

# The phenomenology of environmental health risk

Vulnerability to modern technological  
risk, alienation, and risk politics

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# content

- PART I: vulnerability to risk
  - environmental health risk: social and subjective aspects
  - vulnerability to environmental health risk: vulnerability cultures and transformations
- PART II: risk alienation
  - environmental risk as modern risk
  - experiential distance





Part I

# **VULNERABILITY TO (ENVIRONMENTAL) RISK**

# ethnographical research on responses to Fukushima





# ethnographical research on responses to Fukushima

- poor risk communication, distrust towards government (Figuerola 2013)
- civic radiation monitoring map: amateurs measure radiation, mistrust in official institutions (Morita et al 2013)
- protests against nuclear society: people wanted fairer society, alternative ways of life (Ogawa 2013), protests as new social movement (Niggemeier 2012)

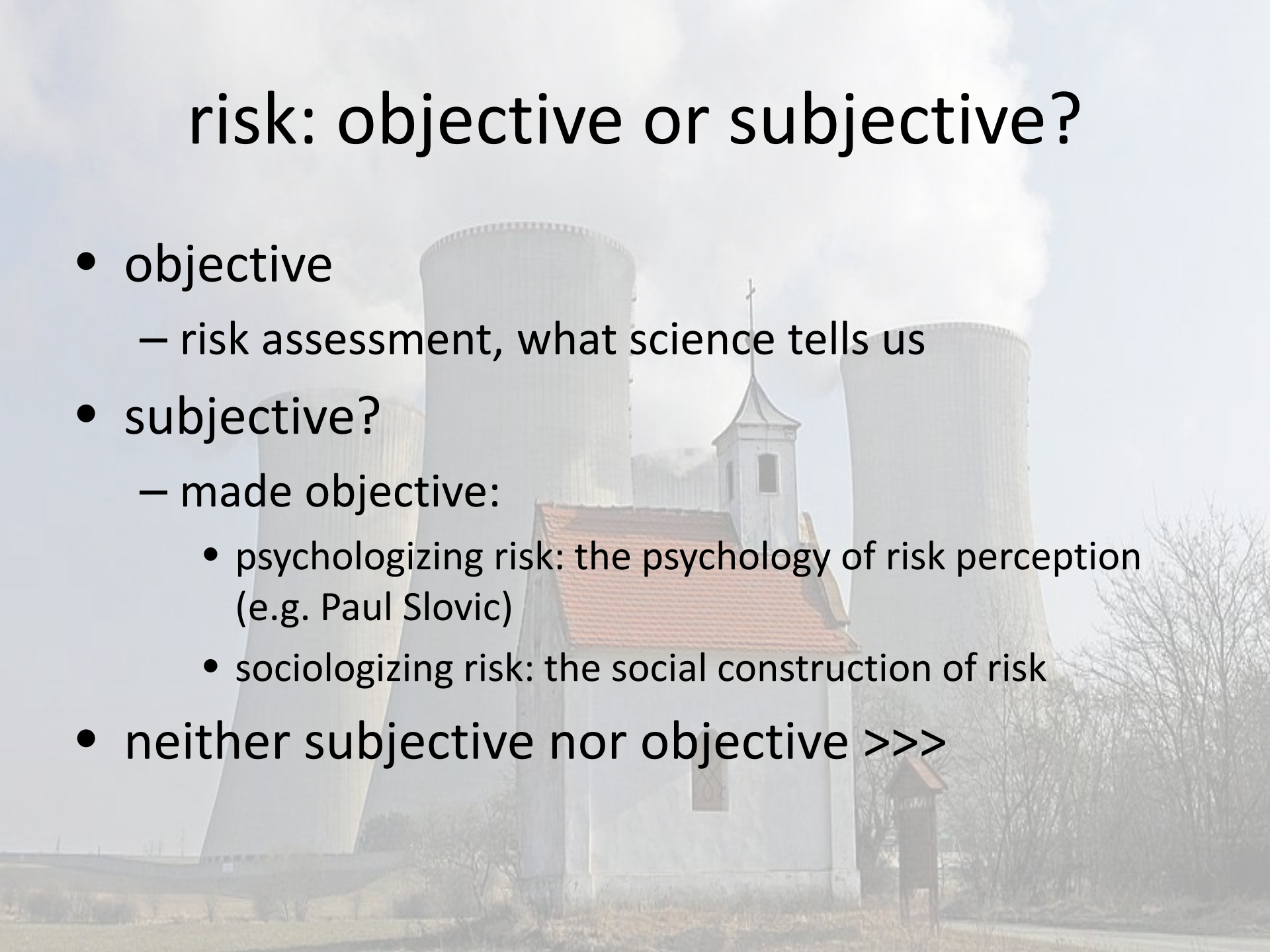
# ethnographical research on responses to Fukushima

