



# Challenges in the Governance of Engineered Life: research policy, innovation dynamics and the politics of progress

**Andy Stirling**  
SPRU & STEPS Centre

presentation to an OECD-sponsored workshop  
on 'Environmental Release of Engineered Pests:  
building an international governance framework'

North Carolina State University, Raleigh

5<sup>th</sup>-6<sup>th</sup> October 2016

[www.steps-centre.org/](http://www.steps-centre.org/)  
[www.sussex.ac.uk/spru/](http://www.sussex.ac.uk/spru/)  
[www.multicriteriamapping.com](http://www.multicriteriamapping.com)  
[www.sussex.ac.uk/spru/people/peoplelists/person/7513](http://www.sussex.ac.uk/spru/people/peoplelists/person/7513)

# Some Prominent Themes From Discussions So Far

Regulation must “**accommodate**” new developments, in order to foster “**public trust**” and allow us to “**go forward**”

Need to prioritise “**fact based neutrality**”, assuming claimed “**benefits**” and “**manage risks**” to promote “**advance**”

Subordinate “**public engagement**” to “**risk-based policy**” founded on “**sound science**” & “**substantial equivalence**”

Focal queries are “**should we?**”; “**yes / no?**”; “**how fast?**”; “**what risk?**” – about this single very specific technology

Overall aims to allow “**free markets**” for “**research to move ahead**”, but act “**responsibly**” within these imperatives

# Key Messages from Earlier Comparable Risk Issues

- 1: innovation is more political than technical/managerial
- 2: key issues are about choice, not risk or speed
- 3: directions for progress are largely driven by power
- 4: risk assessment conceals radical ambiguities
- 5: regulatory appraisal is mainly about justifying policy
- 6: many practical methods to address, but little demand

# Innovation is More Political than it is Technical

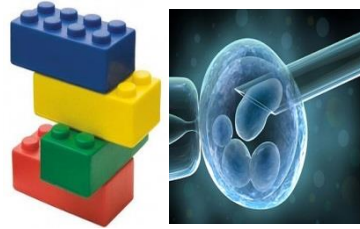
for instance, innovation for seed production...



marker assist



industrial hybrids



synthetic biology



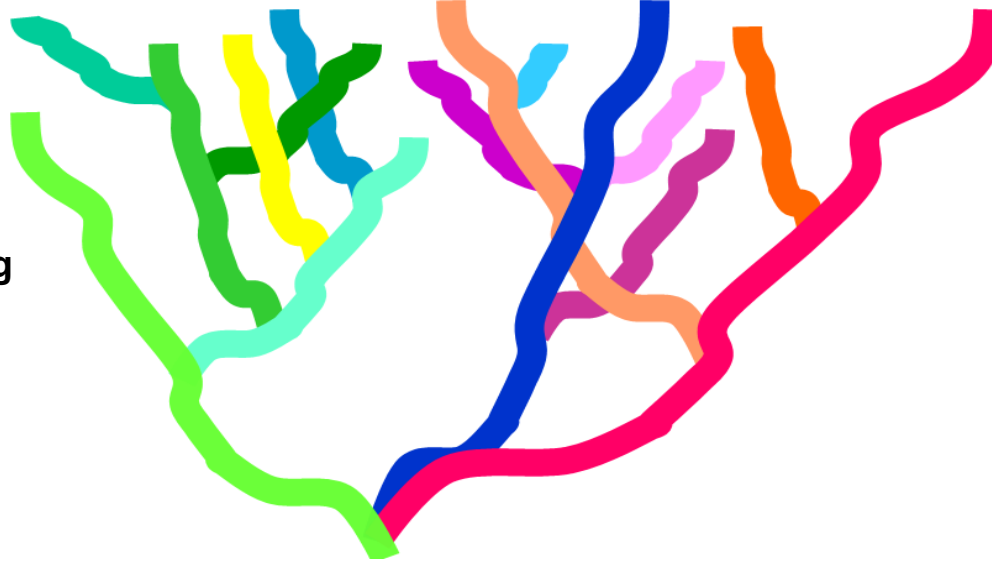
transgenics



cisgenics



participatory breeding



apomixis



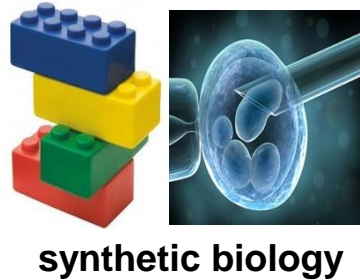
open source sharing

research and innovation are branching evolutionary processes

# Directions for Progress are Largely Driven by Power

## privileges:

technology-intensive  
commodity interests  
high processing



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*

# **Risk Assessment Conceals Radical Ambiguities**

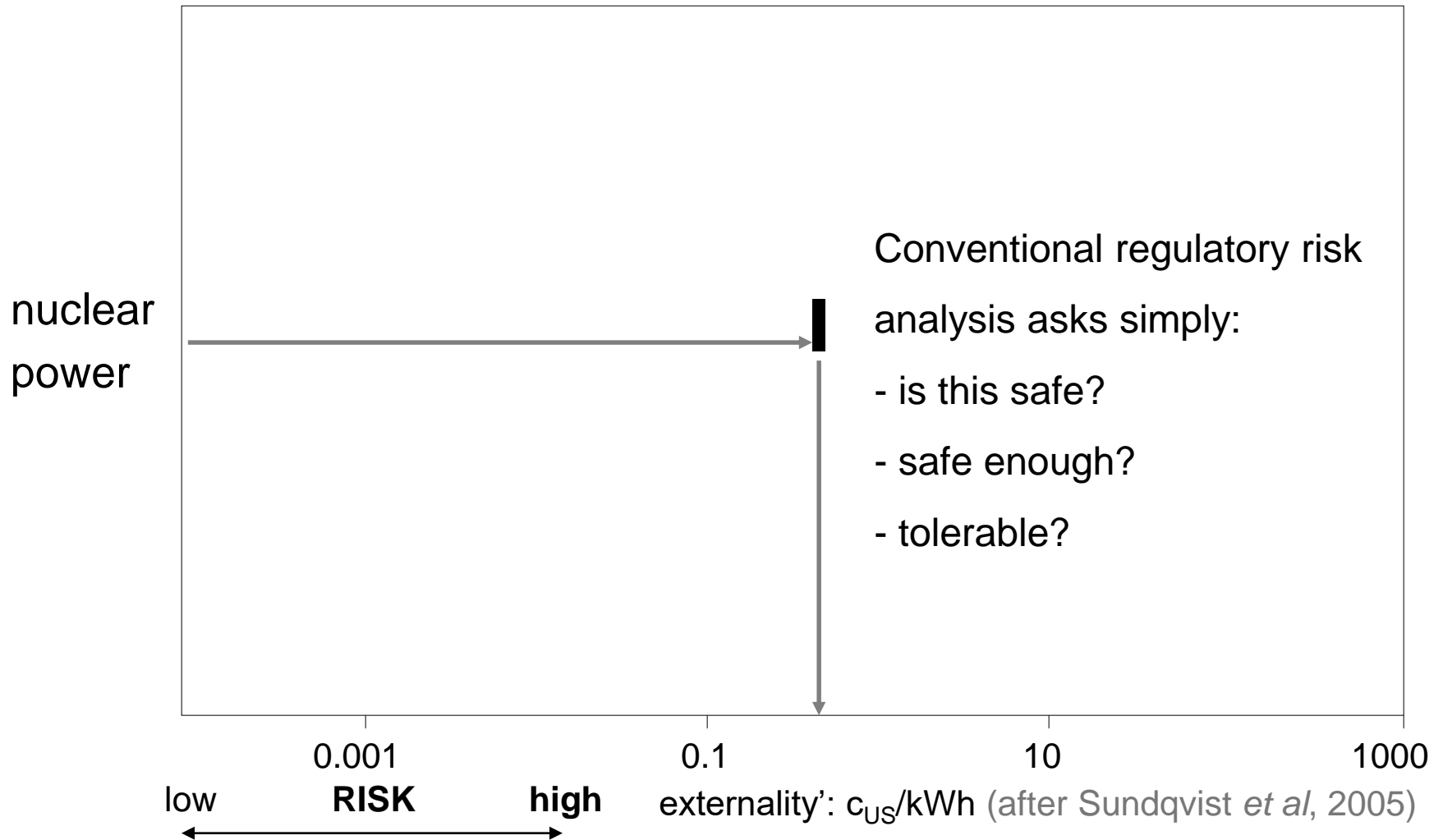
**Regulatory assessment in general is only rarely fully comparative...**

