Looking to the Future of Food Governance

From Risk Regulation to Innovation Democracy

Andy Stirling
SPRU & STEPS Centre

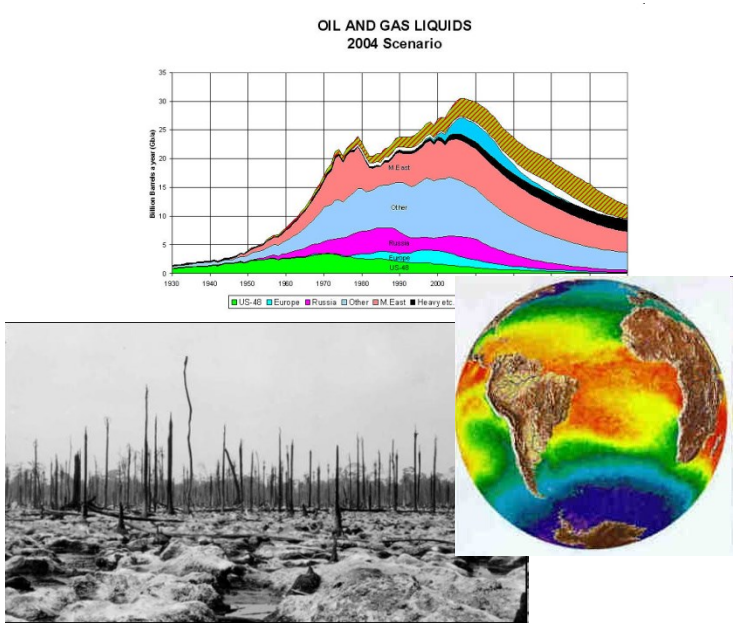
plenary presentation to conference of the European Food Safety Authority
On Shaping the Future of Food Safety Together
EFSA, Parma,
14th October 2015

www.steps-centre.org/
www.sussex.ac.uk/spru/
www.multicriteriamapping.com
www.sussex.ac.uk/spru/people/peoplelists/person/7513

The Precautionary Principle

" … 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 "

Principle 15, 1992 Rio Declaration



Compared with 'science based' risk assessment, seems

Ambiguous as a definitive prescriptive 'decision rule'
threat? seriousness? irreversibility? full scientific certainty? cost-effective?

Non-operational and incapable of meeting political needs for justification
(eg: simple neat numerical values given by for risk and cost-benefit, analysis)

Arbitrary in global legal processes: climate, chemicals, GMOs, biodiversity, trade

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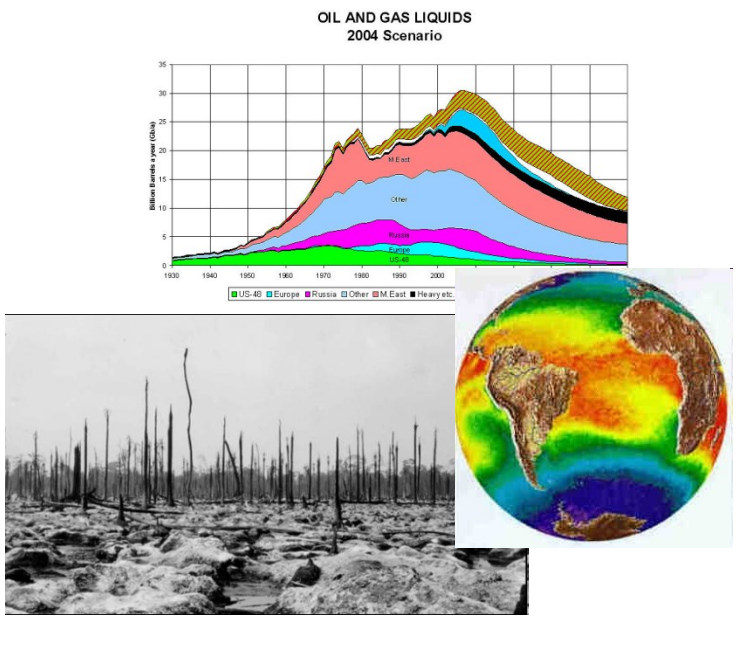

Causes much anxiety, many strident critiques in ostensible name of reason…

- stifles discovery (Holm), limits innovation (Sunstein); "kills green revolution" (AEI)

- quest for "zero risk" (Majone) is irrational (Sunstein) sign of "unreason" (Taverne)

- "arbitrary & capricious" (Marchant); ;"spreads fear" (O'Neill); like "chemophobia" (AEI)

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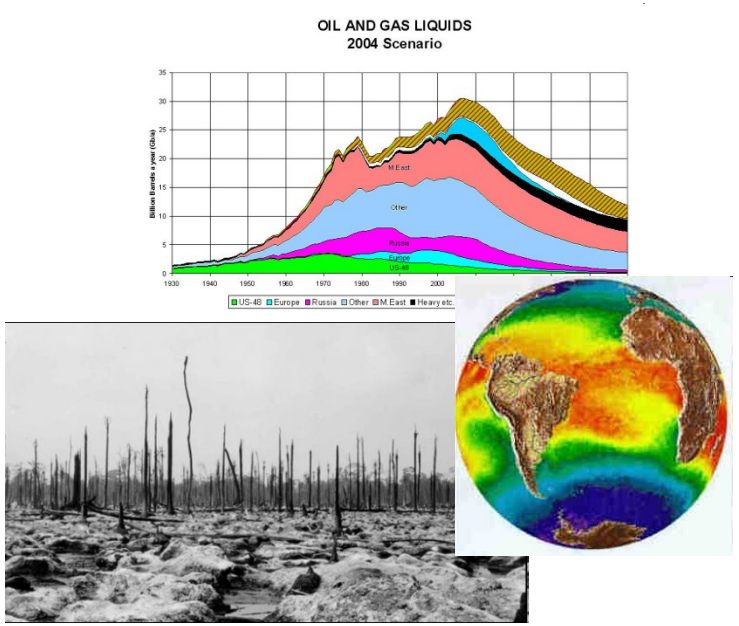


Causes much anxiety, many strident critiques in ostensible name of reason…

- "battle between science and ideology"…about "religion" (Charnley)

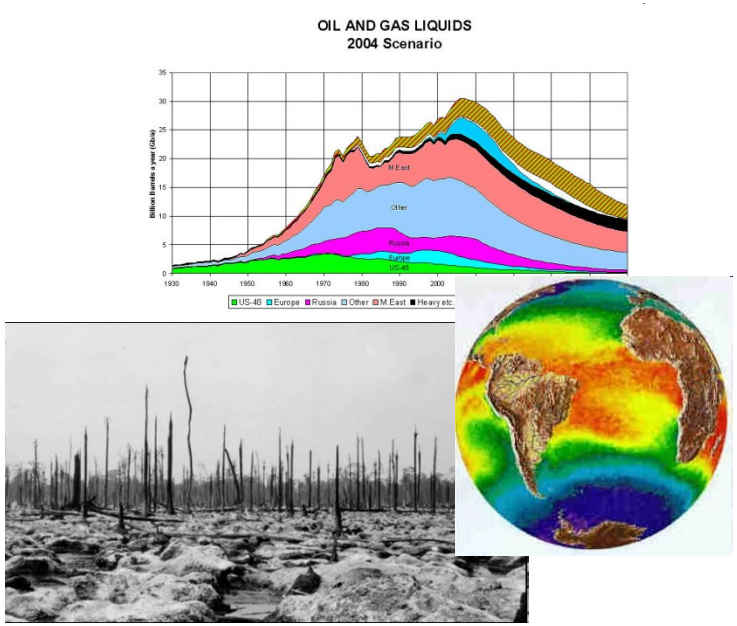
- 'no basis' for policy (Peterson); "dangerous" (Graham); "harms society" (O'Neill)

- needs countering by new "proactionary" (More) and "innovation" principles (Bayer)

The Precautionary Principle

uncertainty requires

deliberation about action



participatory process

produces more robust knowledge than

probabilistic analysis

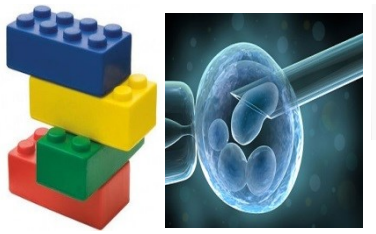
Like any principle, not in itself a definitive decision rule, but a key to a process:

- Reminds that '**science based**' methods **don't reduce** intractability of **uncertainty**

- **Rejects** '**evidence based policy**' as **unique** basis for **action** under uncertainty

- Affirms **essential need for deliberation, participation, accountability, democracy**

One-Track Progress



synthetic biology

*"we'll restore science to its **rightful place**"…*

*"Our **hope** … **relies on** scientific and technological **progress**"*

*"One **can not impede** scientific progress.""*

PROGRESS

TECHNOLOGY

SCIENCE

Lisbon Strategy for: "***pro-innovation*** *action"*

"… the Government's strategy is … ***pro-innovation****"*

*…"history is a **race to advance** technology"*

*"strives to stay in the **race**"*

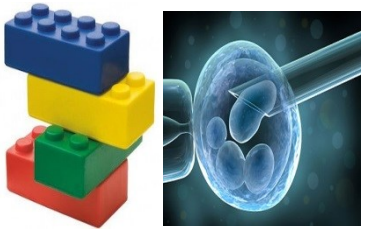
"give technology the status it deserves"

‘One Track’ Progress (social & technological)

*“we'll restore science to its **rightful place**”…*

*“Our **hope** … **relies on** scientific and technological **progress**”*

*“One **can not impede** scientific progress.””*



synthetic biology

PROGRESS

TECHNOLOGY

SCIENCE

Innovation studies also emphasises **linearity**:

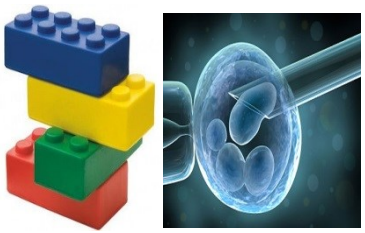
- advance (Nelson)
- diffusion (Rogers)
- early movers (Teece)
- first moving (Lieberman)
- catching up (Santangelo)
- latecomers (Tellis)
- forging ahead (Abramowicz)
- leapfrogging (Brezis)
- falling behind (Aho)

