

Science! True daughter of Old Time thou art!
Who alterest all things with thy peering eyes.
Why preyest thou thus upon the poet's heart,
Vulture, whose wings are dull realities?
Hast thou not dragged Diana from her car?
And driven the Hamadryad from the wood
To seek shelter in some happier star?
Hast thou not torn the Naiad from her flood,
The Elfin from the green grass, and from me
The summer dream beneath the tamarind tree?

Edgar Allen Poe

1:350,000 U.S. fatality probability?

1. Food bourn
2. Traffic
3. Smoking
4. Hospital infection


Social and Political Risk Amplification



Risk: a metaphor



Risk Amplification



DISASTER!
The Greatest
Camera Scoop
of all time!

LEAPLIFT FILMS

Outline

- ✓ Theory
- ✓ Hypothesis
- ✓ Results
- ✓ Conflict
- ✓ Summary



Theoretical: what do you see?



What do you see?



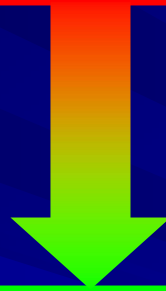
What do you see?



What do you see?



Risks are not objective



Risks are socially defined

What is socially defined risk?

- ✓ What is it?
 - ✓ What should I think about it?
 - ✓ What should I do about it?
-



What is socially defined risk?

- ✓ What is it?
 - ✓ What should I think about it?
 - ✓ What should I do about it?
-

You decide in
your community
of meaning



An Example...

