

SCHOLARLY COMMUNICATIONS:
WHERE WE'VE BEEN,
WHERE WE SHOULD GO
AND
A DIVERSION THAT WILL NOT GET
US THERE



David Shulenburger, Senior Fellow
Association of Public and Land-grant Universities
Geneva Conference
on Innovation in Scholarly Communication,
OAI10
June 22, 2017

“SCHOLARLY COMMUNICATION” CAN BE DEFINED AS:



“THE SYSTEM THROUGH WHICH RESEARCH AND OTHER SCHOLARLY WRITINGS ARE CREATED, EVALUATED FOR QUALITY, DISSEMINATED TO THE SCHOLARLY COMMUNITY, AND PRESERVED FOR FUTURE USE. “ *

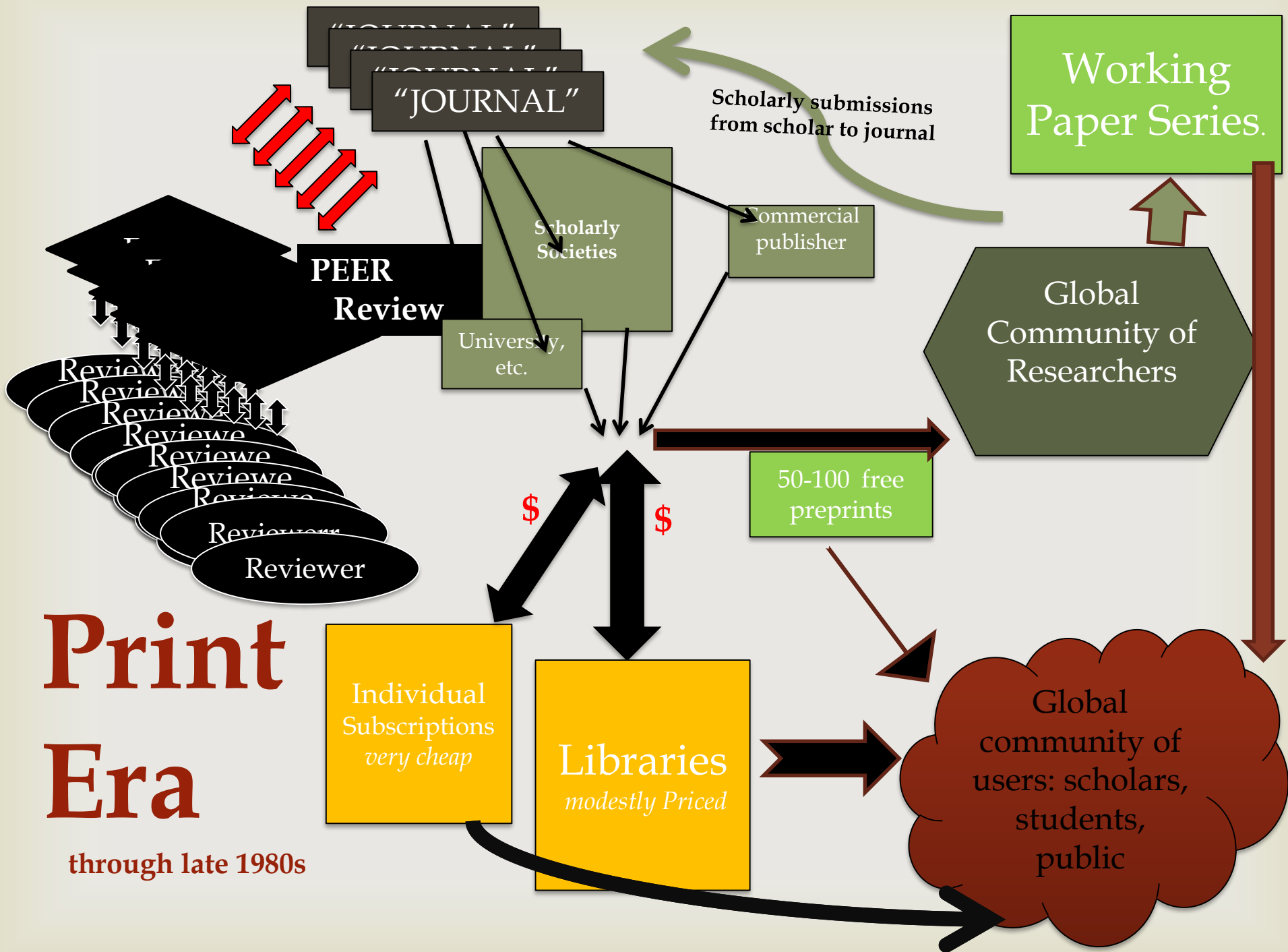
NOTE THAT SCHOLARLY JOURNALS ARE NOT MENTIONED IN THIS DEFINITION. THEY MAY BE A PART OF THE “SYSTEM” BUT THE DEFINITION DOES NOT MAKE THEM AN ESSENTIAL PART OF THE SYSTEM.

