

Rethinking Expertise ()

Science and Society, 3/4

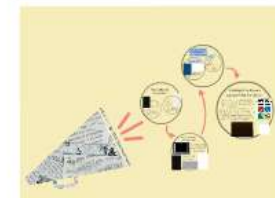
January 23, 2020

Reims Campus' Winter School

... through Controversies (3.1)



The Public and its Problems (3.2)



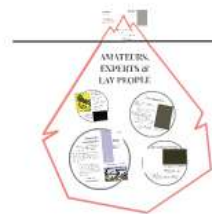
There is no such thing as a neutral public opinion, that would receive a controversy and judge along a pro/neutral/anti axis.

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

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

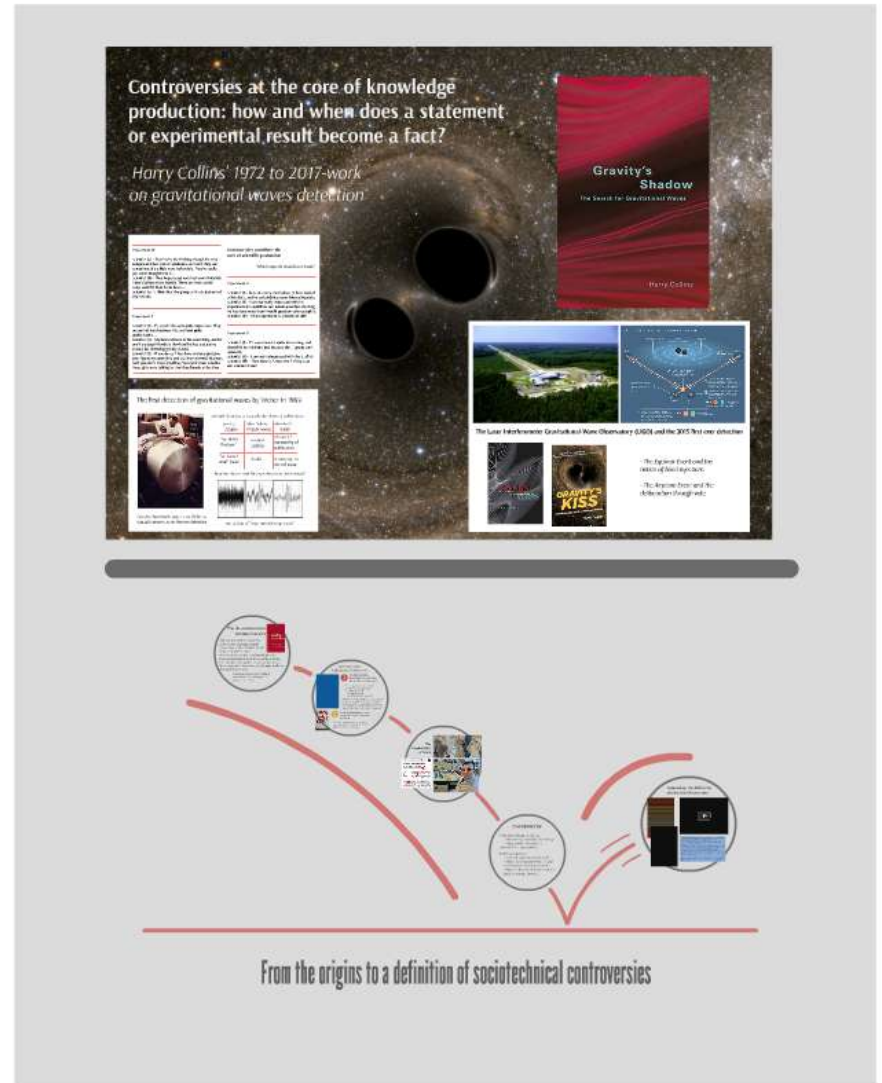
The Blurred Boundaries of Expertise (3.3)

To publicly demonstrate that a situation is problematic, one needs diverse resources and skills – rules and identities are reset 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)



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.

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 Y

Scientist (1) - Y's results do seem quite impressive. They are sort of very business-like and look quite authoritative...

Scientist (2) - 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 (3) - 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.

Experiment Z

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

Scientist (II) - I am very unimpressed with the Z affair.
Scientist (III) - Then there's Z. Now the Z thing is an out and out fraud!

The first detection of gravitational waves by Weber in 1969

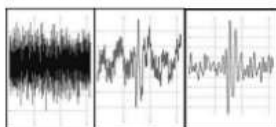


Garwin charismatic paper establishes a (social) consensus on the non detection

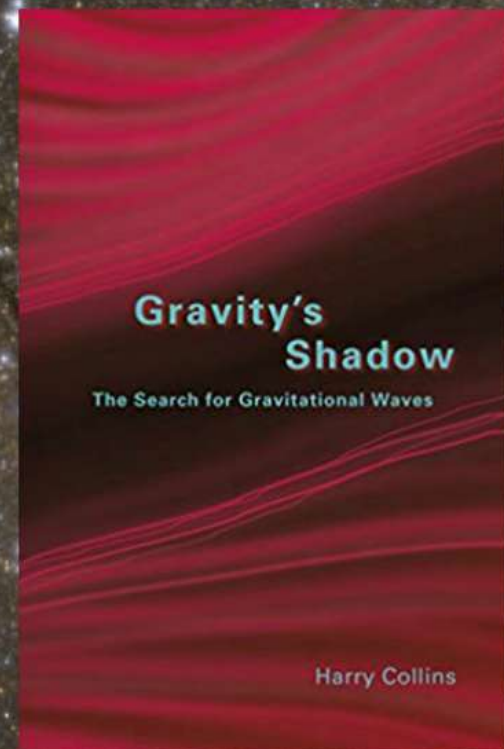
attitude from peers towards the claim of a detection