**Energy regulation: most mature, sophisticated comparative analysis...**

# Risk Assessment Conceals Radical Ambiguities

Regulatory assessment in general is only rarely fully comparative...

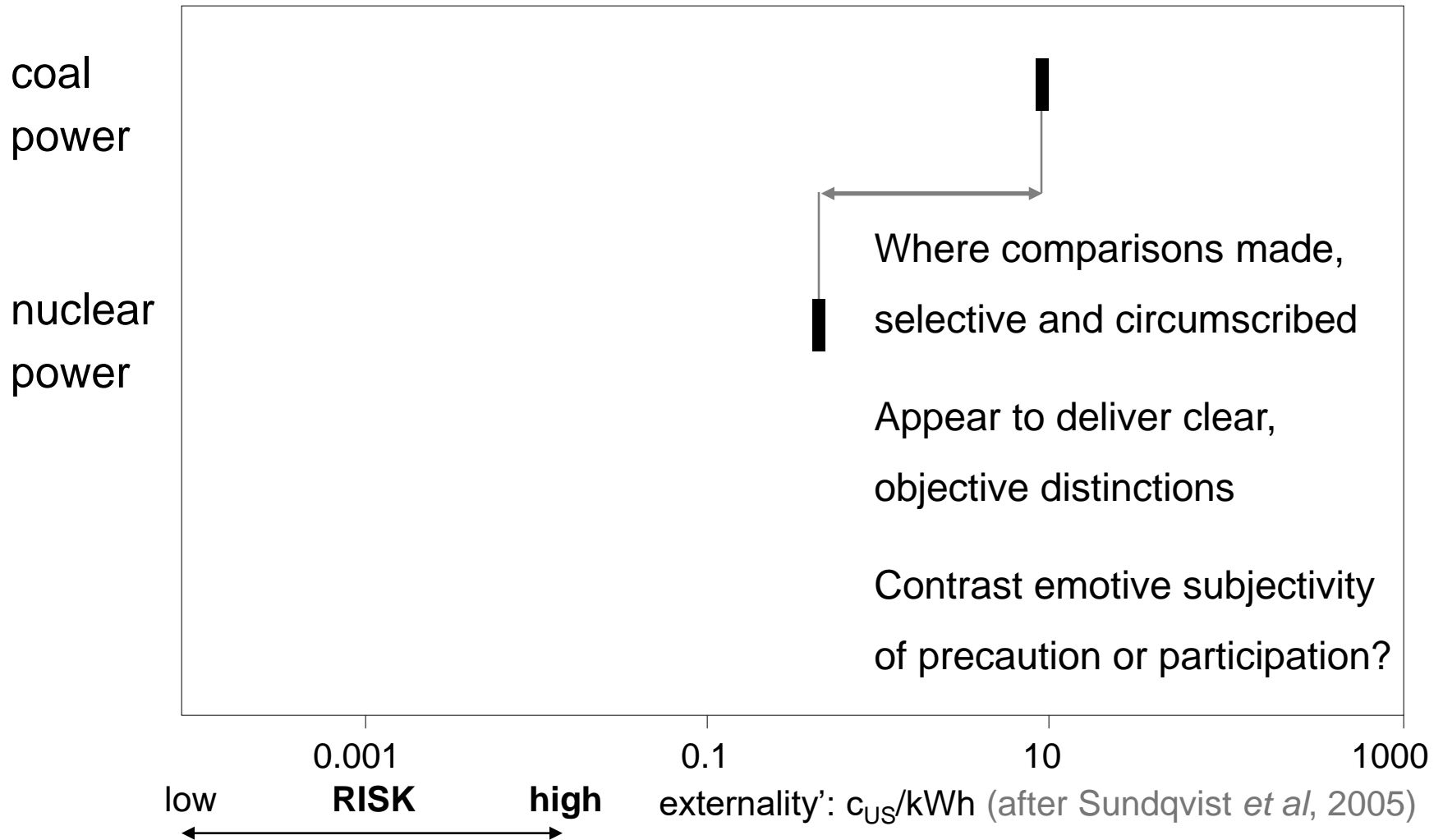
Energy regulation: most mature, sophisticated comparative analysis...



# Risk Assessment Conceals Radical Ambiguities

Regulatory assessment in general is only rarely fully comparative...

Energy regulation: most mature, sophisticated comparative analysis...

