



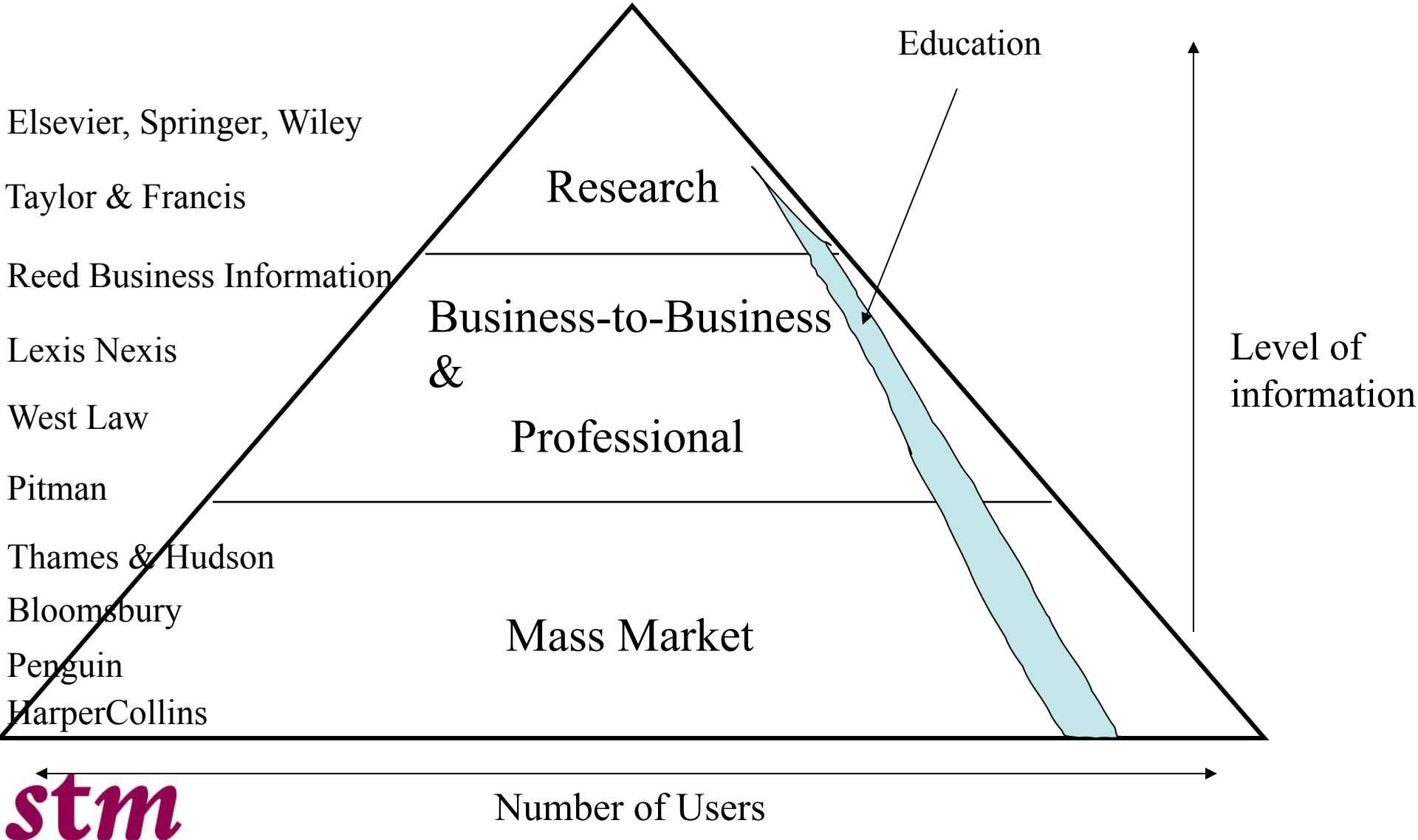
INTERNATIONAL ASSOCIATION OF SCIENTIFIC, TECHNICAL & MEDICAL PUBLISHERS

STM Publishing: An International Overview

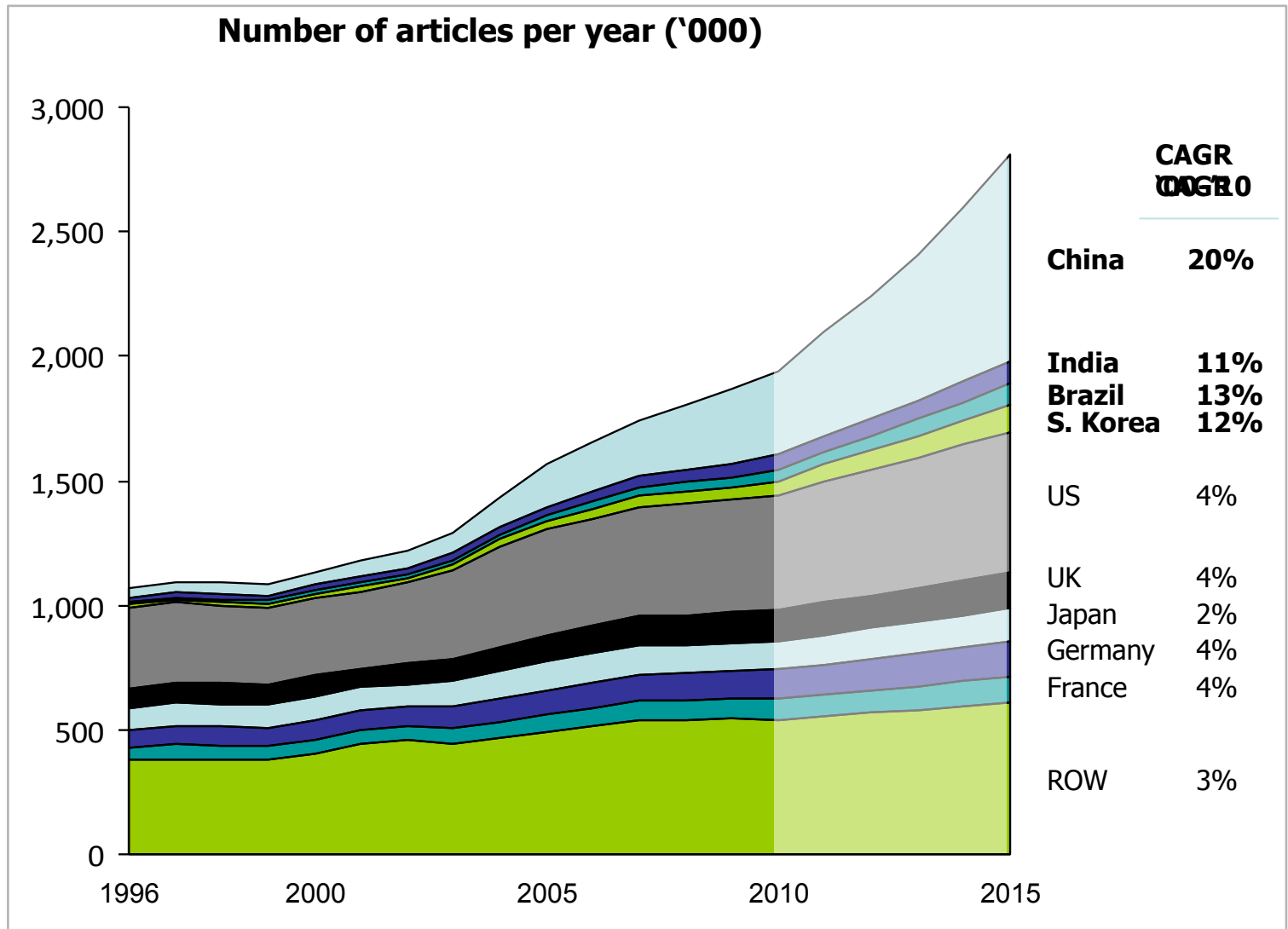
Michael A Mabe

CEO, STM

