A Librarian's View on Open Access Models

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Background Info Astronomy

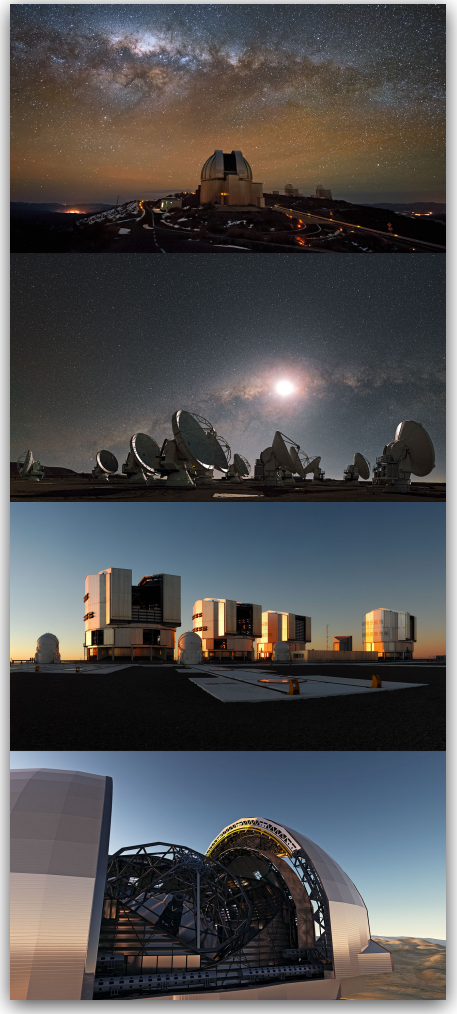
Work Culture in Astronomy

Traditionally…..

Observatories typically in remote places

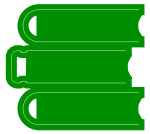
Community (researchers and librarians) closely connected

Tradition of sharing and exchange (of papers, data, code…)



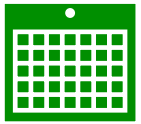
Read-Access in Astronomy

Wide-spread use of Green OA (arXiv/astro-ph eprint server)
(typically without CC-BY license, so not full Open Access)



Core journals digitised and freely available back to vol. 1

Publishers provided (pre-OA) temporary access to selected recent articles



Free access to core journal content often one year after publication

Core Journals in Astronomy

Four “essential” journals

- > 35% of refereed astronomy literature
- ESO 1st-author refereed papers: 90+% in core journals

Governed by Learned Societies, publ. by commercial publishers

- American Astronomical Society (AAS) / IOP Publishing: **ApJ/AJ**
- Royal Astronomical Society (RAS) / Oxford University Press: **MNRAS**
- Community of Member Countries’ astronomers / EDP Sciences: **A&A**

Community or researchers

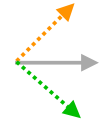
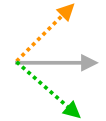
- strongly influences publishing developments, but
- many astronomers don’t see need for OA beyond status-quo
- need OA solutions with minimal researcher burden (especially in Europe)

OA as of 2024

Open Access Business Models

Publication Business Models

https://doi.org/10.18727/docs/10

Status	Model	Who pays?	How much?	Who can read?	Who can publish?	Plan S compliant?	Costs? (*)
Closed	Subscription (incl. hybrid journals)	Libraries	Too much	Scientists at subscribing institutions	Everyone	No	
Closed + Rights Retention	Subscription + Self-Archiving using Rights Retention (e.g., *AAAS Science Magazine)*	Libraries	Too much	Everyone (Author Accepted Manuscript, AAM)	Everyone	Yes	 Costs of journal subscription
Gold OA (APCs)	Commercial and society publishers	Authors	Depends on publisher	Everyone	Paying authors	Yes	
	Overlay journals e.g., *The Open Journal of Astrophysics*	Authors	Very little	Everyone	Paying authors	Yes	
Transformative Agreements (max. 3 yrs.)	Read-and-Publish (RAP) agreement	Libraries, Funding organisations	Based on previous subscriptions	Everyone	Authors from funding organisations	3 years	
	Publish-and-Read (PAR) agreement	Libraries, Funding organisations	Calculated on estimated publishing volume	Everyone	Authors from funding organisations	3 years	
Diamond OA (Library support)	Subscribe to Open (S2O) e.g., *Annual Reviews*	Libraries, Funding organisations	Based on previous subscriptions	Everyone	Everyone	Yes	
	SCOAP3 (CERN-led HEP consortium)	Libraries, Sponsoring HEP organisations	Negotiations with publishers	Everyone	Everyone	Yes	

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April 2021

** The estimated cost evolution reflects the personal opinion of the author.*

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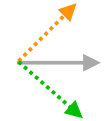
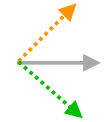
Gold OA (APCs)	APCs				Paying authors	Yes	
	Overlay journals				Paying authors	Yes	
Transformative Agreements (max. 3 yrs.)	Transformative Agreements				Authors from funding organisations	3 years	
					Authors from funding organisations	3 years	
Diamond OA (Library support)	Collaborative Model: Subscribe to Open (S2O)				Everyone	Yes	
					Everyone	Yes	

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APCs (Article Processing Charges)

Concept overview

- APC-based ("Gold") OA currently the dominant model, applied by many publishers
- APCs charged to authors for publishing
- From "*readers pay*" (subscriptions) to "*authors pay*" (publishing fees)
- No subscriptions (otherwise: "hybrid journals" —> double-dipping!)
- Unintended side-effects:
  - Rise of "predatory publishers" w/o quality control
  - Bad reputation of OA

Costs

- Depend on journal (up to ~EUR 10,000 per article)
- Typically vastly increased costs for research performing organisations (many papers!)

