

"The Right to be Responsible"

Ethical reflections on risk assessment in post-nuclear accident situations.

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Ethical reflections on risk assessment in post-nuclear accident situations

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1 Ethical issues of concern in post-nuclear accident situations

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- The moral responsibility of those who are 'accountable' for the accident

towards society as a whole

- to acknowledge accountability and moral responsibility
- to take up responsibility for accident management
- to communicate in a fair and transparent way about the accident

towards the affected

- the priority of protection, restoration, compensation
- involvement of the affected in making sense of protection, restoration and compensation

- The question of who is accountable

- The possibility of a future-oriented fair method for (nuclear) energy governance in the aftermath of the accident

2 The idea of fair energy governance as a meaningful framework for post-nuclear accident ethics

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- Post-nuclear accident ethics need to be considered from the general ethical perspective on energy governance as such.
- The **question of accountability for the accident** and the **issue of responsibility in follow-up** cannot be meaningfully approached if isolated from the question of why and how **the factual possibility of the accident** was created in the first place.
- ↳ That last question of course refers to accountability with respect to the introduction of nuclear energy.
- The meaningful framework for post-nuclear accident ethics is therefore
- ↳ the framework of the ethics of justification of nuclear energy as such;
- ↳ which, in its turn needs to be considered within the framework of the ethics of energy governance.

Which of course does not mean that every post-nuclear accident aspect needs to be considered from the perspective of energy governance.

3 The idea of fair energy governance

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Energy governance is a 'complex social problem' with risk as its central concern



The challenge of global energy governance is ultimately complex.

Taking this complexity serious, the idea is that the traditional governing modes of international politics, representative democracy, the market and science are not longer able to grasp the complexity of this global challenge.

3 The idea of fair energy governance

What we can agree on: setting policy priorities right to minimise adverse impact on health and the environment now and in the future

1

Minimise energy consumption
(Maximise energy savings)

2

Develop and use renewables
in a deliberate and participatory approach

3

Confront nuclear and fossil fuels in a **deliberative risk governance approach** that enables/enforces **fairness** in the way we make sense of the **promises of capacities** and the **acceptability of risks** of energy technologies

3 The idea of fair energy governance

Fairness articulated as the ethical principles of energy governance

- set priorities for **minimising adverse impact** on health and the environment now and in the future:
 - 1 – minimise energy consumption
 - 2 – prioritise renewables
 - 3 – fill the gap with a deliberate use of nuclear and/or fossil fuels**general principles** **precaution, protection, participation, accountability**
 - foster a politics of **cooperation** on local and global scale (among communities, regions & nation states)
general principles **the 'global commons', burden sharing**
 - ensure **affordable access** to energy **for all**, for this and next generations, respecting local contexts and needs
general principles **inclusion, equality, accountability**
 - ensure **transparency** of markets, enforced by regulation
general principles **accountability, corporate social responsibility**
- available technologies
- (promising) capacities:**
- availability (resources)
 - availability (technology)
 - flexibility, efficiency
 - reasonable cost
- (acceptable) risk:**
- potential harm to health and the environment
 - (- potential misuse)
- There is no rational link between the ethical principles of energy governance and the criteria for available energy technologies to meet or respect these principles.
- Therefore → **fairness also relates to technology assessment**, or thus to the way we make sense of **the promises of capacities** and **the acceptability of risks**, of energy technologies

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4 Dealing with risk: between knowledge and fairness

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What is an 'acceptable risk'?

2012
Interdisciplinary
Study

Synthesis
Report

Topical socio-economic reports / expert viewpoints

[...]

"Risk governance:

What is an acceptable level of (nuclear) risk for the public at large?"

my answer:

There exists no objective (scientific, economic, social, political or philosophical) rationale for the determination of the acceptable level of nuclear risk for the public at large.

An acceptable nuclear risk is simply a risk that an informed democratic society justifies as acceptable.

Benefits and
Limitations of

Nuclear Fission
for a **Low-Carbon**
Economy



<http://www.eesc.europa.eu/?i=portal.en.events-and-activities-symposium-on-nuclear-fission-papers>

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4 Dealing with risk: between knowledge and fairness

What is an 'acceptable risk'?