- US nuclear community response: “it’s natural disaster” or “Japanese culture” (Kinsella 2013)
- gender differences: mothers concerned about health threat to masculine identity (Marioka 2014)
- what is “safe food”:
  - *anzen*: objective, measurable safety, scientific relation to food
  - *anshin*: subjective, emotional, is about trust (again: little trust in government)

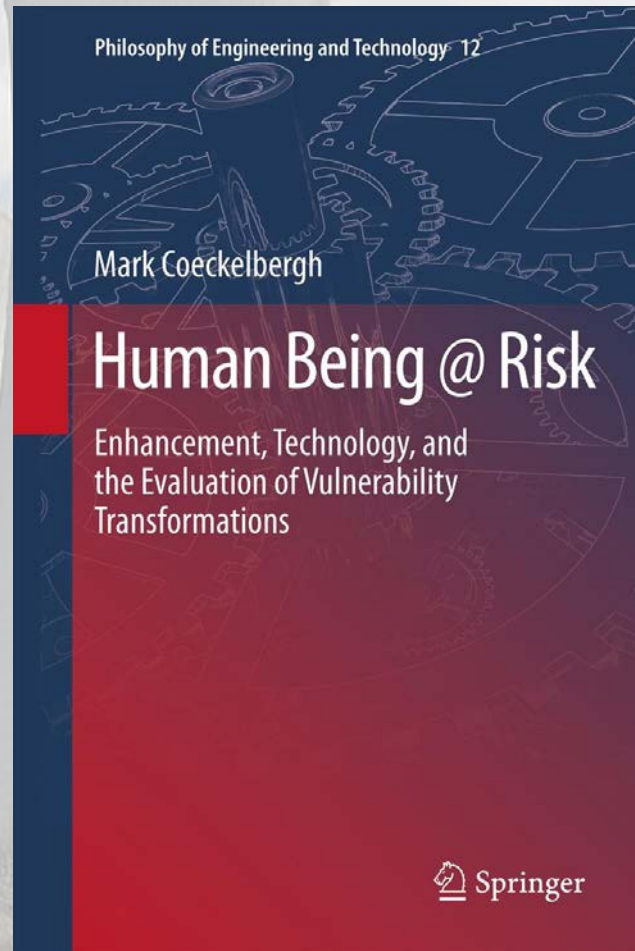


# risk: objective or subjective?

- objective
  - risk assessment, what science tells us
- subjective?
  - made objective:
    - psychologizing risk: the psychology of risk perception (e.g. Paul Slovic)
    - sociologizing risk: the social construction of risk
- neither subjective nor objective >>>



# beyond dualistic view of risk





# being-at-risk

“risk and vulnerability are neither subjective nor objective; instead, these terms tell us something about the relation between subject and object (...) the concept of being-at-risk is meant to communicate that **risk is neither a feature of the world (an objective, external state of affairs) nor (...) a subjective construction by the mind, an internal matter**, but is constituted in the subject-object relation. The same can be said of vulnerability.