*Association of College & Research Libraries, “[Principles and Strategies for the Reform of Scholarly Communication 1](#),” 2003

WHERE WE'VE BEEN



A LITTLE HISTORY



Print Era

through late 1980s

MANY ADVANTAGES AND DISADVANTAGES

- GETTING MANUSCRIPTS INTO PRINT WAS EXPENSIVE
 - PRINT WAS SLOW
 - PRINT WAS HARD TO EDIT, COPY, SEARCH
AND USE TO DEVELOP METRICS
- BUT UNDERSTANDING THIS...*



- PRINTED JOURNALS WERE PRODUCED CHEAPLY
 - INDIVIDUAL SUBSCRIPTIONS WERE
EASILY AFFORDABLE
 - LIBRARY SUBSCRIPTIONS WERE AFFORDABLE
- PRE- AND POST-PRINT SHARING WAS FREELY PERMITTED

**AS AN ASSISTANT PROFESSOR
I HAD ROUGHLY 50% OF WHAT I NEEDED IN MY OFFICE
AND
NEAR 100% IN MY UNIVERSITY LIBRARY**

BUT THINGS CHANGED

1- BIG SCIENCE EMERGED IN THE 1960S AND THE SCALE OF SCIENCE AND UNIVERSITIES EXPLODED

2A. THIS LED COMMERCIAL FIRMS TO UNDERSTAND THE POTENTIAL PECUNIARY VALUE OF JOURNALS AND THEY BEGAN TO BUY THEM, CREATE PARALLEL JOURNALS, OBTAIN THE RIGHTS TO PRODUCE, DISTRIBUTE AND DO BUSINESS MANAGEMENT OF JOURNALS OWNED BY OTHERS

2B. SOME SOCIETIES BEGAN TO EXPLOIT PECUNIARY VALUE OF THEIR OWN JOURNALS, EMULATING COMMERCIAL PUBLISHERS

3- THE INTERNET MATURED AND MOST SCHOLARLY JOURNALS ASSUMED DIGITAL FORM

Journal Prices Rose Rapidly



1. INTERNET ACCESS TO JOURNALS FROM THE DESK TOPS CAUSED INDIVIDUAL SUBSCRIPTIONS TO FALL
2. CONSOLIDATION OF THE INDUSTRY PERMITTED PUBLISHERS TO MAKE UP LOST REVENUE BY RAISING LIBRARY SUBSCRIPTION PRICES
3. THEIR NEWFOUND MARKET POWER PERMITTED PUBLISHERS TO MAKE FAR GREATER INSTITUTIONAL PRICE INCREASES THAN REQUIRED TO MAKE UP FOR LOSS OF INDIVIDUAL SUBSCRIPTIONS.

MANY EXPLANATIONS FOR THE PRICE INCREASES WERE OFFERED, BUT IT BECAME CLEAR THAT ACQUISITION OF MARKET POWER WAS RESPONSIBLE

