

scientific "revolution"

searching for truth

going "open"

History of Information

Feb 13, 2013



scientific revolution

putting the other "Rs" in their place

"The Scientific Revolution outshines everything since the rise of Christianity and reduces the Renaissance and Reformation to the rank of mere episodes, mere internal displacements within the system of medieval Christianity."

— Herbert Butterfield,
The Origins of Modern Science, 1300-1800, 1948



Immanuel Kant
1724–1804

spotting revolutions

[1] “The history of this intellectual revolution [geometry] ... more important than the discovery of the passage around the celebrated Cape. ...”

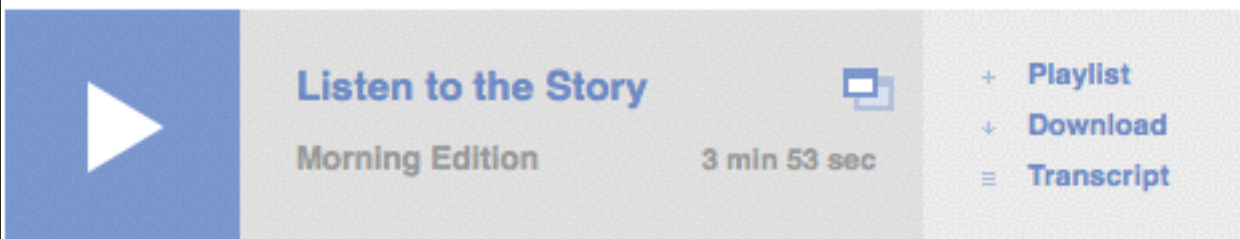
[2] “Natural science ... can be explained only by a sudden revolution in people’s way of thinking ... Galileo ... Toricelli ... π Stahl.”

Immanuel Kant, *Critique of Pure Reason*, 1787

The Full-Fat Paradox: Whole Milk May Keep Us Lean

by ALLISON AUBREY

February 12, 2014 3:38 AM



A customer shops for milk at a Safeway in Livermore, Calif. Although it may seem counterintuitive, there's growing evidence that full-fat dairy is linked to reduced body weight.

searching for truth

scientific doubt

HEALTH

Vast Study Casts Doubts on Value Mammograms

By GINA KOLATA FEB. 11, 2014



One Month After Toxic Spill, West Virginians Face 'Crisis of Confidence'

searching for truth

credence

clear water?

By TRIP GABRIEL FEB. 9, 2014

Weeks after health authorities had told West Virginians that their water was safe to drink again following a toxic spill, schools in Charleston sent students home abruptly last week when students and staff members detected the telltale licorice odor of the leaked chemical

January 20, 2014

8+1 19

Recommend 3.3k

Tweet 403

Pin it

Use of water 'your decision,' Tomblin says



Chip Ellis

Gov. Earl Ray Tomblin (center), flanked by U.S. Sen. Joe Manchin (left) and state Senate President Jeff Kessler, said Monday he thinks the choice for residents to start drinking their water again is a personal decision.

Do you really need to drink eight cups of water a day?



Drinking eight cups or two litres of water a day is longstanding advice. But is there any scientific basis for it, asks Dr Chris van Tulleken.

Rival Industries Sweet-Talk the Public

By ERIC LIPTON FEB. 11, 2014



searching for truth

business of science

ANNALS OF SCIENCE

A VALUABLE REPUTATION

After Tyrone Hayes said that a chemical was harmful, its maker pursued him

BY RACHEL AVIV

FEBRUARY 10, 2014

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735

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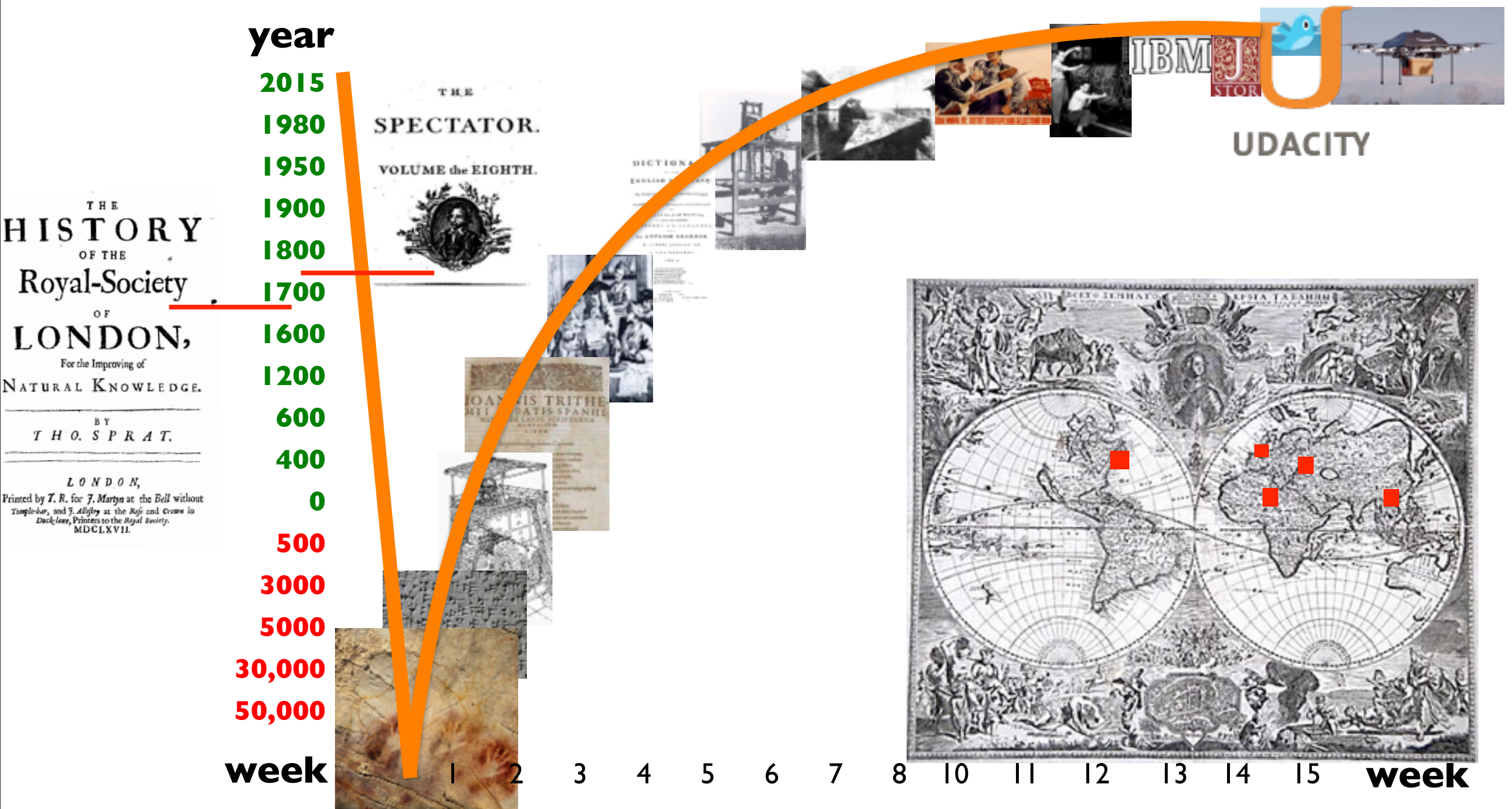
PRINT



MORE



where we are searching



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whom to trust

"Those dreadful revolutions, which cannot be beheld upon Paper, without horror; unless we remember, that they had this one happy effect, to open mens eyes to look out for the true Remedy."

--Sprat, *History*

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recap: political revolution

English Civil War, 1642-1649

death of Charles I

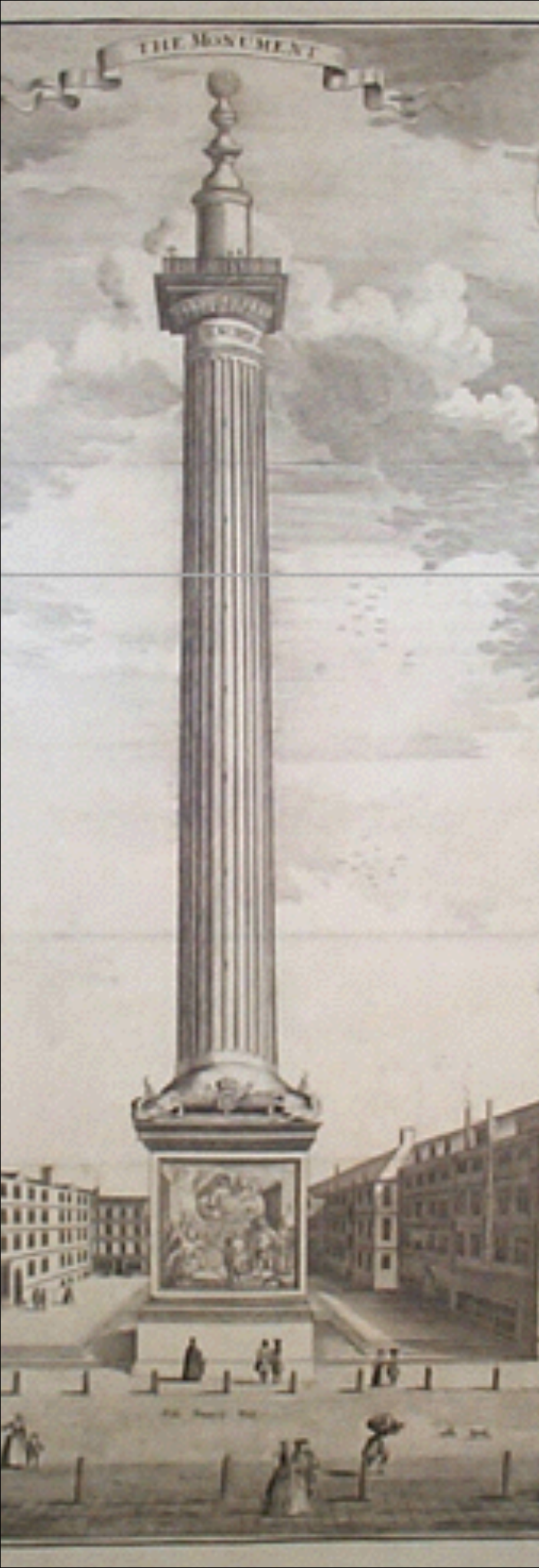
Commonwealth & Protectorate, 1649-1659

Restoration, 1660

return of Charles II ("since the King's return")