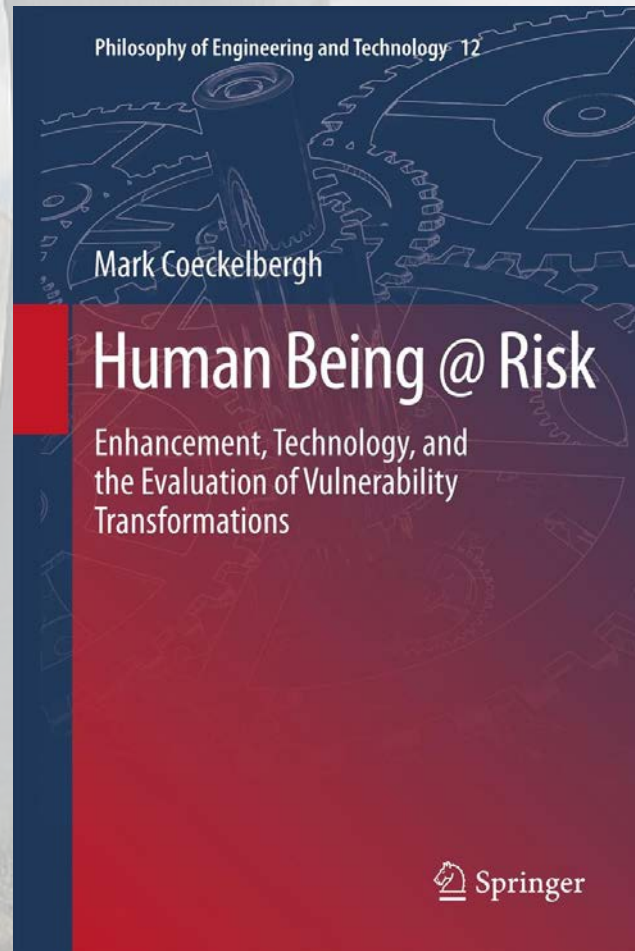
(Human Being @ Risk)

# beyond limitations of “objective” risk science and risk management

- this understanding of relation human – risk opens up acknowledgment of different perspectives
- modern risk management only one way of understanding and coping with risk
- consider alternative ways of experiencing and coping with (natural) risk
  - risk cultures, vulnerability cultures



# vulnerability cultures



# example

- Dutch water technology culture





if the Dutch didn't have flood control...



# Dutch floods 1953





# the fight against nature

- Dutch dikes and water system as heroic fight against nature (e.g. Eastern Scheldt storm surge barrier)



# example

- the cultural interpretation/construction of (and response to) tsunamis
  - and the history of these disasters and their interpretation





# Fukushima tsunami



# Lissabon 1755: divine punishment?





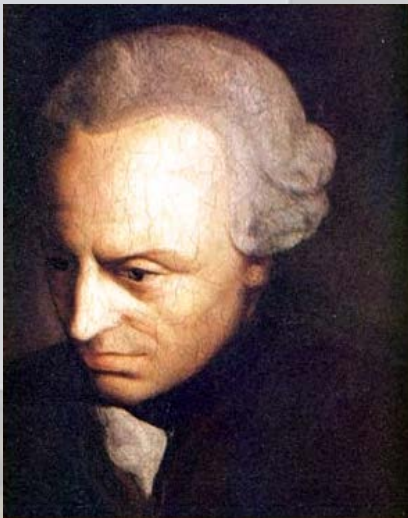
# Lissabon 1755: natural causes?



# 18<sup>th</sup> century philosophers about Lissabon



- Voltaire: *Candide*: against Leibniz's claim that we live in the best of all possible worlds, against the idea of a benevolent deity who supervises us
- Rousseau: too many people, against the city
- Kant: not divine punishment but natural causes, the sublime





# note: vulnerable megacities...

- again: role of humans, society, technology, culture





# tragedy

- accept lack of full control
- ancient Greek tragedy
  - human beings are in the hands of fate
  - do not challenge the gods (*hubris*)
  - fatalistic?





# (other) cultures

- non-modern and non-Western thinking about natural disaster risk



# natural religion (Shinto), Buddhism and flooding

- things happen; the universe does not conform to, and is not interested in, our desires and beliefs
- natural disaster is not an offence against us, we're not the centre of everything
- respect the forces of nature, the gods of nature are much more powerful than us, and they are not particularly concerned with us
- e.g. *Kamikaze* means “divine wind” (typhoon); *kami* = god, deity, e.g. the kami of the sea, the kami of wind



# Under a wave off Kanagawa

(Hokusai, late Edo period)



# traditional understanding and respect

From a BBC interview with a(n indirect) representative of Japanese religions:

“Crawley then pointed out that there are two things here: natural disaster and a linked technological accident. To this, Palmer replied that the Shinto had been opposed to the nuclear power stations from day one as being not a good idea. If the stations had been built on sites that were chosen according to traditional Shinto rituals and understanding of the forces that live within the land, they would not be over dangerous cracks in the earth and easily attacked by nature. He referred to **“a remarkable arrogance and disrespect for traditional understandings of the power and spiritual forces that reside in the land.”**

