

A Scientist's Perspective

on the Needs and Opportunities for Large-Scale
Open Access to Scholarly Research Articles & Journals

Ulrich Pöschl

Max Planck Institute for Chemistry

Mainz, Germany

u.poschl@mpic.de

Outline

Motivation

- *benefits & commitments*
- *why we should act now*

Transition

- *baseline & proposition*
- *how to accomplish a transformation*

Conclusion

- *consensus building for an expression of interest & international initiative*

Motivation for Open Access

Educational, economic & scholarly advantages of immediate free online availability & usability of scholarly research articles.

Educational:

- inform & stimulate interested public (*school teachers, students, et al.*)
- equal opportunities in the information society (*global & social*)
- **re-integrate scholarly & common knowledge** (*wikipedia, etc.*)

Economic:

- liberate distorted scientific information market (*production, distribution, copyright, etc.*)
- **facilitate technological applications & innovations** (*text mining by SME, etc.*)

Scholarly:

- enhance **interdisciplinary exchange & collaboration**
- foster **discussion & peer review** (*public commenting, etc.*)
- advance **evaluation & quality assurance** (*machine-reading & statistics, transparency & new metrics beyond citation counting oligopoly*)

Open Access Variants:

- **OA archiving** (“*green*”): good but not enough (*delays & limits in usability & sustainability*)
- **OA publishing** (“*gold*”): **immediate & full benefits & sustainability**

Recent Commitments & Developments

Global Research Council – Action Plan towards Open Access to Publications (2013)

“Research funders will provide support for their grantees to encourage and enable them in making their works openly accessible”

Science Europe – Open Access Position Paper & Roadmap (2013)

“move towards Open Access, replacing the present subscription system with other publication models whilst redirecting and reorganizing the current resources accordingly.”

Berlin 11 Position Statement (2013)

“enable smooth transition of the scholarly literature (by) progressive conversion of subscription funds into OA publishing funds”; “**return control of scholarly publishing to the scholars.**”

Joint Statement of EU Commissioner Moedas and NL State Secretary Dekker (2015)

“call on scientific publishers to adapt their business models to new realities”

International Association of STM Publishers Response (2015)

“STM welcomes Commissioner Moedas release ... and supports immediate open access through sustainable business models.”

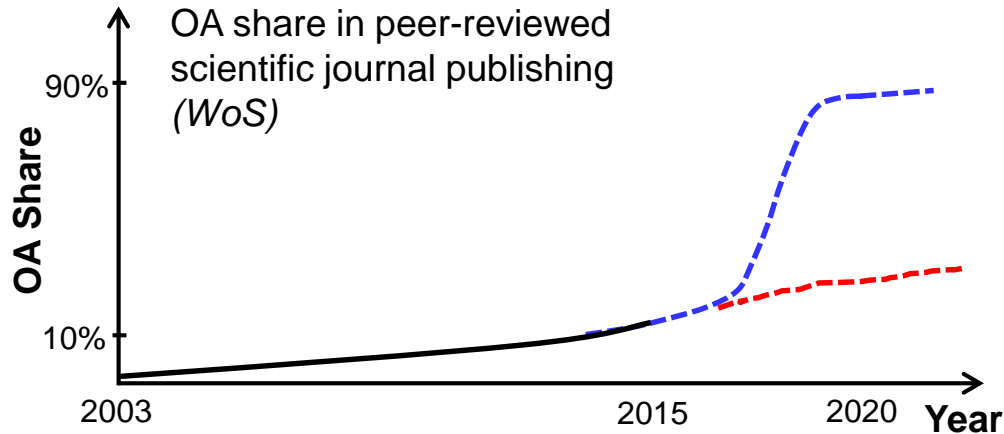
Institutional, National & Topical OA Hybrid/Offsetting/Cooperation Contracts (2014/2015)

e.g.: IOP & RSC with AT, DE, UK & US universities (2014); Springer with AT, NL, UK & MPG (2015), Elsevier, IOP, Springer et al. with SCOAP3 high energy physics consortium (2014).

... and many more institutional, national & international activities & developments

⇒ **panta rhei, but no concerted global action of scholarly organizations**

Let's act now because ...



Concerted action is required to reach high OA share swiftly
(long-term contracts, ...)

