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# Journals

**SIMS 290 §10 October 26**

**housekeeping**

# disintermediation & democratisation

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## **a universal trend?**

open source, wikis,  
news, education,  
libraries, journals,  
Wal-mart

# market & hierarchy

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## **neoclassical economics vs transaction cost**

Ronald Coase, "The Nature of the  
Firm" (1937)

**market & hierarchy**  
invisible vs visible hand

# organising knowledge

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## **the marketplace of ideas**

"the free-market of science  
... the invisible hand"  
—Michael Polanyi

## **self-organising systems**



# knowledge at Xerox

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## **Xerox reps**

Julian Orr

## **Eureka**

Danny Bobrow

\$100 million

30,000 'tips'

rescue in Brazil

recognition in Calgary

# 'knowledge bases'

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**usefulness**

**perverse incentives**

**quality vs quantity**

**uniqueness vs redundancy**

**reinventing the journal**

PHILOSOPHICAL  
TRANSACTIONS:  
GIVING SOME  
ACCOMPT  
OF THE PRESENT  
Undertakings, Studies, and Labours  
OF THE  
INGENIOUS  
IN MANY  
CONSIDERABLE PARTS  
OF THE  
WORLD

inventing the journal

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*Journal des savans*, 1665 France

*Philosophical transactions*, 1665 England

*Ionale dei litterati di Roma*, 1668 Italy

*Miscellanea curiosa medico-physica*, 1670 Germany

Vol I. *Acta medica et philosophica hafniensia*, 1673 Denmark  
For Anno 1665, and 1666.

*Collectanea medico-physica*, 1680 Holland

*Acta eruditorum*, 1682 Germany

# transactions & transformations

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## **print and science**

"invisible colleges" of correspondence

alchemy to science

private to public

revelation & revolution



# scientific paradox

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## **Frohmann**

"information the raw material of  
scientific thought"

## **Lesk & citation**

22% of papers [1984] not cited in 10  
years; 48% for social science; 93% for  
humanities

# science studies/ science wars

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## **Fleck**

*Genesis and development of a  
scientific fact (1935/1979)*

## **Knorr-Cetina**

*The manufacture of knowledge (1981)*  
narrative and omission

## **Latour & Wolgar**

*Laboratory life (1986)*  
facts, construction, stability

# science & writing

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**Ziman**

Public knowledge (1967)

"a scientific paper does not stand alone; it is embedded in the 'literature' of the subject ..."

"Far from being the sum of independent, individual researches, the continuous compilation of disconnected facts, observations and theories, scientific knowledge is the joint social product of members of these 'Invisible Colleges'."