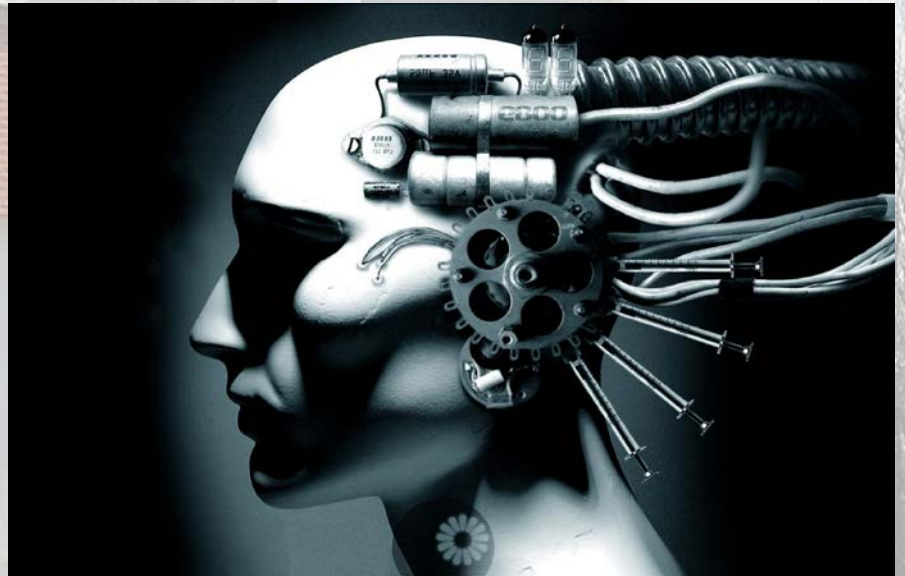
(summarized at <https://blog.uvm.edu/aivakhiv/2011/03/16/religion-the-japanese-tragedy/>)



modernity

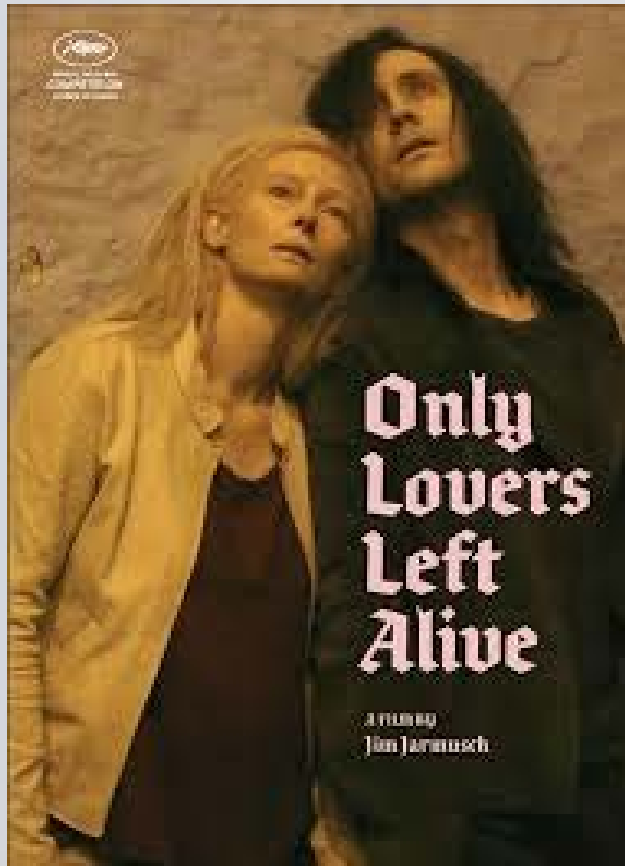
**CONTROL**

# fighting against vulnerability





# immortality?



“Millions long for immortality who don’t know  
what to do on a rainy afternoon.”

- Susan Ertz (1894-1985)