Information Pyramid

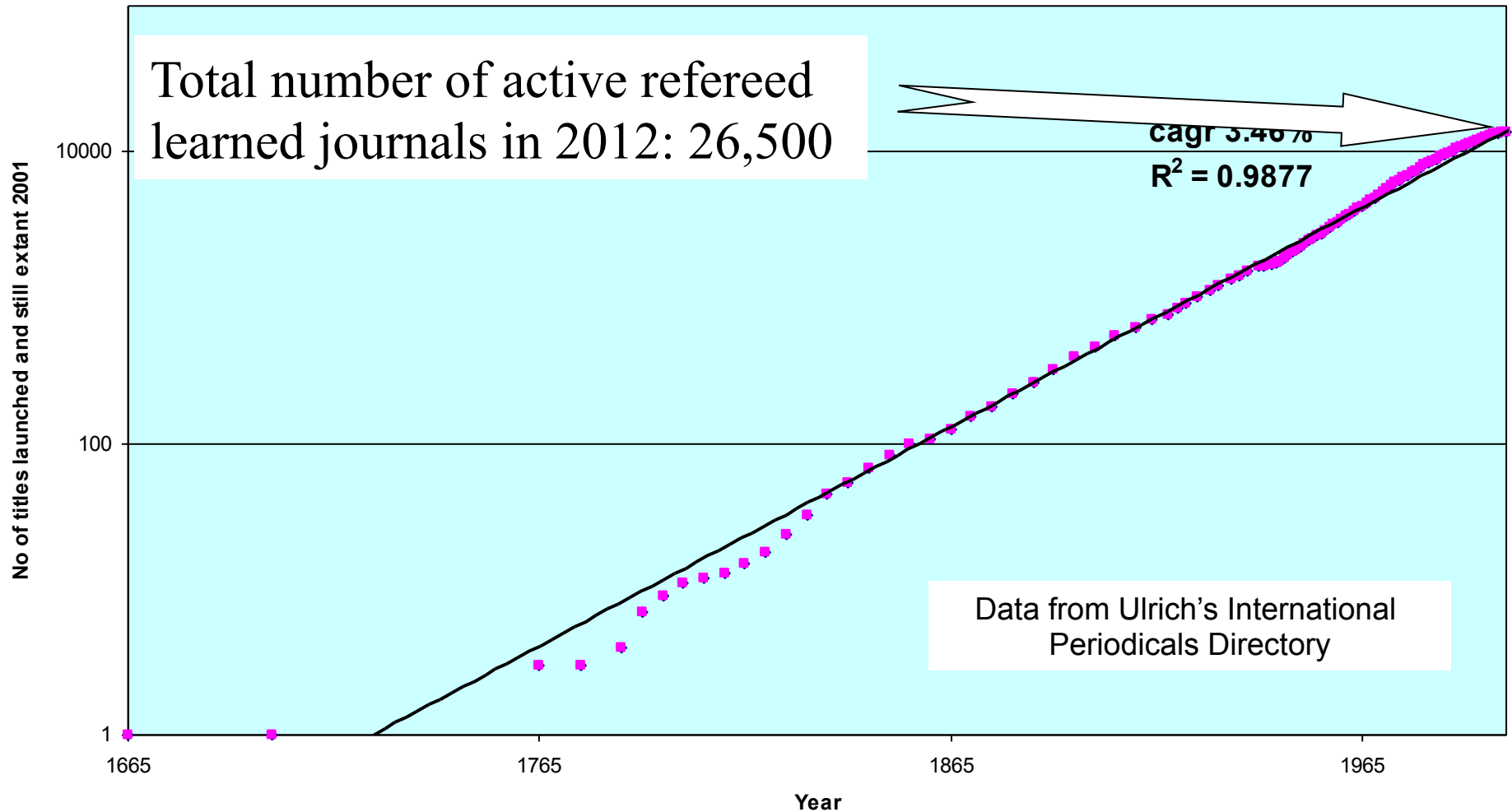


World Share of Articles

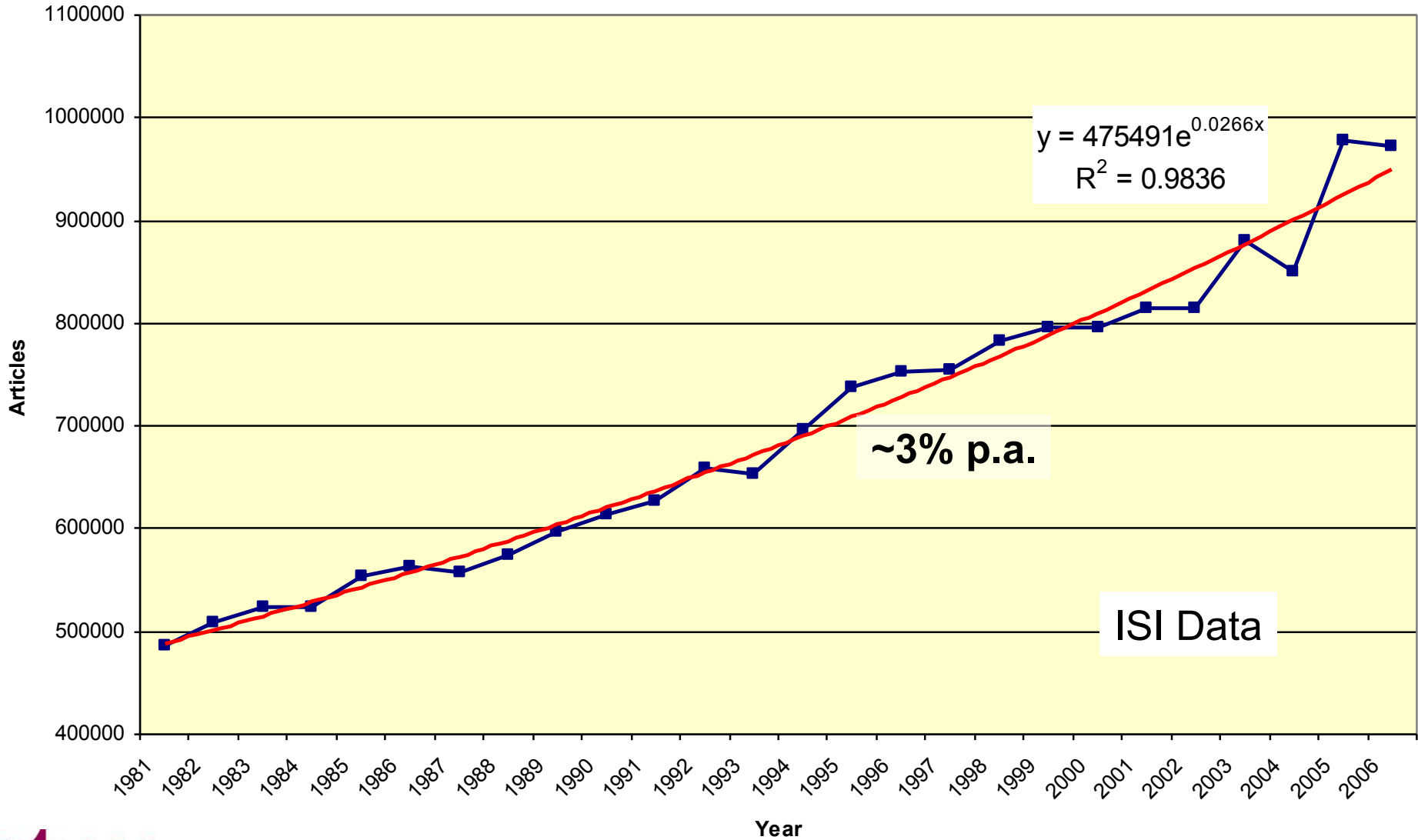


Journal Growth 1665-2012

[Source: M A Mabe The number and growth of journals *Serials* 16(2).191-7, 2003]

