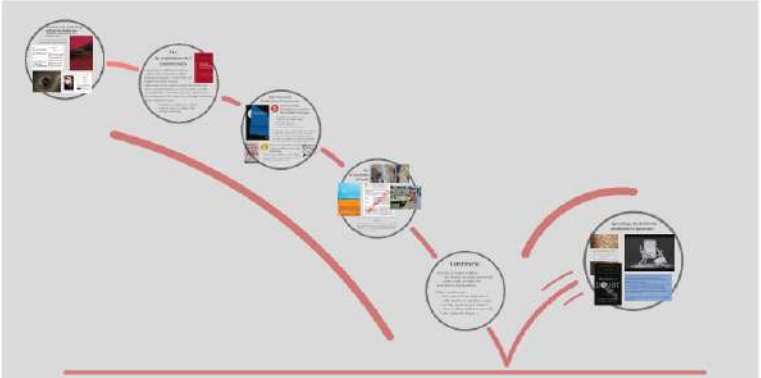
Rethinking Expertise

Science and Society, 3/4 **January 20, 2021** Reims Winter School

... through Controversies (3.1)



From the origins to a definition of sociotechnical controversies

The Public and its Problems (3.2)

There is no such thing as a unified public opinion, that would resume a controversy and fully along a pre-existing unit axis.

Dissent cannot be reduced into a "lack of pedagogy".

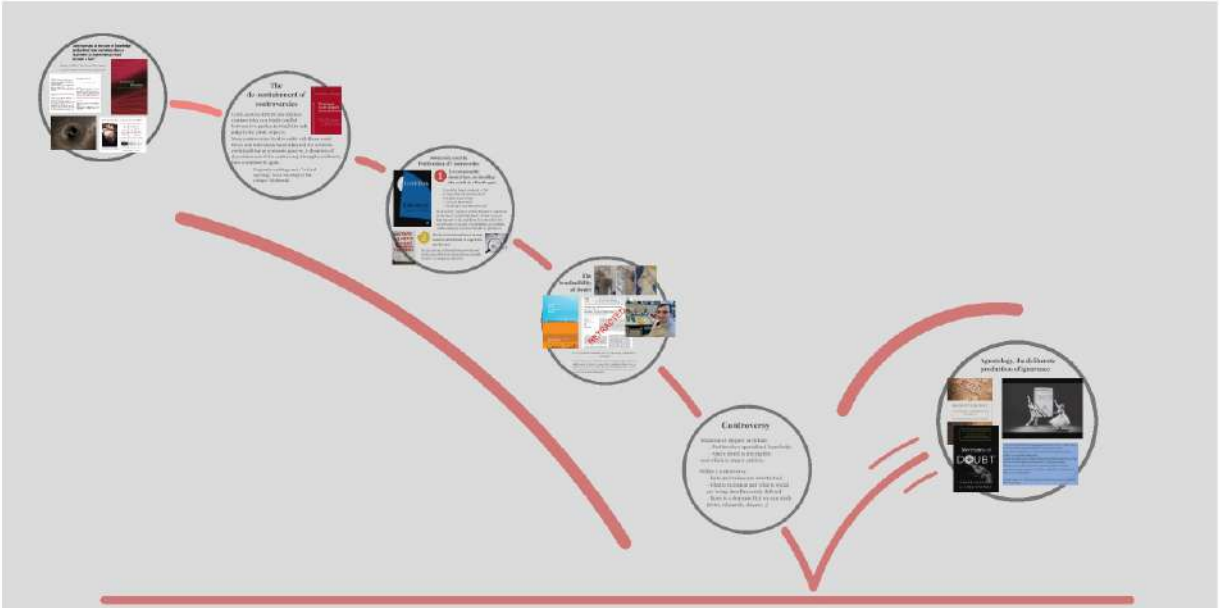
The qualification of a debate as a controversy is itself controversial.

The Blurred Boundaries of Expertise (3.3)

To publicly demonstrate that a situation is problematic, one needs diverse resources and skills – roles and identities are read within a controversy and boundaries between the amateurs and specialists, the experts and the lay people, are blurred.

Thomas Tari
thomas.tari@sciencespo.fr

... through Controversies (3.1)