- risk justification

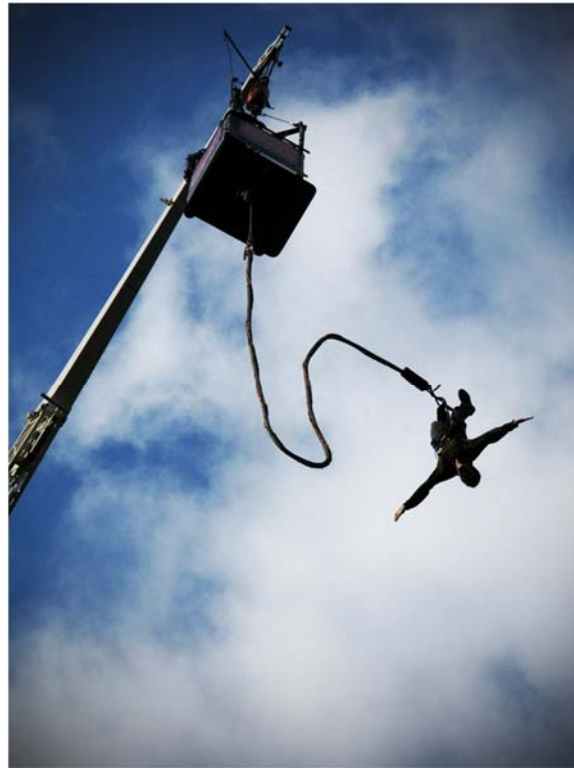


- Technocracy is still among us

it may have good intentions,
it doesn't rule as such,
but it functions at the service of politics.

4 Dealing with risk: between knowledge and fairness
What is an 'acceptable risk'?

do we need **calculation**
to support **informed consent**?



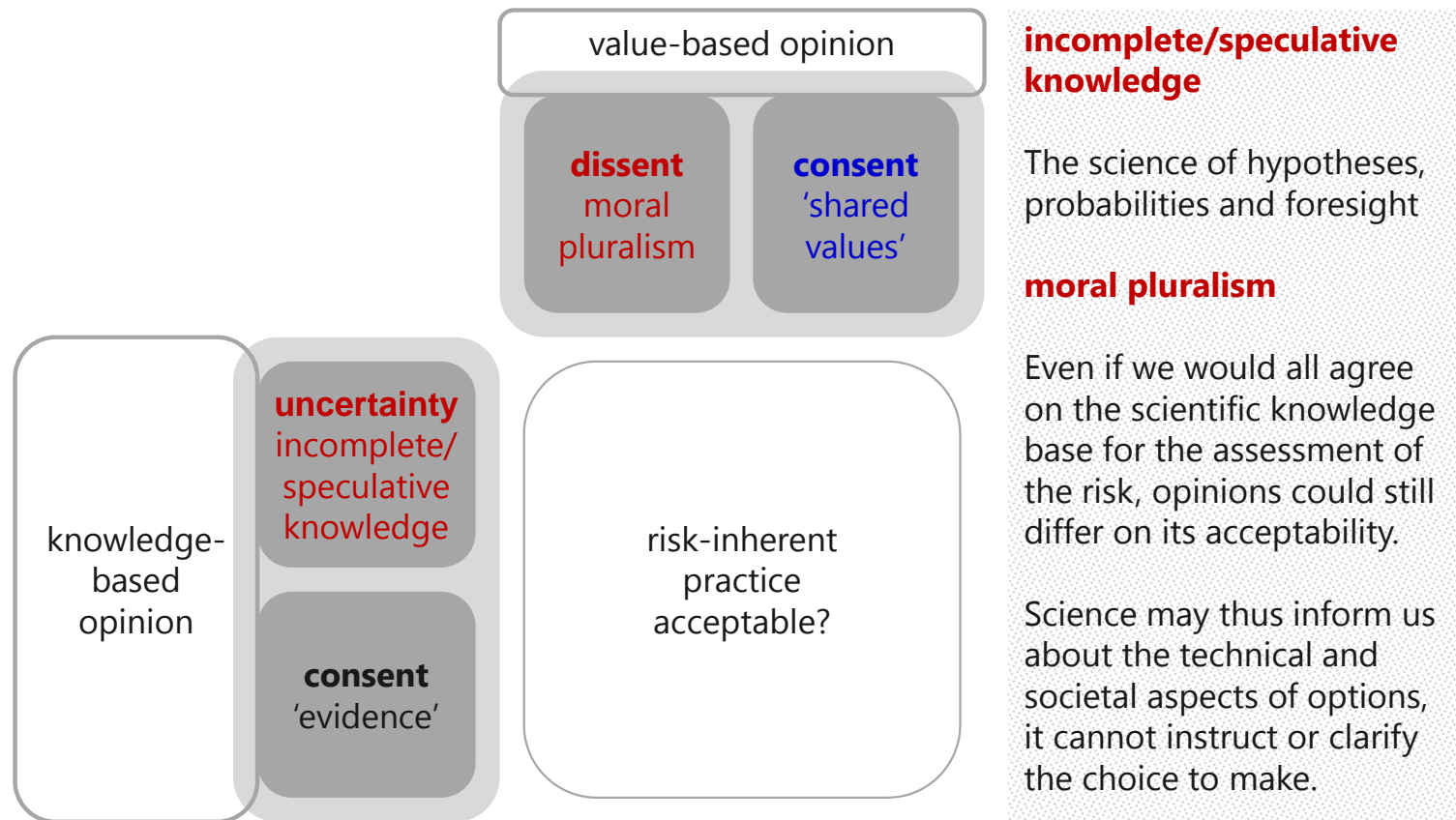
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4 Dealing with risk: between knowledge and fairness

