

Societal Deliberation: **Formal and Informal** **Behaviours**

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System 1 and System 2 Thinking

- **System 1**
 - ‘intuition’ or ‘gut reaction’
 - superficial analysis/interpretation of the relevant information
 - based on much simpler forms of thinking on the fringes or outside of consciousness. ⇒ **FAST**
- **System 2**
 - conscious analytical thought
 - detailed evaluation of a broad range of information . ⇒ **SLOW**
 - often based on a rule that is assumed to provide the ‘correct’ answer or solution;
 - Note System 2 does not mean forgetting emotions and values.



What does this mean?

- In modelling and analysis
- In communicating
- In just about everything

... we need to communicate, discuss and analyse using System 2 thinking *but remember that our colleagues, our customers, our stakeholders, the public, etc. may – probably will – respond using System 1 thinking.*

Moreover, we are ourselves subject to System 1 thinking!

Prescriptive Decision Analysis

System 1: Descriptive Decision Studies

provide models of how people *do* make inferences and decisions

System 2: Normative Decision Theory

provide a model of how people *should* make inferences and decisions

Prescriptive Decision Analyses

seek to guide decision makers towards the ideals encoded by normative theories within the context of a real, often ill-defined problem, mindful of their cognitive characteristics

Prescriptive Decision Analysis

Edwards (1954) pointed to this tension between

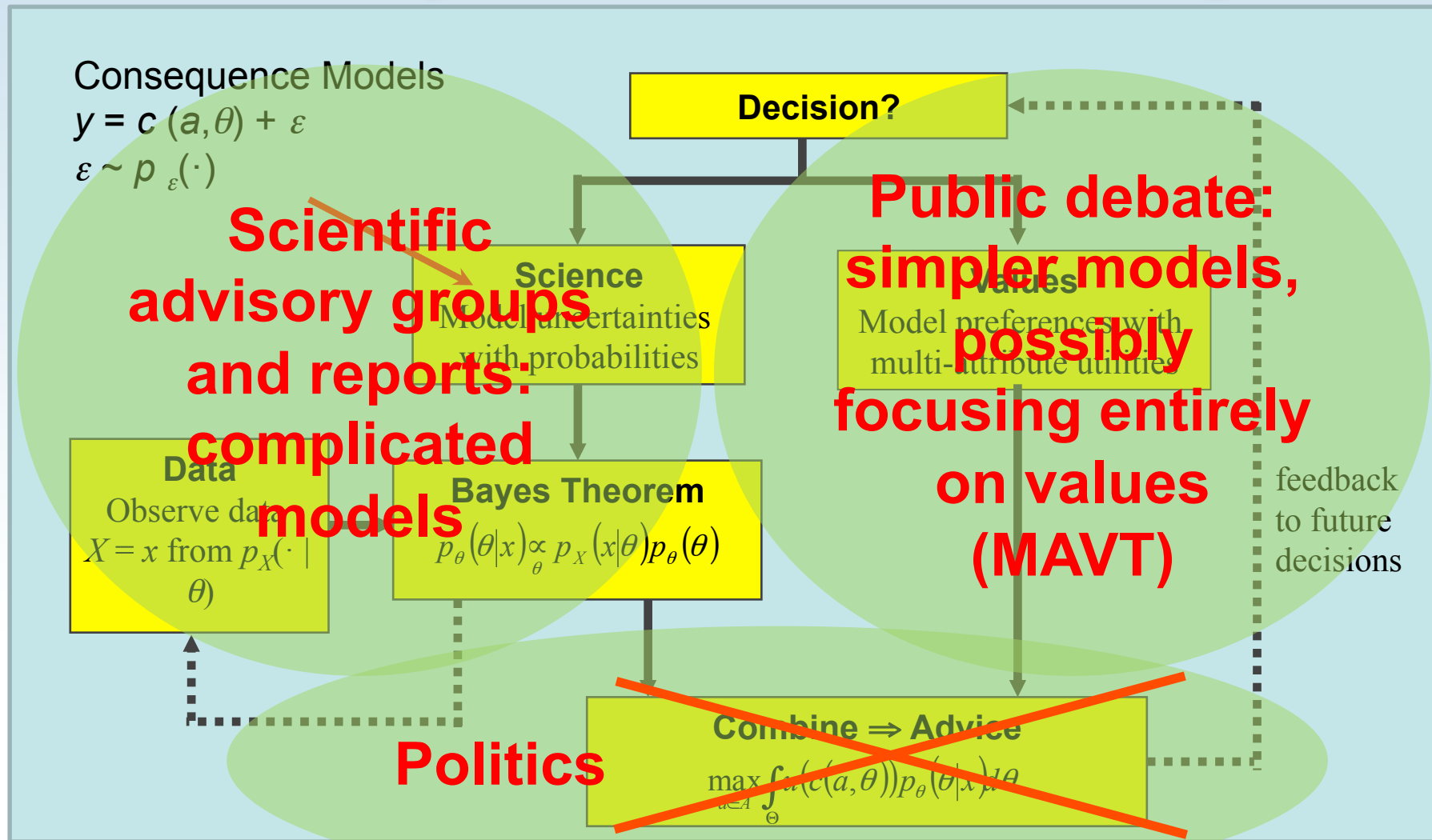
- behavioural decision making (System 1 thinking)
- normative decision theory (System 2 thinking).