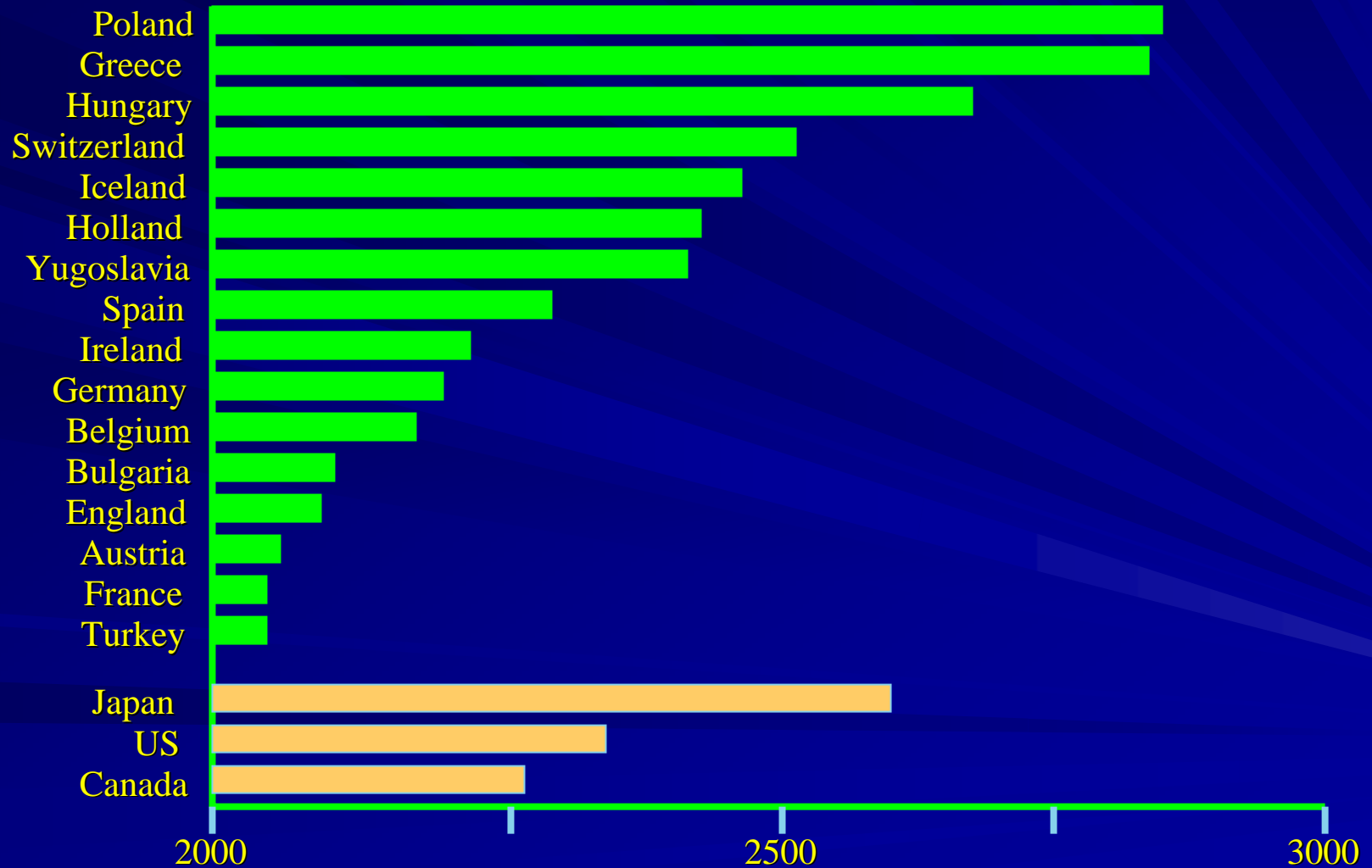


Nuclear Power

- ✓ No new plants in US in > 20 years
- ✓ France v. Germany v. Japan
- ✓ Benefits > Costs
- ✓ “Risks” are low



Smoking



What is risk?

- ✓ Risk assessment is derived from more than scientific “knowledge”



What is risk?

- ✓ It is the result of psychosocial processes



Uniformly rational...

		Benefits	
		Yes	No
Danger	Yes	Consider Caution v. Action	Better Safe than Sorry
	No	Waste not, Want not	Who cares?

...using different input criteria to define benefits and dangers

		Benefits	
		Yes	No
Danger	Yes	Consider Caution v. Action	Better Safe than Sorry
	No	Waste not, Want not	Who cares?

What are the criteria?

- ✓ Actuarial/Probabilistic: predicts likelihood of occurrence

Differing criteria

- Actuarial/Probabilistic: likelihood of occurrence
- ✓ Toxicological/Epidemiological: predicts likelihood of harm

Differing criteria

- Actuarial/Probabilistic: likelihood of occurrence
- Toxicological/Epidemiological: likelihood of harm
- ✓ Economic: attempts to place a monetary value

Differing criteria

- Actuarial/Probabilistic: likelihood of occurrence
- Toxicological/Epidemiological: likelihood of harm
- Economic: monetary value
- ✓ Psychological: perception is reality

Differing criteria

- Actuarial/Probabilistic: likelihood of occurrence
- Toxicological/Epidemiological: likelihood of harm
- Economic: monetary value
- Psychological: perception
- ✓ **Social: what friends and family think**

Differing criteria

- Actuarial/Probabilistic: likelihood of occurrence
- Toxicological/Epidemiological: likelihood of harm
- Economic: monetary value
- Psychological: perception
- Social: friends and family
- ✓ Cultural: different societies see risk differently