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

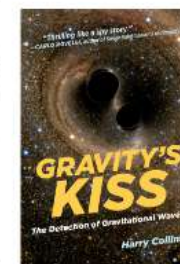
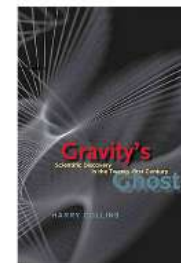
how the theory and the experiment are intertwined



the notion of "experimental regression"



The Laser Interferometer Gravitational-Wave Observatory (LIGO) and the 2015 first ever detection



- The Equinox Event and the notion of blind injections

- The Airplane Event and the deliberation through vote

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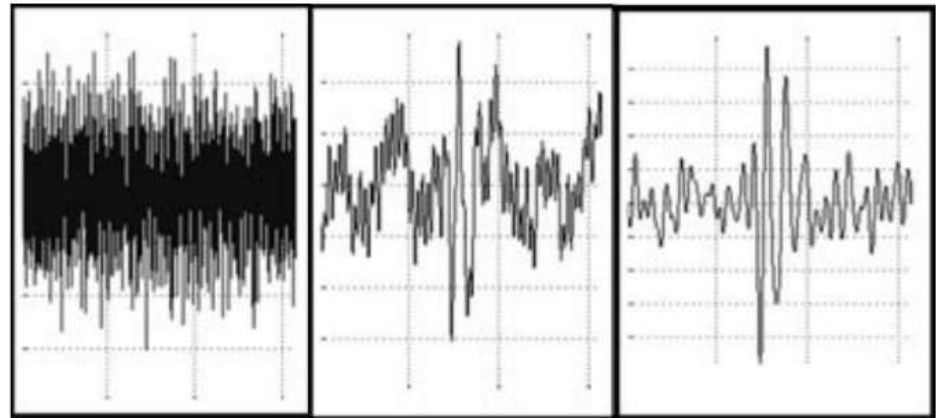