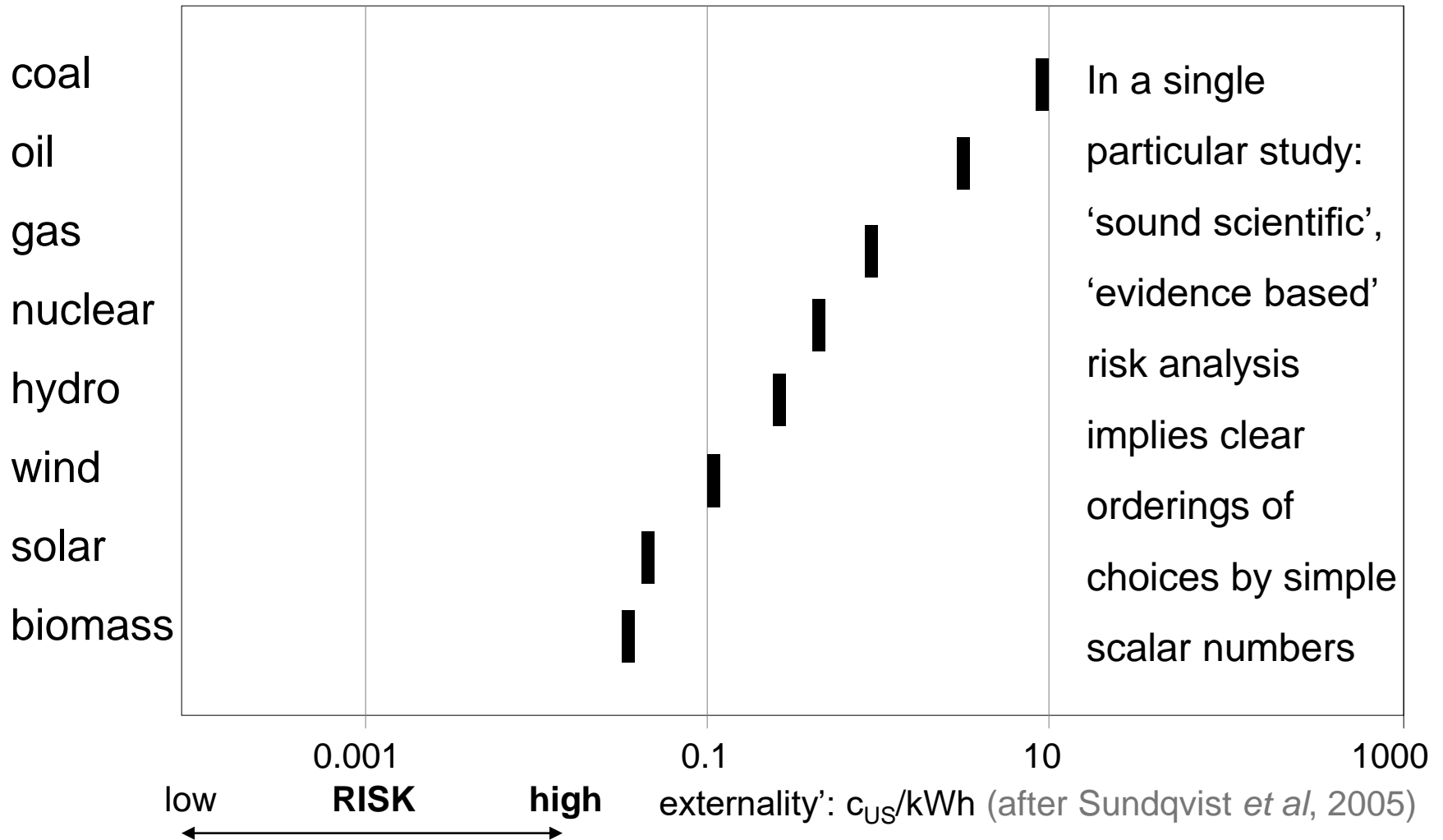




# Risk Assessment Conceals Radical Ambiguities

Regulatory assessment in general is only rarely fully comparative...

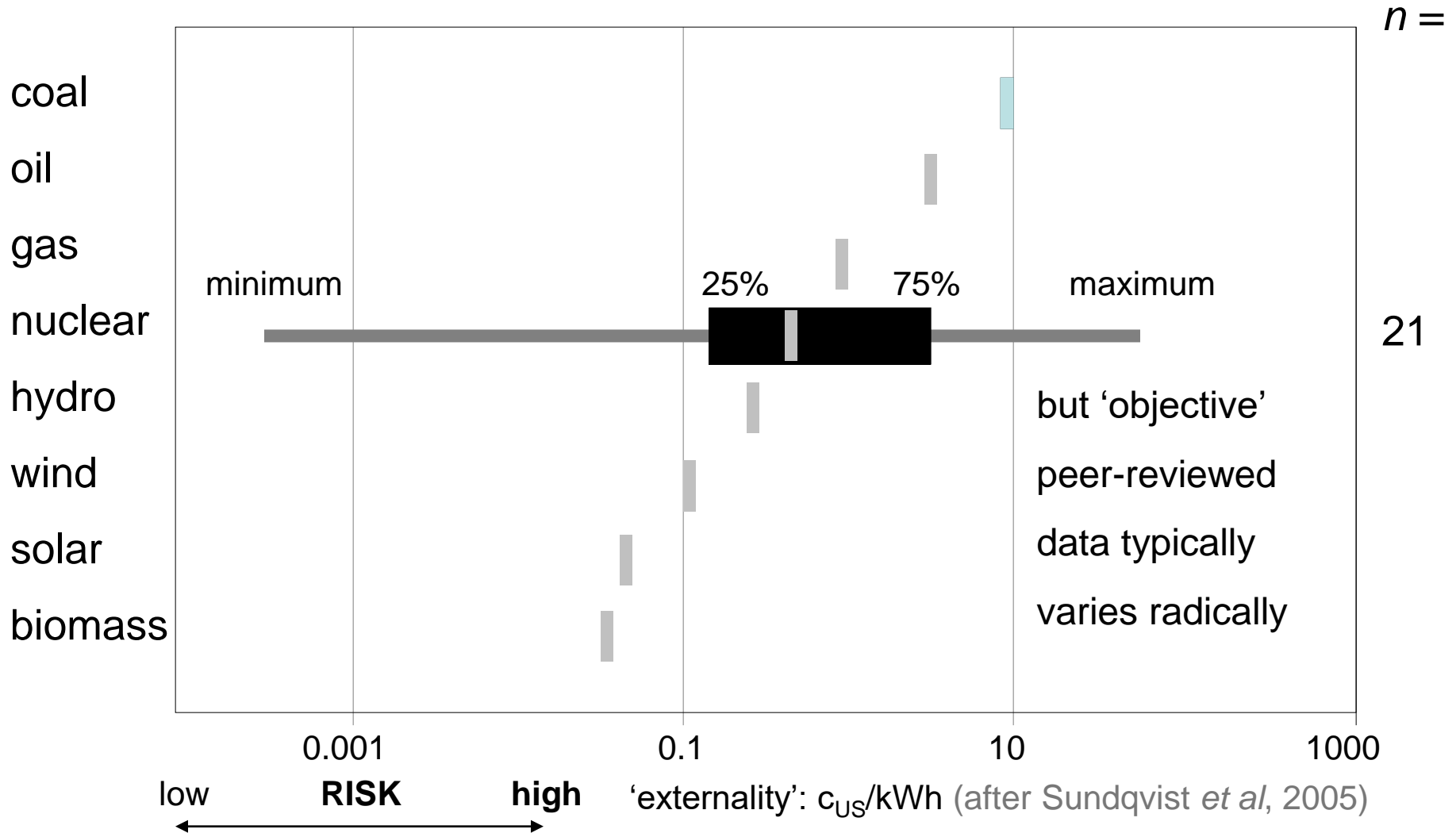
Energy regulation: most mature, sophisticated comparative analysis...



# Risk Assessment Conceals Radical Ambiguities

Regulatory assessment in general is only rarely fully comparative...