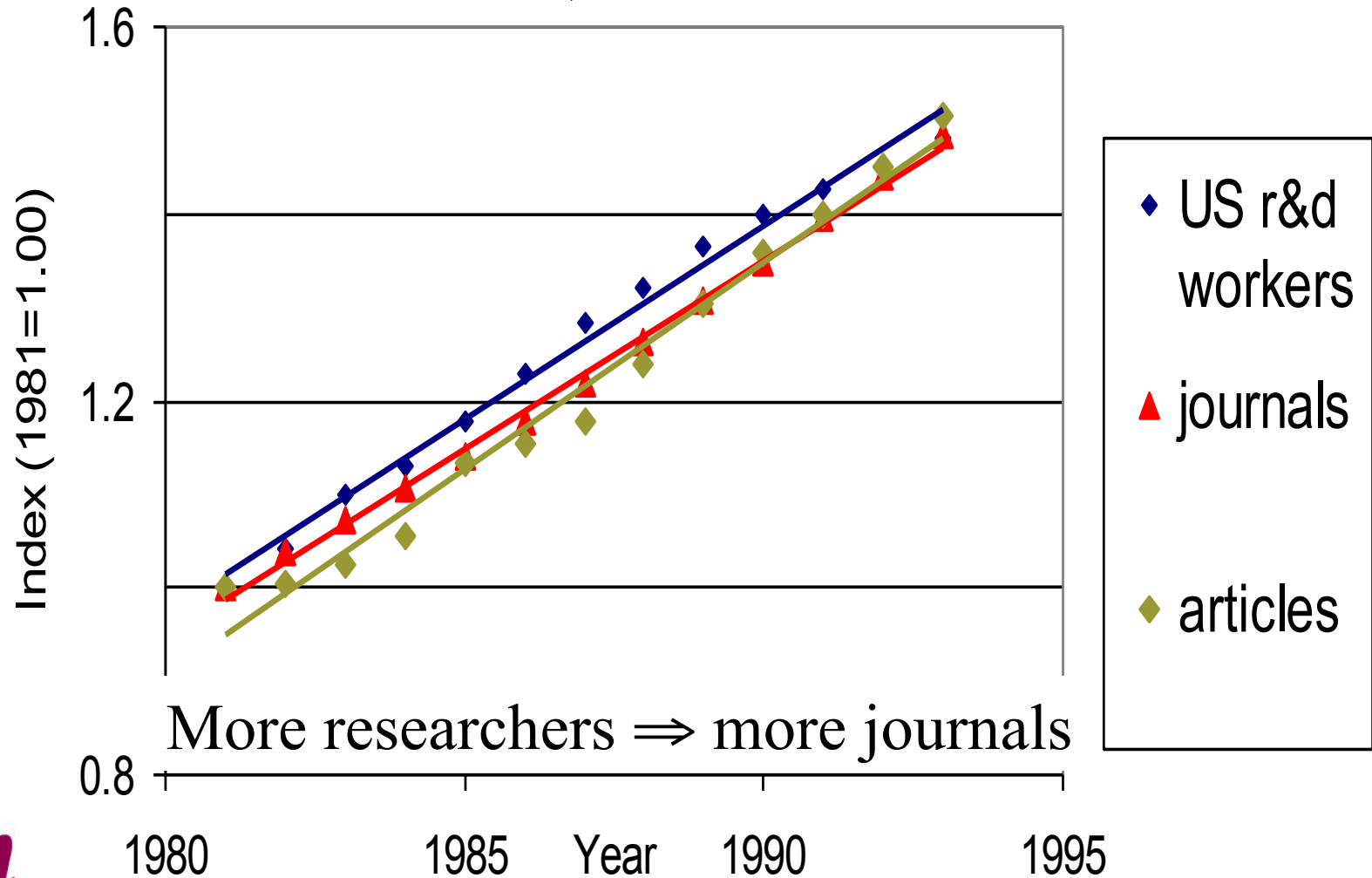


Article Growth 1981-2006

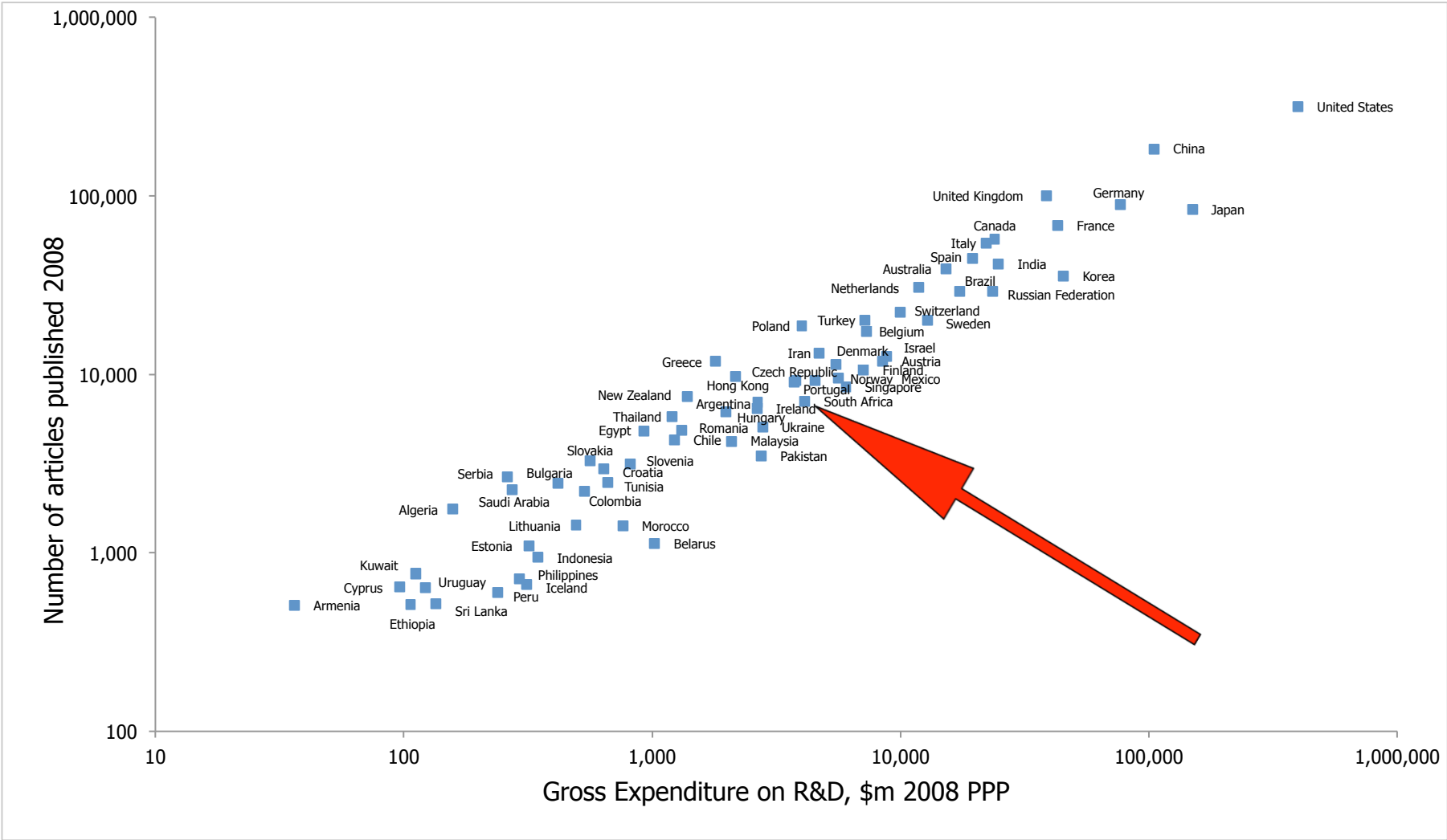


Relationship of Journals & Researchers

R&D Workers, Journals and Articles



R&D Spend and Published Papers



Source: Elsevier analysis, Scopus



What we *do* know — Journals

- Journals and articles
 - About 26,500 peer reviewed active titles publishing around 1.8 m articles each year
 - Titles growing at 3.5% pa, articles at 3%
 - Main growth cause: growth in researchers
 - Article output strongly linked to R&D spend
 - ISI average journal publishes 115 articles pa
 - Science and technology titles very much larger
 - Social science and humanities very much smaller