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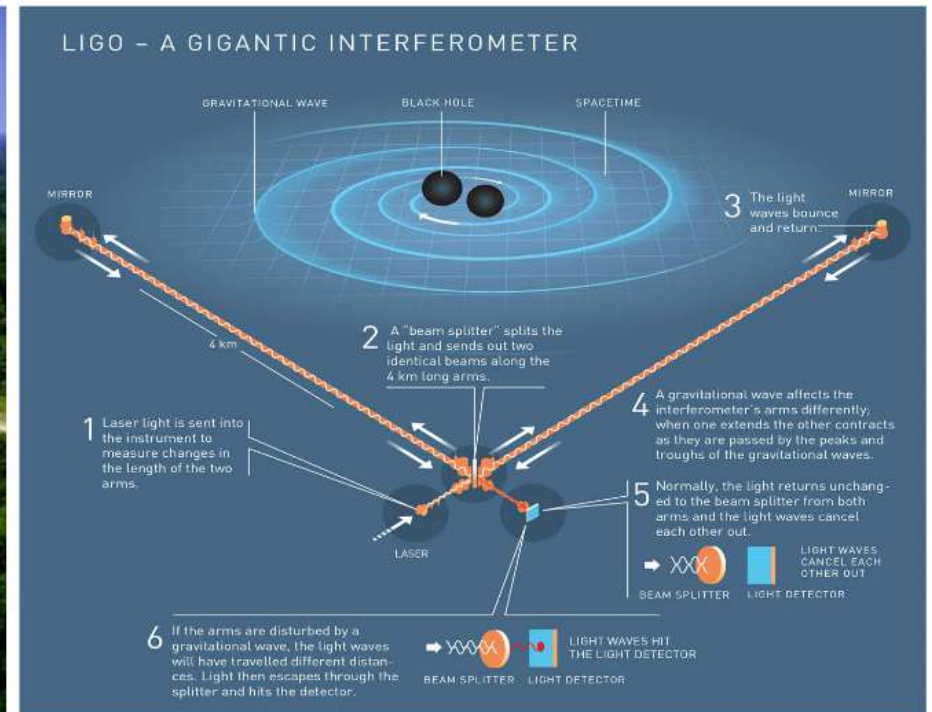
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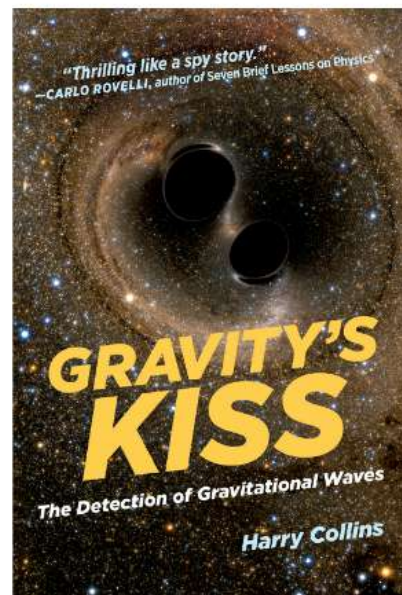
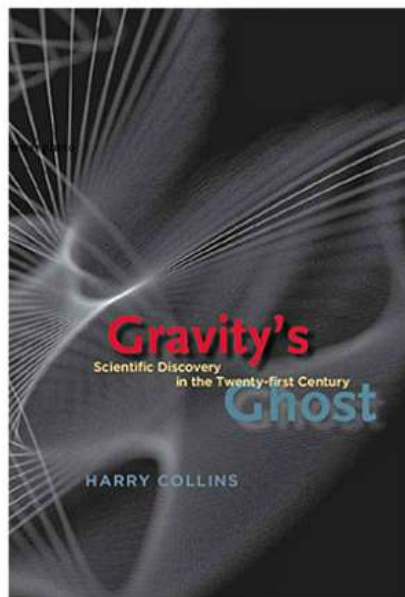
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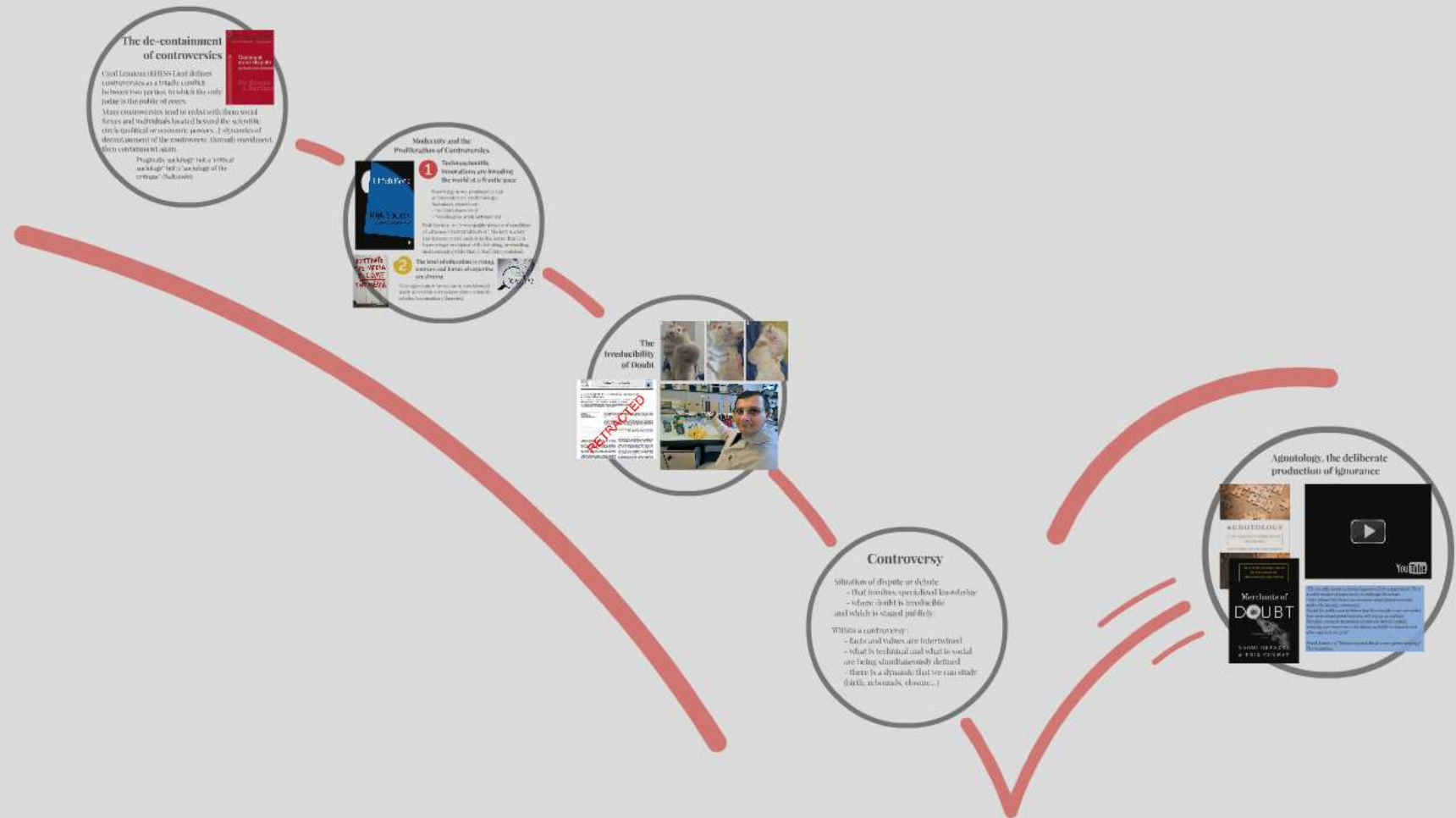


The Laser Interferometer Gravitational-Wave Observatory (LIGO) and the 2015 first ever detection



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From the origins to a definition of sociotechnical controversies

The de-containment of controversies

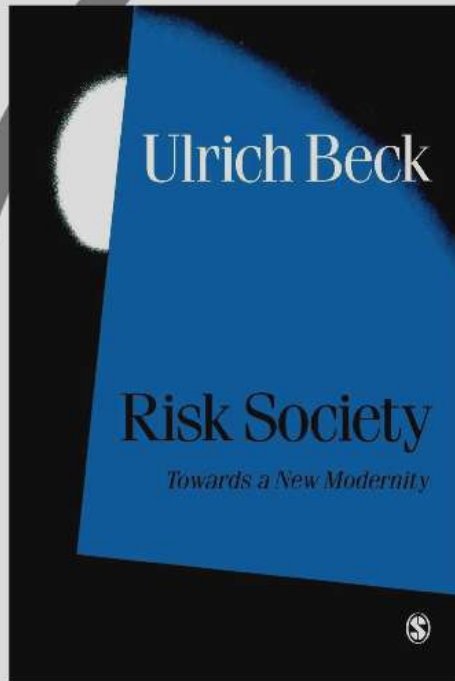
Cyril Lemieux (EHESS Lier) defines controversies as a triadic conflict between two parties, in which the only judge is the public of peers.