Inactivity may lead to slow increase of high quality OA & promote low quality OA („predatory publishers“)

- **OA publishing well established** (~20 years); **substantial volume achieved** (~13% pure OA journal articles in WoS); **tipping point in reach ...**
- Politics pay attention and support, traditional publishers start to move
- Junior scientists & public demand free information on the Internet (*collective & personal use*)
- **OA publishing & increase limited by availability of high quality OA journals:** percentage OA publishing \approx percentage OA journals (WoS: ~1500 of ~12000)
- **Delayed transition may harm integrity & quality of scientific literature:** predatory publishers & self-archiving may erode trad. system before adequate replacement
- **Concerted action enables continuity, stability & full benefit**
- **Pilots & role models available** (SCOAP3, AT-IOP, DE-RSC, AT/NL/UK/MPG-Springer, ...)
- **Publishing Costs \approx 1-2% of Science Budgets: Let's stop the tail wagging the dog**

Outline

Motivation

- *benefits & commitments*
- *why we should act now*

Transition

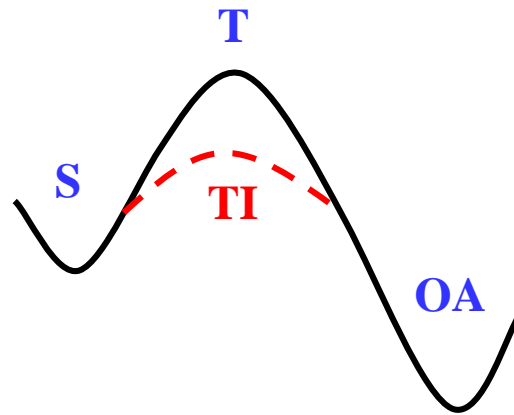
- *baseline & proposition*
- *how to accomplish a transformation*

Conclusion

- *consensus building for an expression of interest & international initiative*

Transition from Subscription to OA Publishing

Subscription (S):
high cost/low value;
tightly restricted
access & usability



Transition (T):
activation needed

Transformation Initiative (TI)

Open Access (OA):
lower cost/higher value;
full access & usability

Trust & apply the principles of mass/energy conservation & kinetics

Necessary funds are already in the system (>30% buffer)*

OA will liberate the market and lead to higher value at same or lower cost

Change requires activation: Transformation Initiative focused on STM journals
shall serve as **energizer** (EoI/declaration) & **catalyst** (collaboration)

Hybrid, offsetting & cooperative models to attract & support traditional publishers

Pilots & role models: institutional, national & topical agreements with various publishers

* see Ralf Schimmer, MPDL White Paper 2015, related references & next slide

Financial Conditions in a Nutshell

Subscription journal market today:

total budget ~7.6 bn EUR/yr for ~2 Mio articles/yr

⇒ average „article processing charge“(APC): **~3800 EUR/article**,
including expensive magazines, large inefficiencies (access & usage barrier management, long-term oligopoly effects), high profits (up to ~35%)

OA journal market today:

conservative average APC **~2000 EUR/article** for high quality OA journals,
less than ~1500 EUR/yr in top quality OA journals from efficient OA publishers, established since >10 yrs with substantial profits for publishers & learned societies

OA journal market after transformation:

conservative average APC ~2000 EUR/article for ~2 Mio articles/yr

⇒ **base budget ~4 bn EUR/yr** for ~2 Mio articles/yr

⇒ **buffer of ~3.6 bn EUR/yr** (~45%) for remaining subscription journals/magazines, new & improved services, APC waivers against undue publication barriers, etc.

⇒ **budget-neutral transformation possible at short notice**

⇒ **plenty of buffering capacity for valid concerns**

⇒ **substantial service improvements or savings possible**

⇒ *for details see Ralf Schimmer, MPDL White Paper 2015 & related references*

Basic Concept of Transformation Initiative

Zero-Order Approximation:

- (1) maintain payments & drop paywalls
- (2) adjust budgets & cash flows

First-Order Approximation:

- (1) **Every organization continues to pay** for some time the same amount as for past journal subscriptions while requesting OA for their corresponding author articles
- (2) **Calculate “individual customer APC”** = subscription fees divided by number of corr. author articles for every organization & for every publisher/every journal
- (3) **Check balances** between individual customer APC, publisher APC (*hybrid/offsetting*) & market APC (*<1500 EUR/article, ~2000 EUR/article, ~3800 EUR/article*)
- (4) **Adjust balances** on individual, regional & global levels (*those who publish a lot usually also subscribe to a lot, v.v.*) and include mechanisms against undue publication barriers (*waiver programs etc.*)
- (5) **Move to free OA market** (*moderated/regulated by competition and/or cooperation*)

More sophisticated description & implementation:

⇒ *see Ralf Schimmer, MPDL White Paper 2015 & related references*

⇒ *develop Consensus, Expression of Interest & Roadmap for International Initiative*

Why can we expect publisher collaboration & success?