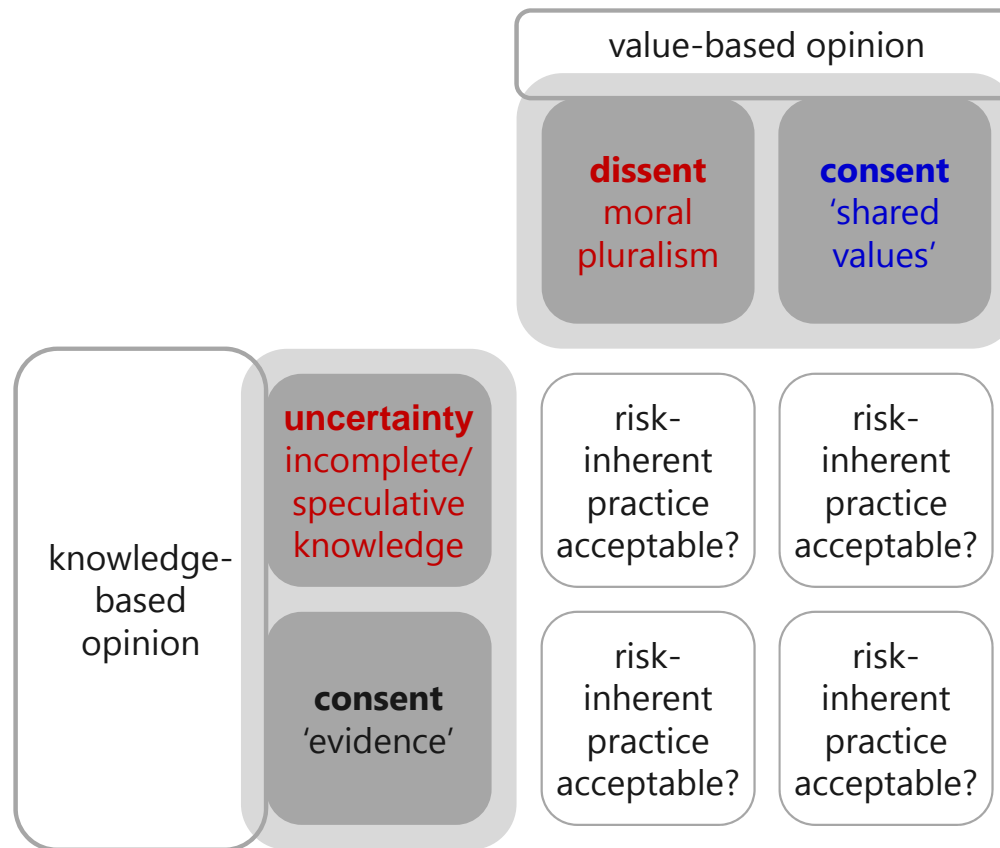
Key concepts of fairness for risk justification – the idea of intellectual solidarity



