

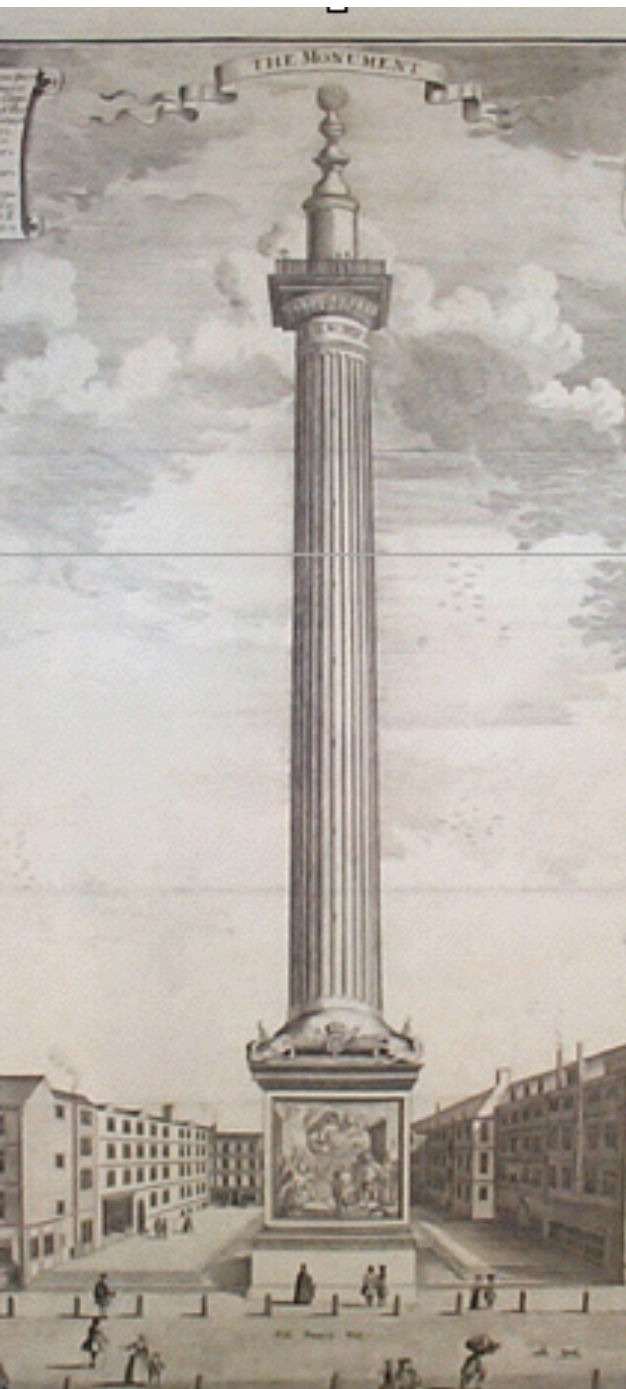


scientific "revolution"

searching for truth

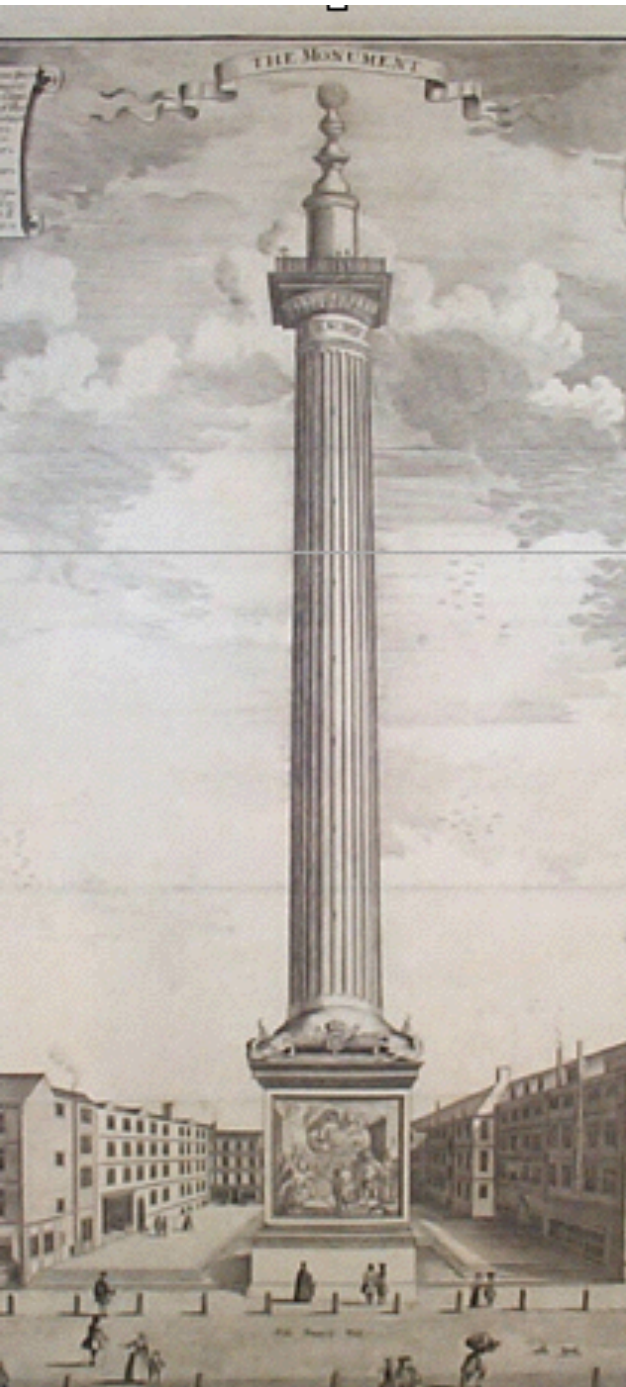
History of Information

Feb 12, 2015





scientific "revolution"



searching for truth

History of Information

Feb 12, 2015

...impact of printing,
...y literate groups in
early modern Europe, changed the
character of the Italian Renaissance and
ought to be considered among the causes
of both the Protestant Reformation and
the Rise of modern science."

— Eisenstein

another 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



authenticity & authority
trust and truth

in the news

Natural Solutions Foundation 9/23/14




UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION
BUREAU OF CONSUMER PROTECTION
WASHINGTON, D.C. 20580

DEPARTMENT OF HEALTH
AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION
SILVER SPRING, MD 20993

WARNING LETTER

SEP 23 2014


VIA OVERNIGHT DELIVERY
RETURN RECEIPT REQUESTED


Rima Laibow
Ralph Fucetola
Natural Solutions Foundation
58 Plotts Road Newton, NJ 07860
nsfinmarketplace@gmail.com

Reference #14-NWJ-11

Dear Dr. Laibow:

This is to advise you that in August 2014 the U.S. Food and Drug Administration (FDA) and the United States Federal Trade Commission (FTC) reviewed your websites at <http://www.drmatruthreports.com> and <http://www.nsfmarketplace.com>, from which you take orders for several of your products, including your "Dr. Rima



Donald J. Trump 
@realDonaldTrump

If this doctor, who so recklessly flew into New York from West Africa, has Ebola, then Obama should apologize to the American people & resign!

4:38 PM - 23 Oct 2014

1,997 RETWEETS 2,124 FAVORITES



"Only *Nano Silver* can prevent an Ebola Global Health Security cataclysm. We are only one airplane ride away from a world pandemic." Maj. Gen. Albert N. Stubblebine III (Us A. Ret.) President, Natural Solutions Foundation



<http://tinyurl.com/StopEbola>

Rima Laibow MD
Natural Solutions Foundation
Medical Director Recommends
Pro-Immunity Nutrient *Nano Silver*
www.DrRimaKnows.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.









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Wonkblog

The U.S. government is poised to withdraw longstanding warnings about cholesterol



A



798

By Peter Whoriskey February 10 [Follow @PeterWhoriskey](#)

Time to put eggs back on the menu? (Deb Lindsey for The Washington Post)

The nation's top nutrition advisory panel has decided to drop its caution about eating cholesterol-laden food, a move that could undo almost 40 years of government warnings about its consumption.

The group's finding that cholesterol in the diet need no longer be considered a "nutrient of concern" stands in contrast to the committee's findings five years ago, the last time it convened. During those proceedings, as in previous years, the panel deemed the issue of excess cholesterol in the American diet a public health concern.

Natural Solutions Foundation 9/23/14



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Most Read Business

- 1 U.S. poised to adjust warnings about cholesterol



- 2 Your lifetime earnings are probably determined in your 20s



- 3 Why many restaurants don't actually want you to order dessert



- 4 A bad quarter for Exxon Mobil is still better than a good one for 20 top solar companies - combined

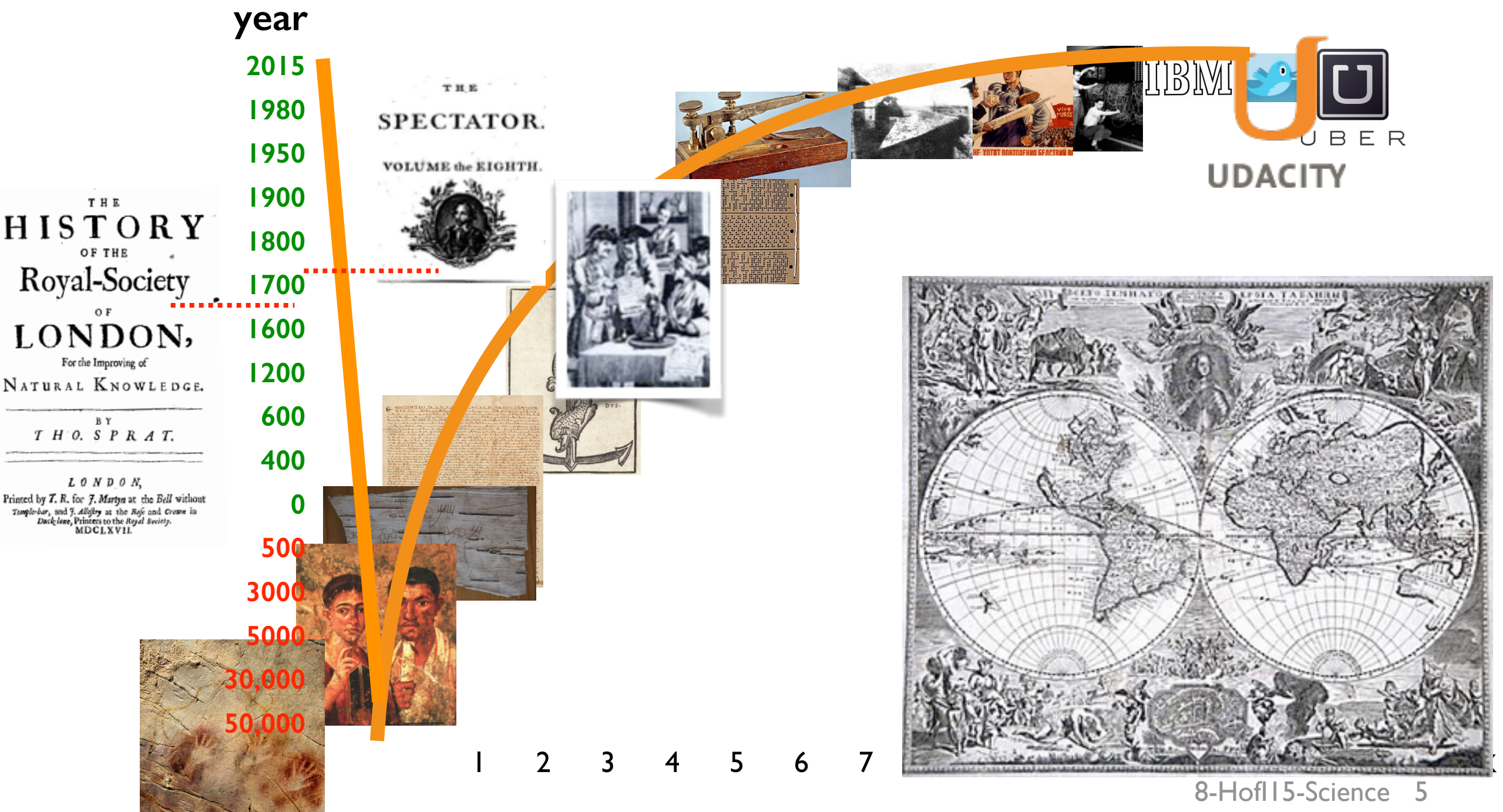


- 5 Jon Stewart changed journalism before journalism was ready to change



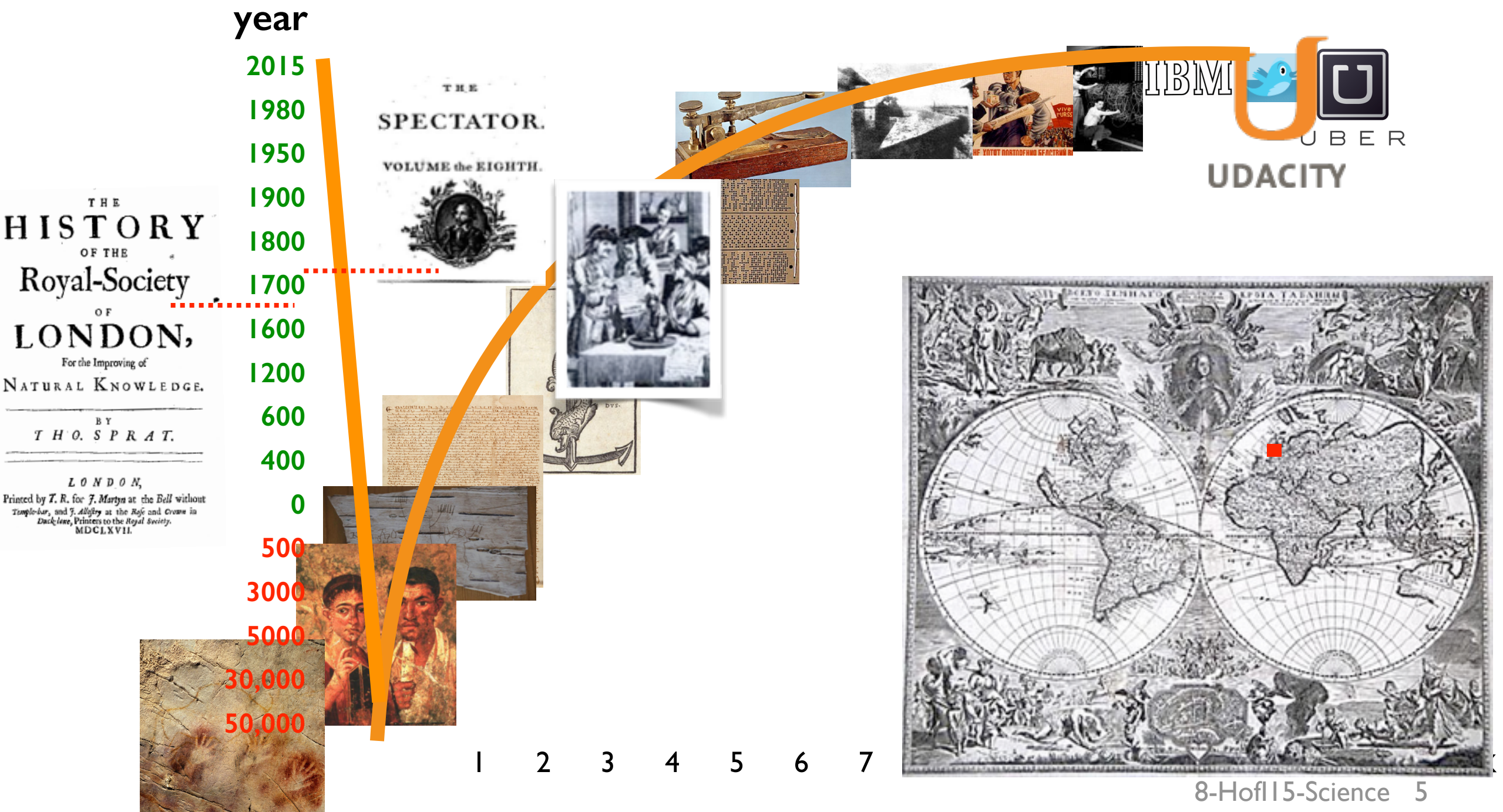


where are we?



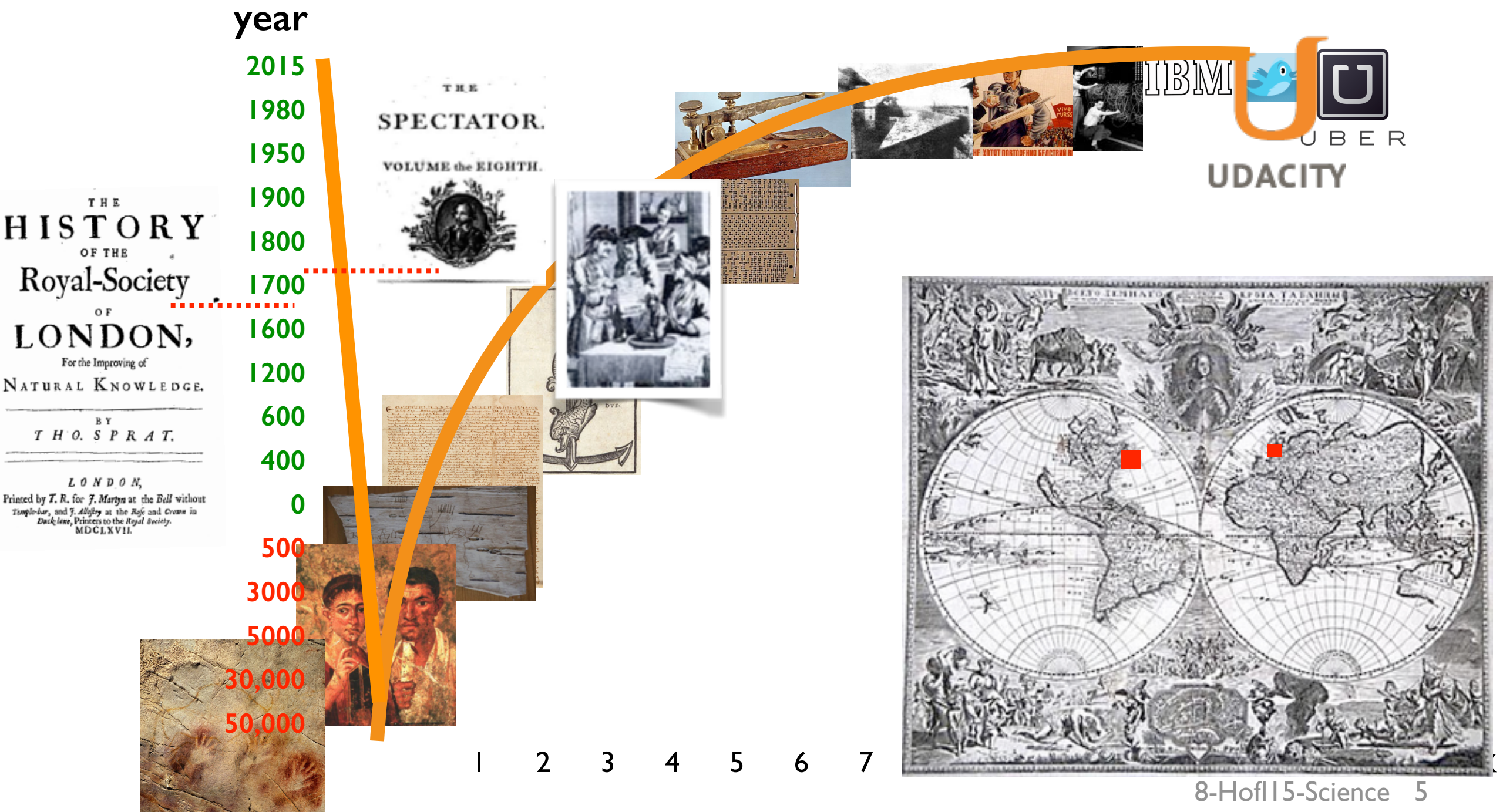


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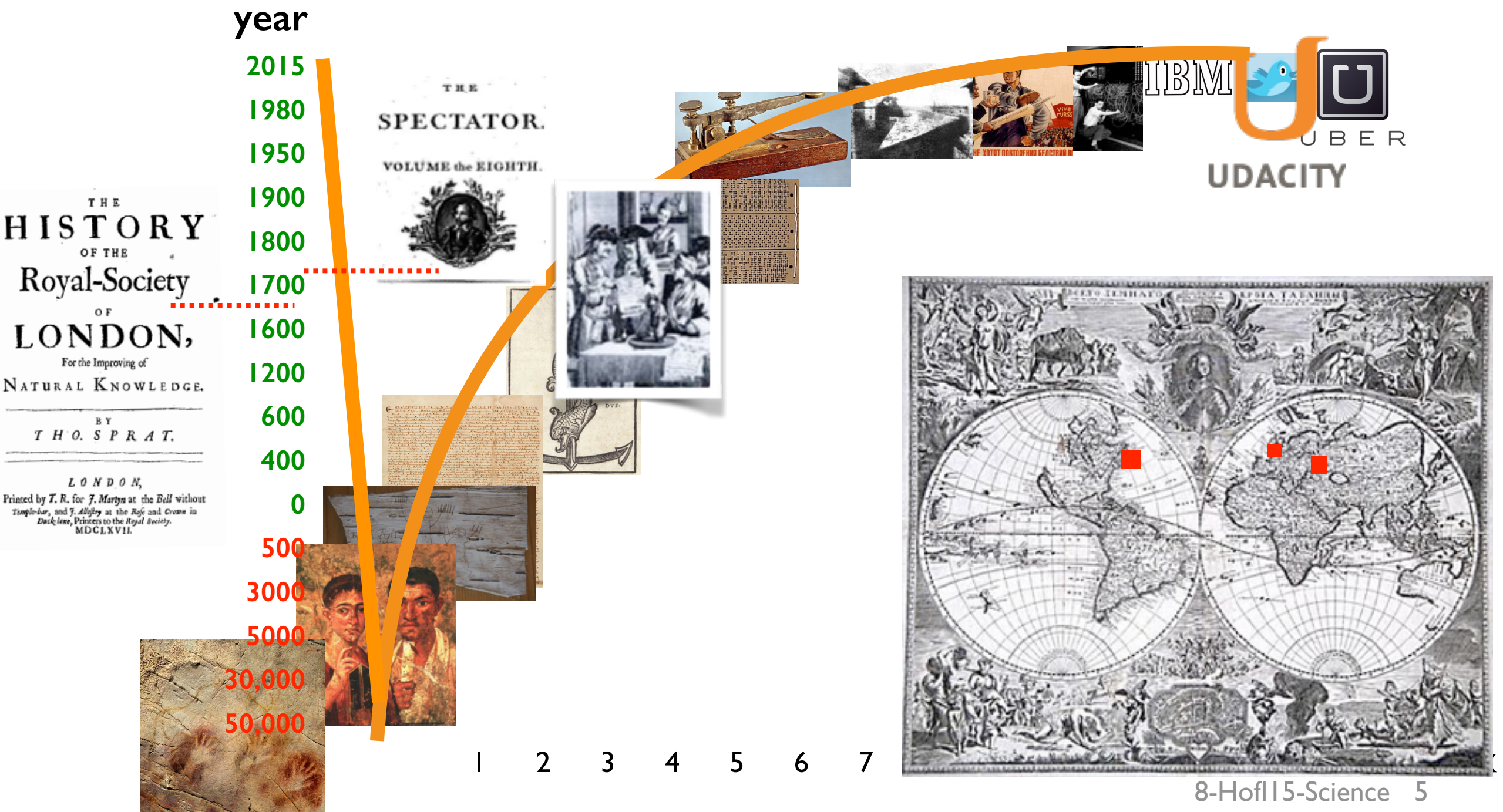


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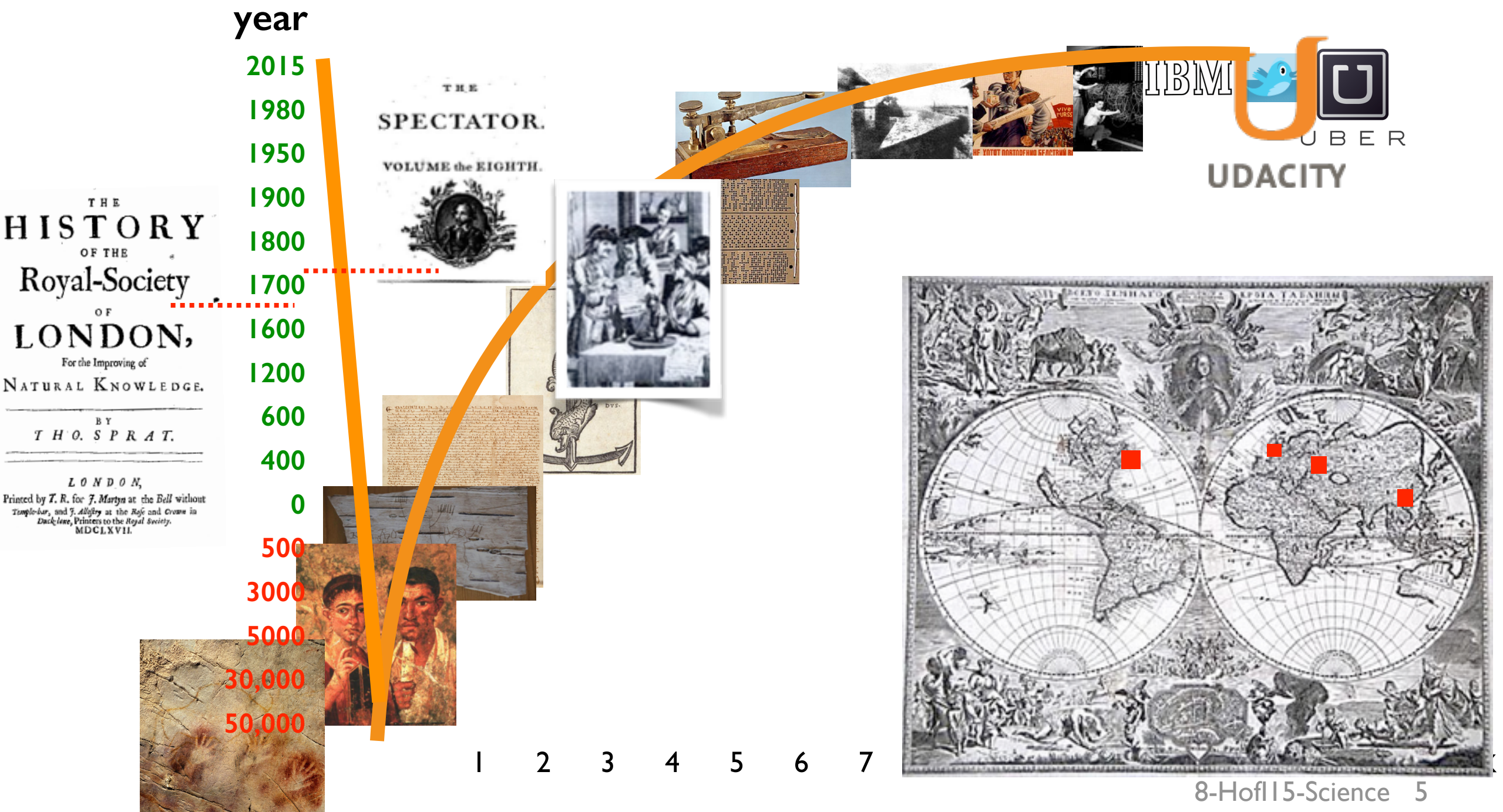


where are we?