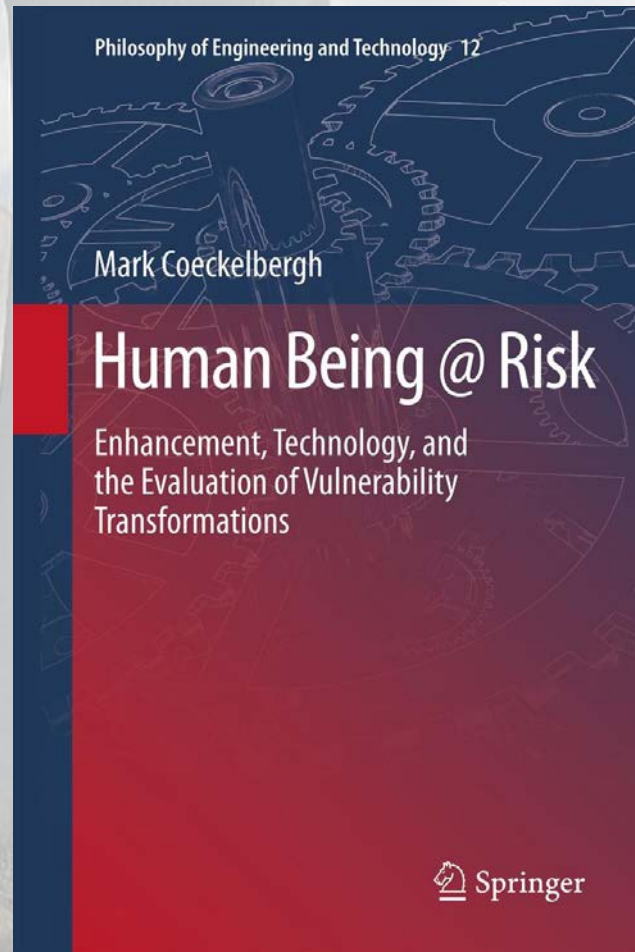
# technology & vulnerability

- technology aims to reduce vulnerability
- but always new vulnerabilities
  - >>> transformation of vulnerability