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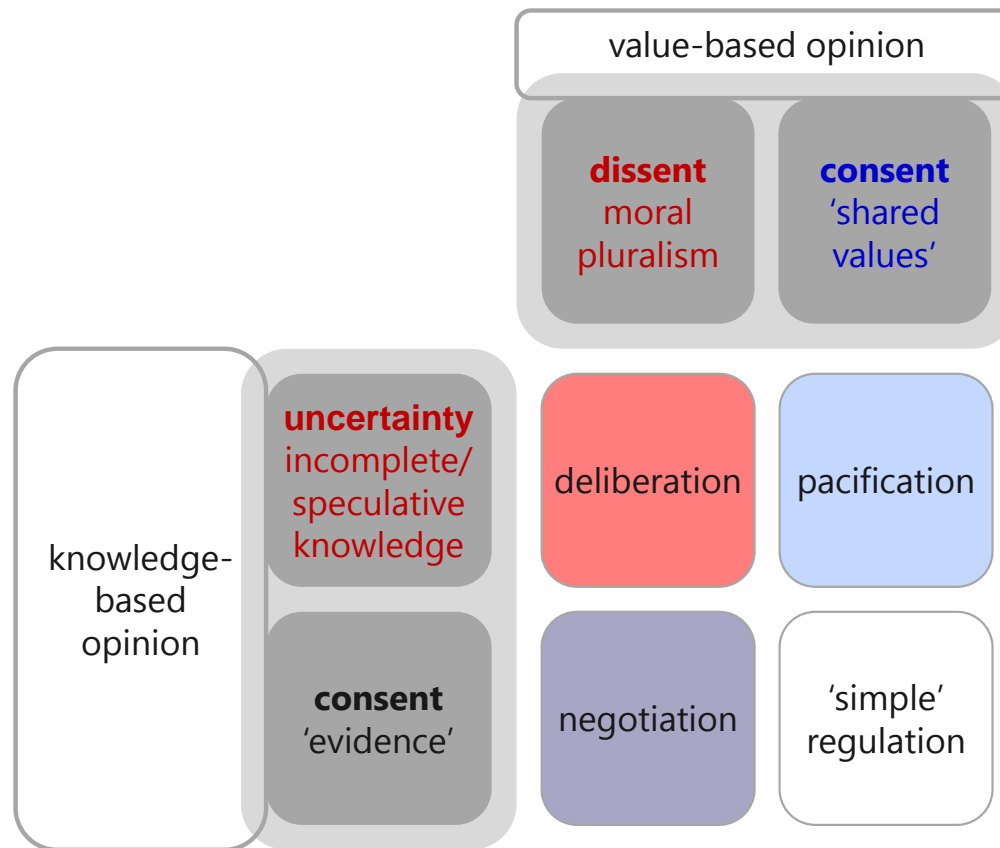
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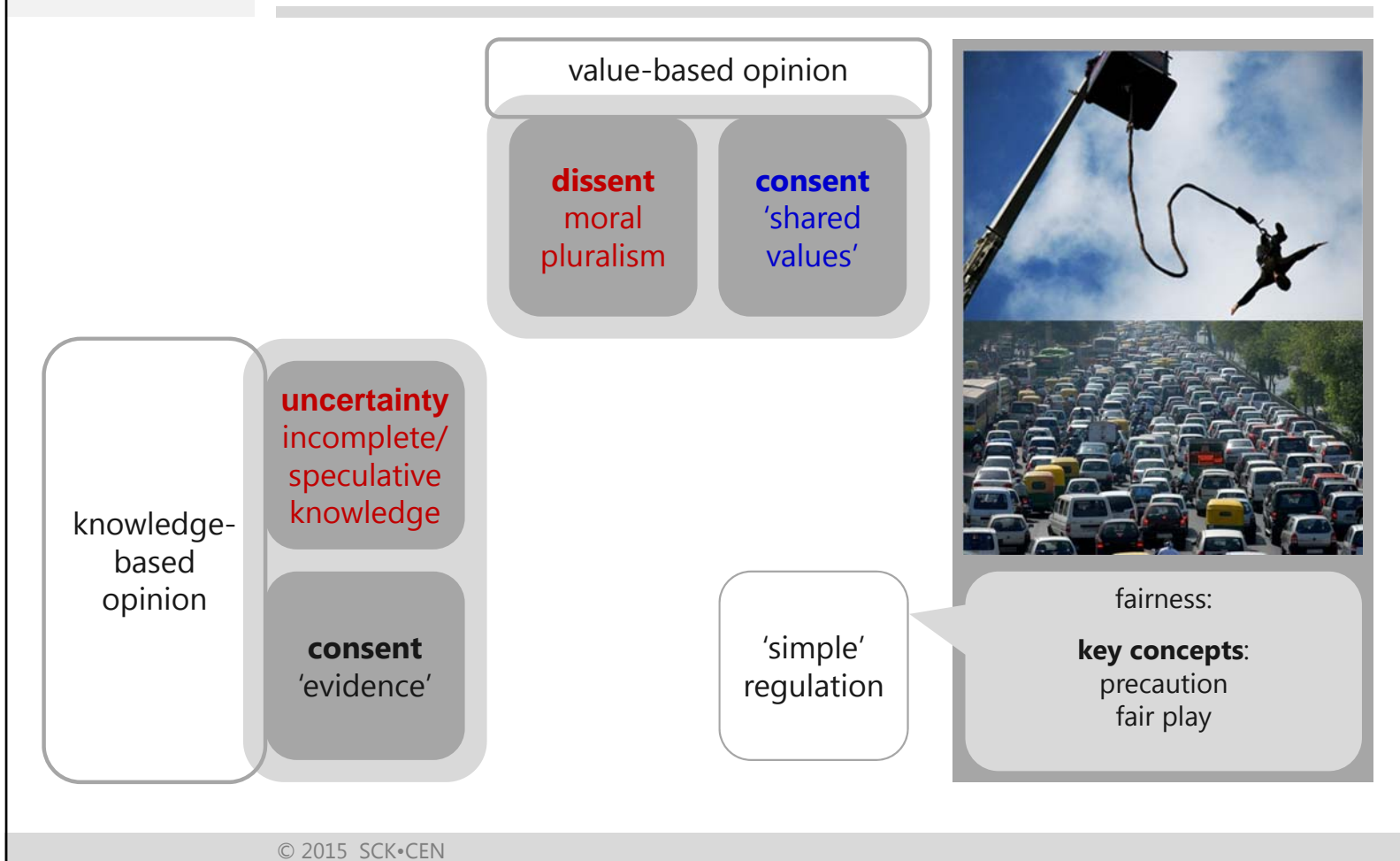
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