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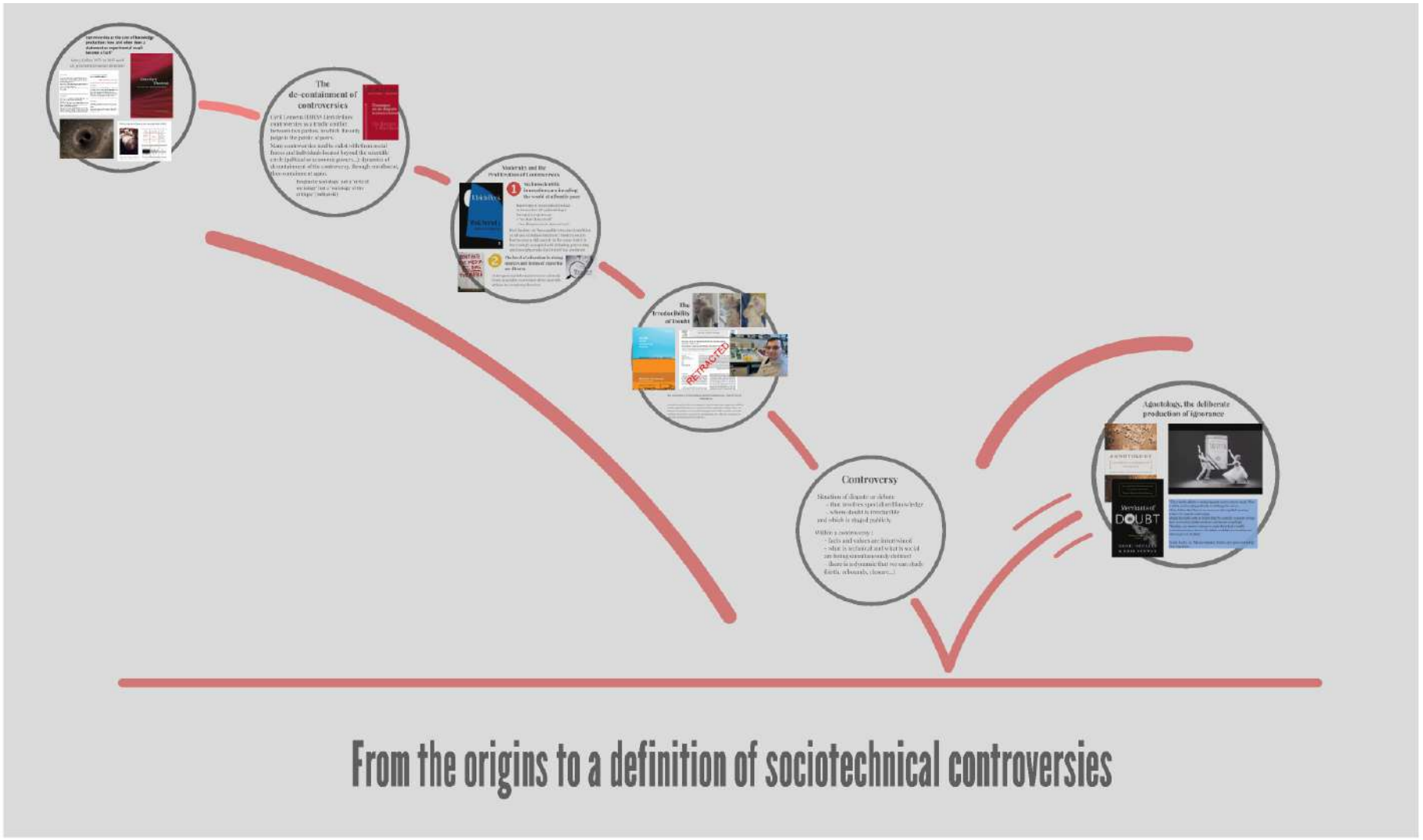
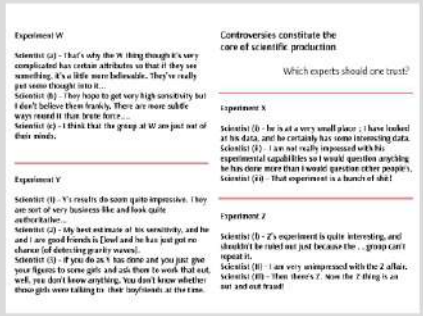


From the origins to a definition of sociotechnical controversies

Controversies at the core of knowledge production: how and when does a statement or experimental result become a fact?

Harry Collins' 1972 to 2017-work on gravitational waves detection


Experiment W

Scientist (a) - That's why the W thing though it's very complicated has certain attributes so that if they see something, it's a little more believable. They've really put some thought into it...
Scientist (b) - They hope to get very high sensitivity but I don't believe them frankly. There are more subtle ways round it than brute force...
Scientist (c) - I think that the group at W are just out of their minds.

Experiment Y

Scientist (i) - Y's results do seem quite impressive. They are sort of very business like and look quite authoritative...
Scientist (ii) - My best estimate of his sensitivity, and he and I are good friends is [low] and he has just got no chance [of detecting gravity waves].
Scientist (iii) - If you do as Y has done and you just give your figures to some girls and ask them to work that out, well, you don't know anything. You don't know whether those girls were talking to their boyfriends at the time.

Controversies constitute the core of scientific production

Which experts should one trust?