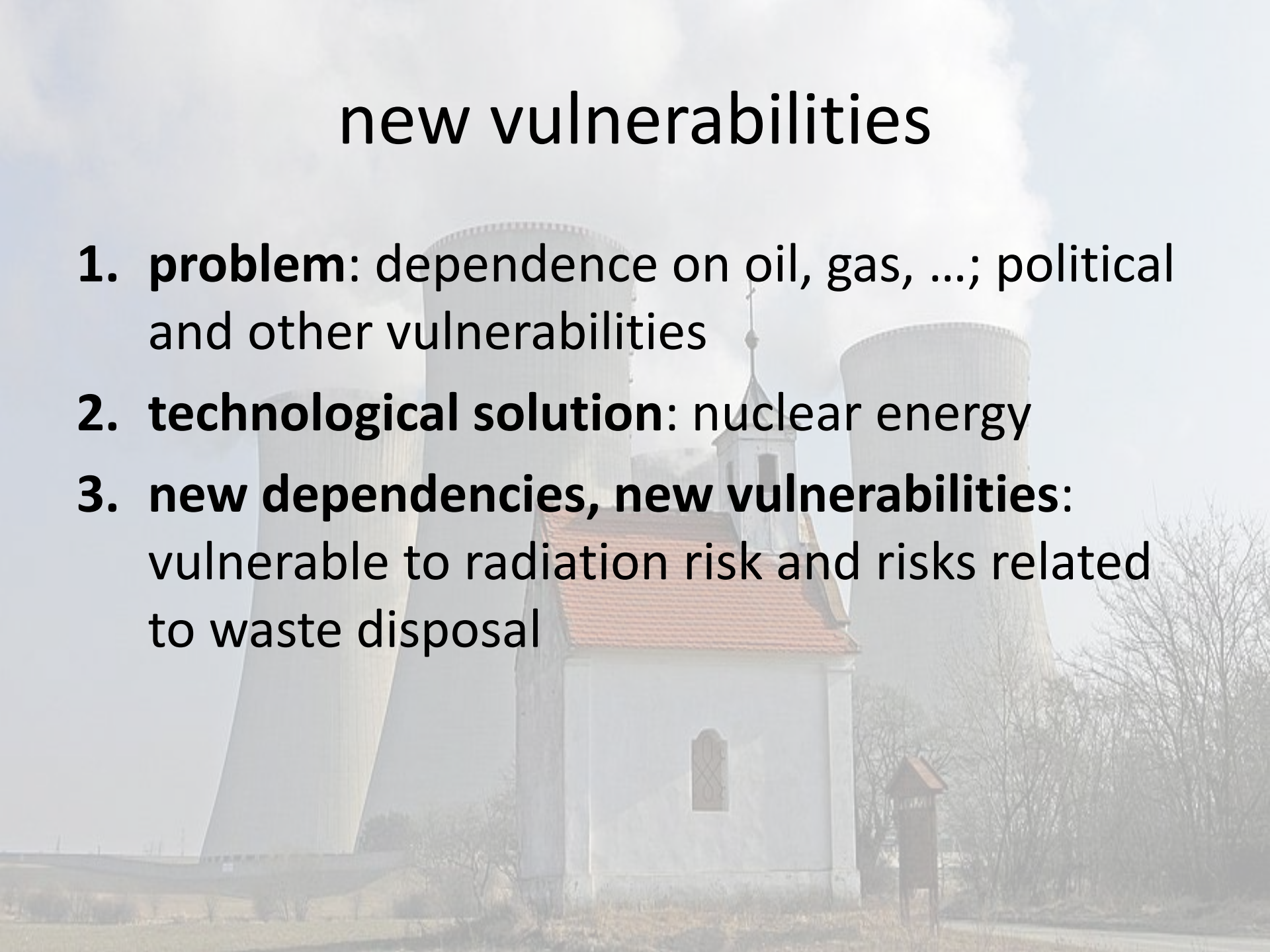


# technology transforms human vulnerability



# new vulnerabilities

1. **problem:** dependence on oil, gas, ...; political and other vulnerabilities
2. **technological solution:** nuclear energy
3. **new dependencies, new vulnerabilities:** vulnerable to radiation risk and risks related to waste disposal





# new vulnerabilities

1. **problem:** vulnerability to floodings
2. **technological solution:** dikes and other water technology
3. **new dependencies, new vulnerabilities:** dike vulnerabilities



# new vulnerabilities

1. **problem:** dependence on hunting and gathering; risk that the animal does not appear
2. **technological solution:** agriculture
3. **new dependencies, new vulnerabilities:** dependent on weather and climate, new forms of political power, health problems?



# new vulnerabilities

1. **problem:** vulnerable to lack of food supply  
(see also revolutions)
2. **technological solution:** modern food and  
agriculture industry
3. **new dependencies, new vulnerabilities:**  
health risks, toxic elements can get into food  
chain, ...

# new vulnerabilities

1. **problem:** diseases caused by bacteria
2. **technological solution:** antibiotics
3. **new dependencies, new vulnerabilities:**  
dependent on antibiotics, antibiotic resistant bacteria





# new vulnerabilities

1. **problem:** newborns and young children vulnerable to getting infection caused by germ
2. **technological solution:** cleaning technologies, modern houses
3. **new dependencies, new vulnerabilities:** if newborns are not exposed to dirt, germs, etc. they may have higher allergy and asthma risk