Great Plague, 1665

Fire of London, 1666



"La sange du juste à Londres fera faute
Bruslez par foudre de vingt trois le six,
La dame antique cherra de place haute
De meme sute plusieurs seront occis"

print's legacy: almanacks & prophecy

"Sir Thomas Crewe...hath heard at the Committee for
examining the burning of the city,that it was done by
plots ... it was bragged by several Papists that upon such a
day in such a time, we should find the hottest weather that
ever was in England; and words of plainer sense"

— Pepys, *Diary* November 2, 1666

"We talked much of Nostradamus his prophecy of these times,
and the burning of the City of London, some of whose verses
are put into **Booker's Almanac** this year My Lady
Carteret herself did tell us how abundance of pieces of
burnt paper were cast by the wind .. .she took one up ...
wheron there remained no more nor less than these words:

"Time is, it is done"

— Pepys, *Diary* February 3, 1666/7

coming up: the public sphere

modern media

"I lately dropped into a Coffee-House at Westminster, where I found the Room hung around with ... Elixirs, Tincture, the Anodine Fetus, English Pills, Electuaries, and in short, more remedies than I believe there are diseases."

— Richard Steele, *Spectator* 1712



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what came before

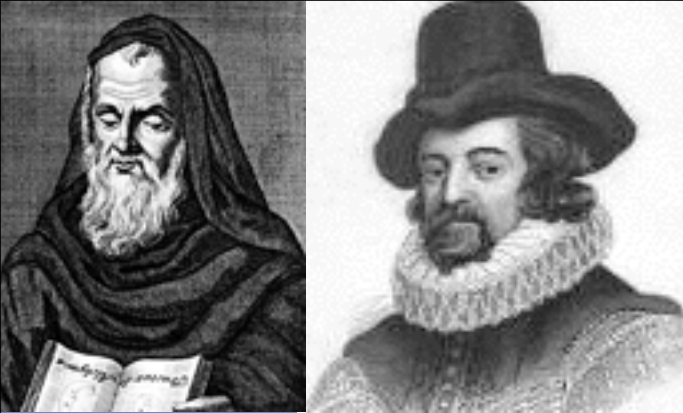
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Roger
Bacon

Francis
Bacon

1214–1292 1561–1626

proto science

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scientific rumblings

Roger Bacon *scientia experimentalis*

"disregarding the crowd's approach"

Francis Bacon, *New Atlantis*

idols of the tribe

idols of the cave

idols of the market place

idols of the theatre

"[FB] sought and gather'd for our use the Tru"
— Cowley "To the Royal Society"



Thomas Sprat
1635–1713

their purpose

"... is, in short, to make faithful **Records**, of all the Works of Nature, or Art, which can come within their reach: that so the present Age, and posterity, may be able to put a mark on the **Errors**, which have been strengthened by long prescription: to restore the **Truths**, that have lain neglected: ... to separate the knowledge of **Nature**, from the colours of **Rhetorick**, the devices of Fancy, or the delightful deceit of Fables."

— Sprat

"Why do we not,
I say, turn
over the living
book of the
world instead
of dead
papers."

—John Comenius
(1592–1670)

fables to truth

from **Ptolemy** (c. 100–170)

to

Copernicus, Galileo, Tycho, Kepler, Newton

from **Hippocrates** (460–375 bce), **Galen** (c. 129–216)

Ayurveda; Yellow Emperor's Inner Canon

to

Paracelsus (1493–1541) (?taught by Trithemius)

Harvey (1578–1657)



A L B U C A S I S
DE
C H I R U R G I A .

ARABICE ET LATINE.

TOMUS PRIMUS.

CURAE
JOHANNIS CHANNING,
NATI ET CIVITATE LONDINENSIS.

O X O N I I :
E T Y P O G R A P H E O C L A R E N D O N I A N O .
M D C C L X X V I I I .

don't forget

al-Zahrawi [Albucasis] (936-1013), *Al-Tasrif*

--surgery, orthopedics, ophthalmology, nutrition

republished over 700 years

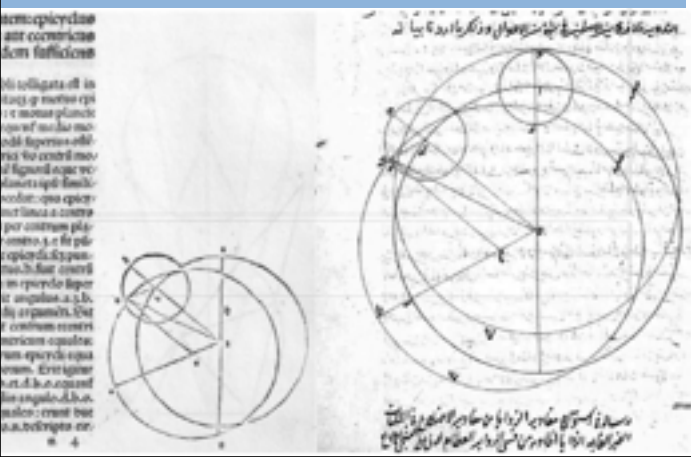
(see *Albucasis de Chirurgia*, 1778)

Ibn al-Haytham [Alhazen] (965-1040)

--optics; Euclid's Elements, doubts about Ptolemy

influencing Roger Bacon, Kepler

Ali Qushji (1403-1474)





followers

Gresham College
28 Nov 1660

"that future times should hear the names of
its first Promoters"

Wilkins (1614-1672)

Pepys (1633-1703)

Boyle (1627-1691)

Evelyn (1620-1701)

Wren (1632-1723)

Moxon (1627-1691)

Locke (1632-1704)

Graunt (1620-1674)

Hooke (1635-1703)

Petty (1623-1687) ...

Newton (1642-1727)

Benjamin Franklin (1706-1790)

Halley (1656-1742)



Nullius in Verba

revolutionary beliefs

new scientists

"Men did generally think, that no man was fit to meddle in matters of this consequence, but he that had bred himself up in a long course of Discipline for that purpose; that had the habit, the gesture, the look of a Philosopher. **Whereas experience on the contrary tells us, that greater things are produc'd, by the free way, than the formal.**"

— Sprat

revolutionary beliefs

"oportet praeterea, liberali
animo philosophum esse"

–Alcinous (?1 cent CE)

"filosofar vuol esser libero"

– Galileo

"libertas philosophandi"

–Kepler, Descartes, Spinoza

"information wants to be free"

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Sprat's model

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knowledge of Nature

"They have labor'd to inlarge it, from being confin'd to the custody of a few; or from servitude to private interests.

"They have striven to preserve it from being over-press'd by a confus'd heap of vain, and useless particulars; or from being straitned and bounded too much up by General Doctrines."

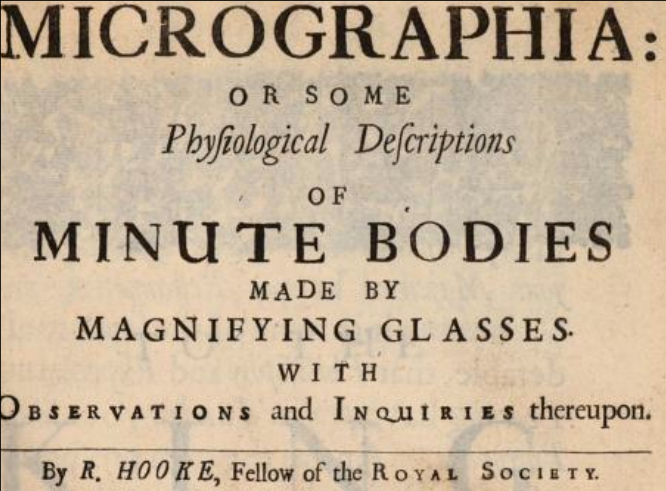
Sprat's model

Not so much, by any solemnity of Laws, or ostentation of Ceremonies, as by **solid Practice**, and examples: not, by a glorious pomp of Words; but by the silent, effectual, and unanswerable Arguments of **real Productions**.