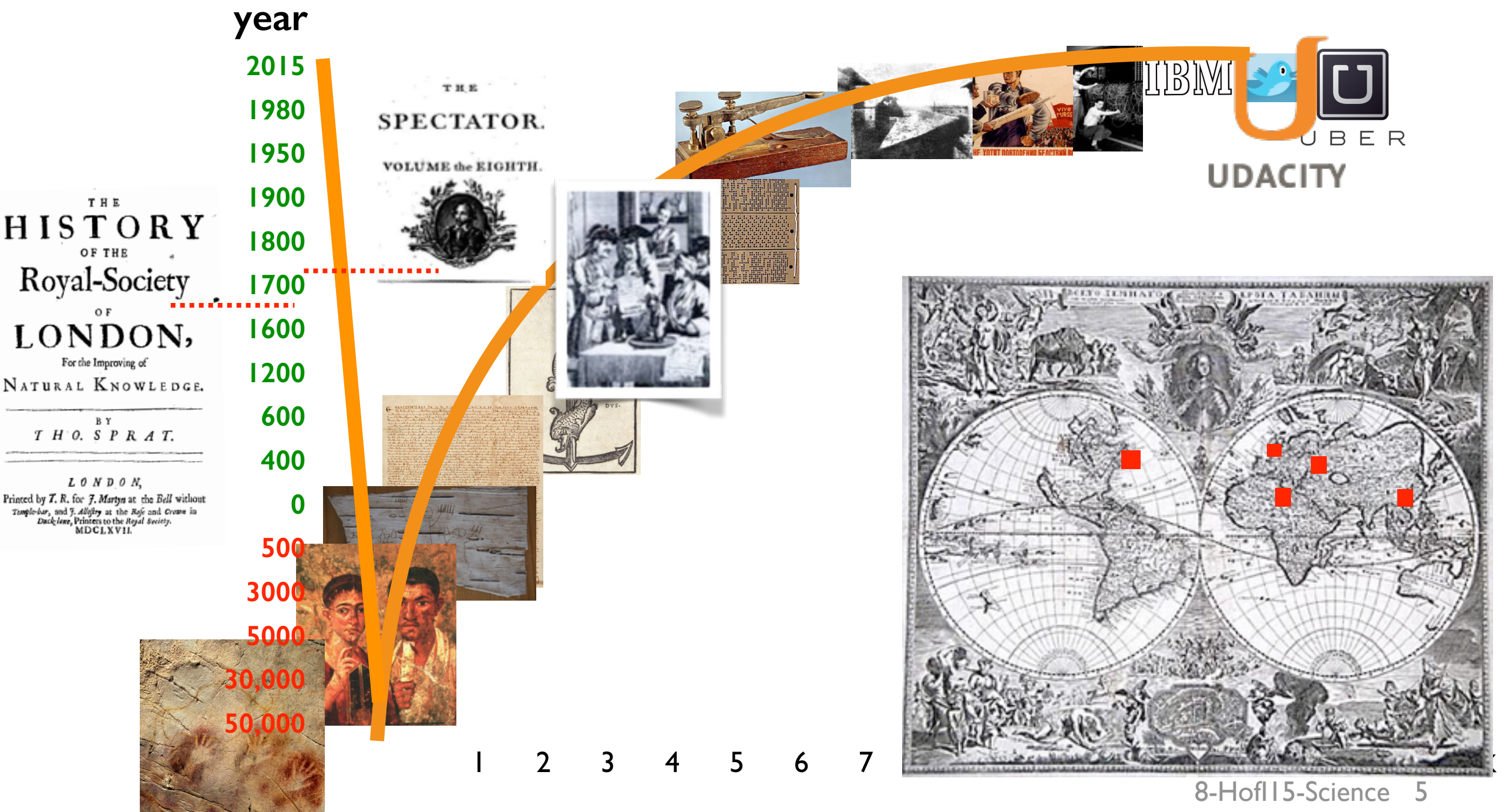


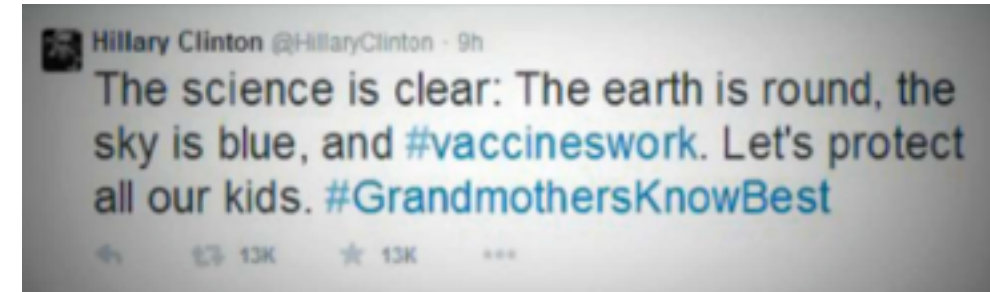
where are we?





where are we?





in the news

Presidential candidates split on mandatory vaccines

The measles outbreak at Disneyland has reignited the debate over whether parents should be required to vaccinate their kids.

THE WALL STREET JOURNAL. | OPINION



REVIEW & OUTLOOK

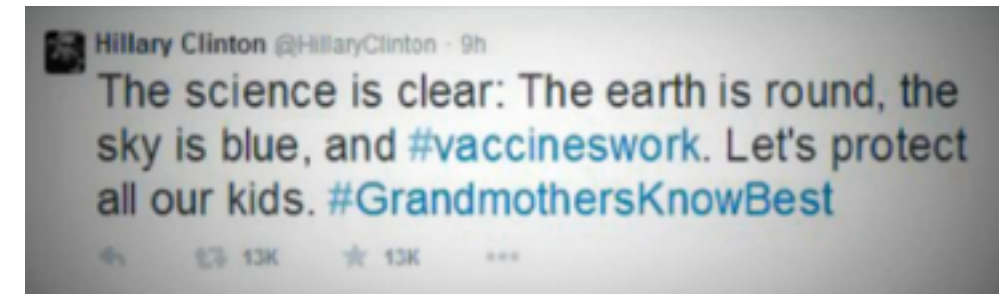
The Weird Vaccine Panic

Rand Paul joins the Santa Monica left by indulging bad science.



U.S. Sen. Rand Paul (R., Ky.) PHOTO: ASSOCIATED PRESS

Feb. 3, 2015 7:42 p.m. ET



in the news

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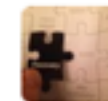


Sandi @gmawarrior · Feb 9

Parents do not trust CDC! Still waiting on the study! Ask #CDCwhistleblower
pic.twitter.com/ORlhYFlo44

10 4

View photo



Michael Brady @concernedpar3nt · Feb 9

RT"@gmawarrior: Parents do not trust CDC! Still waiting on the study! Ask #CDCwhistleblower " morganverkamp.com/august-27-2014...

Meet the person who did the safety study comparing the vaccinated and unvaccinated



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user card



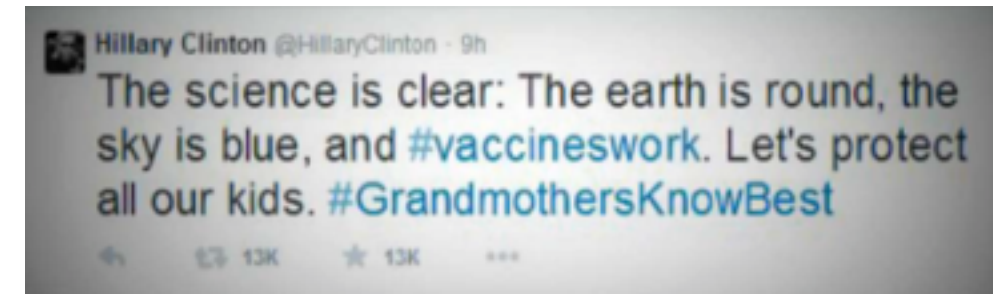
Health & Medicine

A discredited British study helped create today's anti-vaccine movement

The Takeaway

February 05, 2015 · 6:30 PM EST

The measles outbreak at Disneyland has reignited the debate over whether parents should be required to vaccinate their kids.



in the news

dates split on mandatory vaccines

THE WALL STREET JOURNAL. | OPINION



REVIEW & OUTLOOK

The Weird Vaccine Panic



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Andrew Wakefield sues BMJ for claiming MMR study was fraudulent

BMJ and investigative journalist stand by allegations in articles about research linking MMR vaccine to autism

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



in the news

ates split on mandatory vaccines

THE WALL STREET JOURNAL. | OPINION



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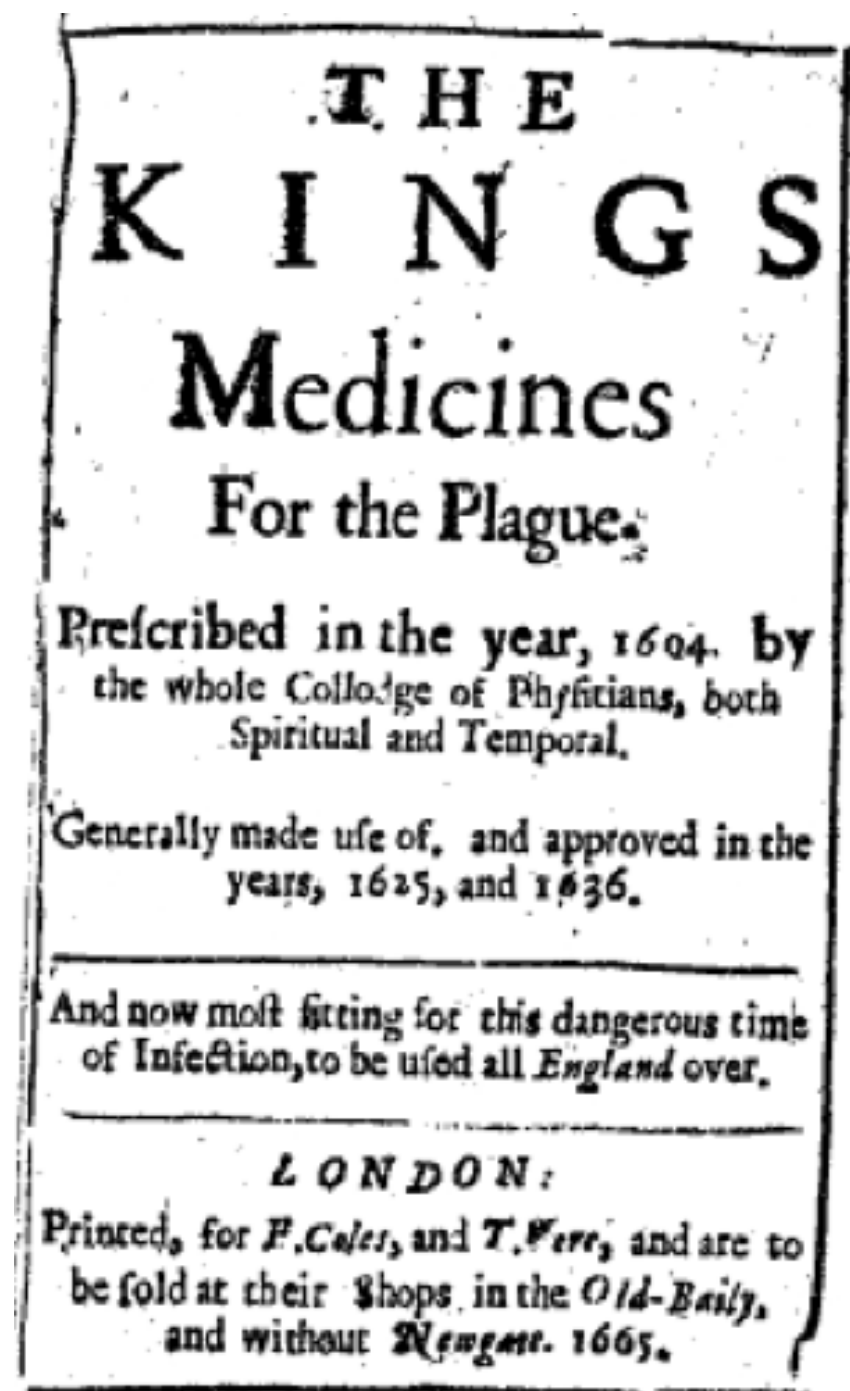
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user card



trust in print?

"Pamphlets and books ... fly out in swarms, some .. with no author's name or, what is more criminal, with a forged one ... thief, any confidence-trickster, the keeper of any brothel ... mercenary troops."

—Erasmus

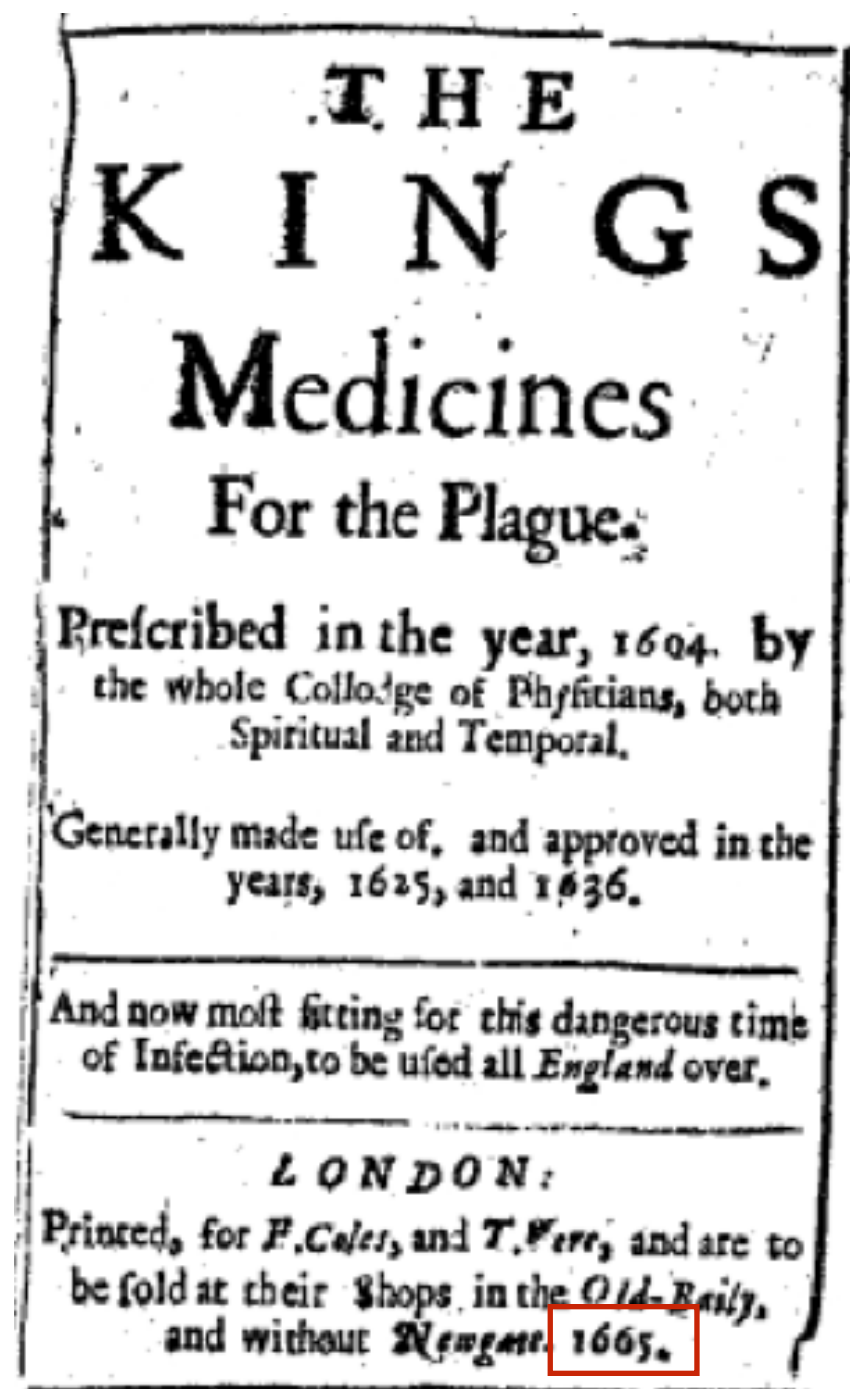




trust in print?

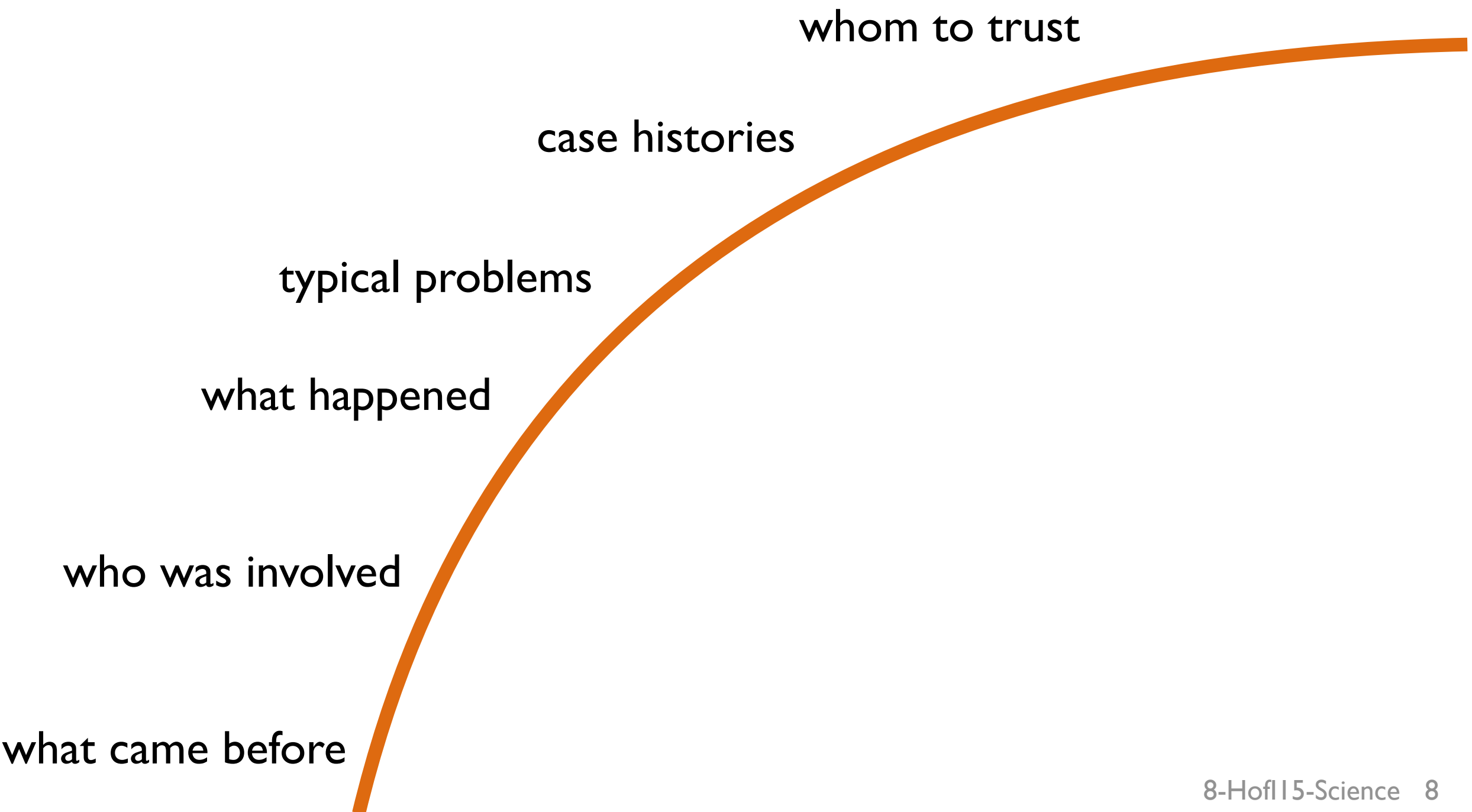
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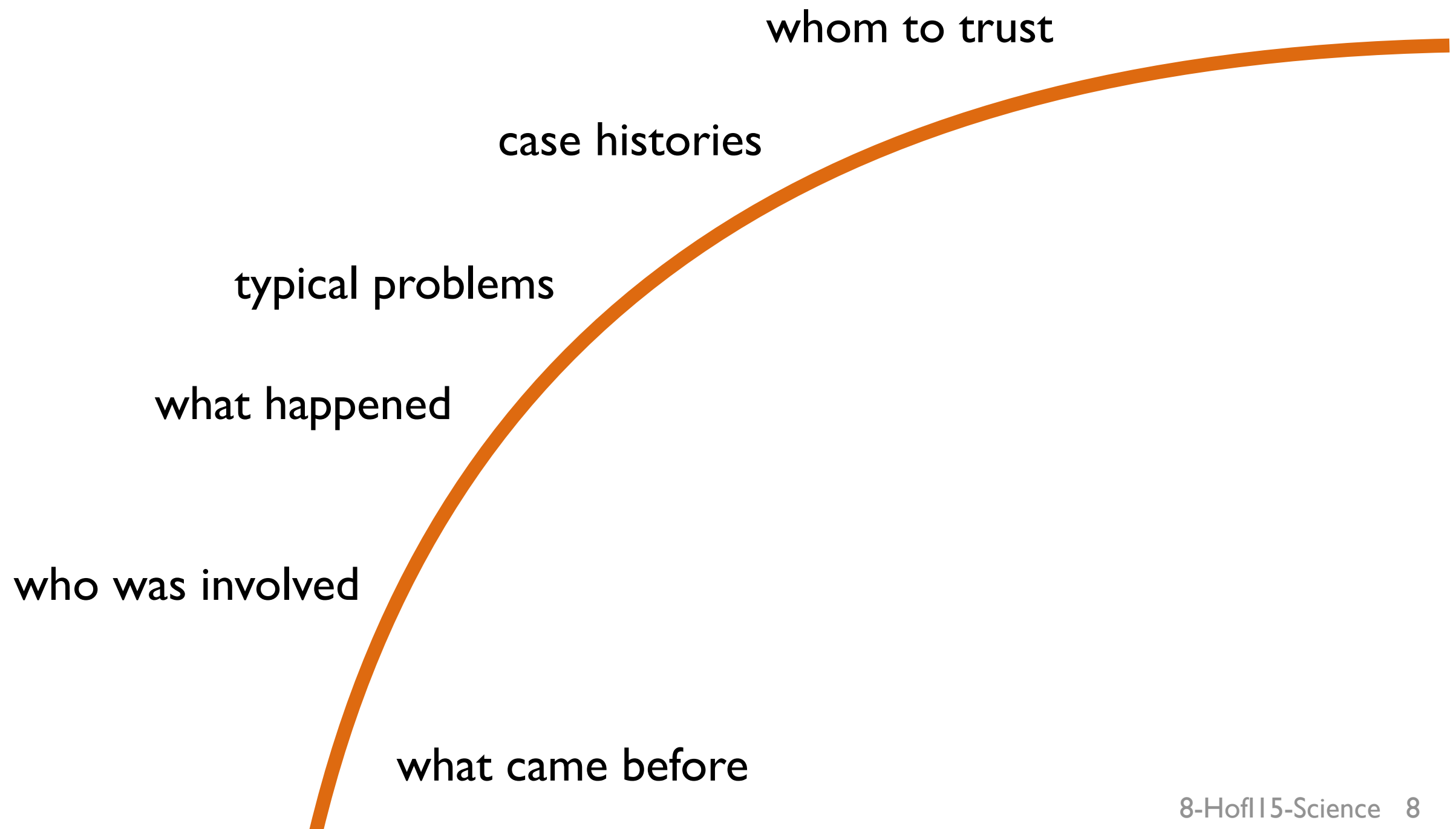


today's climb





today's climb





precursor: political revolution

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

--Sprat, *History*

English Civil War, 1642-1649

execution 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"

"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"

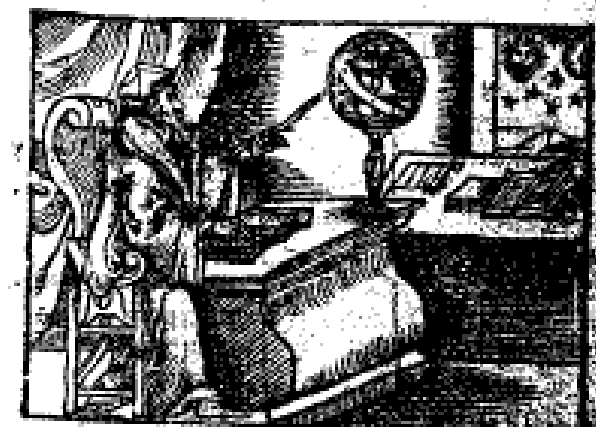
— Pepys, Diary

November 2, 1666; February 3, 1666/7

An Almanack
for the yere. M. D. lxxij.