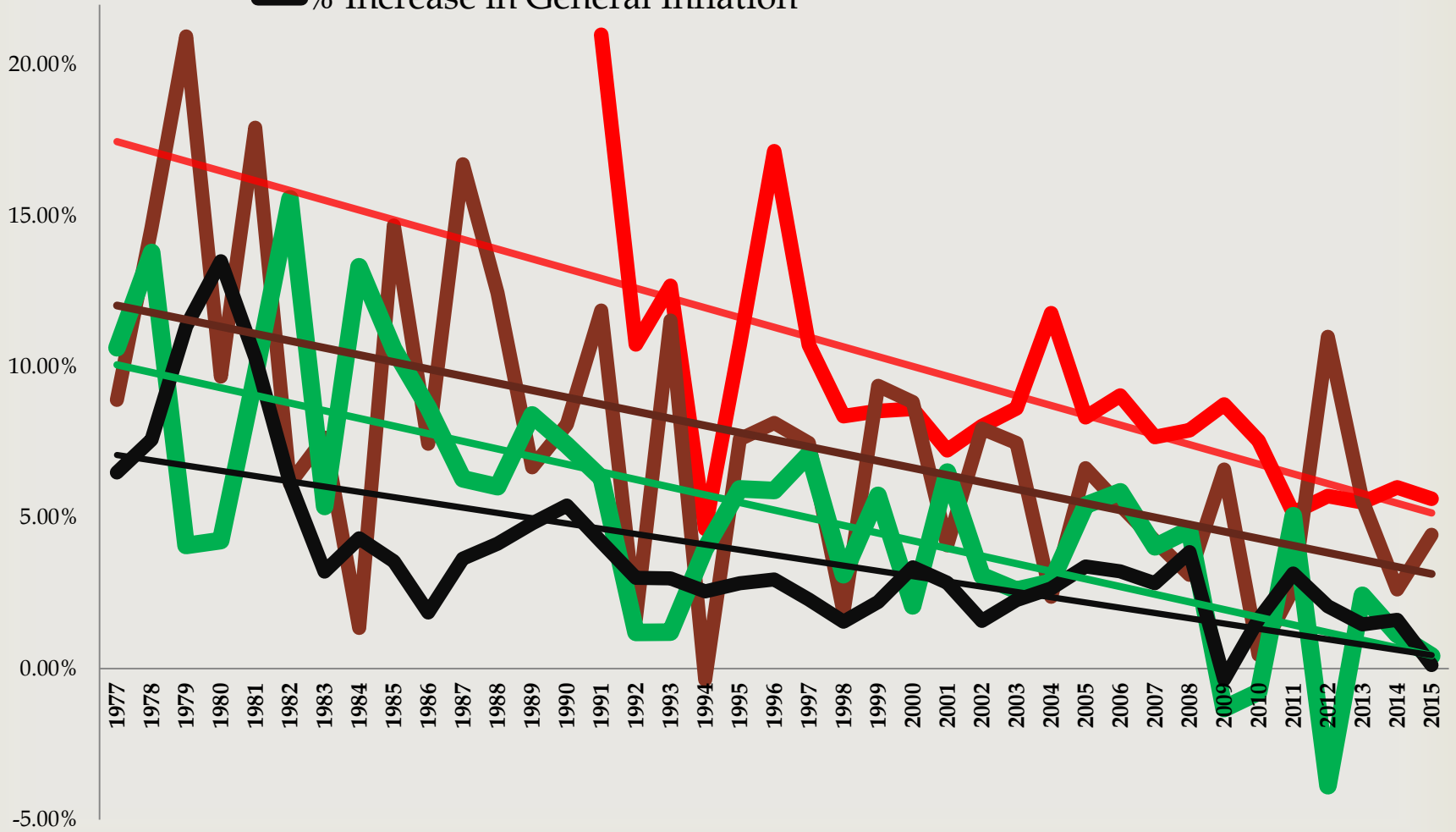


- ❧ FIRST WE BLAMED EXCHANGE RATE MOVEMENTS AGAINST THE DOLLAR FOR THE PRICE INCREASE
- ❧ THEN COMMERCIAL PUBLISHERS ARGUED THAT THEY WERE ADDING GREATER AND GREATER VALUE, WHICH INCREASED THEIR COST. HENCE, JOURNAL PRICES HAD TO GO UP.
- ❧ BUT ECONOMETRIC EVIDENCE SHOWS THAT ***ACQUISITION OF MARKET POWER BY PUBLISHERS*** WAS LARGELY RESPONSIBLE FOR EXTRAORDINARY PRICE INCREASES*

* see new study Lewis G. Liu and Harold Gee, "Determining Whether Commercial Publishers Overcharge Libraries for Scholarly Journals in the Fields of Science", *Technology, and Medicine, with a Semilogarithmic Econometric Model* Volume 87, Number 2 | April 2017 *The Library Quarterly* finding--- *Commercial publishers derive 102% of return beyond cost of non profit publishers*

A SERIALS CRISIS: TRENDING DOWNWARD

- █ % Increase in Journal Prices
- █ % Increase in Research Library Serials Expenditure
- █ % Increase in Total Library Expenditure
- █ % Increase in General Inflation



HARVARD, WITH A \$16.9B ENDOWMENT IN 2002, ANNOUNCED THAT IT COULD NOT MAINTAIN ITS SERIALS COLLECTION.



*“HARVARD UNIVERSITY SAYS
IT CAN'T AFFORD JOURNAL
PUBLISHERS' PRICES”*

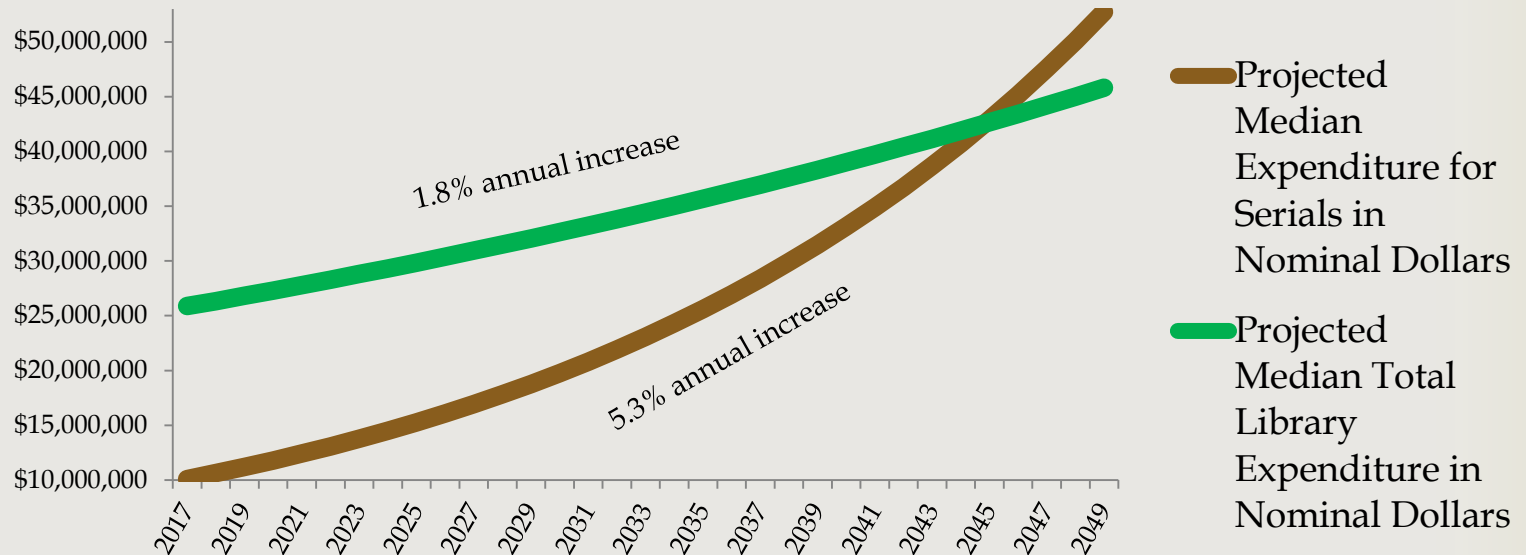
April 24, 2002 The Guardian

THE “CRISIS” CLEARLY CONTINUES

Rule of 72 --- 1.8% doubles in 40 years but 5.3% doubles in 13.5 years



If **Serials Expenditure** and **Total Library Expenditure** Increase at the Average Rate of the Last Decade, **in 2045** **Serials Expenditure Will Exceed the Total Library Budget!**