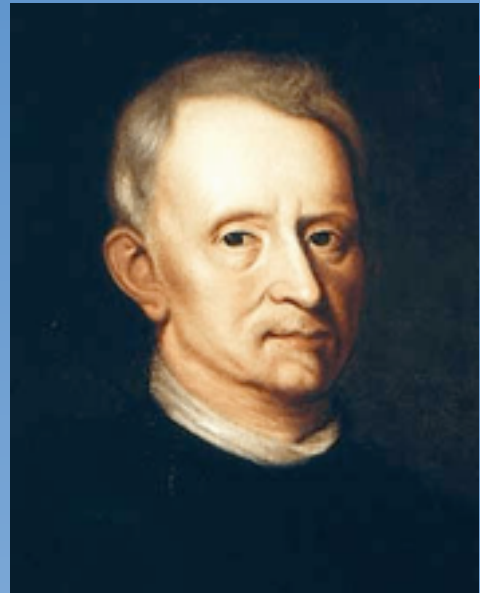
Members ... different Religions, Countries, and Professions ... not to lay the Foundation of an English, Scotch, Irish, Popish, or Protestant Philosophy; but a **Philosophy of Mankind**. ... the Church of England ought not to be apprehensive

the general Banck, and **Free-Port of the world**

... receive strangers from all countries, into its number



observation & experimentation



Robert Hooke
1635–1703

Hooke & Boyle

"Trials in Chymistry, or Mechanicks ...
the right Art of Experimenting"

— Sprat

justifying technology

"I judged that whatever men's eyes were in the
younger age of the World, our eyes in this old
age of it needed spectacles"

— Hooke



Robert Boyle
1627–1691



John Wilkins
1614–1672



Henry Oldenburg
1619–1677



communication

corresponding secretary

"their intention was more to communicate to each other their discoveries ... some resemblance, to the Academy lately begun at Paris ... to all the learned world they called for aid"

— Sprat

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"publish'd to the world"

"[Publication] is a most heroick Invention: For by such concealments, there may come very much hurt to mankind. If any certain remedy should be found out against an Epidemical disease; if it were suffer'd to be ingross'd by one man, there would be great swarms swept away, which otherwise might be easily sav'd."

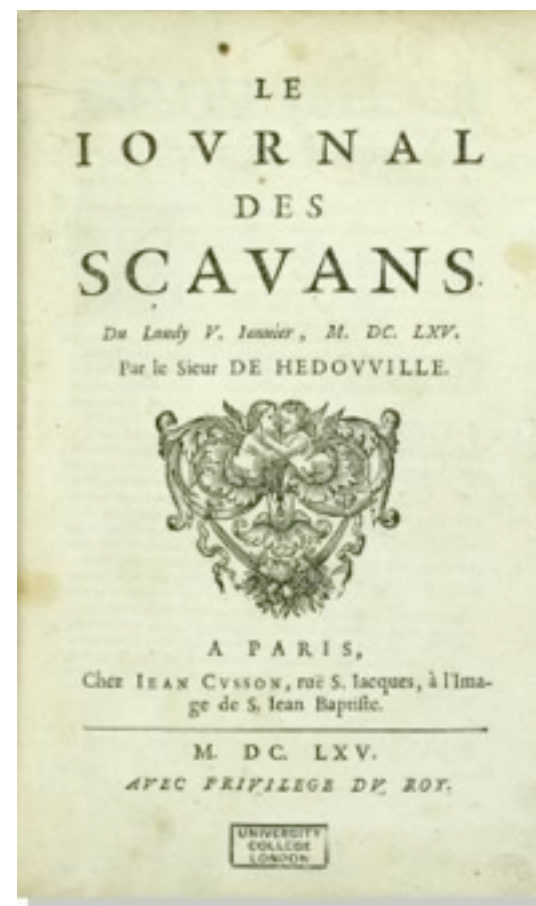
— *Sprat*

"Hooke concealed his invention about Watches too long; pray tell him not to do so with what other things hee hath of that kind"

— *Oldenburg*

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Journal des Scavans,



L'IMPRIMEUR AV LECTEUR.



Le dessein de ce Journal estant de faire sçavoir ce qui se passe de nouveau dans la Republique des lettres, il sera composé,

Premierement d'un Catalogue exact des principaux livres qui s'imprimeront dans l'Europe. Et on ne se contentera pas de donner les simples titres, comme ont fait jusques à present la plupart des Bibliographes: mais de plus on dira de quoy ils traitent, & à quoy ils peuvent estre utiles.

Secondement, quand il viendra à mourir quelque personne celebre par sa doctrine & par ses ouvrages, on en fera l'Eloge, & on donnera un Catalogue de ce qu'il aura mis au jour, avec les principales circonstances de sa vie.

En troisieme lieu on fera sçavoir les experiences de Physique & de Chymie; qui peuvent servir à expliquer les effets de la Nature: les nouvelles decouvertes qui se font dans les Arts & dans les Sciences, comme les machines & les inventions utiles ou curieuses que peuvent fournir les Mathematiques: les observations du Ciel, celles des Meteores, & ce que l'Anatomie pourra trouver de nouveau dans les animaux.

En quatrieme lieu, les principales decisions des Tribunaux Seculiers & Ecclesiastiques, les censures de Sorbonne & des autres Universitez, tant de ce Royaume que des Pays estrangers.

Enfin, on taschera de faire en sorte qu'il ne se passe rien dans l'Europe digne de la curiosité des Gens de lettres, qu'on ne puisse apprendre par ce Journal.

Le seul denombrement des choses qui le composeront pourroit suffire pour en faire connoistre l'utilité. Mais j'edifieray qu'il sera tres-advantageux à ceux qui entreprendront quelque ouvrage considerable, puis qu'ils pourront s'en servir pour publier leur dessein, & informer tout le monde à leur communiquer les manuscrits, & les pieces fugitives qui pourront contribuer à la perfection des choses qu'ils auront entreprises.

PHILOSOPHICAL TRANSACTIONS.

(10)

An Account of a very odd Monstrous Calf.

By the same Noble person was lately communicated to the *Royal Society* an Account of a very Odd Monstrous Birth, produced at *Limmington* in *Hampshire*, where a Butcher, having caused a Cow (which cast her Calf the year before) to be covered, that she might the sooner be fatted, killed her when fat, and opening the Womb, which he found heavy to admiration, saw in it a Calf, which had begun to have hair, whose hinder Leggs had no Joynts, and whose Tongue was, *Cerberus*-like, triple, to each side of his Mouth one, and one in the midst: Between the Fore-leggs and the Hinder-leggs was a great Stone, on which the Calf rid: The *Sternum*, or that part of the Breast, where the Ribs lye, was also perfect Stone; and the Stone, on which it rid, weighed twenty pounds and a half; the outside of the Stone was of Grenish colour, but some small parts being broken off, it appeared a perfect Free-stone. The Stone, according to the Letter of Mr. *David Thomas*, who sent this Account to Mr. *Boyle*, is with Doctor *Haughteyn* of *Salisbury*, to whom he also referreth for further Information.

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

Vol. I.

For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for Iohn Marijn at the Bell, a little under
out Temple-Bar, and James Allibon at South Lane:
Printers to the Royal Society.



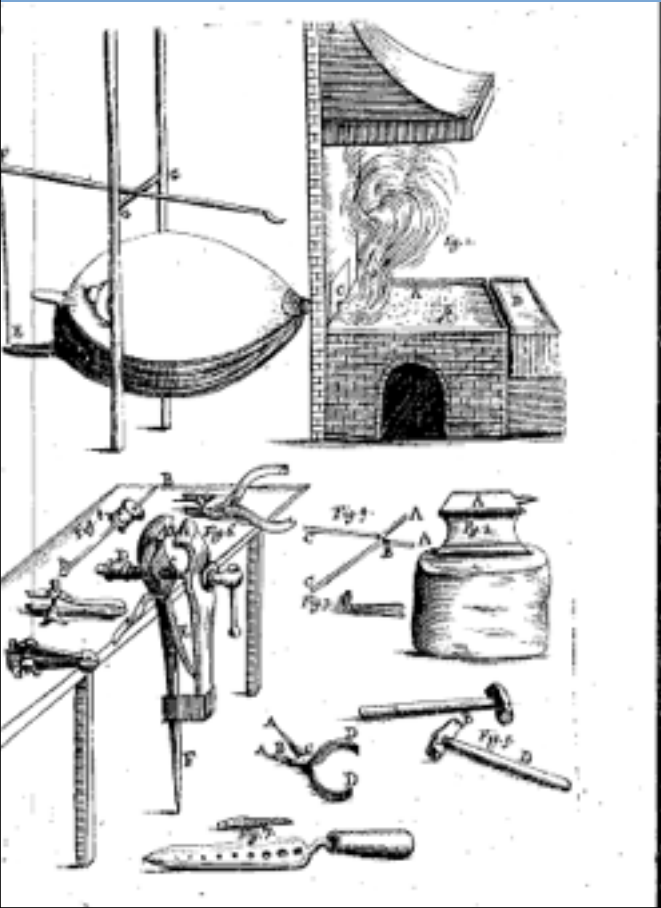
Joseph Moxon
1627–1691

not so philosophical

philosophers, physicians, and mechanics

"this freedom ... which they use in embracing
all assistance ... is most advantageous to them"

—Sprat



MECHANICK
EXERCISES,
OR,
The Doctrine of
Handy-works.