Experiment X

Scientist (i) - he is at a very small place ; I have looked at his data, and he certainly has some interesting data.
Scientist (ii) - I am not really impressed with his experimental capabilities so I would question anything he has done more than I would question other people's.
Scientist (iii) - That experiment is a bunch of shit!

Experiment Z

Scientist (i) - Z's experiment is quite interesting, and shouldn't be ruled out just because the . . group can't repeat it.
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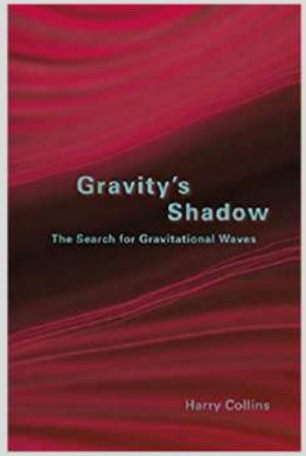

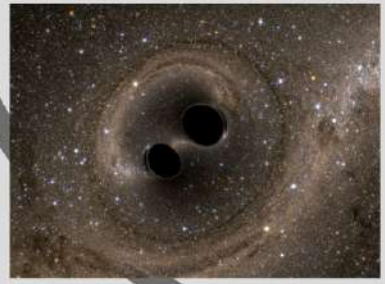

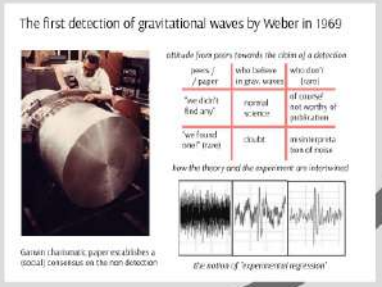
The first detection of gravitational waves by Weber in 1969

attitude from peers towards the claim of a detection

peers / / paper	who believe in grav. waves	who don't (yet)
"we didn't find any"	normal science	of course! not worthy of publication
"we found one!" (rare)	doubt	misinterpretation of noise

how the theory and the experiment are intertwined

Ganser charismatic paper establishes a (social) consensus on the non detection

the notion of "experimental regression"

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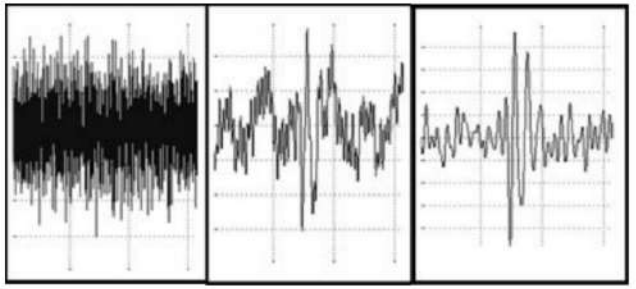


the notion of "experimental regression"

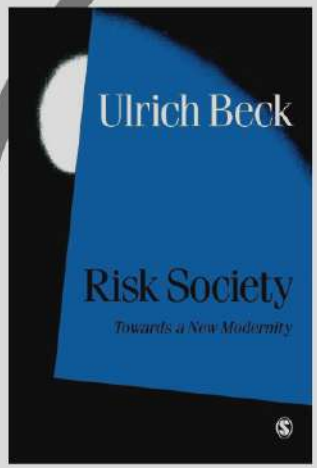
The de-containment of controversies

Cyril Lemieux (EHESS Lier) defines controversies as a triadic conflict between two parties, in which the only judge is the public of peers.

Many controversies tend to enlist with them social forces and individuals located beyond the scientific circle (political or economic powers...): dynamics of decontainment of the controversy, through enrollment, then containment again.

Pragmatic sociology: not a "critical sociology" but a "sociology of the critique" (Boltanski)

Modernity and the Proliferation of Controversies



1 Technoscientific innovations are invading the world at a frantic pace

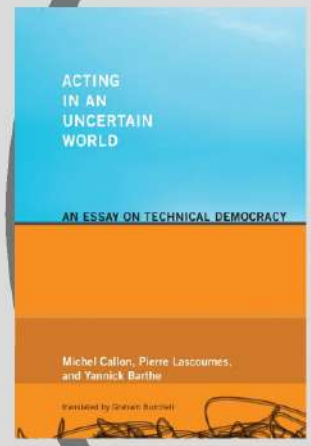
Knowledge is not produced as fast as innovation (cf. epidemiology)
Nowadays, experts say :
- "we don't know (yet)"
- "we disagree (even between us)"

Risk Society: an "inescapable structural condition of advanced industrialization". Modern society has become a risk society in the sense that it is increasingly occupied with debating, preventing and managing risks that it itself has produced.

2 The level of education is rising, sources and forms of expertise are diverse

Heterogeneous information is now (almost) freely accessible everywhere (from scientific articles to conspiracy theories).