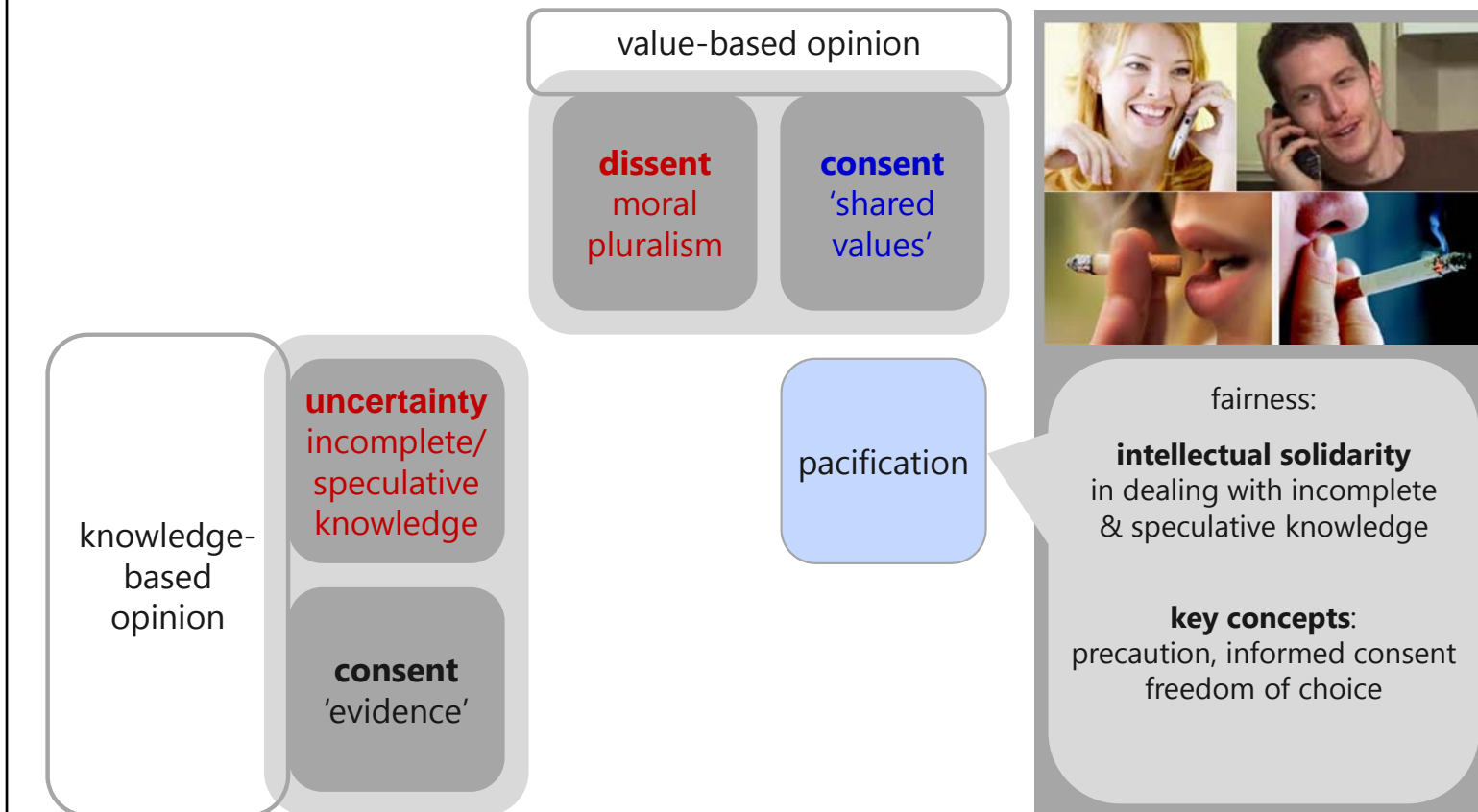
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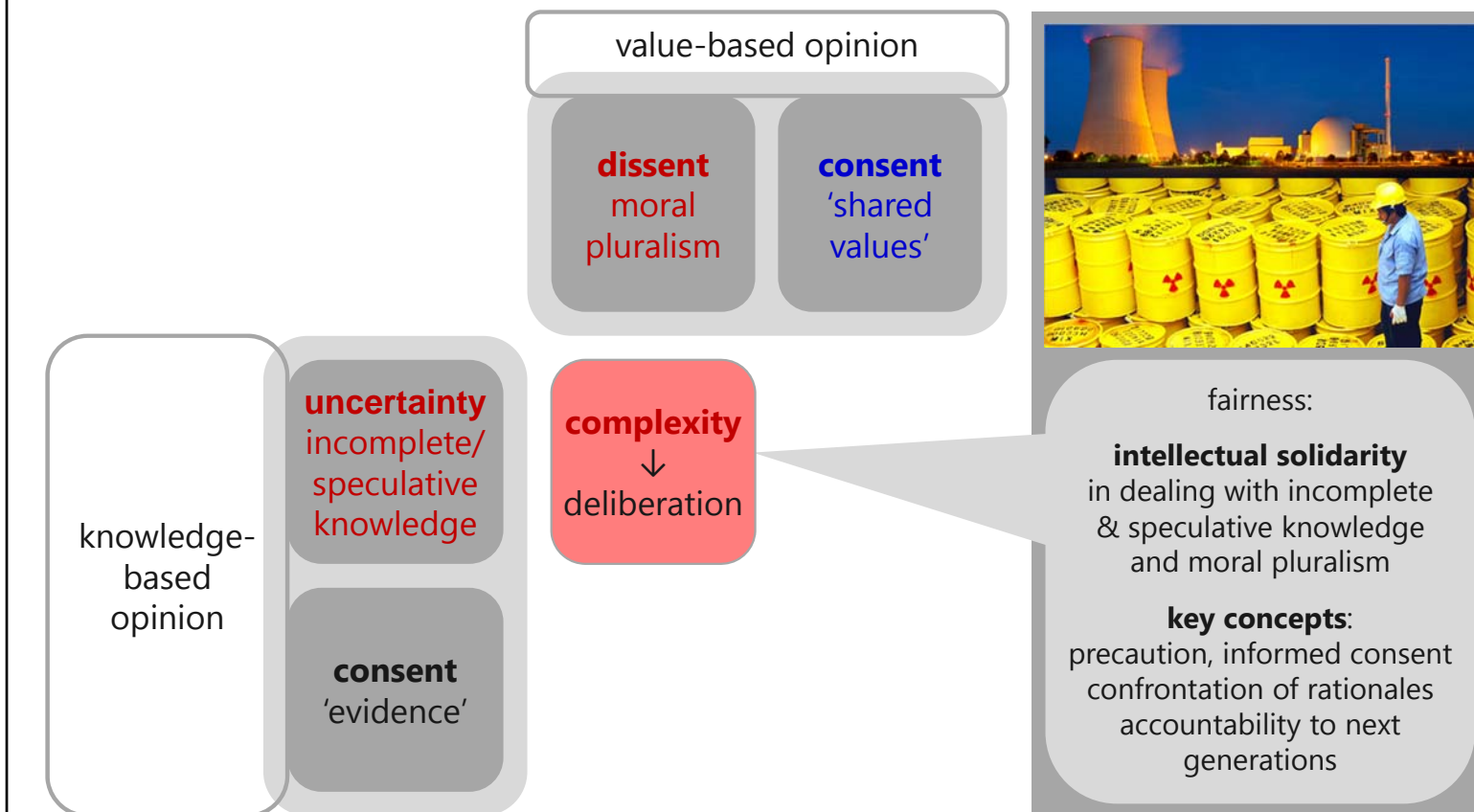
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4 Dealing with risk: between knowledge and fairness