Began Jan. 1. 1677. And intended to be
Monthly continued.

By Joseph Moxon Hydrographer to the
Kings most Excellent Majesty.



LONDON.

Printed for Joseph Moxon at the sign of Atlas on
Ludgate-Hill, 1677.

Numb. I.

1

MECHANICK EXERCISES:

Or, the Doctrine of

Handy-works.

Applied to the Art of

Printing.

P R E F A C E.

BEfore I begin with Typographie, I shall say
some-what of its Original Invention; I mean
here in Europe, not of theirs in China and
other Eastern Countries, who (by general
assent) have had it for many hundreds of years,
though their Invention is very different from ours; they
Cutting their Letters upon Blocks in whole Pages or

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Charles II
1630–1685

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weird demos

royal mockery

"the King came and stayed an hour or two laughing at Sir W. Petty, who was there about his boat; and at Gresham College in general; at which poor Petty was, I perceive, at some loss; but did argue discreetly, and bear the unreasonable follies of the King's objections and other bystanders with great discretion; .. but the King ... cried him down with words only. Gresham College he mightily laughed at, for spending time only in weighing of ayre, and doing nothing else since they sat."

--Pepys, *Diary* February 1, 1663/4

trouble for the virtuosi



airheads

"I have sent one to weigh Air at the Picque of Teneriff that's the lightest Air. I shall have a considerable Cargo of that Air. Sheerness and the Isle of Dogs Air is the heaviest. Now if I have a mind to take Countrey Air, I send for, may be, forty Gallons of Bury Air, shut all my windows and doors close and let it fly in my Chamber."

Shadwell, *Virtuoso* 1676



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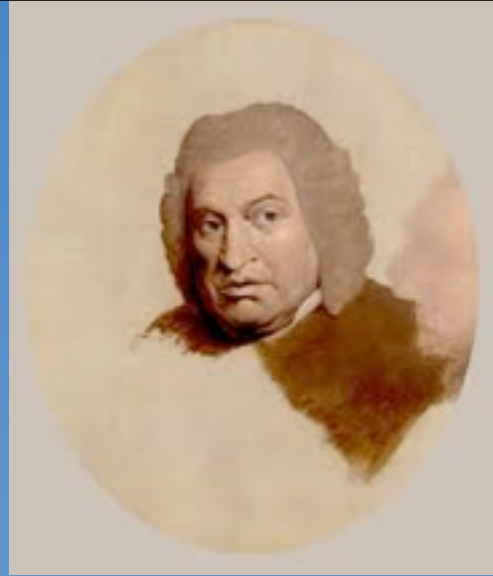
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Samuel Johnson
1708–1784

"Love of Life in the one, and of Money in the other,
creates a good Correspondence"
— Steele

health sciences

dashed hopes

"[T]he time was supposed to be near,
when ... health [should] be secured by the
universal medicine;

"The society met and parted without any
visible diminution of the miseries of life.
The gout and stone were still painful."

--Samuel Johnson, *Idler* 1759

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BUBONIC PLAGUE IN CALIFORNIA.
The information given out by the Marine Hospital Service that since Feb. 22 there have been thirty-one deaths from bubonic plague in San Francisco and three others in California outside the city is sufficiently startling to impose upon the Governor of that State a duty of a very exigent character. For some time there has been a conflict of opinion, and possibly of authority, between the California State Board of Health and the Board of Health of San Francisco. The State Board insists that there is no bubonic plague on the Pacific Coast. The local board insists that it not only exists but is steadily increasing. Surgeon General WYMAN of the Marine Hospital Service appears to agree with President HUTCHINSON of the local board.

New York Times
November, 1902

great fears

the plague and the pox

bubonic plague

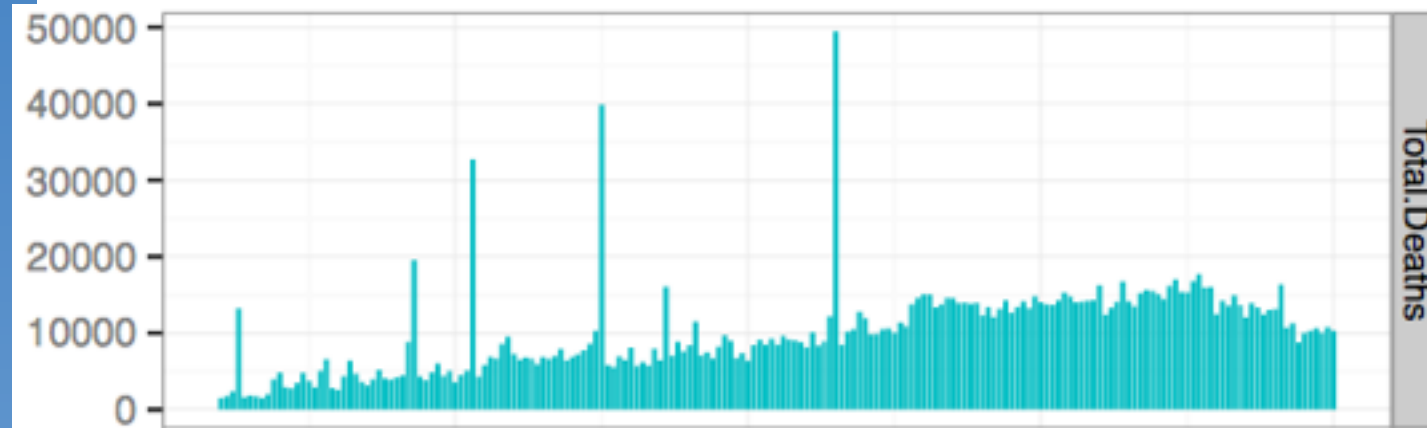
“Black Death” & the silk road

Mongolia, 1330; Europe 1347

smallpox



Samuel Pepys
1633–1703



plague

The towne grows very sickly, and people to be
afeard of it; there dying this last week of the
plague 112, from 43 the week before. The
Mortality Bill is come to 267; June 29th, 1665
Above 700 died of the plague this week.

—Pepys' *Diary*, July 13, 1665

The sickness is... almost every where, there
dying 1089 of the plague this week.

—July 19, 1665



"Elixirs .. Pills and Lozenges .. infallible,
and never fail of success." — Steele

plague years

Daniel Defoe
1660?–1731

print: solution or problem?

"Some endeavours were used to suppress the printing of such books as terrified the people... these terrors ... led them into a thousand weak, foolish, and wicked things .. running about to fortune tellers ... streets were plastered over with doctors' bills and papers of ignorant fellows, quacking and tampering in physic, and inviting people to come to them for remedies . 'infallible preventive pills against the plague' ... 'Sovereign cordials against the corruption of the air'"

--Defoe, *Journal of the Plague Year*, 1722





advice of the physician

PROCLAMATION

" 'That no hogs dogs, or cats, ... be kept within any part of the city' ...

"Wherefore were we ordered to kill all the dogs and cats, but because as they were domestic animals, and are apt to run from house to house ...so they are capable of carrying ...

infectious streams ... even in their furs and hair ... by the advice of the physician, that all dogs and cats should be immediately killed."

—Defoe, *Plague Years*



plague to pox

smallpox

Queen Anne (1665-1714)

17 pregnancies, 3 still births, 10 miscarriages

3 died in infancy of **smallpox**

William Duke of Gloucester (1689-1700)



Plains Indians

perhaps 90% of indigenous population

fighting back: inoculation

Turkey to England

Lady Mary Wortley Montagu

Charles Maitland

1721

hairs and blisters



Lady Mary Wortley
Montagu
1689–1762

The SMALL-POX.

FLAVIA.

THE wretched FLAVIA on her couch reclin'd,
Thus breath'd the anguish of a wounded mind ;
A glafs revers'd in her right hand she bore,
For now she shun'd the face she fought before.

' How am I chang'd ! alas ! how am I grown
' A frightful spectre, to myself unknown !
' Where's my Complexion ? where my radiant Bloom,
' That promis'd happiness for Years to come ?
' Then with what pleasure I this face survey'd !
' To look once more, my visits oft delay'd !
' Charm'd with the view, a fresher red would rise,
' And a new life shot sparkling from my eyes !

Mr. MAITLAND'S
ACCOUNT
OF
INOCULATING
THE
SMALL POX
Vindicated,

From Dr. WAGSTAFFE'S Misrepresentations of that PRACTICE ;
with some Remarks on Mr. MASEY'S Sermon.

The Second Edition.

To which is added,
His First ACCOUNT of Inoculating
the SMALL POX.

