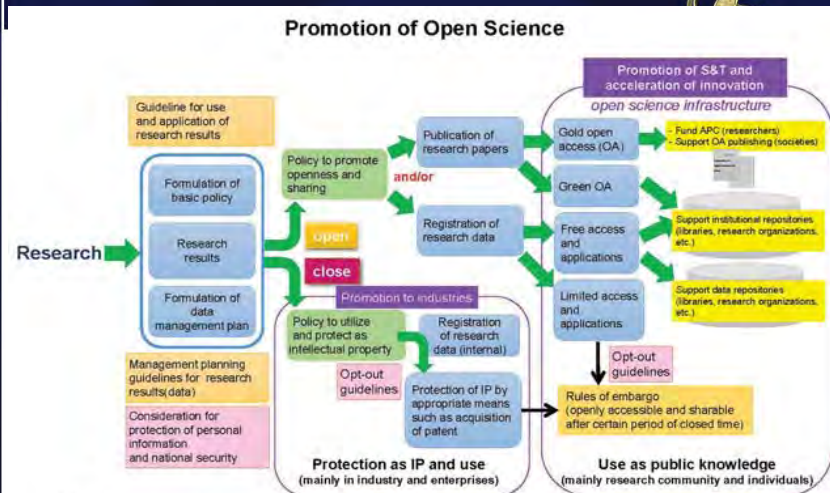
To the 5th Science and Technology Basic Plan

- The Expert Panel on Open Science based on Global Perspectives (November 2014)
 - to identify the guiding principles to promote open science based on the whole government approach.
 - experts of stakeholders from universities and R&D institutions with various hearings including publishers.
 - Based on these discussions, the expert panel has defined the principles in a report which was finalized on 30 March 2015.

To the 5th Science and Technology Basic Plan

- Principles
 - the outcomes of publicly funded research, such as published results and underlying data were defined to be accessible
 - unless they interfere with personal privacy, national security or direct commercial interests.
- Follow up expert panel (April 2015)
 - To follow up the status and progress of the relevant ministries and funding agencies to formulate a specific implementation plan

Policy map for Promotion of Open Science



Reference:
Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020 Version 1.0 11 December 2013 p.4
http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

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Guiding Principles of the Japanese Government

CSTI/CAO

To present whole-of-government **principles** on Open Science

Next Step

Relevant Ministries/Funding Agencies

To formulate a specific **implementation plan** for Open Science

- ⇒ The Ministry of Education, Culture, Sports, Science and Technology (MEXT) is discussing a policy making by scientific information committee.
- The Science Council of Japan (SCJ) has to discuss open science for scientific communities and researchers.

CSTI/CAO

Follow-up on the implementation status and progress of relevant ministries and institutions

CSTI: Council for Science, Technology and Innovation
CAO: Cabinet Office

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Driving Force

Tension and Distortion

- Open Access
 - Serial Crisis → OA mandate
 - Evaluation of Science or Scientists → emerging metrics, new media
- Data Sharing
 - Contribution to making data → Data citation
 - Infrastructure(Data storage) → Developing de-fact standards
- Citizen Science
 - Out-reach, Science and Society, Reliability of Scientist

Disruptive or innocent mind

- Younger Generation and other ICT business than established scholarly publishing industry

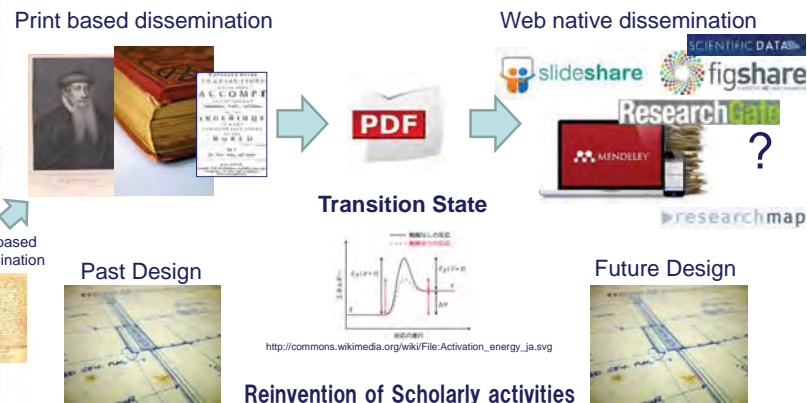
Movement of Open Science



Reconstructing New Scheme (Game) of
 -Scholarly Communication
 -Intellectual Property
 -Education

Learning from the history

Towards post-Gutenberg's worlds



Reinvention of Scholarly activities

Watanabe, "Current States of Impact Assessment of Research Outputs in Japan and Some Challenges to Measure New Impacts for Japan's Stakeholders," OECD-ESTONIA WORKSHOP ON IMPACT ASSESSMENT: PRACTICES, TECHNIQUES AND POLICY CHALLENGES, May 15-16 2014, Estonia. (revised)

Learning from the history

- Another event in 17th century

Print based dissemination



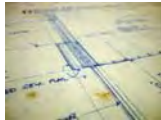
1665

← Learned Society

Letter based dissemination



Past Design



Royal Society

1660

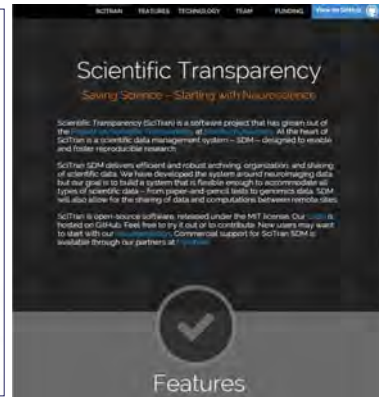


A Perspective

- Establishing a Community, not just a learned society, not a university
 - towards next paradigm of communication for scientific research, probably with new media
- Platform?
 - Some recent SNS-type communication tools seems to be still in the early stage because they depend heavily on so-called journal articles and citation

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So far,



Thank you for your attention

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Facebook, LinkedIn, Mendeley
Kazuhiro Hayashi (with a picture)