Since then decision analysts have been building methods of

- structuring problems,
- eliciting judgements,
- exploring and communicating results

to build prescriptive analyses that support **individuals and small groups** of decision makers

The Bayesian DA Paradigm



Societal Deliberation

To support larger groups of decision makers and stakeholders

- larger than can meet and deliberate as a whole
- communities or society as a whole

We need to recognise a similar distinction:

- Societal System 1 Deliberation
- Societal System 2 Deliberation

Societal Deliberation

Societal System 1 Deliberation

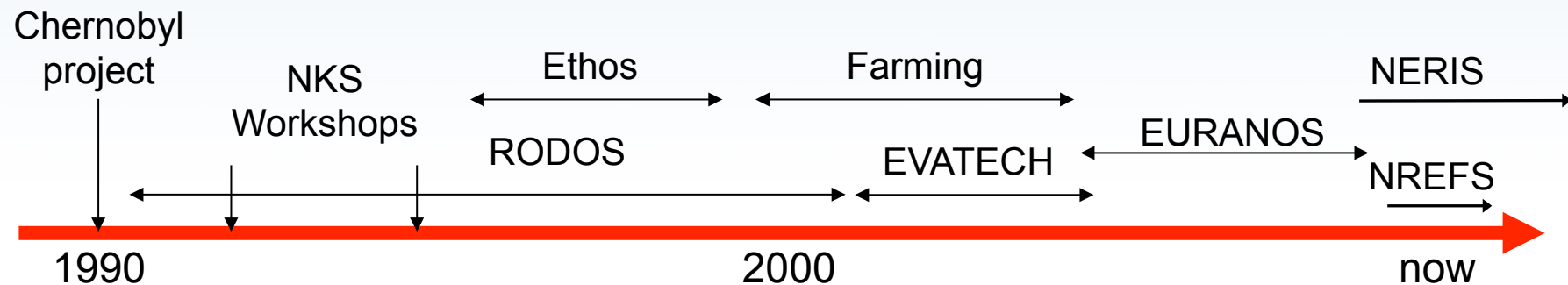
- Informal, *de facto working* of communities and society
- Twitter, side discussions, protest, media, etc.
- Social amplification of risk theory

Societal System 2 Deliberation

- Formal, *de Jure* governance
- Referendums, formal stakeholder consultation, representative government, etc.

NERIS and before

Our community has been leading in building approaches to bring Social System 1 and 2 Deliberation together in emergency planning and recovery



There is still much to do ...

- Need to build processes that draw the science into debate across whole communities
- We need to work at the formal governance so that it is logically consistent
 - Resilience and emergency procedures are not well rehearsed and tested in financially constrained communities
 - Current processes sometimes lean towards controlling informal deliberation rather than listening to it
- More technically we need consider equity vs uncertainty
 - How do you protect populations fairly and equitably when the risks to which they are exposed vary and are uncertain?

Our Challenge

Our community is leading in Europe

- certainly in the domain of emergency planning and response
- arguably in a much wider domain of societal decision making

We need to continue to develop methods of societal deliberation that recognise and use formal governance but are sensitive to informal deliberative behaviours in communities and society

Thank you

In all cases...

... and in subsequent proposals and studies, three broad criteria:

- Health including stress
- Cost
- Socio-Political Acceptability.

But what about

- Wider economic impact?
- Environmental impact?

and should **equity** be a criteria in some sense?