L O N D O N :

Printed and Sold by J. PEELE, at Lock's
Head in Paternoster-Row. 1722.

by
John Arbuthnot
1667–1735



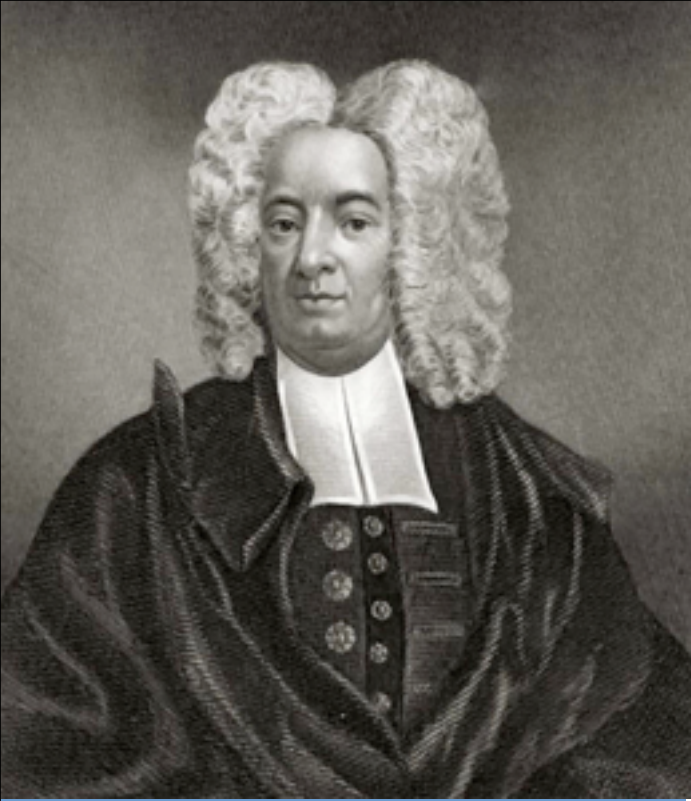
Voltaire
[François-Marie
Arouet]
1694–1778

french resistance?

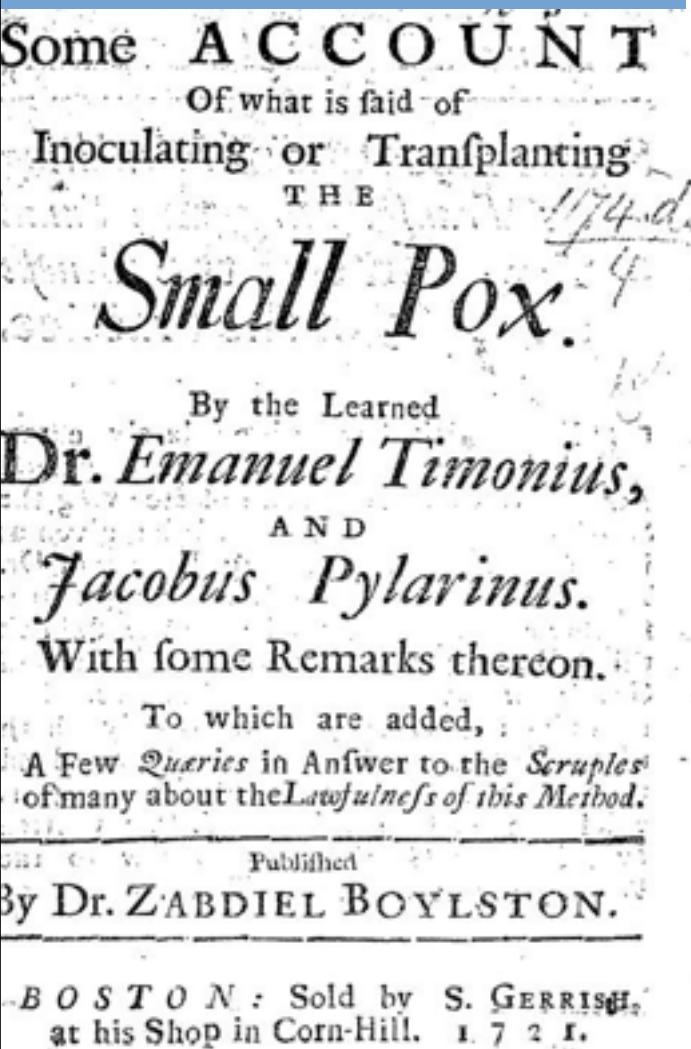
"It is whispered in Christian Europe that the English are mad and maniacs: mad because they give their children smallpox to prevent their getting it, and maniacs because they cheerfully communicate to their children a certain and terrible illness with the object of preventing an uncertain one. The English on their side say:

'The other Europeans are cowardly and unnatural: cowardly in that they are afraid of giving a little pain to their children, and unnatural because they expose them to death from smallpox some time in the future.' To judge who is right in this dispute, here is the history of this famous inoculation which is spoken of with such horror outside England."

—Voltaire, *Letters on England*



Cotton Mather
1663–1728



"Cotton Mather, you dog, dam you! I'll inoculate you with this; with a pox to you" [note attached to missile]

crossing the Atlantic

Boston outbreak 1721

"Inquiring of my Negro-man, Onesimus, who is a pretty intelligent fellow, whether he had ever had the smallpox, he answered both yes and no. He told me that he had undergone the operation which had given something of the smallpox and would forever preserve him from it, adding that was often used in West Africa."

–Cotton Mather



Benjamin Franklin
1706–1790

To the Author of the New-England Courant,
S I R,

Reading in your last a Story concerning Inoculation, with the News of the intended Expedition against the Eastern Indians; they casually lodged together in the same Apartment of my Brain, and by next Morning formed themselves into the following Project.

A Project for reducing the Eastern Indians by Inoculation.

That there be forthwith enlisted a sufficient number of Inoculators, to be commanded by a Major General Inoculator, who in Quality of a Field Officer, may do Duty on Horseback.

That they be completely armed with Incision-Lanceet, Pandora's Box, Nut-Shell and Fillet; their Exercise and Discipline to be according the Practice of that able and experienc'd Officer amongst the Turks (our Inoculator General's good Friend and intimate Acquaintance) Capt. General Timonius.

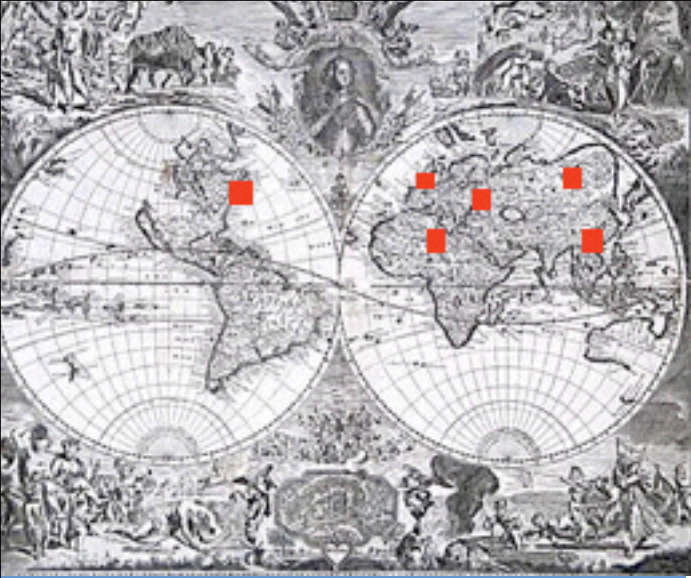
That their Ammunition be of the best Proof, that is, a Composition of Negro Yaws, and confluent Small Pox.

That the Inoculators be all Volunteers, who besides their usual Fees, and travelling Charges, may be allowed a Gratuity of 10 l. per Head, of each Indian who survives, conveys and spreads the Infection amongst his Tribe; and of 5 l. per Head for those who blow up too soon (or die) before they reach the Places where Execution is intended.

That in Consideration of the difference of Climate, and other more pressing Occasions, the Timonius directs such Expeditions to be made only in Winter and Spring, ours shall be in Summer, as in all Probability like to do most Execution in that Season.

The three greatest Evils incident to Mankind, are the Sword, Famine and Pestilence. The first, or War, hath been allowed and practised by all Nations in all Ages. The second is also made use of to annoy an Enemy; as in the Instance of Blockading, or starving strong Towns: But the doing of Execution by Infection or Pestilence, seems reserved for the Honour of the Inoculator and his Associates. That it is glorious and Lawful we have had it lately sufficient.

young
fellow



where was the scientific revolution?

inoculation/variolation

India:	8th century
China:	10th century
Tibet:	11th century
Africa:	?
Turkey:	? 16th century
England, France, US:	18th century

recurring resistance

18th, 19th, 20th, 21st century

Andrew Wakefield sues BMJ for claiming MMR study was fraudulent
BMJ and investigative journalist stand by allegations in article about research linking MMR vaccine to autism

Ian Sample, science correspondent
guardian.co.uk, Thursday 5 January 2012 13.17 EST



NATURAL
Natural Health News & Scientific Discoveries

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PHARMA & HEALTHCARE | 8/09/2013 @ 5:20PM | 180,975 views

Court Rulings Don't Confirm Autism-Vaccine Link



431 comments, 411 called-out

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There's [a post](#) making the rounds courtesy of something called "Whiteout Press" with the headline "Courts confirm vaccines cause autism." It's spreading across sites, through chains of elementary school parent communities, and onto radars of other communities that overlap. In other words, it's viral. If only there were a vaccine for it.



The post itself is a cobbled together retelling of stories everyone's already known for years. Whiteout Press might have been surprised to learn about this "ongoing story," but each element of it has been widely reported in the mainstream media over the last decade and a half, in exceptional detail.