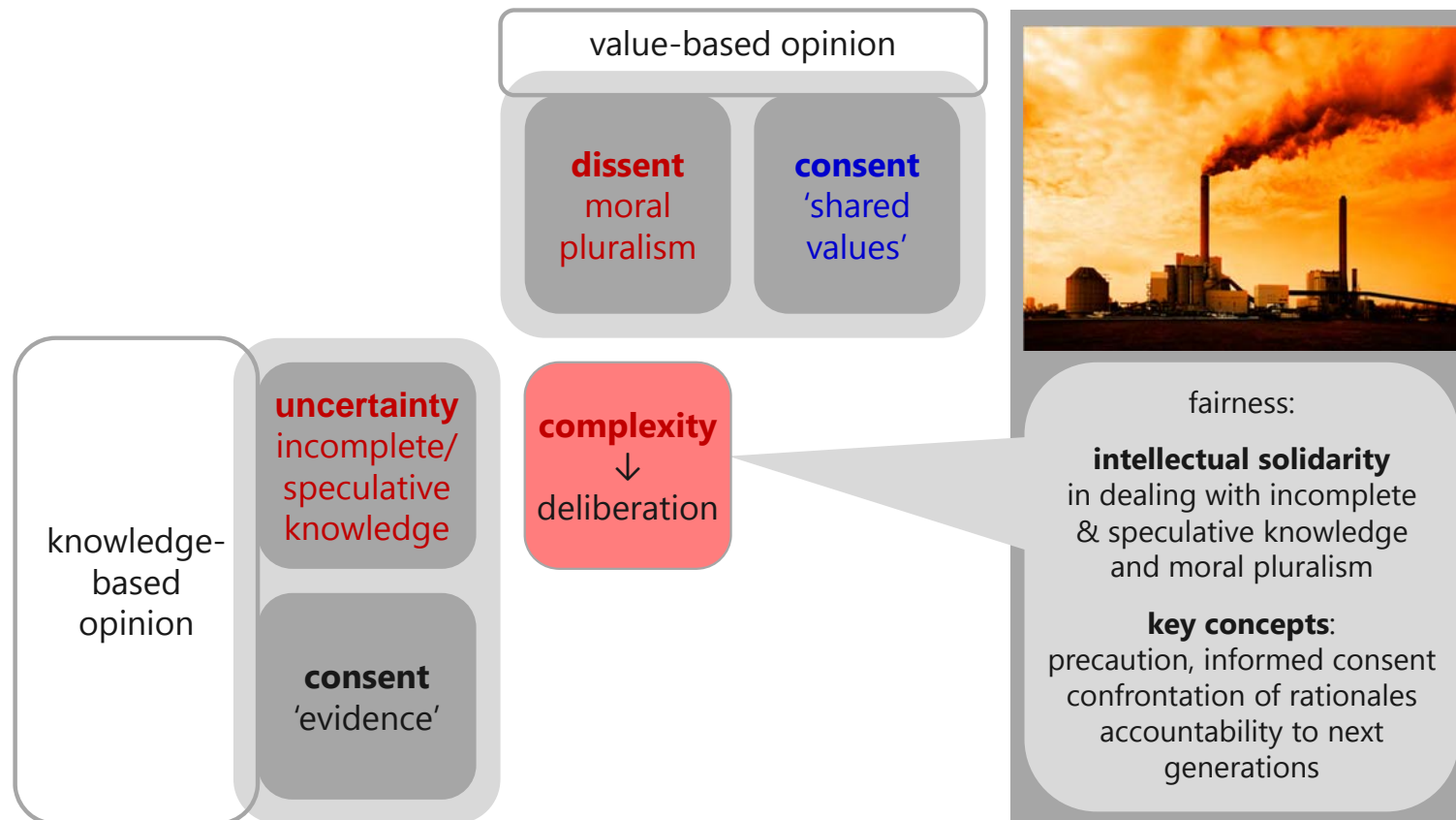
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4 Dealing with risk: between knowledge and fairness