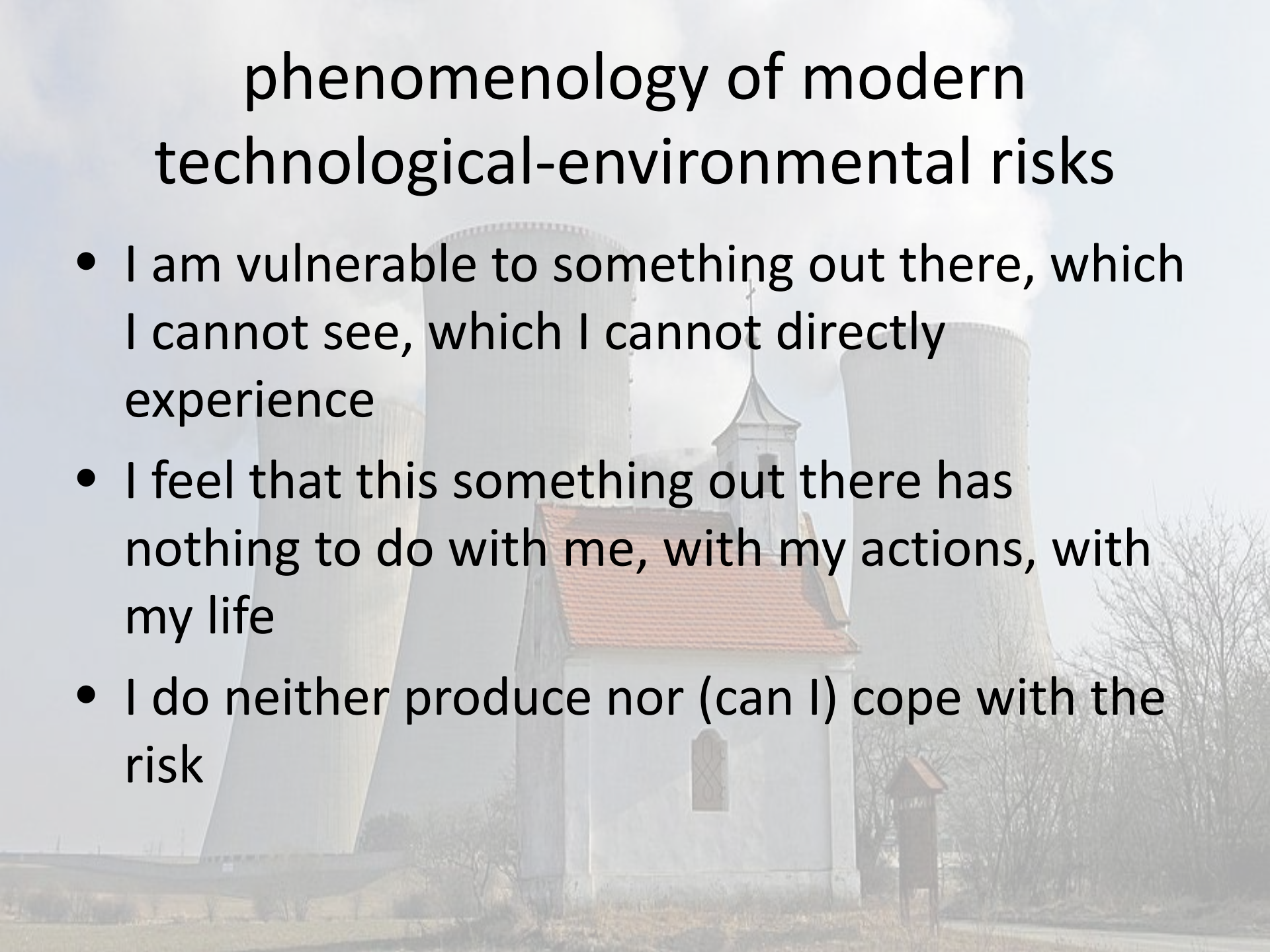
Part II

# **RISK ALIENATION**



# phenomenology of modern technological-environmental risks

- I am vulnerable to something out there, which I cannot see, which I cannot directly experience
- I feel that this something out there has nothing to do with me, with my actions, with my life
- I do neither produce nor (can I) cope with the risk



# examples

- energy production and energy experience:
  - electricity: the socket and the grid: I'm only an end-point of the grid, I can't see it and I cannot produce it, I am totally dependent
  - oil production: no idea where it comes from, suddenly there is no oil (or price very high)
  - nuclear power: can't see it, there's something invisible present
- water production and water experience
  - the tap – and what if it suddenly stops? gets contaminated?
- disease
  - I go to the doctor who prescribes a medicine, I go to the hospital, things are being done to me; what happens to me is medicalized