Breaking: Courts discreetly confirm MMR vaccine causes autism

Tuesday, September 03, 2013 by: Jonathan Benson, staff writer
Tags: [MMR vaccines](#), [autism](#), [court ruling](#)

overview

what came before

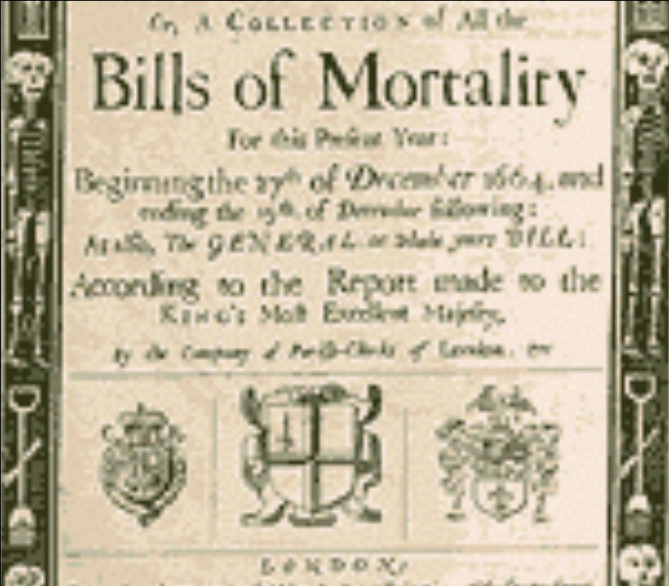
who was involved

what happened

problems

case histories

whom to trust?



"The Mortality Bill is come to 267" —Pepys

big data

A generall Bill for this present year, ending the 19 of December 1665. according to the Report made to the KING's most Excellent Majesty.

By the Company of Parish Clerks of London, &c.

The Diseases and Casualties this year.

A Borne and Stillborne	517	Executed	21	Pallie	30
Aged	1545	Flux and Small Pox	655	Plague	68598
Ague and Peaver	5257	Found dead in Streets, fields, &c.	21	Planner	6
Apoplexy and Suddenly	116	French Pox	86	Plurisie	19
Bedrick	10	Frighted	23	Pox forid	4
Blasind	9	Gout and Sciatica	27	Quinta	35
Bleeding	16	Grief	46	Rickets	197
Bloody Flux, Scouring & Flux	185	Gripping in the Guts	1238	Killing of the Lights	197
Burnt and Scalded	8	Hanged & made away themselves	7	Luprue	14
Colicree	3	Headmole shot & Mouldfallen	14	Scurvy	107
Cancer, Gangrene and Fiftula	56	Jaundies	100	Shingles and Swine pox	2
Canker, and Thrush	121	Imposiune	127	Sores, Ulcers, broken and heilled	14
Childbed	625	Killd by severall accidents	46	Limbs	82
Chiltnes and Infants	1258	Kings Evil	26	Spleen	14
Cold and Cough	65	Leprosie	2	Spotted Fever and Purples	1929
Collick and Winde	134	Lethargy	14	Scorping in the Gormack	314
Consumption and Tiflick	4808	Livergrowne	21	Stone and Strangury	18
Convulsion and Morue	1056	Meagrom and Headach	12	Sucket	1001
Distracted	5	Measles	7	Teeth and Worms	1014
Devote and Turpany	1476	Mothered and Shot	9	Vomiting	51
Drowned	5	Overjaid & Starved	45	Vunn	7
Males — 5114 Females — 4853 In all — 9967		Males — 48569 Females — 48017 In all — 96586		Of the Plague — 68598	

Increased in the Burials in the 130 Parishes and at the Pest-house this year. 79009
 Increased of the Plague in the 130 Parishes and at the Pest-house this year. 68598

1603: regular bills of mortality

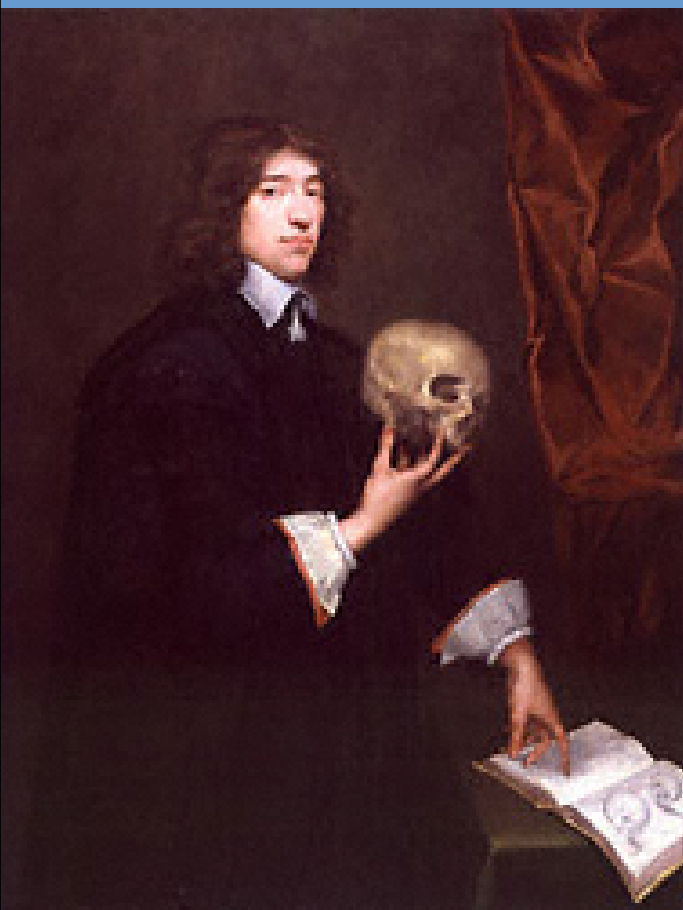
1611: incorporation of parish clerks counting by "searchers"

1629: other deaths

1728: age of deceased

1837: last bills

trustworthy?



William Petty
1623–1687

William Petty, RS

surveyor

Political Arithmetic of Ireland

velocity of circulation

natural vs market price

economic surplus

population change



John Graunt
1620–1674

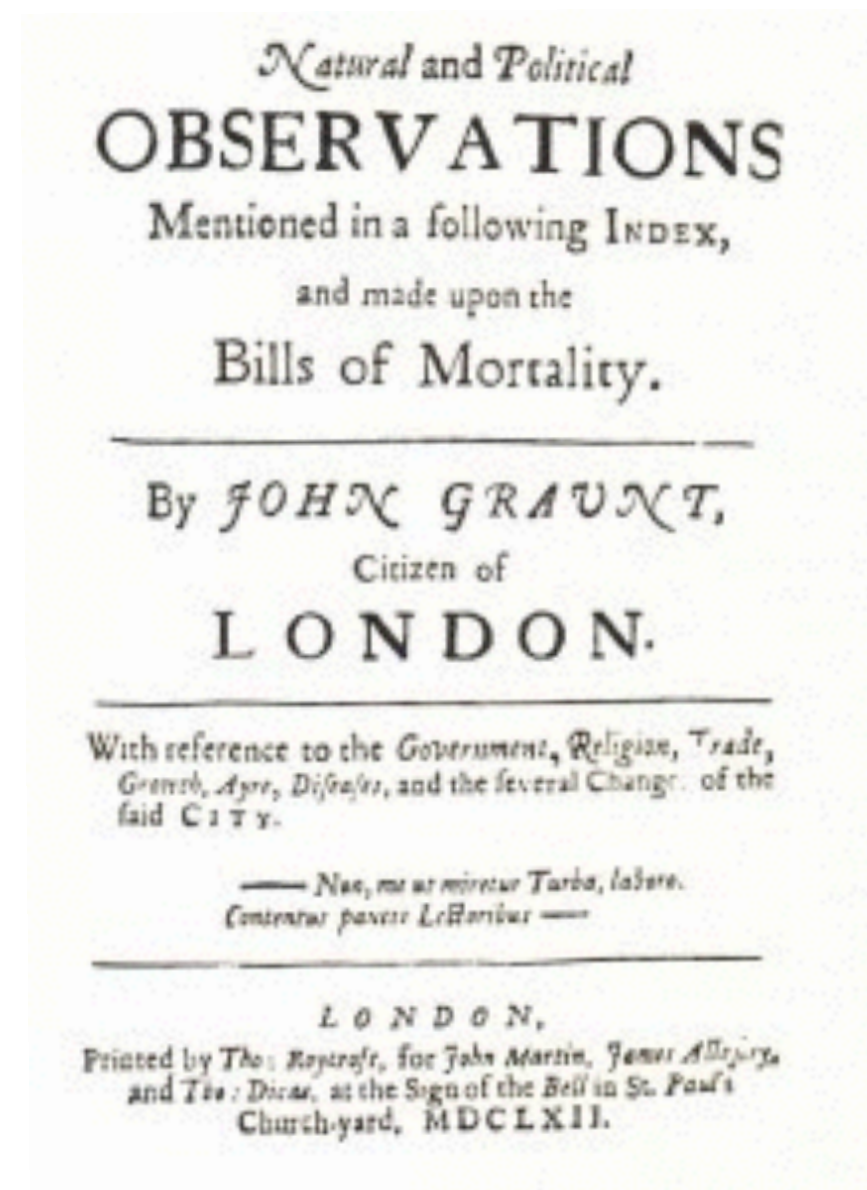
in a class of his own?

