



# Professional and Scholarly Publishing Today

Balancing Digital Innovation  
with Professional Goals

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CEO/Publisher

**STR|ATUS**  
ORTHOPAEDIC COMMUNICATIONS, INC.



PEDIATRICS®

AAP News

AAP GRAND ROUNDS™

PediatricsinReview®

PREP

PediaLink



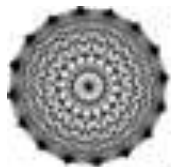
The NEW ENGLAND JOURNAL of MEDICINE



JournalWATCH®  
MEDICINE THAT MATTERS

STR|IATUS

ORTHOPAEDIC COMMUNICATIONS, INC.



SSP

Innovative People Advancing Scholarly Communication



Society for Scholarly Publishing

the scholarly kitchen

WHAT'S HOT AND COOKING IN SCHOLARLY PUBLISHING



You wouldn't like me  
when I'm angry...

Because I always back up  
my rage with facts and  
documented sources.

*-The Credible Hulk*





# Two Original Functions of Publishers

- Dissemination
- Registration

1440



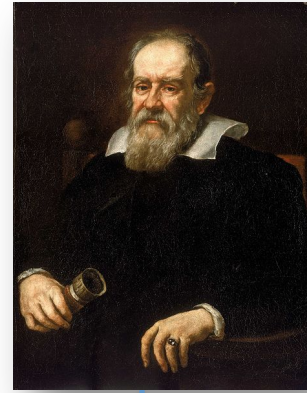
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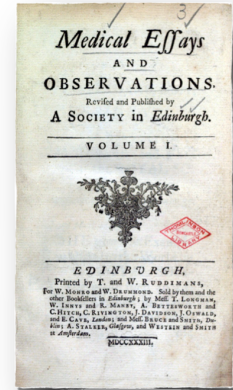
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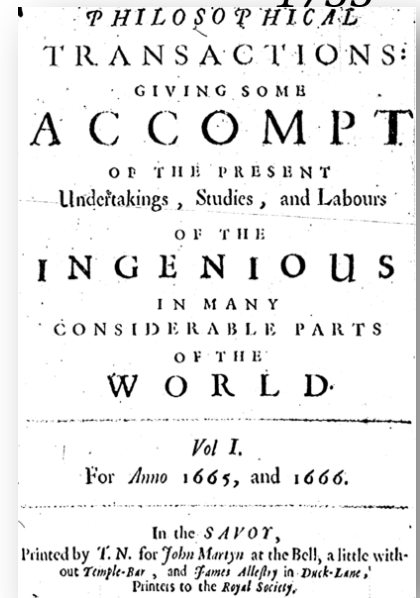
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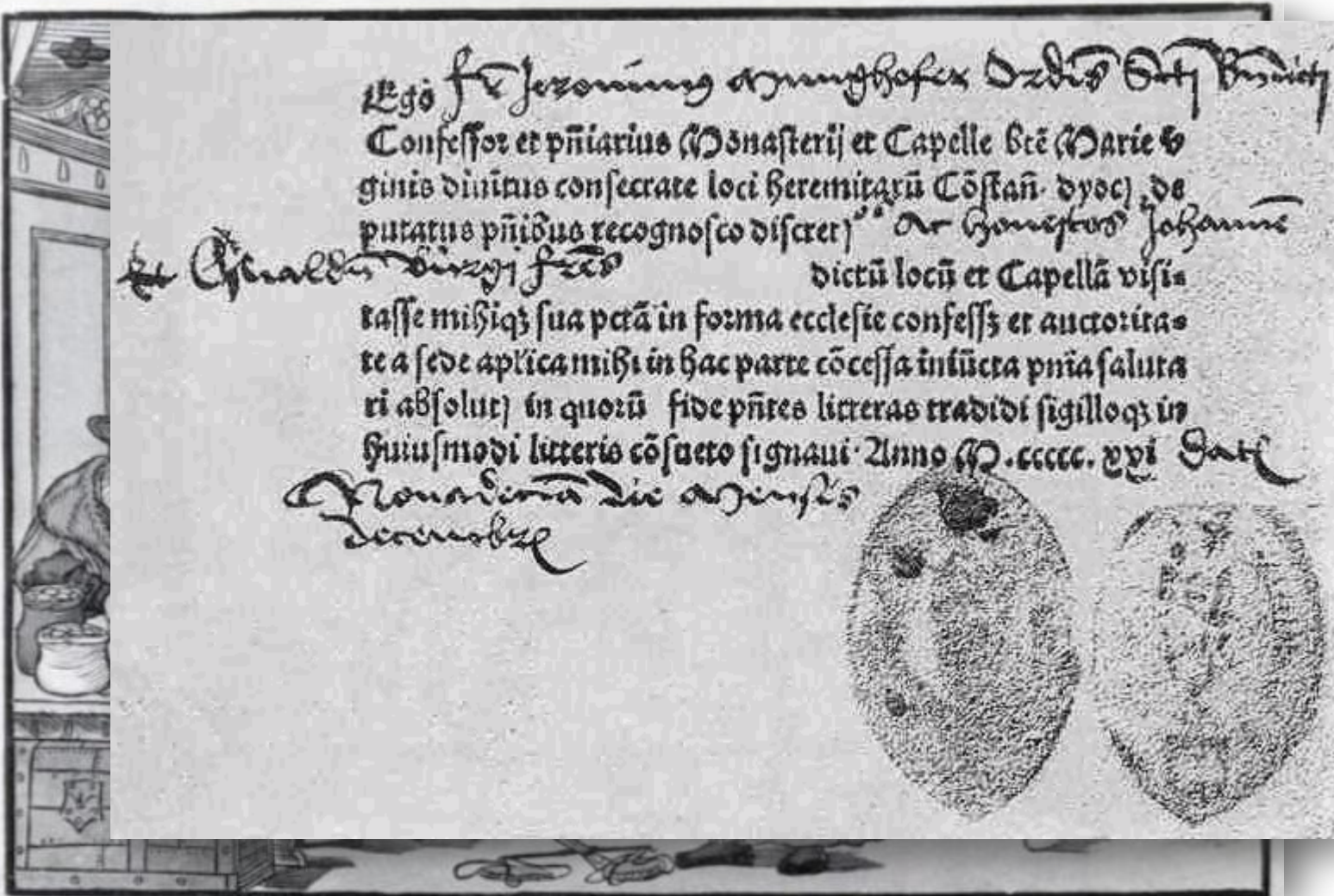


1733



# The Printing Press' Original Business Model

- The den but parc the Luth grec







Sex<sup>to</sup> Principe.  
 Galileo Galilei, Humilis<sup>simo</sup> Servo della Ser.<sup>na</sup> V.<sup>ra</sup> invigilant.  
 Vo assistiamo, et lo ogni spirito ha potere no solo a satisfare  
 aliaro che nome della Lettera di Mathematici nelle Scu-  
 ole di Padova,  
 Inviare d'essere determinato di presentare al Ser.<sup>no</sup> Principe  
 l'Orchiale et il p. essere di giuramento inestirabile p. ogni  
 negozio et in circa marittima o terreste stano di tenere quel-  
 ste nuovi artificio nel maggior segreto et solam a disposizione  
 di V.<sup>ra</sup> Ser.<sup>na</sup> l'Orchiale cavato dalle piu u. d'ide speculazioni di  
 prospectiva in l'vantaggio di scoprire Legni et Vele dell'inimico  
 p. due hore et piu di tempo prima di egli passara noi et distinguendo  
 il numero et la qualita de i Vasselli giudicare la sue forze  
 p. allestirsi alla caccia al combattimento o alla fuga, o pure assai  
 nella battaglia aperta vedere et particolarmente distinguere ogni suo  
 moto et propriamente.  
 Ad di 7. di gennaio  
 Giove si vede usi \* \* \* \* \*  
 Ad di 8. usi \* \* \* \* \*  
 Ad di 10. si vede in tale situazione \* \* \* \* \*  
 Ad di 13. si vedono in un'ora a Giove 4 Stelle \* \* \* \* \*  
 Ad di 14. è un'ora \* \* \* \* \*  
 Ad di 15. \* \* \* \* \*  
 spante dalla 3<sup>a</sup> al doppio l'aria  
 Lo spazio delle 3. ore di notte ad con  
 maggiore del diametro di 7. et c.  
 10. in linea retta.

smaismrmilmepoetaleumibunenugttauras

Altissimum planetam  
tergeminum observavi

“I have observed the  
most distant planet to  
have a triple form”

# Hooke's Law

1676

$$f = -kx$$

ceiinosstuv

ut tensio, sic vis

“As the extension,  
so the force”

*The Journal of Bone & Joint Surgery. 2012;  
94:1266-1272 doi:10.2106/JBJS.K.00357*