But Innovation is Complex Emergent Social Choice

for instance, innovation for seed production…

marker assist

industrial hybrids

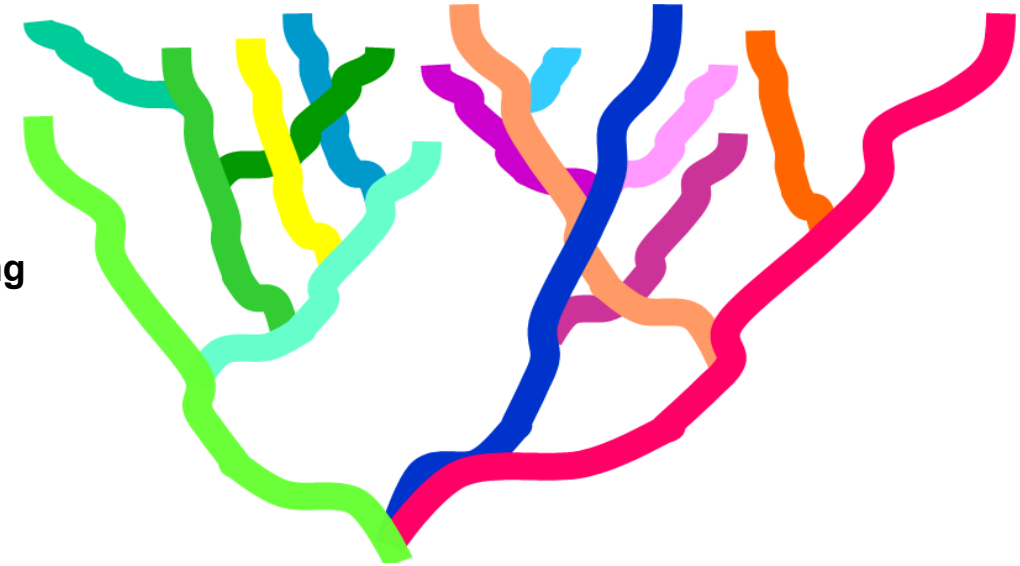


synthetic biology

transgenics

cisgenics

participatory breeding



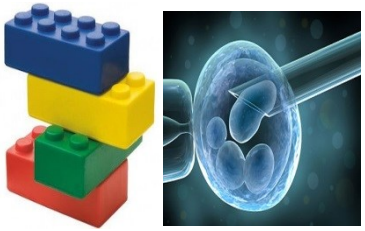
apomixis

open source sharing

social & technological innovation as branching evolutionary process

…and Social Choice Gets Politically Closed

industrial hybrids



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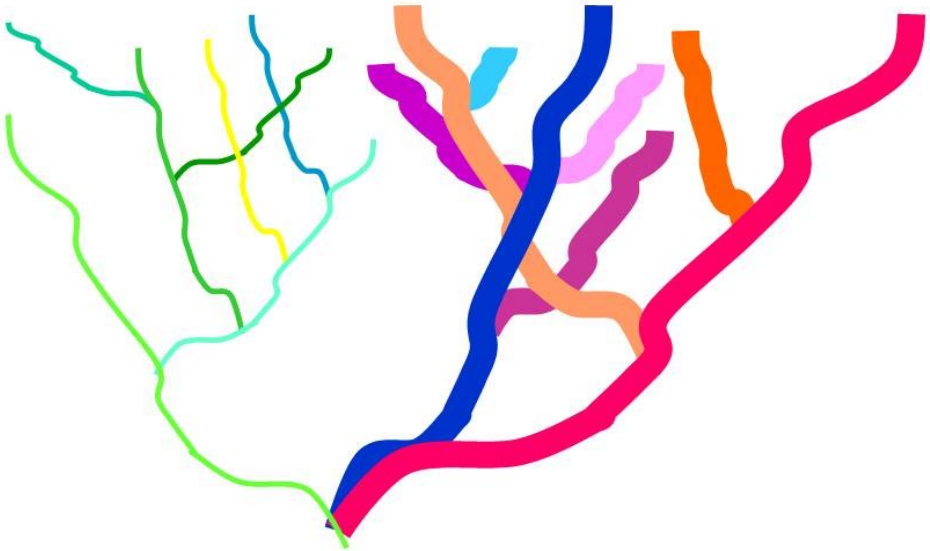

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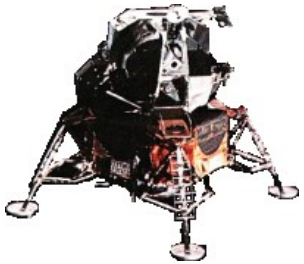
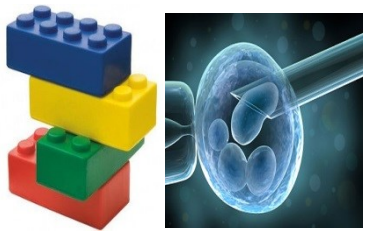


social studies:

shaping (Bijker, 85)
expectations (Brown, 03)

co-construction (Misa, 03)
imaginations (Jasanoff, 05)

…and Social Choice Gets Politically Closed



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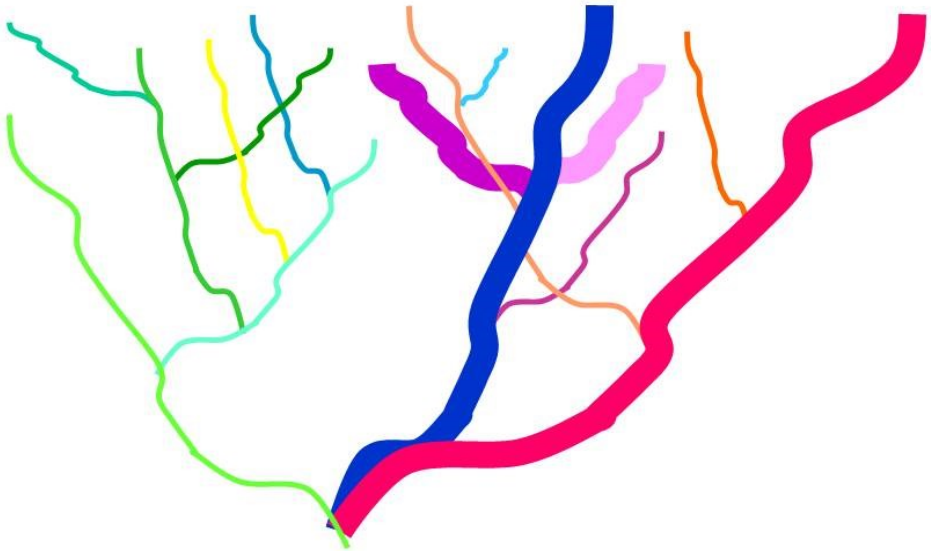

apomixis

history:

contingency (Mokyr, 92)
path-dependence (David, 85)

momentum (Hughes 83)
path creation (Karnoe, 01)

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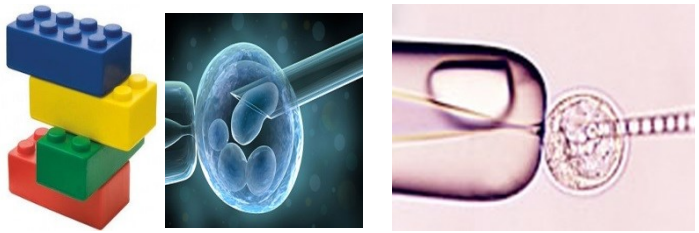

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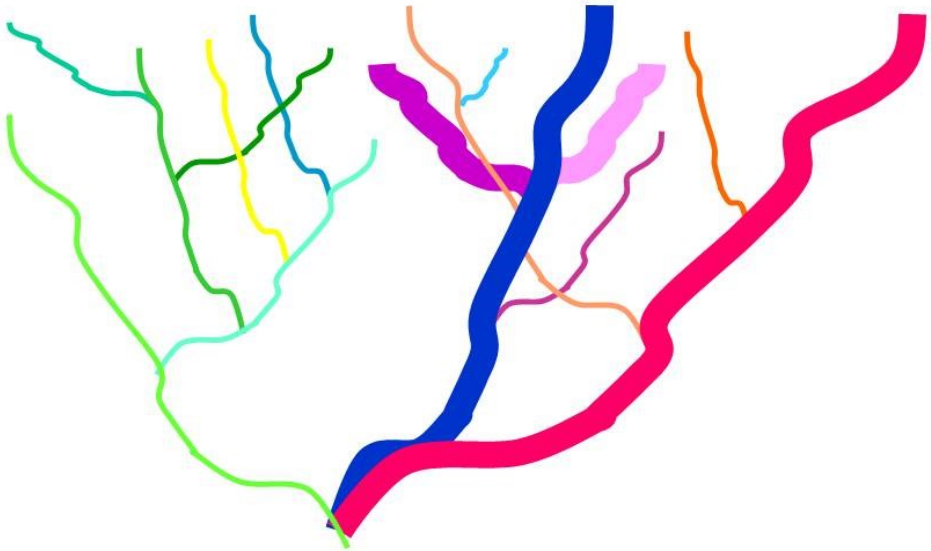

philosophy: /politics

autonomy (Winner, 77)
entrapment (Walker, 01)

closure (Feenberg, 91)
alignment (Geels, 02)

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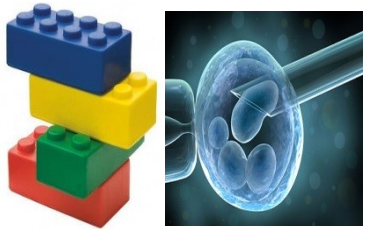

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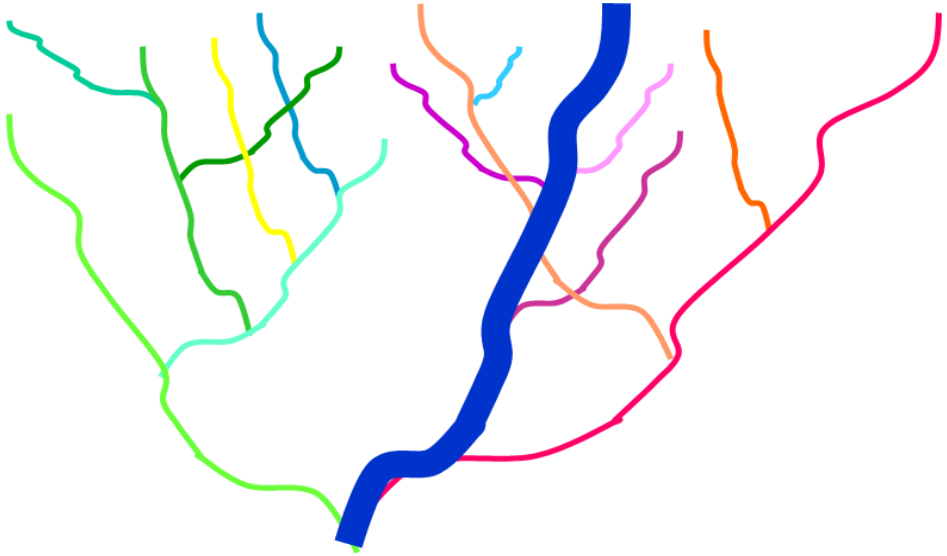


economics: homeostasis (Sahal, 85) lock-in (Arthur, 89)
regimes (Nelson & Winter, 77) trajectories (Dosi, 82)

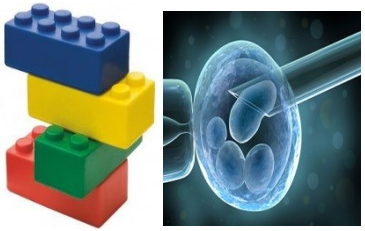
…and Social Choice Gets Politically Closed

privileges:

technology-intensive

commodity interests

high processing



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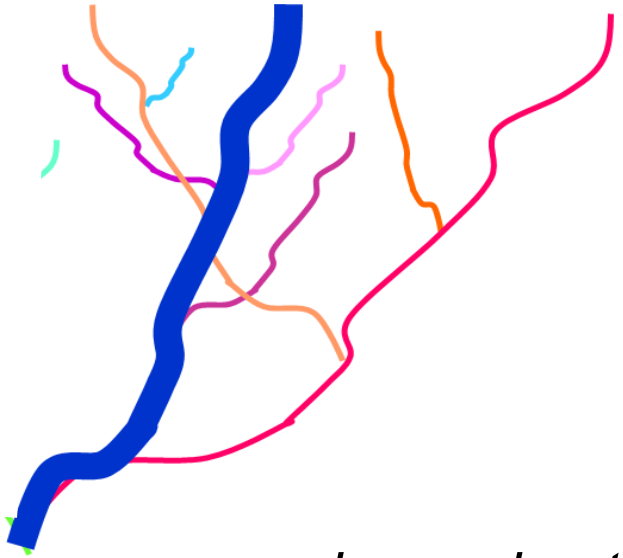

for: shareholder profit

value chain

controlled supply

affluent demand

market share

assertive IP

excludes:

supply side governance

advertising controls

cultural responses

grassroots innovation

public health measures

…

demand not supply measures

therapeutics not prevention

end-of-pipe remediation

functional foods

Seeing Like Power: from ‘Which Way?’ to ‘What Risk?’

focus on restricted to “tolerable risk” for incumbent pathway …

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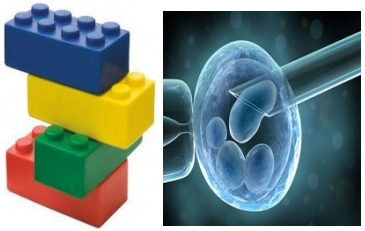