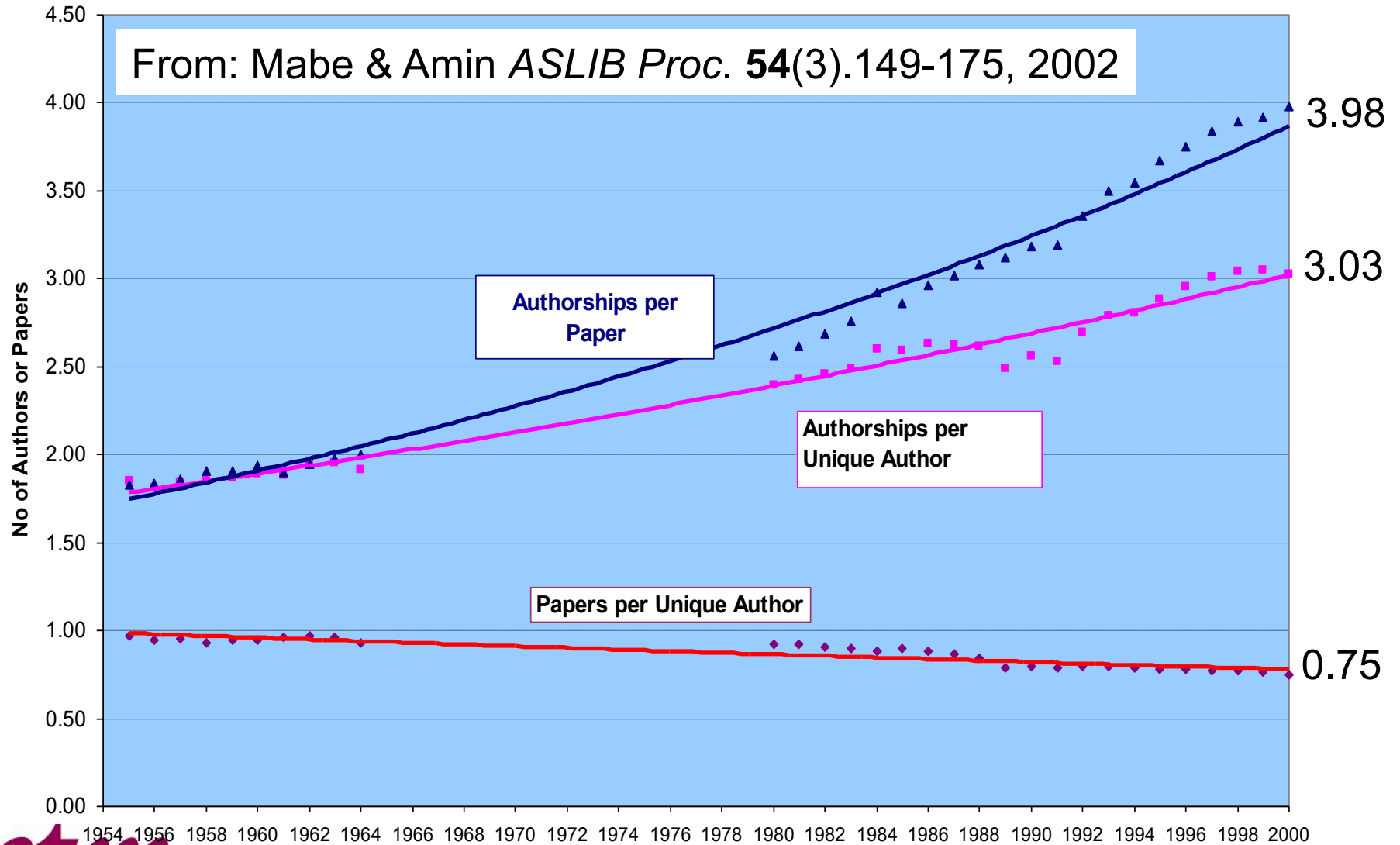
What we *do* know — Journals

- Journals and articles
 - Biomedical titles the majority (~30%)
 - Arts and Humanities the minority (> 5%)
 - Research journals about 95% of all titles
 - Letters or short communications
 - Archival communications
 - Reviews
 - Magazine – Journal hybrids about 5% of all titles
 - General journals — *Science*, *Nature*, etc.
 - Professional journals — *BMJ*, *JAMA*, *Physics Today*

What we *do* know — Journals

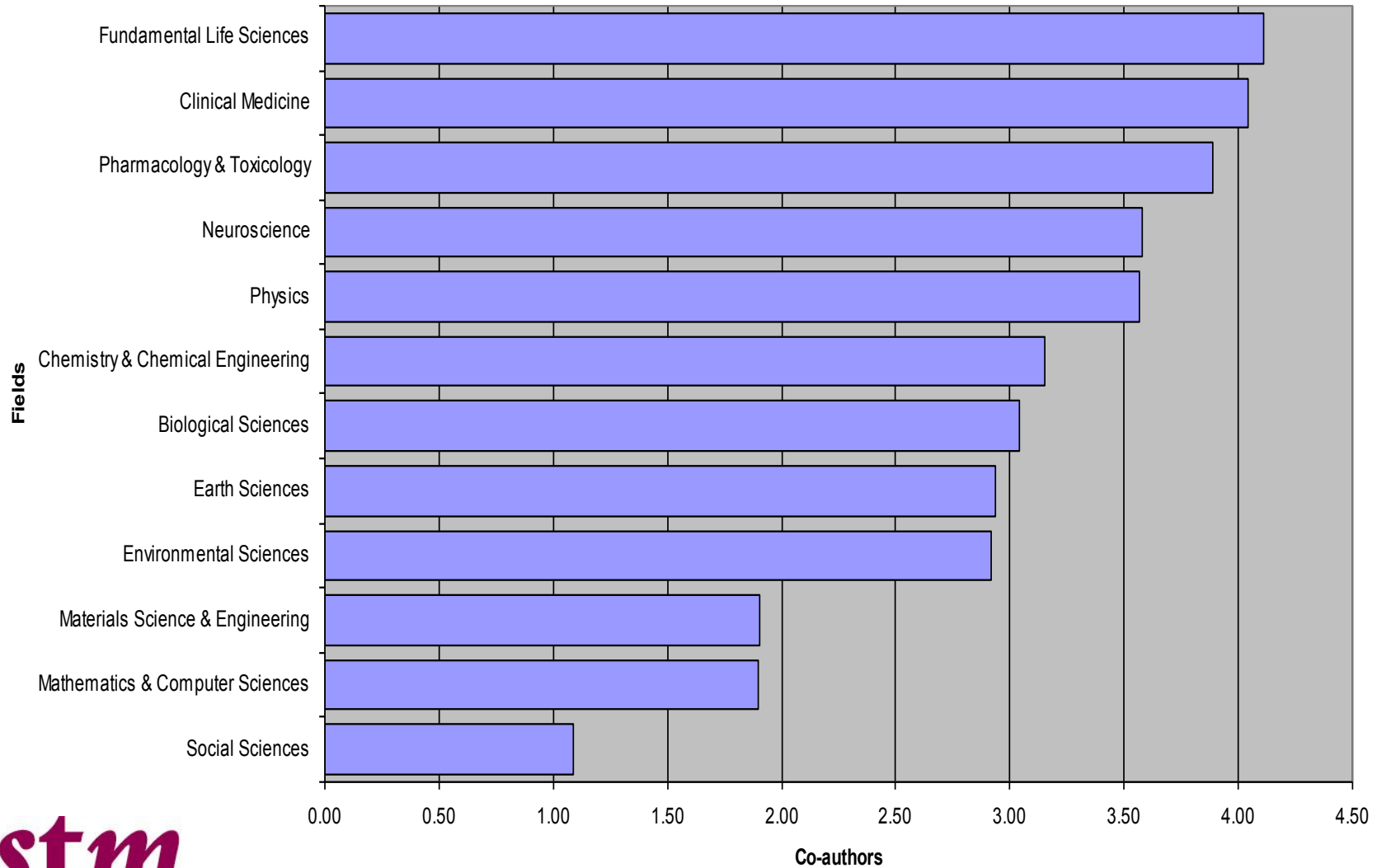
- Journals and articles
 - Greatly valued by researchers
 - Tenopir and King
 - Intensively used through electronic efficiencies
 - Estimated 2.5 billion fta's downloaded globally
 - Declining average cost per article downloaded
 - » Estimated at less than €2 and falling
 - Via national licensing, e licensing and big deals
 - Reductions in average journal prices *paid*
 - Reductions in expenditure on ILL and separates
 - Full public access as well where national licences agreed