HOPE IN THE OBVIOUS:



*“IF SOMETHING CANNOT GO ON FOREVER,
IT WILL STOP.”*

Herb Stein, economist

WHAT CAUSED THE RATE OF PRICE INCREASES FOR JOURNALS TO ABATE?



❧ COUNTERVAILING POWER EXERTED BY
LARGE BUYERS OF SERIAL
SUBSCRIPTIONS



❧ COLLECTIVE ACTION TO REDUCE THE
MARKET POWER OF PUBLISHERS

COLLECTIVE ACTION

Regional
mandates

Government
mandates

Funder
mandates

Major "Open"
projects

Community
agreements



Piracy
(e.g. Sci-Hub)

OA alternative
journals

Institutional OA
policies

Journal
Replacement

Journal
Conversion

Green OA

INDIVIDUAL ACTION

THE RESULT IS THAT MUCH OF THE
SCHOLARLY LITERATURE IS AVAILABLE,
FOR FREE.

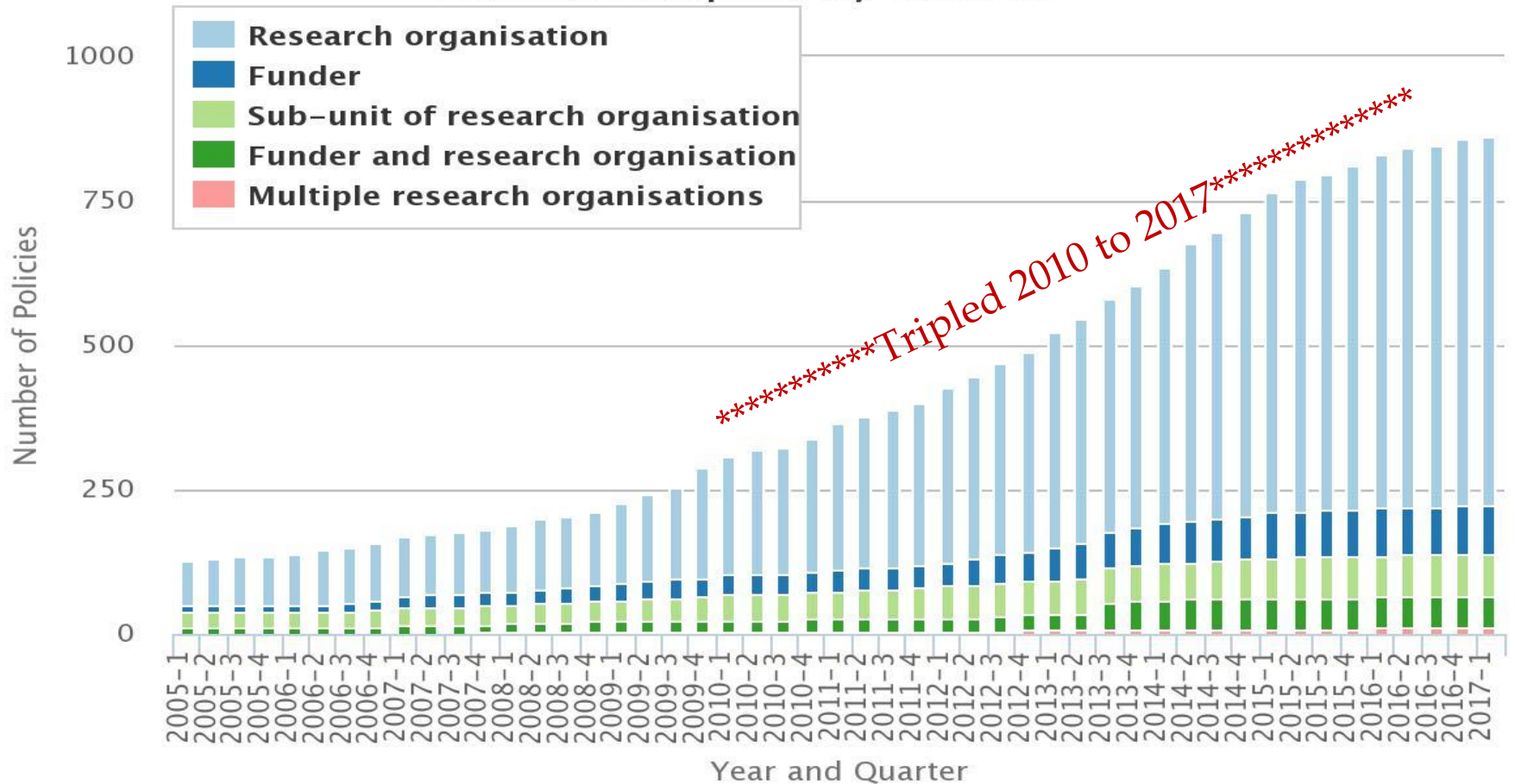


AUGUST 2013, A STUDY DONE FOR
THE EUROPEAN COMMISSION
REPORTED THAT 50% OF A RANDOM
SAMPLE OF ALL ARTICLES PUBLISHED
IN 2011 (AS INDEXED BY SCOPUS) WERE
FREELY ACCESSIBLE ONLINE BY THE
END OF 2012.