Composed by M. Michael
Poltrabamus Doctour
in Physicke/ of Salon of
Graux in Provence.

Whā the Sonne sayeth & first/then shal
the monster be seene in the playne day
Then shall interprete it farre otherwise
derth hath no respect/ none shall pro-
vide for it.





"La sange du juste à Londres fera faute
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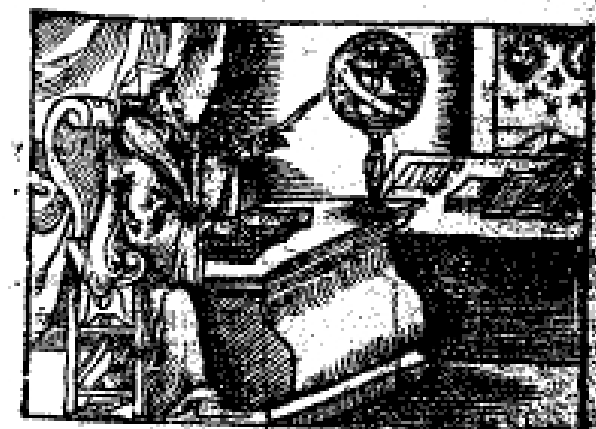
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November 2, 1666; February 3, 1666/7

Doctrinarius Doctor
in Phisicis/ of Salon of
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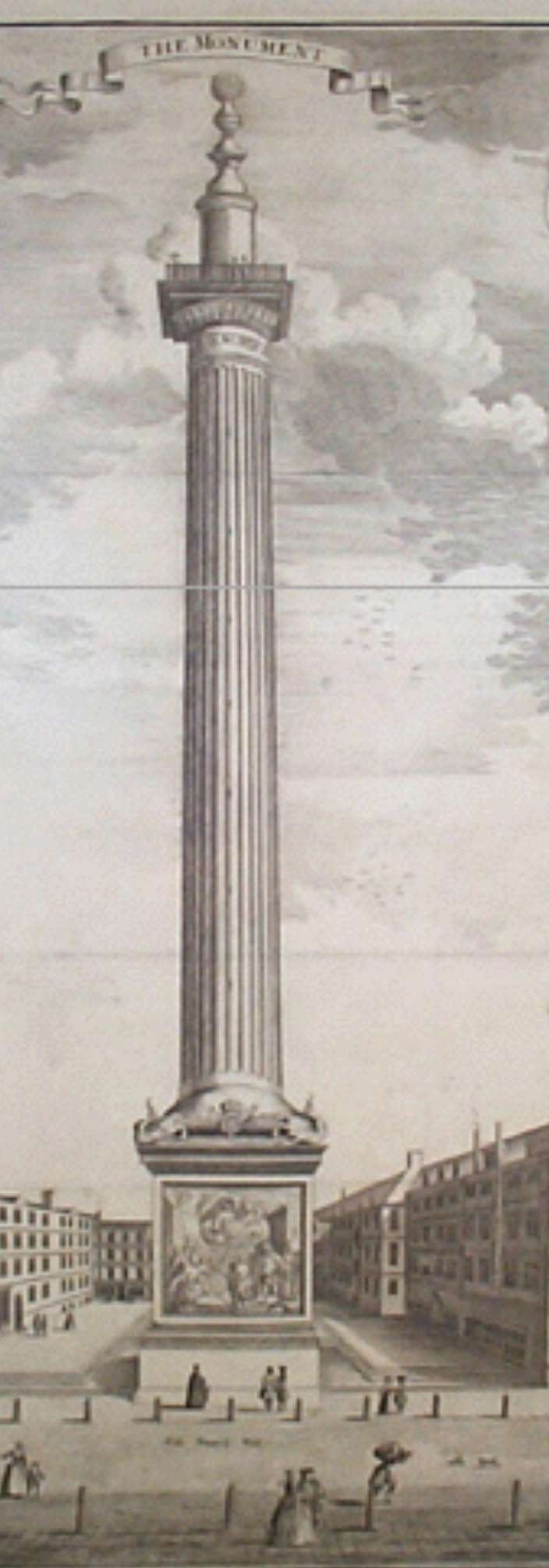
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— *Pepys, Diary*

November 2, 1666; February 3, 1666/7

Loose Change
2ND EDITION



"La sange du juste à Londres fera faute
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print's legacy: almanacks & prophecy

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coming up:
2/17 the public sphere
3/5 advertising

modern media

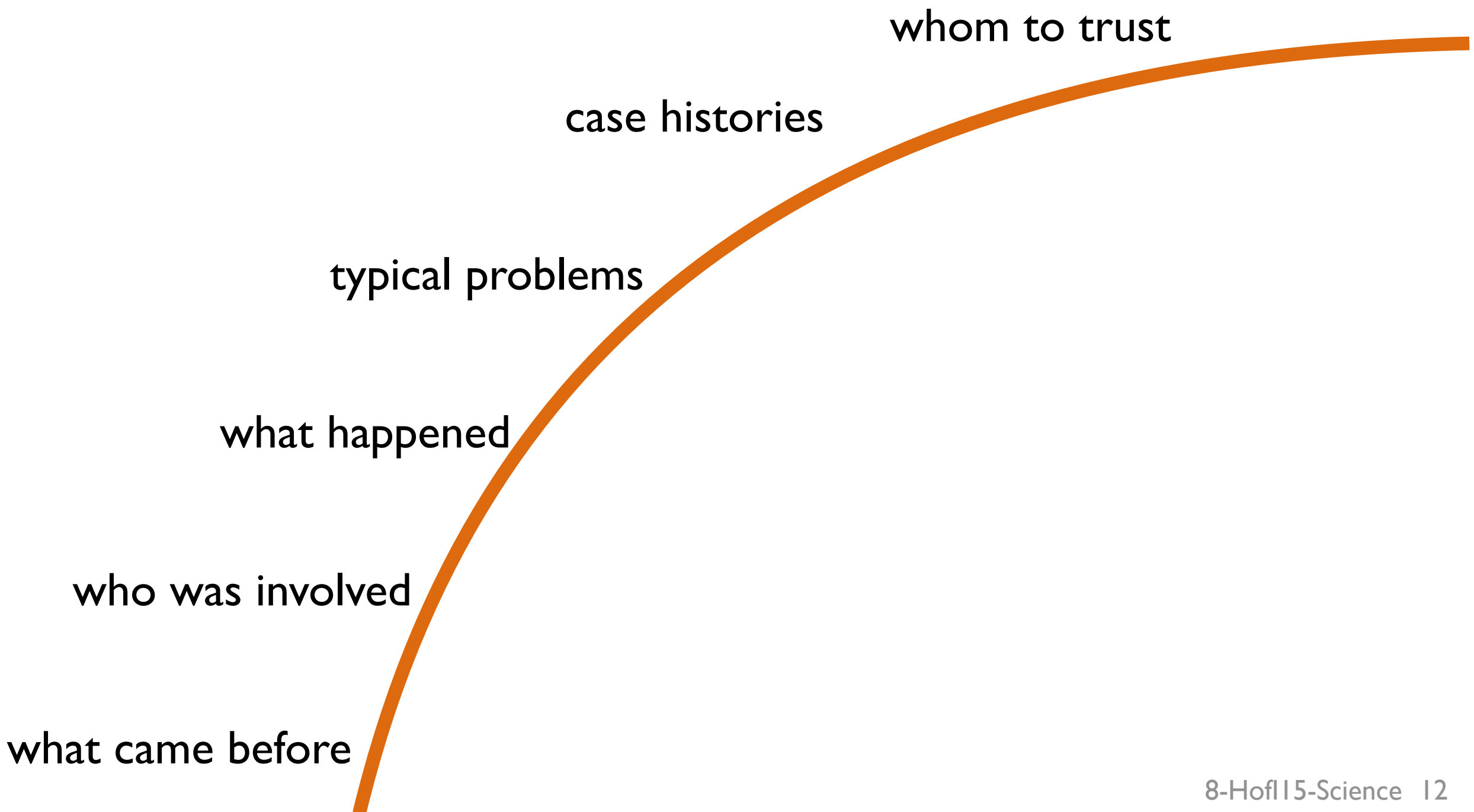
"I lately dropped into a Coffee-House at Westminster, where I found the Room hung around with ... Elixirs, Tincture, the Anodine Fetus, English Pills, Electuaries, and in short, more remedies than I believe there are diseases."

— Richard Steele, *Spectator* 1712



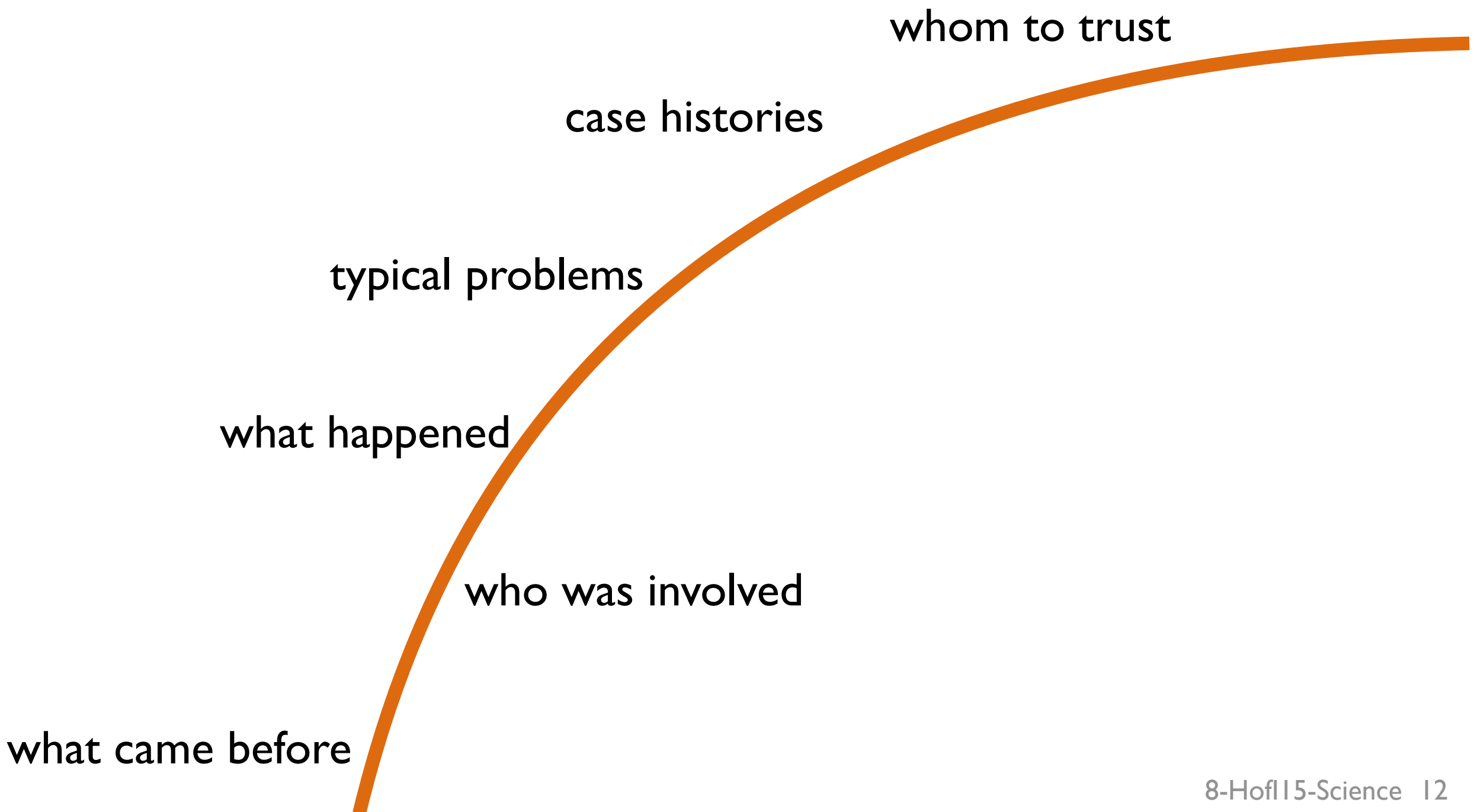


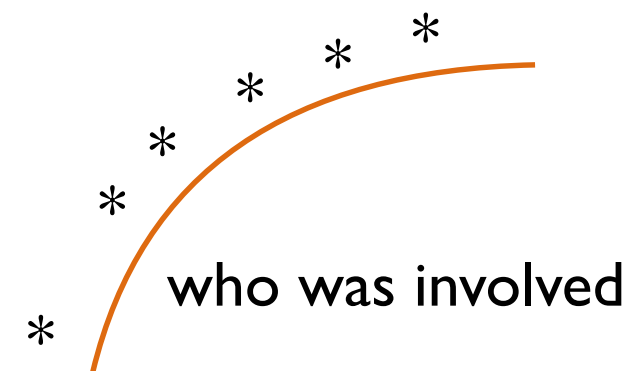
today's climb



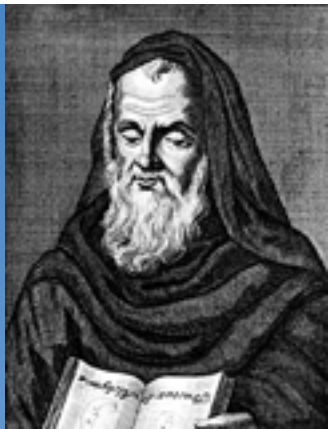


today's climb





proto science



Roger Bacon
1214–1292

scientific rumblings

Roger Bacon *scientia experimentalis*

"disregarding the crowd's approach"



Francis Bacon
1561–1626

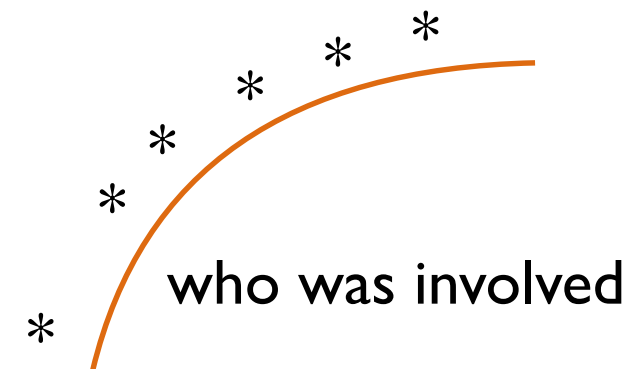
Francis Bacon, *New Atlantis*

idols of the tribe

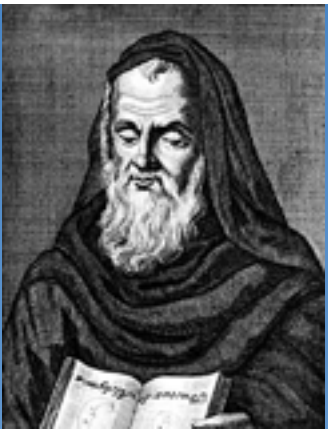
idols of the cave

idols of the market place

idols of the theatre



proto science



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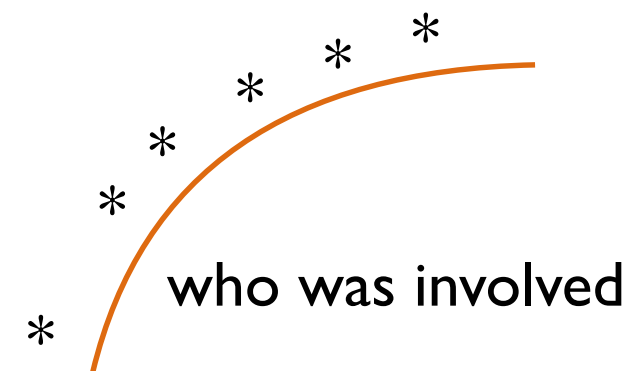
idols of the tribe

– *collective beliefs*

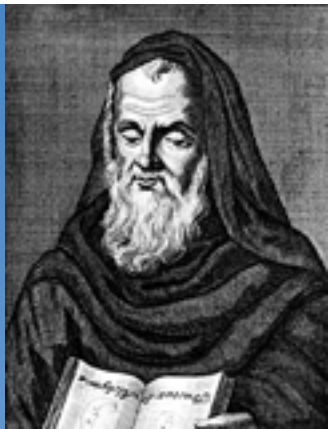
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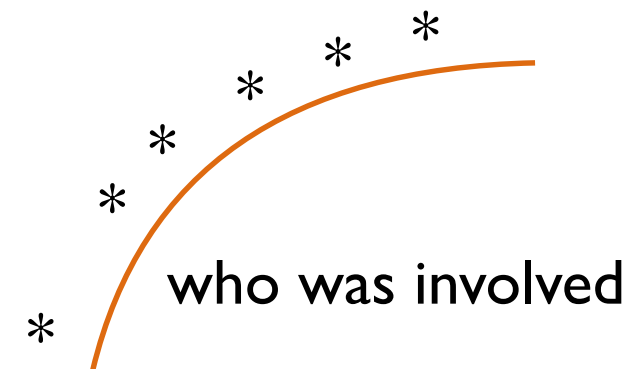
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idols of the cave

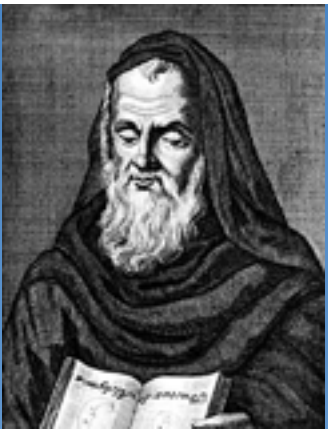
- *individual beliefs*

idols of the market place

idols of the theatre



proto science



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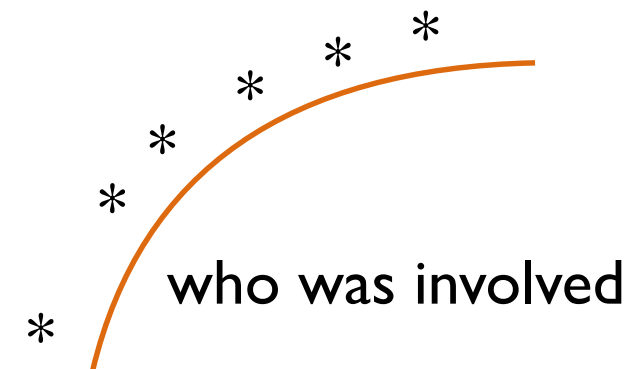
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idols of the tribe	- <i>collective beliefs</i>
idols of the cave	- <i>individual beliefs</i>
idols of the market place	- <i>semantic confusion</i>
idols of the theatre	



proto science



Roger Bacon
1214–1292

scientific rumblings

Roger Bacon *scientia experimentalis*

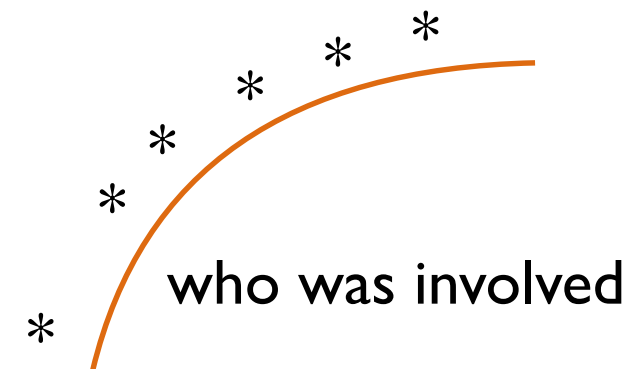
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Francis Bacon, *New Atlantis*

- | | |
|---------------------------|-----------------------------|
| idols of the tribe | - <i>collective beliefs</i> |
| idols of the cave | - <i>individual beliefs</i> |
| idols of the market place | - <i>semantic confusion</i> |
| idols of the theatre | - <i>sophistry</i> |



proto science



Roger Bacon
1214–1292

scientific rumblings

Roger Bacon *scientia experimentalis*

"disregarding the crowd's approach"

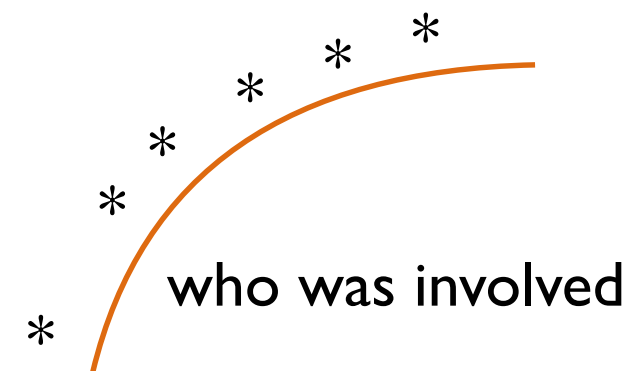


Francis Bacon
1561–1626

Francis Bacon, *New Atlantis*

- | | |
|---------------------------|-----------------------------|
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| idols of the cave | - <i>individual beliefs</i> |
| idols of the market place | - <i>semantic confusion</i> |
| idols of the theatre | - <i>sophistry</i> |

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



fables to truth



from **Ptolemy** (c. 100-170)

to

Copernicus, Galileo, Tycho, Kepler, Newton

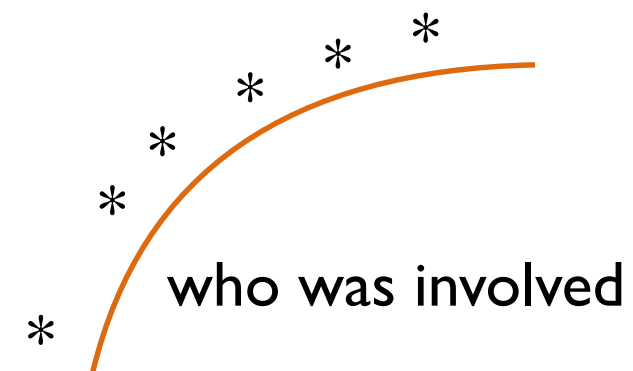
from **Hippocrates** (460-375 bce), **Galen** (c. 129-216)

Ayurveda; Yellow Emperor's Inner Canon

to

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

Harvey (1578-1657)