# Functions of Journals

- Dissemination
- Registration
- Validation
- Filtration
- Designation



Require Peer Review

1808



1959



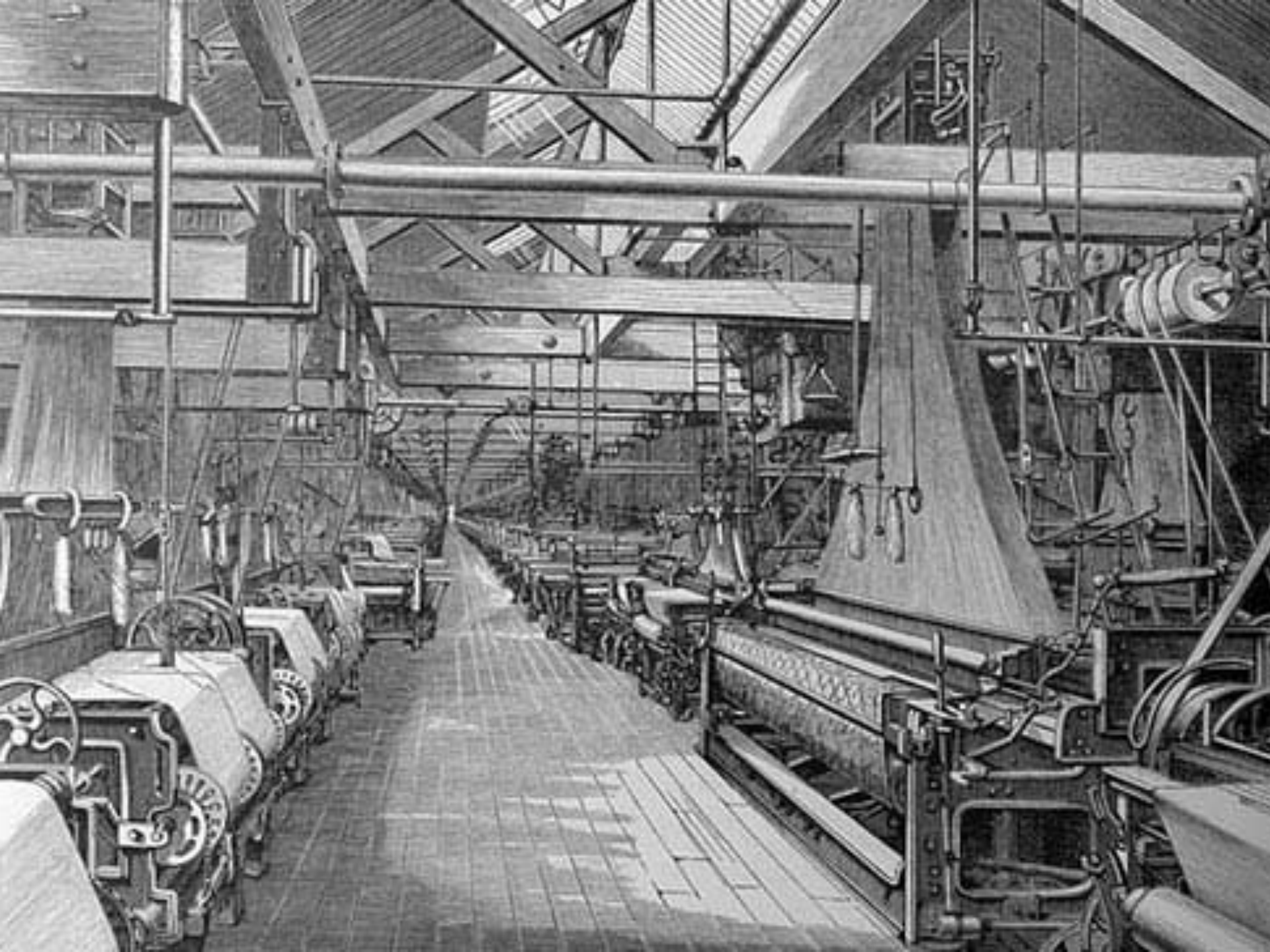
1995

1910

1973













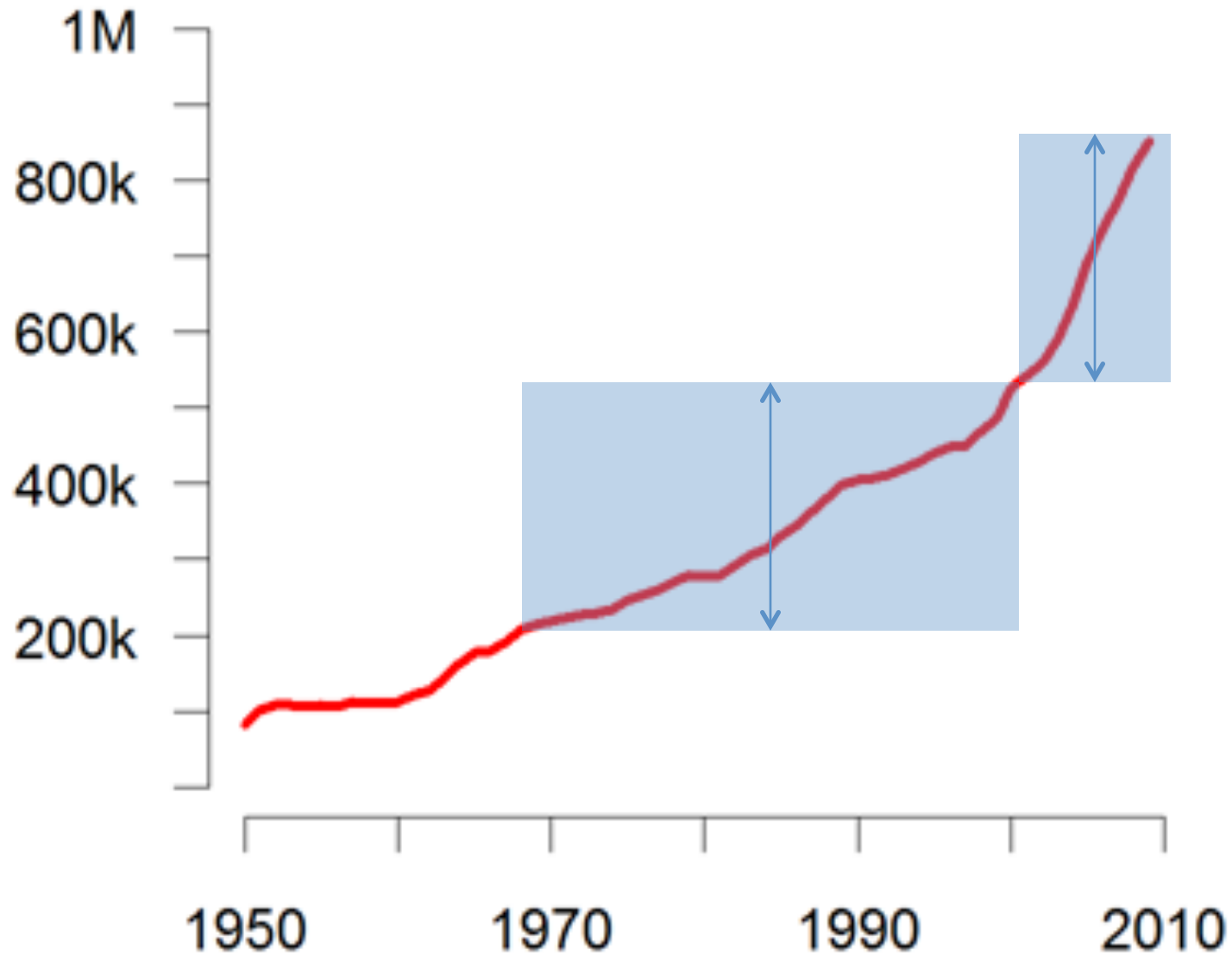




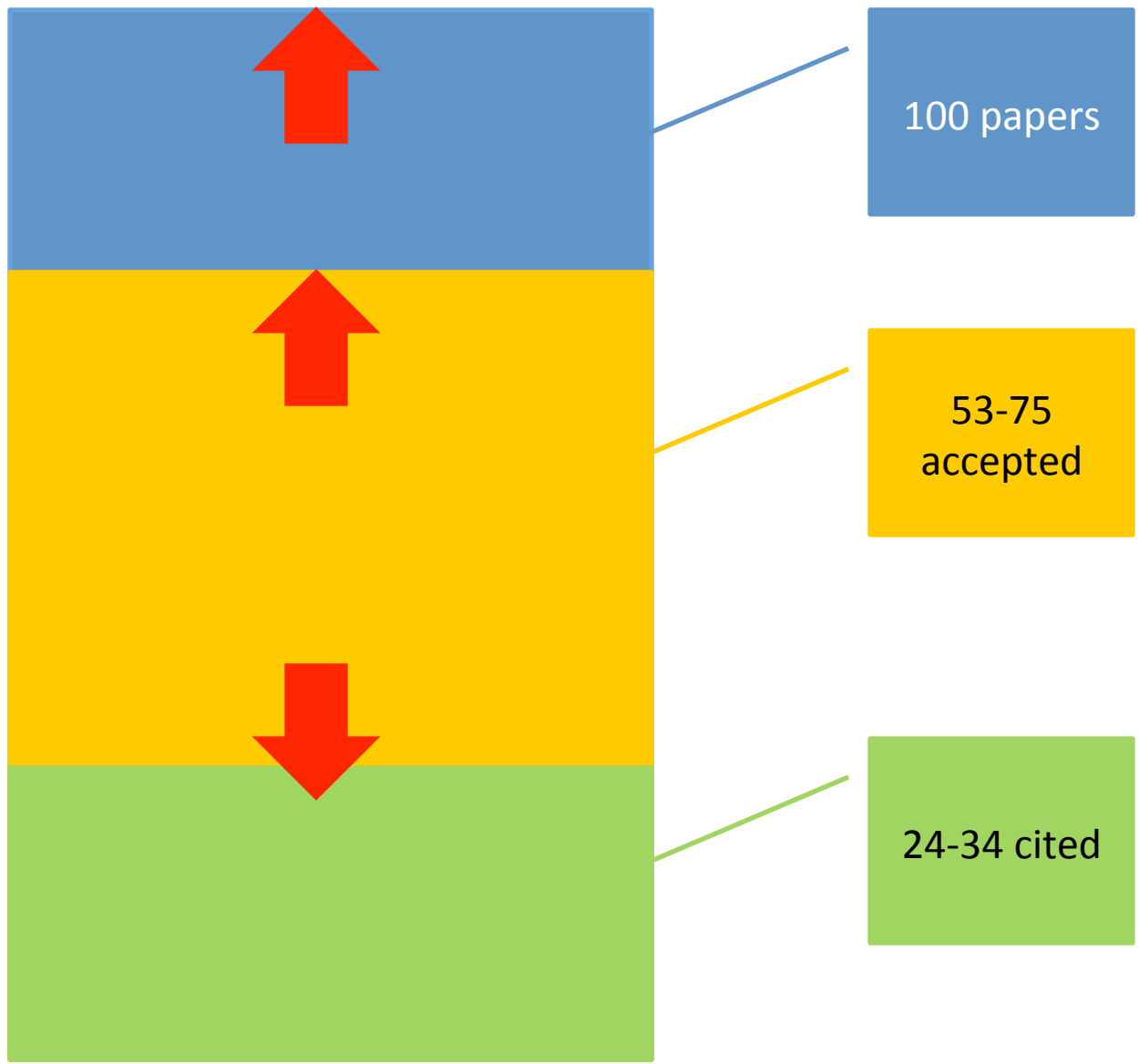


**Trust**

# MEDLINE-indexed articles published per year







100 papers

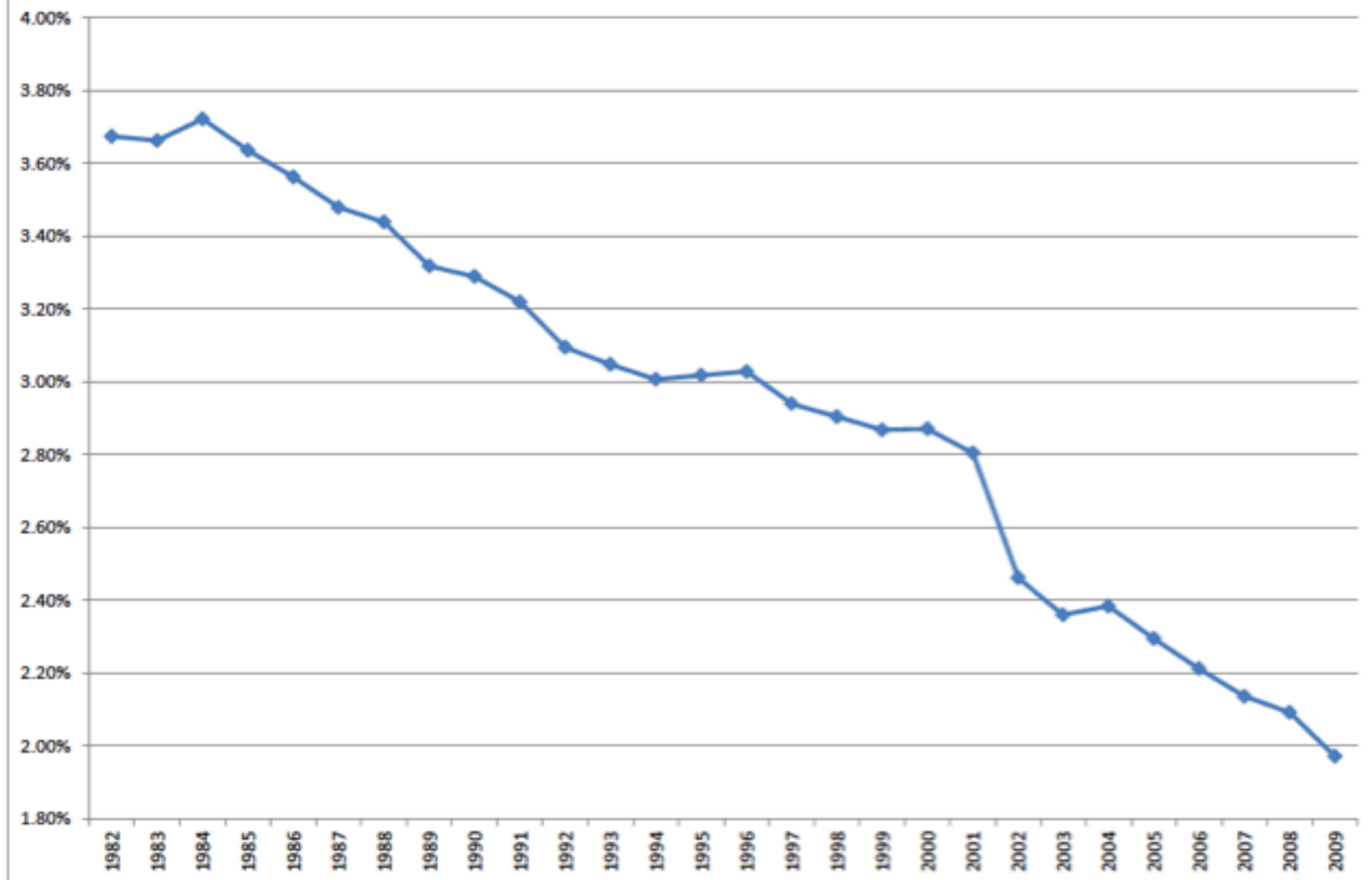
53-75  
accepted

24-34 cited

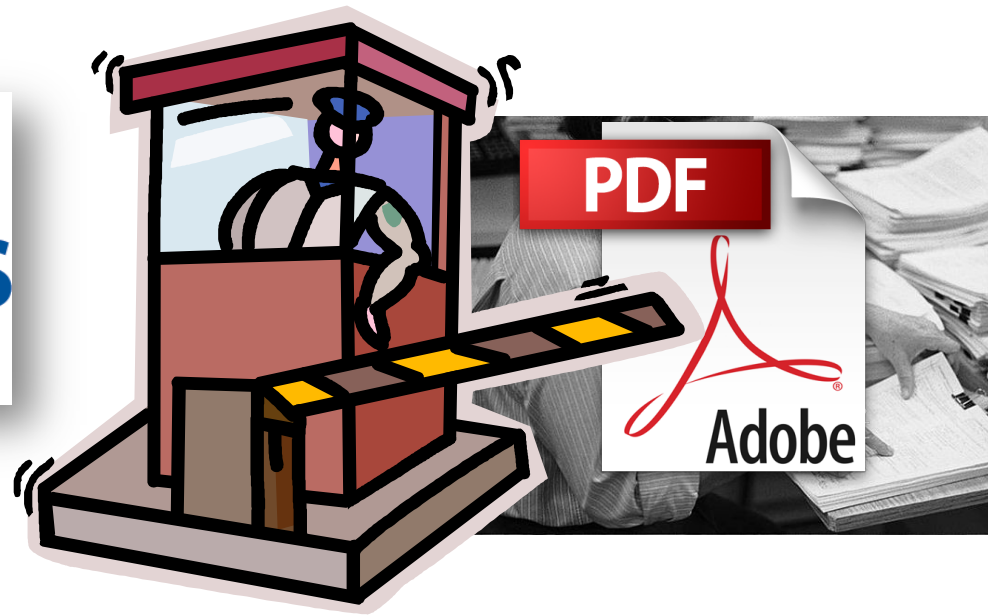


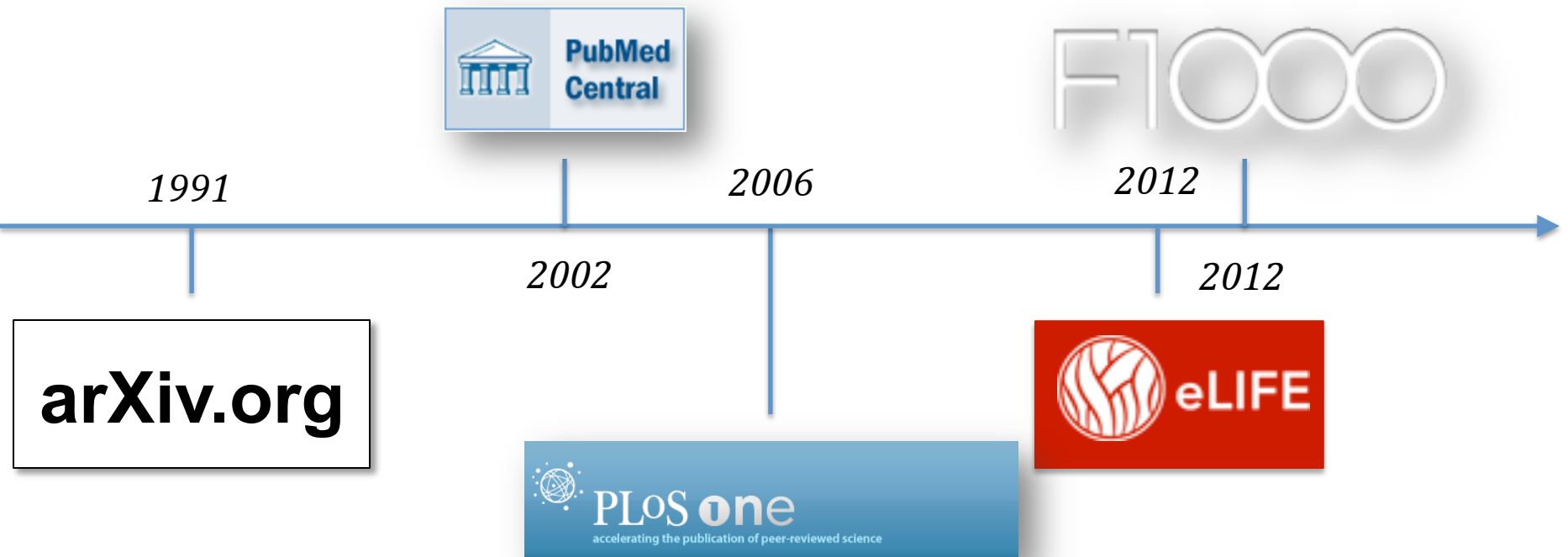
**75.8%**

### Library Expenditure as % of Total University Expenditure (Average of 40 US Institutions Reporting Since 1982)



OPEN  ACCESS





# We're Having an Argument

## The Insurgents

- Open access
- Authors pay
- Government mandates
- Drifting into subscriptions

## The Incumbents

- Toll access
- Readers pay
- Traditional models
- Adopting authors-pay

# We're Having an Argument

## The Insurgents

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**Convenience for authors**

## The Incumbents

- Toll access
- Readers pay
- Traditional models
- Adopting authors-pay

**Community for readers**

# Differences Emerge

## Convenience

- Mega-journals
- Rapid publication
- Lighter peer review
- “Publish first”
- Price wars

## Community

- More interpretive text
- More news
- More subspecialty titles
- Lower acceptance rates
- Price increases



# Similarities Emerge

## Convenience

- Highly profitable
  - HINDAWI – 52%
  - PLoS – 22%
  - Others are private and/or not sharing their profit margins

## Community

- Highly profitable
  - Elsevier – 36%
  - In general, 15%
  - Hundreds of smaller publishers along the spectrum from small loss to small surplus

# Portfolios Cross-Fertilize






## Convenience

- Attempts at community titles with convenience approaches
- Traditional community titles in portfolio






## Community

- Convenience titles in portfolio
- More rapid publication
- Larger online presences

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# JBJS

MARCH 2  
2011

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ISSN: 0021-9355  
JBJS.ORG

## SCIENTIFIC ARTICLES

### 609 Hand Wrist | Trauma

Effect of Calcium Phosphate Bone Cement Augmentation on Volar Plate Fixation of Unstable Distal Radial Fractures in the Elderly  
*Jae Kwang Kim, MD*

### 615 Shoulder

Risk Factors for Chondrolysis of the Glenohumeral Joint  
*Brett P. Wiater, MD*

### 624 Adult Hip

Five-Year Comparison of Oxidized Zirconium and Cobalt-Chromium Femoral Components in Total Knee Arthroplasty  
*Catherine Hui, MD, FRCS(C)*

### 631 Adult Hip

Comparison of One and Two-Stage Revision of Total Hip Arthroplasty Complicated Infection  
*Christopher F. Wolf, MD*