Librarian's View

- Access barrier shifted from reading to publishing
  - APC-based OA not equitable
  - APC waivers: well-intended, but still patronising
- Disruptive for authors who are not used to payments
- Planning a publishing budget has become difficult (impossible?)
- Requires new institutional infrastructure:
  - budget for publication costs (where? Admin? Library? ….?)
  - policies how to spend (*first come, first serve*??)

Overlay Journals

Concept overview

- APC-based OA, but low or no publishing costs
- Existing eprint infrastructure (e.g., arXiv) plus refereeing system
- Initiatives run by volunteers (researchers), based on grants (e.g., from foundations)
- Example:
  The Open Journal of Astrophysics
  (https://astro.theoj.org)

Costs

- Low, if any (few or no in-house services, e.g., copy-editing)

Librarian's View

- Long-term sustainability?
- Danger of losing publishers' expertise
- Unknown titles lack recognition
- Requires shift in research evaluation towards Open Science

Read-and-Publish (RAP) Agreements

Concept overview

- High-level agreements between research organisations / countries + publishers
- Often still called Transformative Agreements
- Typically provide access to publisher's open and closed content + (some) OA publishing
- Examples: Springer-Nature, Elsevier

Costs

- Complex cost calculation: Subscription + #papers (APCs)
- Number of OA articles typically capped! High costs for additional papers (e.g., *Nature* EUR 9,500)
- Often **higher costs** than before (!)

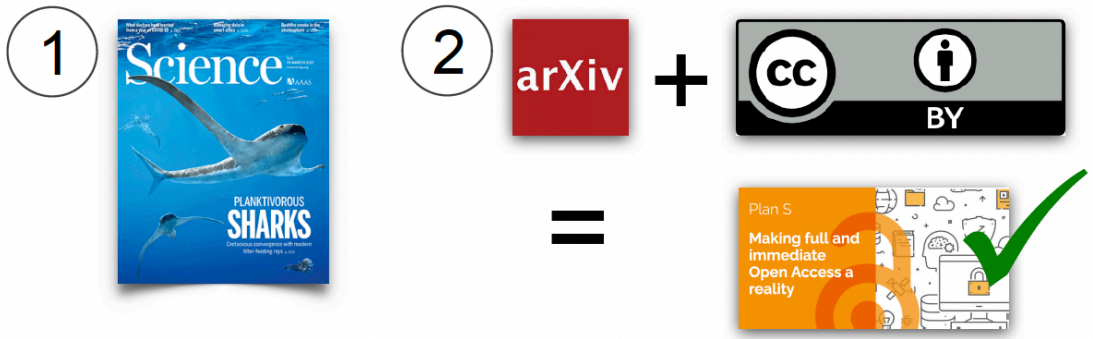
Librarian's View

- New **dependancy** on for-profit publishers ("Big Deal")
- RAP Agreements "cement" **APC-based** OA model
- How about small, specialised libraries without need for access to entire publisher portfolio?
- Minimum requirements:
  - transparent and reasonable publishing costs
  - unlimited OA publishing
  - consider situation of specialised organisations

Subscription + Rights Retention

Concept overview

- Publication in closed (subscription) journal
- Funders' requirement: use of open license (e.g., CC-BY)
- Peer-reviewed manuscripts (Author-Accepted Manuscripts, AAM) with CC-BY sent to repository
- Example: *Science*



Costs

- As before (subscription)

Librarian's View

- Very promising alternative
- Results in two parallel versions of papers (Version of Record + AAM)
- Feasible only for journals with extensive content besides research articles?
- Changes the "FAIRness" of manuscripts, not of journals (no changes to traditional publishing)

Collaborative Model: Subscribe to Open (S2O)

Concept overview

- Continued library subscriptions to achieve global Open Access
- Participating libraries have previously shown interest in content
- “Free riders” problem: OA achieved only if all subscribers participate
- Examples:
  - Annual Reviews
  - EDP Sciences

Costs

- As before (subscription)
- Possible discounts (e.g., “Early Bird Renewals”)
- Decreasing fees if additional subscribers participate

Librarian’s View

- Uses existing infrastructure (budget handling), can be implemented fast
- Is predictable and equitable
- Reflects specific information needs of specialised research community
- Workflow unchanged, OA achieved —> high acceptance expected

Conclusions

Outlook and Conclusions

Varied OA landscape

- Large mix of models during coming years
- Authors should know pros and cons of options
- Librarians play an important role in helping them decide where to publish

OA goal: Reduce / stabilise costs

- Stabilising costs: main driver of OA movement!
- Move to OA must be cost neutral; already (too) much money in the publishing system
- Avoid dependancy on (high-price commercial) publishers (no more Big Deals!)

Open Access is a paradigm shift. We must get it right!

- Already too many unintended side-effects (e.g., continued injustice of favouring authors from the Global North)
- Better OA models than APCs are available, but need more attention
- Librarians make strategic choices when enabling OA
- Let's strive for collaborative, equitable, transparent, sustainable models