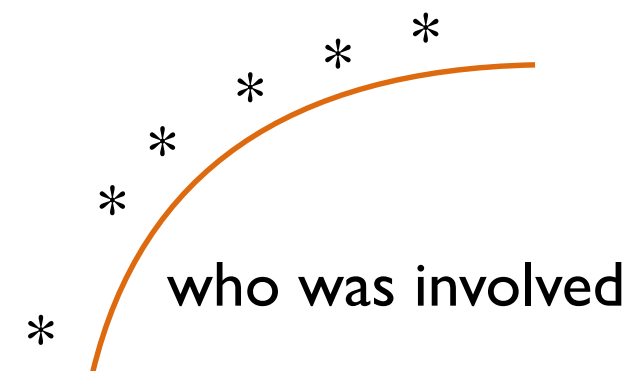
promoters



Gresham College

28 Nov 1660

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



promoters

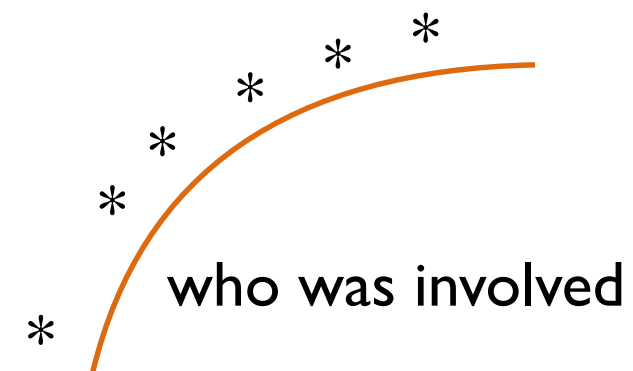


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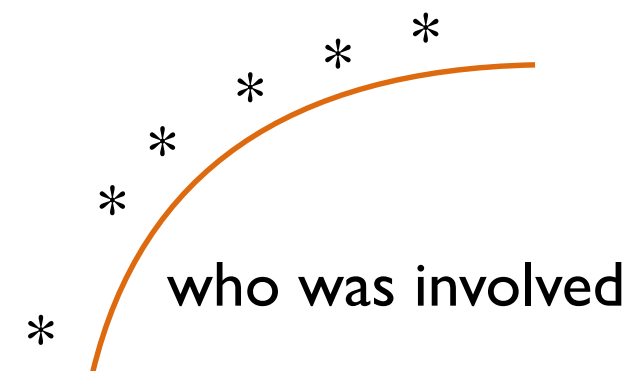
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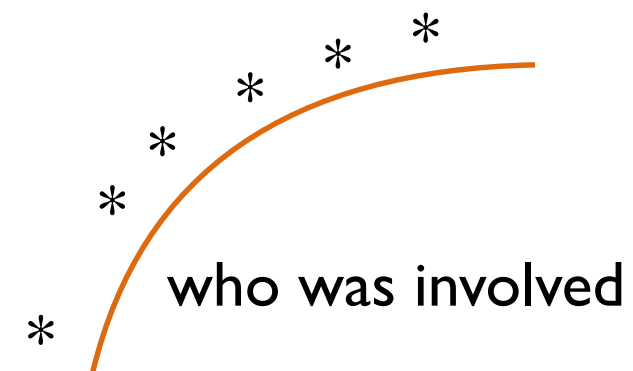
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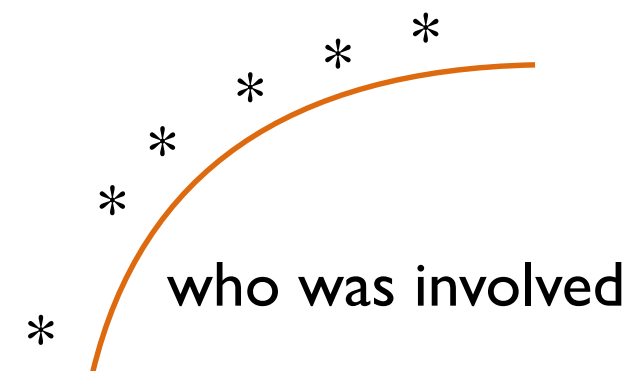
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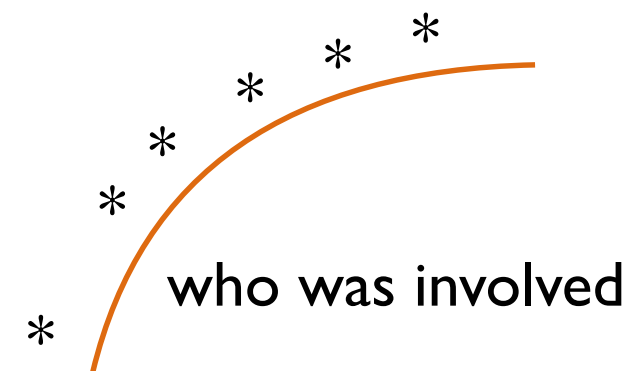
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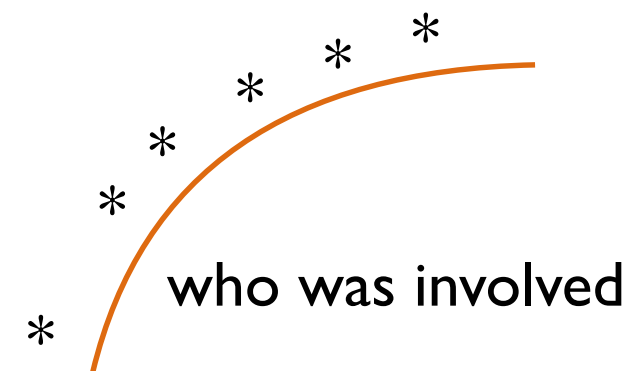
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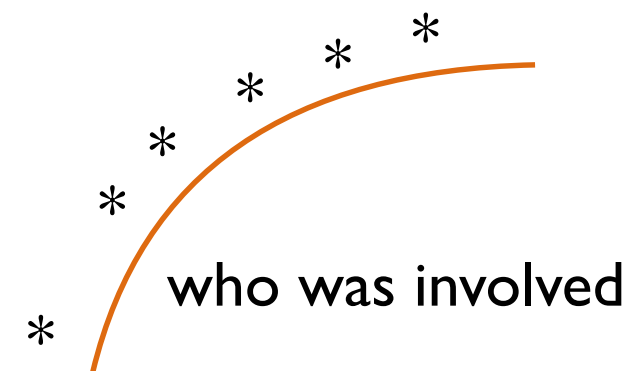
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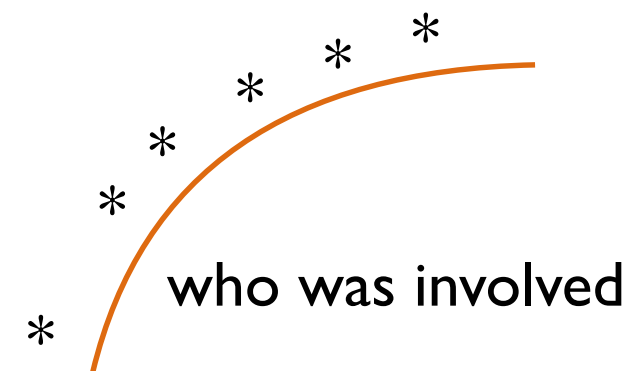
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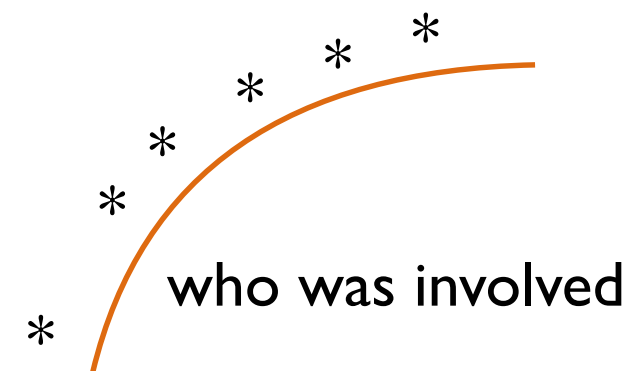
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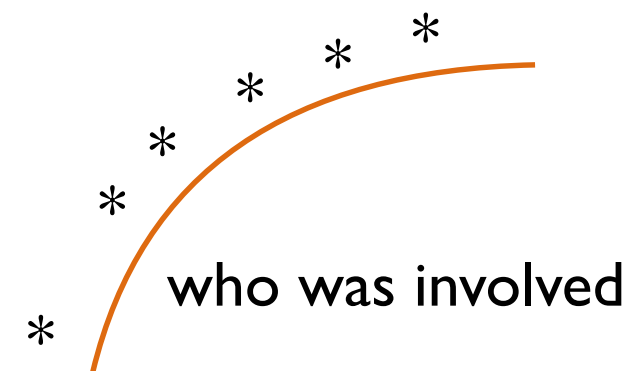
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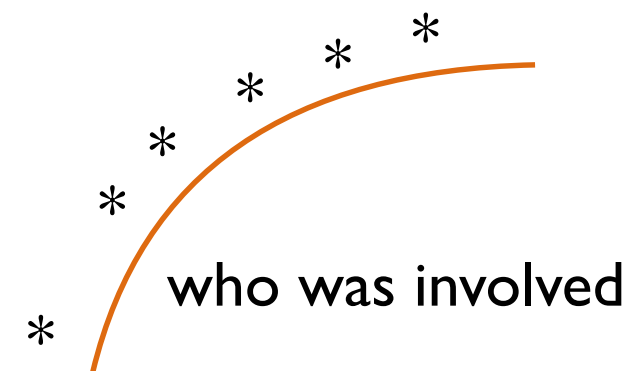
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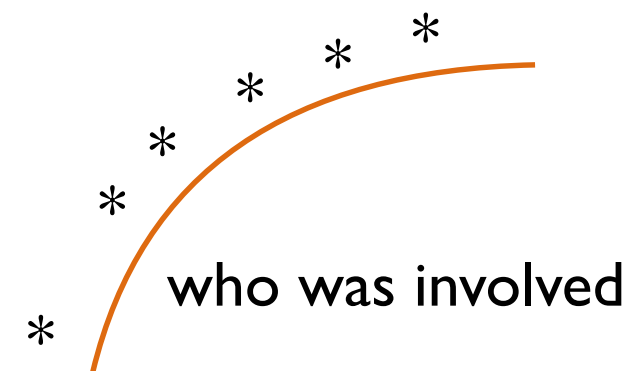
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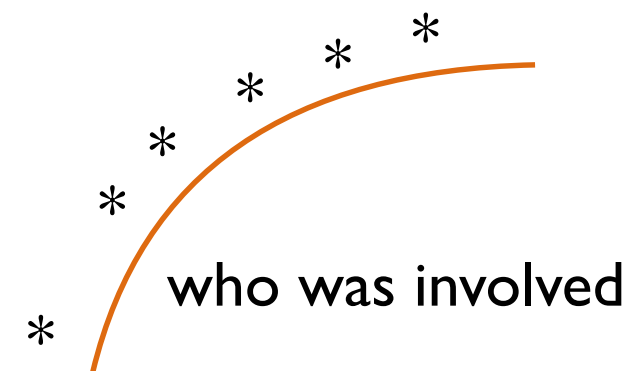
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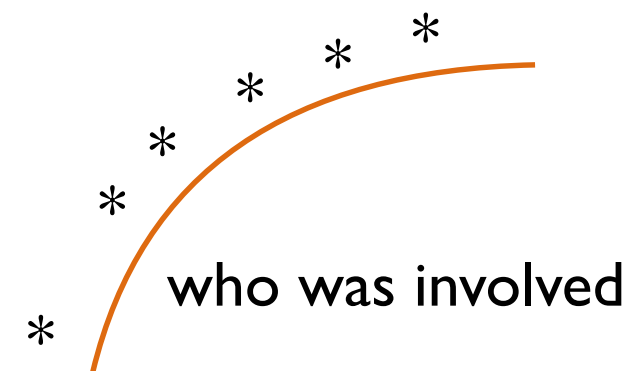
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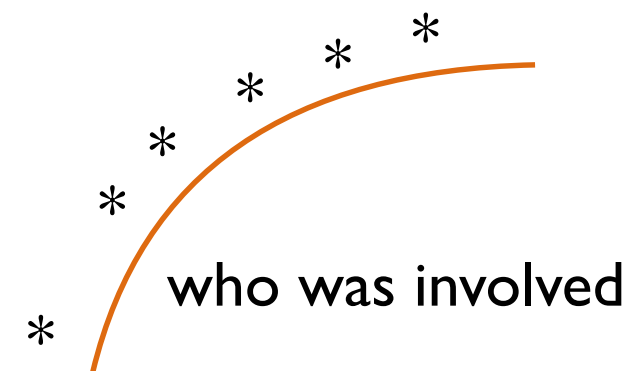
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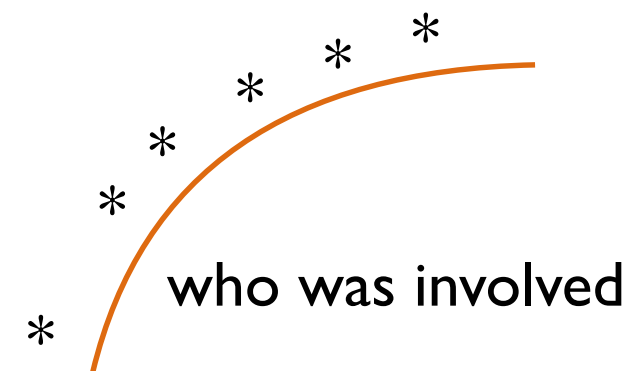
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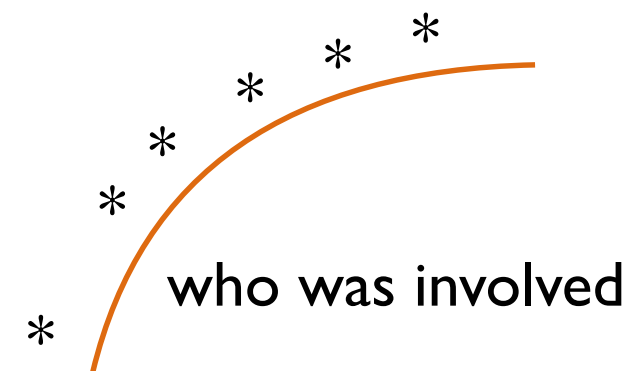
Benjamin Franklin (1706-1790)

Charles Babbage (1791-1871)

Alan Turing (1912-1954)

Steven Hawking (1942 -





don't forget



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

--surgery, orthopedics, ophthalmology, nutrition

republished over 700 years

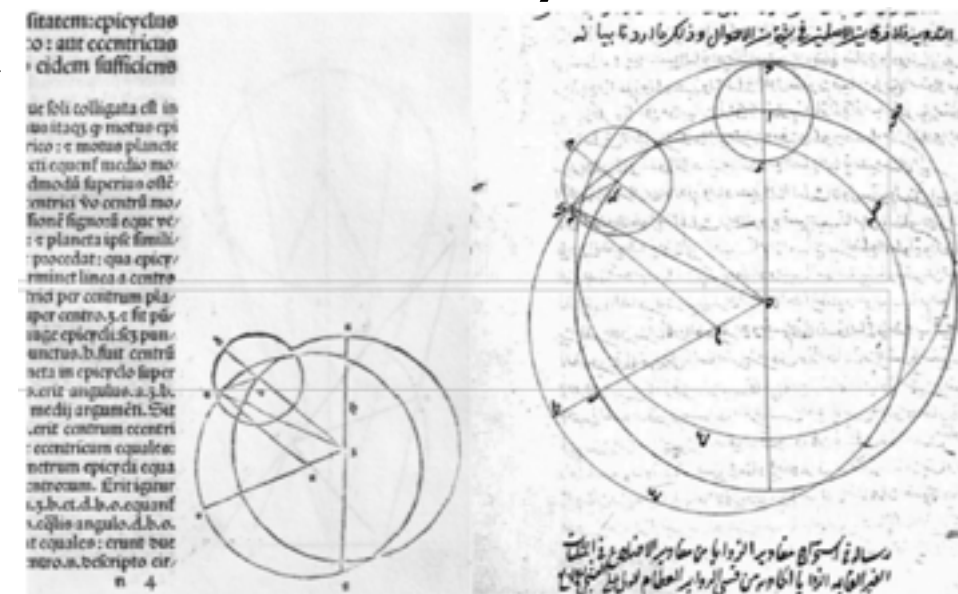
(see *Albucasis de Chirurgia*, 1778)

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

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

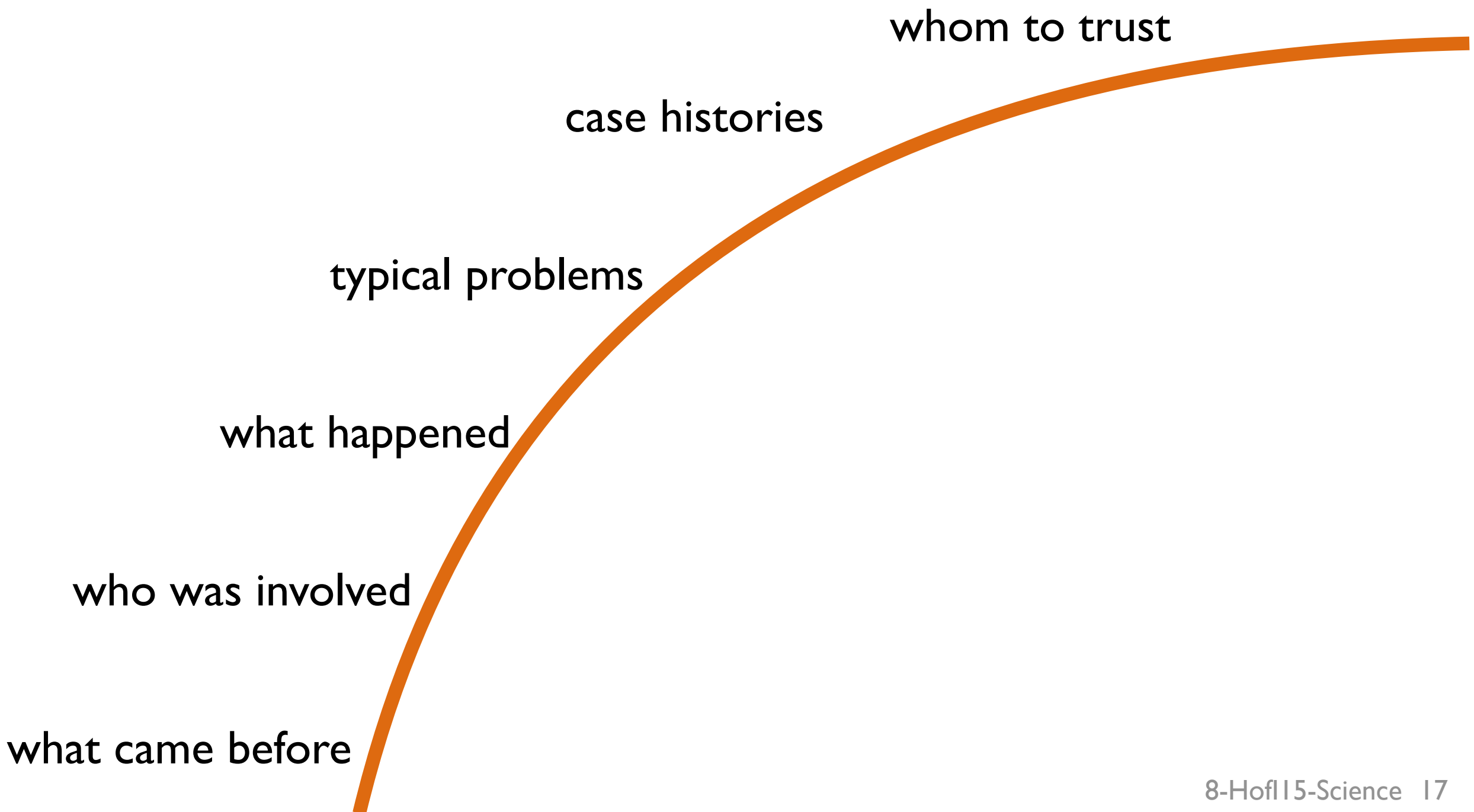
influencing Roger Bacon, Kepler

Ali Qushji (1403-1474)



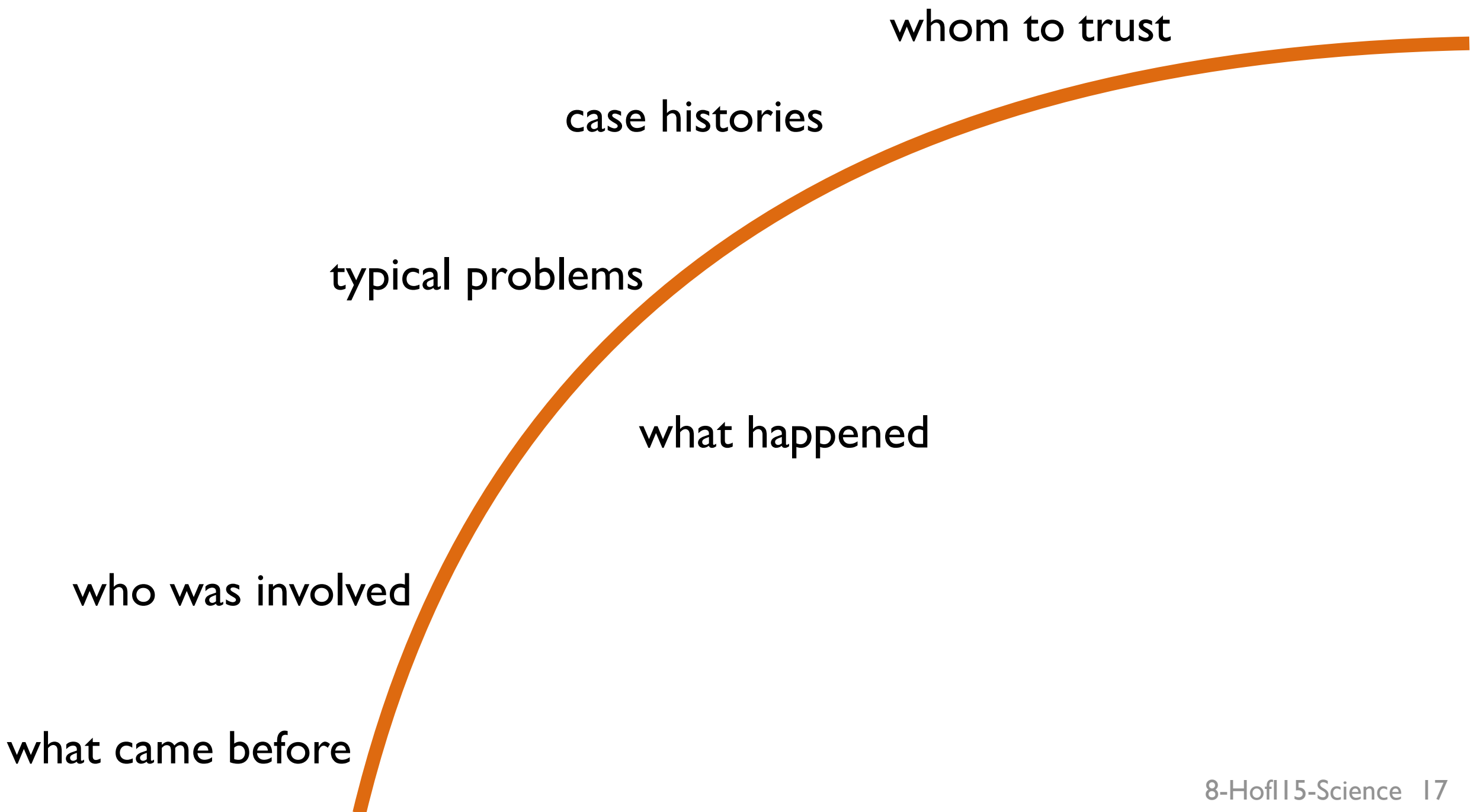


today's climb





today's climb





their purpose



Thomas Sprat
1635–1713

"... 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



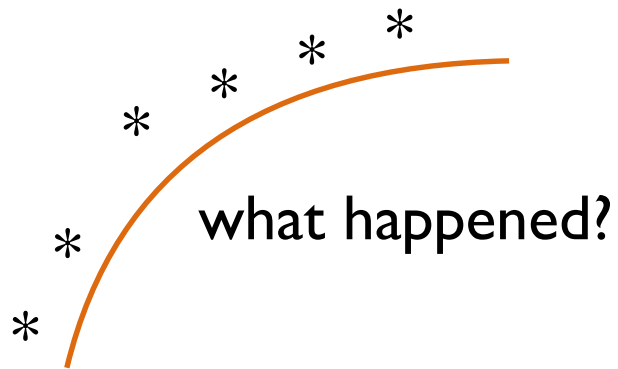
revolutionary turn?

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

—John Comenius
(1592-1670)

"though I do not deny that moderns can make some discoveries ... do not think one will arise who can give us a body of philosophy more complete than [Aristotle]"

—Erasmus



revolutionary beliefs



Nullius in Verba

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

"like a man who confesses under torture, he said that everything is now becoming public property from which scholars had hitherto had been able to secure the admiration of the common people." —Erasmus

Sprat's model



what happened?

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."



revolutionary beliefs

"oportet praeterea, liberali animo
philosophum esse"

–*Alcinous* (?1 cent CE)

"filosofar vuol esser libero"

– *Galileo*

"libertas philosophandi"

–*Kepler, Descartes, Spinoza*



revolutionary beliefs

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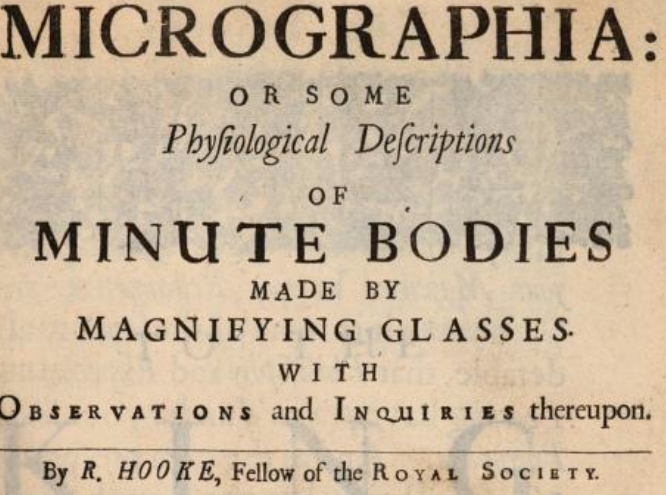
"filosofar vuol esser libero"

– *Galileo*

"libertas philosophandi"

–*Kepler, Descartes, Spinoza*

"information wants to be free"



observation & experimentation



Robert Hooke
1635–1703

Hooke & Boyle

"Trials in Chymistry, or Mechanics ...
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



Sprat's model

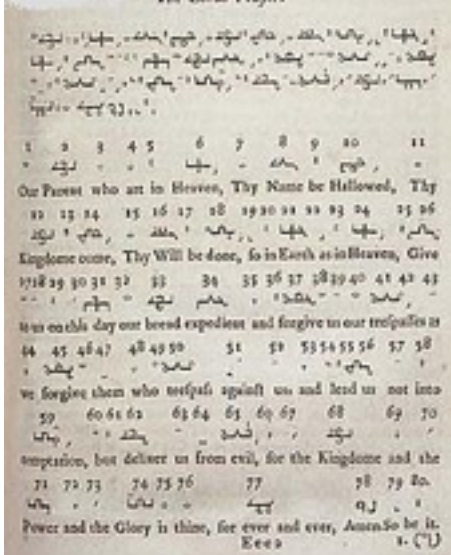
Not so much, by any solemnity of Laws, or ostentation of Ceremonies, as by **solid Practice**, and examples: not, by a glorious pomp of Words; but by the silent, effectual, and unanswerable Arguments of **real Productions**.

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

"sacred responsibility" — Erasmus



communication



John Wilkins
1614–1672



Henry Oldenburg
1619–1677

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*

"the noble, positively royal ambitions of my friend Aldus ... labour indeed worthy of Hercules" —Erasmus



"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."