OA causes no extra cost (*rather savings*) and has become a competitive advantage for all: authors (*visibility*), readers (*access*), and publishers (*attractiveness*)

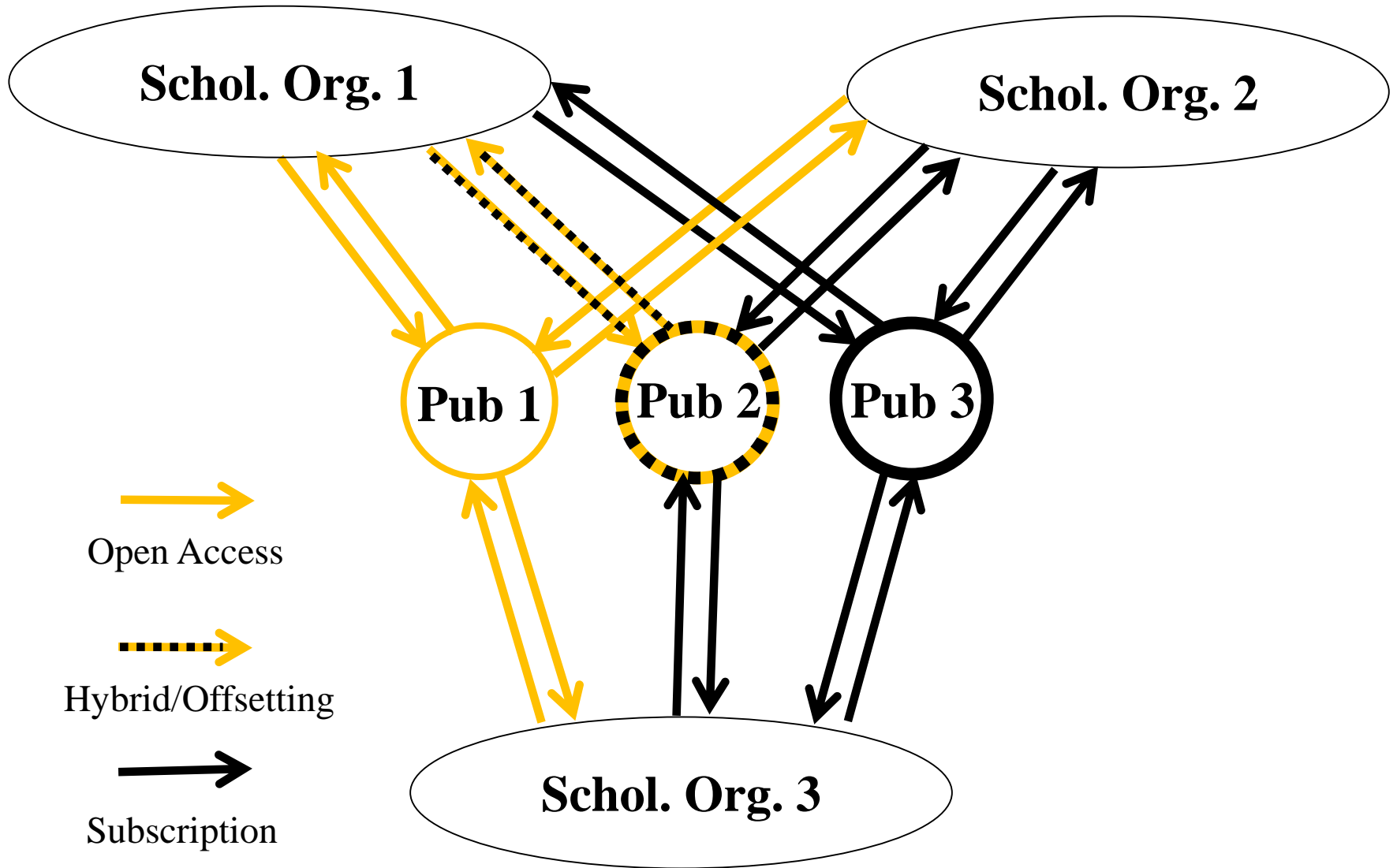
Traditional publishers have already lost 13% of the journal market (WoS) and expect growth primarily in OA

Major commercial & society publishers have already entered collaboration on institutional, national & topical OA hybrid/offsetting/cooperation contracts