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).





Controversy

Situation of dispute or debate

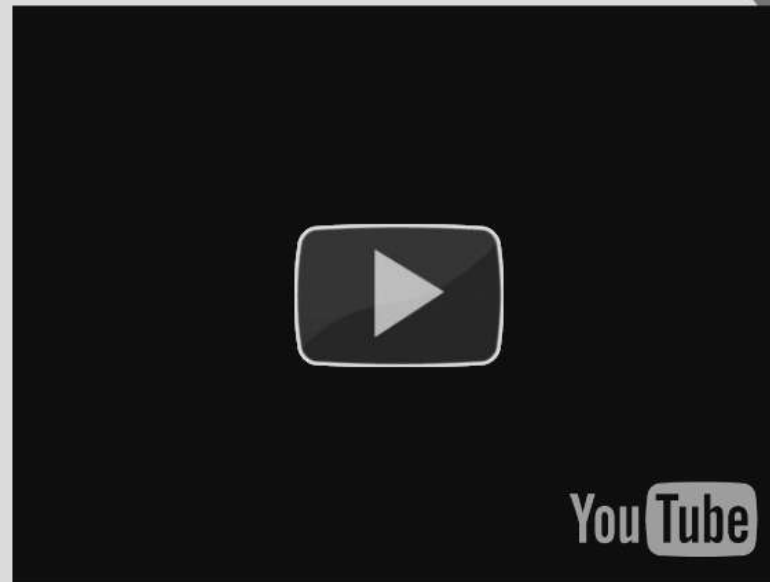
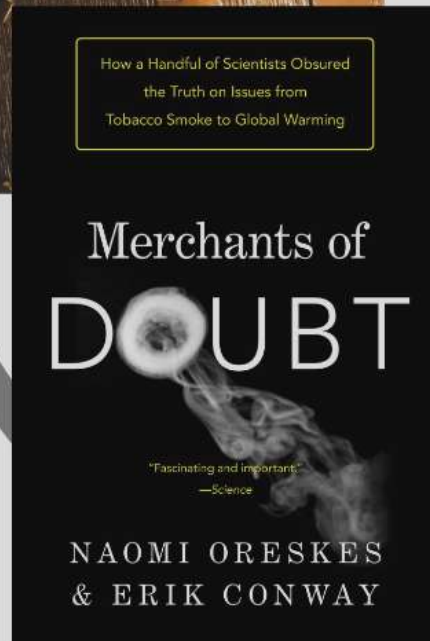
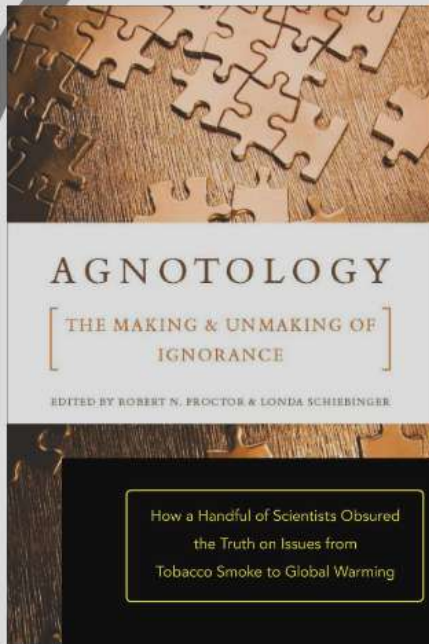
- that involves specialized knowledge
- where doubt is irreducible

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...)

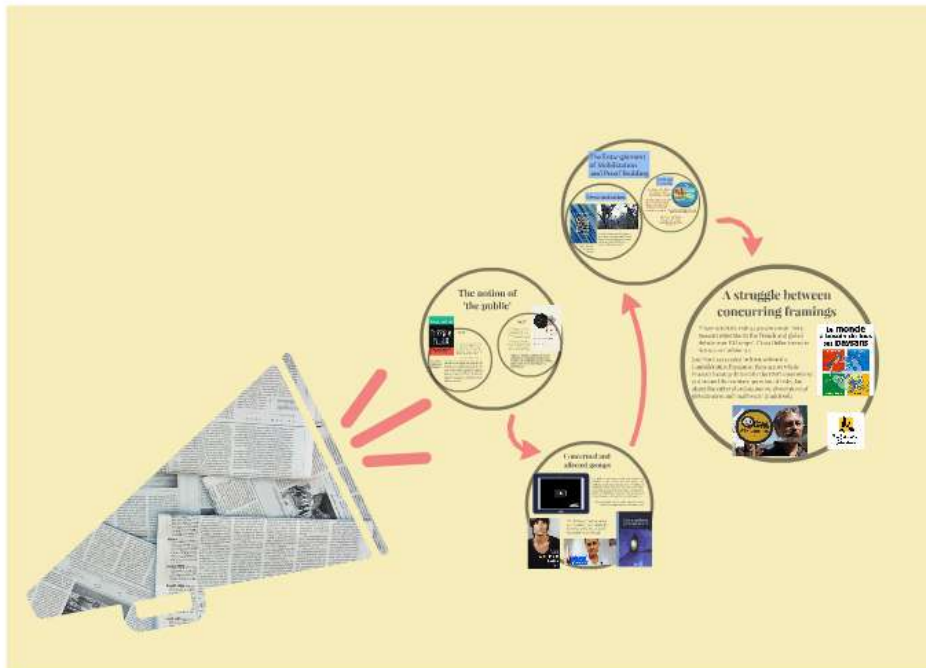
Agnotology, the deliberate production of ignorance