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public and private interest

"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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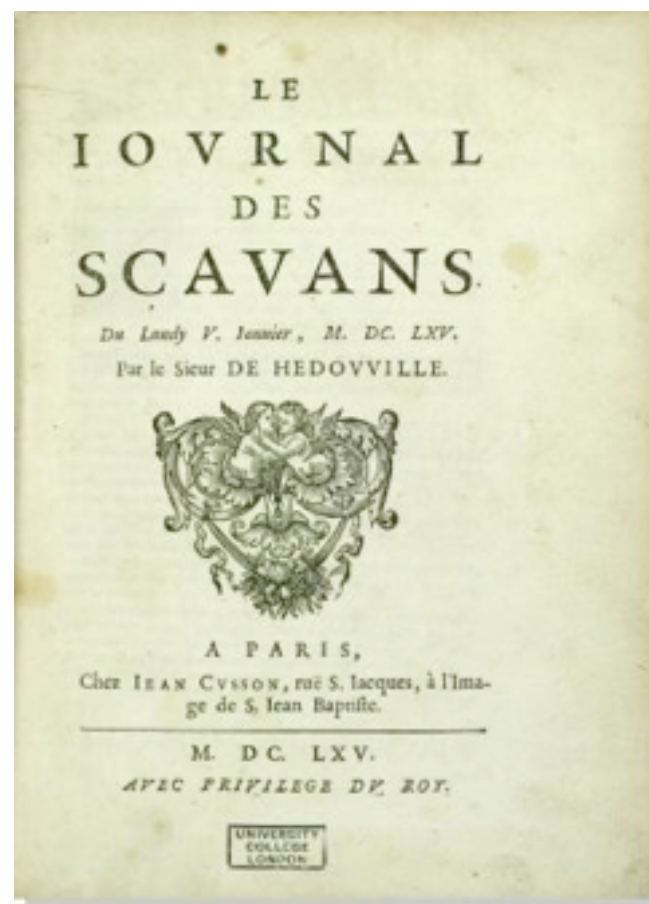
— Oldenburg

coming up 3/10:
IP

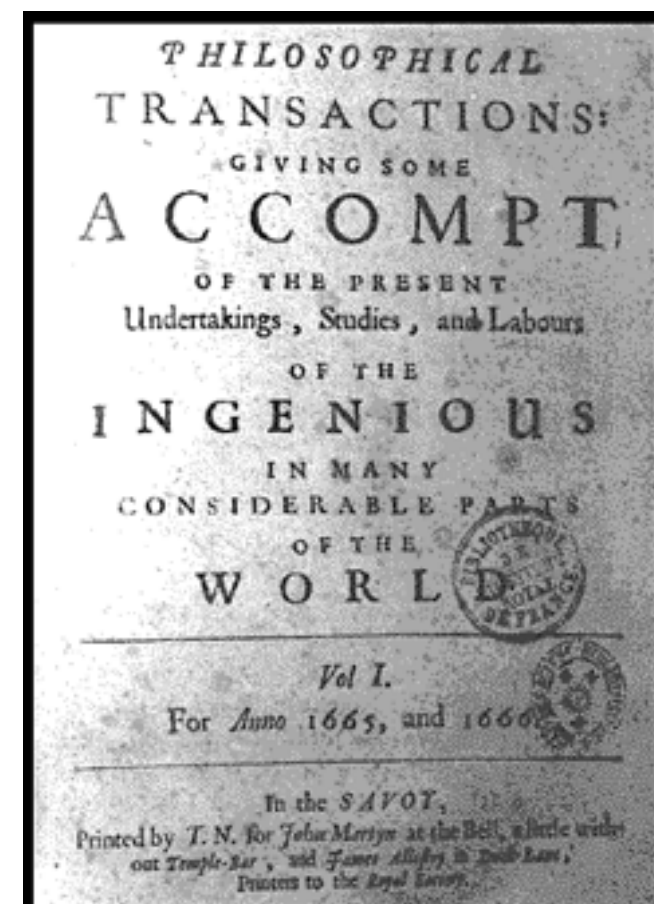


publishing

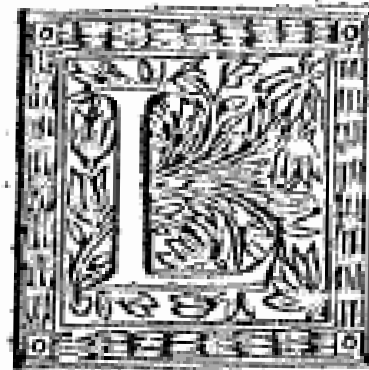
Journal des Scavans,
Jan 5th, 1665



Philosophical Transactions,
March 6th, 1665



L'IMPRIMEUR AU 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 Universtitez, 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'adionstera 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 en-

ing

is,

* * *
 * what happened?
 *

(1)

Numb. 1.

PHILOSOPHICAL TRANSACTIONS.

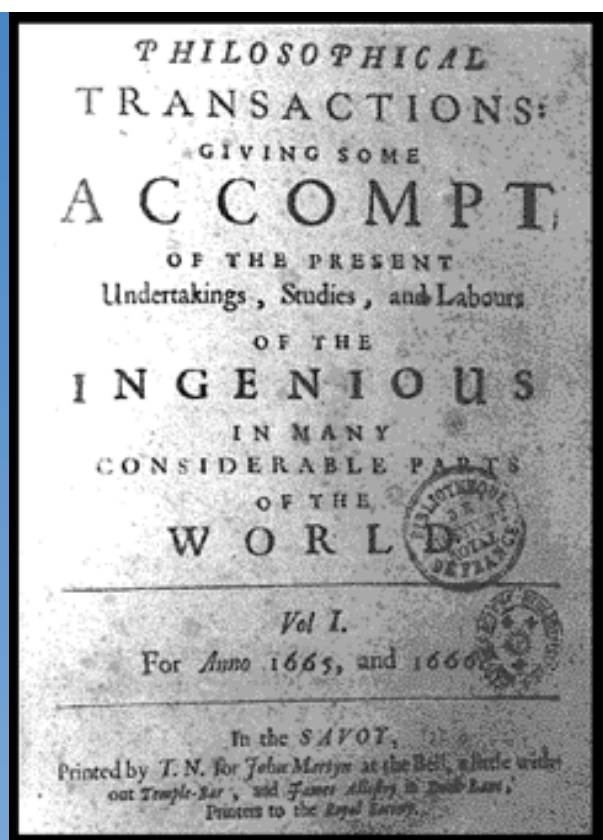
Munday, March 6. 1665.

The Contents.

An Introduction to this Tract. An Account 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.

The Introduction.

WHEREAS there is nothing more necessary for promoting the improvement of Philosophical Matters, than the communicating to such, as apply their Studies and Endeavours that way, such things as are discovered or put in practise by others; it is therefore thought fit to employ the *Press*, as the most proper way to gratifie those, whose engagement in such Studies, and delight in the advancement of Learning and profitable Discoveries, doth entitle them to the knowledge of what this Kingdom, or other parts of the World, do, from time to time, afford, as well
 A of



PHILOSOPHICAL TRANSACTIONS.

Munday, March 6. 166th.

(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

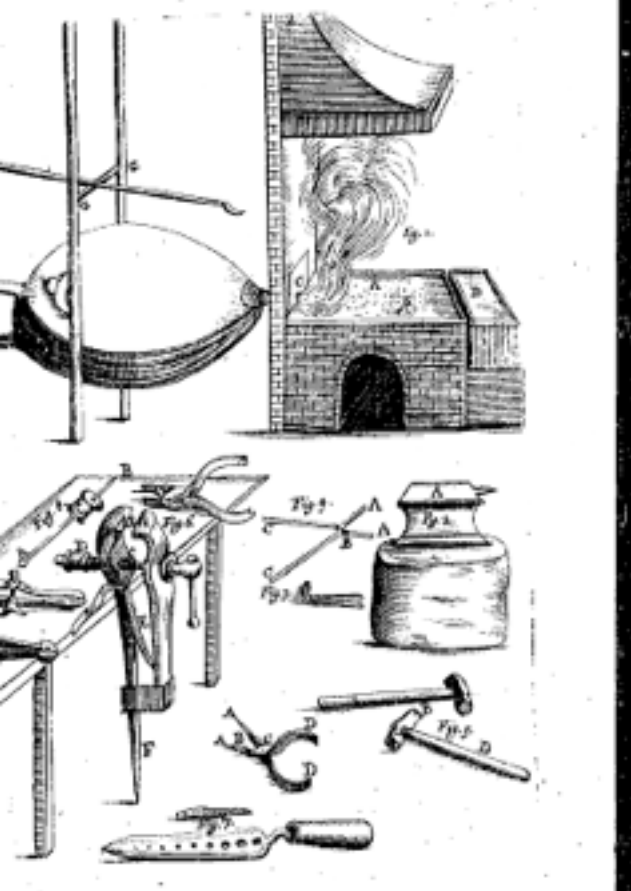
In the SAVOY,
Printed by T. N. for Iohn Mearns at the Bell, a little within
out Temple-Bar, and James Allcock in South-Bar,
Printers to the Royal Society.

what happened?



Joseph Moxon
1627–1691

coming up:
reference 2/26



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

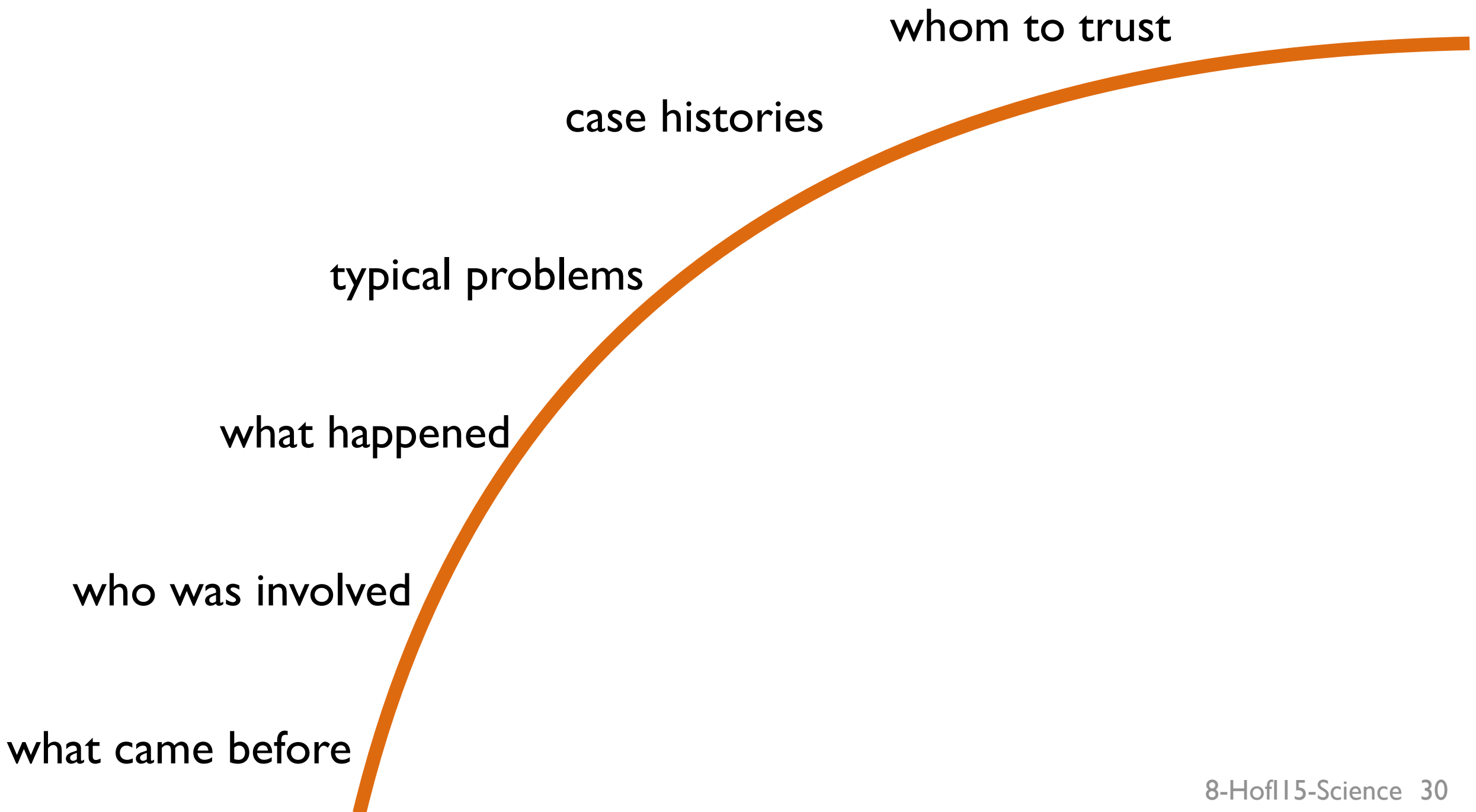
Printing.

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

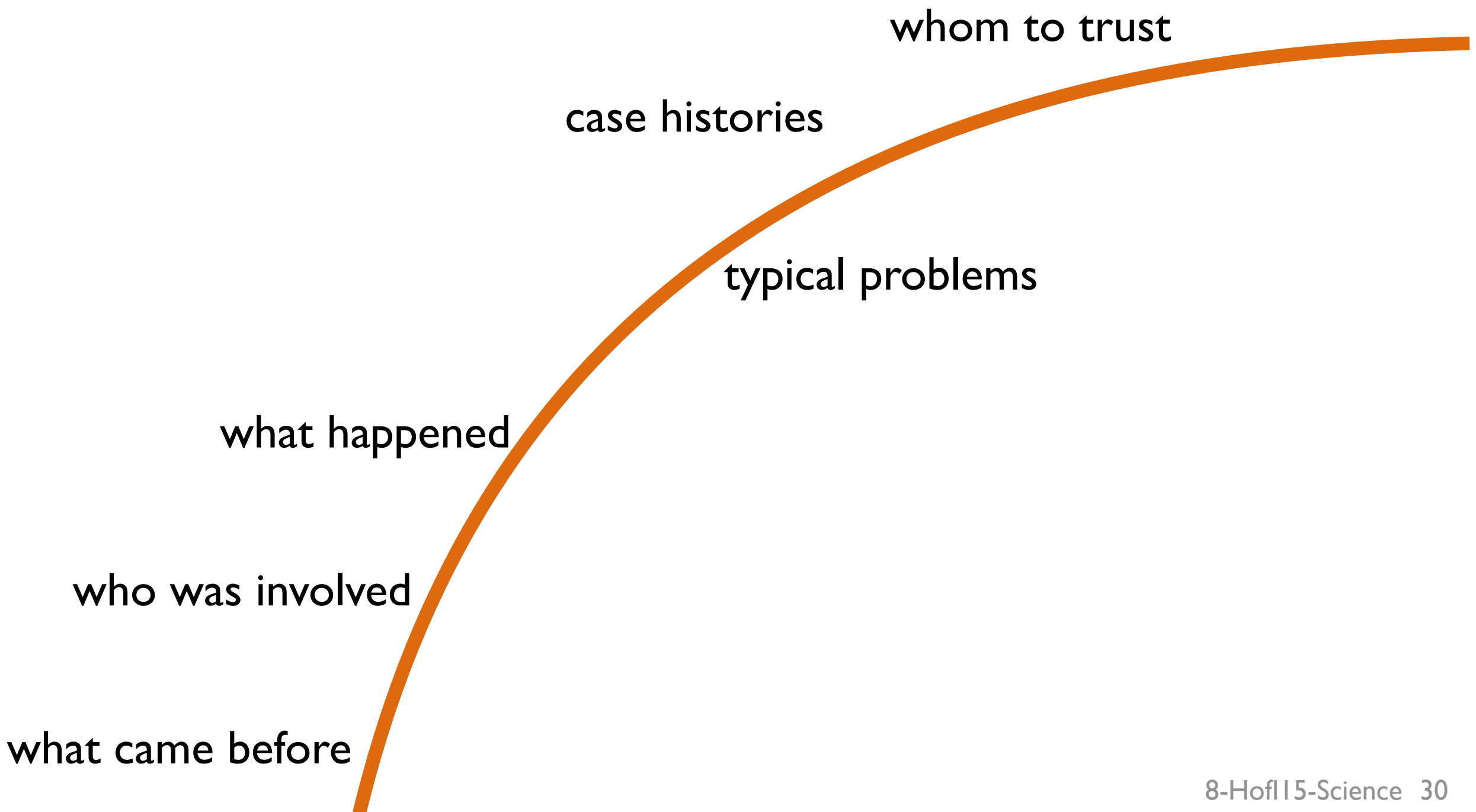


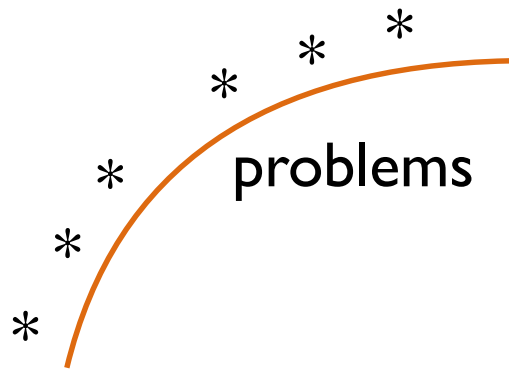
today's climb





today's climb





weird demos



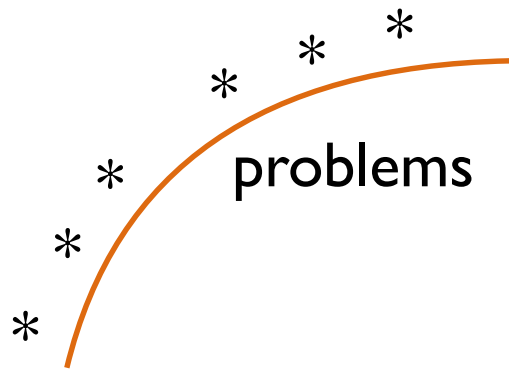
Charles II
1630–1685

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 I, 1663/4

"Vertuous, and Learned Men" -- Sprat



trouble for the virtuosi



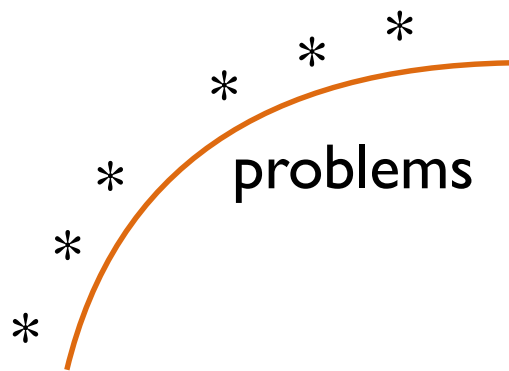
ayre heads

"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."

Thomas Shadwell
1642-1692

Shadwell, *Virtuoso* 1676

"Vertuous, and Learned Men" -- Sprat



trouble for the virtuosi



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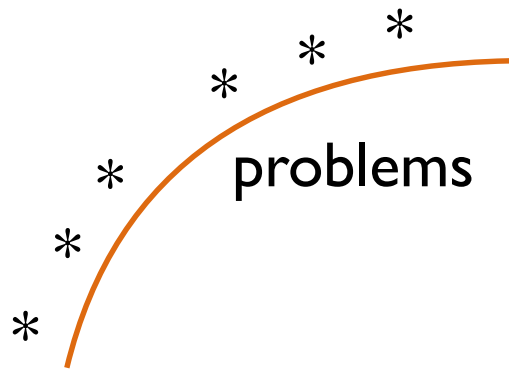
Shadwell, *Virtuoso* 1676

Thomas Shadwell
1642–1692

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

remember Erasmus?

high expectations?



dashed hopes

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

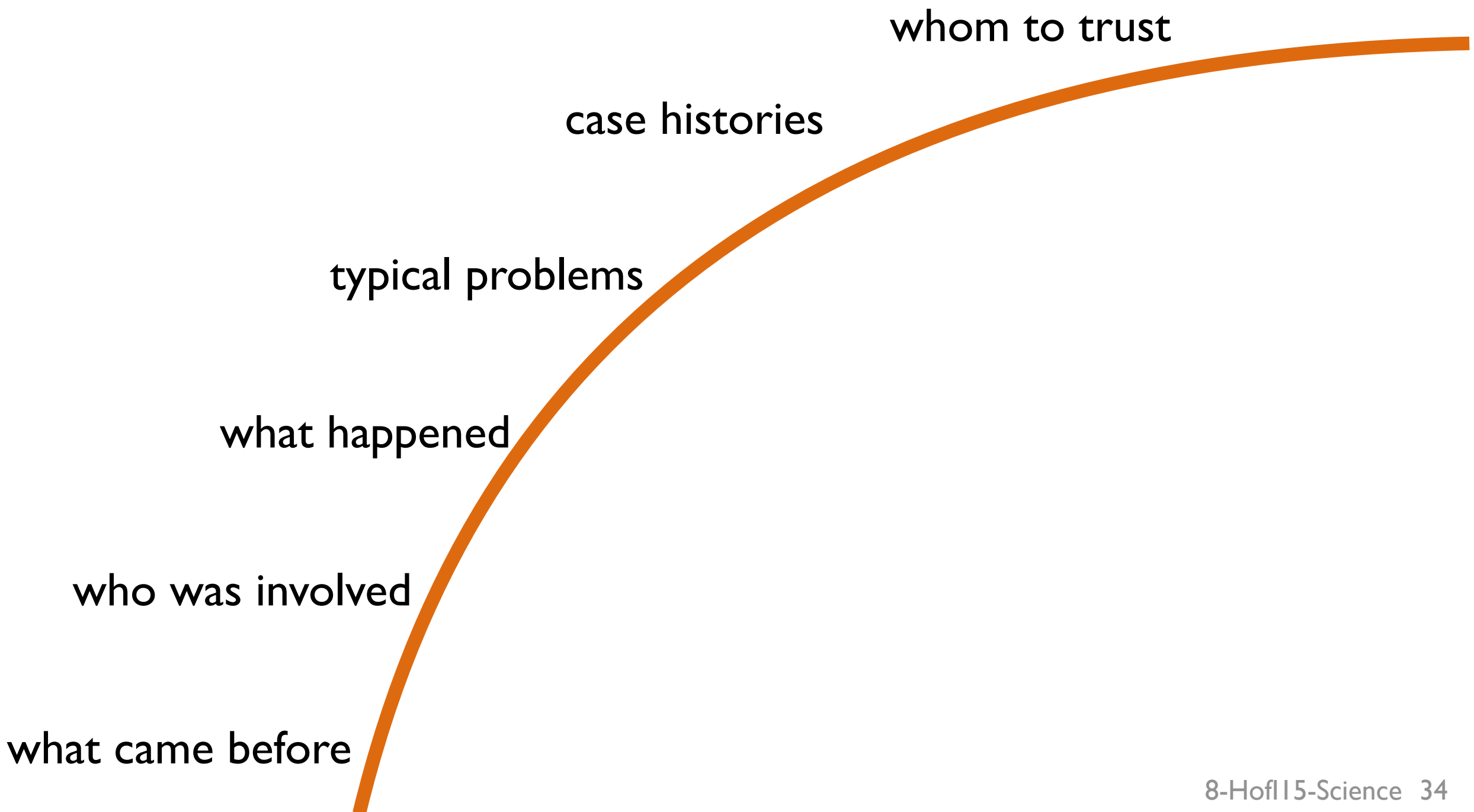
"The society met and parted without any
visible diminution of the miseries of life.
The gout and stone were still painful."