The Irreducibility of Doubt



Rio Declaration on Environment and Development 1992, United Nations
Principle 15

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

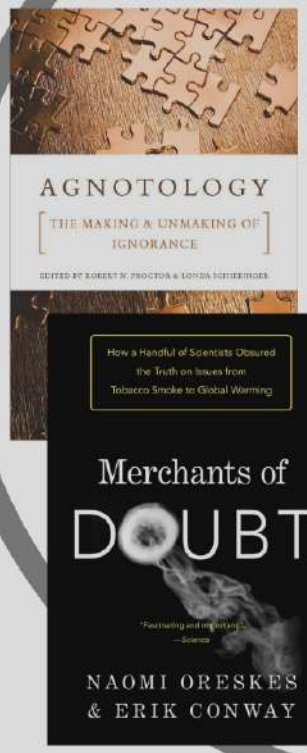
Controversy

Situation of dispute or debate
- that involves specialized knowledge
- where doubt is irreducible

and which is staged publicly.

Within a controversy :
- facts and values are intertwined
- what is technical and what is social are being simultaneously defined
- there is a dynamic that we can study (birth, rebounds, closure...)

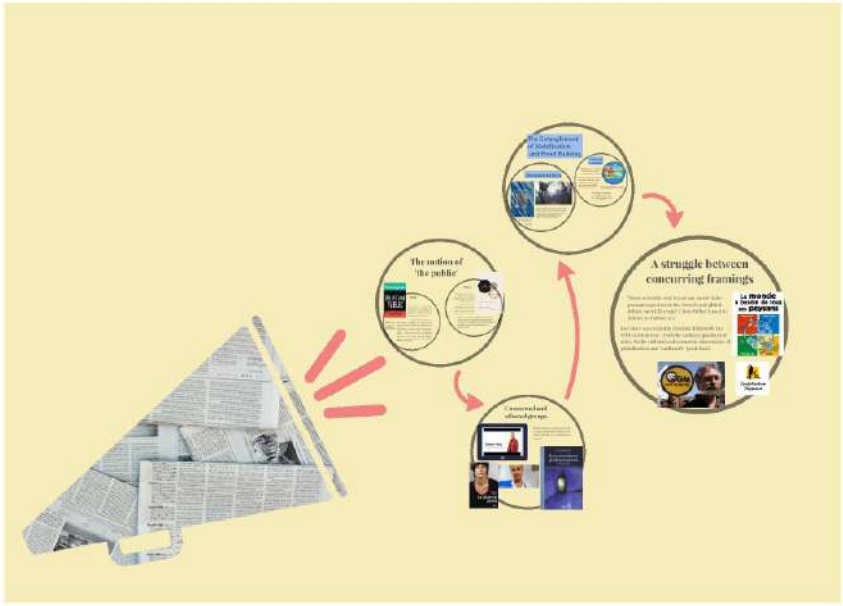
Agnotology, the deliberate production of ignorance



"The scientific debate is closing [against us] but not yet closed. There is still a window of opportunity to challenge the science...
Voters believe that there is no consensus about global warming within the scientific community.
Should the public come to believe that the scientific issues are settled, their views about global warming will change accordingly.
Therefore, you need to continue to make the lack of scientific certainty a primary issue in the debate, and defer to scientists and other experts in the field."