# scientific community

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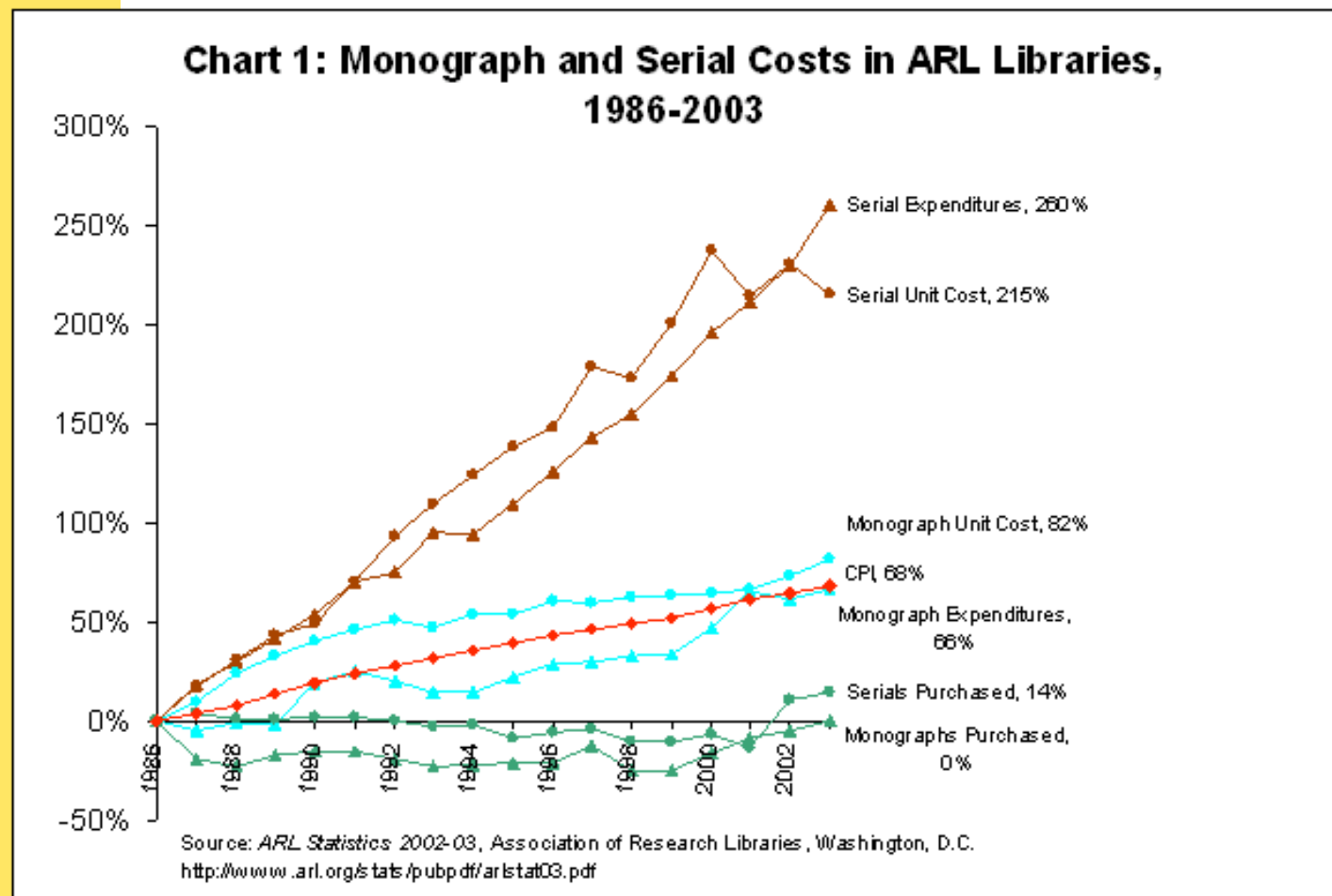
## **writing and consensuality**

"Science is not merely published knowledge or information . . . its goal is a consensus of rational opinion over the widest possible field."

"Academic institutions are governed largely by unrecorded principles, handed on from father to son, from master to pupil."

"We ignore the social nature of science at our peril."

# the economic nature of science



**Chart 3: Journal Costs by Discipline**

Subject	Average No. of Titles 2000-200	Average Cost Per Title 2000	Average Cost Per Title 2001	% of Change '00-'01	Average Cost Per Title 2002	% of Change '01-'0	Average Cost Per Title 2003	% of Change '02-'03	Average Cost Per Title 2004	% of Change '03-'04	% of Change 2000-2004
Agriculture	156	\$519	\$546	5	\$583	7	\$638	9	\$714	12	38
Anthropology	42	\$244	\$237	-3	\$259	9	\$291	12	\$319	10	31
Art & Architecture	62	\$108	\$113	5	\$116	3	\$125	8	\$136	8	26
Astronomy	10	\$1,153	\$1,213	5	\$1,396	15	\$1,451	4	\$1,602	10	39
Biology	222	\$998	\$1,062	6	\$1,137	7	\$1,253	10	\$1,377	10	38
Botany	62	\$785	\$826	5	\$875	6	\$947	8	\$1,048	11	34
Business & Economics	295	\$412	\$457	11	\$501	10	\$555	11	\$614	11	49
Chemistry	183	\$1,995	\$2,137	7	\$2,317	8	\$2,501	8	\$2,695	8	35
Education	102	\$248	\$275	10	\$301	10	\$330	10	\$371	12	49
Engineering	234	\$1,076	\$1,170	9	\$1,274	9	\$1,377	8	\$1,491	8	39
Food Science	17	\$787	\$855	9	\$898	5	\$969	8	\$1,080	12	37
General Science	63	\$678	\$732	8	\$803	10	\$887	10	\$962	9	42
General Works	68	\$82	\$84	2	\$88	5	\$99	12	\$116	18	41
Geography	57	\$592	\$633	7	\$711	12	\$774	9	\$859	11	45
Geology	79	\$789	\$846	7	\$906	7	\$982	8	\$1,071	9	36
Health Sciences	1,342	\$702	\$758	8	\$812	7	\$889	9	\$975	10	39
History	214	\$116	\$124	7	\$131	6	\$148	12	\$166	13	44
Language & Literature	295	\$107	\$115	7	\$124	8	\$138	11	\$153	12	43
Law	67	\$157	\$169	7	\$187	11	\$203	9	\$222	9	41
Library & Info. Sci.	54	\$254	\$271	7	\$290	7	\$319	10	\$354	11	39
Math & Computer Sci.	182	\$881	\$946	7	\$1,010	7	\$1,080	7	\$1,171	8	33
Military & Naval Sci.	9	\$289	\$315	9	\$310	-2	\$337	9	\$365	8	26
Music	41	\$80	\$83	3	\$92	11	\$100	9	\$106	6	33
Philosophy & Religion	125	\$143	\$150	5	\$164	9	\$182	11	\$200	10	39
Physics	202	\$1,865	\$1,996	7	\$2,180	9	\$2,351	8	\$2,543	8	36
Political Science	58	\$226	\$257	13	\$279	9	\$312	12	\$360	15	59
Psychology	145	\$306	\$336	10	\$368	10	\$399	8	\$446	12	46
Recreation	18	\$113	\$126	12	\$144	14	\$154	7	\$167	9	48
Sociology	286	\$274	\$306	12	\$336	10	\$371	10	\$422	14	54
Technology	187	\$958	\$1,044	9	\$1,140	9	\$1,241	9	\$1,350	9	41
Zoology	100	\$701	\$743	6	\$803	8	\$870	8	\$918	6	31