Samuel Johnson
1708–1784

–Samuel Johnson, *Idler* 1759

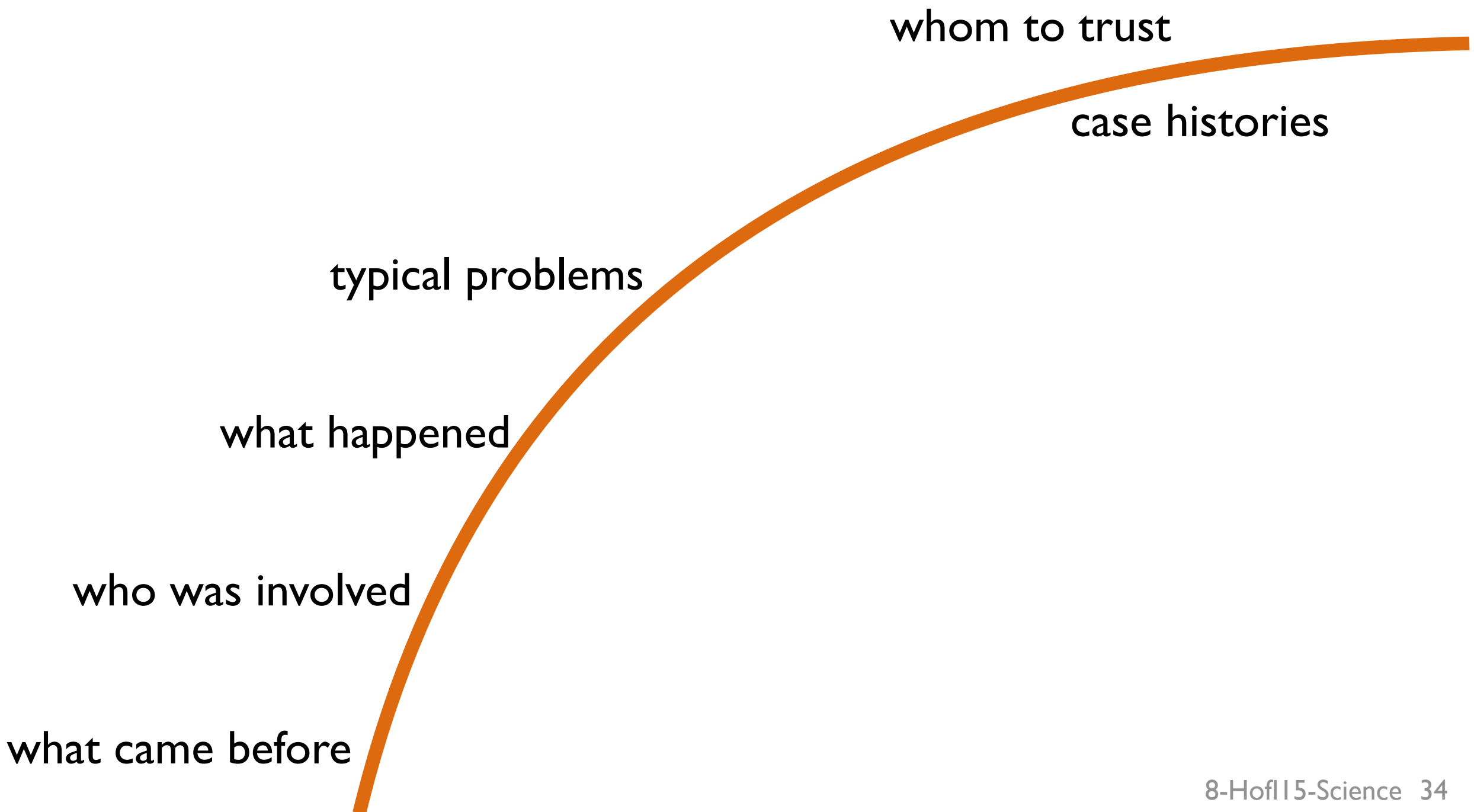


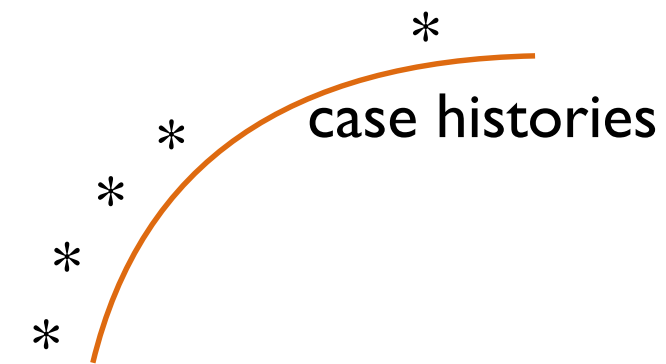
today's climb





today's climb





great fears

the plague

bubonic plague

“Black Death” & the Silk Road

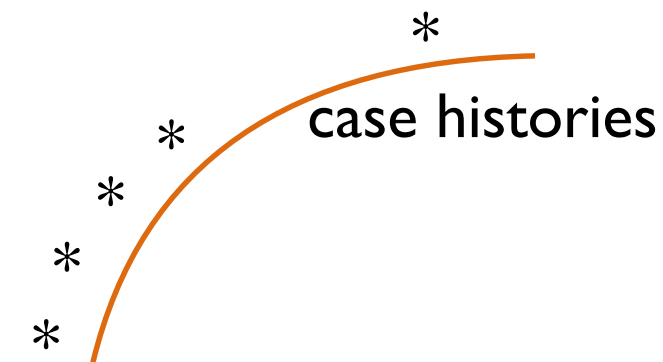
Mongolia, 1330; Europe 1347

the pox

smallpox

Egypt, 1350 bce

Europe 5th - 6th century



great fears

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

the plague

bubonic plague

“Black Death” & the Silk Road
Mongolia, 1330; Europe 1347

the pox

smallpox

Egypt, 1350 bce

Europe 5th - 6th century



slow progress

The plague is much in Amsterdam, and we in fears of it here.

Pepys, *Dec. 31, 1663*

The talk upon the 'Change is, that De Ruyter is dead, with
fifty men of his own ship, of the plague, at Cales

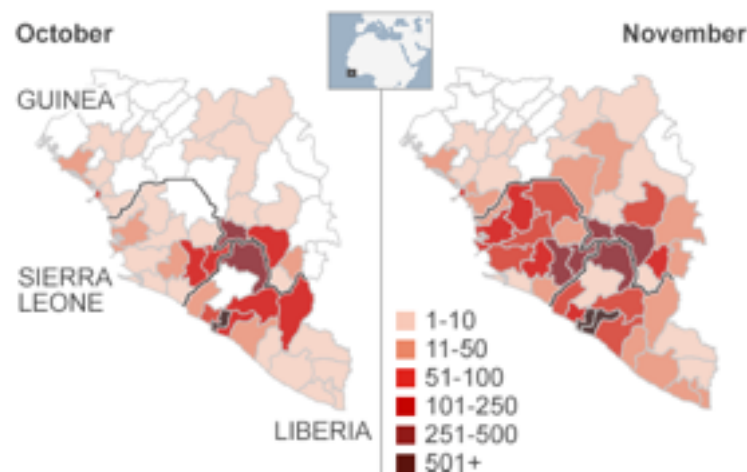
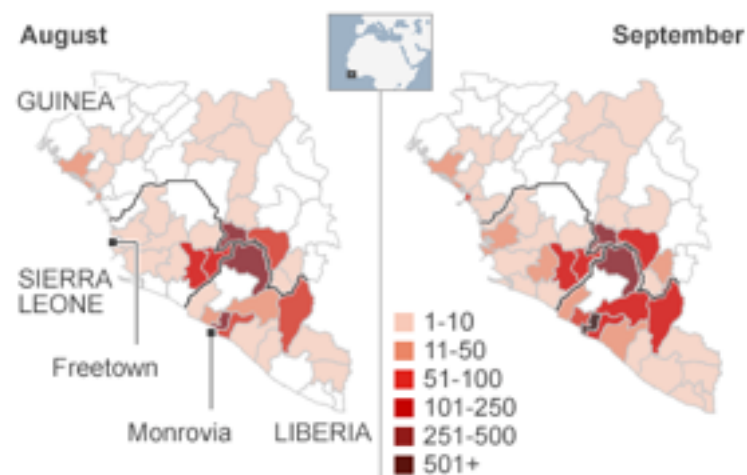
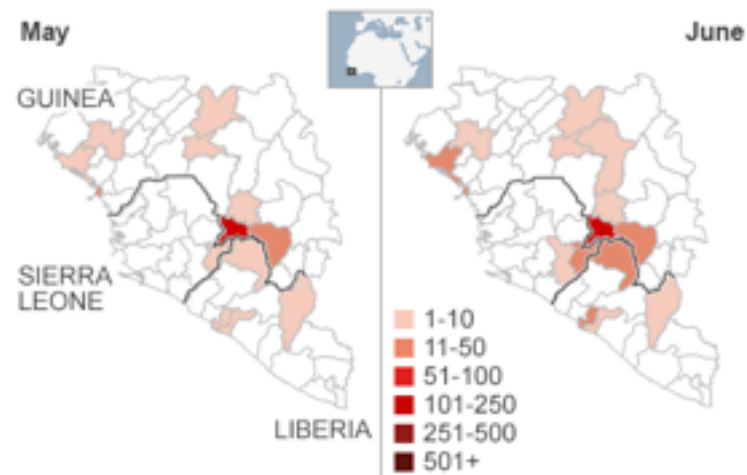
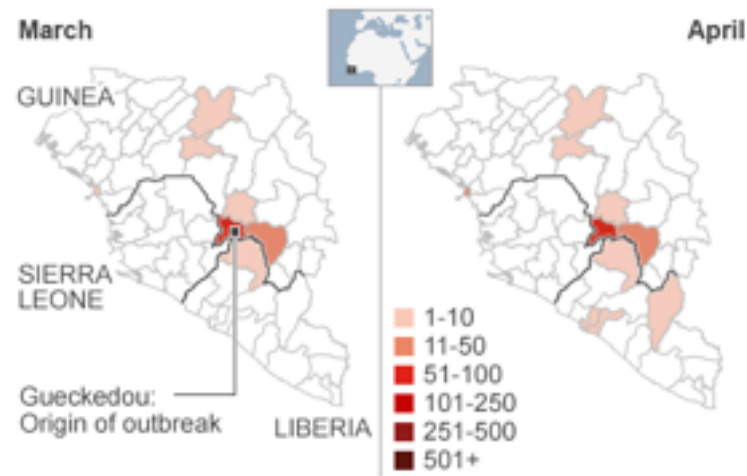
June 30, 1664

We were told to-day of a Dutch ship ... where all the men were
dead of the plague, and the ship cast ashore at Gottenburgh

Sept. 24, 1664

Thence to the Coffee-house ... where all the newes is of the
Dutch ... and of the plague growing upon us in this towne

May 24, 1665



slow progress

Amsterdam, and we in fears of it here.

Pepys, *Dec. 31, 1663*

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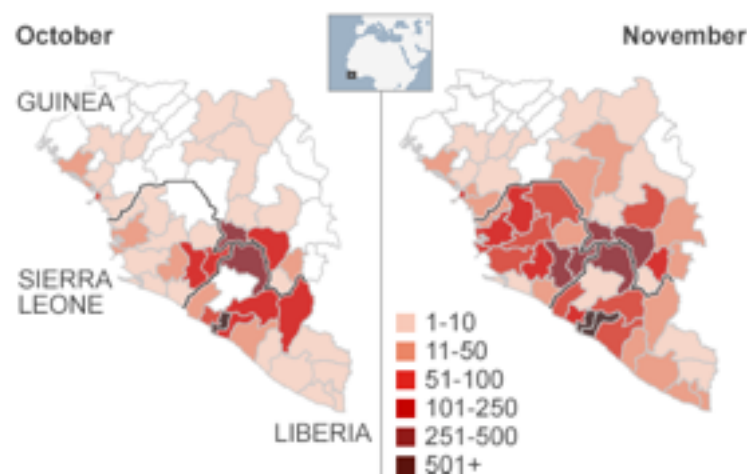
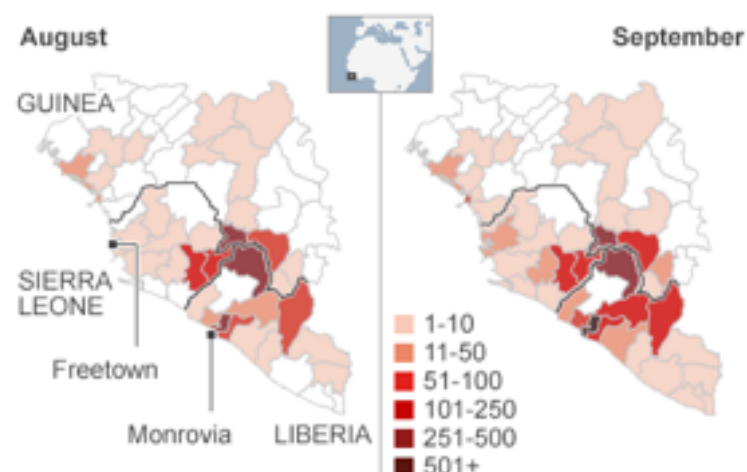
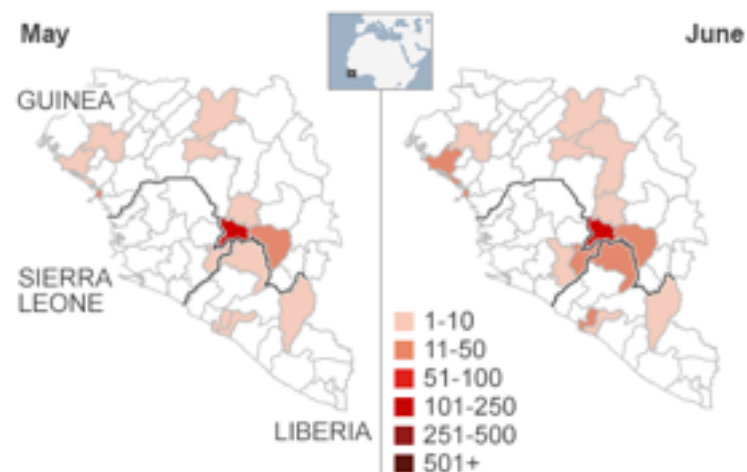
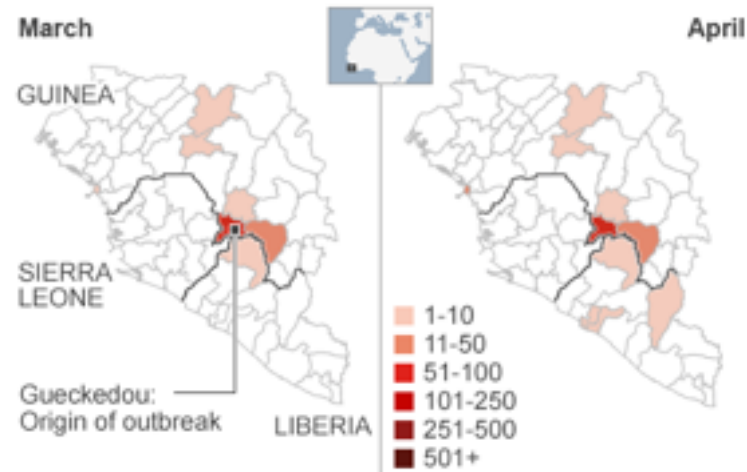
f a Dutch ship ... where all the men were
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Sept. 24, 1664

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plague growing upon us in this towne

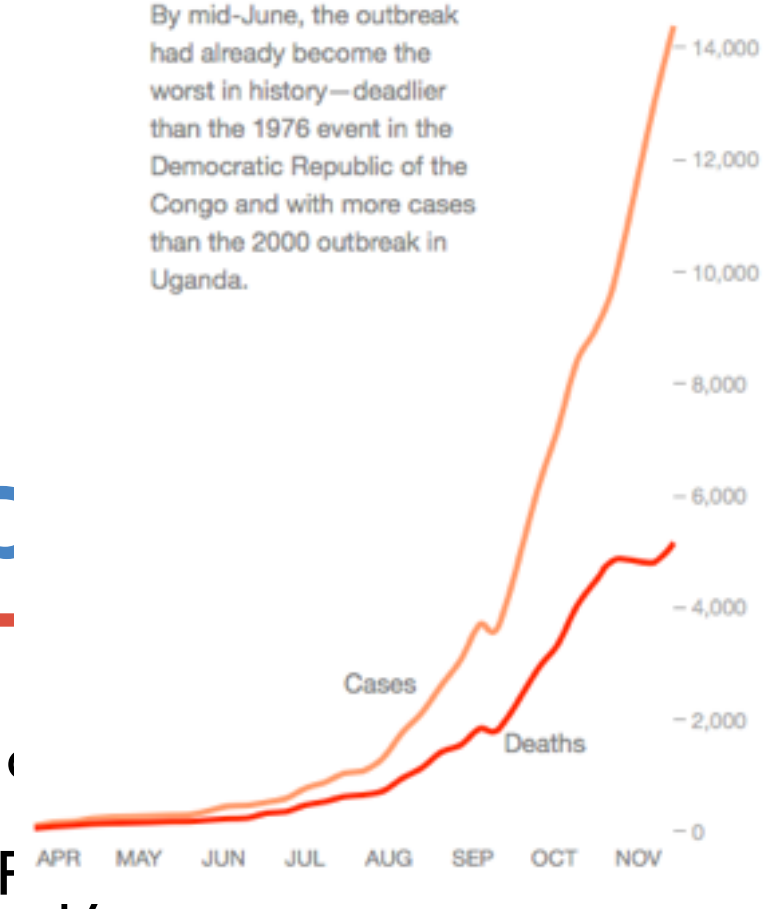
May 24, 1665

How the virus spread: Ebola death toll



slow p

By mid-June, the outbreak had already become the worst in history—deadlier than the 1976 event in the Democratic Republic of the Congo and with more cases than the 2000 outbreak in Uganda.



Amsterdam, and we in fears (

ange is, that De Ruyter is dead, with
ship, of the plague, at Cales

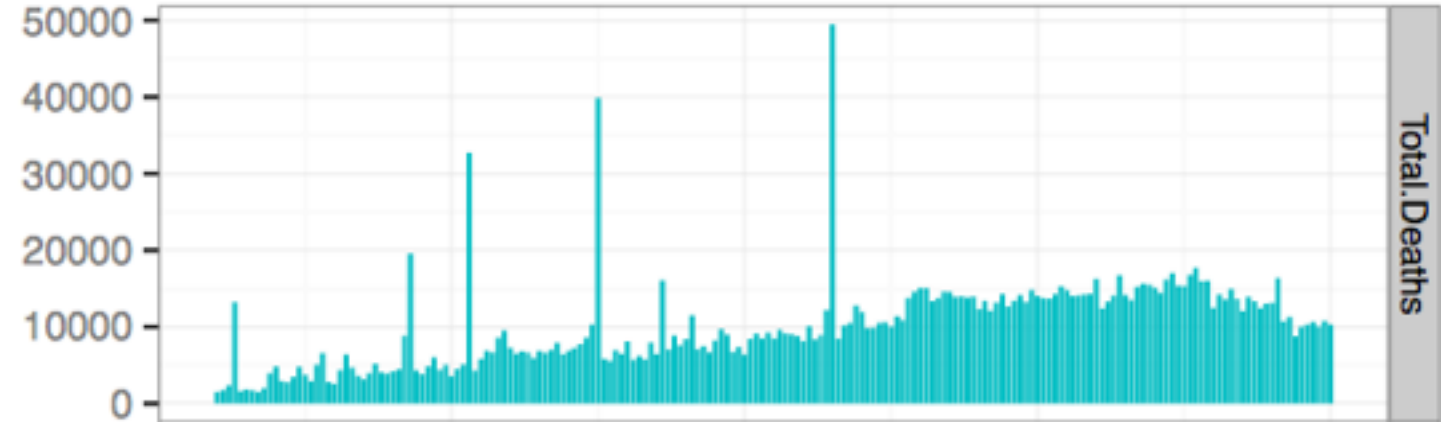
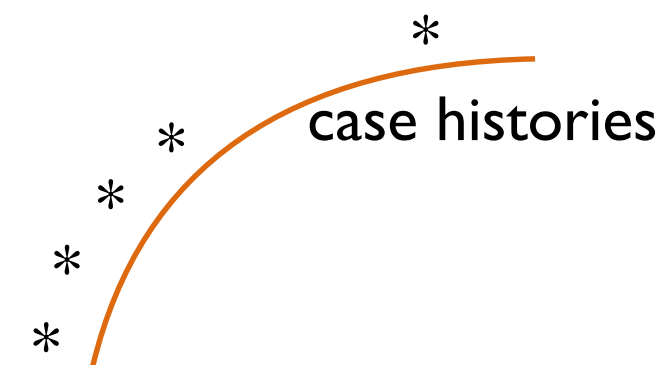
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May 24, 1665



plague



Samuel Pepys
1633-1703

"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

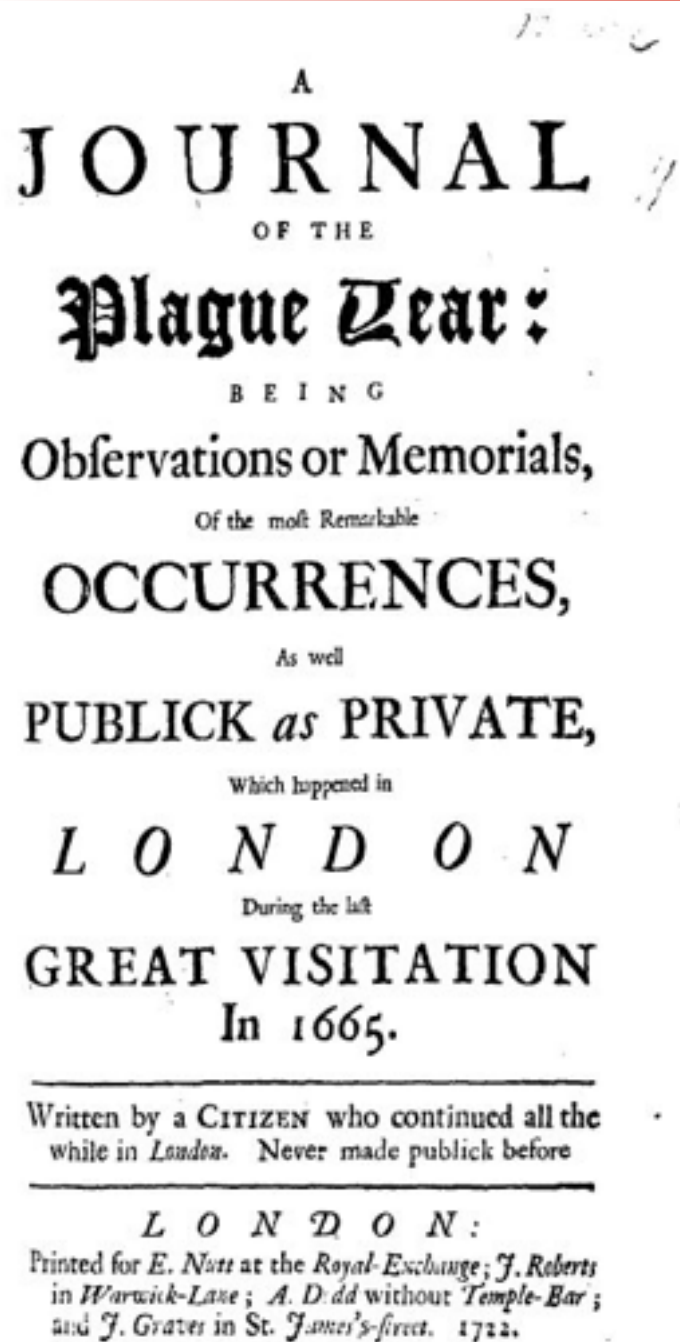
Daniel Defoe
1660?–1731

a plague of print?

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

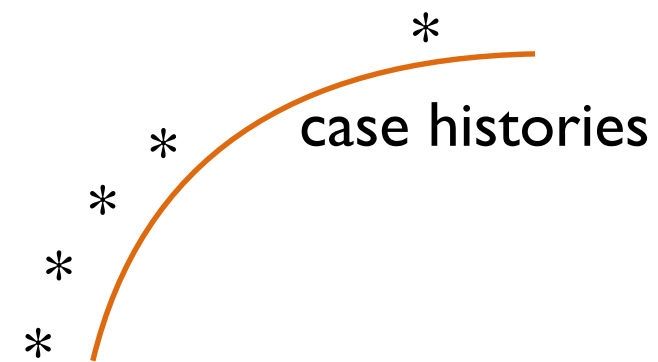
PROCLAMATION

" '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



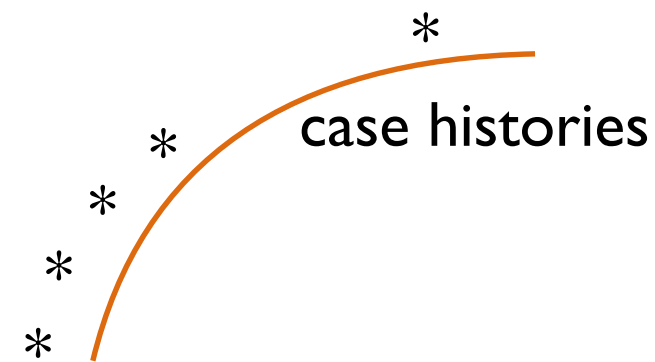
smallpox

Queen Anne (1665-1714)

17 pregnancies, 3 still births, 10 miscarriages

3 died in infancy of **smallpox**

William Duke of Gloucester (1689-1700)



plague to pox



smallpox

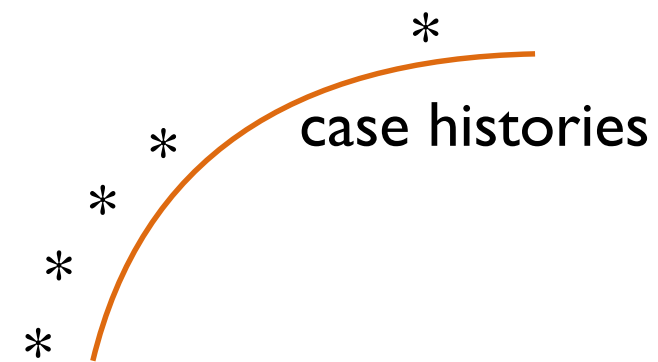
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Plains Indians: perhaps 90% of indigenous population



plague to pox



smallpox

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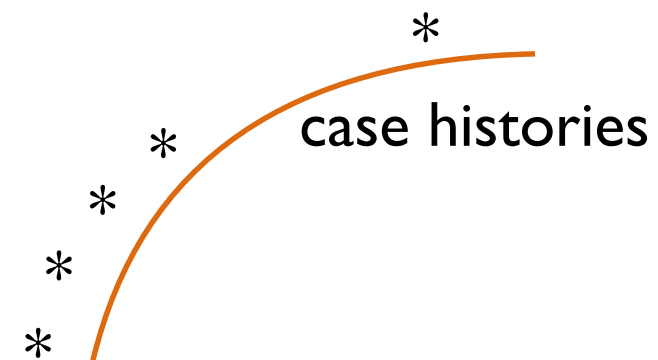
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plague to pox



smallpox

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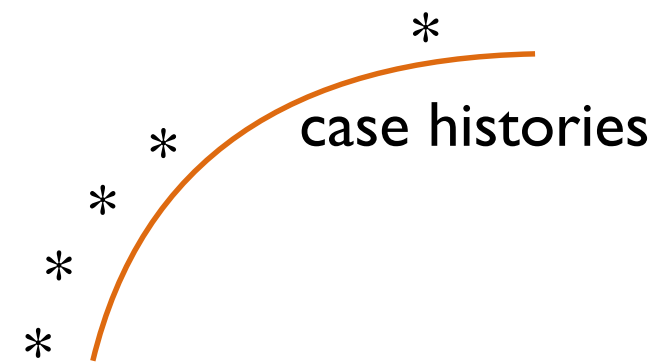
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plague to pox



smallpox

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Plains Indians: perhaps 90% of indigenous population



The First Train
Schuler Herman,
c. 1880



Lady Mary
Wortley Montagu
1689-1762

fighting back: inoculation

A DISCOURSE ON INOCULATION,

Read before the Royal ACADEMY of
SCIENCES at *Paris*, the 24th of
April 1754.