### 640 Adult Knee | Sports

Instability Dependency of Osteoarthritis

Functional Outcomes Following Single-Level Multilevel Surgery of the Upper Extremity for Children with Hemiplegic Cerebral Palsy  
*J. Adam Smitherman, MD*

### 662 Spine

A Population-Based Study of Juvenile Disc Degeneration and Its Association with Overweight and Obesity, Low Back Pain, and Diminished Functional Status  
*Dino Samartzis, DSc*

### 671 Trauma

Autologous Bone Marrow Grafting Combined with Demineralized Bone Matrix Improves Consolidation of Docking Site After Distraction Osteogenesis  
*Ippokratis Hatzokos, MD*

### 679 Adult Hip

Long-Term Results of Total Hip Replacement in Patients with Legg-Calvé-Perthes Disease  
*Francesco Traina, MD*

### 680 Trauma

Does Insurance Status Affect Continuity of Care for Ambulatory Patients with Operative Fractures?  
*Philip Wolinsky, MD*

In Vivo Wear of a Squeaky Alumina-on-Alumina Hip Prosthesis  
*Michel P. Laurent, PhD*

Overweight and Obesity, Low Back Pain, and Diminished Functional Status  
*Michael J. Bolesia, MD*

**JB&JS Case Connector**  
 Connections & Trends in Orthopaedic Surgery

**Narrow By:**

**Topics**

- Hand & Wrist
- Hip
- Infection
- Knee
- Oncology
- Pain Management
- Pediatrics
- Rehabilitation
- Shoulder
- Spine
- Trauma

**Diseases & Conditions**

- adverse effects of medication
- anaphylaxis
- aneurysm, periarticular
- ankylosis of hip
- ankylosis, bony
- arthritis
- arthritis of knee
- arthritis, gouty, acute
- arthritis, juvenile rheumatoid

**Anatomy**

- ankle
- articular cartilage
- bone marrow
- chondrocytes
- common peroneal nerve
- condyle of femur
- distal femur
- external iliac lymph node group
- fabella
- femoral epiphysis

**Treatment & Procedures** Clear All

- allografting
- amputation above-knee
- arthrocentesis
- aspiration of knee joint
- bacitracin
- bone graft, allogeneic
- bone graft, impaction
- bone transplantation
- bupivacaine
- chondrocyte

**Signs & Symptoms**

- abnormal cardiac conduction
- abnormal color
- anesthesia (no sensation)
- ankle pain
- ankle swelling
- antalgic gait
- bacteremia
- blister
- cardiac arrhythmia
- clicking knee

**Devices**

- artificial limbs
- blade plate
- bone cements
- bone nails
- bone plates
- bone screws
- bone wires
- canes
- cannulae, femoral
- condylar plate
- crutches

**Patient Demographics**

**Gender**

- female
- male

**Age**

- adolescent
- adult
- aged adult, 80 and over
- child
- middle-aged adult
- senior adult
- young adult

## Case Connections

You are receiving Case Connections from JBJS because you have signed up for email alerts from the JBJS Case Connector publication.