John Graunt, RS

*Natural and Political
Observations ...*

upon the Bills of Mortality
1662

shopkeeper's math



"His Majesty gave
this particular
charge to His
Society, that if
they found any
more such
Tradesmen, they
should be sure to
admit them all,
without any more
ado."

--Sprat

whom to trust?



Cotton Mather

Wonders of the Invisible World, 1693

defense of witch trials:

"An army of devils is horribly broke in upon the place which is the center, and after a sort, the first-born of our English settlements"



Benjamin Franklin

Fellow of the Royal Society



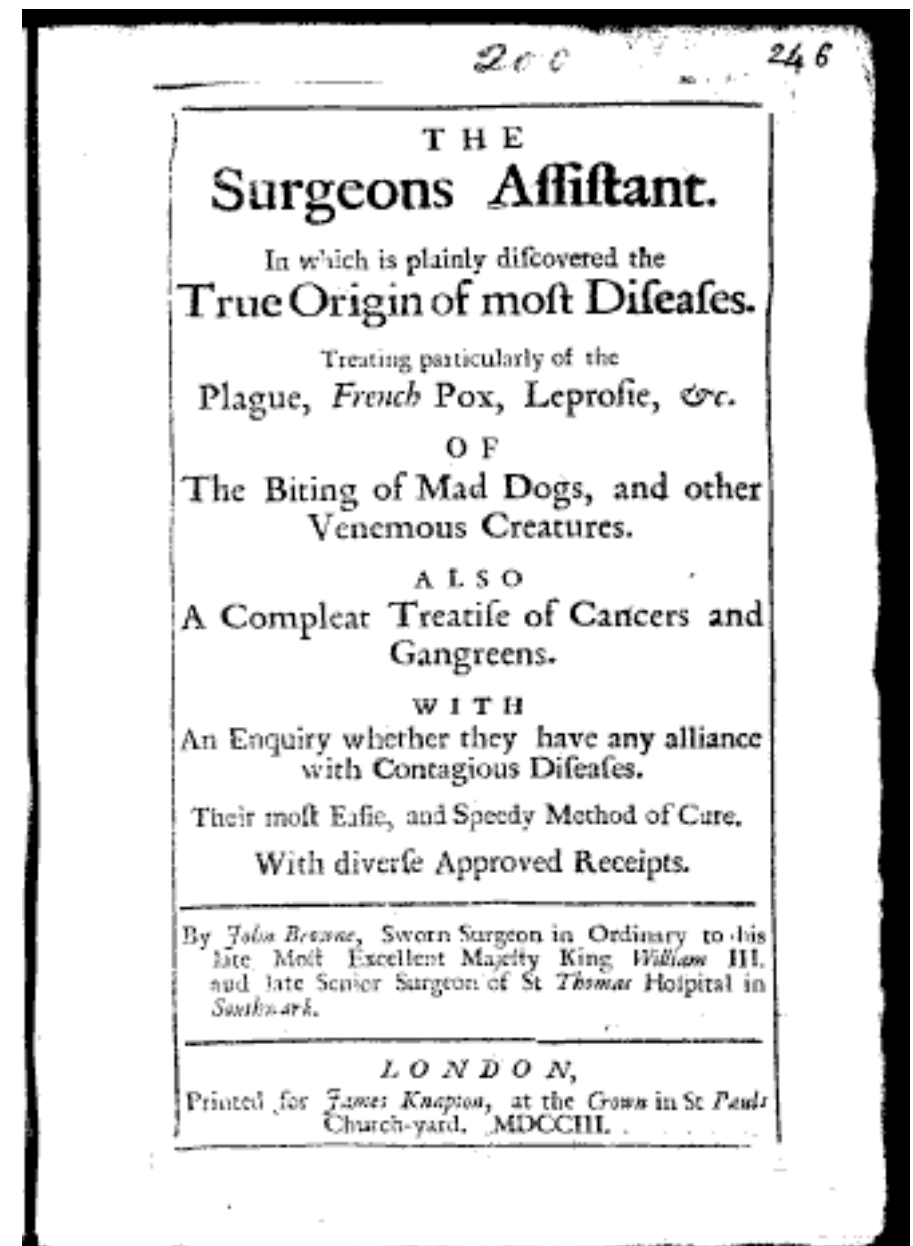
open science

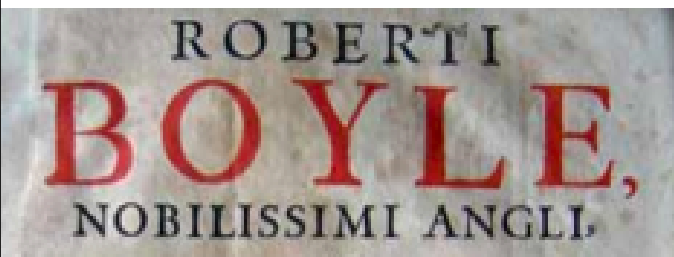
matters of trust

in *books*

in *machines*

in *people*





social revolution

significant developments?

scientific societies

the English gentleman

"Though the Society entertains very many men of particular Professions; yet the farr greater Number are Gentlemen, free, and unconfi'n'd. ...

"to commit the Work to the care of such men, who, by the freedom of their education the plenty of their estates, and the usual generosity of Noble Bloud, may be well suppos'd to be most averse from such sordid considerations."

"we find many
Noble Rarities to
be every day
given in, not
only by the
hands of Learned
and profess'd
Philosophers; but
from the Shops of
Mechanicks; from
the Voyages of
Merchants; from
the Ploughs of
Husbandmen; from
the Sports, the
Fishponds, the
Parks, the
Gardens of
Gentlemen"

--Sprat

Nullius in Verba?

establishing authority

(1)

Numb. 1.

PHILOSOPHICAL TRANSACTIONS.

Munday, March 6. 1664.

The Contents.

An Introduction to this Tract. An Accompt of the Improvement of Optick Glasses at Rome. Of the Observation made in England, of a Spot in one of the Belts of the Planet Jupiter. Of the motion of the late Comet predicted. The Heads of many New Observations and Experiments, in order to an Experimental History of Cold; together with some Thermometrical Discourses and Experiments. A Relation of a very odd Monstrous Calf. Of a peculiar Lead-Ore in Germany, very useful for Essays. Of an Hungarian Bolus, of the same effect with the Bolus Armenus. Of the New American Whale-fishing about the Bermudas. A Narrative concerning the success of the Pendulum-watches at Sea for the Longitudes; and the Grant of a Patent thereupon. A Catalogue of the Philosophical Books published by Monsieur de Fermat, Counsellour at Tholouse, lately dead.

Beginning the Thirty first Volume.

PHILOSOPHICAL TRANSACTIONS.

For the Months of *January, Feb. March and April.* 1720.

The CONTENTS.

- I. *Some Remarks on a late Essay of Mr. Cassini, wherein he proposes to find, by Observation, the Parallax and Magnitude of Sirius.* By Edmund Halley, L. L. D. Astron. Reg. Geom. Prof. Savil. & R. S. S.
- II. *An Account of the External Maxillar, and other Salivary Glands: Also of the Insertions of all the Lymphatics (as well above as below the Subclavians) into the Veins; which Glands and Insertions have not hitherto been mentioned, or not truly described by any Authors.* By Richard Hale, M. D. Reg. Soc. & Col. Med. Lond. Soc.
- III. *De Peste Constantinopoli grassante. Auctore nupero V. Cl. Emanuele Timone, M. D. Hoc scriptum ab Auctore Clarissimo, qui Constantinopoli per multos annos Medicinam fecerat, Excellentissimo Ablegato Britannico, Roberto Sutton, Eq. Aurato, traditum, ejusdem Equitis permissu, cum Societate Regia communicavit idem R. Hale, M. D.*
- IV. *An Account of a Luminous Appearance in the Air, seen at Dublin on January the 12th, 17th.* By Philip Percival, Esq; Brother to the Right Honourable the Lord Percival, F. R. S. and communicated by his Lordship to the Royal Society.

V. Of

authors' authority

- V. *Of the Infinity of the Sphere of Fix'd Stars.* By Edmund Halley, L. L. D. R. S. S.
- VI. *Of the Number, Order, and Light of the Fix'd Stars.* By the same.
- VII. *An Account of the Method of making Sugar from the Juice of the Maple Tree, in New England.* By the Honourable Paul Dudley, Esq; F. R. S. Communicated by John Chamberlayne, Esq.
- VIII. *A Copy of an Affidavit made in Scotland, concerning a Boy's living a considerable time without Food.* Communicated by Patrick Blair, M. D. F. R. S.
- IX. *A Discourse concerning a Method of discovering the Virtues of Plants by their External Structure.* By the Same.
- X. *An Account of a Book, Entituled, Geometria Organica, sive Descriptio Linearum Curvarum Universalis. Auctore Colino Mac Laurin, Matheseos in Collegio Novo Abredonensi Professore, & R. S. S.*

EXPERIMENTS

IN

CONSORT
OF THE
LUCTATION
ARISING

From the Affusion of several
MENSTRUUM

Upon all sorts of Bodies.