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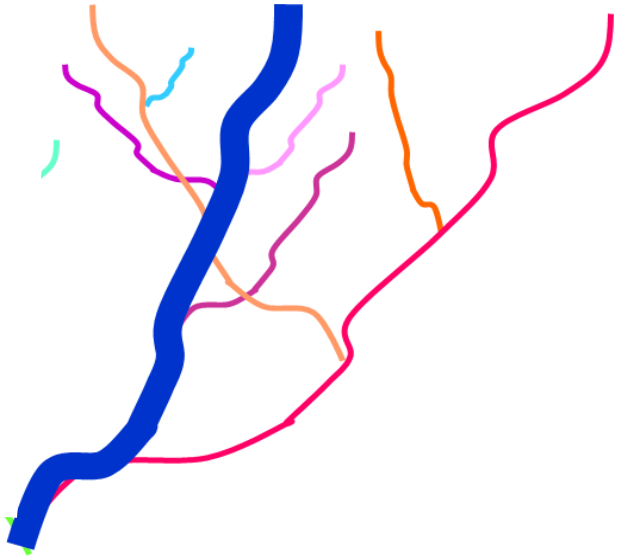

Framing as specific presumed trajectory **<u>sidelines alternatives</u>**

Restricts attention from ends (*what to do*) to means (*how to do it*)

eg: ‘participation’, ‘ethics’,‘transitions’,‘responsibility’… and ‘risk’

Seeing Like Power: from ‘Which Way?’ to ‘What Risk?’

focus on restricted to “tolerable risk” for incumbent pathway …

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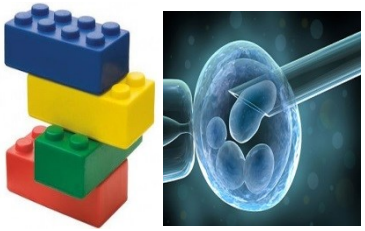

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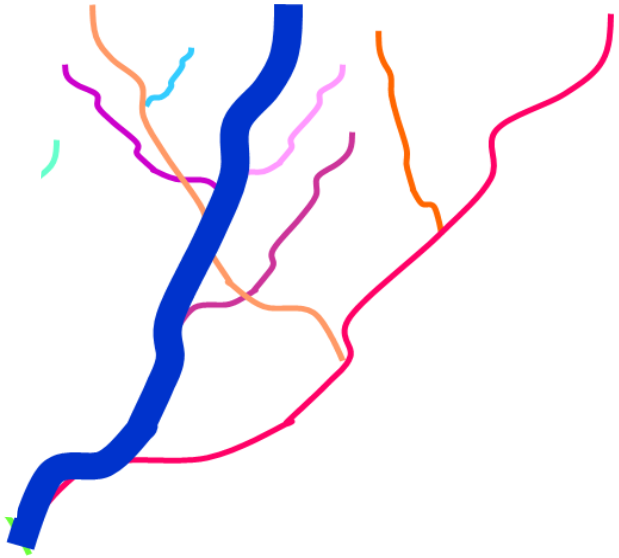

Debate about choice is reduced to circumscribed queries:

is this safe?

is this safe enough?

is this tolerable?

is this at least no worse than the least safe existing comparator?

And…

even on these narrow questions

the answers depend very radically

on the exact ways the questions are asked

Ambiguity and Uncertainty in Risk Assessment

Regulatory assessment of food is only rarely fully comparative...

Energy regulation: most mature, sophisticated comparative analysis…

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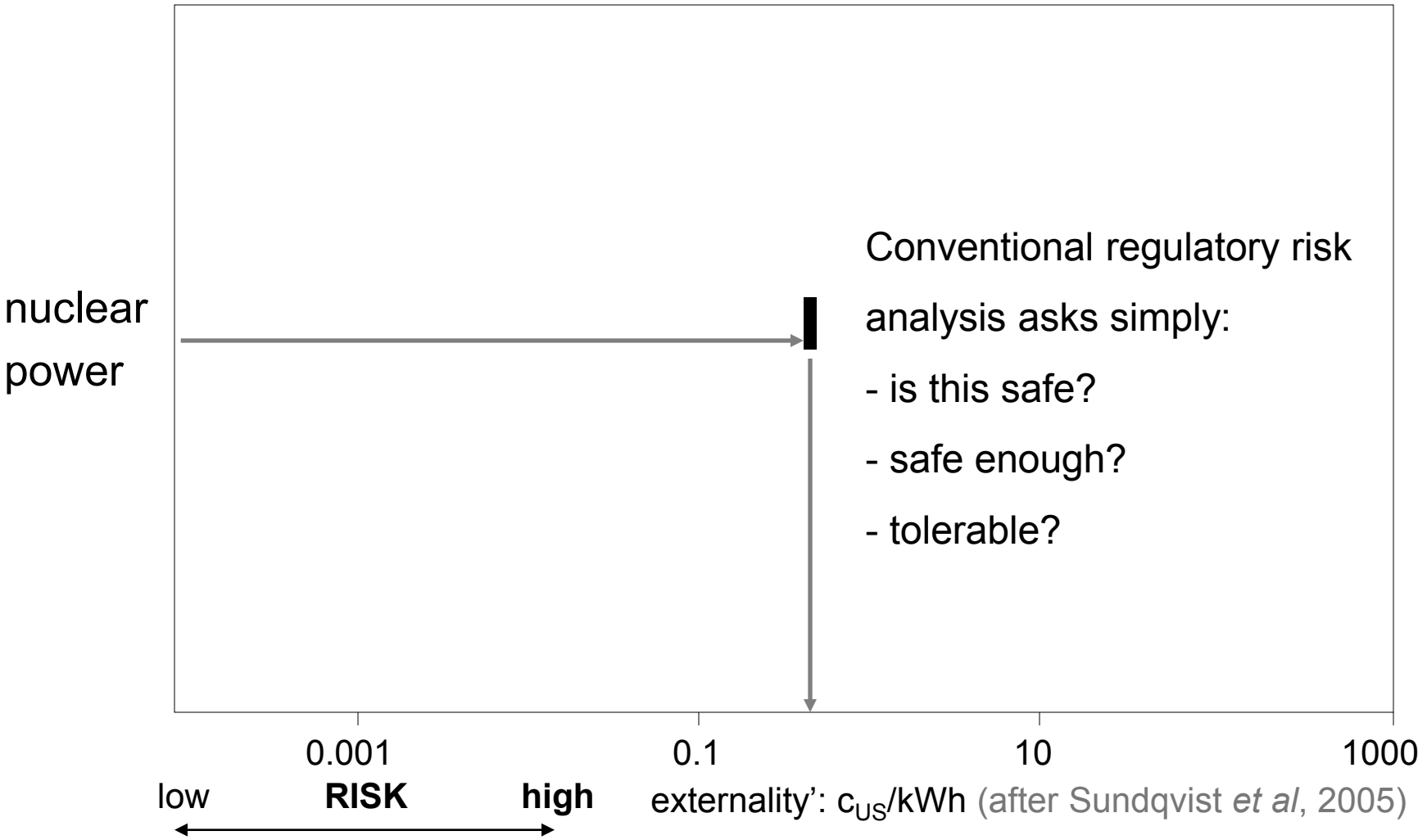

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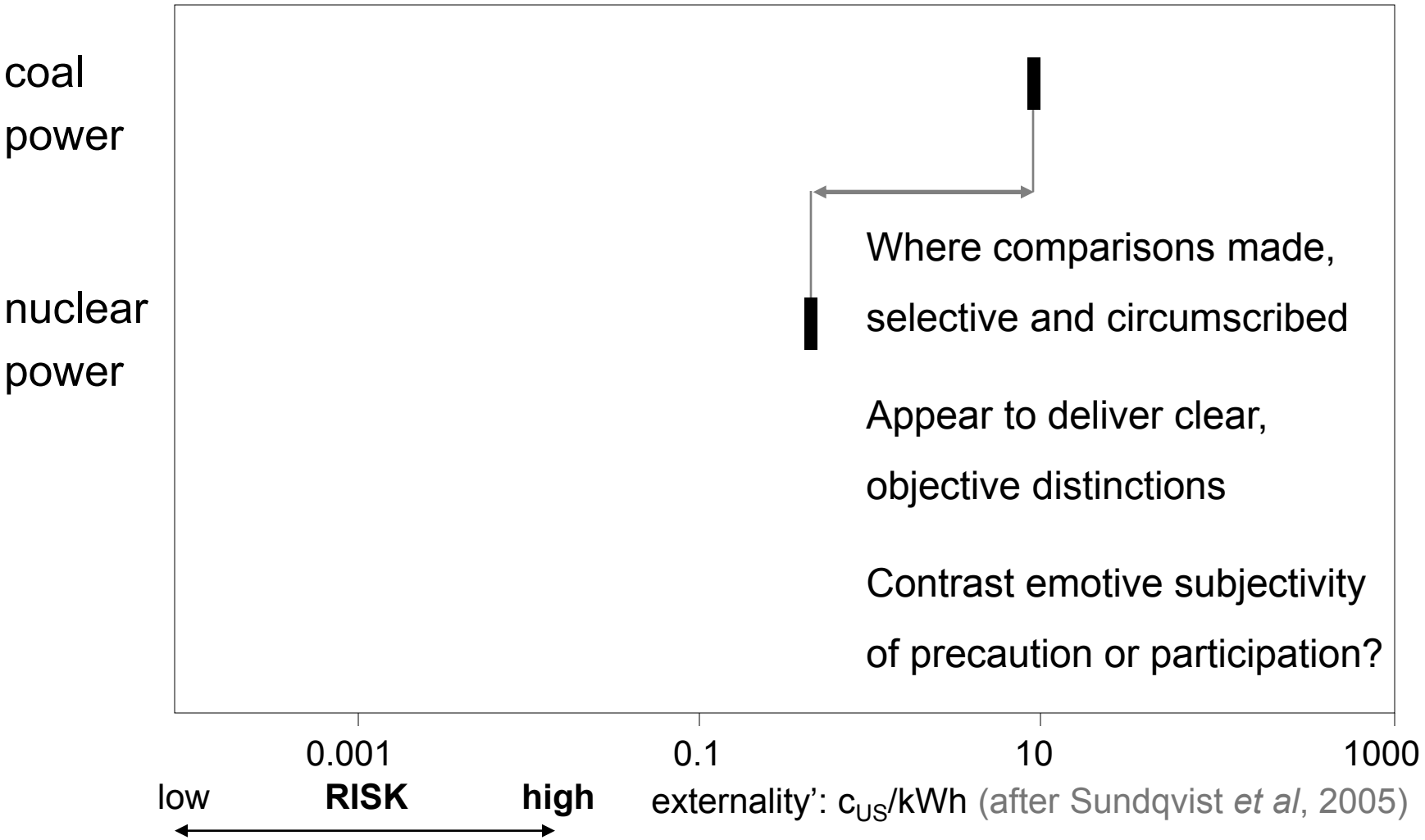