AND THE PROPORTION THAT IS AVAILABLE FOR FREE WILL INCREASE RAPIDLY DUE TO OA MANDATES

Open Access Mandate Policies from ROARMAP <https://roarmap.eprints.org/>

Policies Adopted by Quarter



83 Funder Mandates

as of May 2017



Academy of Finland
Agence National de la recherche (ANR)
Agence National de la recherche (ANR) Humanities & Social Sciences Branch
Agency for Science, Technology & Research (A*STAR)
Arts & Humanities Research Council (AHRC)
Australian Research Council
Austrian Science Fund (FWF)
Autism Speaks
Bill & Melinda Gates Foundation
Biotechnology & Biological Sciences Research Council (BBSRC)
Brazil House of Representatives
Breast Cancer Campaign
CGLAR
Chief Scientist Office (Scottish Government Health Directorates) (CSO)
Congress of the Republic of Peru
Council of Scientific & Industrial Research
Danish Council for Independent Research (DFI), the Danish Council for Strategic Research, the Danish National Research Foundations, the Danish Advanced Technology Foundation, and the Danish Council for Technology and Innovation
Danish Ministry of Science, Technology & Innovation
Department of Biotechnology and Department of Science & Technology, Ministry of Science & Technology
Department of Health UK (DoH)
Diabetes UK
EUR-OCEANS Consortium
Economic & Social Research Council (ESRC)
Engineering & Physical Sciences Research Council (EPSRC)
Estonian Research Council
European Commission: Horizon 2020
European Research Council (ERC)
FRS/FNRS Belgium

Fidas
Fondazione Cariplo
Fonds de la recherche en sante Quebec (FRSQ)
Fundação para a Ciência e a Tecnologia
Government of the Principality of Asturias
Government of the Republic of Slovenia through the Ministry of Education, Science and Sport
Higher Education Funding Council of England (HEFCE)
Hungarian Government
Indian Council of Agricultural Research
International Development Research Centre
Irish Higher Education Authority (HEA)
Japan Ministry of Education, Culture, Sports, Science & Technology
Japan Ministry of Education, Culture, Sports, Science and Technology (01 Apr 2013)
L'IRCoES, Istituto di ricerca sulla crescita economica sostenibile
Leukaemia & Lymphoma Research
Lietuvos mokslo taryba (Research Council of Lithuania)
MacArthur Foundation
Madrid Autonomous Community of Spain
Medical Research Council (MRC)
Ministerio del Ambiente
Ministry of Education and Research
Ministry of Education and Research; Ministry of Economic Affairs and Communications
Motor Neurone Disease Association
Multiple Sclerosis Society UK
Myrovlytis Trust
National Health & Medical Research Council (NHMRC)
National Knowledge Commission
National Natural Science Foundation of China (NSFC)
National Research Council Canada (NRC)
National Research Foundation of South Africa
Natural Environment Research Council (NERC)
Natural Sciences & Engineering Research Council of Canada (NSERC)
Nordic Council of Ministers
Norwegian Ministry of Education & Research
Norwegian Research Council
Parliament of Ukraine (Verhovna Rada)
Rannís - Icelandic Centre for Research
Research Council of Lithuania
Research Council of Lithuania
Research Councils UK
Research Foundation Flanders
Science & Technology Facilities Council (STFC)
Science Europe
Science Foundation Ireland (SFI)
Seimas of the Republic of Lithuania (the Parliament)
Senate of Argentina
Social Sciences and Humanities Research Council of Canada (SSHRC)
Spanish General State Administration
Swiss Academy of Humanities and Social Sciences
Swiss National Science Foundation
Teleton Italy
The Dunhill Medical Trust
US Federal Highway Administration (FHWA)
United Mexican States House of Representatives
Wellcome Trust