### Compartments Under Pressure: One Emergency with Many Causes

Compartment syndrome is most commonly a lower-limb phenomenon, but dangerously high pressure can occur in any fascia-enclosed compartment. And cases that occur in the usual places can have unusual etiologies. For example, the February 27 [Case Connector](#) describes a case of acute lower-leg compartment syndrome associated with an intraosseous infusion. The case sounds a cautionary note about using an injured limb for intraosseous fluid resuscitation.

A forty-nine-year-old male pedestrian who'd been struck by a car sustained polytrauma that included brain hemorrhage, pneumothorax, and fractures of the cervical spine, left tibia, and right femur. To treat shock, clinicians infused 1 L of saline solution through an intraosseous line placed in the left tibia. Within ninety minutes after line placement, the patient's left calf and foot became tense and cyanotic, and no pulse was palpable in the lower left limb. Because it was not possible to perform neurosensory assessments for suspected compartment syndrome due to the patient's condition, compartment pressures were assessed and were high in the posterior, lateral, and anterior compartments.

The patient underwent a four-compartment fasciotomy, during which the muscles of the lower leg appeared viable, but he eventually died in the hospital from brain herniation.

The authors note that it was impossible to determine whether the compartment syndrome developed as a result of the fracture, the intraosseous fluid infusion, or a combination of both. Intraosseous infusions could cause compartment syndrome if needles are misplaced or dislodged, if fluids are infused at high rates/volumes, or if fluid extravasates through a fracture site into the compartment.

The authors conclude that, whenever possible, clinicians should avoid placing an intraosseous line in a limb that is or appears to be injured, and they remind us that the humerus is another feasible site for intraosseous line placement.

#### Palpable Pulses Can Confuse

Compartment syndrome of the thigh is rare, but when it occurs it is often associated with a femoral fracture. Lan et al. describe the case of a [twenty-year-old man who sustained a femoral diaphyseal fracture](#) in a motor-vehicle accident. He had massive swelling over the fracture site, but the leg and foot pulses in the injured limb remained strong. CT angiography revealed an intact femoral artery.

In this case, the femoral vein had ruptured, resulting in high compartment pressures. After performing a fasciotomy, the surgeons stabilized the femoral fracture with an intramedullary nail. They then located the vein rupture and repaired it with a saphenous vein graft. Twelve months after the incident, the patient was fully ambulatory, the venous graft was patent, and radiographs confirmed femoral union.