By Mr. *LA CONDAMINE*.
Knight of the military Order of ST. LAZARUS, Fellow of the
ROYAL SOCIETY, and Member of the ROYAL ACADEMIES
of SCIENCES at *Paris* and at *Berlin*.



LONDON:
Printed for P. VAILLANT in the Strand, facing Southampson-
Street. 1755. (Price Eighteen-pence.)

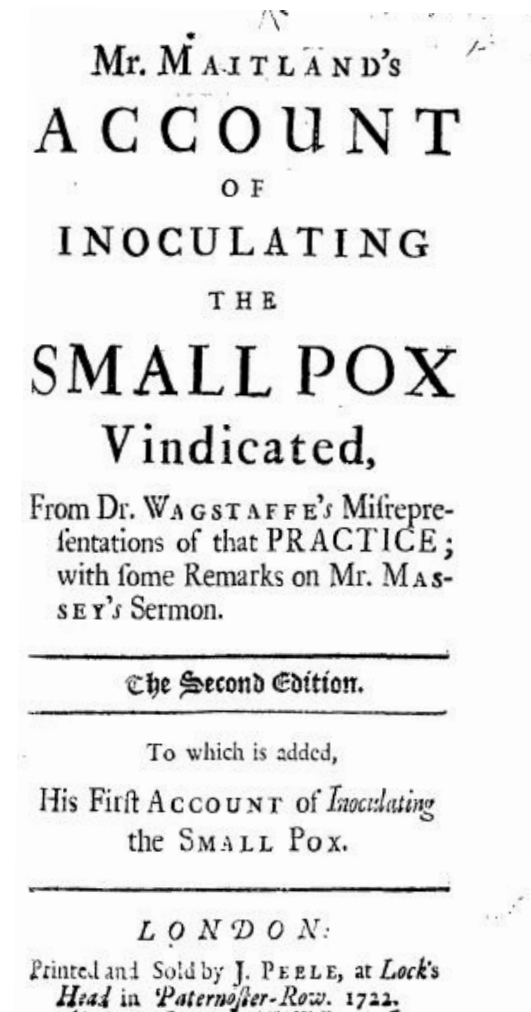
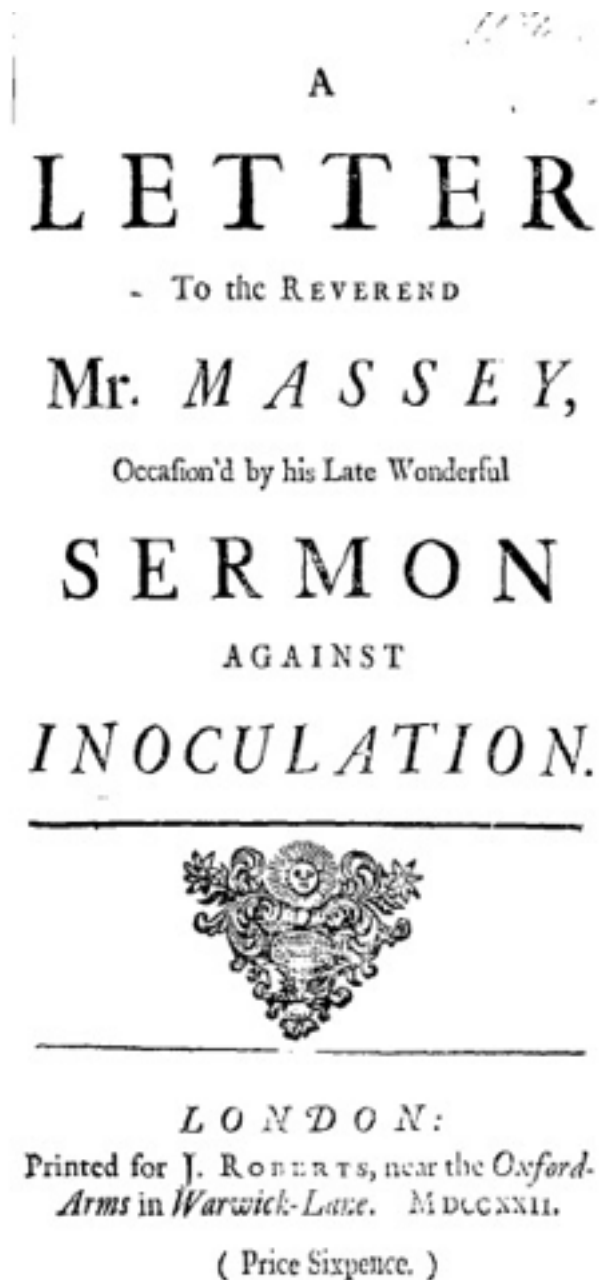
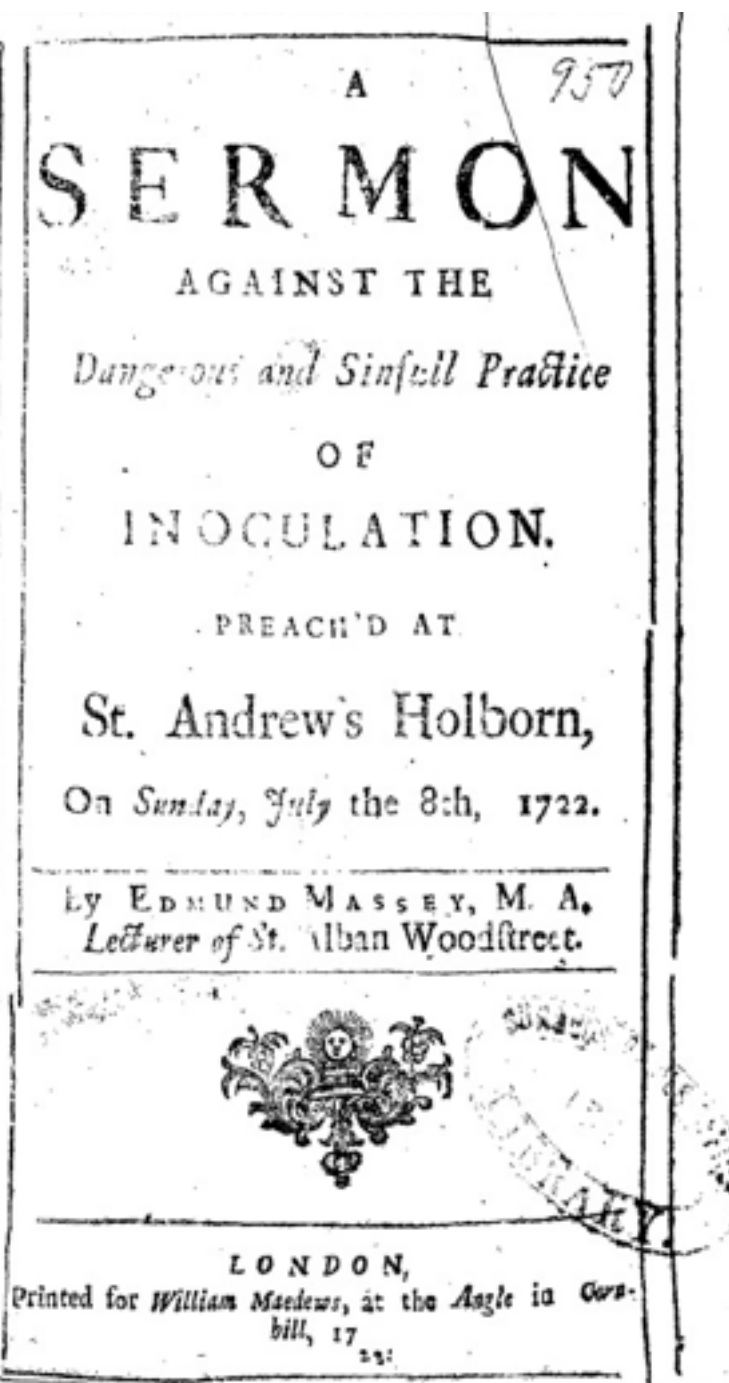
east to west

"Pylarni, a woman, affirmed that she had inoculated no less than six thousand persons in ... 1713 .. children of English and French Merchants. ... Lady Mary Wortley Montague ...1717 ... her only son, then six years old ... in London experiment was made upon malefactors" ... an incision an inch long .. in both arms ... a thread of the same length, impregnated with the matter of a ripe pustule ... removed after forty hours ... the wounds ... usually healed by the twentieth [day]"

—La Condamine, *Discourse on Inoculation*, 1754

*
*
*
*
*
case histories

a fight for authority



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*



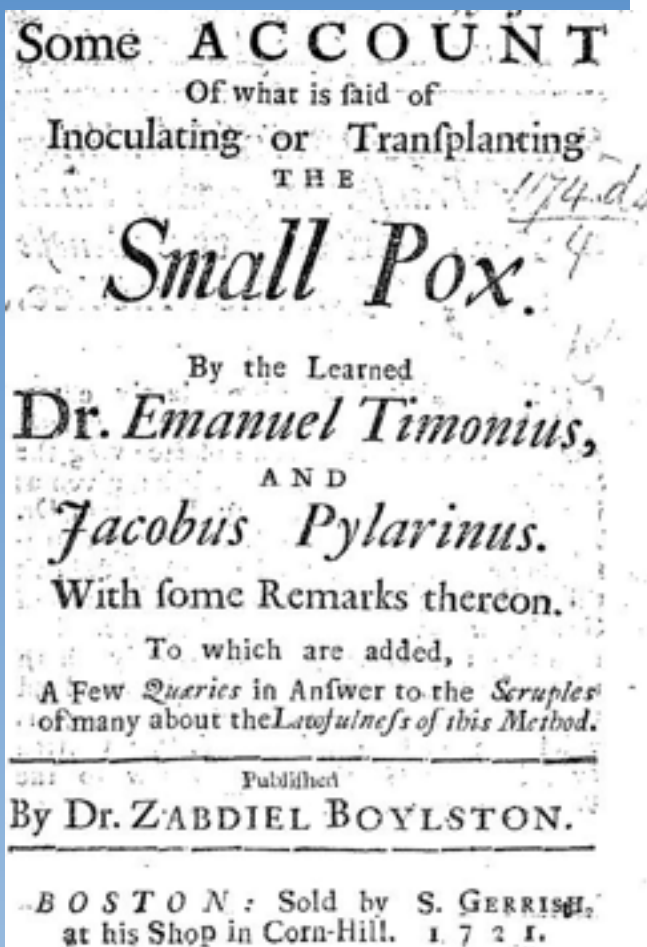
Cotton Mather
1663–1728

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





Cotton Mather
1663–1728

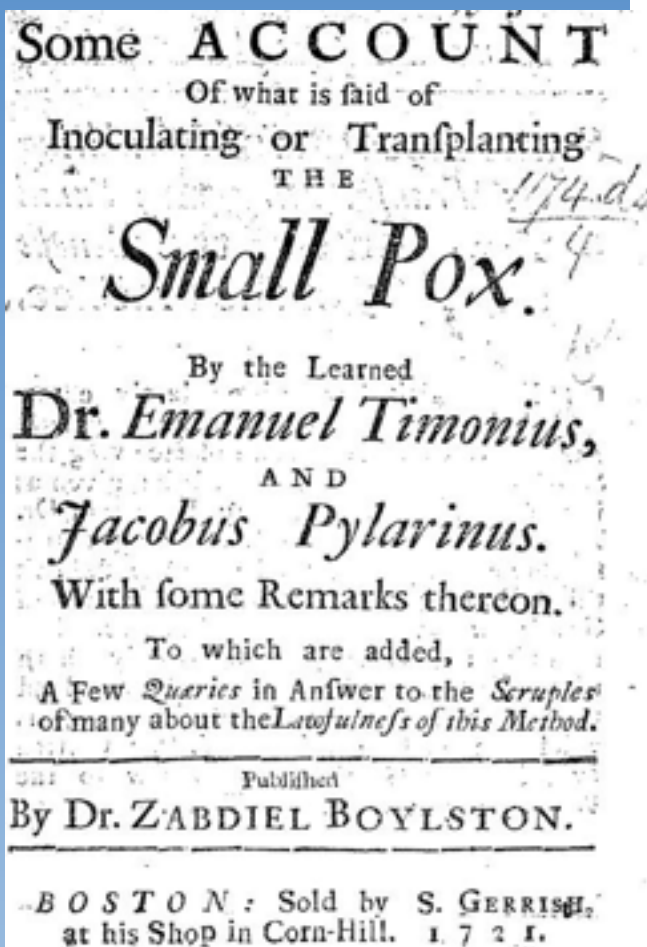
"Cotton Mather, you dog, dam you! I'll inoculate you with this; with a pox to you" [note attached to missile]

crossing the Atlantic

Boston outbreak 1721

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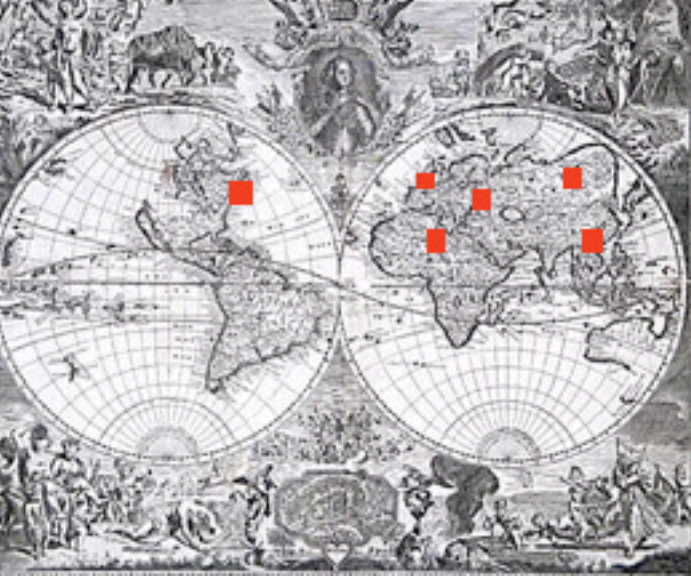




party politics

at Boston ... the fatal lot having fallen upon some families of distinction, this gave weight to the clamour of prejudice. The civil magistrate interfered, it was made a party affair, and the operation was laid under restraints little less than a prohibition ... A dreadful epidemical small-pox raged in Carolina in 1738.

—La Condamine, *Discourse on Inoculation*, 1754



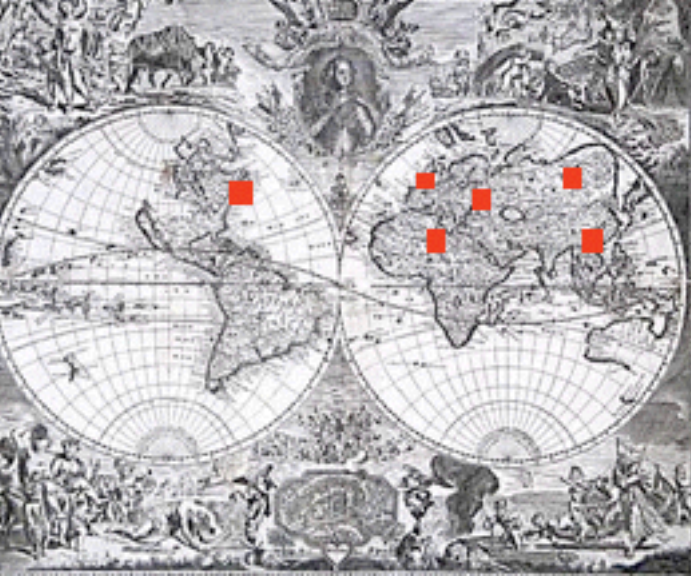
where was the scientific revolution?

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 century



where was the scientific revolution?

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recurring resistance

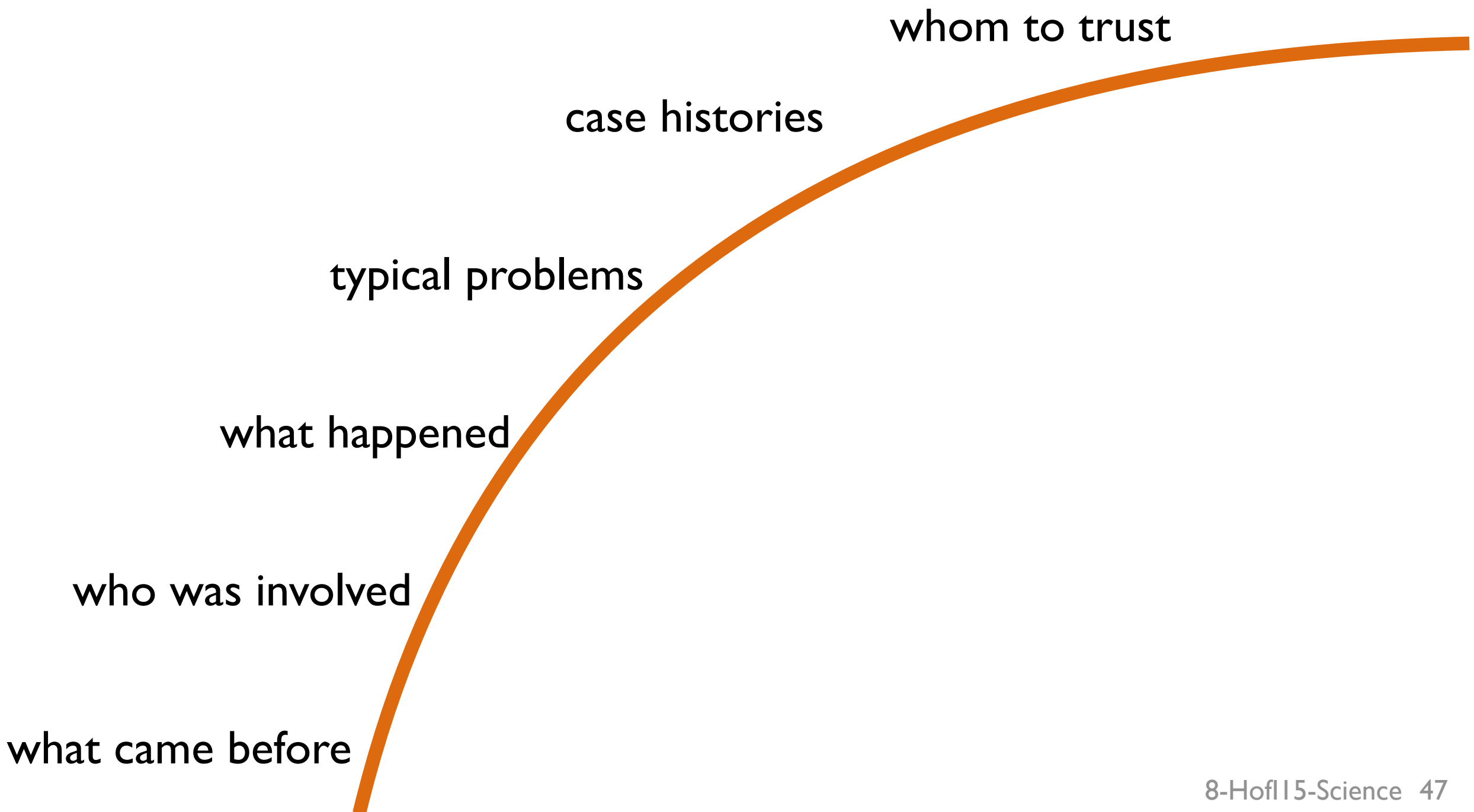
18th, 19th, 20th century

LOS ANGELES — ON Oct. 16, 1975, 3-year-old Rahima Banu of Bangladesh became the last human infected with naturally occurring [smallpox](#) (variola major). When her immune system killed the last smallpox virus in her body, it also killed the last such smallpox virus in humans. In what is arguably mankind's greatest achievement, smallpox was eradicated.

New York Times, Oct 15, 2104

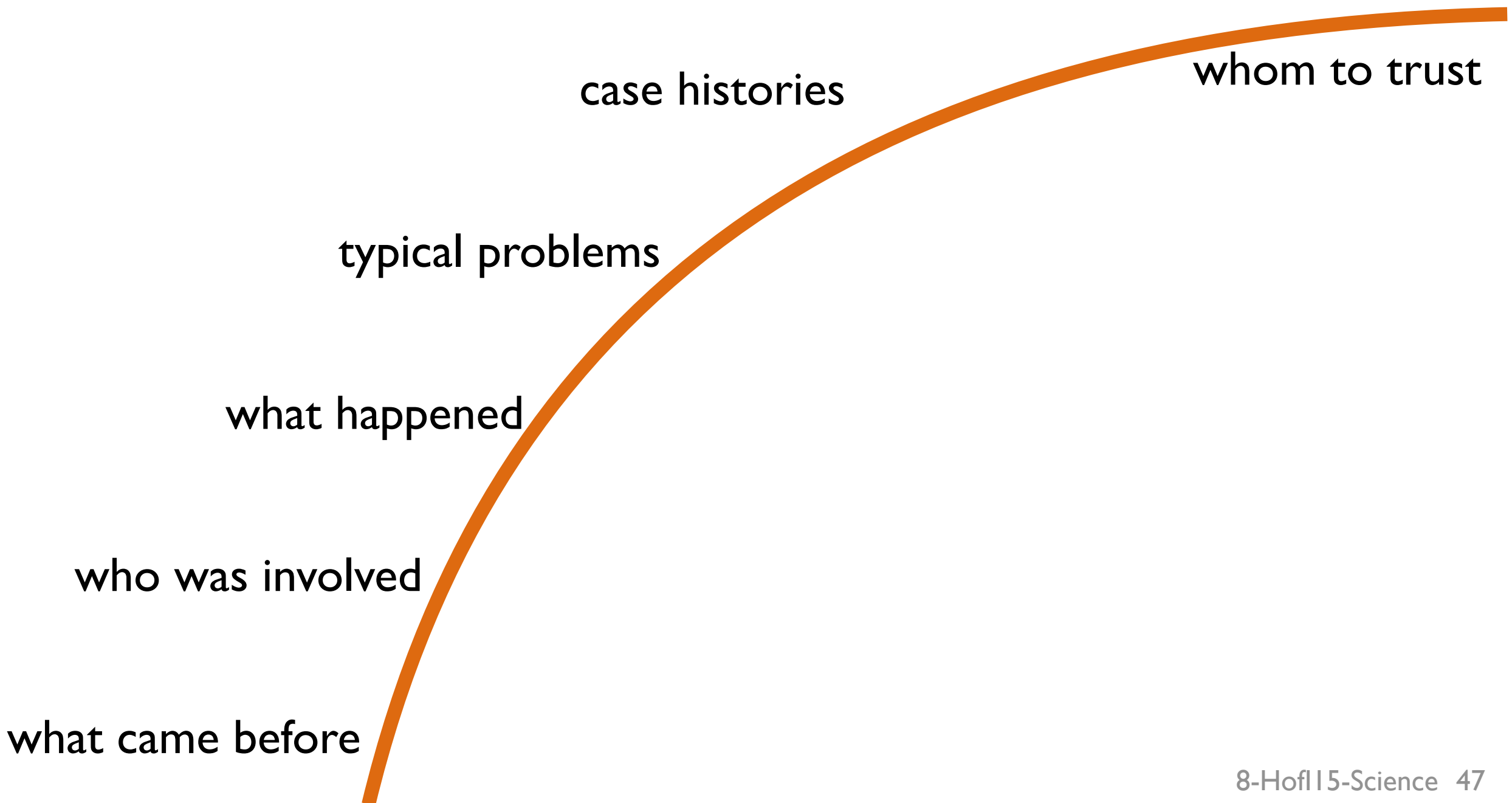


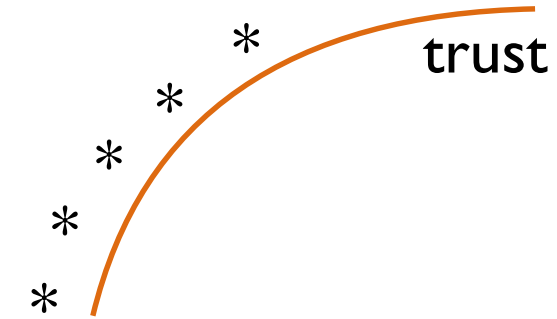
today's climb



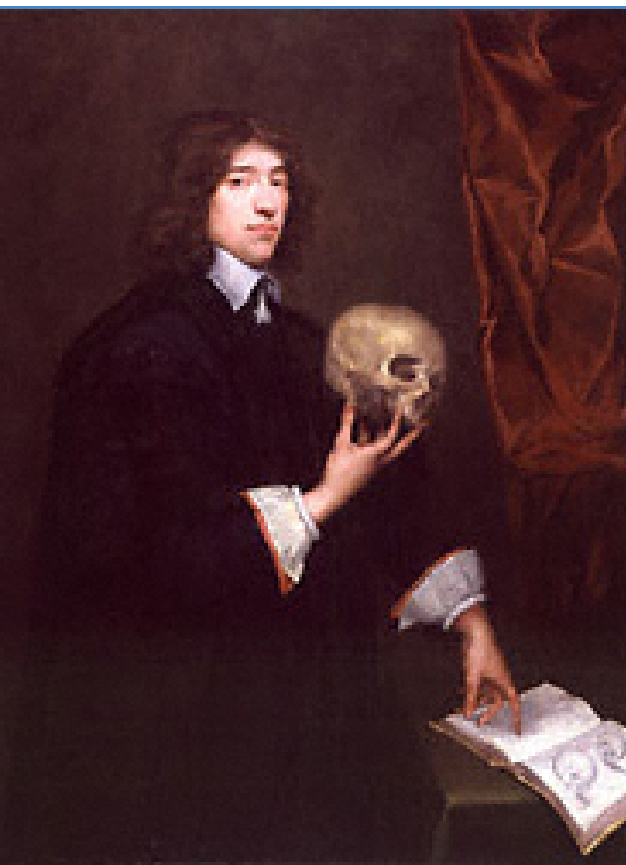


today's climb





trustworthy?