Co-authorship levels



Co-authorship Variation

Co-authorship Variation

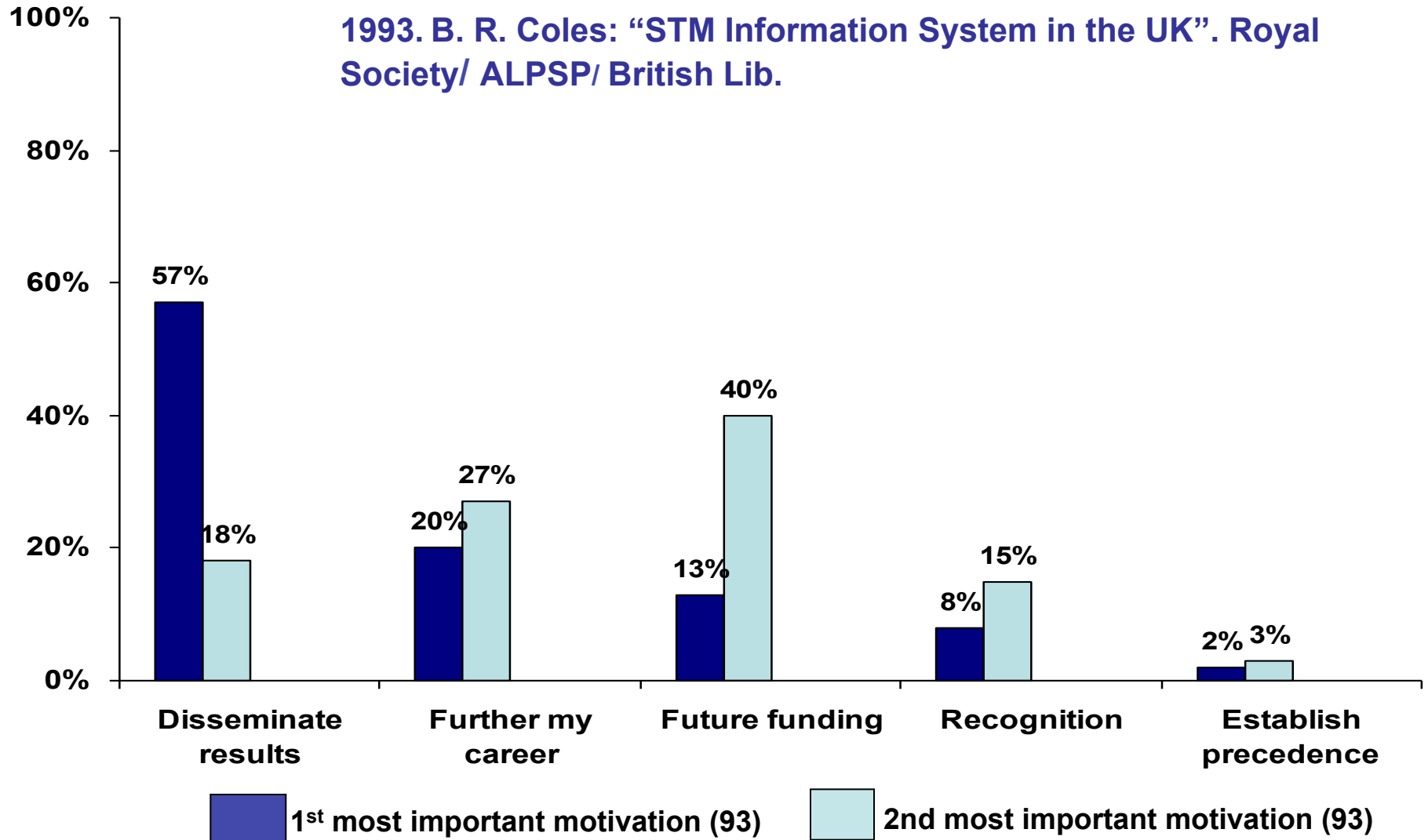


What we *do* know — Authors

- Authors
 - Estimated 1 m unique authors each year
 - Overall productivity is 0.75 unique papers per unique author per annum
 - Regular authors publish at least 4 papers a year with 3 other collaborators
 - Co-authorship has doubled in 50 years
 - Varies by subject area
- Authorship analysis is complex
 - Lotka's Law: ~60% authors publish once only
 - Totals include once only, occasional, regular

Motivations for Publishing

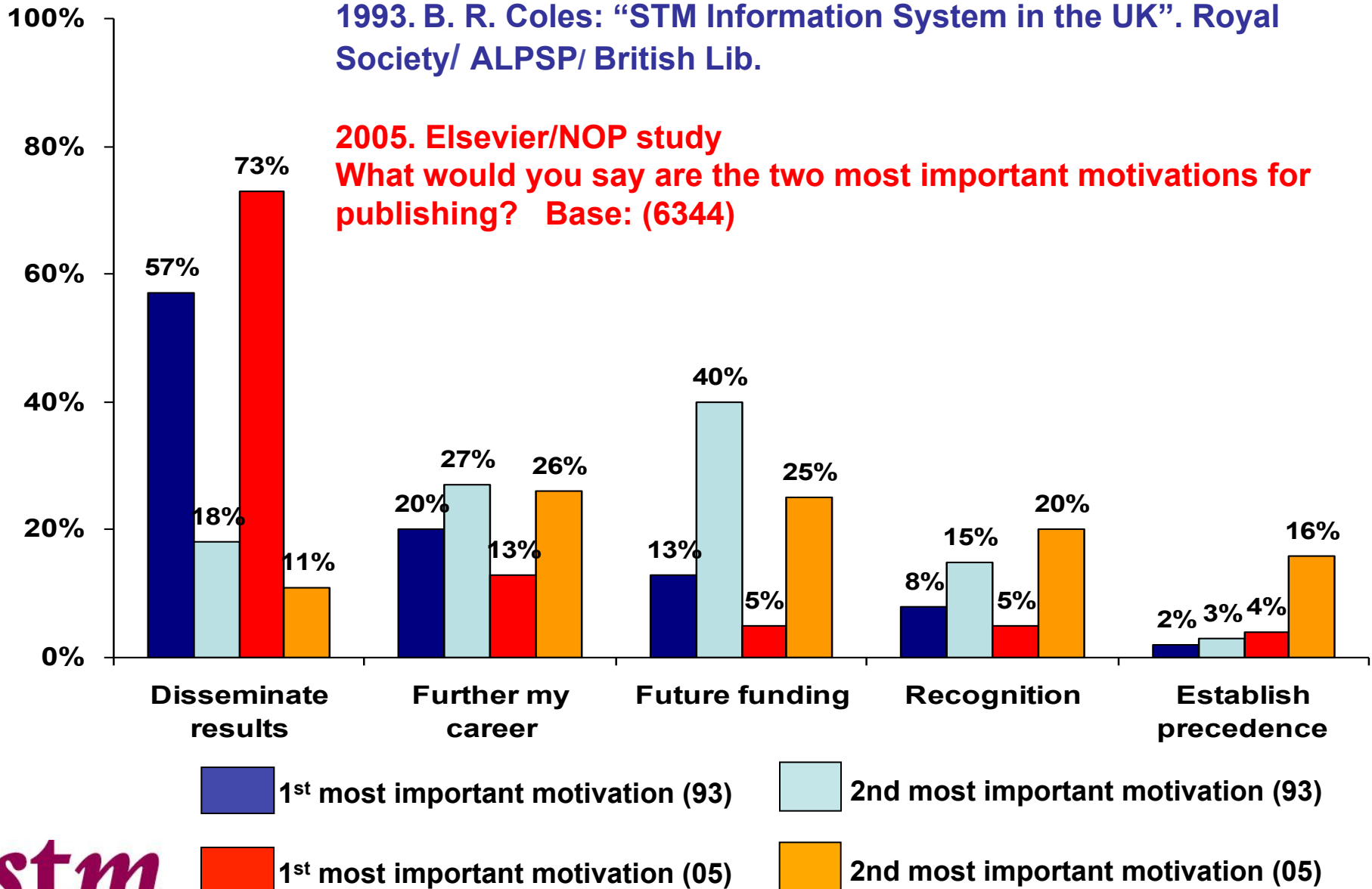
1993. B. R. Coles: "STM Information System in the UK". Royal Society/ ALPSP/ British Lib.