"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

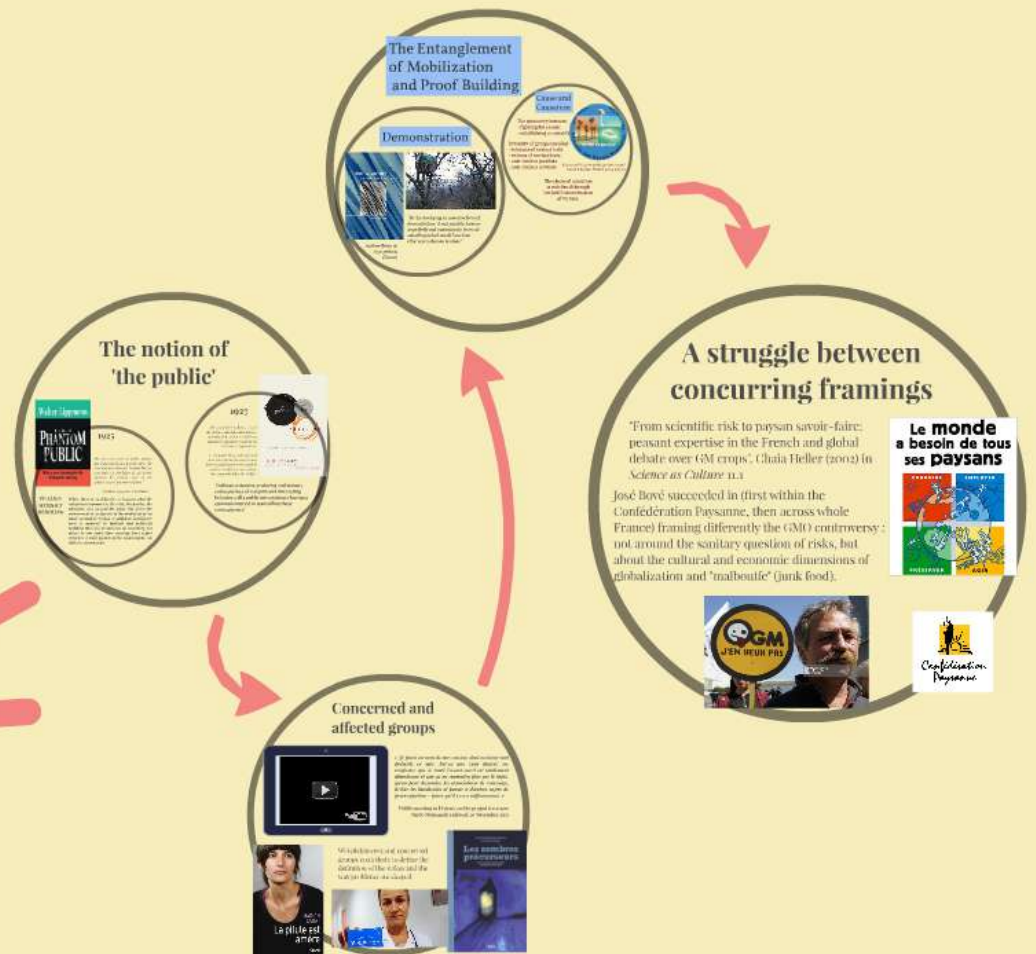
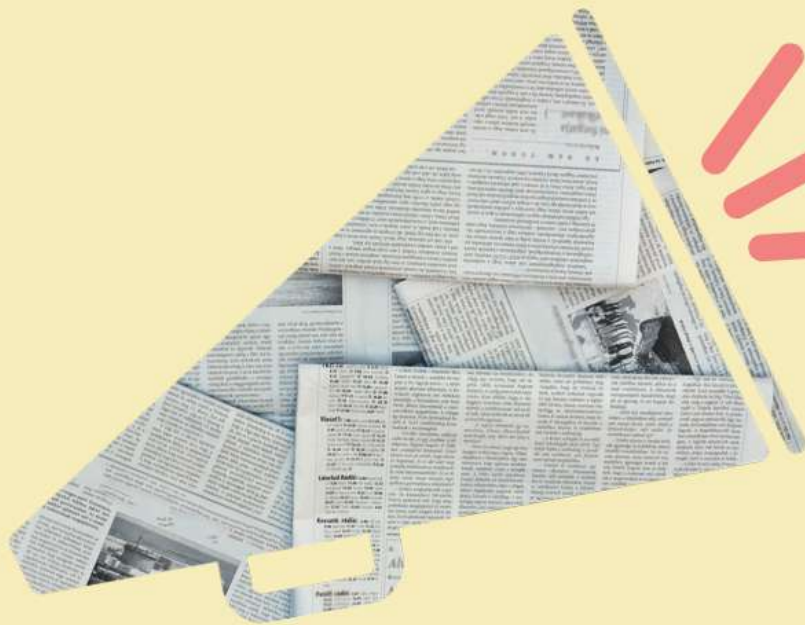
The Public and its Problems (3.2)