Frank Luntz, in "Memo exposes Bush's new green strategy" The Guardian

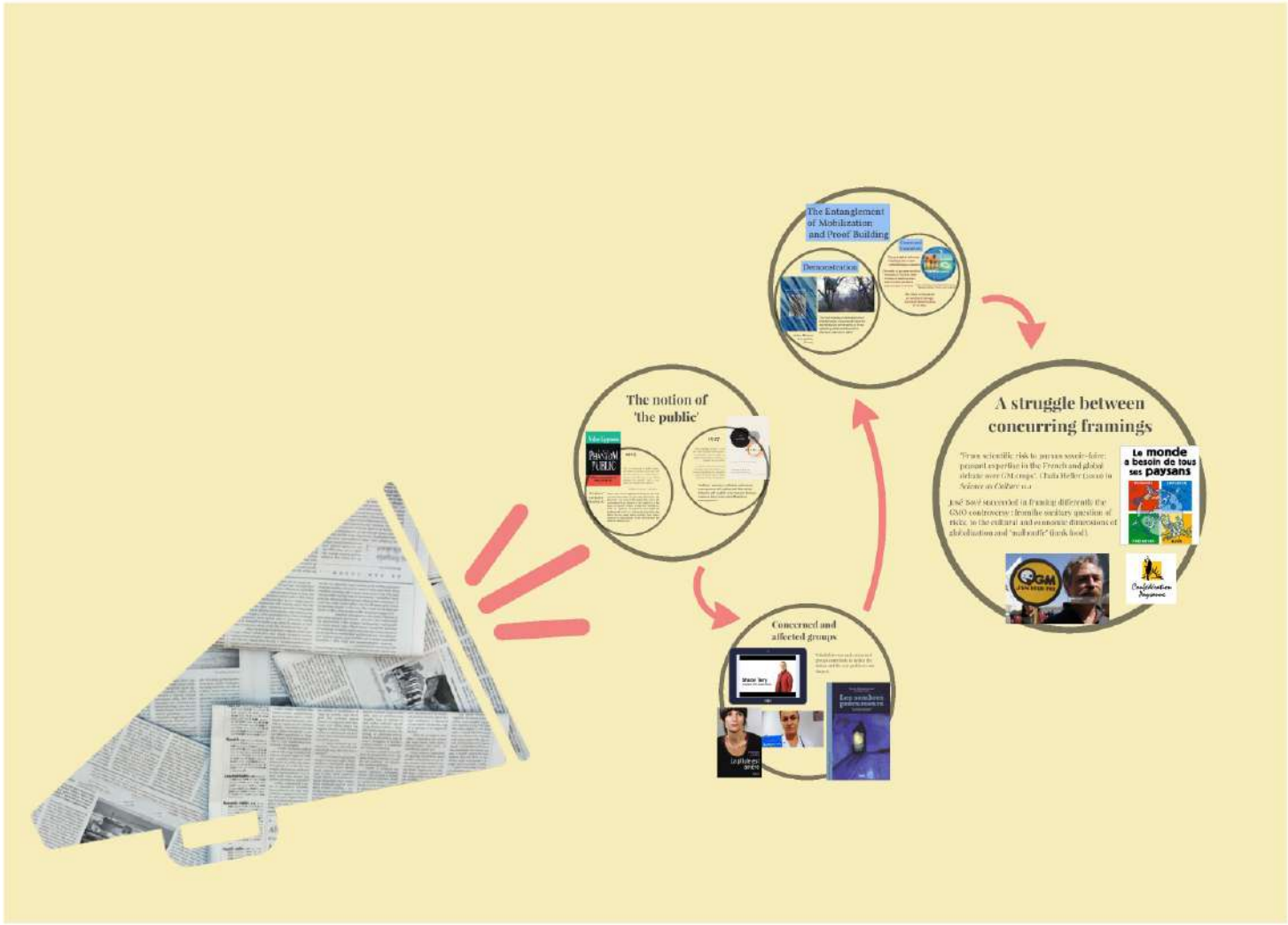
The Public and its Problems (3.2)



There is no such thing as a neutral public opinion, that would receive a controversy and judge along a pro/ neutral/anti axis.

Dissent cannot be reduced into a "lack of pedagogy".

The qualification of a debate as a controversy is itself controversial.



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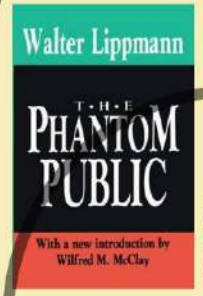
The notion of 'the public'



1925

"We are concerned in public affairs, but immersed in our private ones. The time and attention are limited that we can spare for the labor of not taking opinions for granted, and we are subject to constant interruption."

Insiders (experts) // outsiders

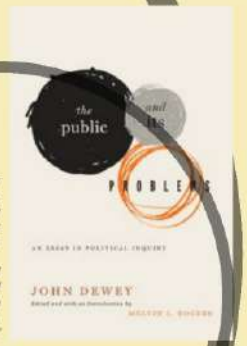
TO ALIGN WITHOUT MEDDLING

Where there is no difficulty in knowing what the relevant environment is, the critic, the teacher, the physician, can unravel the mind. But where the environment is as obscure to the analyst as to his pupil, no analytic technic is sufficient. Intelligence work is required. In political and industrial problems the critic as such can do something, but unless he can count upon receiving from expert reporters a valid picture of the environment, his dialectic cannot go far.