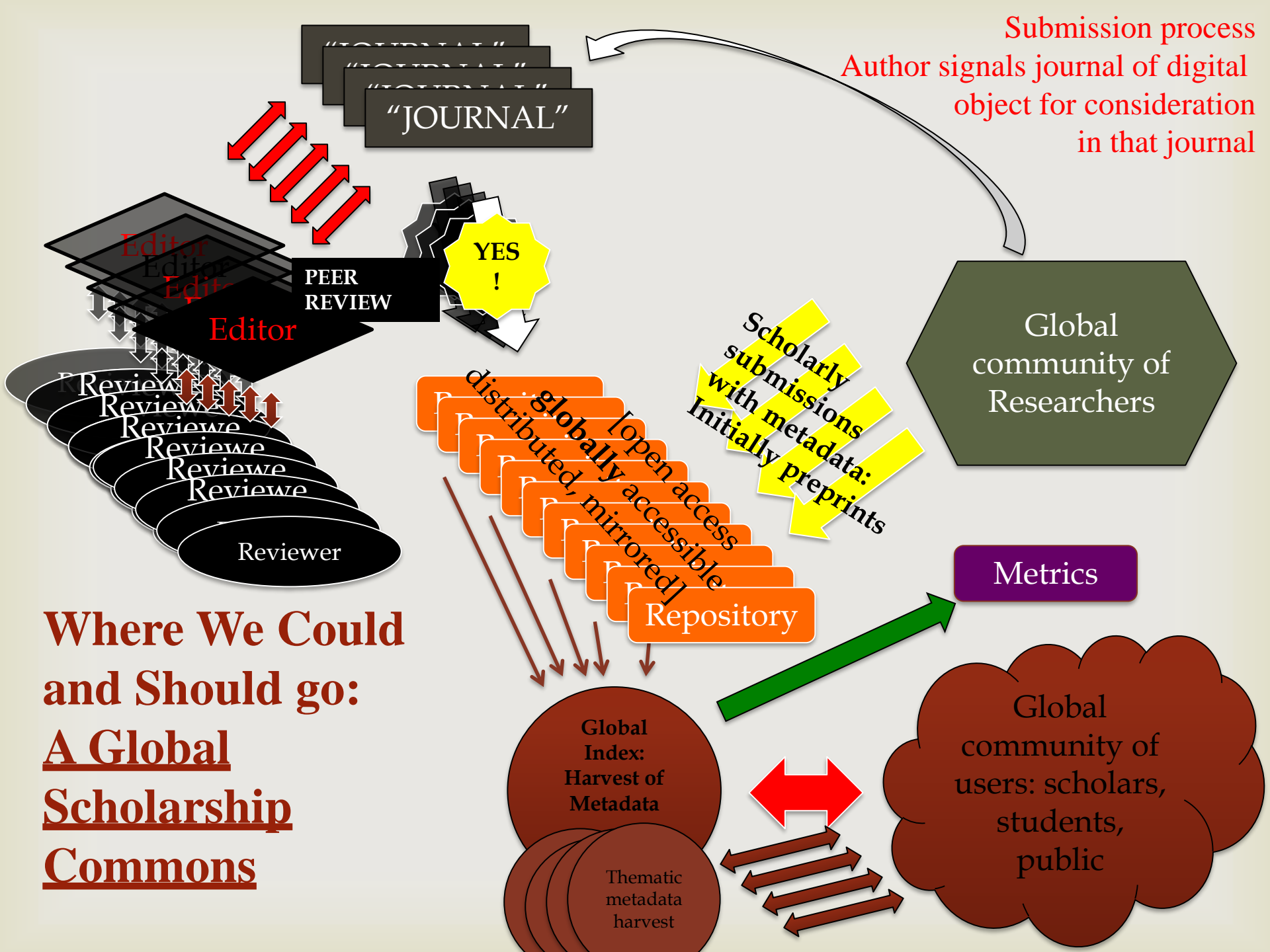
WHERE TO FROM HERE?



JOURNALS SHOULD EXIST

BUT

SCHOLARLY COMMUNICATIONS SHOULD BE
FREELY ACCESSIBLE *INDEPENDENT* OF
JOURNALS



**Where We Could and Should go:
A Global Scholarship Commons**

IN SUCH A WORLD, THE RATE OF
JOURNAL PRICE INFLATION
WOULD MODERATE



THE RATES OF INCREASE OF JOURNAL PRICES AND LIBRARY
BUDGETS WOULD CONVERGE

BECAUSE

YOU COMPETE WITH “FREE” ONLY IF YOU ADD VERY SIGNIFICANT
VALUE TO THE PRODUCT AND PRICE YOUR JOURNAL
ATTRACTIVELY.

And WHETHER MY PRICE PREDICTION IS CORRECT OR NOT . . .



RESEARCH FINDINGS, I.E. “SCHOLARLY
COMMUNICATIONS,” WOULD BE FREELY
AVAILABLE TO ALL...

AND

THAT IS A SIGNIFICANT ACHIEVEMENT!

A DANGEROUS
DIVERSION THAT WILL
NOT GET US THERE



&

WITH HIGH POTENTIAL TO MAKE THE
FUTURE WORSE

THERE IS A PROPOSAL TO “FLIP” JOURNALS SO THAT THEY WOULD BE PAID FOR FROM ARTICLE PROCESSING FEES AND NOT FROM SUBSCRIPTIONS



- ❧ THE NOTION: MANUSCRIPT AUTHORS PAY *ARTICLE PROCESSING CHARGES* (APCs) WHEN A MANUSCRIPT IS ACCEPTED FOR PUBLICATION
- ❧ THE JOURNAL THEN BECOMES AVAILABLE (DIGITALLY) WITH A ZERO SUBSCRIPTION PRICE TO ALL WHO WISH TO READ IT.