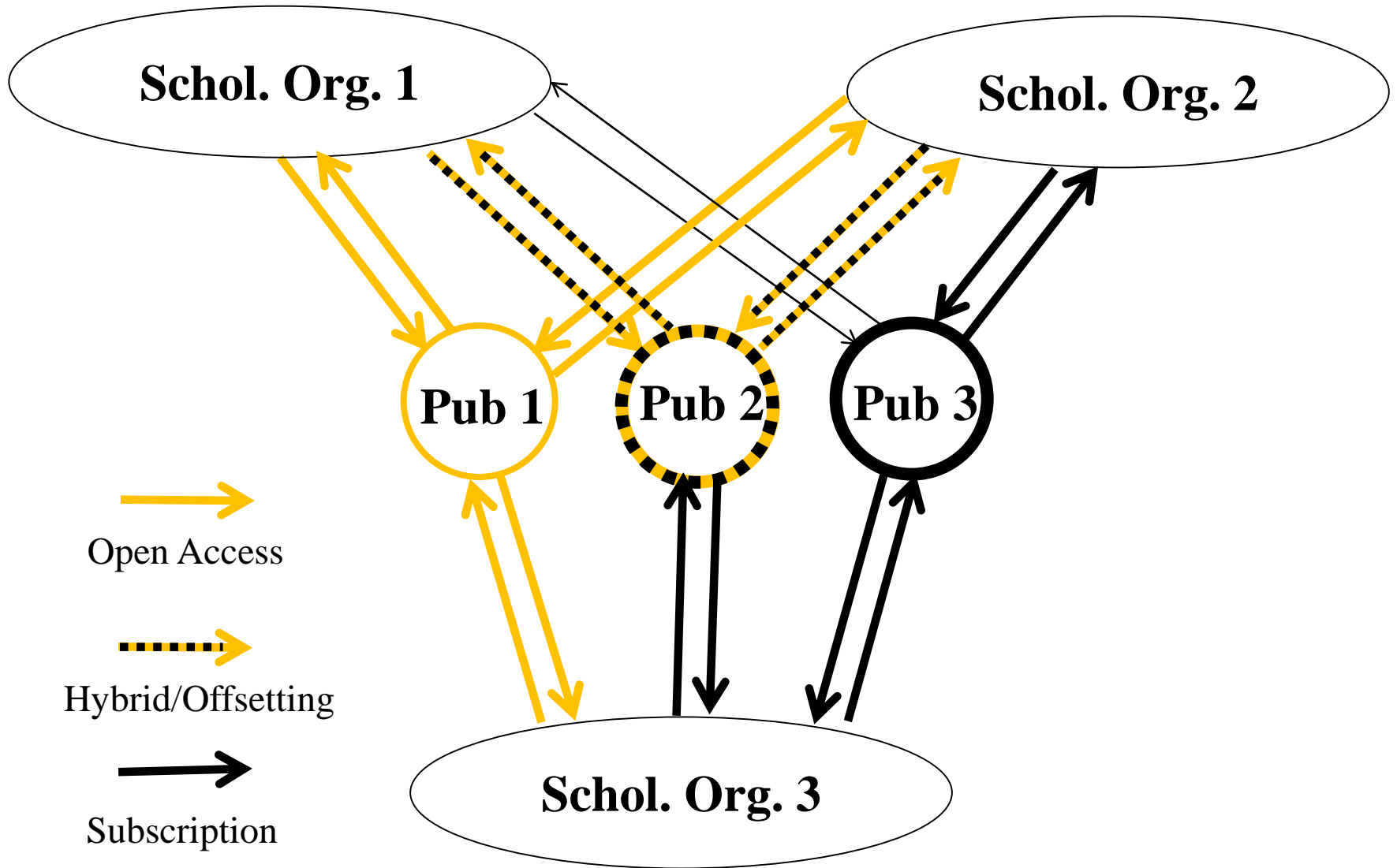
Pressure & support from public, politics & junior scientists is building up & can be catalyzed by global collaboration of scholarly organizations with all involved parties
⇒ **Expression of Interest (Eoi) & Roadmap for International Initiative**

Transformation already successfully pursued by individual organizations, countries & fields but will be most effective in global collaboration of scholarly organizations
⇒ **modular approach likely to trigger swift, smooth & scholarly oriented transition**