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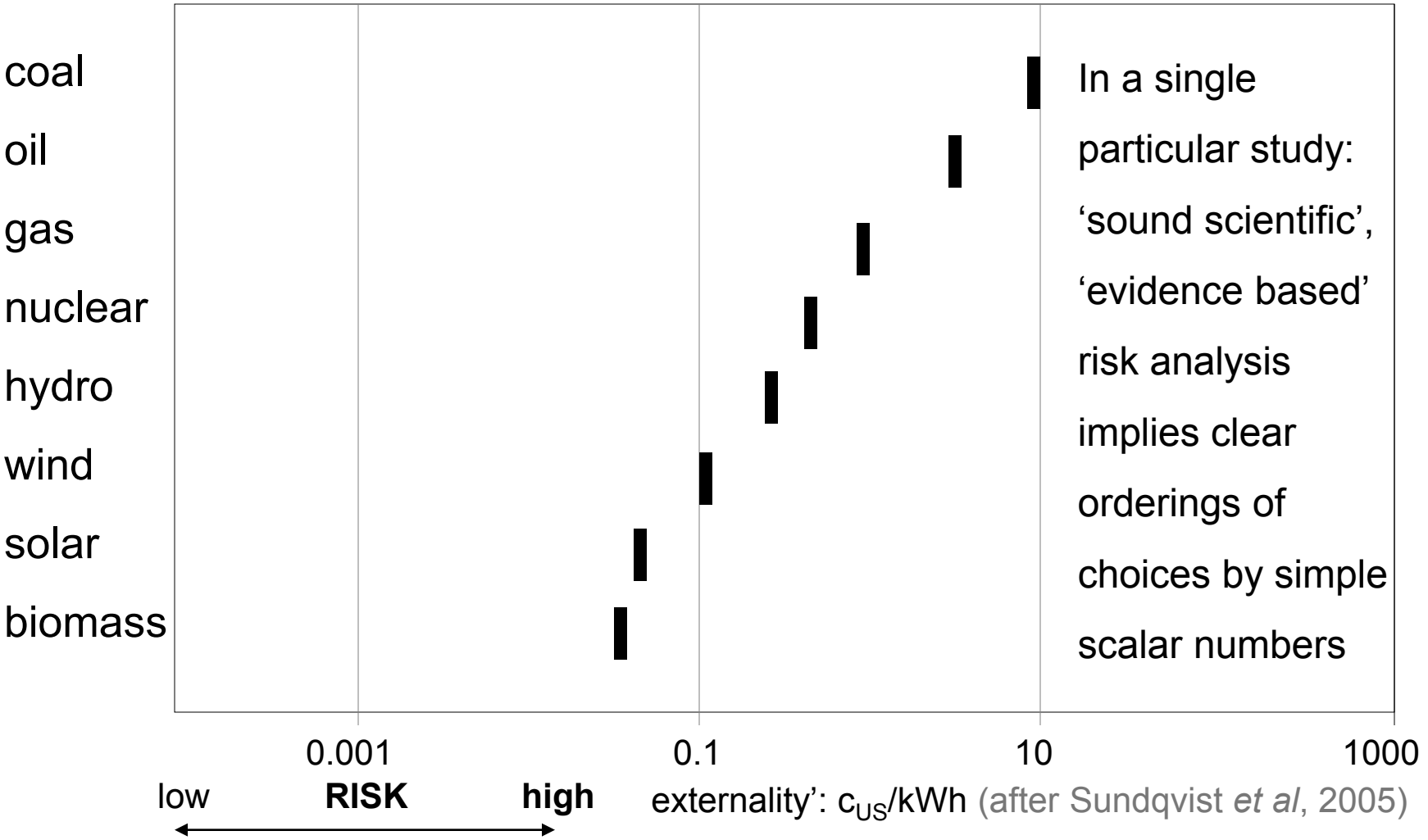

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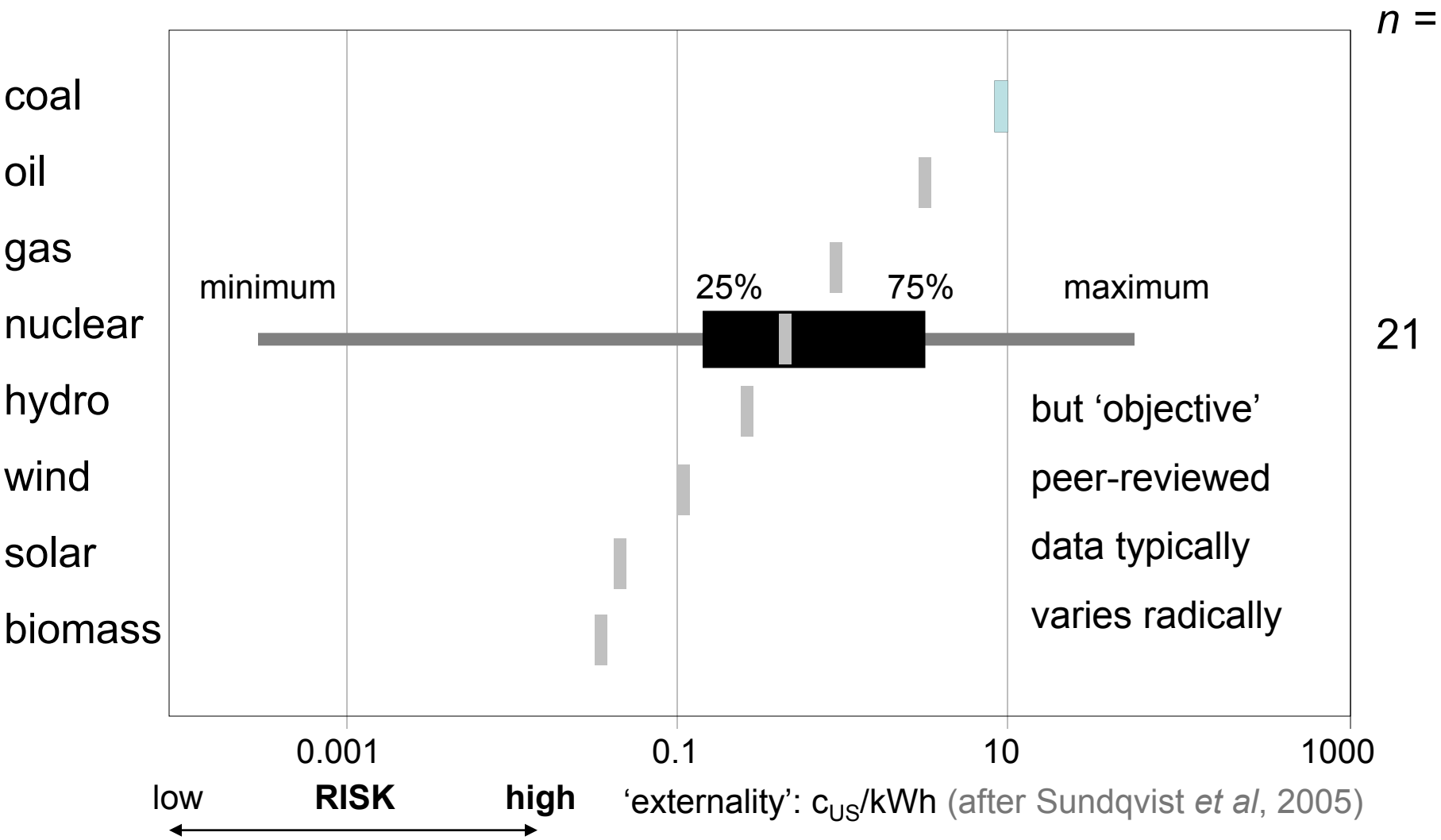

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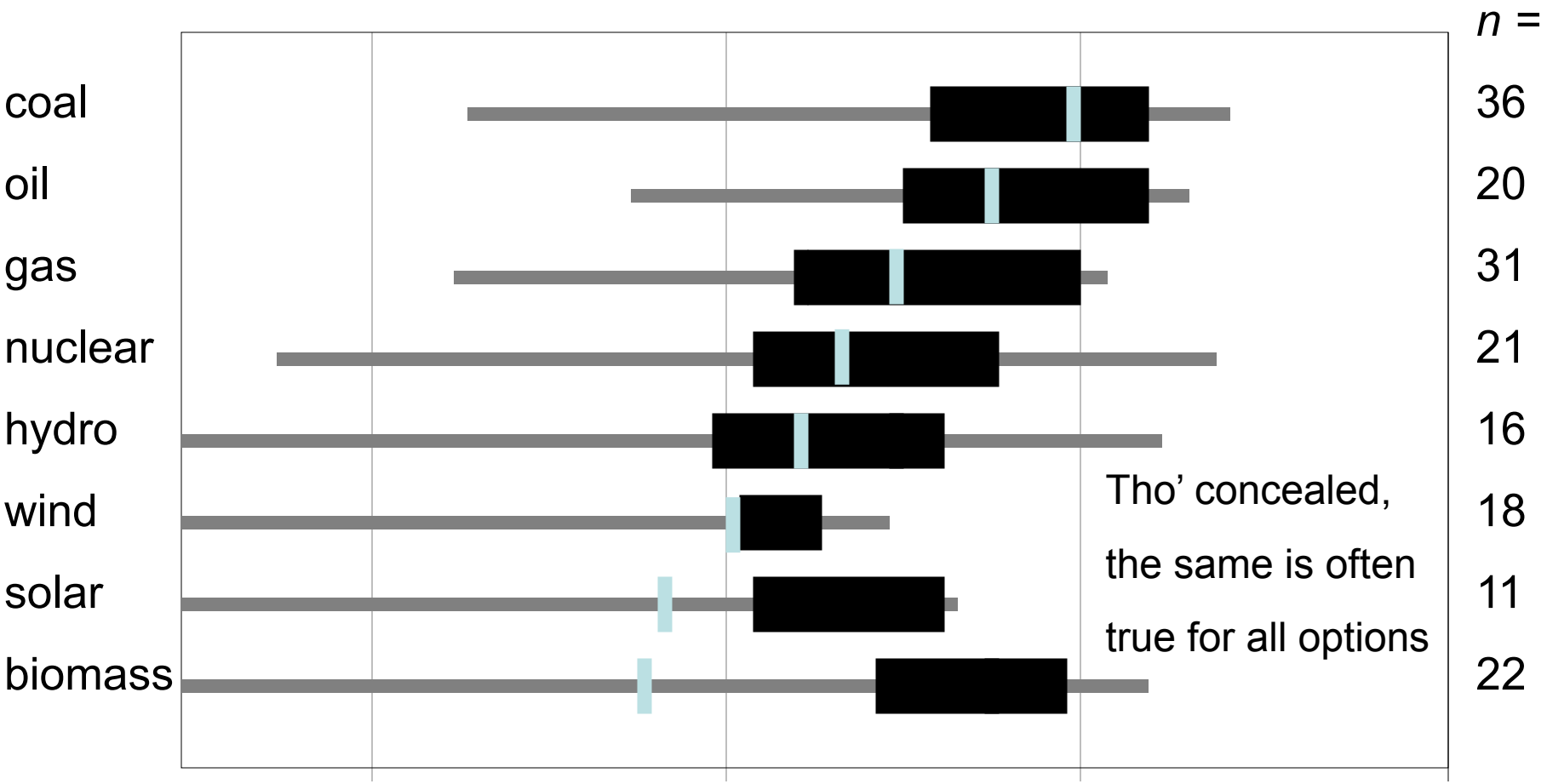


…'evidence based' risk literatures can be used to justify any choice

Framing Assumptions in Scientific Assessment

Equally relevant to quantitative and qualitative approaches

setting of agendas	defining problems	posing of questions
prioritising of issues	deciding on context	choice of methods
power relations within process	definition of options	selection of alternatives
treatment of dissensus	design of process	drawing boundaries