To which is added

The Nature, Causes, and Power
of Mixture.

Exhibited to the Royal Society

By NEHEMIAH GREW, M.
and Fellow of the Royal Society.

LONDON,

Printed for John Martyn, Printer to
Royal Society, at the Bell in S. Paul
Church-yard. 1678.

New EXPERIMENTS,
And Useful
OBSERVATIONS
CONCERNING

Sea-Weather

MADE
FRESH

According to the
Patentees Invention

In a Discourse Humbly De-
scribed to His Majesty the King
of Great-Britain, &c.

By a Fellow of the Colledge of
Physicians, and of the Royal-

Printed Anno Dom. 1681

"well constituted government have always made
the profession of a physician both honourable
and useful" —Steele

battling books

AN
EXAMINATION

OF
Mr. John Colbatch

HIS
BOOKS, viz.

- I. *Novum Lumen Chirurgicum.*
- II. *Essay of Alkalies and Acids.*
- III. *An Appendix to that Essay.*
- IV. *A Treatise of the Gout.*
- V. *The Doctrine of Acids further Asserted,*
&c.
- VI. *A Relation of a Person Bitten by a Viper,*
&c.

To which is added,
An Answer to Dr. Leigh's Remarks on a Treatise
concerning the Heat of the Blood.

Together with
Remarks on Dr. Leigh's Book intituled *Exerci-*
tationes Quing; Printed at a private Press in Oxford
without the License of the University.

AS ALSO
A short View of Dr. Leigh's Reply to Mr. Colbatch, &c.

By RICHARD BOULTON, of
Brazen-Nose College in OXFORD.

LONDON,
Printed for Tho. Bennet, at the Half-Moon
in St. Pauls Church-yard 1699.

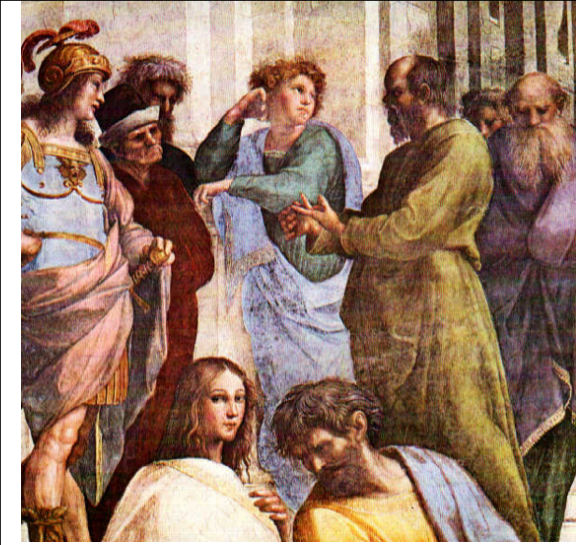
A Compleat *Delivered*
TREATISE
OF
URINES,

Shewing the right Method of
Urinal Prognostication,

Far different
From the Common Practice
OF
Quacks and Mountebanks.

By T. H. ^{ICKS} Pharmacop. Rustican.

Pro Captu Lectoris habent sua fata libelli.



going closed?

Let us consider the matter in this way: If the wise man or any other man wants to distinguish the true physician from the false, how will he proceed?

.... He will consider whether what [the physician] says is true, and whether what he does is right, in relation to health and disease?

... But can any one attain the knowledge of either unless he have a knowledge of medicine?

... No one at all, it would seem, except the physician can have this knowledge; and therefore not the wise man; he would have to be a physician as well as a wise man.

–Plato, *Charmides*

"experience ...
tells us, that
greater things
are produc'd, by
the free way,
than the formal"

--Sprat

open again

US 19th Century—the challenge of cholera

Jacksonian independence:

dismantling medical societies

resisting vaccination

opposing controls on food and drugs

in sum

**questions of information quickly turn into
questions of validation, authority,
institutions, and reputation**

up ahead

2/18/2014: The Public Sphere

Addison, Joseph. 1711. "Uses of the Spectator." *The Spectator*, No. 10. March 13.

Read: Entire article

Source: ourcivilisation [[hyperlink](#)]

Steele, Richard. *The Spectator*, No. 49, Thursday, April 26, 1711.

Read: Entire article

Source: Google books [[hyperlink](#)]

Addison, Joseph. 1711. "The Political Upholsterer." *The Tatler*, No. 155. April 6

Read: Entire article

Source: Google books [[hyperlink](#)]

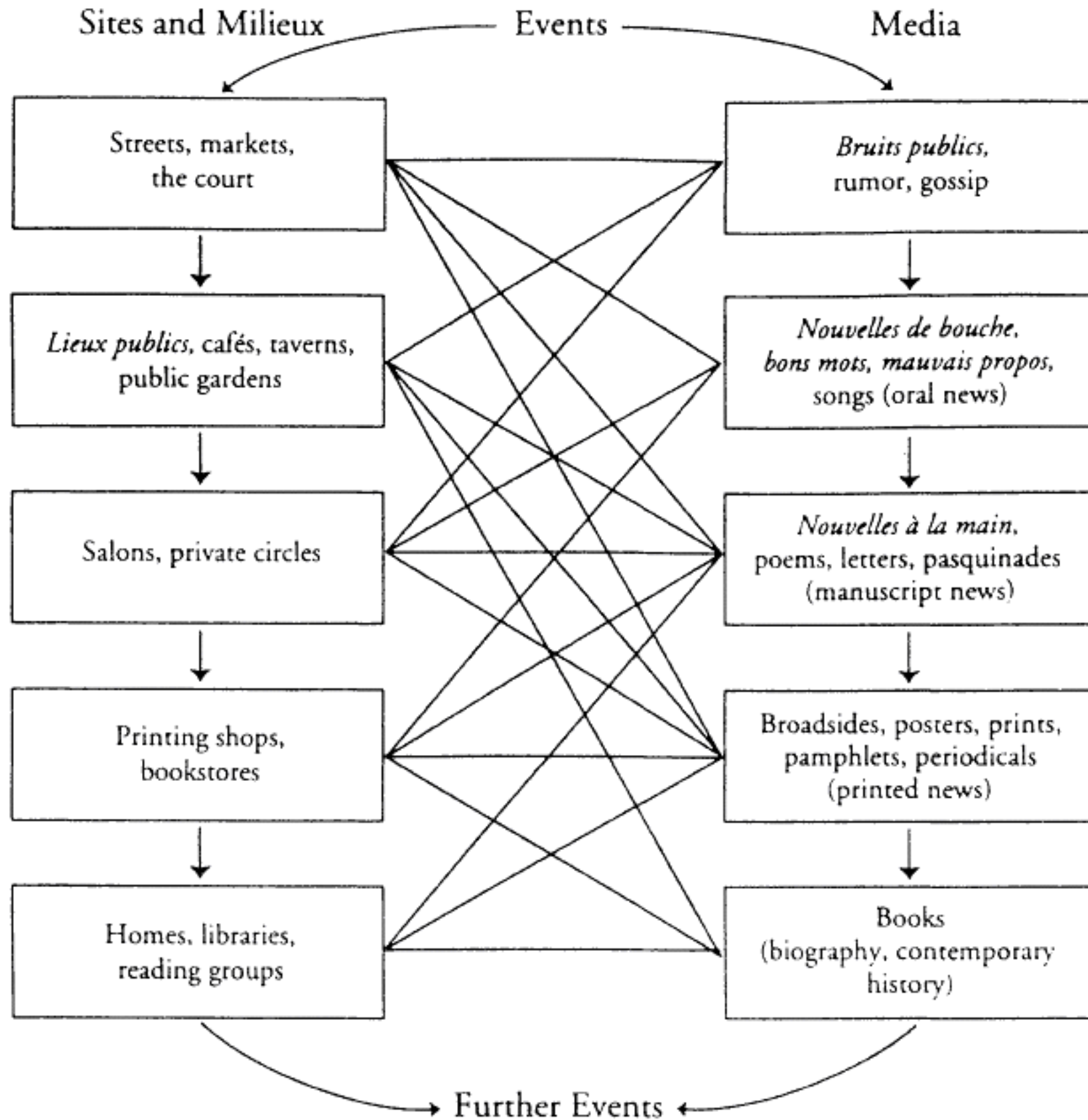
Darnton, Robert. 2000. "An Early Information Society: News and the Media in Eighteenth-Century Paris." *American Historical Review* 105.1.

Read: Entire article

Source: JSTOR [[hyperlink](#), library proxy]

Pick a recent story involving UC Berkeley (though not necessarily only Berkeley) that has attracted coverage in the news media and that has been relevant enough to become a topic of conversation. (This could be the appointment of Janet Napolitano as president or its aftermath, prospective tuition hikes, admissions policies, the death of a football player, issues of sexual assault, the recent power outage, etc.) Enumerate the sources from which you obtained information about the story--for example, gossip, conversation, class discussion, social media, broadcast & print media, etc. Making allowances for technological change, would you say that Darnton's observations about the interaction of oral and written genres are still relevant?

If you like, you can include a diagram like the one Darnton gives on p. 8.



Darnton's diagram

FIGURE 3: A schematic model of a communication circuit. From Robert Darnton, *The Forbidden Best-Sellers of Pre-Revolutionary France* (New York, 1995), 189.