\*Source: Lee Van Orsdel and Kathleen Born. "Periodicals Price Survey 2004: Closing in on Open Access." Library Journal (April 15, 2004): pp. 45-50.

## Society Journal Prices Compared to CPI and All U.S. Periodicals

*Percent Change*

<b>Year</b>	<b>Consumer Price Index</b>	<b>All U.S. Periodicals</b>	<b>U.S. Society Journals Studied</b>
1988	4.1	9.1	7.0
1989	4.8	9.5	7.0
1990	5.4	9.5	6.5
1991	4.2	11.7	8.2
1992	3.0	12.2	8.3
1993	3.0	5.5	5.4
1994	2.6	9.6	6.2
1995	2.8	10.4	5.6
1996	3.0	10.8	7.4
1997	2.3	9.9	8.1
1998	1.6	10.3	8.6
1999	2.2	10.4	11.3
2000	3.4	9.0	8.8
2001	2.8	8.3	6.9
2002	1.6	7.9	7.2
2003	—	7.7	6.8
<b>Avg.</b>	<b>3.1</b>	<b>9.5</b>	<b>7.5</b>

Sources: The ALA Library Materials Price Index Committee (*Library Resources & Technical Services (LRTS)*, July 2003). The annual average price changes for U.S. society journals were from the Allen Press annual studies. Consumer Price Index (CPI) from the U.S. Department of Labor.

Bear Stearns issued an 'outperform' rating for Elsevier's stock, highlighting the company's profitability with reference to a graph showing that demand for scholarly journals was 'inelastic'.

for instance

### **rapacious publishers**

*Biochemica et Biophysica Acta*  
(published by Elsevier) averaged  
300 pages in the 1990s;  
today they are averaging 200  
pages. Price in 1993 was \$7,700;  
this year we paid \$14,000.  
(R.Wilson, UC Berkeley Library)



## for instance

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UC has recently been informed that the American Association for the Advancement of Science (AAAS), publishers of *Science*, asked UC to pay \$93,000 for access in 2004. This compares to a 2002 price of \$34,590.



# crisis response

**strike?**

reviewing, writing, buying

**take over**

PLOS and pay

**preprints**

Ginsparg server

**Los Alamos to Cornell**

estimating costs

**self-organising?**

reputation made elsewhere

"ideas"