THE REASONING

- ❑ SUBSCRIPTIONS CAUSE PUBLISHERS NOT TO FOCUS ON COST BUT ON CHARGING LIBRARIES *WHAT THE MARKET WILL BEAR*.
- ❑ APCs CAUSE JOURNALS TO CHARGE AUTHORS WHAT IT COSTS TO PRODUCE THE FINISHED JOURNAL ARTICLE.
- ❑ WHEN AUTHORS HAVE TO PAY APCs THEY HAVE *SKIN IN THE GAME AND SEEK VALUE FOR THEIR MONEY*
- ❑ ASSERTION: AUTHORS WILL PAY HIGHER APCs FOR A JOURNAL WITH GOOD CITATION METRICS THAN FOR ONE WITH POOR METRICS AND THIS MARKET WILL SOMEHOW KEEP APCs DOWN .

BUT “FLIPPING” TAKES THE LIBRARY OUT OF THE PICTURE AND PITS THE INDIVIDUAL FACULTY MEMBER AGAINST HUGE PUBLISHERS



∞ WITH SUBSCRIPTIONS AS THE BASIS FOR FUNDING JOURNALS:

- OLIGOPOLY POWER (FEW SELLERS OF SCHOLARLY JOURNALS) ON THE SELLER’S (PUBLISHER’S) SIDE AND OLIGOPSONY (FEW BUYERS) ON THE BUYER’S (LIBRARIES’) SIDE

∞ WITH APCs AS THE BASIS FOR FUNDING JOURNALS:

- ONCE A JOURNAL HAS ACCEPTED YOUR ARTICLE FOR PUBLICATION IT HAS MONOPOLY POWER AND YOU, THE AUTHOR OF THE PAPER, MUST CONFRONT THAT PUBLISHER WITH **ZERO MARKET POWER.**

SUBSCRIPTION VS ALL APC WORLD

BILATERAL OLIGOPOLY

BIG LIBRARIES VS BIG PUBLISHERS



OLIGOPOLISTS VS INDIVIDUAL COMPETITORS

INDIVIDUAL RESEARCHERS VS BIG PUBLISHERS



AN ANALOGOUS “FLIPPED” MARKET: U.S. PRESCRIPTION DRUGS, THE HIGHEST PRICED IN THE WORLD



- ❧ COUNTRIES WITH NATIONAL HEALTH PROGRAMS HAVE GOVERNMENT ENTITIES THAT EITHER NEGOTIATE DRUG PRICES OR DECIDE NOT TO COVER DRUGS WHOSE PRICES THEY DEEM EXCESSIVE. NOTHING OF THIS SORT OCCURS IN THE US.
- ❧ UNLIKE NEARLY EVERY OTHER ADVANCED NATION, THE US HEALTH CARE SYSTEM ALLOWS MANUFACTURERS TO SET THEIR OWN PRICE FOR A GIVEN PRODUCT*.
- ❧ *THE LITTLE GUYS IN THE US HAVE NO ONE ON THEIR SIDE AND EVEN WITH ALL THEIR SKIN IN THE GAME, THE RESULT IS A “MARKET” PRODUCING HIGHER DRUG PRICES IN THE US THAN ELSEWHERE.*

*The High Cost of Prescription Drugs in the United States
Origins and Prospects for Reform

Aaron S. Kesselheim, MD, JD, MPH1; Jerry Avorn, MD1; Ameet Sarpatwari, JD, PhD1
JAMA. 2016;316(8):858-871. doi:10.1001/jama.2016.11237

ADVOCATING FLIPPING TO APCs IS HOPING THAT THE LAWS OF ECONOMICS WILL BE SUSPENDED



- ❧ CHANGING FROM SUBSCRIPTION FINANCING TO APC CHARGES DOES NOT CHANGE PUBLISHER MOTIVE.
 - ❑ PROFIT MAXIMIZATION WOULD REMAIN THE MOTIVATION OF MOST JOURNALS THAT CHARGE APCs
 - ❑ PROFIT MAXIMIZATION OCCURS AT HIGHER PRICES WHEN THE SELLER HAS MORE MARKET POWER THAN THE BUYER.

- ❧ NOR CAN ONE PREDICT WITH ANY DEGREE OF CONFIDENCE THAT THE TOTAL COST OF APCs WILL BE LESS THAN OR CLOSE TO THE SAME AS THEIR CURRENT SUBSCRIPTION PRICE.
 - ❑ THE EXPERIENCE OF THE VERY SMALL MINORITY OF JOURNALS THAT FINANCE THEMSELVES EXCLUSIVELY WITH APCs IS UNLIKELY TO GENERALIZE TO AN ENVIRONMENT IN WHICH APC CHARGING JOURNALS BECOME THE RULE RATHER THAN THE EXCEPTION.

THE APC – SNIP CORRELATION OF THE SUBSET OF PUBLISHERS THAT SET APCs INDIVIDUALLY IS .654. SQUARE THAT TO GET THE PROPORTION OF VARIANCE “EXPLAINED” BY THE RELATIONSHIP ($R^2 = .4277$). THIS MEANS THAT **58% OF APC PRICING IS NOT RELATED TO THE QUALITY OF THE JOURNAL.**

LITTLE ROOM FOR DEBATE



✧ WHEN MARKET POWER IS CONCENTRATED ON THE SELLER'S SIDE OF THE MARKET, PRICES WILL BE HIGHER THAN WHEN BOTH SIDES HAVE SOME MARKET POWER

✧ ERGO

✧ FLIPPING FROM SUBSCRIPTION BASED PRICING TO APC PRICING WILL RESULT IN HIGHER TOTAL EXPENDITURE FOR SCHOLARLY JOURNALS.