More relevant to expert and quantitative approaches

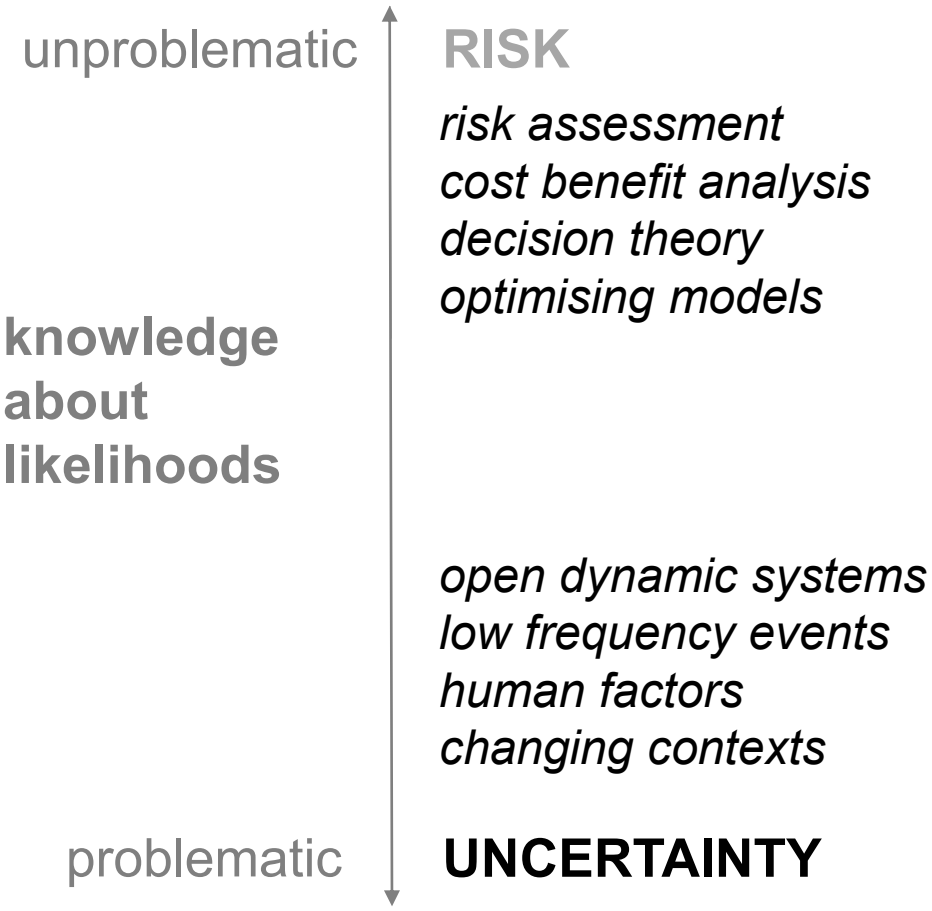
discounting of time	formulating criteria	characterising metrics
setting of baselines	basis for probabilities	including disciplines
handling of uncertainties	recruiting of expertise	commissioning research
constituting proof	exploring of sensitivities	interpreting results

More relevant to participatory and discursive approaches

identification of stakeholders	phrasing of questions	bounding of remits
recruitment of participants	provision of information	choice of focus
personalities of protagonists	medium of discourse	style of facilitation
documentation of findings	dynamics of persuasion	adoption of norms

Opening Up Uncertainty

unsettle pro innovation, sound science, evidence based closure



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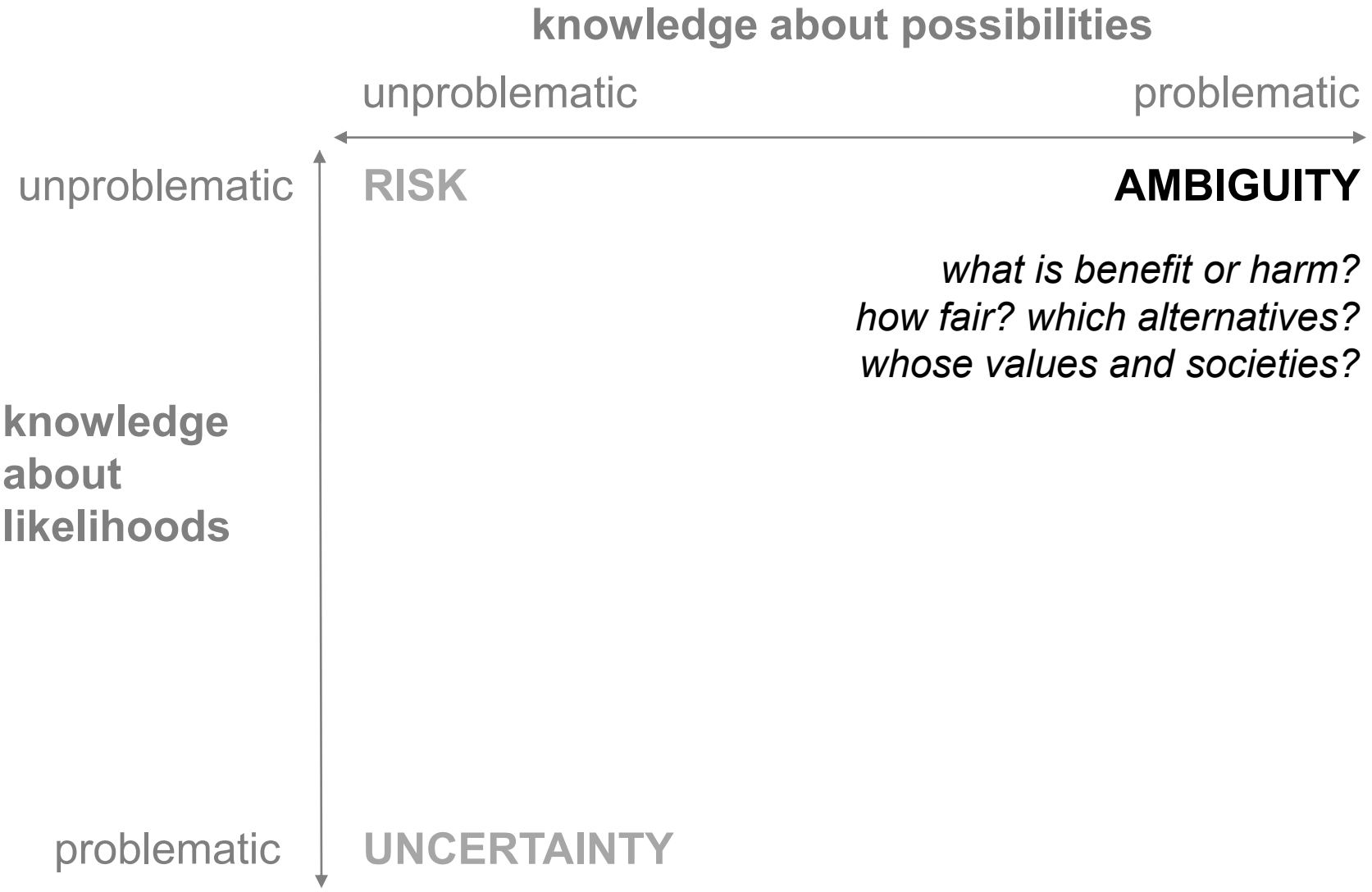

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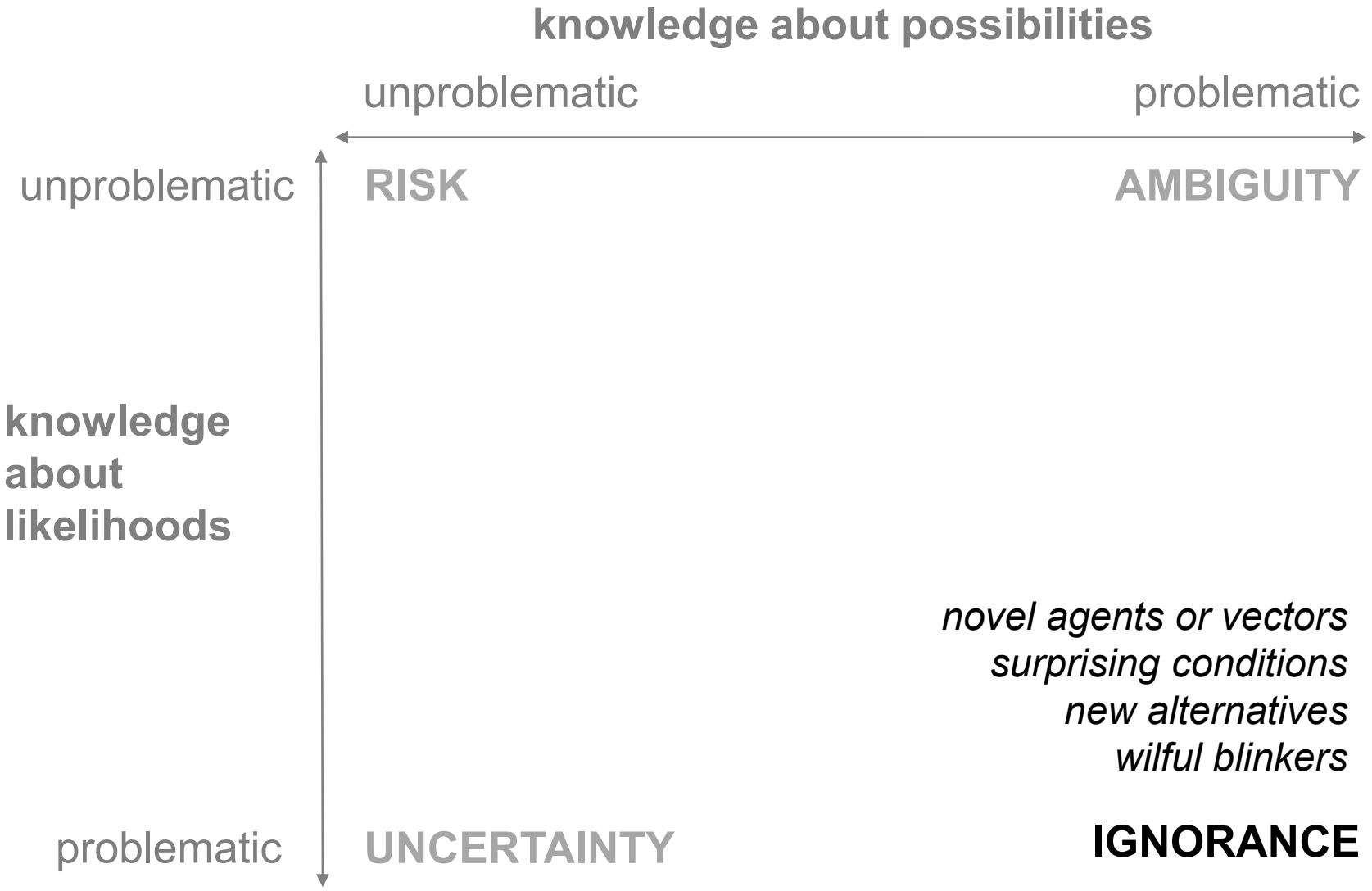