risk distance, risk alienation

modern way of life

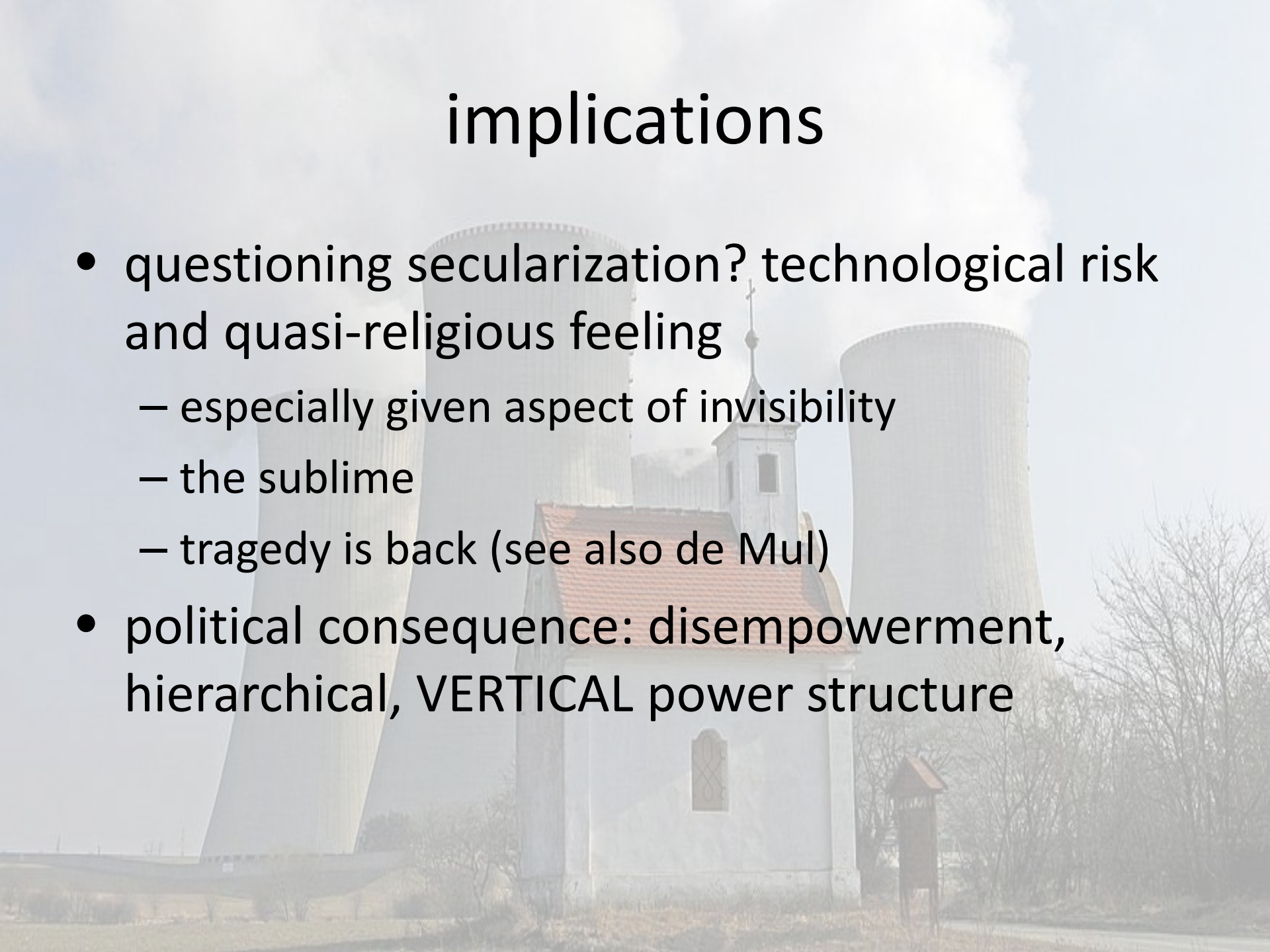
# loss of control

- modern risks feel like natural disasters, I cannot control it, I cannot do much about it, I am totally dependent on external events and people and processes out there
- I feel powerless; entire communities feel powerless
- example: nuclear disaster, financial crisis, global epidemic
  - **epidemic** comes from Greek *epi* "upon or above" and *demos* "people": it "befalls" us



# implications

- questioning secularization? technological risk and quasi-religious feeling
  - especially given aspect of invisibility
  - the sublime
  - tragedy is back (see also de Mul)
- political consequence: disempowerment, hierarchical, VERTICAL power structure



# alternatives?

towards new, technologically mediated forms of risk appropriation and re-empowerment.

- examples:
  - produce your own energy (households, communities)
  - grow your own food
  - share responsibility for dealing with health risks
  - phase out nuclear, or new forms of (nuclear) energy that have a less decentralized and hierarchical power structure coming with it??
  - use smart technologies to inform yourself about risks (and to deal with them – nudging?)
- but make sure new vulnerabilities are not worse!



back to pre-modern times?



# change? control?

- change difficult; modernity is an “episteme” (Foucault) and a form of life
- accept tragic dimension of human condition and human vulnerability; do not try to become invulnerable
- act against injustice, empower others and yourself, etc. but accept no clear distinction between “natural” risk and “technological” risk
- use science, technology etc. but allow for other perspectives and explore how to use technology differently (and design different technologies)



# conclusion

- coping with environmental health risk:
  - scientific expertise may be needed, but is a specific form of human experience and human coping with vulnerability and risk, which is related to how we deal with vulnerability in modernity
  - gap experts – lay people is part of what I called “risk alienation”: the way we do and organize things in modernity has implications for experience and knowledge, and for action: not only a “cultural” or “philosophical” issue but also a political issue
  - explore and incorporate alternative-modern or non-modern ways of dealing with these vulnerabilities
  - this include thinking about different politics

# modern health care







# Thanks!

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