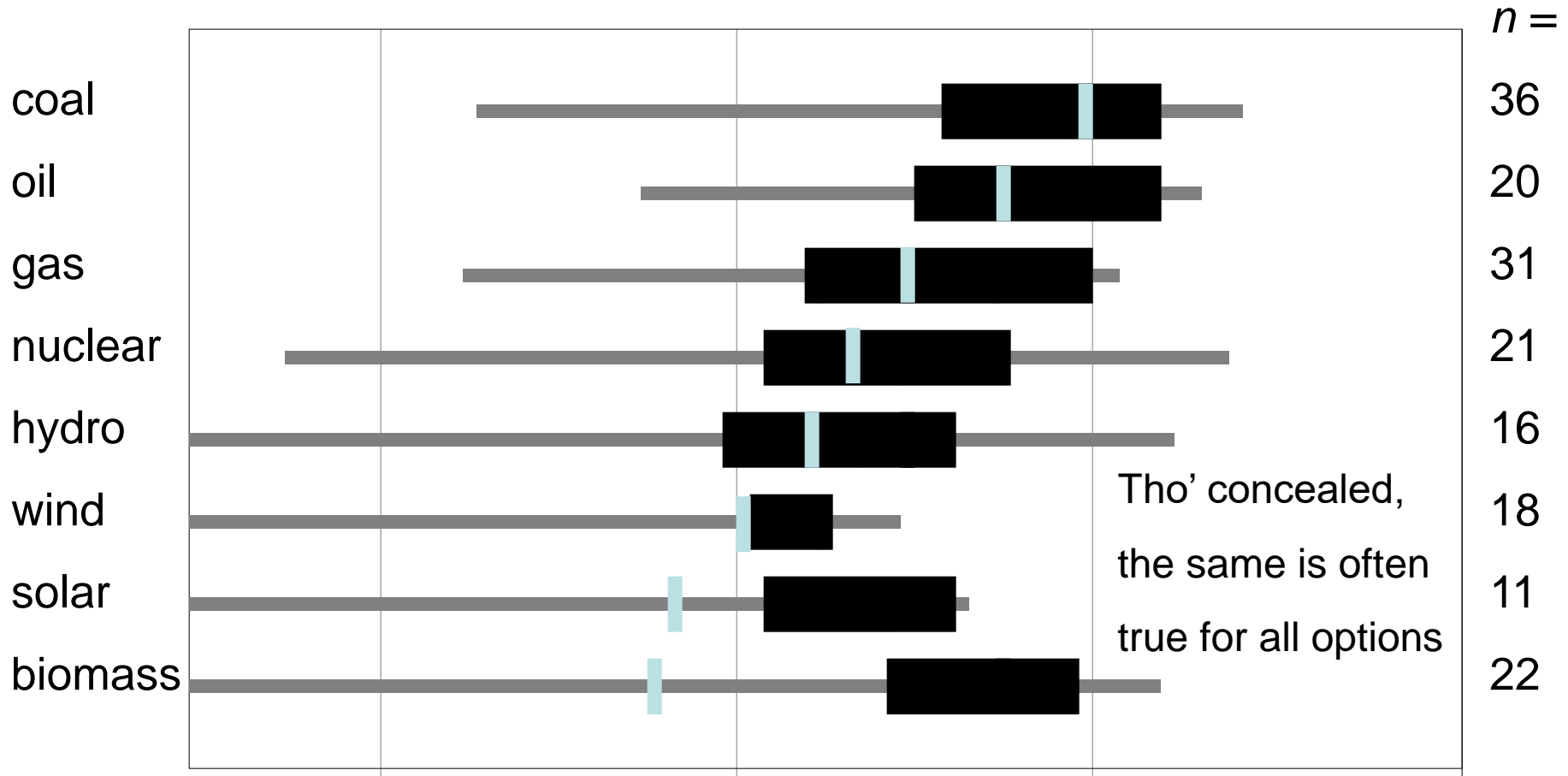
Energy regulation: most mature, sophisticated comparative analysis...



# Risk Assessment Conceals Radical Ambiguities

Regulatory assessment in general is only rarely fully comparative...

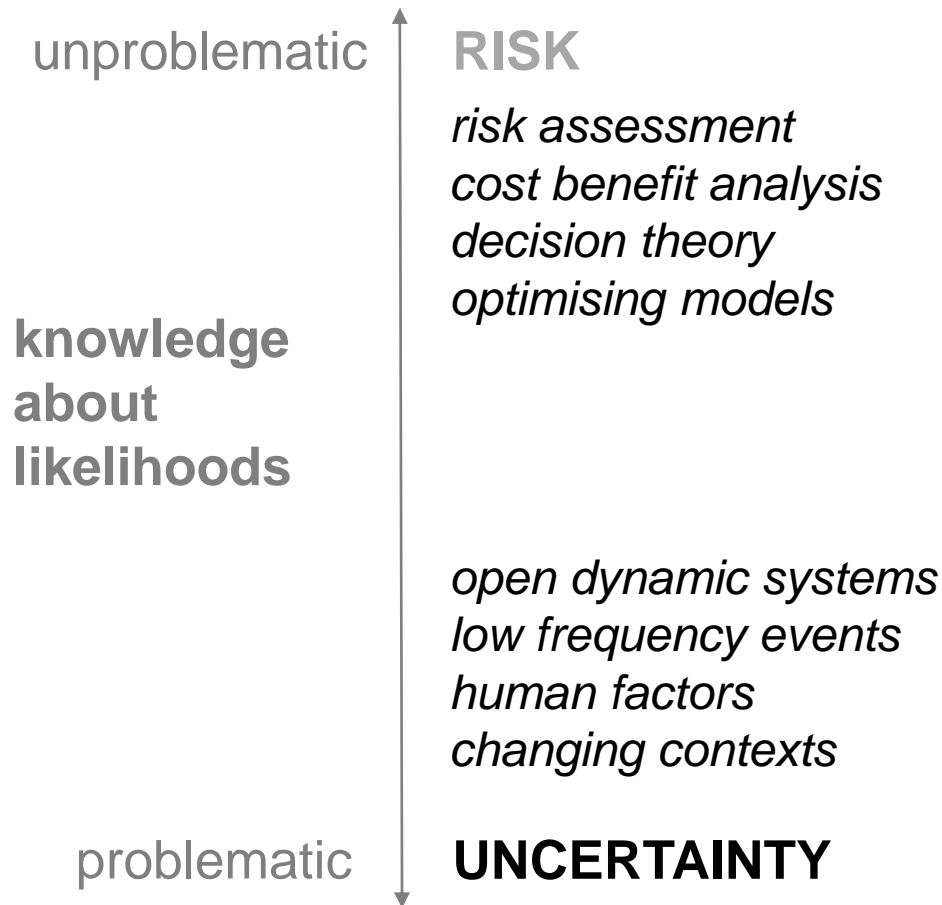
Energy regulation: most mature, sophisticated comparative analysis...