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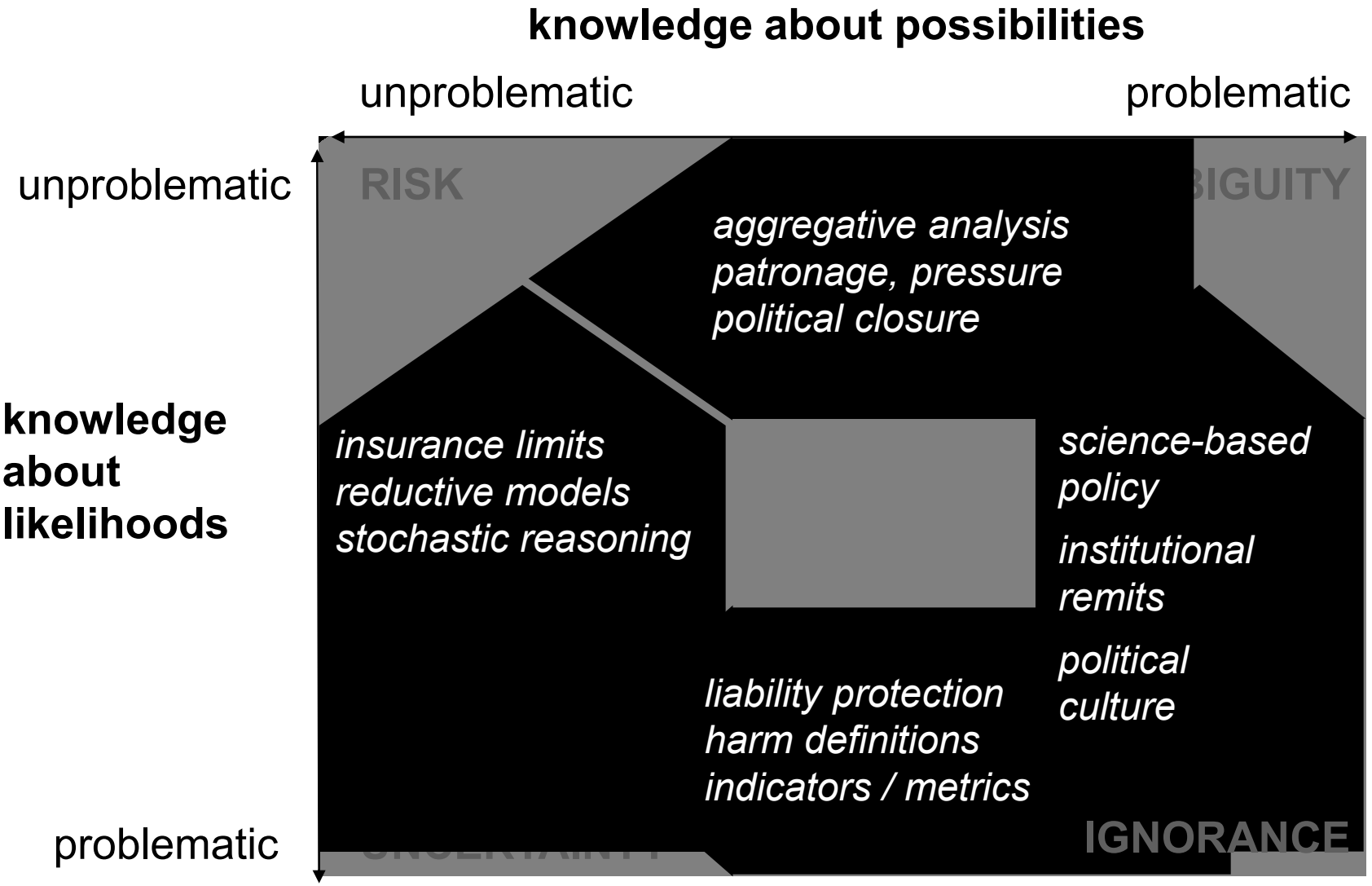
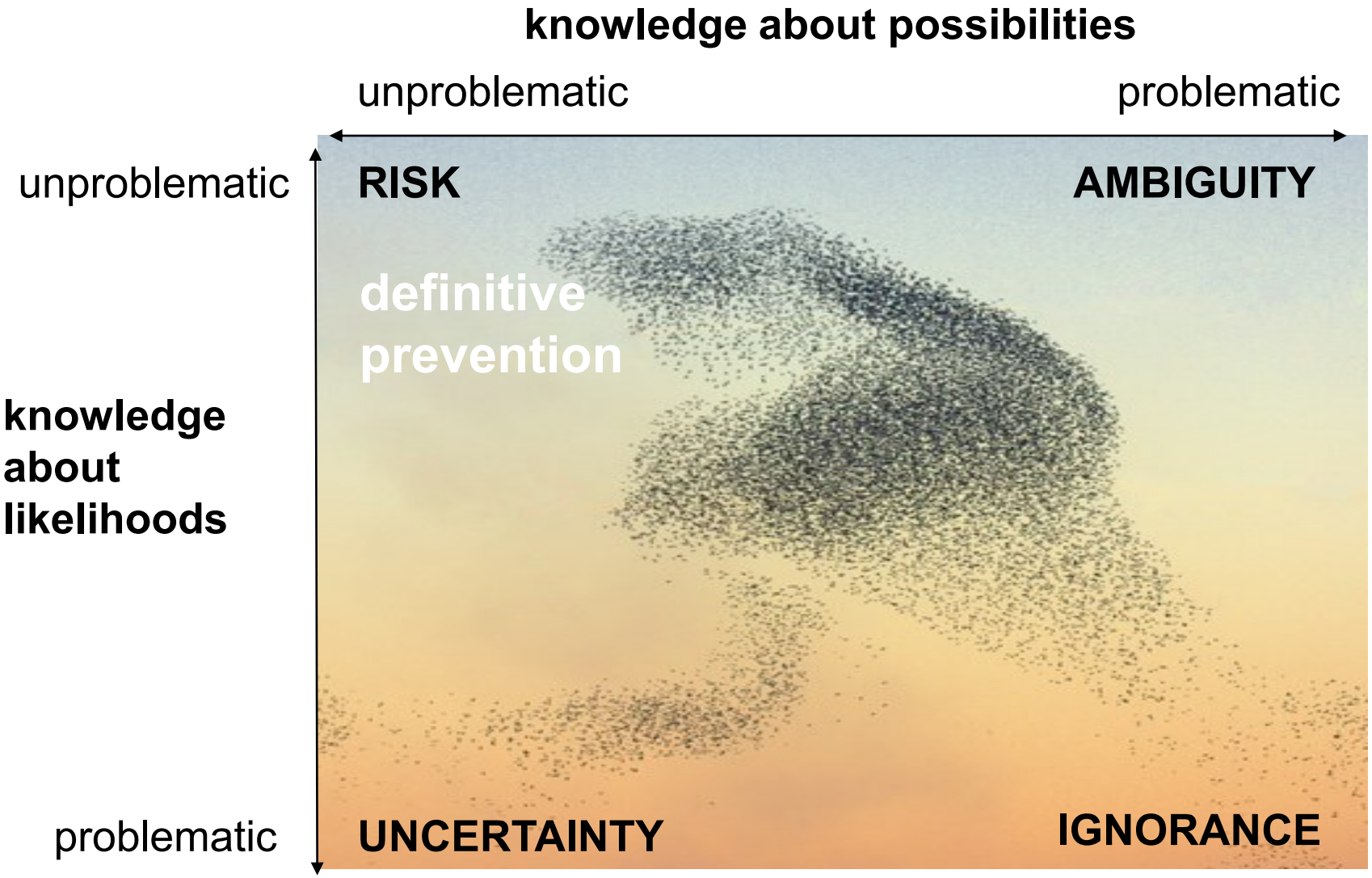
Power Closes Down to Risk

illuminate specific microdynamics of closure



risk focus is shaped by power – Beck's "organised irresponsibility"

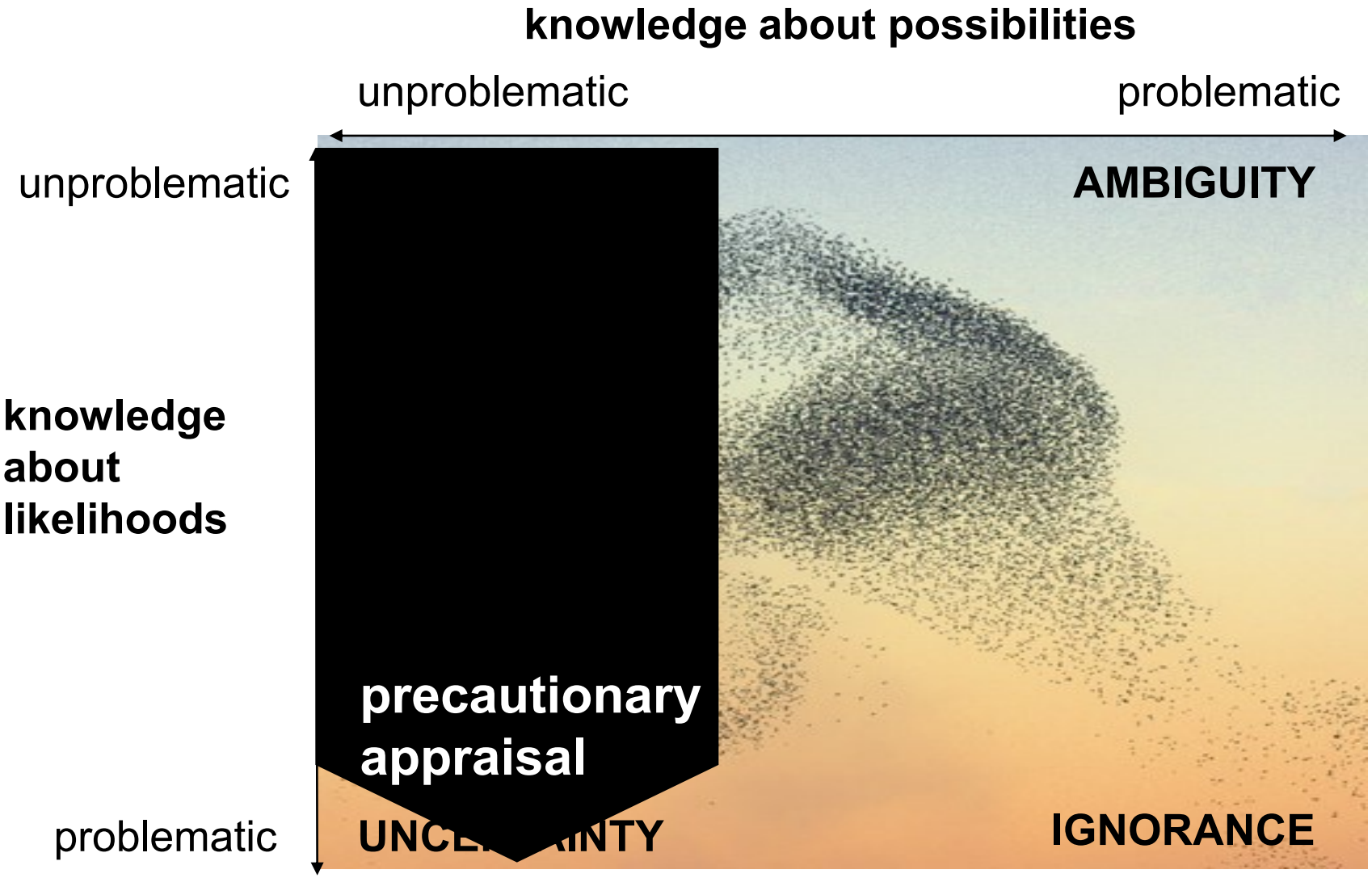
Collective Action Opens Up Political Space



… collective action by civil society ‘open up’ space for appreciating incertitude

Practical ‘Cinderella Methods’

explore and experiment with ‘plural conditional’ practices



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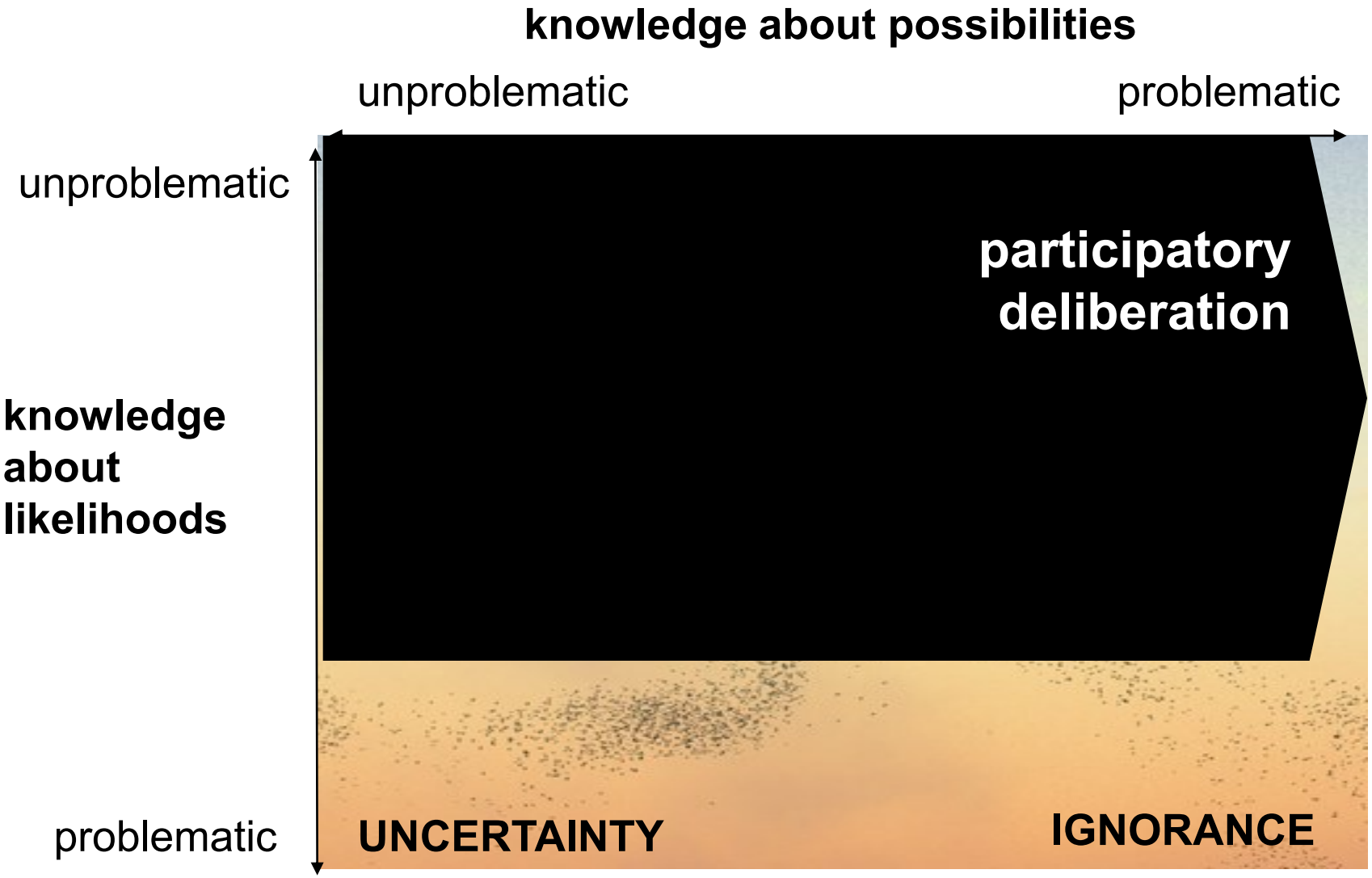