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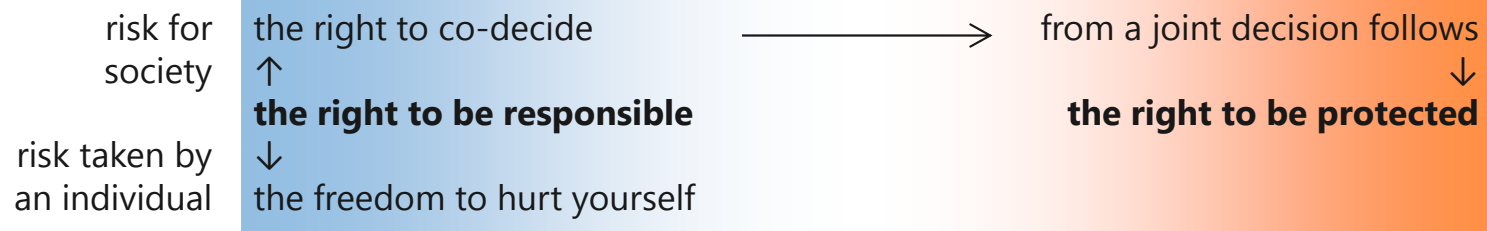
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4 Dealing with risk: between knowledge and fairness

The assessment of what is an acceptable risk for society is not a matter of science; it is a matter of justice

- A risk is not a mathematical formula; it is a potential harm that
 - you cannot completely know and
 - you cannot fully control
- Acceptable risk?
People will accept a risk they cannot completely know and that they cannot fully control simply when they **trust** that its justification is **marked by fairness**.

Fairness: the **possibility of self-determination** ensured by 'the right to be responsible'



- For a collective risk, 'the right to be responsible' = 'the right to co-decide'
Enabling this right is a principle of justice

5 An ethics of method for (radiological) risk assessment

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Fair and effective risk assessment: seeking trust by method instead of proof

- No scientific, societal, cultural or political authority can determine alone what would be an acceptable nuclear risk.
- Good science and engineering, open and transparent communication and the 'promises' of a responsible safety and security culture are necessary conditions but can never generate societal trust in themselves.

The reason is that there will always be essential factors beyond full control: nature, time, human error, misuse of technology

Which implies that one always has to deal with **incomplete and speculative knowledge** and **value pluralism**

- Fair risk governance is risk governance **of which the method of knowledge generation and decision making is trusted as fair** by society
- When the method of risk governance is **trusted as fair** by society, that risk governance **has also the potential to be effective**, as the decision making will be trusted as fair also with those who would have preferred another outcome (the 'democracy principle')

5 An ethics of method for (radiological) risk assessment
Trust by method implies responsibilities for everyone concerned

→ **reflexivity** as an **ethical attitude** (an **ethical 'experience'**)
with respect to the own position, interests, hopes, hypotheses, believes and concerns, and this in any formal role or social position (as scientist, politician, manager, mandatory, medical doctor, citizen, civil society representative, activist, citizen).