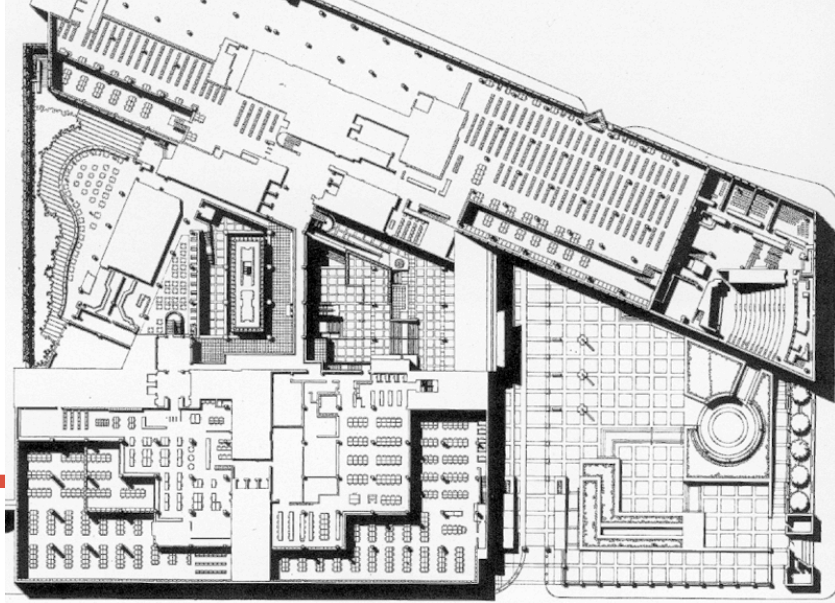
## **science & the preprint**

### **law & the electronic journal**

"The next decade could witness the end of the law review as we know it"

—Hibbits, "Last Writes", 1996  
(republished in *Akron Law Review*,  
*Rutgers Law Review*, *NYU Law Review*)

## **humanities & the monograph**



# epistemic cultures

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"Kuhn has remarked on the contrast between the science student, who reads only textbooks by second-rate scholars, and the students of the humanities, whose curriculum is filled with original texts by the best authors. The original papers of Maxwell, Einstein, Darwin, and Mendel are no more than historical evidence for their brilliance in their day ... they may be superseded without loss by the superior accounts that a century of teaching now provides." —Ziman

# library to warehouse

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"Mike Lesk has pointed out that the costs of just the buildings of the new British Library in London and the new French National Library in Paris are two or three times higher than the costs of converting their book collections to a digital format. In a more rational world, the money going into bricks and mortar would have gone into scanning the books, which would have provided much more rapid and convenient access to the data for scholars. The physical volumes themselves could be housed in cheap warehouses early estimates of costs"

# square rig

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The traditional business model for scientific publishing, in which individual readers or institutions pay publishers for access to research articles, is a vestige of an era when printing articles in paper journals and transporting them in trucks and boats was the most efficient way to disseminate new scientific discoveries and ideas. —Brown

the summation of human experience is being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships ...  
—Vannevar Bush

# scientific sifting

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[notion of mass storage/retrieval]  
"betray an absence of careful thought  
about the part that the conventional  
systems of scientific communication  
play in sifting and sorting the  
material they handle"  
—Ziman



# institutional interests

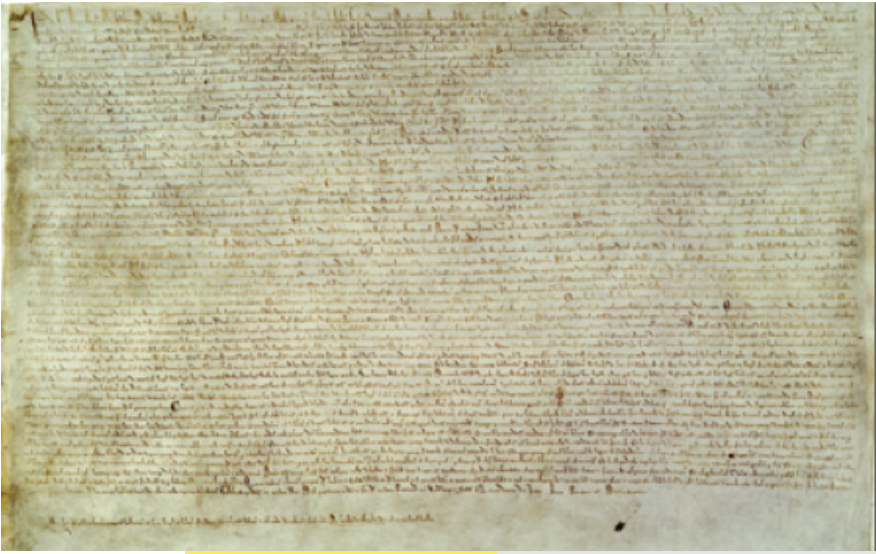
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**the journal and the university**

**journal as university**

Informa

**university as journal**



# preservation

Library (Copy under Revision)

Hardwicke Library

702

e 8

MS

**[Magna Carta and Laws and Statutes of England ]**

14th C

Large decorated initials in blue and red, rubrication

144 vellum leaves, ms on verso and recto. Full early blind-stamped calf. Rebacked

C91.



control

## **institutional & disciplinary repositories**

Stanford is thinking about a repository that will preserve faculty and student Web sites along with other digital information ...

The good news is that the digital library is showing signs that it may be able to serve a higher purpose—one that transcends its own collecting interests, important as those may be.

—Greenstein