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

# Regulatory Appraisal Is Mainly for Justifying Policy

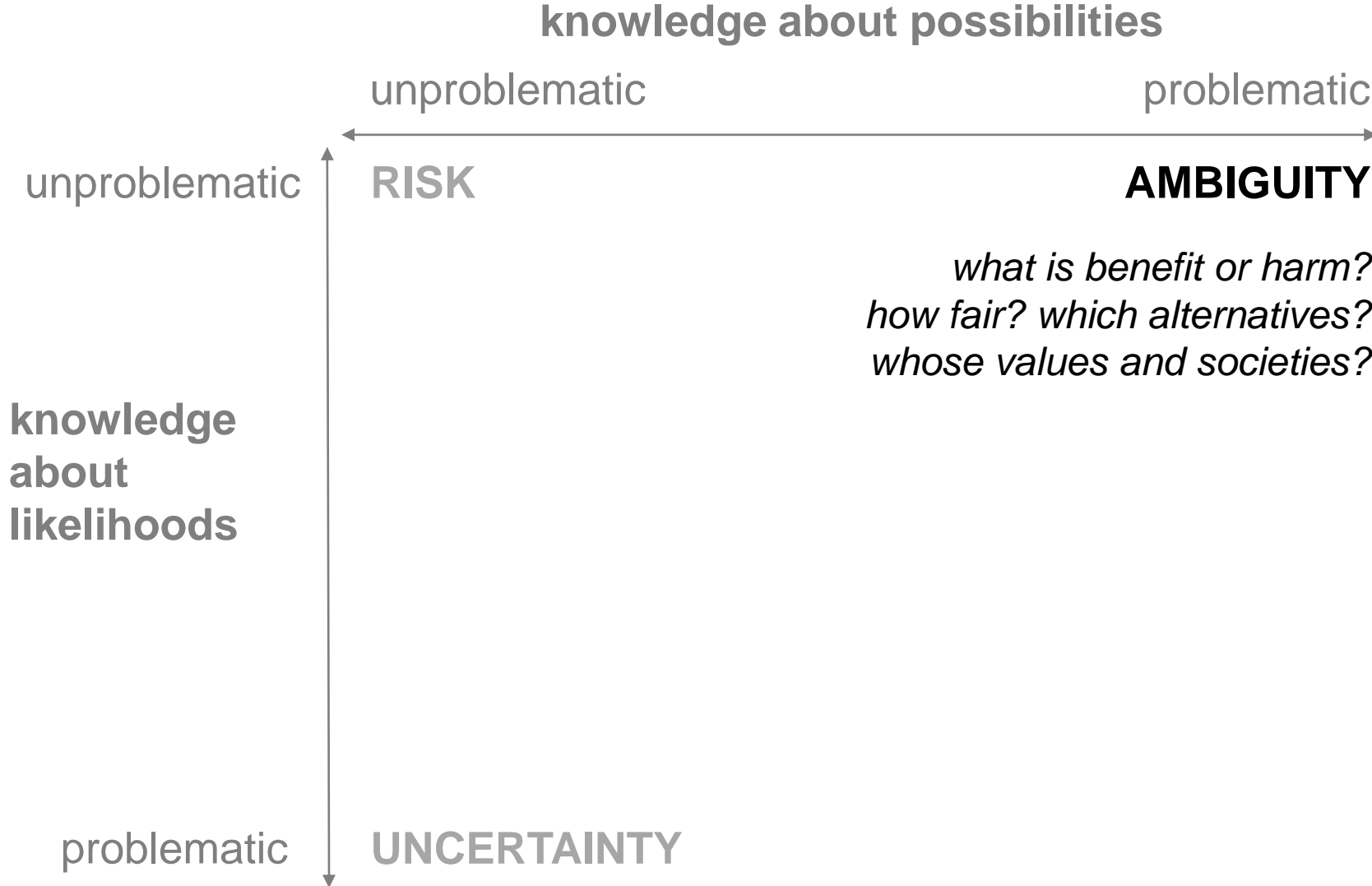
'science based decision' rhetorics conceal full scale of challenge



- Socrates, Lao Tzu, Knight, Keynes, Shackle, Collingridge, Dovers, Ravetz, Wynne ...

# Regulatory Appraisal Is Mainly for Justifying Policy

'science based decision' rhetorics conceal full scale of challenge

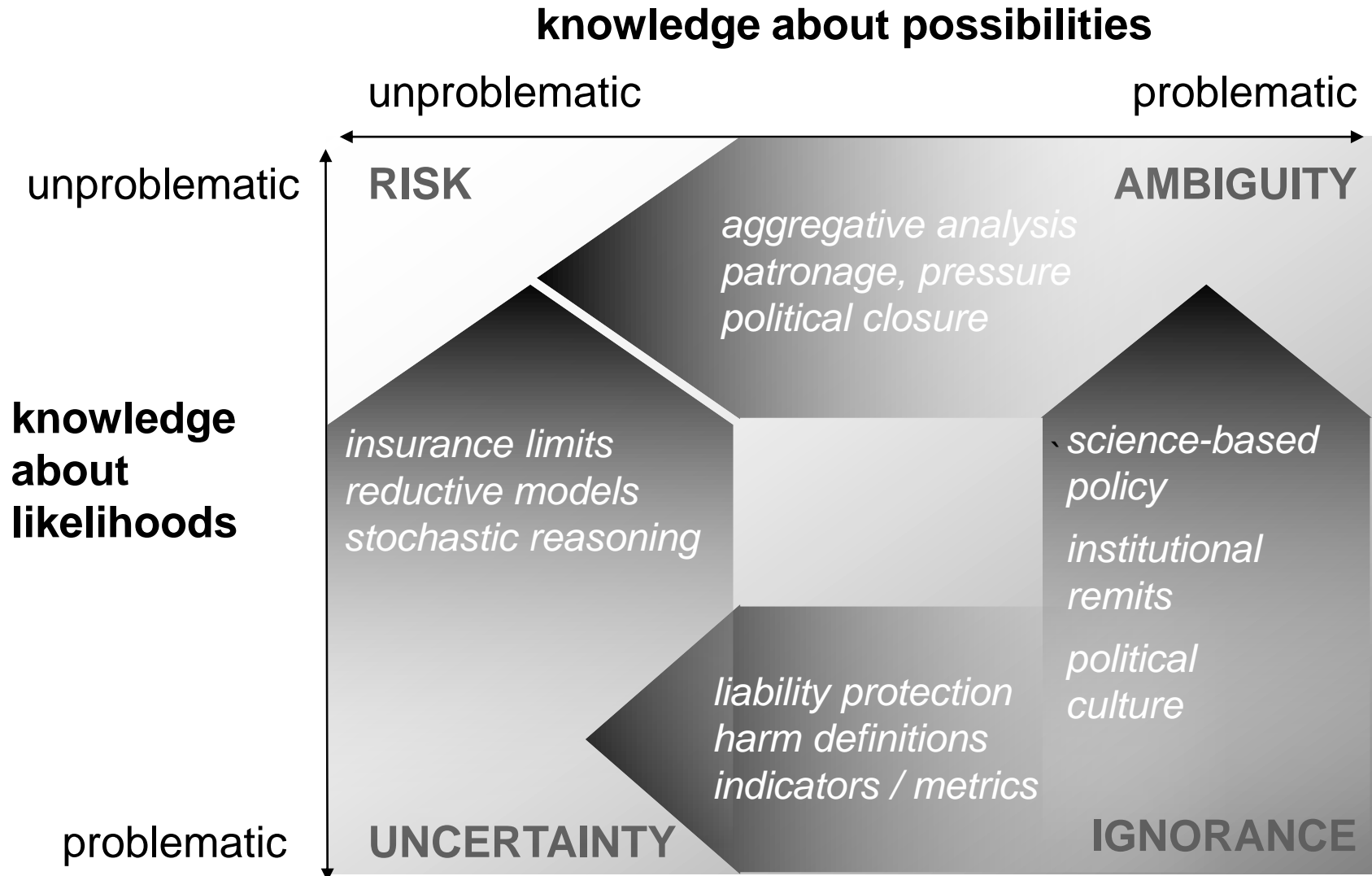


- Socrates, Lao Tzu, Knight, Keynes, Shackle, Collingridge, Dovers, Ravetz, Wynne ...