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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'**

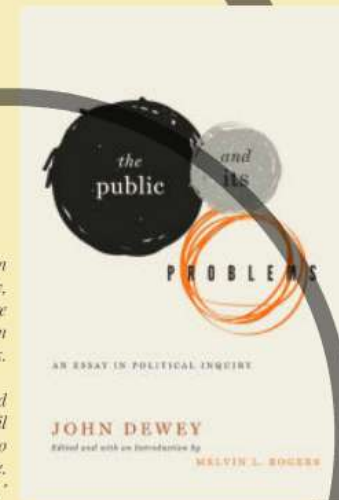
Where there is no difficulty in knowing what the relevant environment is, the critic, the teacher, the physician, can unravel the mind. But where the environment is as obscure to the analyst as to his pupil, no analytic technic is sufficient. Intelligence work is required. In political and industrial 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"



T • H • E PHANTOM PUBLIC

With a new introduction by
Wilfred M. McClay

1925

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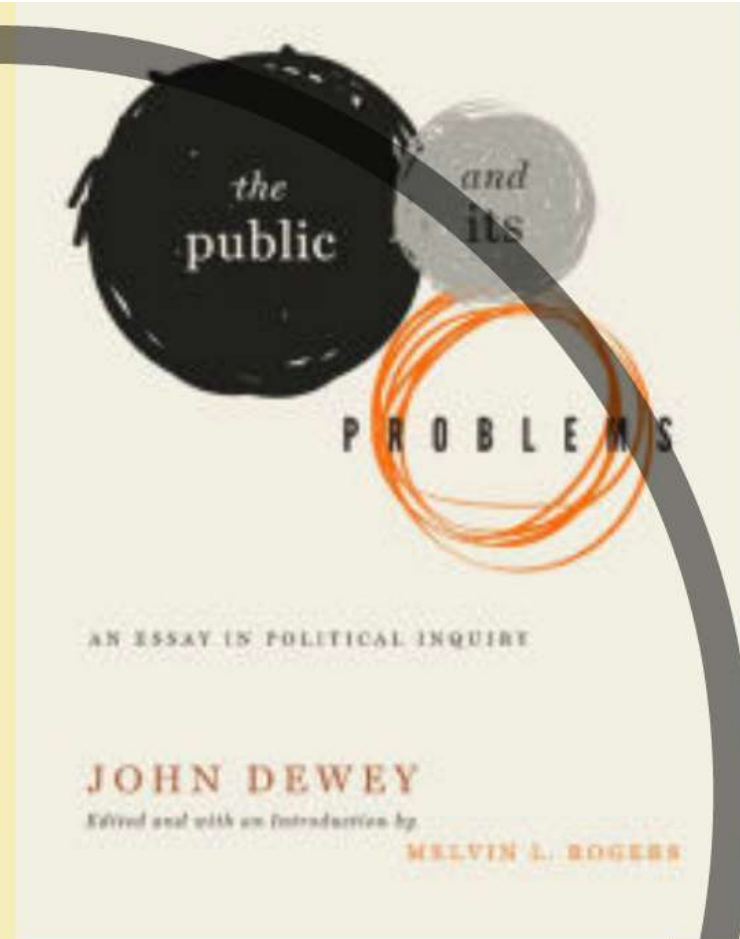
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Concerned and affected groups

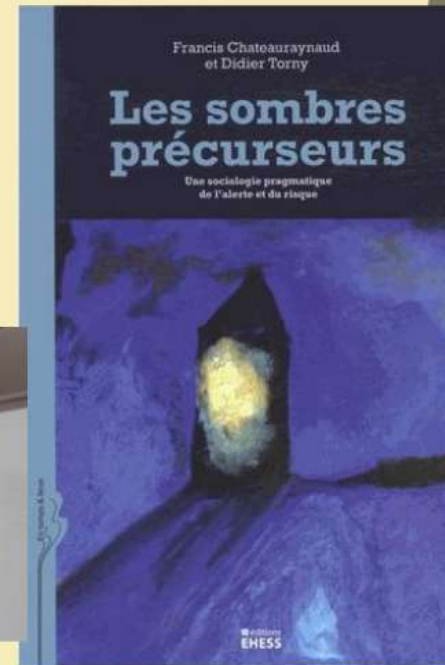


« Je parle au nom de mes voisins, dont certains sont présents ce soir. Est-ce que vous pouvez me confirmer que le tracé Lisieux-nord est totalement abandonné et que ça ne reviendra plus sur le tapis, qu'on peut dissoudre les associations de voisinage, brûler les banderoles et passer à d'autres sujets de préoccupation – parce qu'il y en a suffisamment. »

Public meeting in Lisieux, on the project for a new Paris-Normandy railroad, 10 November 2011



Whistleblowers and concerned groups contribute to define the definition of 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
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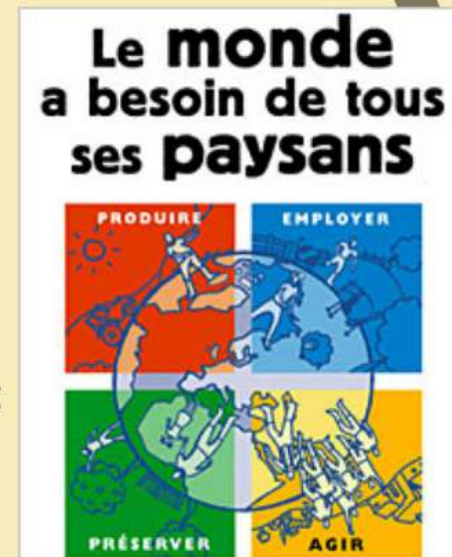
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A struggle between concurring framings