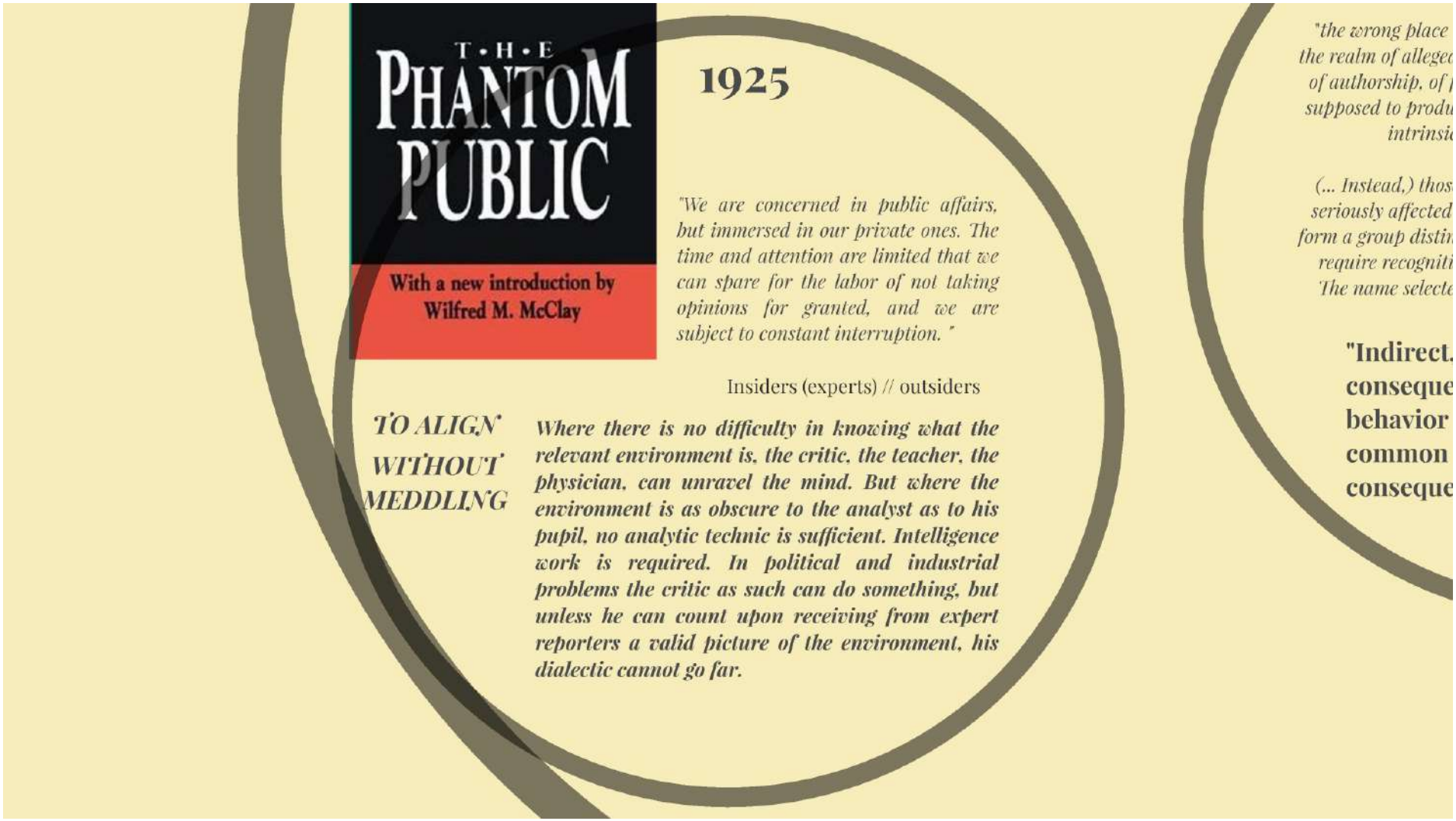
1927

"the wrong place to look (...) is in the realm of alleged causal agency, of authorship, of forces which are supposed to produce a state by an intrinsic vis generatrix.

(... instead,) those indirectly and seriously affected for good or evil form a group distinctive enough to require recognition and a name. The name selected is the Public."



"Indirect, extensive, enduring and serious consequences of conjoint and interacting behavior call a public into existence having a common interest in controlling these consequences"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With a new introduction by
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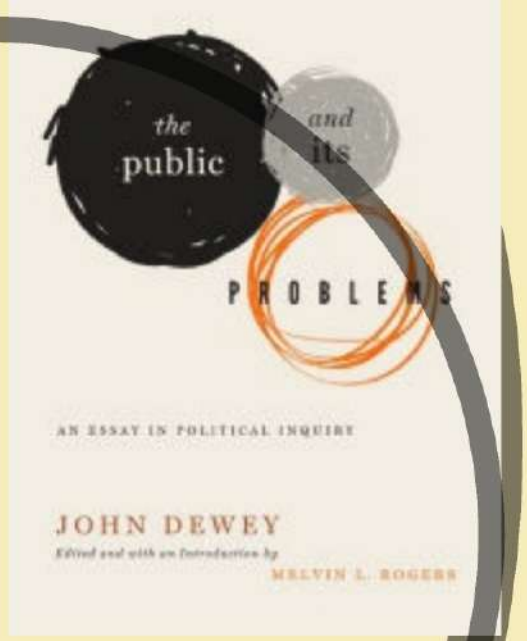

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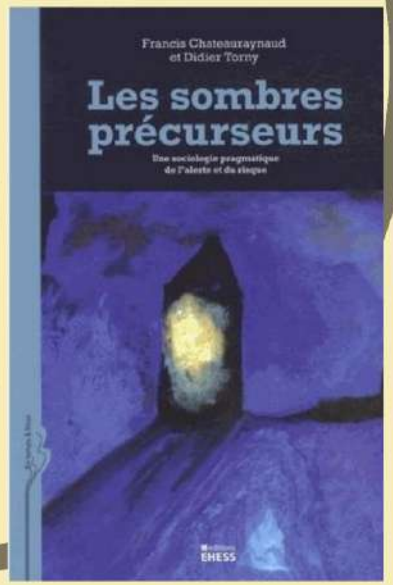
Concerned and affected groups

Whistleblowers and concerned groups contribute to define the stakes and the way problems are shaped.