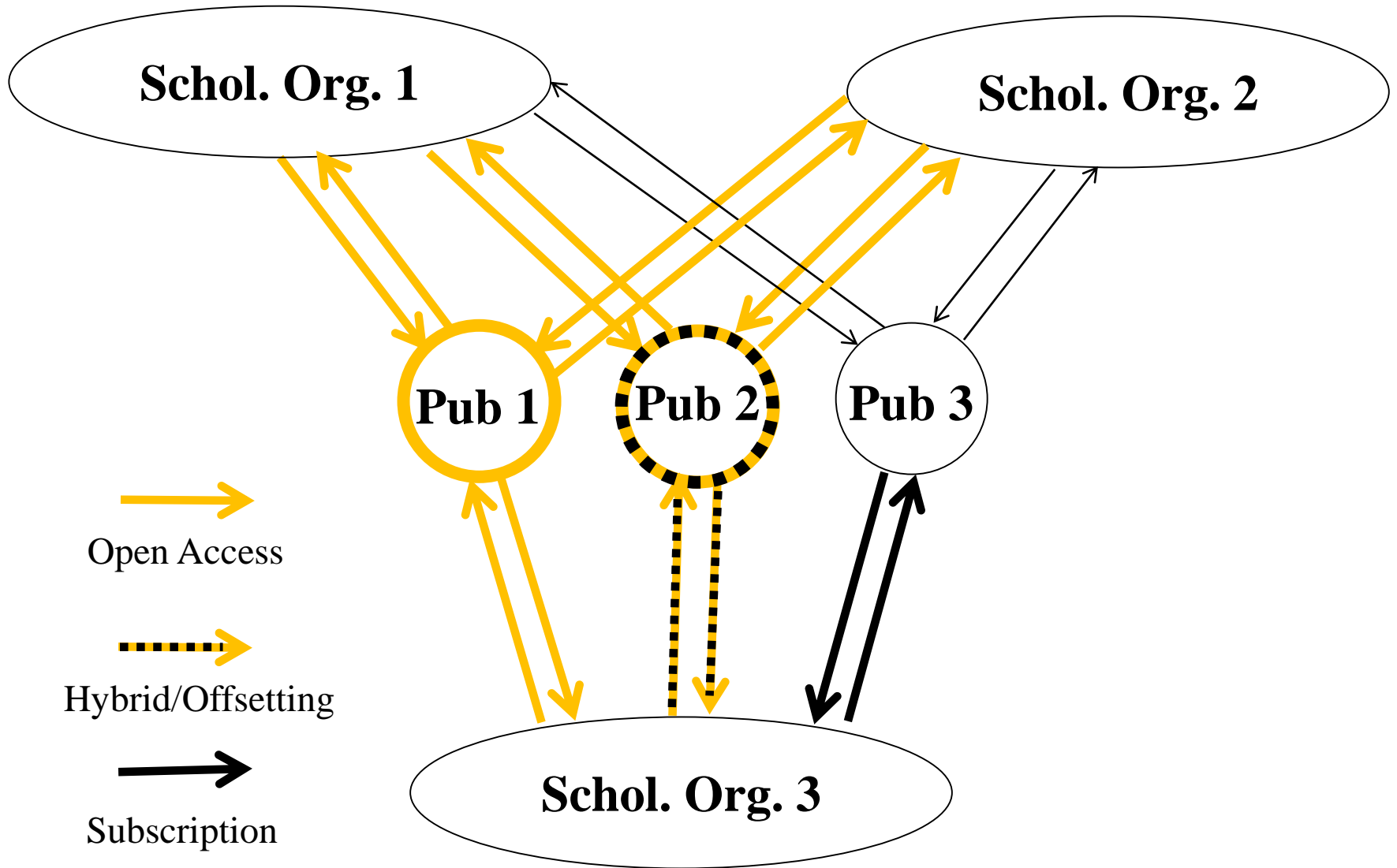
Status Quo (2015)



Near Future (2017)



OA Future (2020+)



Consensus Building for Eol & Roadmap of International Initiative for OA Transformation



- Premise** Pursue large-scale implementation of free Internet access & largely unrestricted use of scholarly research articles.
- Goal** Gain full benefits of OA & enable a smooth, swift & scholarly oriented transition.
- Approach** Transform a majority of today's scholarly journals from subscription to OA publishing, while maintaining their functionality & economic viability (*and continuing to support new & improved forms of OA publishing*).
- Method** Induce a largely budget-neutral transformation by converting resources currently spent on journal subscriptions into OA publishing funds.
- Mechanics** Reorganize underlying cash flows from subscription to OA services (*e.g., via offsetting*), including mechanisms to avoid undue publication barriers.
- Momentum** Release & endorse a public "Expression of Interest" (Eol), launch an internat. initiative for the OA transformation, and collaborate with all involved parties.
- Scope** Focus on science, technology & medicine (STM) journals, *while offering same support & opportunities to journals in other fields, as appropriate & desired.*
- Timing** Convert most STM journal subscriptions in the course of the next 5 years and establish large-scale OA to STM research articles by the year 2020.