Motivations for Publishing

1993. B. R. Coles: "STM Information System in the UK". Royal Society/ ALPSP/ British Lib.

2005. Elsevier/NOP study
 What would you say are the two most important motivations for publishing? Base: (6344)



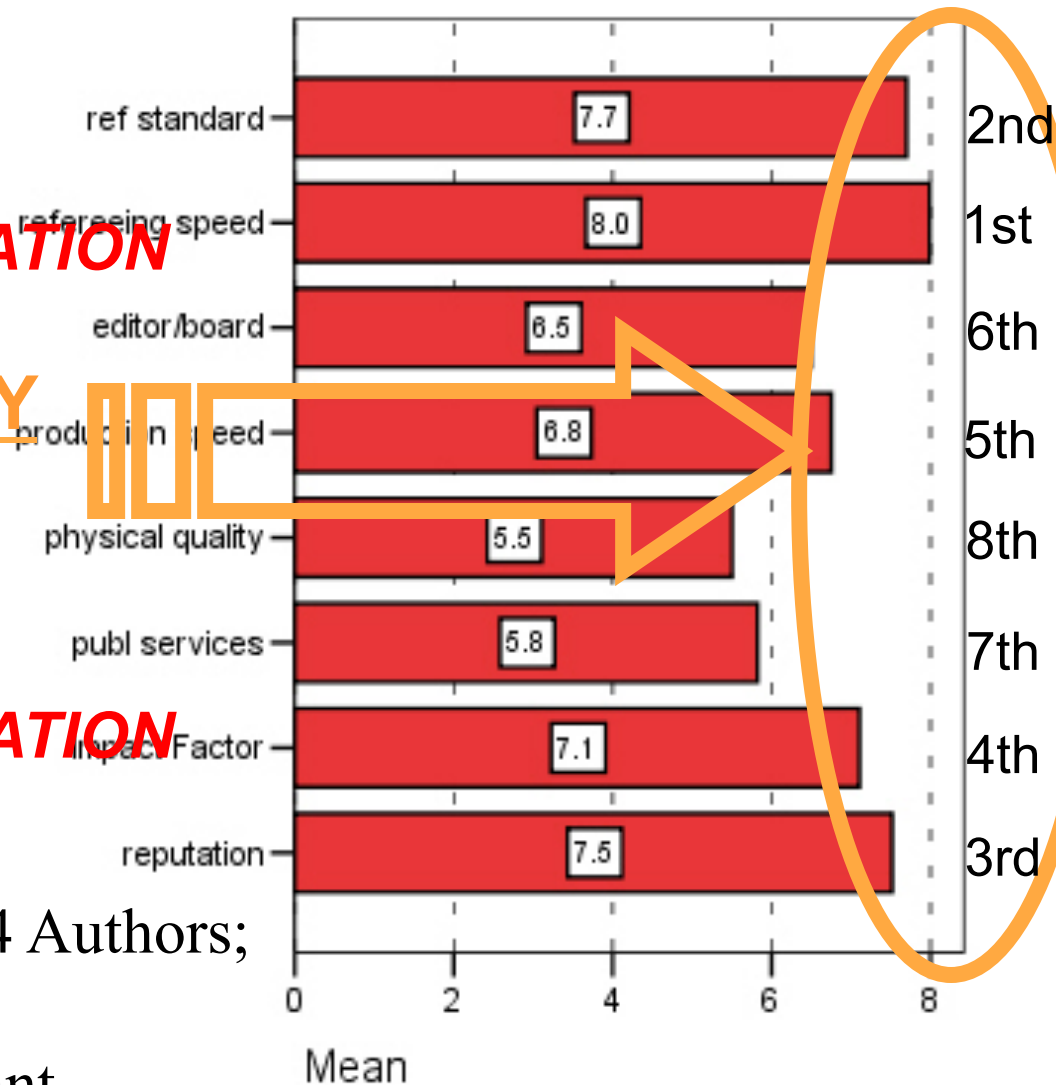
Evidence of researcher needs

CERTIFICATION

**QUALITY
&
SPEED**

REGISTRATION

Data from 63,384 Authors;
0= unimportant
10= very important



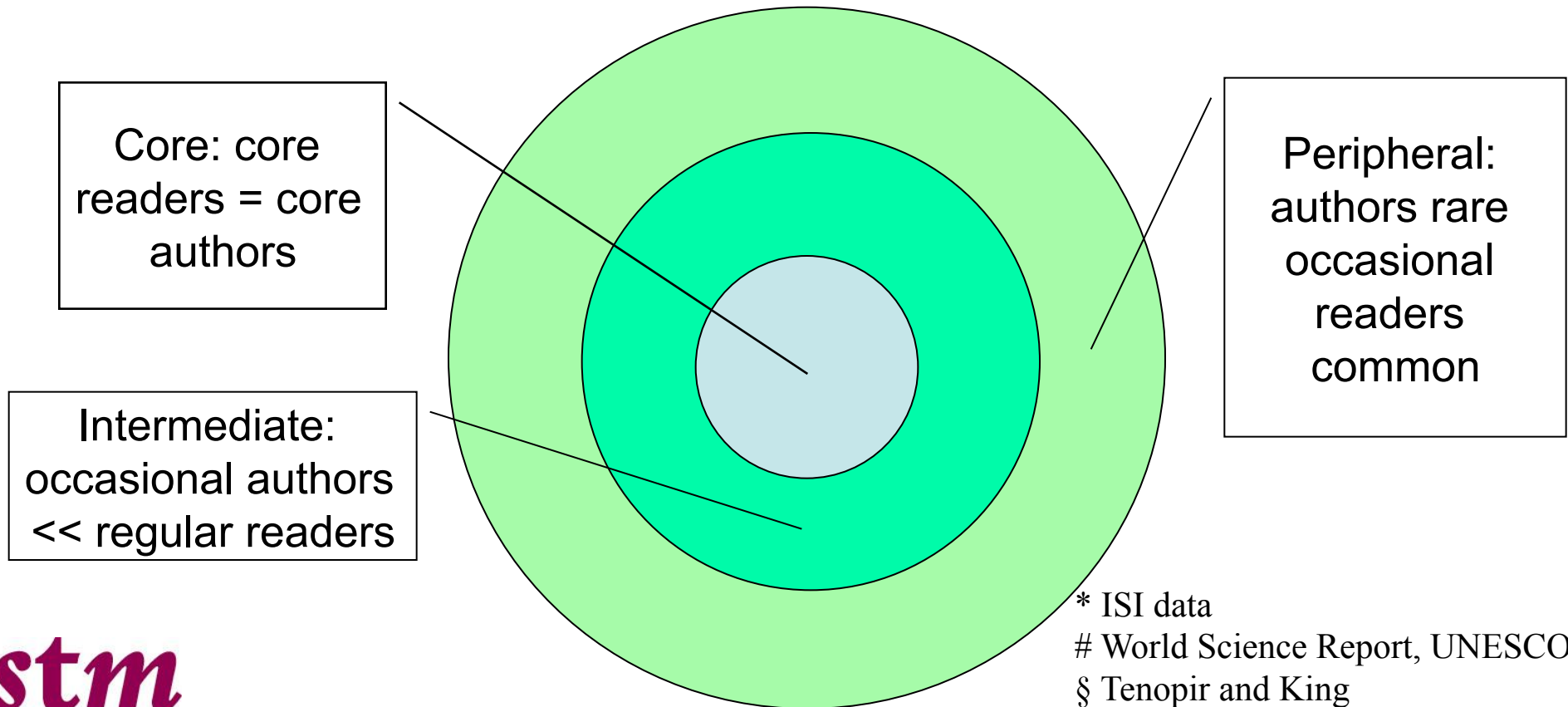
What we *do* know — Authors

- Author motivations
 - Secure priority and register ownership of idea
 - Share discovery and gain approbation of peers
 - Narrow casting, not broadcasting
 - Publish in journal that gives highest credit among peers
 - Leave a permanent record in the literature
- To achieve
 - future grant money
 - promotion and tenure
- Author motivations are largely unaffected by technology but realising them is
 - Speed and quality most important deliverables
- US (30%) and EU (25%) authors declining in global share versus China and Korea

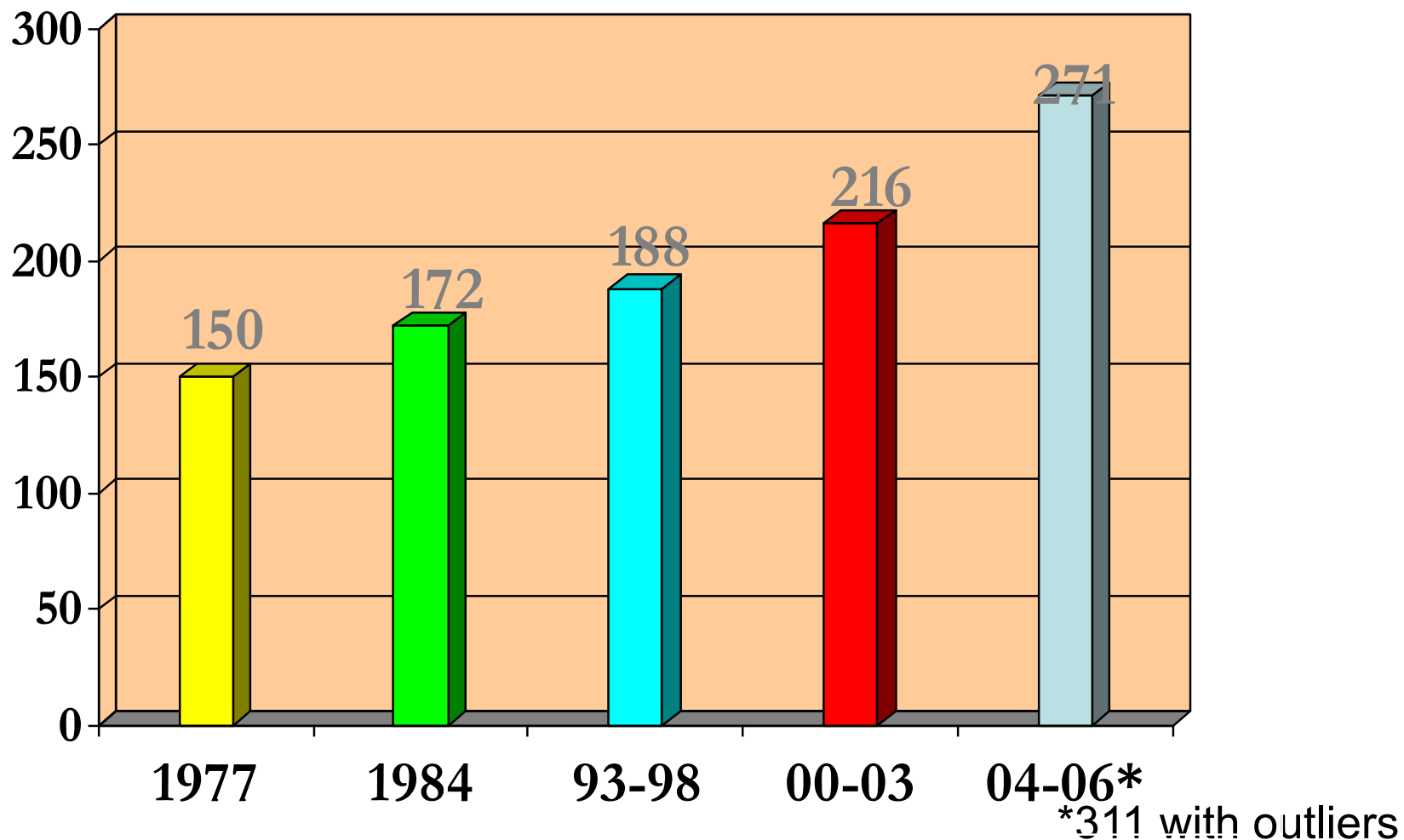
How Many Readers Are There?