WHO SHOULD BEAR THE COST OF PUBLICATION?



- ❧ **THE PRODUCER OF THE “PRODUCT” (THE AUTHOR OF THE MANUSCRIPT) OR THE USER (THE READER/READER’S LIBRARY)?**
 - ❧ **THE NORM IS THAT THE USER PAYS.**
 - ❧ **IF ONE WISHES TO PAY YOU TO TAKE THEIR PRODUCT YOU BECOME VERY SUSPICIOUS OF THE PRODUCT AND/OR THEIR MOTIVES**
- SOMETHING ABOUT SUCH A TRANSACTION DOES NOT SEEM “PROPER”**



*“IF YOU ARE
EXPLAINING, YOU
ARE LOSING”*

THE PERCEPTION PROBLEM IS REAL AND WILL ONLY GET WORSE...



❧ **AUTHOR PAYMENT FOR PUBLICATION IS SUSPECT**

❧ ***THE MOST RECENT JOURNAL STING***

“THE CONCEPTUAL PENIS AS A SOCIAL CONSTRUCT.”*

”COGENT SOCIAL SCIENCES IS NOT A MAJOR PLAYER IN SCHOLARSHIP, . . . , AND ITS BUSINESS MODEL (TAKING AUTHOR PAYMENTS) MAKES IT SUSPECT.”

COGENT SOCIAL SCIENCES’ APC: “PAY WHAT YOU CAN”

❧ ***NUMEROUS SUCCESSFUL STINGS OF OA JOURNALS***

❧ ***NUMEROUS “GUEST EDITOR” SCAMS***

*Lindsay, J., & Boyle, P. (2017). The conceptual penis as a social construct. *Cogent Social Sciences*, 3(1), 1330439. <https://doi.org/10.1080/23311886.2017.1330439>

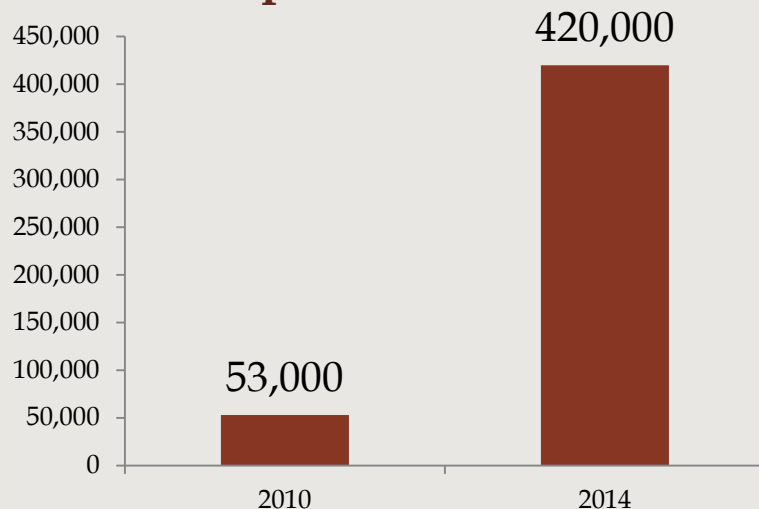
PREDATORY JOURNALS ARE A SPECIAL CASE OF THE APC “PAY FOR PUBLICATION” PROBLEM



AND THE NUMBER OF PREDATORY JOURNALS IS GROWING RAPIDLY AS IS THE NUMBER OF ARTICLES THEY PUBLISH

FURTHERMORE, SHEN AND BJORK FOUND THAT THE LOWER THE JOURNAL’S APC THE MORE MANUSCRIPTS ARE SUBMITTED FOR PUBLICATION

numbers of articles published



. . .So much for the notion that authors with “skin-in-the-game” discriminate on the basis of journal quality. . .

THE SPECIAL CASE OF JOURNALS LIKE PLOS, AN APC-FINANCED SET OF JOURNALS AND OF SCOAP³



CLEAR PUBLISHER MOTIVATIONS TO FURTHER THE PUBLIC INTEREST BY
MAKING PEER REVIEWED SCIENTIFIC RESEARCH FREELY AVAILABLE..

VERY FEW PUBLISHERS HAVE A PLOS LEVEL OF CREDIBILITY.

OR THE UNIQUE CIRCUMSTANCES OF SCOAP³: PARTICIPATING LIBRARIES
REDIRECT THE MONEY PREVIOUSLY USED FOR SUBSCRIBING TO THE
SCOAP³ HIGH-ENERGY PHYSICS JOURNALS INTO A COMMON FUND, FROM
WHICH THE PUBLICATION COSTS ARE PAID.

FEW RESEARCH COMMUNITIES ARE AS TIGHTLY-KNIT AS IS HIGH-ENERGY
PHYSICS

AIM FOR CREATION OF THE GLOBAL SCHOLARSHIP COMMONS



THE PROPER FOCUS OF SCHOLARS IS:

ON IMPROVING “SCHOLARLY COMMUNICATIONS”

NOT

ON JOURNAL SUBSCRIPTION PRICES

NOR

ON DANGEROUS INNOVATIONS TO REDUCE THE COST
OF OBTAINING SCHOLARLY COMMUNICATIONS