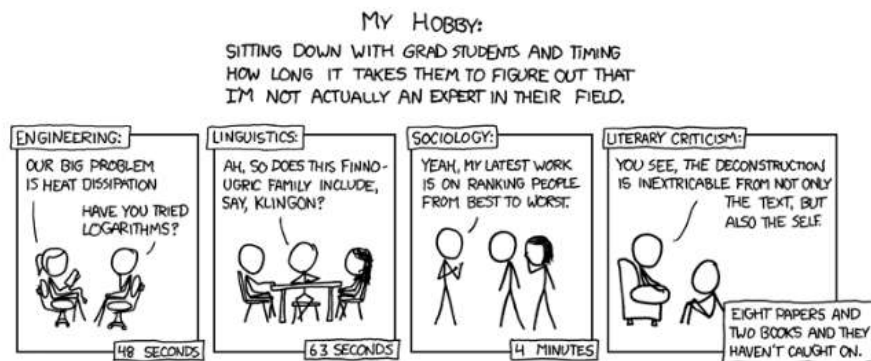
"From scientific risk to paysan savoir-faire: peasant expertise in the French and global debate over GM crops", Chaia Heller (2002) in *Science as Culture* 11.1

José Bové succeeded in (first within the Confédération Paysanne, then across whole France) framing differently the GMO controversy : not around the sanitary question of risks, but about the cultural and economic dimensions of globalization and "malbouffe" (junk food).

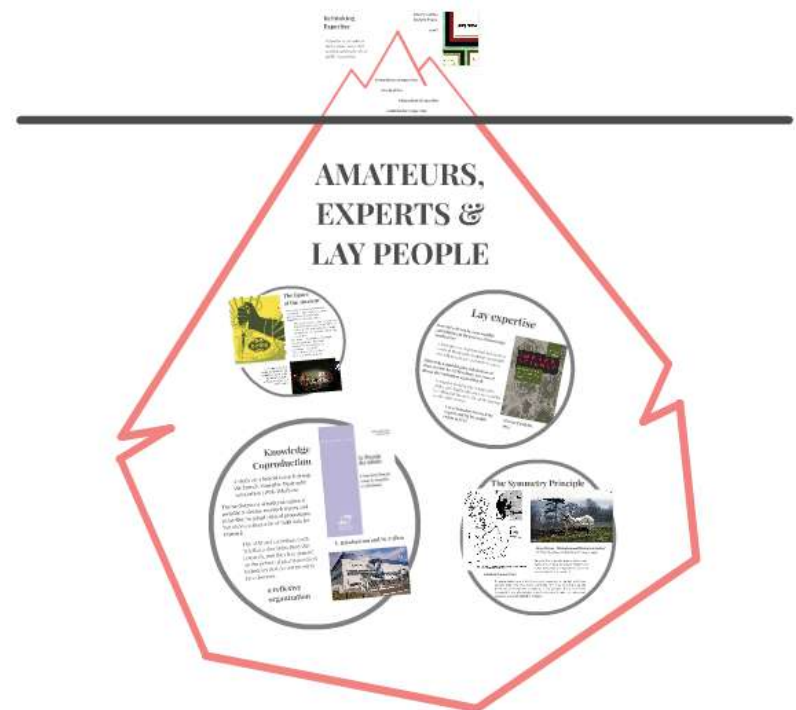


The Blurred Boundaries of Expertise (3.3)

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



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

Expertise is not solely a social choice, but a skill arising independently of public recognition.



Journal of Expertise

no tripwire

160

advisory expertise.

[illegible]

How did activists become credible mediators in the process of knowledge production?

A long process, that involved to learn how to speak the specific language for students of teacher practice, to share the codes.

High stakes regarding the institutional ethical crisis for teachers' violence. As a time of strong alienation against the AS.

A singular social group (young violence teachers) got, highly risks and self-risks, to challenge the violence system for the AS's solution.

A large portion of that demand to learn how to speak the Spanish language in industry is likely for parents, to learn the ropes.

High stakes regarding the remediation of clinical trials for AIDS victims. In a time of strong discrimination against the ill

4. eliminate social group systems where
there is no health risk and wealth;
in addition to ensure the sustainability
for the life cycle.

A new boundary between lay experts and lay lay people within Act 10?