From: Mabe & Amin *ASLIB Proc.* 54(3).149-175, 2002

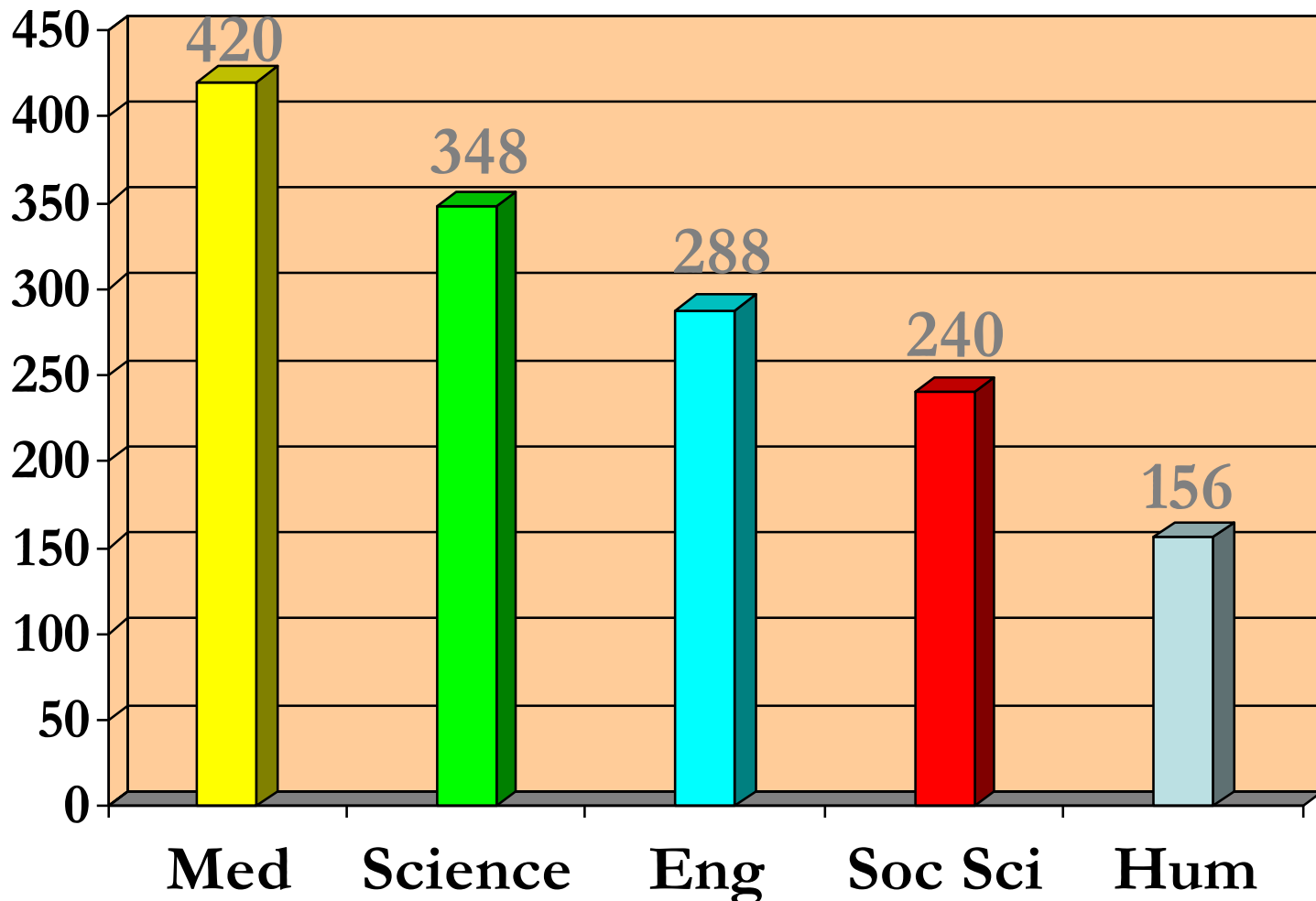
- ~1 million authors publish each year*
- ~2.5 million authors who publish in 5-year period*
- ~6 million R&D workers # or 9.9 million “scientists”§



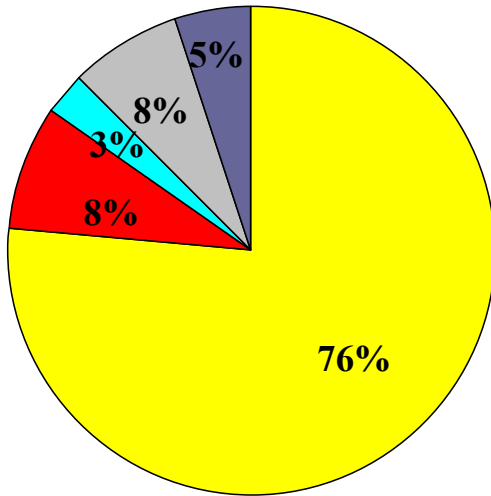
Average Articles Read per University Faculty Member per year