William Petty, RS

surveyor

Political Arithmetic of Ireland

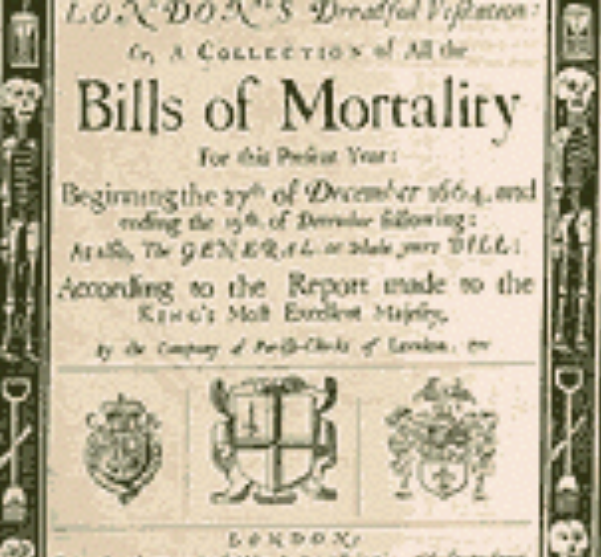
velocity of circulation

natural vs market price

economic surplus

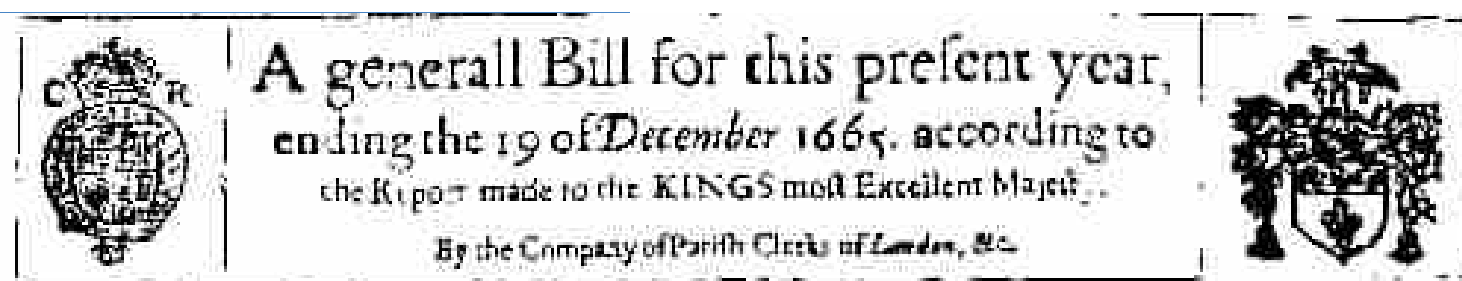
population change

William Petty
1623–1687



"The Mortality Bill is come to 267" —Pepys

big data



1603: regular bills of mortality

1611: incorporation of parish clerks counting by "searchers"

1629: other deaths

1728: age of deceased

1837: last bills

The Diseases and Casualties this year.

A Borne and Stillborne — 817	Executed — 21	Palſie — 30
Aged — 1545	Flux and Small Pox — 655	Plague — 68528
Aque and Peaver — 5237	Found dead in Streets, fields, &c. — 6	Planner — 6
Apoplex and Suddenly — 216	French Pox — 86	Plumie — 15
Bedric — 12	Frighted — 23	Pox-fetters — 1
Blind — 4	Gout and Sciatica — 27	Quinſe — 35
Bleeding — 16	Grief — 46	Rickets — 157
Bloody Flux, Scouring & Flux — 185	Gripping in the Guts — 1238	Killing of the Lights — 157
Burnt and Scalded — 8	Hanged & made away themſelves — 7	Lapſure — 14
Calenture — 3	Head-moſtliſh & Meale-fallen — 14	Scurvy — 17
Cancer, Gangrene and Fiſtula — 56	Jaundies — 120	Shingles and Swell pox — 2
Canker, and Thrush — 121	Impoſtume — 127	Sores, Ulcers, broken and healed — 1
Childbed — 625	Kill'd by ſeverall accidents — 46	Limbs — 82
Chiltnes and Infants — 1258	Kings Evil — 28	Spleen — 14
Cold and Cough — 65	Leprotic — 2	Spotted Fever and Purple — 1579
Collick and Wind — 134	Lethargy — 14	Scouring in the Guts — 314
Conſumption and Tiflick — 4888	Liver-galven — 21	Stone and Strangury — 8
Convulſion and Morier — 1056	Meagrom and Headach — 12	Sucker — 1111
Diltracted — 5	Mealles — 7	Teeth and Worms — 2614
Devote and Turpany — 1476	Murthered and Shot — 9	Vomiting — 51
Drowned — 52	Overjau'd & Starved — 45	Vunn — 7
Of Males — 5114	Of the Plague — 68528	
Of Females — 4853		
In all — 9967		
Increased in the Burials in the 130 Pariſhes and at the Peſt-houſe this year — 79629		
Increased of the Plague in the 130 Pariſhes and at the Peſt-houſe this year — 68528		



John Graunt
1620–1674

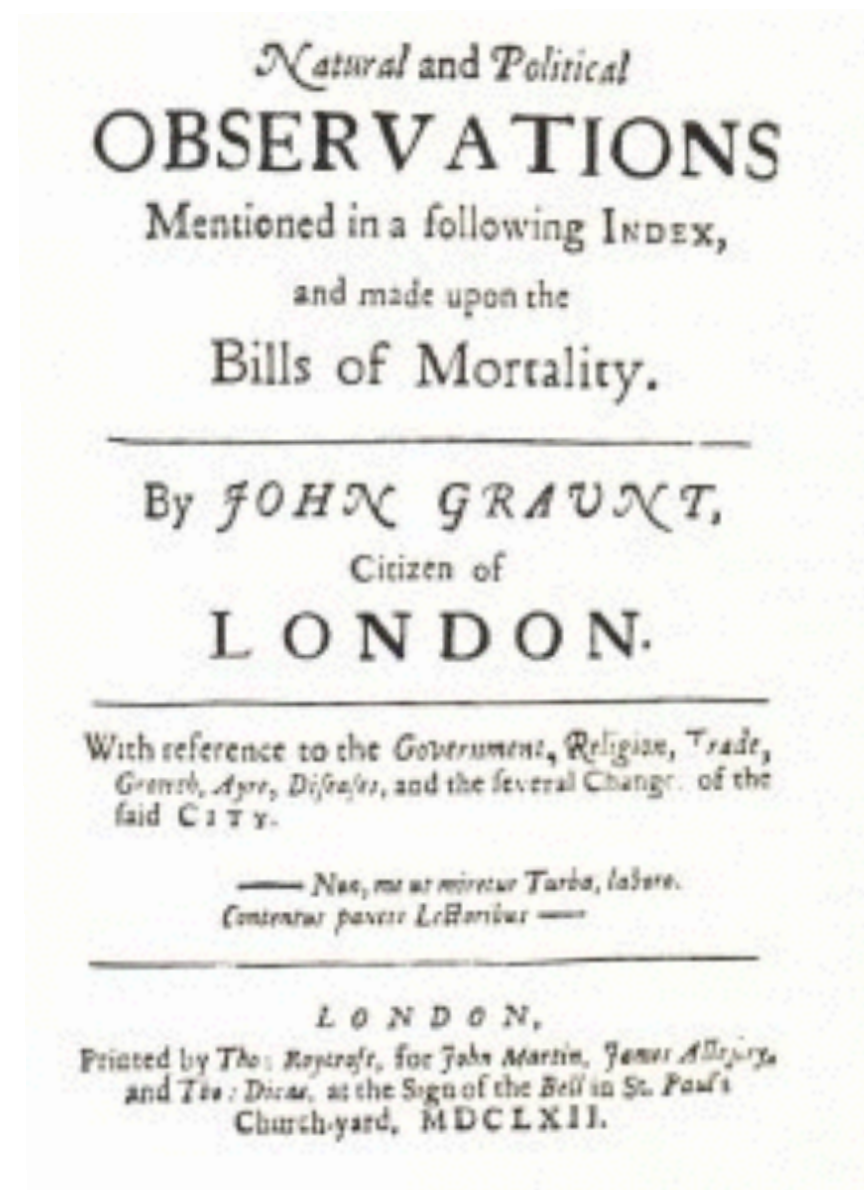
in a class of his own?

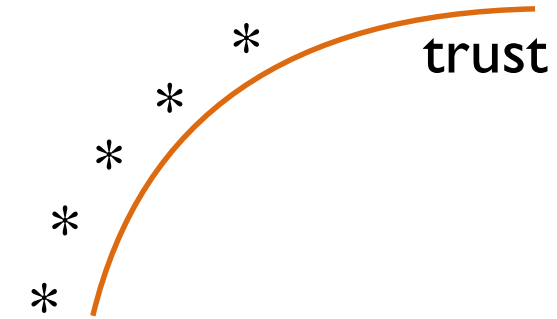
"His Majesty gave this particular charge to His Society, that if they found any more such Tradesmen, they should be sure to admit them all, without any more ado."

--Sprat

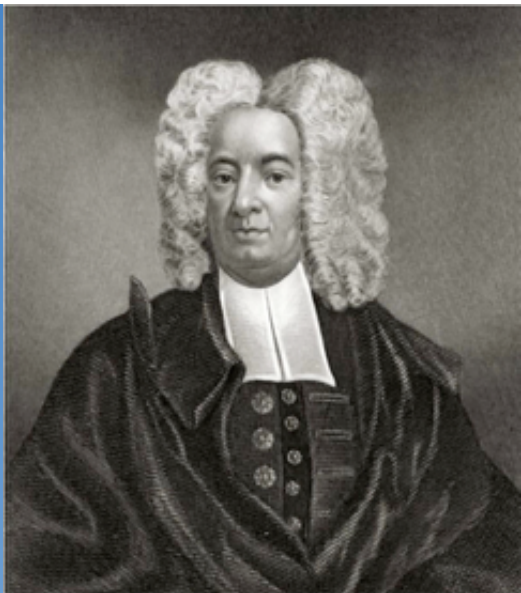
John Graunt, FRS
*Natural and Political
Observations ...
upon the Bills of Mortality*
1662

shopkeeper's math





whom to trust?

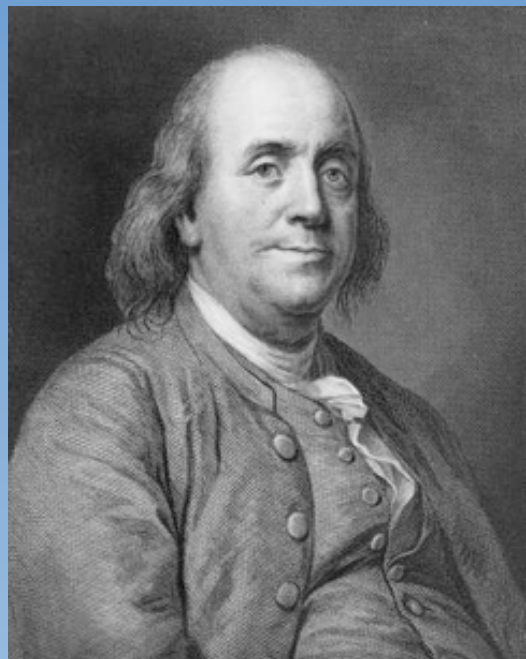


Cotton Mather

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



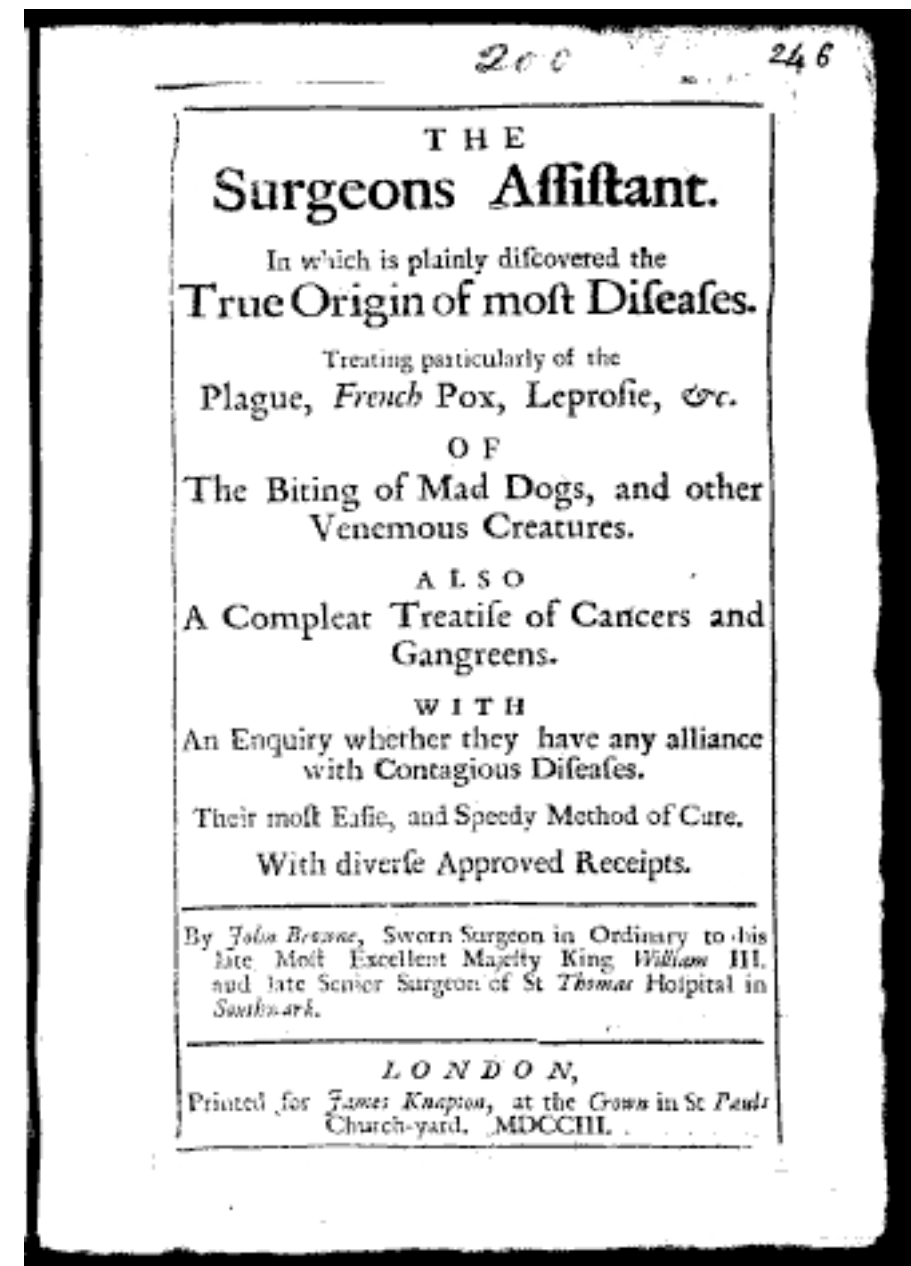
open science

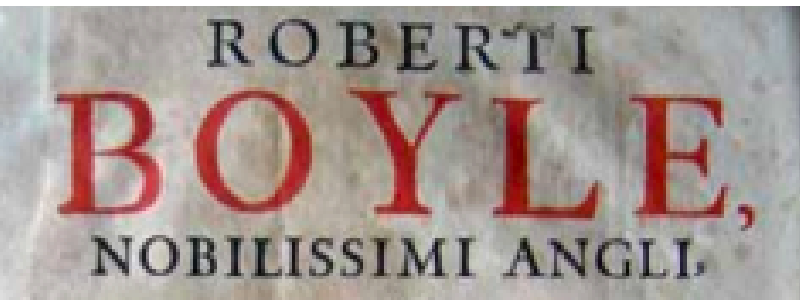
matters of trust

in *books*

in *machines*

in *people*





social revolution?

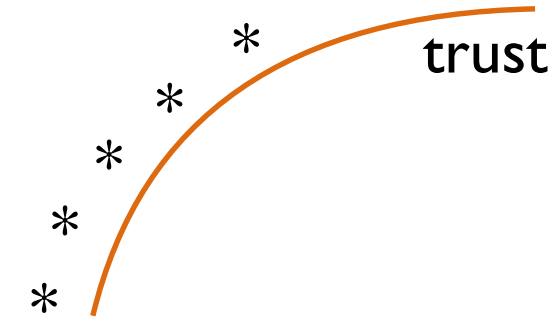
significant developments?

scientific societies

the English gentleman

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



establishing authority

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

--Sprat

(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 prædicted. 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.

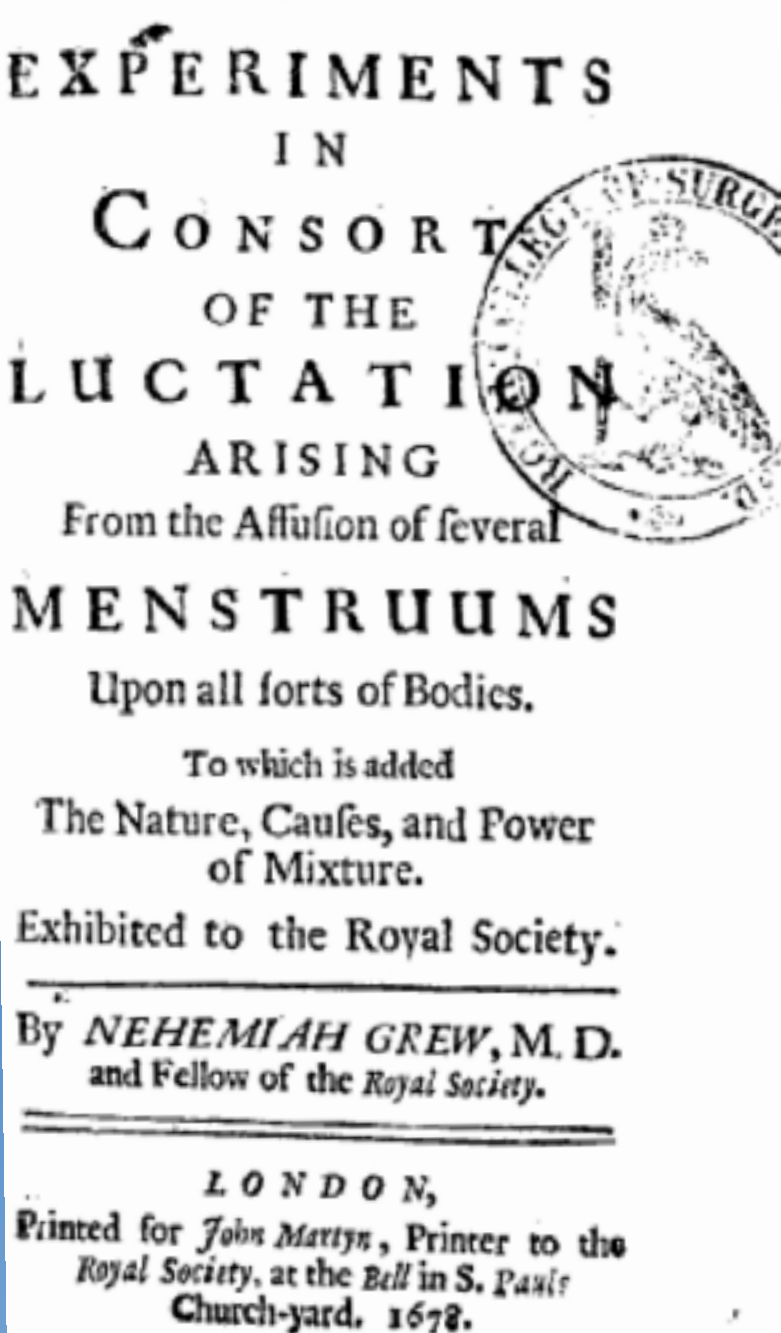
The CONTENTS.

- 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 Abligato 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, Entitled, Geometria Organica, sive Descriptio Linearum Curvarum Universalis.* Auctore Colino Mac Laurin, Matheseos in Collegio Novo Abredonensi Professore, & R. S. S.



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

battling books

EXPERIMENTS

IN

CONSORT
OF THE
LUCTATION
ARISING

From the Affusion of several
MENSTRUUM

Upon all forts of Bodies.

To which is added

The Nature, Causes, and Power
of Mixture.

Exhibited to the Royal Society

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

LONDON,

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

New EXPERIMENTS,
And Useful
OBSERVATIONS
CONCERNING

Sea-Water

MADE

FRESH

According to the

Patentees Invention :

In a Discourse Humbly Dedicat-
ed to His Majesty the KING
of Great-Britain, &c.

By a Fellow of the Colledge of Phy-
sicians, and of the Royal-Society.

Printed Anno Dom. 1683

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Sea-Weeds

MADE

F R E S H

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A N
EXAMINATION

O F
Mr. *John Colbatch*

H I S

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 *Heart of the Blood.*

Together with

Remarks on Dr. Leigh's Book intituled Exercitationes 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*.

L O N D O N,

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

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HIS
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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. ^{ticks} Pharmacop. Rustican*.

Pro Captu Lectoris habent sua fata libelli.



going closed?

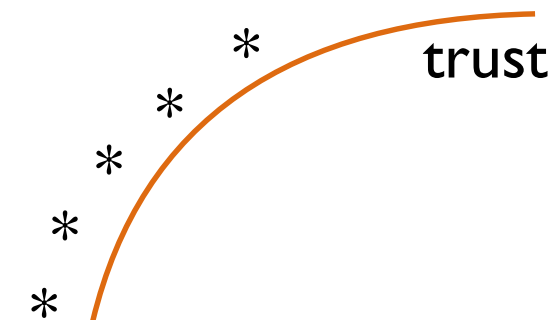
“Let us consider the matter in this way: If the wise man or any other man wants to distinguish the true physician from the false, how will he proceed?

.... 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*



going open again

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

--Sprat

revolutionary thoughts

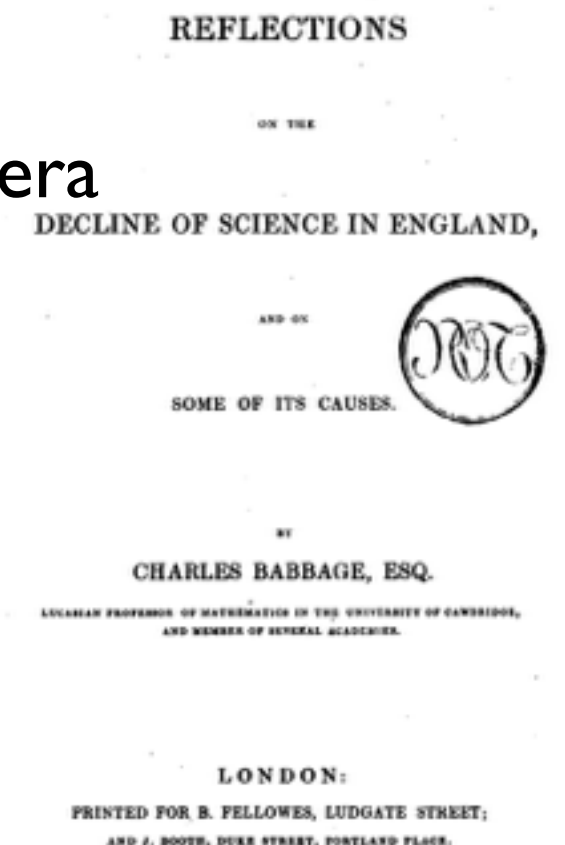
'"popular medicine infinitely preferable to, and more certain than, all the often erroneous practices of our physicians"

Nouveau Plan ... pour la Médecine en France, 1790

US 19th Century—the challenge of cholera

Jacksonian independence:

- dismantling medical societies
- resisting vaccination
- opposing controls on food and drugs





coming back around

1847: AMA founded

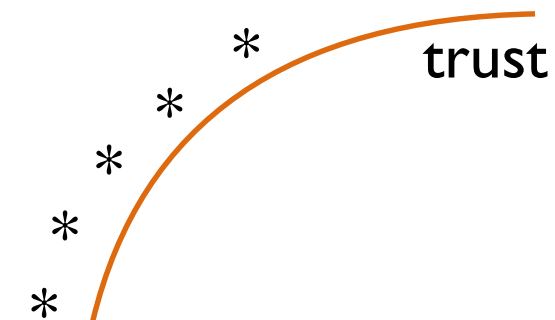
1883: *JAMA* founded

1904: AMA Council on Medical Education

1905: Council on Pharmacy and Chemistry

1906: Education Council classifies medical schools

1906: US Food and Drug Act



in sum

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



can techies become the “unacknowledged legislators of mankind”— if yes, then what?

we need to understand the mechanisms of authority and authenticity



up ahead

WEEK 5

17 Feb: Emergence of the Public Sphere

Required Readings

[Addison, Joseph.] 1710-11. ["Uses of the Spectator"] *The Spectator* 10, Tuesday, March 13.

Source: Google Books [[hyperlink ↗](#)]

[Steele, Richard.] 1711. *The Spectator* 49, Thursday, April 26.

Source: Google Books [[hyperlink ↗](#)]

[Addison, Joseph.] 1710. ["The Political Upholsterer."] *The Tatler*, 155, Thursday, April 6.

Source: Google Books [[hyperlink ↗](#)]

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

Source: JSTOR [[hyperlink ↗](#)]

Cowan, Brian. 2005. "Inventing the Coffee House" and "Penny Universities," pp. 79-112 in *The Social Life of Coffee: The Emergence of the British Coffeehouse*. New Haven. Yale University Press.

Source: Course reader.



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 local UCB conversation. This could be issues surrounding sexual assault, tuition increases, the “Black Lives Matter” demonstrations and the reactions to them 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 is still a good model for the transmission of news and information?

For an extra-credit point, you can render your experience in an annotated diagram like the one Darnton gives on p. 8 (no need to reproduce his exact format). If you do, email it to Nikolai.