IMPURE SCIENCE
HOW AND WHY
SCIENTISTS ARGUE
AND WHY IT MATTERS

Steven Epstein

Steven Epstein,
10021

A study on a hybrid research 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

Le Pouvoir
des malades

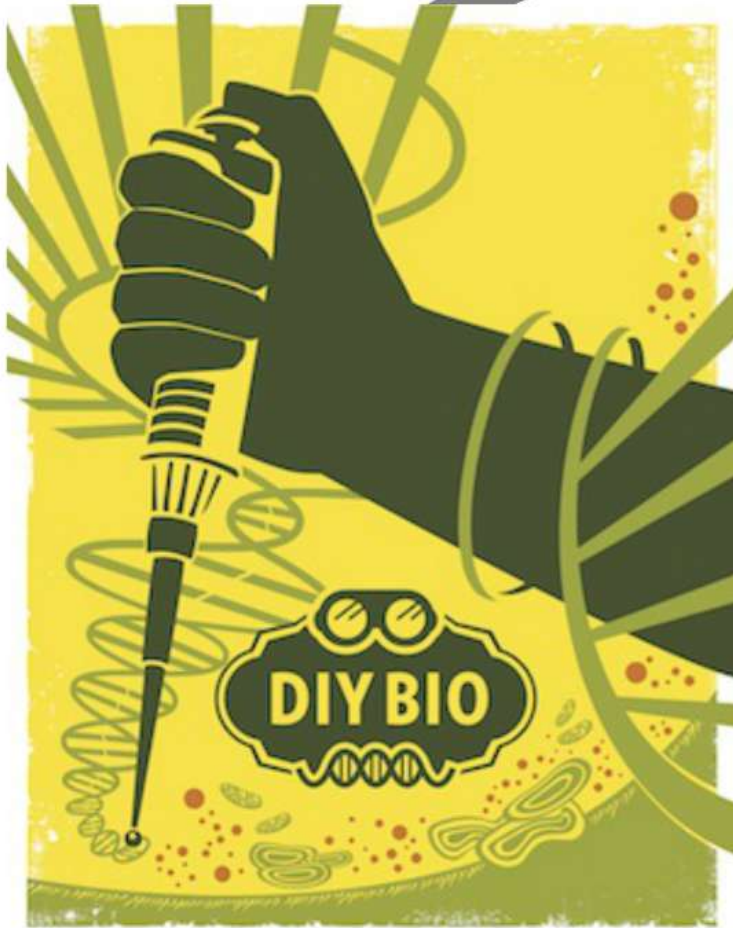
**Elaboración: Secretaría
General de la Presidencia
de la República**

V. Kabanicheva and M. Callon

[illegible]

John Wayne, "Stomachcrisis of Mammals/Land
@ "May the Stars Still Watch" (1991, 1998)

Sellefoss, Stenroos (1998)



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

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.)



Lay expertise

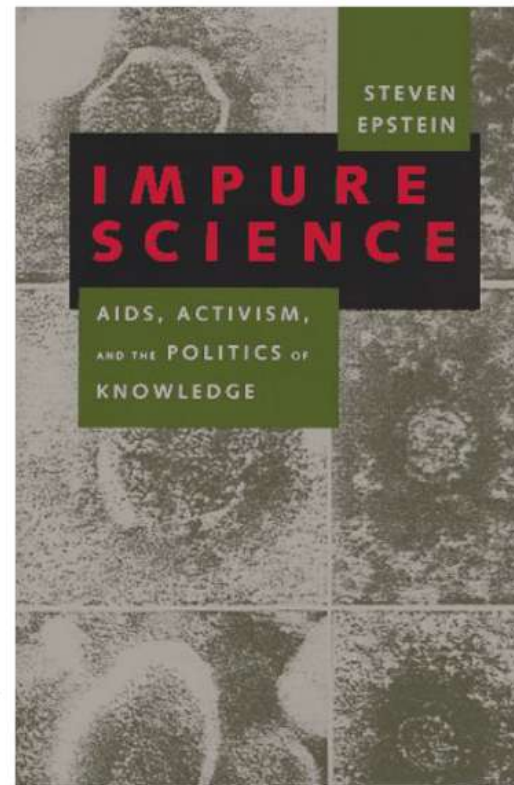
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High stakes regarding the redefinition of clinical trials for AIDS victims, in a time of strong discrimination against the ill.

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 people within Act Up?



**Steven Epstein,
1993**

Knowledge Coproductio

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V. Rabeharisoa and M. Callon



The Symmetry Principle

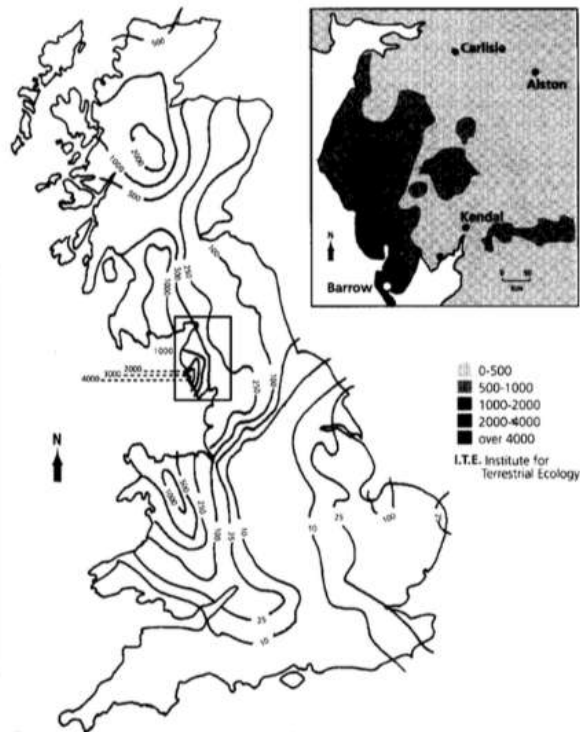


Figure 2. Contours of UK radioactive caesium contamination measured from vegetation, June-July 1986. The data are in units of Bq m^{-2} .

Sellafield Nuclear Plant

It means being aware that the expert expertise is limited to his/her specific field, that tacit, local knowledge may also contribute 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".



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.