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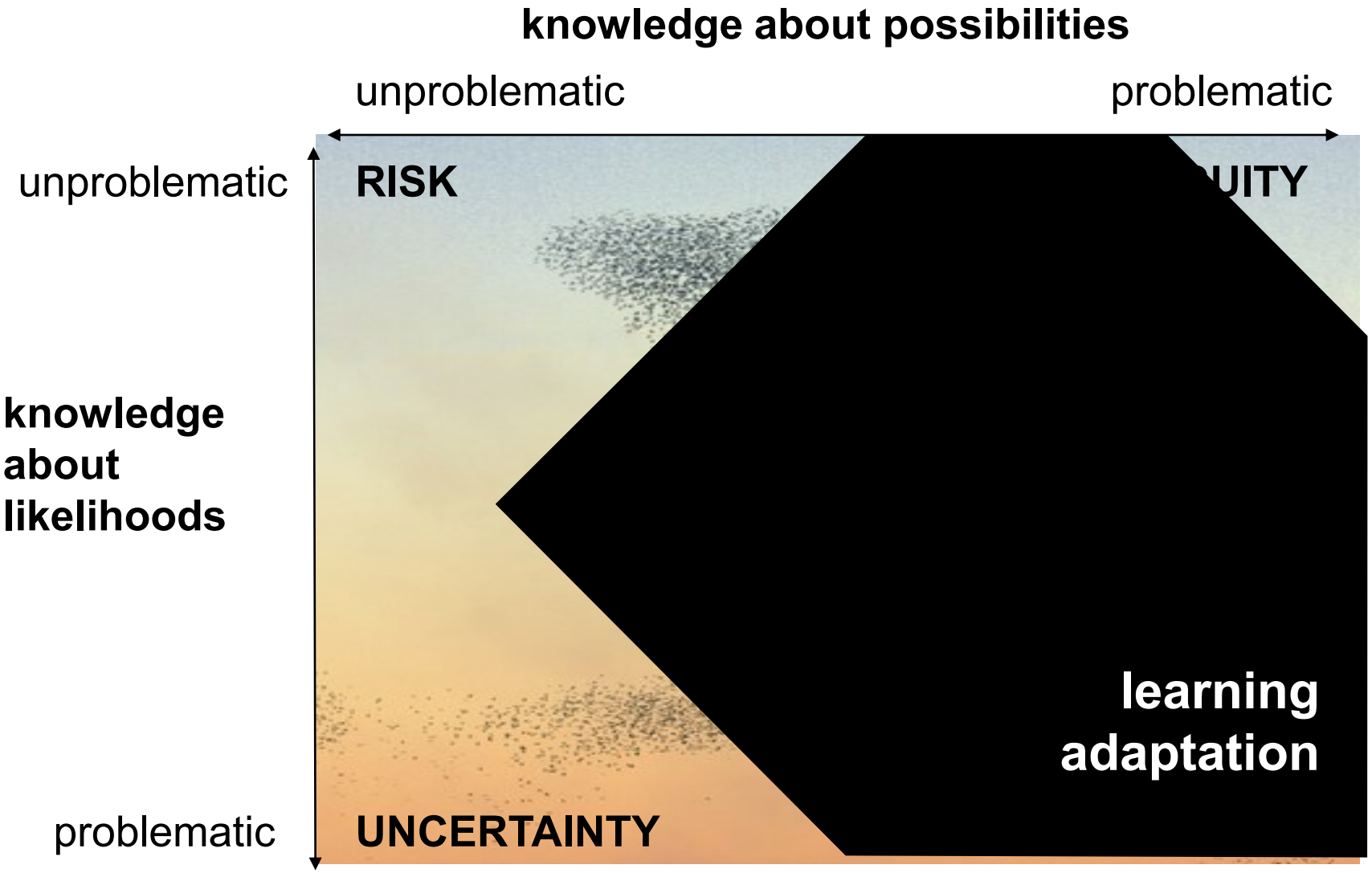

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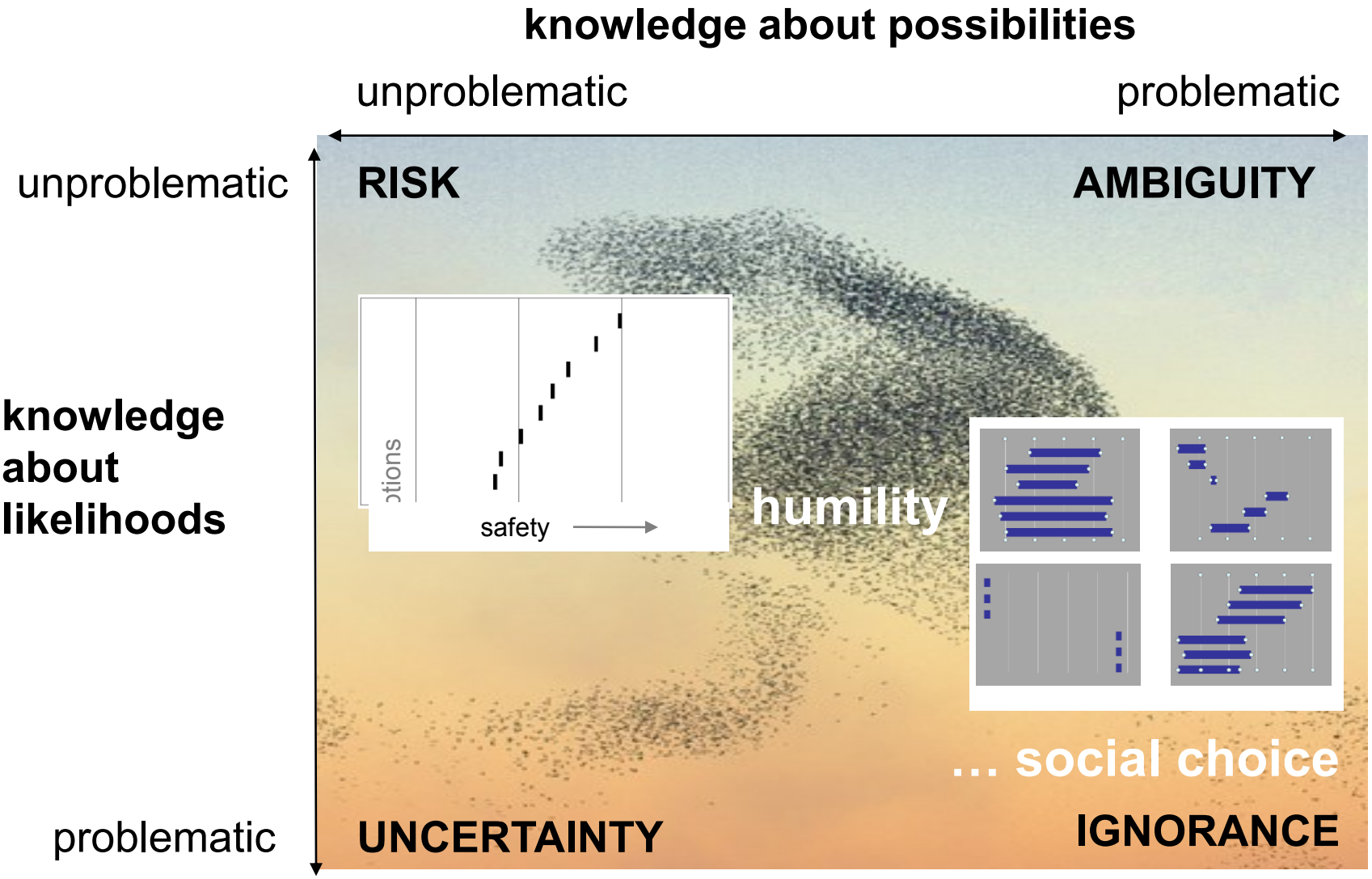
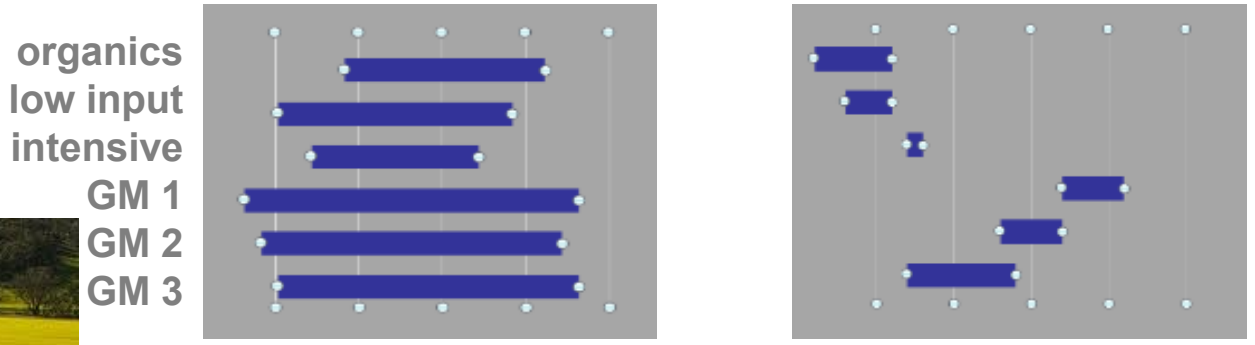


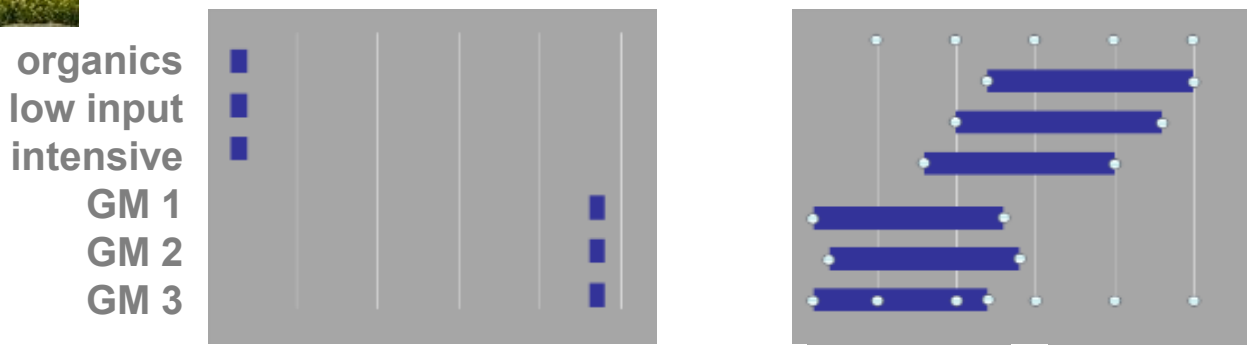
‘opening up’: options, issues, approaches, possibilities, perspectives