Culture

It is particularly important to understand the culture of:

- The decision makers
 - Regulators, government departments, etc.
 - Includes their (informal) responsibility, authority and accountability
- Their stakeholders
 - The public, operators, local and national communities
 - Recent socio-political history in relation to societal decisions

Decision Makers: Organisational/National Culture

In the 1960s Hofstede studied how organisations reacted to risk and took decisions across the world. He identified 5 dimensions that differentiated their behaviour:

- Power distance
- Masculinity vs Femininity
- Individualism vs Collectivism
- Uncertainty Avoidance vs Uncertainty Accommodation
- Long vs short term orientation

Much work since then has refined these, but one needs to be sensitive to inter- and intra-organisational cultures in developing decision analyses.

Stakeholders: Cultural Theory

Societies are not uniform:

Individualist/Entrepreneurs: risks present opportunity, save those that threaten freedom of choice and action within free markets.

Hierarchists: fear threats to social order and believe technological and environmental risks can be managed within set limits.

Fatalists: do not knowingly accept risks but accept what is in store for them.

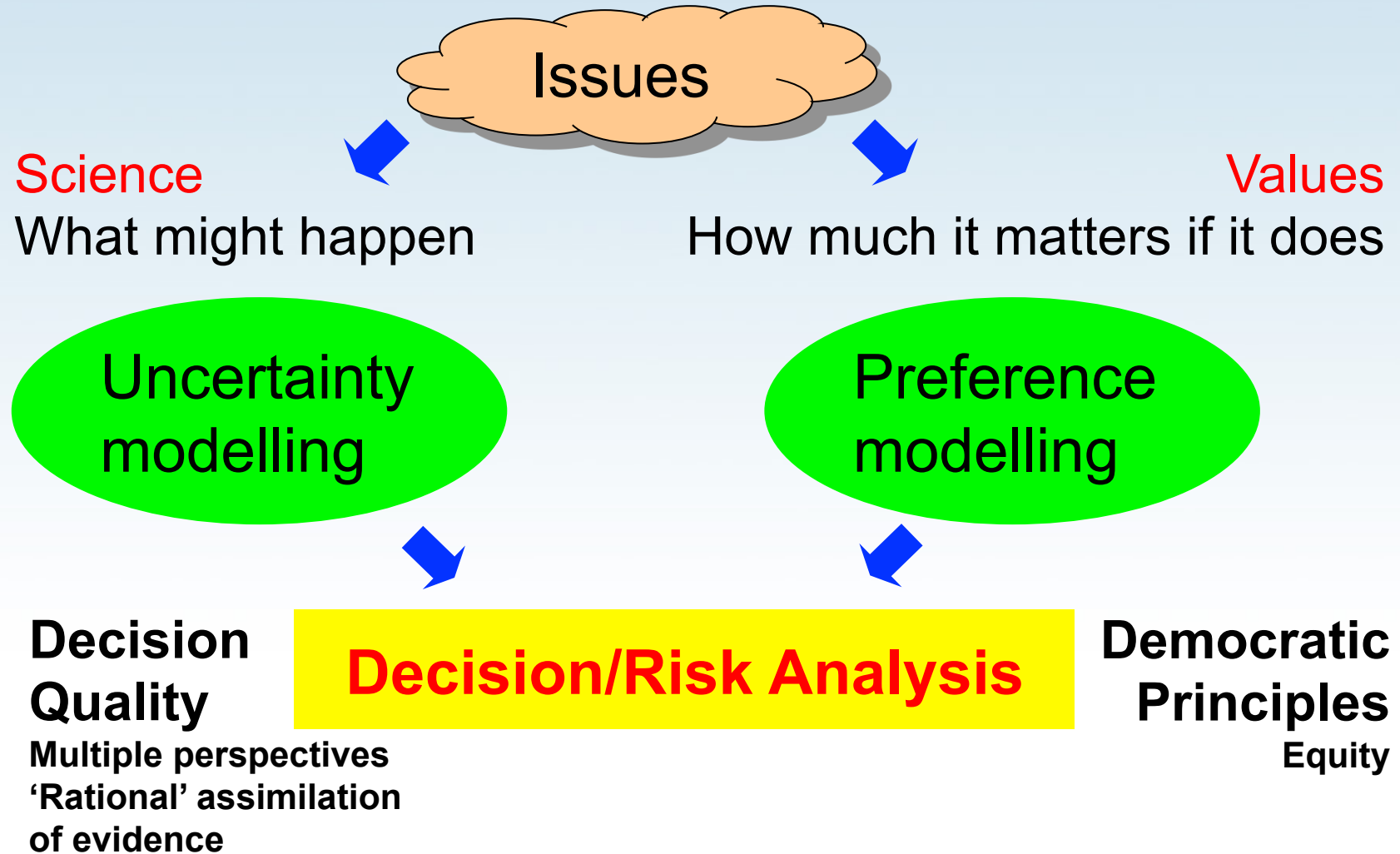
Egalitarians: fear risks to the environment, the collective good and future generations.