The authors conclude that "femoral vein rupture should be considered when dealing with compartment syndrome of the thigh in the setting of an acute femoral fracture," especially when pulses are palpable.

#### Not All Pain Is the Same

Anyone would have severe "pain in the butt" after falling 32 feet and landing on his or her derrière. But in a [case reported by David et al.](#), a thirty-six-year-old man who did just that was diagnosed as having simple contusions and discharged from the ER. Two days later, he presented with severe and unrelenting pain and tense swelling of both buttocks and the proximal parts of both thighs, and he revealed that he had been passing red-colored urine for twenty-four hours. Blood work revealed rhabdomyolysis and impending renal failure, and an MRI showed extensive edema of the gluteus medius and minimus.

Surgical decompression of the gluteal compartments revealed extensive bilateral necrosis of the gluteus medius and minimus. Postoperatively, the patient received dialysis and underwent repeated gluteal debridements. All wounds eventually healed and the renal failure resolved, but the patient ended up with a Trendelenburg gait.

As the authors conclude, "Differentiation between pain resulting from trauma and pain resulting from compartment syndrome is always difficult."

#### Trauma Not Necessary

Compartment syndrome can also occur in the paraspinal muscles, without direct trauma, as Khan et al. report, and these three additional [JBJS Case Connector](#) cases address similar out-of-the-ordinary presentations of compartment syndrome.

#### Acute Bilateral Cervical Lateral Leg Compartment Syndrome with Delayed Presentation: A Case Report

[Abrupt Bilateral Compartment Syndrome: A Manifestation of Toxic Shock and Infectious Pyomyositis in a Child: A Case Report](#)  
[Bilateral Exercise-Induced Compartment Syndrome of the Thigh and Leg Associated with Massive Hemolytic-Dissolution: A Case Report](#)

Marc Swionkowski, MD

Editor  
JBJS Case Connector

#### New JBJS Case Connector content is available:

##### [Polysporium Enterobacter Proximal Sacroiliitis: A Case Report and Literature Review](#)

JBJS Case Connector 2013 Feb 27;31(1):e16-15.  
doi:10.2106/JBJS.CCL.00129  
Far A. Hasek, MD, Fain G. Bahi, MD, Rawan A. Abu Maghzi, MD, Shawal S. Saleh, MD, Jihad M. Al-Jaloum, MD, Osama A. Samara, MD, Omar Q. Samarah, MD, Mohamed S. Al-Najjar, MD, Jony H. Haddad, MD

##### [Dynamic MRI Reveals Soft-Tissue Compression Causing Progressive Myelopathy in Posttraumatic Patients: A Report of Three Cases](#)

JBJS Case Connector 2013 Feb 27;31(1):e17-14.  
doi:10.2106/JBJS.CCL.00174  
Sarah Starin, Ph.D., John W. McClellan III, MD, Annie Kiserling, MD, Ian P. Suller, K. Daniel Riew, MD

##### [Elevated Serum Metal Levels from Vitamin Supplementation: A Case Report](#)

JBJS Case Connector 2013 Feb 27;31(1):e18-14.  
doi:10.2106/JBJS.CCL.00211  
H. John Cooper, MD, Joshua J. Jacobs, MD, Jerrold B. Leikin, MD, Regina M. Barden, RN, BSN, Aaron G. Rosenberg, MD

##### [Open Ligamentous Disruption of the Lateral Aspect of the Ankle without Associated Fracture or Dislocation: A Case Report](#)

JBJS Case Connector 2013 Feb 27;31(1):e19-13.  
doi:10.2106/JBJS.CCL.00113  
Craig T. Calkes, MD, Samuel F. Schroeterucke, MD, William J. Rosenblum, MD, John R. Martell, MD

##### [Compartment Syndrome After Intraosseous Infusion Associated with a Fracture of the Tibia: A Case Report](#)

JBJS Case Connector 2013 Feb 27;31(1):e20-13.  
doi:10.2106/JBJS.CCL.00221  
Albert d'Heule, MD, Michael T. Archdeacon, MD, MSE

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## Hip Surgery

JBJS The Journal of Bone and Joint Surgery

JBJS Case Connector  
Connections & Trends in Orthopaedic Surgery

JBJS ESSENTIAL Surgical Techniques  
Evolving Practice in Orthopaedic Surgery

JBJS HIP SURGERY Highlights  
Putting research in context

## Trauma

JBJS The Journal of Bone and Joint Surgery

JBJS Case Connector  
Connections & Trends in Orthopaedic Surgery

JBJS ESSENTIAL Surgical Techniques  
Evolving Practice in Orthopaedic Surgery

JBJS ORTHOPAEDIC TRAUMA Highlights  
Putting research in context

## Sports Medicine

JBJS The Journal of Bone and Joint Surgery

JBJS Case Connector  
Connections & Trends in Orthopaedic Surgery

JBJS ESSENTIAL Surgical Techniques  
Evolving Practice in Orthopaedic Surgery

JBJS SPORTS MEDICINE Highlights  
Putting research in context

## Shoulder & Elbow

JBJS The Journal of Bone and Joint Surgery

JBJS Case Connector  
Connections & Trends in Orthopaedic Surgery

JBJS ESSENTIAL Surgical Techniques  
Evolving Practice in Orthopaedic Surgery

JBJS SHOULDER & ELBOW Highlights  
Putting research in context

## Knee Surgery






JBJS The Journal of Bone and Joint Surgery

JBJS Case Connector  
Connections & Trends in Orthopaedic Surgery

JBJS ESSENTIAL Surgical Techniques  
Evolving Practice in Orthopaedic Surgery

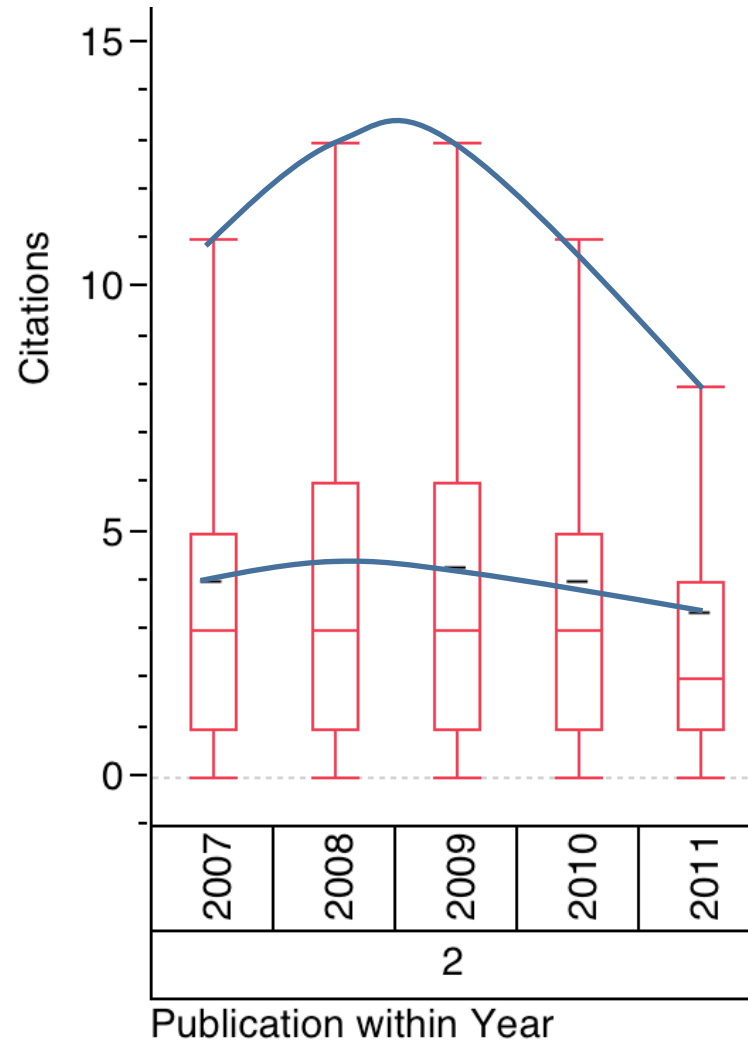
JBJS KNEE SURGERY Highlights  
Putting research in context