Hypothesis: social risk perceptions can be identified and amplified

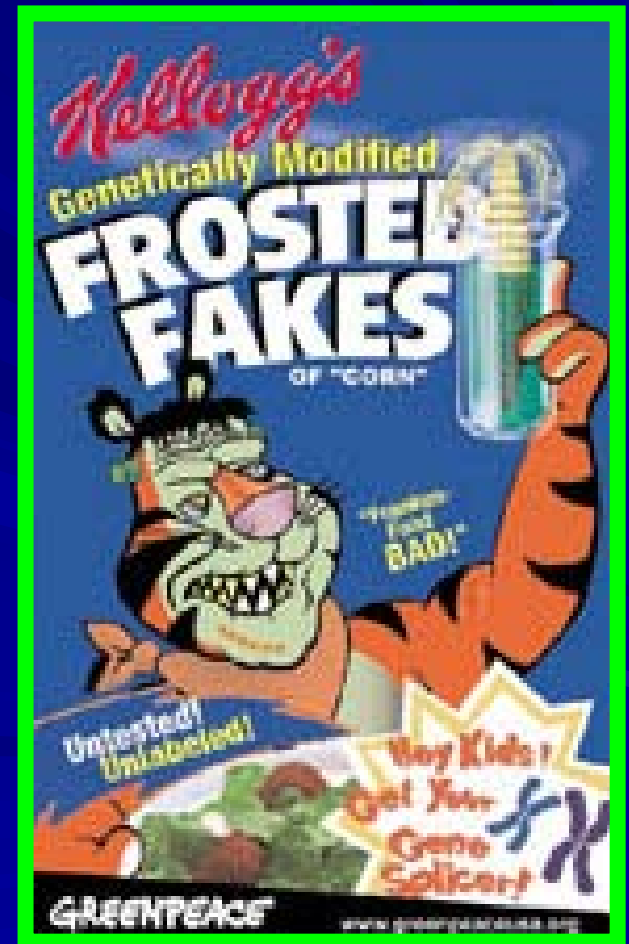


Perception of risks (Kasperson and Stallen, 1992)

Factor	> Public confidence	< Public confidence
Fatalities, injuries, disease	Scattered, random	Grouped
Exposure	Voluntary	Involuntary
Effects on children	Non-specific	Specific
Effects manifestation	Immediate	Delayed
Effects in future	None	Possibly many
Trust in institutions	Yes	No
Media attention	Very little	Very much
Origin	Caused by nature or God	Caused by human action
Equity of risk & benefits	Equitable distribution	Inequitable distribution
Uncertainty	Scientifically known, certain, and <u>uncontested</u>	Scientifically unknown, uncertain, or <u>contested</u>

Political Amplification Data

- ✓ Groups: WWF, Greenpeace, FOE, Gene Watch
- ✓ Countries: CH, UK, S, F, D, I
- ✓ Methods:
 - ✓ Elite interviews
 - ✓ Content analysis



Perception of risks: results

Factor

> Public confidence

< Public confidence

Fatalities, injuries, disease
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★ Effects on children

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Caused by human action

Equity of risk & benefits

Equitable distribution

Inequitable distribution

★ Uncertainty

Scientifically known,
certain, and uncontested

**Scientifically unknown,
uncertain, or contested**

Political Amplification Data

- ✓ Groups: WWF, Greenpeace, FOE, Gene Watch
- ✓ Countries: CH, UK, S, F, D, I
- ✓ Methods: interviews and content analysis
- ✓ Results:
 - ✓ Lack of control
 - ✓ Unknown effects
 - ✓ Origin

Political Amplification Data

- ✓ Groups: WWF, Greenpeace, FOE, Gene Watch
- ✓ Countries: CH, UK, S, F, D, I
- ✓ Methods: interviews and content analysis
- ✓ Results: control, unknown effects, origin



Precautionary Principle

What does this mean...

- ✓ for consumers?
- ✓ for the future?
- ✓ for ourselves?

First, there are different types of conflict about “risk”

- ✓ Practical: what are the facts?
 - ✓ Epistemological: what is a fact?
 - ✓ Cosmological: what do the facts mean?
-

- ✓ Substantive: what is?
- ✓ Normative: what should be?

Second, risk amplification works

- ✓ Relative stability and few oscillations...



Amplification

- ✓ ...can be amplified by identifying underlying assessment systems & values...



Amplification

- ✓ ...and thus increase public ambivalence or antipathy towards risk...

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Conclusion

- ✓ ...and support for groups that amplify it



Thoughts

- ✓ Subjective risk
- ✓ Accountable science
- ✓ Inexorable science
- ✓ NGO speed bumps