- ⌞ this attitude of reflexivity can then enable a sense for **intellectual solidarity as a joint ethical commitment**, or thus the joint preparedness to
- organise **intellectual confrontation** with respect to the ratio's we use
 - to defend our interests, hopes, hypotheses, believes and concerns
 - to relativise our uncertainties and doubts;
 - organise '**intellectual emancipation**' (and thus **ensure intellectual capacity**) with the aim to provide every human being with the possibility to develop a (self-)critical sense and to be a (self-)critical actor in society;
- in practice inclusive democratic deliberation as a collective learning process
transdisciplinarity and inclusion in research to construct credible hypotheses
plurality and the focus on critical contextual thinking in education
- balance care for and 'the right to be responsible' of the next generations.

5 An ethics of method for (radiological) risk assessment
Reflexivity and intellectual solidarity to give ethical values a practical meaning

- There is a **need for a 'performative' understanding of ethics** in order to give ethical values or virtues a practical meaning in a socio-political context:

↳ For every concerned actor, being it the scientist, politician, manager, mandatory, medical doctor, civil society representative, citizen, ...

'caring for' and 'balancing' the values of dignity, equity, autonomy, beneficence, non-maleficence, justice, prudence, precaution, transparency, accountability, honesty, truthfulness, empathy ...

only receive practical meaning by enabling

- reflexivity as an **ethical experience**
- intellectual solidarity as a **joint ethical commitment**.

in education, scientific research and political decision making

- I propose this perspective to the ICRP to inspire its care for the ethical dimensions of the radiological protection system in theory and practice.

6 Societal trust: the challenge for science in radiological risk assessment

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The production of credible hypotheses

- Confronted with the need to deal with incomplete and speculative knowledge and value pluralism, **the challenge of science** in risk governance is not the production of credible proofs, it **is the production of credible hypotheses**.
- ↳ The challenge is there as well
 - with respect to the issue of justification of risk-inherent energy technologies in energy governance
 - as with respect to issues of protection, restoration and compensation in crisis situations.
- In the general interest of rendering hypotheses with credibility and following the principle of 'trust by method instead of proof' in risk governance,

science has no choice but **to involve civil society in general and the (potentially) affected in particular** in producing their hypotheses

6 Societal trust: the challenge for science in radiological risk assessment

Post-nuclear accident situations in need of intellectual solidarity – Fukushima

The issue of the so-called '100 mSv threshold' is an issue in urgent need of formal public intellectual confrontation between all responsible and concerned parties.

Who shall take the initiative to launch and organise it?

6 Societal trust: the challenge for science in radiological risk assessment
Post-nuclear accident situations in need of intellectual solidarity – Chernobyl



[World Press photo 2006]

Chernobyl is a disaster in many respects, but the hereditary link between microcephaly and radiation (microcephaly as a genetic effect) cannot be proven

<http://www.greenpeace.org/international/press/releases/greenpeace-wins-world-press-ph>

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7 Conclusion: enabling 'the right to be responsible' in risk governance

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The general case or (radiological) risk assessment

- The assessment of what is an acceptable collective risk is not a matter of science; it is a matter of justice.
- Fair risk governance is risk governance of which the method of knowledge generation and decision making is trusted as fair by society.
- Trust in the method of risk governance implies and can be generated with reflexivity as an ethical attitude and intellectual solidarity as a joint ethical commitment.
- ↳ - inclusive democratic deliberation as a collective learning process
- transdisciplinarity and inclusion in research to construct credible hypotheses
- plurality and the focus on critical contextual thinking in education

are not only required as a principle of justice in risk governance, but also have the potential to generate societal trust around any decision (acceptance or rejection) on the use of nuclear technology.
- Today, we don't live in a world inspired by intellectual solidarity, but we have the capacity to put it into practice and foster it.

7 Conclusion: enabling 'the right to be responsible' in risk governance

The Fukushima post-nuclear accident situation

- Also in post-accident conditions, radiological risk assessment remains to be complicated by knowledge-related uncertainty and value pluralism.
- Also in post-accident conditions, fair risk governance is risk governance of which the method of knowledge generation and decision making is trusted as fair by society.
- Enabling 'the right to be responsible' of the affected in making sense of protection, restoration and compensation is a principle of justice.

But inclusive post-accident policies and measures in the interest of protection, restoration and compensation always need to take into account that there was no care for 'trust by method' or thus no intellectual solidarity with the introduction of nuclear in the first place.

- The possibility of a future-oriented fair method for energy governance in the aftermath of the accident is neglected by the Japanese authorities.

It is not too late to involve the general public and those affected by the Fukushima accident in deliberation on a possible restart of nuclear energy production.