# A Standard Mega-Journal

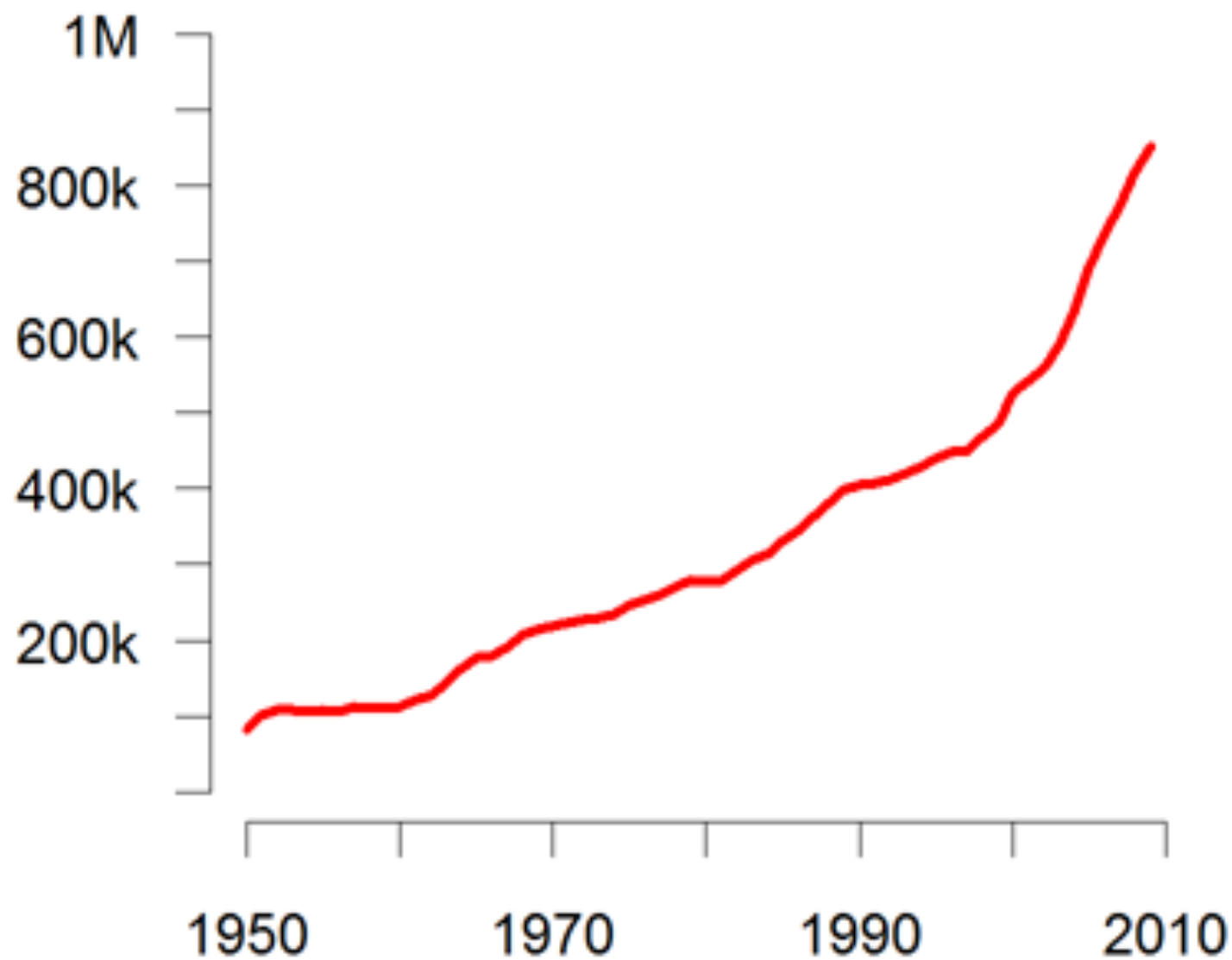
- Dissemination 
- Registration 
- Validation 
- Filtration 
- Designation 



# The Quantity Asymptote



# MEDLINE-indexed articles published per year



# Enter Networked Tools



CrossMark

orcid



# Enter Venture Capital

The logo for PeerJ, featuring the word "PeerJ" in a blue sans-serif font. The "P" and "e" are blue, while the "r" and "J" are white. The text is set against a solid black rectangular background. A soft grey drop shadow is visible beneath the black box.