⇒ words such as **risk**, **impact**, **score**, ... are not neutral

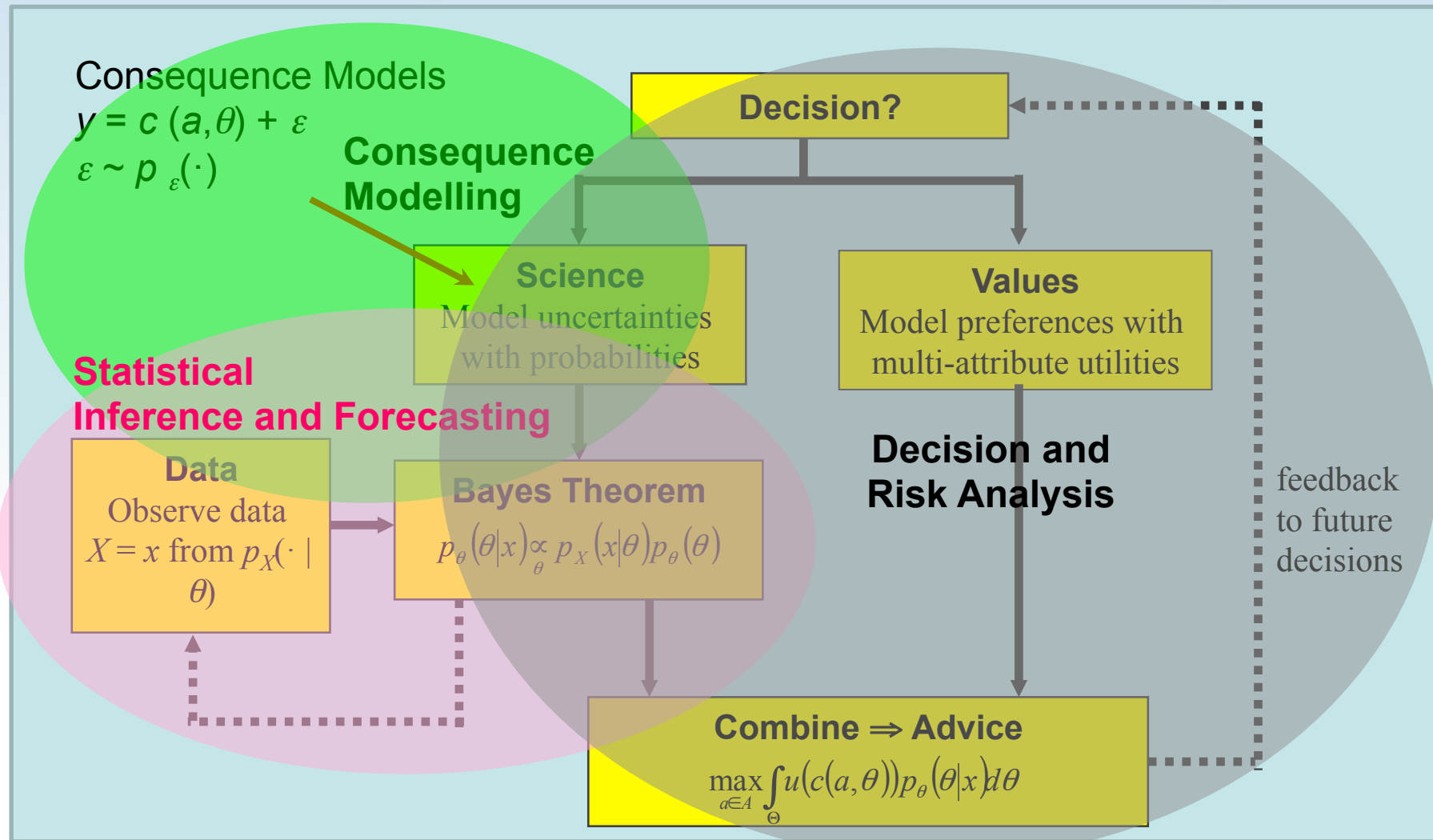
Science and Values

- Science – what might happen
 - seldom a single science view
 - subjective, controversy, debate
 - uncertainty
- Values – how much it matters if it does
 - subjective
 - often relate to intangibles
 - different stakeholder perspectives

Societal Decisions



The Bayesian DA Paradigm



The Bayesian DA Paradigm