The Entanglement of Mobilization and Proof Building

Demonstration

Andrew Barry on A30 protests (Devon)

"For by developing an inventive form of demonstration, it was possible, however imperfectly and momentarily, to reveal something which would have been otherwise unknown to others"

Cause and Causation

The symmetry between:
- fighting for a cause
- establishing a causality

Diversity of groups enrolled:
- veterans of nuclear tests
- victims of nuclear tests
- anti-nuclear pacifists
- anti-nuclear activists

'Cause politique et politique des causes' Yannick Barthe, Politix, 2010, vol3/91

The chain of causation is redefined through the (self)-identification of victims.

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A struggle between concurring framings

"From scientific risk to paysan savoir-faire: peasant expertise in the French and global debate over GM crops", Chaia Heller (2002) in *Science as Culture* 11.1

José Bové succeeded in framing differently the GMO controversy : fromthe sanitary question of risks, to the cultural and economic dimensions of globalization and "malbouffe" (junk food).

Confédération Paysanne

and

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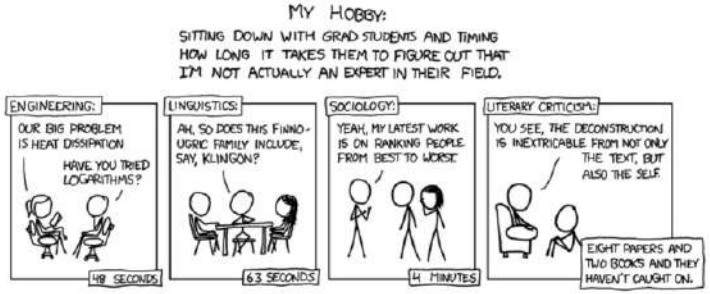
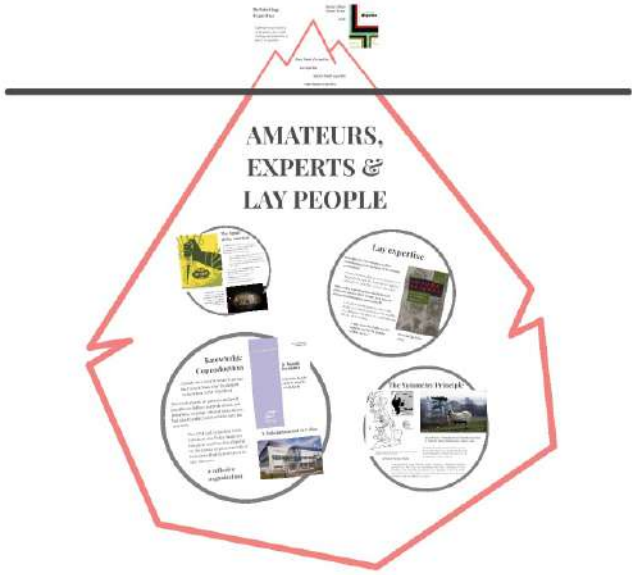


xkcd.com



Rethinking Expertise

Harry Collins
Robert Evans

2008

Expertise is not solely a social status, but a skill existing independently of public recognition.

three kinds of expertise:

no expertise

interactional expertise

contributory expertise

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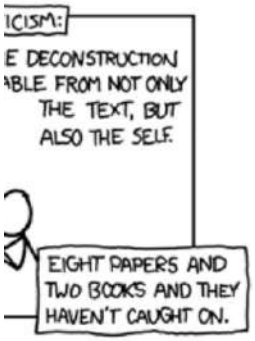

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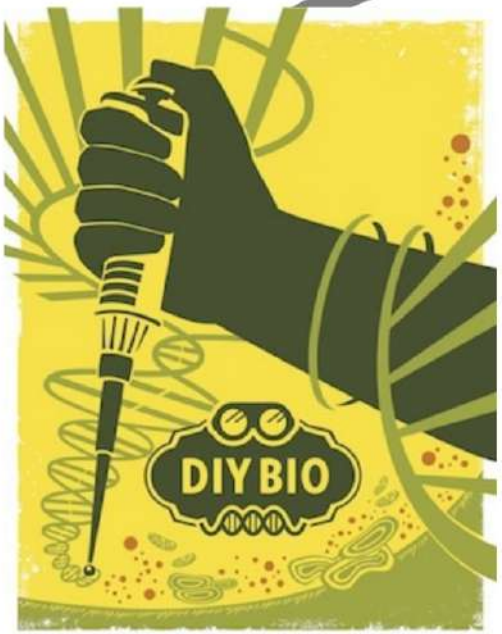


The figure of the amateur

In field sciences (botany, ornithology, entomology...) amateurs watch, gather and sometimes structure local knowledge and their networks.