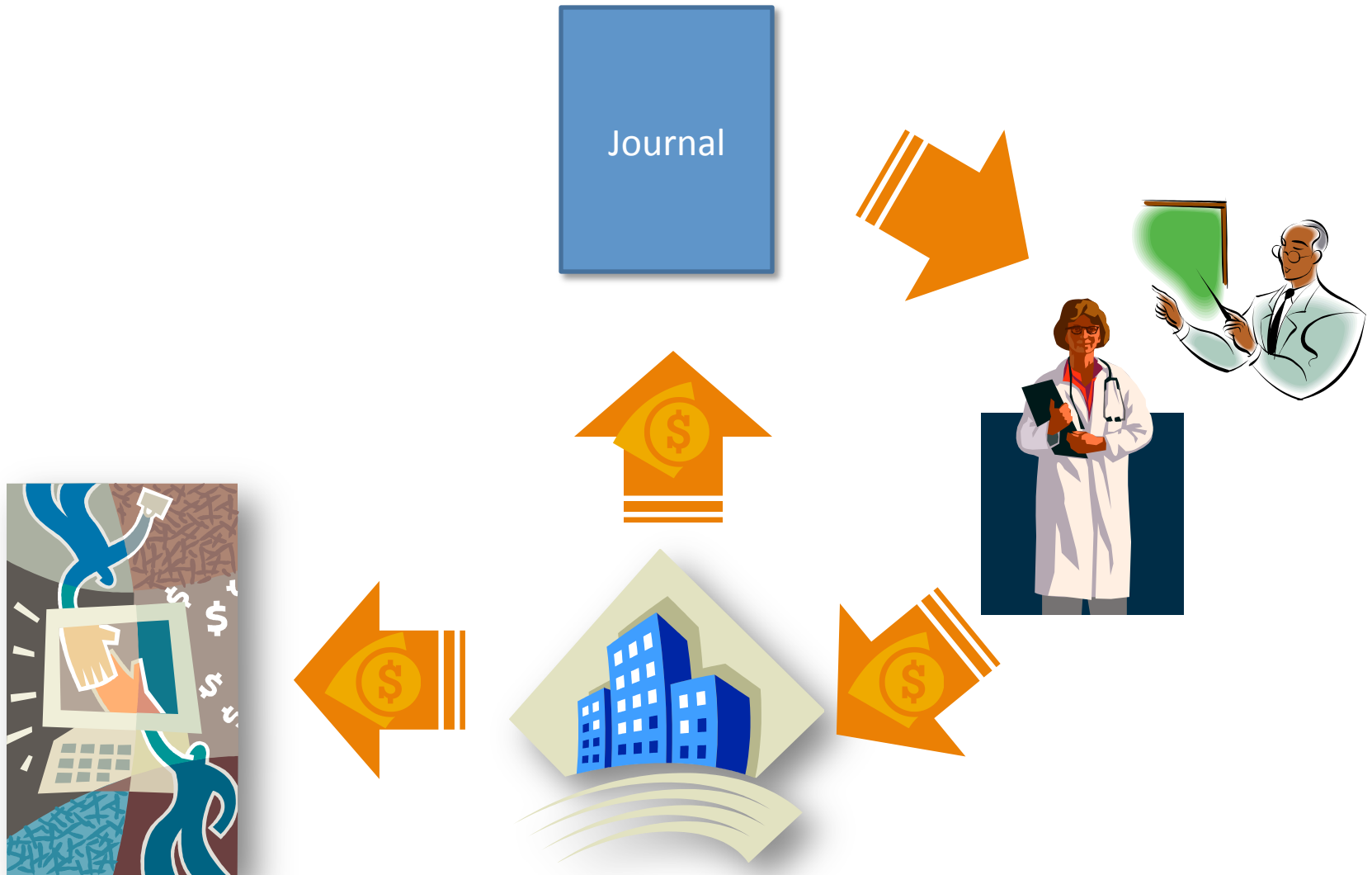
PeerJ



# The Forgotten Cycle



# The Emerging Cycle





# Enter Funders

**Wellcome Trust**



Editor

**Max Planck Institute**



Editor

**Howard Hughes  
Medical Institute**

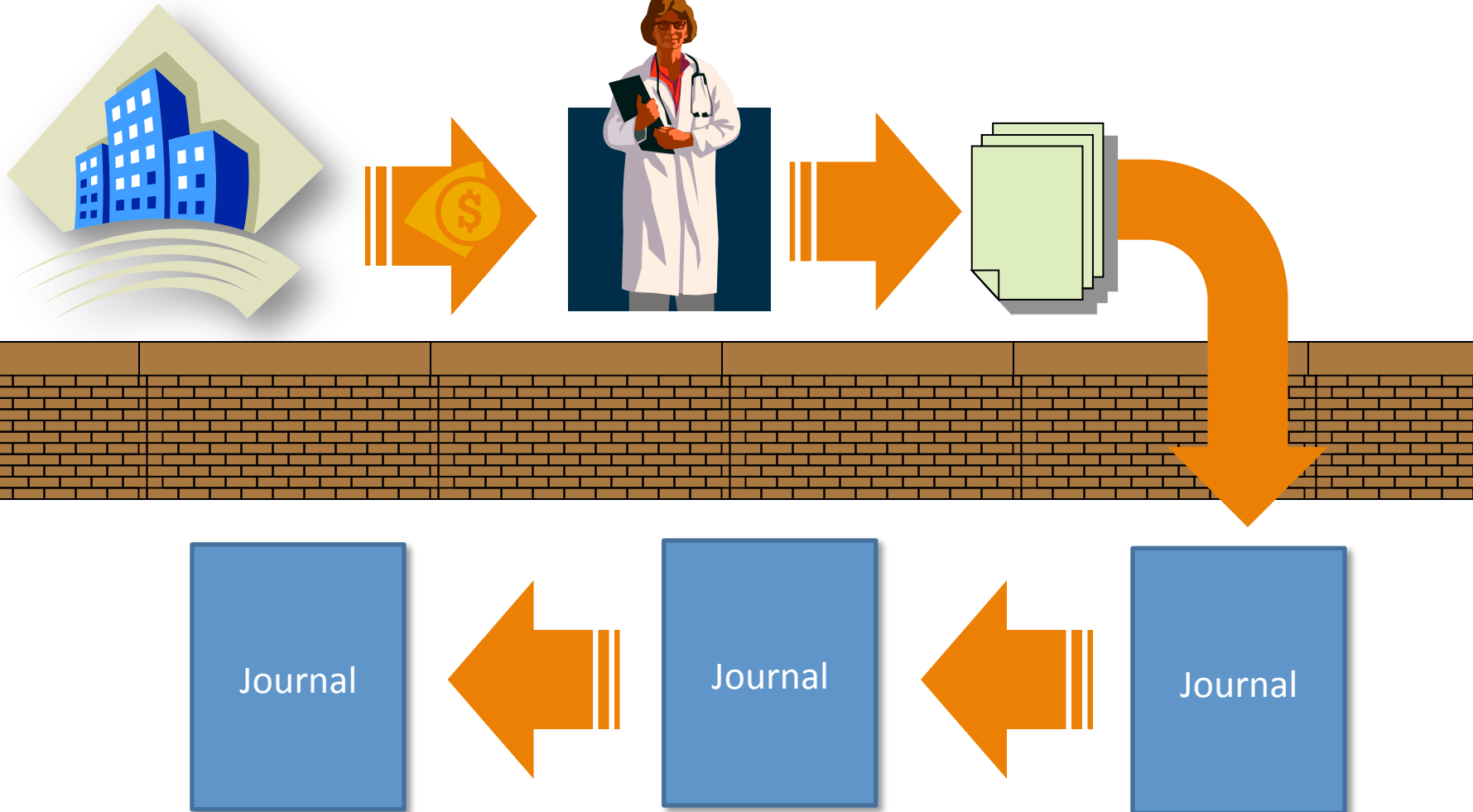


Editor

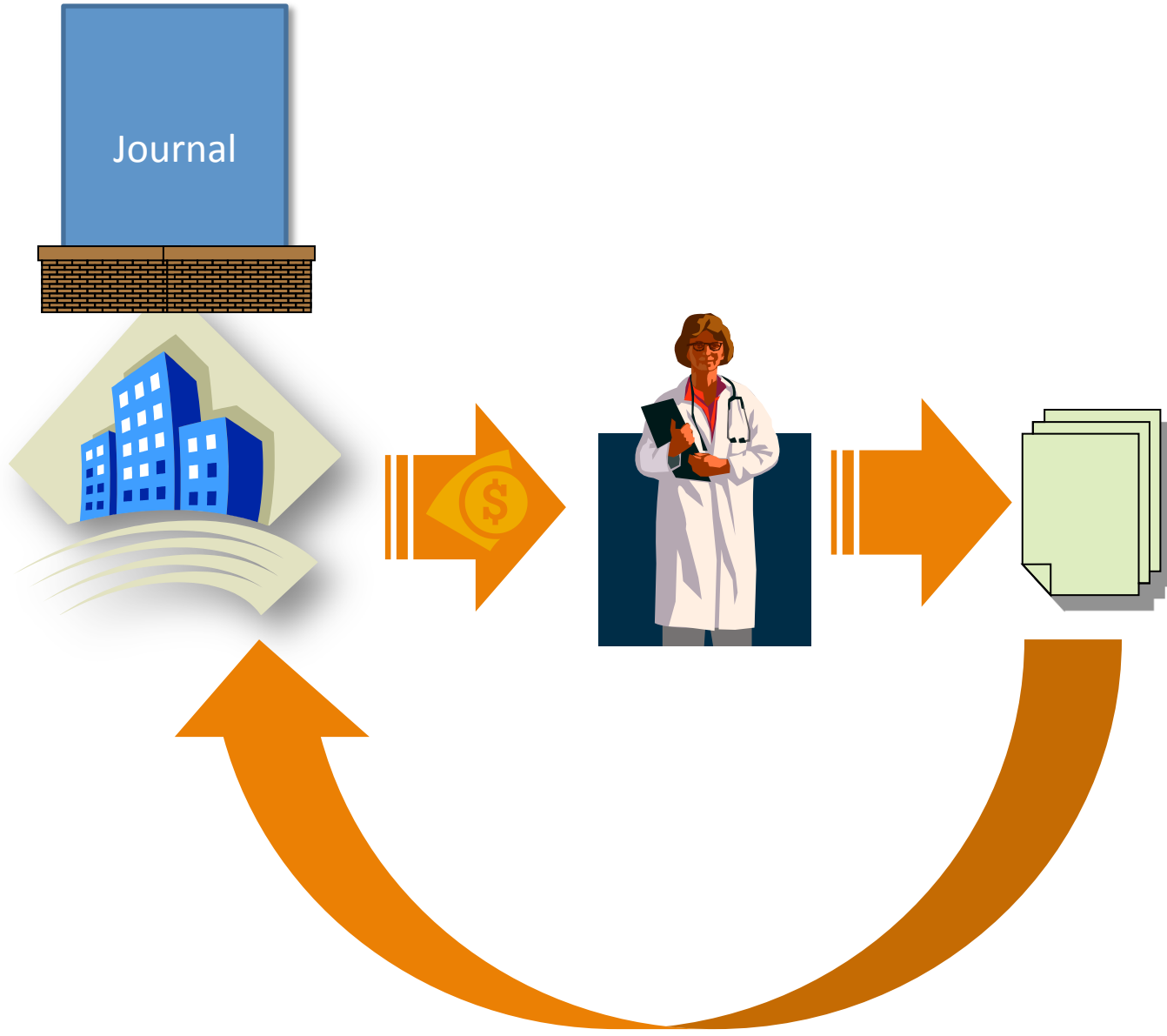


eLIFE

# The Traditional Firewall



# The Funder Firewall



# Enter the US Government

- In October 2012, *eLife* publishes its first articles on PubMed Central
  - No independent publishing capabilities
  - No record of an application
- Many OA publishers upset by this apparent shortcut and favoritism
- Deepens suspicion that PubMed Central has its thumb on the scale



# The Lid Comes Off

- I filed a Freedom of Information Act (FOIA) request in November 2012
- More than 700 pages of emails and memos so far
- In February 2013, I published a series of posts on the *Scholarly Kitchen* detailing much of what I found



# What I Found

- *eLife* never applied for inclusion
- PubMed Central knew they were giving *eLife* US-government subsidized launch assistance
- PubMed Central and *eLife* conspired to keep their plan secret from the PMC oversight body
- NLM employees provided feedback on *eLife* editorial material
- NLM employees urged secrecy



Dear Chris,

I have a question in regards to the journal eLife that recently appeared in PubMed Central.

This journal does not appear to fulfill the 30 published articles requirement that Frontiers needs to meet for submitting journal applications.

In fact, the journal has only 10 articles published on the 15th of October.

For Frontiers it takes 2-3 months from submission to acceptance, and from [sic] that point it takes 6 months to 1 year for our articles to actually appear live on PMC.