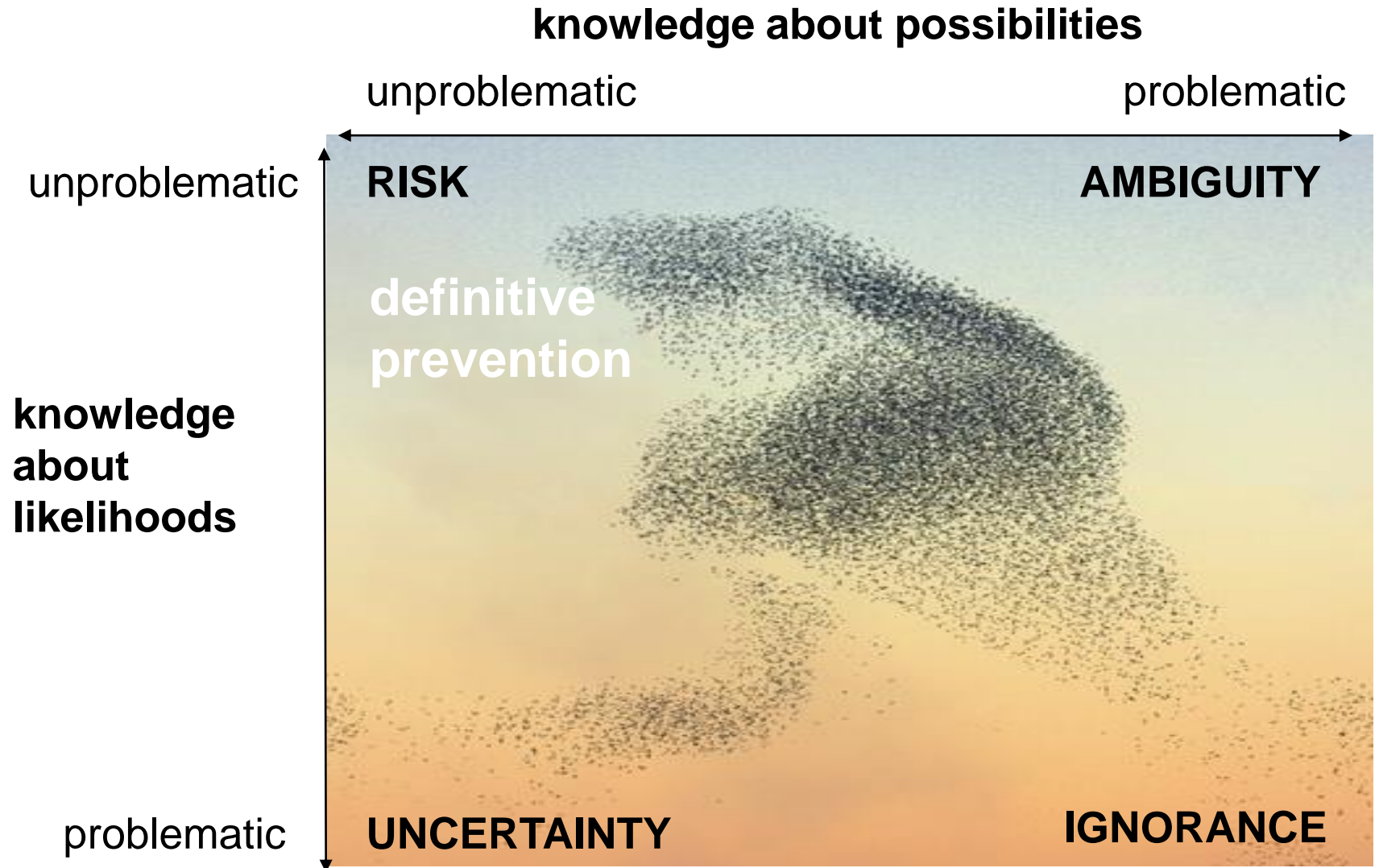
# Regulatory Appraisal Is Mainly for Justifying Policy

needs of power for justification drives many dynamics of closure



risk focus is shaped by power – Beck’s “organised irresponsibility”

# Democratic Governing Opens Up Politics of Choice

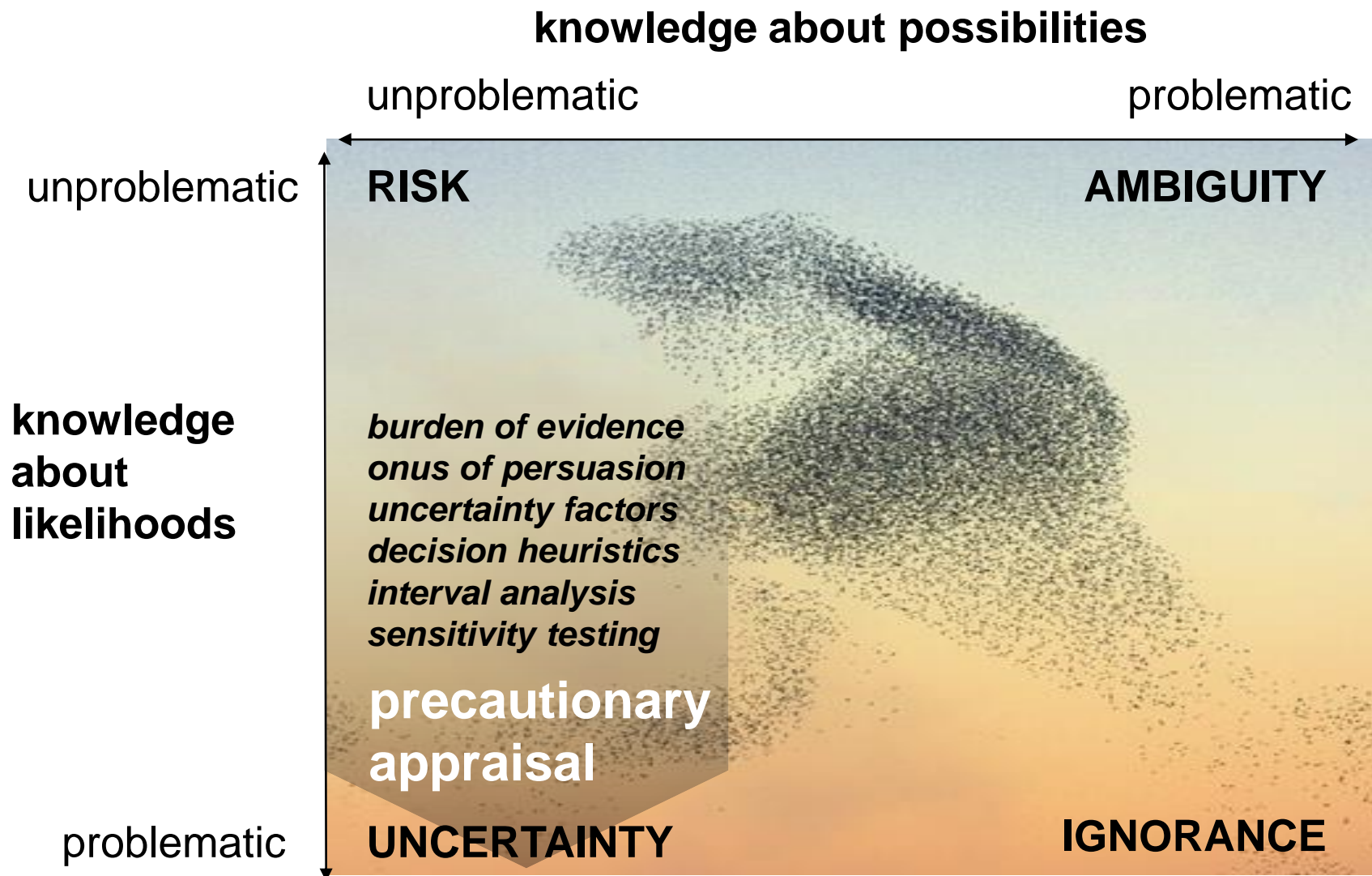


... collective action by civil society 'open up' space for appreciating incertitude