Mapping Perspectives for Deliberation

Multicriteria Mapping ‘opens up’ politics and power in expertise

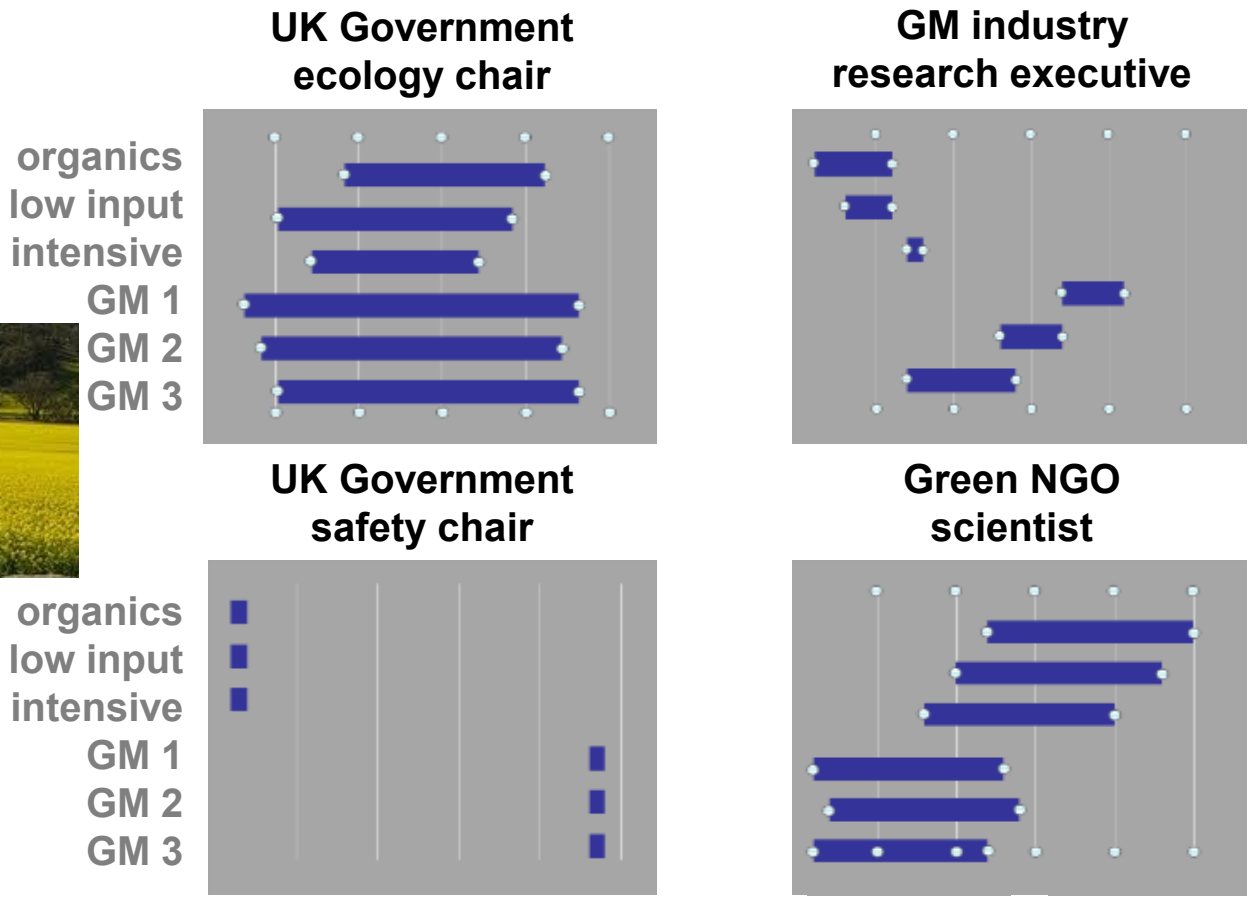
Analysis of 12 UK government GM advisors (2001)





Mapping Perspectives for Deliberation

Multicriteria Mapping ‘opens up’ politics and power in expertise



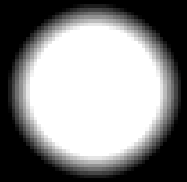
Acknowledging assumptions, values, uncertainties

‘plural & conditional’ approach is rigorous **&** democratic

… if **A**, then x; … if **B**, then y

Conventional Risk-Based Politics

incumbent ‘sound science’ and ‘pro-innovation’ control political space



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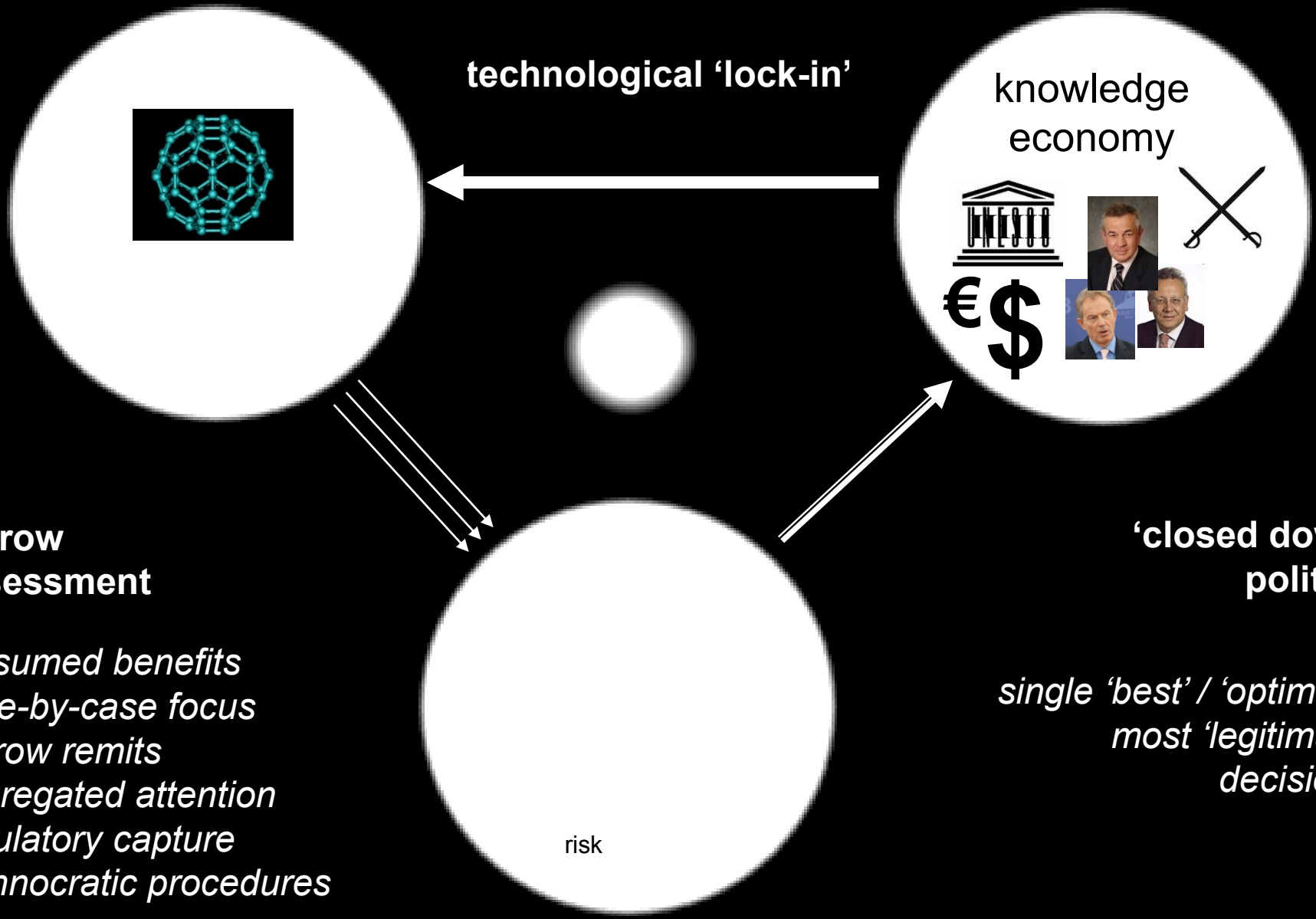


narrow assessment

presumed benefits
case-by-case focus
narrow remits
aggregated attention
regulatory capture
technocratic procedures

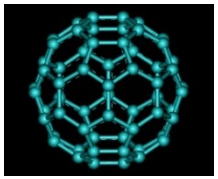
'closed down' politics

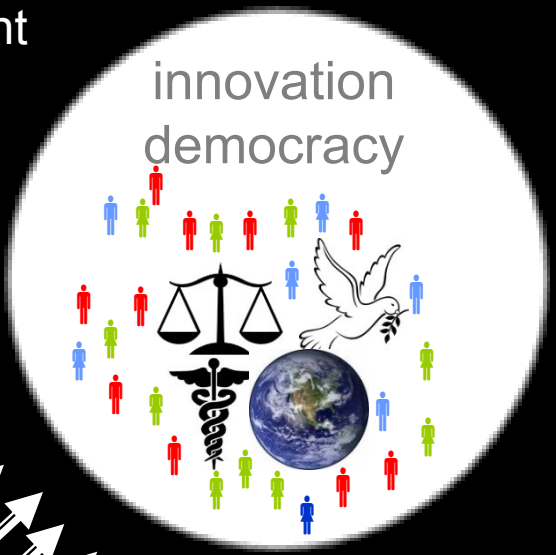
single 'best' / 'optimal' / most 'legitimate' decisions

Opening Up Innovation Democracy

“letting go”

diversity, discontinuity, experiment





reconciles ostensibly contending imperatives of science and democracy’

“broadening out”

neglected issues

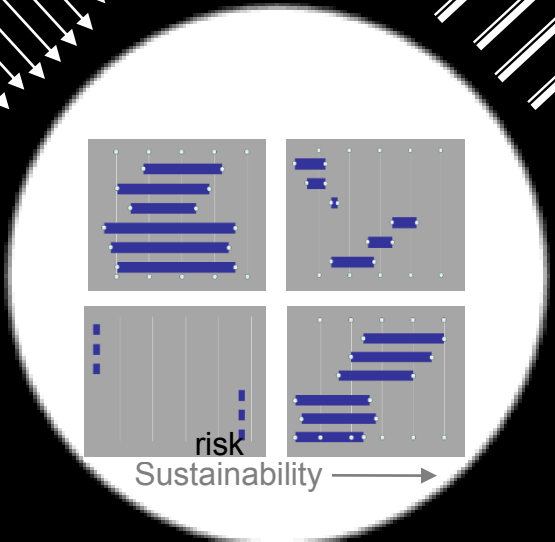
excluded values

alternative pathways

ignored uncertainties

marginalised interests

precautionary principle



“opening up”

plural conditional recommendations

dissensus processes

sceptical politics

catalyse, not suppress, democracy

‘Broadening Out’ and ‘Opening Up’ *(cf: EEA, 2001)*

Precaution as appraisal process, not management ‘decision rule’

extend scope	additive, cumulative, synergistic effects; life cycles, compliance
humility on science	complexities, sensitivities, mobility, persistence, bioaccumulation
pro-active research	balance power: monitoring, surveillance & targeted experiment
deliberate argument	levels of proof, burden of evidence, onus of persuasion
alternative options	pros, cons, justifications for range of innovations & substitutes
plurality & learning	transdisciplinary knowledge, beyond ‘usual suspects’ & methods
engage public	independence through pluralism and robustness on values