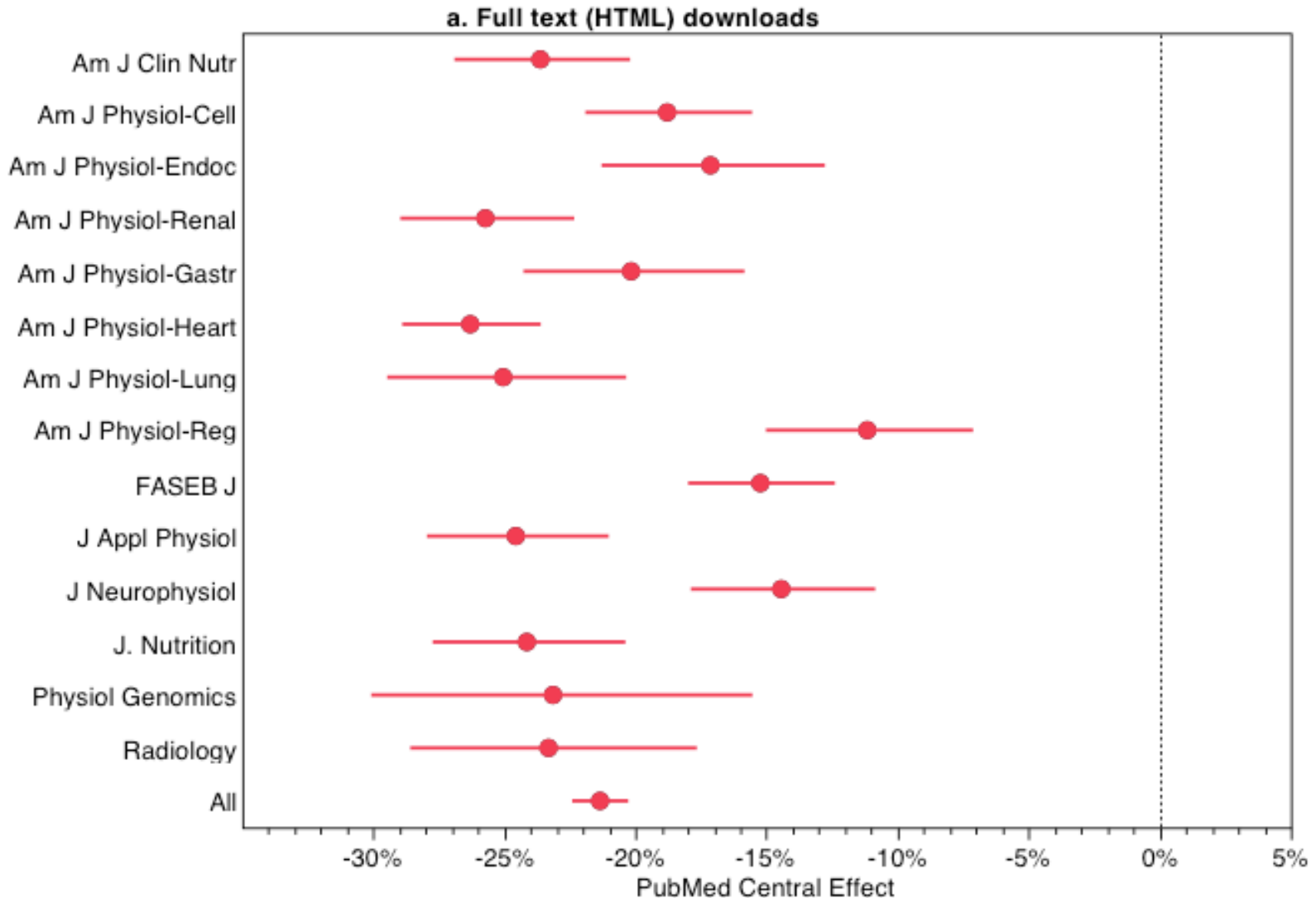
Thanks for letting me have a look at this. . . . My reaction to the editorial: Now that we know for sure that you love us, we'd like you to pretend that we're complete strangers in public.

strangers in public.

Seriously, we'd like to play down the idea that there's anything special about what you're doing in PMC. Chris Kelly, who manages PMC production, is constantly fending off publishers — generally new, small journals — who push to get into PMC as early as possible because it raises their credibility and, often, their chances of survival. . . . And it's not just the little guys. We'd had people like Peter Ashman at BMJ complain about inequitable treatment in a slightly different context.

I'm comfortable justifying what we're doing with eLife, but anything you publish that presents this as a special deal could complicate our life greatly.

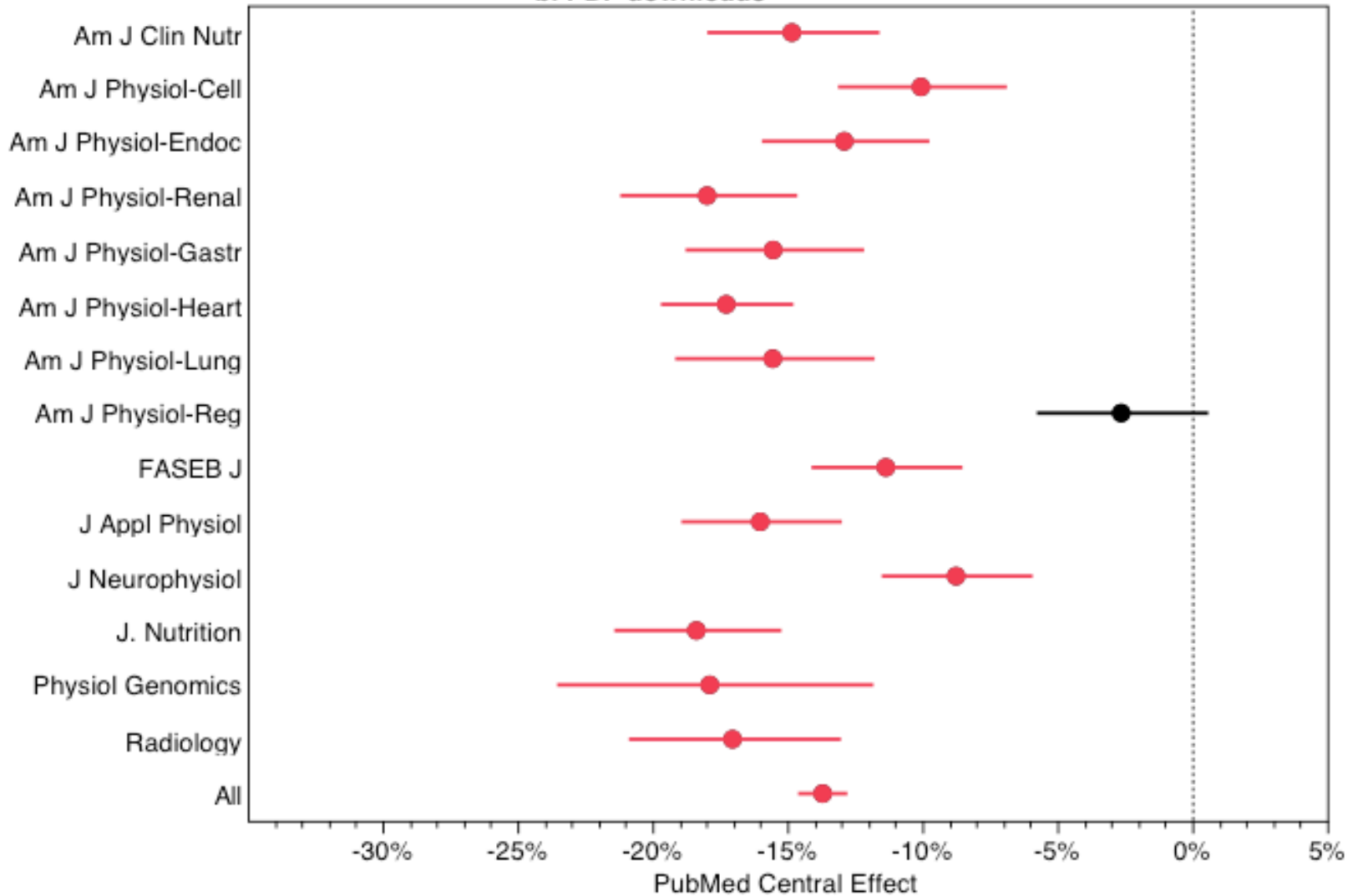
# Competing with Publishers





# Competing with Publishers

b. PDF downloads



# Competing with Publishers

- Decrease advertising revenues
  - Affects all publishers of all business models
- Decreased cross-sell opportunities
- Decreased institutional subscription usage
  - Lower COUNTER usage
- Decreased brand presence and recognition
- Less incentive for product development
- Less exposure to membership opportunities

# Redundant and Expensive

- Recreates a complex publishing infrastructure
- Costs US taxpayers millions of dollars annually
- Performs redundant activities
  - Tagging and QA
  - Hosting
  - Integrations with indexing services
- Reflects a poor understanding of the Internet
  - It's a . . . distributed network!

# Research Councils UK

- Mandates for Gold OA, CC-BY licenses
- Already hitting big snags
  - Funding, revenue streams for professional societies, objections to taxpayers paying publishers
- Began April 1, 2013
- Don't plan on enforcing it for 5 years

# OSTP

- All US government agencies must create a public access policy
- No funding
- Embargoes being debated
  - Six month? Twelve month? Imposed, then appealed?
- Central tenet that this is “taxpayer-funded research” continues to go unquestioned

# Who Is At Risk?

- The same as in trade and fiction publishing
  - The mid-list is the most vulnerable
- In scientific and professional publishing, this is the non-profit society publisher
  - Game is more about scale now
    - Mega-journals
    - Mega-publishers
  - Technology is expensive to deploy and support



# What's At Risk?

- Professional societies depend on revenues from publishing operations
  - Expand their brand
  - Provide surpluses to fund mission-centric initiatives
- OA publishing has a 1:1 economic model
  - Piece-work and cost-plus
  - Rewards scale, efficiency, and breadth
- Professional societies have none of these

# It's Worse Than 1995!

## Big Are Getting Bigger

- Open access rewards scale
- Venture capital is all about the money
- Governments are big players
- Interests aligned between conglomerates and new ventures
- Little interest in helping independents

## Small Are At Risk

- Revenue streams are under pressure
- No deep pockets to make dramatic moves
- Scale not possible
- Difficult to unify their voices
- Potentially victims of the revolution

# It's Different This Time

## **Big Forces Are Bigger**

- Governments
- Ideologies
- Large publishers
- Venture capital
- Funders

## **Smaller Can't Galvanize**

- Technology was the lever in 1995
- Today, the lever is openness
- How do you strategize against a talking point?

# What's At Risk?

- The public relies on science to sort out signal from noise
- Trust is vital to funding of the scientific enterprise
- Expanding publishing quantity while sacrificing quality?
- Perhaps we're not aware how this looks to outsiders

**Trust**

**“Faith is not belief without proof,  
but trust without reservation.”**

Anonymous





# Thank You

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