# There Are Plenty of Practical Concrete Methods

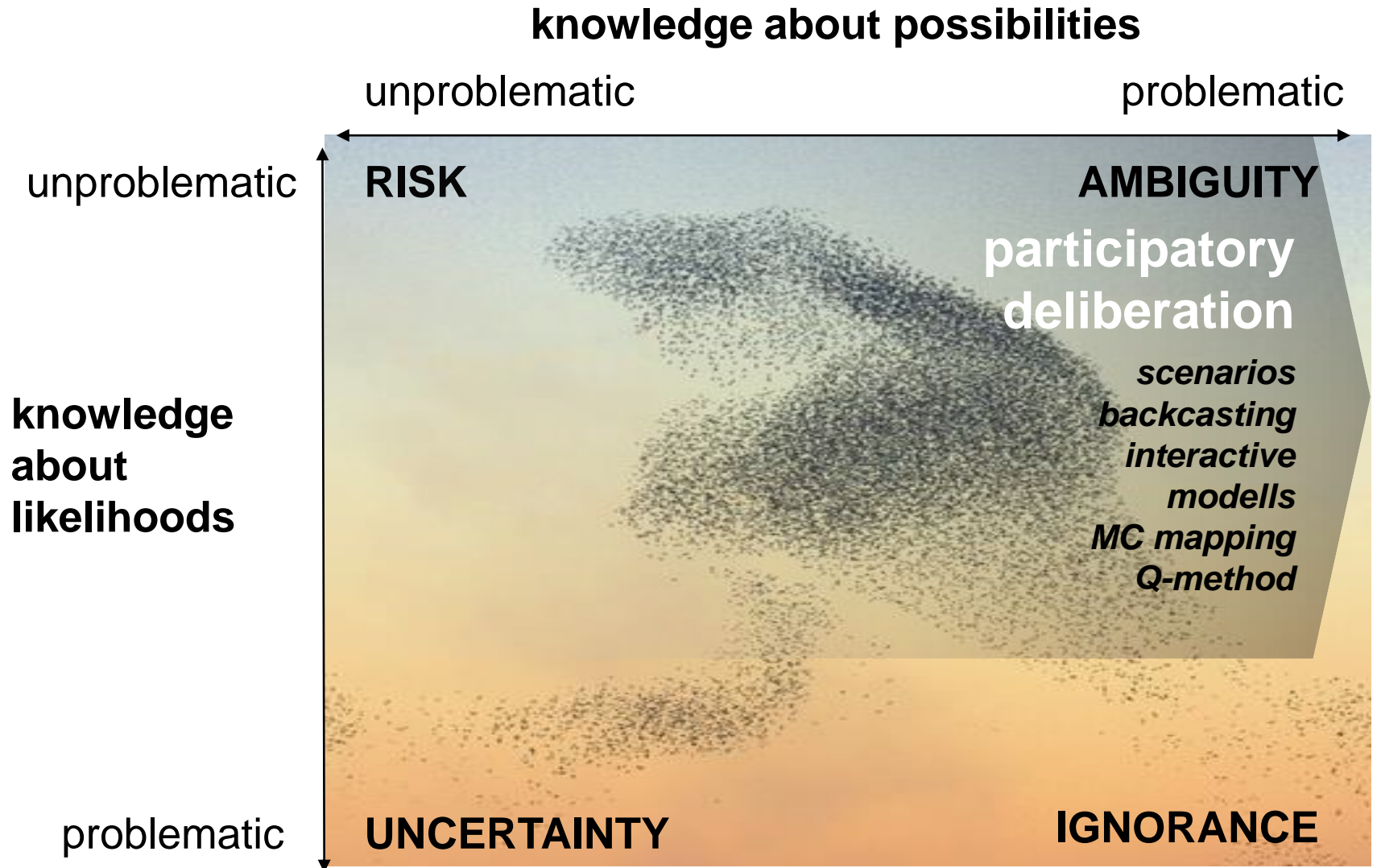
'plural conditional' methods acknowledge politics, explore choice



... collective action by civil society 'open up' space for appreciating incertitude

# There Are Plenty of Practical Concrete Methods

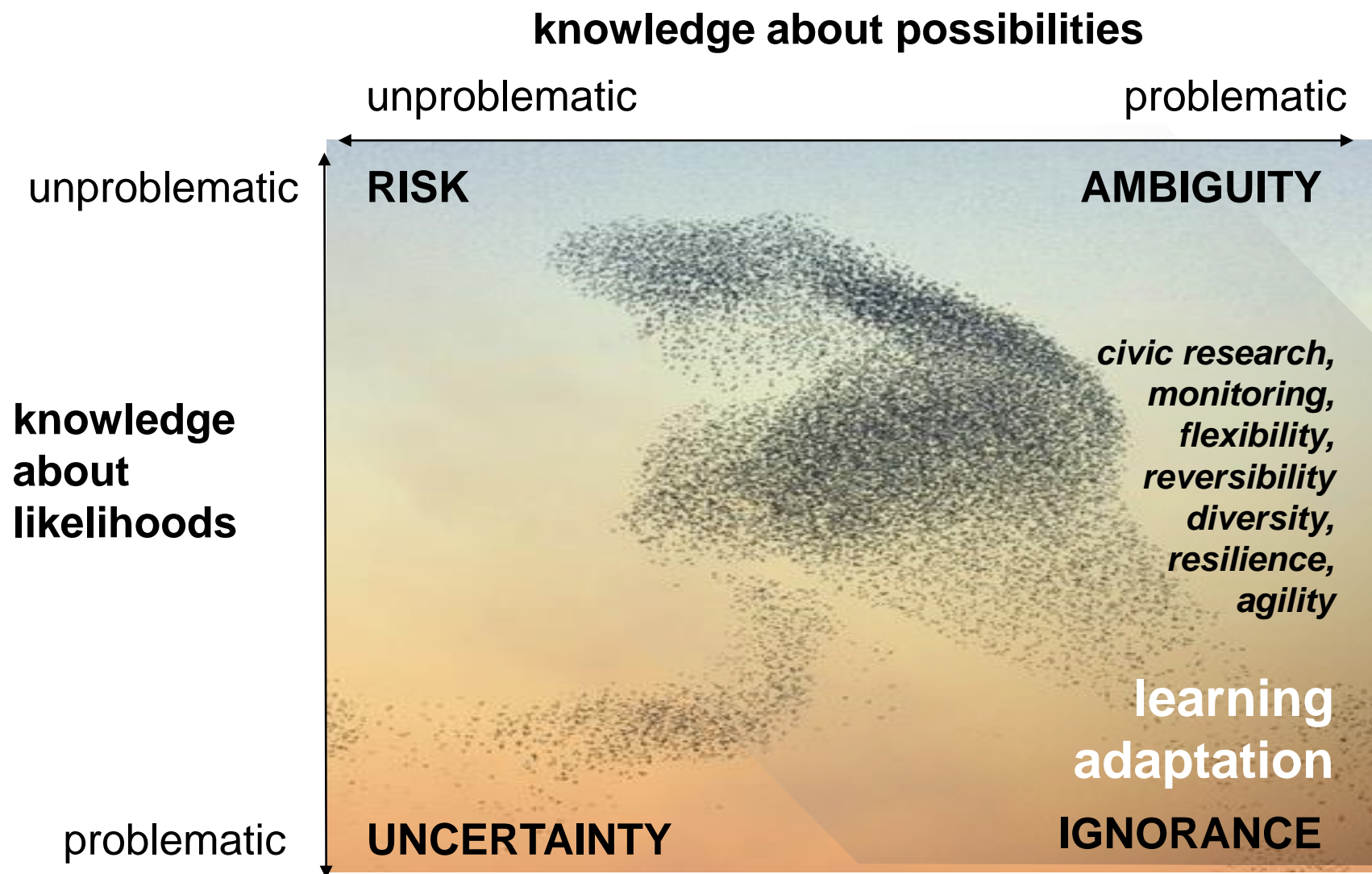
'plural conditional' methods acknowledge politics, explore choice