Average Articles Read per University Faculty Member per year

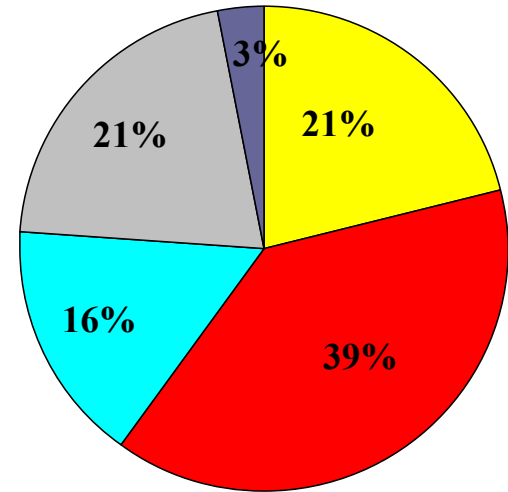


More Subject Differences



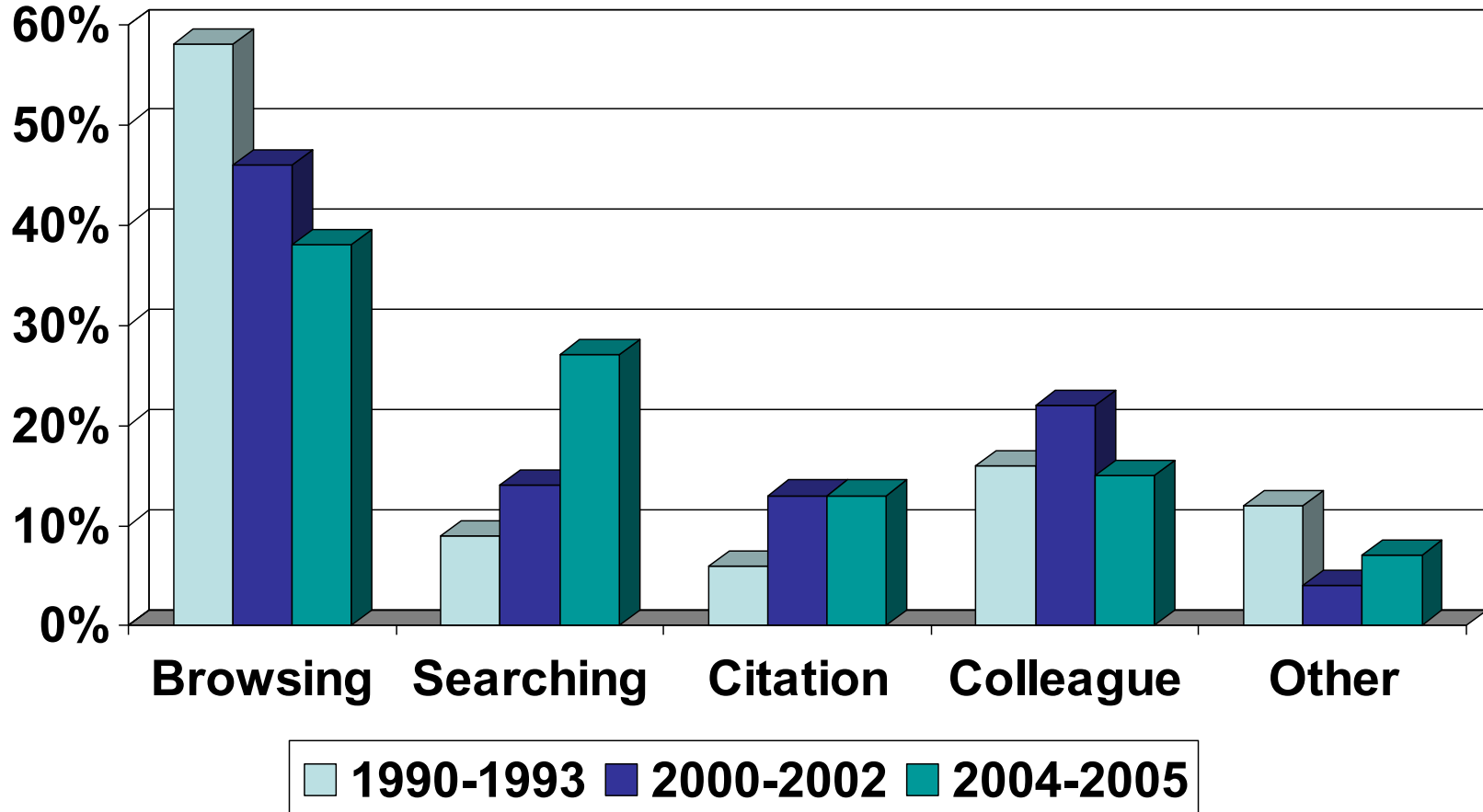
Pediatricians

- **Browsing**
- **Online Searching**
- **Cited in Other Pub.**
- **Another Person**
- **Other**

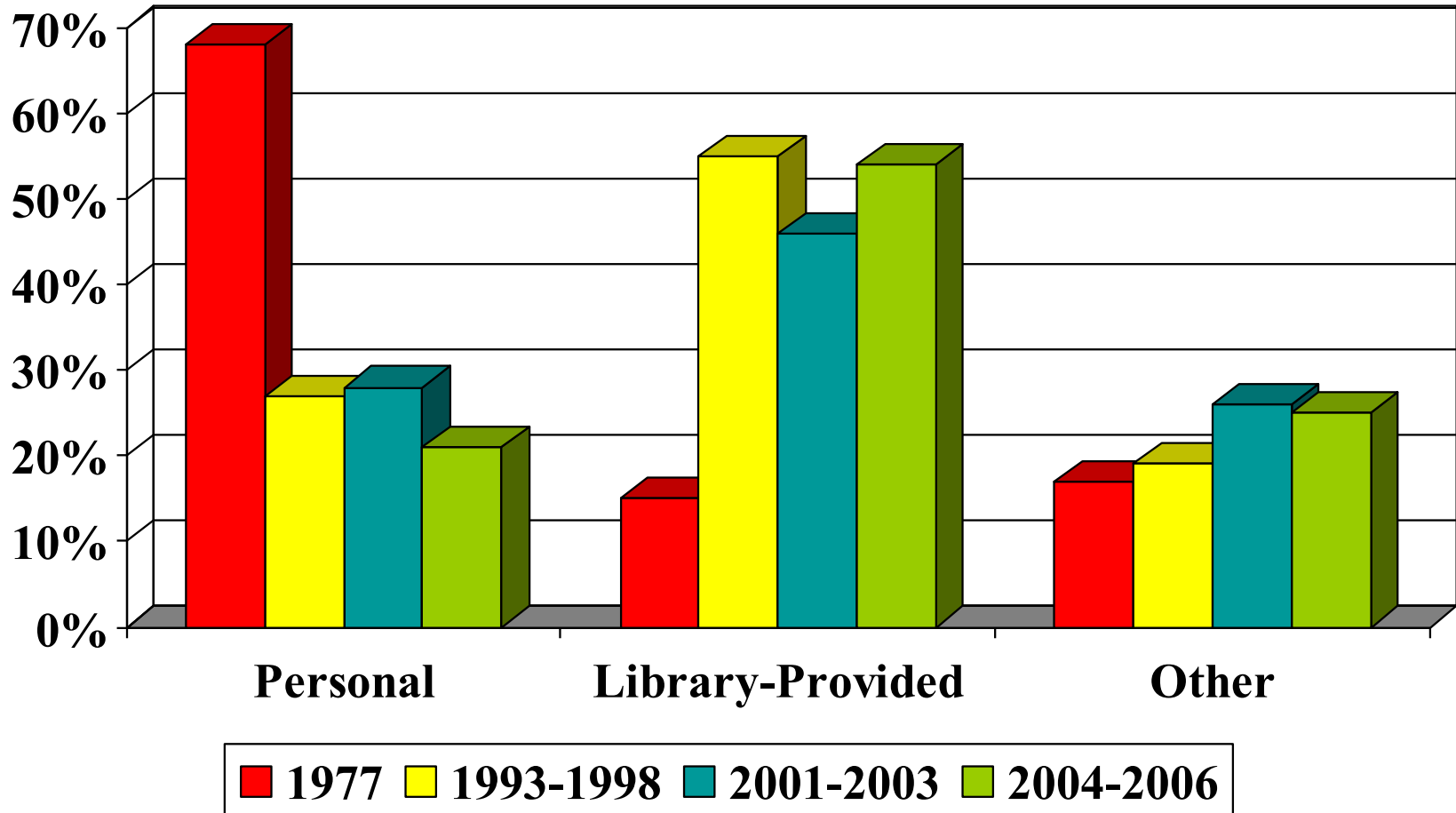


Astronomers

Faculty Use Many Ways to Locate Articles



Sources of Readings of Articles



Article usage over time:

- Chemistry
- Life Sciences
- Life Sciences – Rapid usage imprint
- Mathematics
- Health Sciences
- Physics
- Social Sciences

Years only

Six months

Soc Sci	28%
Maths	34%
Chem	36%
Life Rapid	50%

Twelve months

Soc Sci	36%
Maths	40%
Chem	44%
Life Rapid	60%

Eighteen months

Soc Sci	42%
Maths	46%
Chem	50%
Life Rapid	68%

Cumulative percent of lifetime full text downloads

80%
70%
60%
50%
40%
30%
20%
10%
0%

0

1

2

3

4

5

Years since publication

What we *do* know — Readers

- Readers
 - 10 m plus at over 10,000 institutions
 - Only 1 m of whom are regular authors
 - Over 270 articles read per faculty member pa
 - Wide variation in quantity read by faculty
 - Medicine most, humanities least
 - Wide differences in information seeking behaviour by subject area
 - Move away from personal copies to library sources
 - Wide journal variation in time taken to reach 50%, 75% etc lifetime downloads
- More materials used by more readers than at any time in history

What we *do* know — Publishers

- ~2000 publishing at least one journal
 - 95+% publish one or two journals only
 - 30% learned societies, 64% commercial, 4% university presses by article
 - Top 100 publish 67% of all articles
- STM Publishers globally employ 90,000 staff directly and a further 10-20,000 indirectly
 - About 40% are employed within the EU

Business Model Options

- Supply or demand-side user payment
 1. Authors pay
 2. Authors' institutions pay
 3. Authors' granting bodies pay
 4. Readers pay
 5. Readers' agents (library) pay
 6. National authorities pay

3% of papers

98% of papers
- Third party tolls and tariffs

~5% of papers

 - Advertising
 - Telecommunication access charges
- Sponsorship

?3% of papers

 - Charities, foundations, companies, government
- Rental or timeshare: DeepDyve

What don't we know (now)?

- Research practice in a universally networked, mobile friendly environment
 - Medics and handhelds
 - Beyond the pc?
- Information delivery modes in 10/20 years
 - In 2010, 50% of global population had a mobile phone
 - Africa is going straight to wifi and mobile phone
 - Media convergence: handhelds and laptops
- Sustainability of future business models
 - Effect of mandatory archiving policies

What can we never know?

- The unknown unknowns

The telephone is little better than a toy, it amazes ignorant people for a moment, but it is inferior to the well-established system of airtubes.
—*Saturday Review* 1878

The Americans have need of the telephone, but we do not. We have plenty of messenger boys.
—*Sir William Preece, Chief Engineer, British Post Office (1878).*