These contributions to science have been threatened by the professionalization of sciences in the 19th and 20th centuries, they still play an active role in knowledge production.

- the amateur as a sensible living being (tacit, practical, local knowledge)
- the amateur as a member of a community, a social club
- the amateur as an eco-citizen, (Peasant Seeds Networks etc.)

A movement that now claims the symbolic and material structure of the lab (makers, fablabs, biohackers, garage and DIY biology...)

Lay expertise

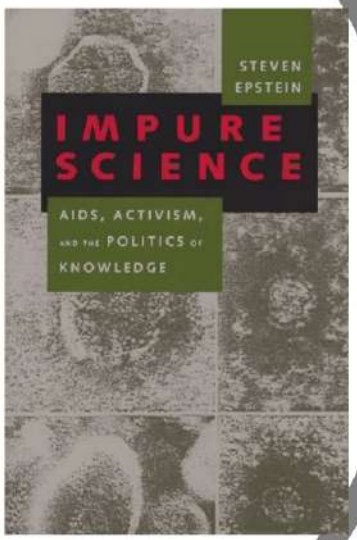
How did activists became credible contributors in the process of knowledge production?

A long process, that involved to learn how to speak the specific language (or pidgin) of medicine practice, to learn its codes.

High stakes regarding the redefinition of clinical trials for AIDS victims, in a time of strong discrimination against the ill.

A singular social group (young white males, gay, highly educated and wealthy, in California) becomes the spokesperson for the AIDS victims.

A new boundary between lay experts and lay lay people within Act Up?



Steven Epstein, 1993

Knowledge Coproduction

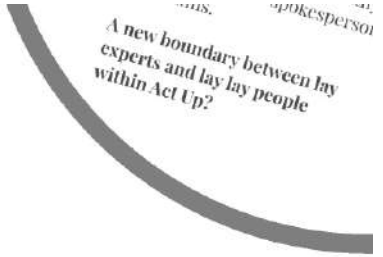
A study on a hybrid resarch group: the French Muscular Dystrophy Association (AFM-Téléthon)

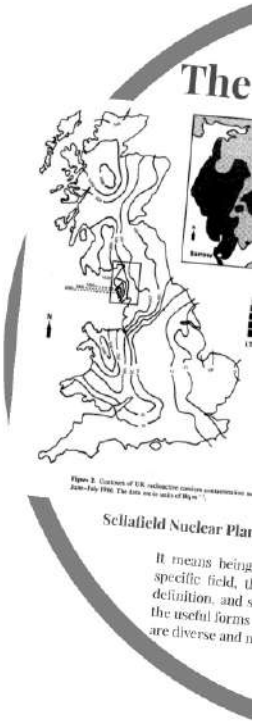
The involvement of patients makes it possible to define research issues and priorities, to adapt clinical procedures, but also to collect a lot of field data for research.

The AFM and Genethon (with Telethon) also helps fund this research, and thus less depend on the power of pharmaceutical industries that do not invest in rare diseases.

a reflexive organization

V. Rabeharisoa and M. Callon





The Symmetry Principle

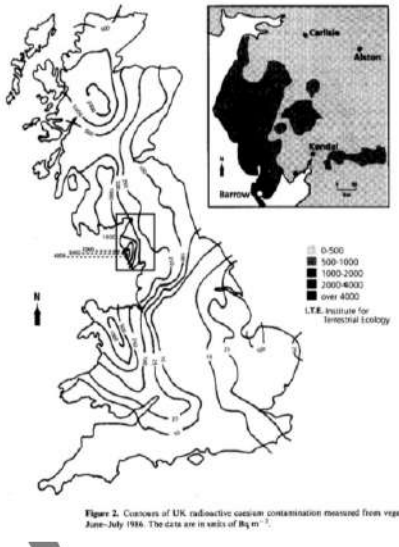


Figure 2. Contours of UK radioactive caesium contamination measured from vegetation, June–July 1986. The data are in units of Bq m^{-2}.

Sellafield Nuclear Plant

Brian Wynne, "Misunderstood Misunderstanding" & "May the Sheep Safely Graze?" (1992; 1996)

To apply the symmetry principle (between losers and winners, the strong and the weak) is not being naive about power or nice to the marginalized or the excluded.

It means being aware that the expert expertise is limited to his/her specific field, that tacit, local knowledge may also contributes to the definition, and sometimes resolution, of the problem. In the real world, the useful forms of knowledge to deal with a specific issue or controversy are diverse and not limited to 'science'.