... collective action by civil society 'open up' space for appreciating incertitude

# There Are Plenty of Practical Concrete Methods

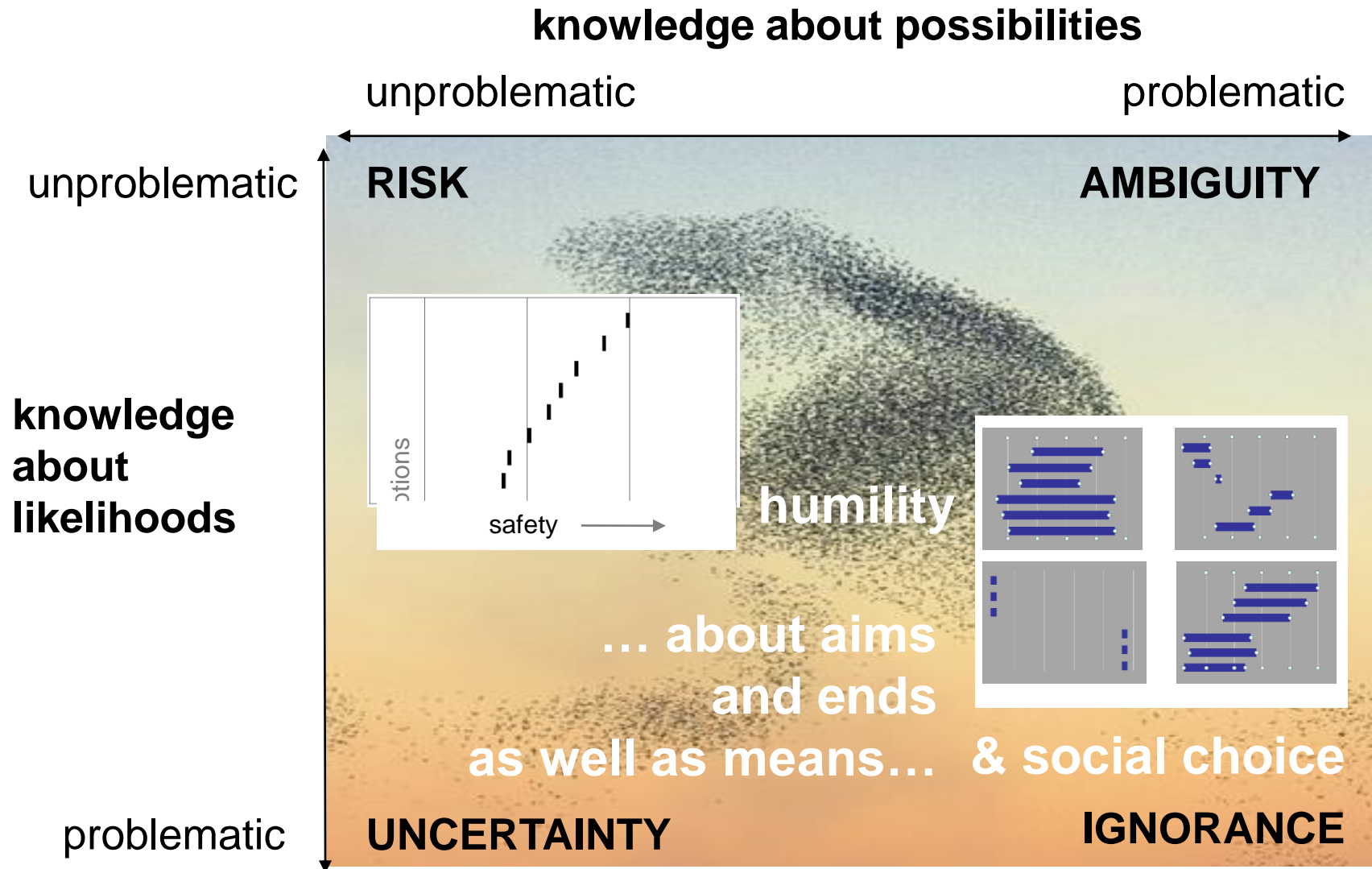
‘plural conditional’ methods acknowledge politics, explore choice



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

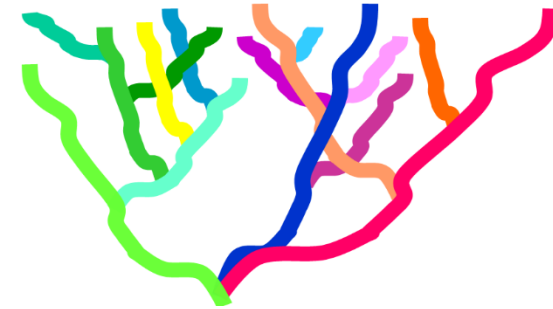
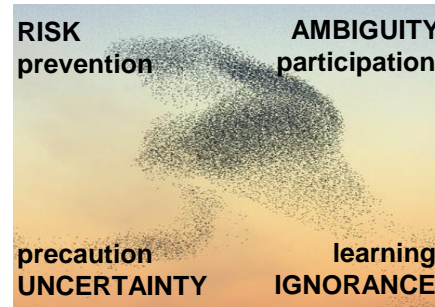
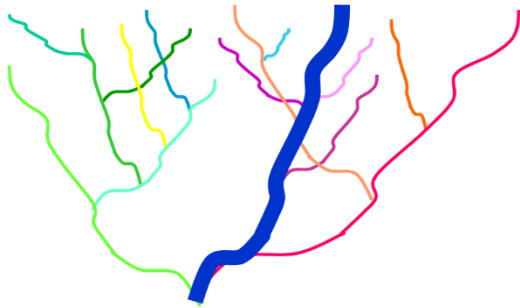
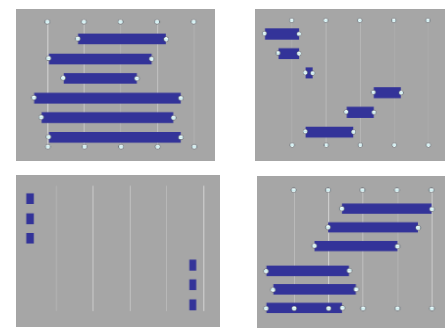
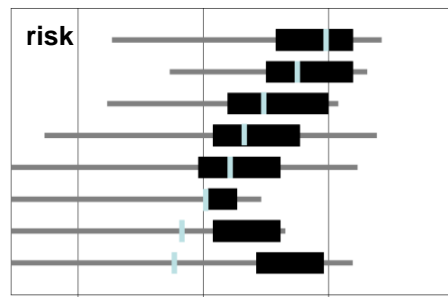
# There Are Plenty of Practical Concrete Methods

'plural conditional' methods acknowledge politics, explore choice



'opening up': options, issues, approaches, possibilities, perspectives

# Conclusions



- 1: innovation is more political than technical/managerial
- 2: key issues are about choice, not risk or speed
- 3: directions for progress are largely driven by power
- 4: risk assessment conceals radical ambiguities
- 5: regulatory appraisal is mainly about justifying policy
- 6: many practical methods to address, but little demand