

Baruch Fischhoff

Colleague and Friend

Paul Slovic

JDM Boston

November 18, 2016

1973-1987

The Start of a Great Career

- I met Baruch in Jerusalem in 1973
- 1974: Baruch comes to the Oregon Research Institute
- 1976: Co-founder of Decision Research
- In 1987, 114 articles later, Baruch joins the faculty at CMU

A Few (of Many) Important Contributions

- Hindsight Bias
- Psychometric Paradigm/risk perception
- Risk Communication
- Calibration of Probability Judgments
- Labile Values
- Climate Change
- Acceptable Risk

Hindsight \neq Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty

Baruch Fischhoff

Hebrew University of Jerusalem, Israel

One major difference between historical and nonhistorical judgment is that the historical judge typically knows how things turned out. In Experiment 1, receipt of such outcome knowledge was found to increase the postdicted likelihood of reported events and change the perceived relevance of event-descriptive data, regardless of the likelihood of the outcome and the truth of the report. Judges were, however, largely unaware of the effect that outcome knowledge had on their perceptions. As a result, they overestimated what they would have known without outcome knowledge (Experiment 2), as well as what others (Experiment 3) actually did know without outcome knowledge. It is argued that this lack of awareness can seriously restrict one's ability to judge or learn from the past.

Do Those Who Know More Also Know More about How Much They Know?

SARAH LICHTENSTEIN AND BARUCH FISCHHOFF

Decision Research, A Branch of Perceptronics

The validity of a set of subjective probability judgments can be assessed by examining two components of performance, calibration and resolution. The perfectly calibrated judge assigns probabilities so that, for all propositions assigned the same probability, the proportion true is equal to the probability assigned. For example, half of the propositions given a .50 chance of being true should in fact be true. Resolution reflects the degree to which assessors can successfully discriminate among different degrees of certainty, independent of the numerical labels assigned. A series of experiments revealed that: (1) Although people are moderately well calibrated, their probability judgments are prone to systematic biases. The most common bias is overconfidence. (2) People are calibrated differently when dealing with items of varying degrees of difficulty. (3) Calibration is unaffected by differences in intelligence, expertise, subjects' reliance on extreme probability responses, and at least some aspects of the context in which items are presented. (4) Resolution did not change as a function of difficulty, except for tasks about which subjects knew nothing. The implications of these results for decision makers are discussed.

Knowing with Certainty: The Appropriateness of Extreme Confidence

Baruch Fischhoff, Paul Slovic, and Sarah Lichtenstein
Decision Research, A Branch of Perceptronics
Eugene, Oregon

How often are people wrong when they are certain that they know the answer to a question? The studies reported here suggest that the answer is "too often." For a variety of general-knowledge questions (e.g., absinthe is [a] a liqueur or [b] a precious stone), subjects first chose the most likely answer and then indicated their degree of certainty that the answer they had selected was, in fact, correct. Across several different question and response formats, subjects were consistently overconfident. They had sufficient faith in their confidence judgments to be willing to stake money on their validity. The psychological bases for unwarranted certainty are discussed in terms of the inferential processes whereby knowledge is constructed from perceptions and memories.

How Safe is Safe Enough? A Psychometric Study of Attitudes Towards Technological Risks and Benefits*

BARUCH FISCHHOFF, PAUL SLOVIC, SARAH LICHTENSTEIN

Decision Research, A Branch of Perceptronics, Eugene, Oregon

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Progress in Resource Management and Environmental Planning, Volume 3
Edited by T. O'Riordan and R. Kerry Turner
© 1981 John Wiley & Sons Ltd.

Chapter 6

Lay Foibles and Expert Fables in Judgments about Risks

*Baruch Fischhoff, Paul Slovic,
and Sarah Lichtenstein*

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Hot Air: The Psychology of CO₂-Induced Climatic Change

Baruch Fischhoff
Decision Research
A Branch of Perceptronics

In: Cognition, Social Behavior,
and the Environment

Edited by John H. Harvey

1981

BARUCH FISCHHOFF AND LITA FURBY

PSYCHOLOGICAL DIMENSIONS OF CLIMATIC CHANGE

1. Coping with Climatic Change: A Decision Problem

The prospect of CO₂-induced climate change poses a series of interlocking decisions to be made by individuals and groups, national and international bodies. At each level, people must decide whether the problem is worth attending to and if so, should efforts be made to prevent the build-up from happening (e.g., by drastically restricting the consumption of fossil fuels), to implement curative schemes (e.g., massive reforestation programs), to adapt to the new world we are creating (e.g., by developing new crops or moving large populations) or to promote the build-up (for those who hope to benefit from the change). Each decision requires an assessment of what is happening, what the possible effects are and how well one likes them. The quality of these assessments at one level constrains the wisdom of the decisions made at others. Failure of the U.S. to adopt a coherent policy is likely to thwart any international effort. Absence of international cooperation may lead U.S. consumers to ask "why should we drive less when the Brazilians provide tax incentives for logging out the Amazon?" We are all in trouble if the climatologists seriously understate or overstate how much they know. How such assessments are made, by consumers, legislators, diplomats or scientists, would seem to be eminently psychological questions.

In: Social Science Research and Climate Change:
An Interdisciplinary Appraisal

Edited by S. Chen, E. Boulding, and S. H. Schneider

1984

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Knowing What You Want: Measuring Labile Values

Baruch Fischhoff
Paul Slovic
Sarah Lichtenstein
*Decision Research,
A Branch of Perceptronics*

In: Cognitive Processes in Choice and Decision Behavior

Edited by T. S. Wallsten

Defining Risk

BARUCH FISCHHOFF

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ABSTRACT

Risk is the focal topic in the management of many activities and technologies. For that management to be successful, an explicit and accepted definition of the term "risk" is essential. Creation of that definition is a political act, expressing the definers' values regarding the relative importance of different possible adverse consequences for a particular decision. Those values, and with them the definition of risk, can change with changes in the decisionmaker, the technologies considered, or the decision problem. After a review of the sources of controversy in defining risk, a general framework is developed, showing how these value issues can be systematically addressed. As an example, the approach is applied to characterizing the risks of six competing energy technologies, the relative riskiness of which depends upon the particular definition used.

RISK PERCEPTION AND COMMUNICATION

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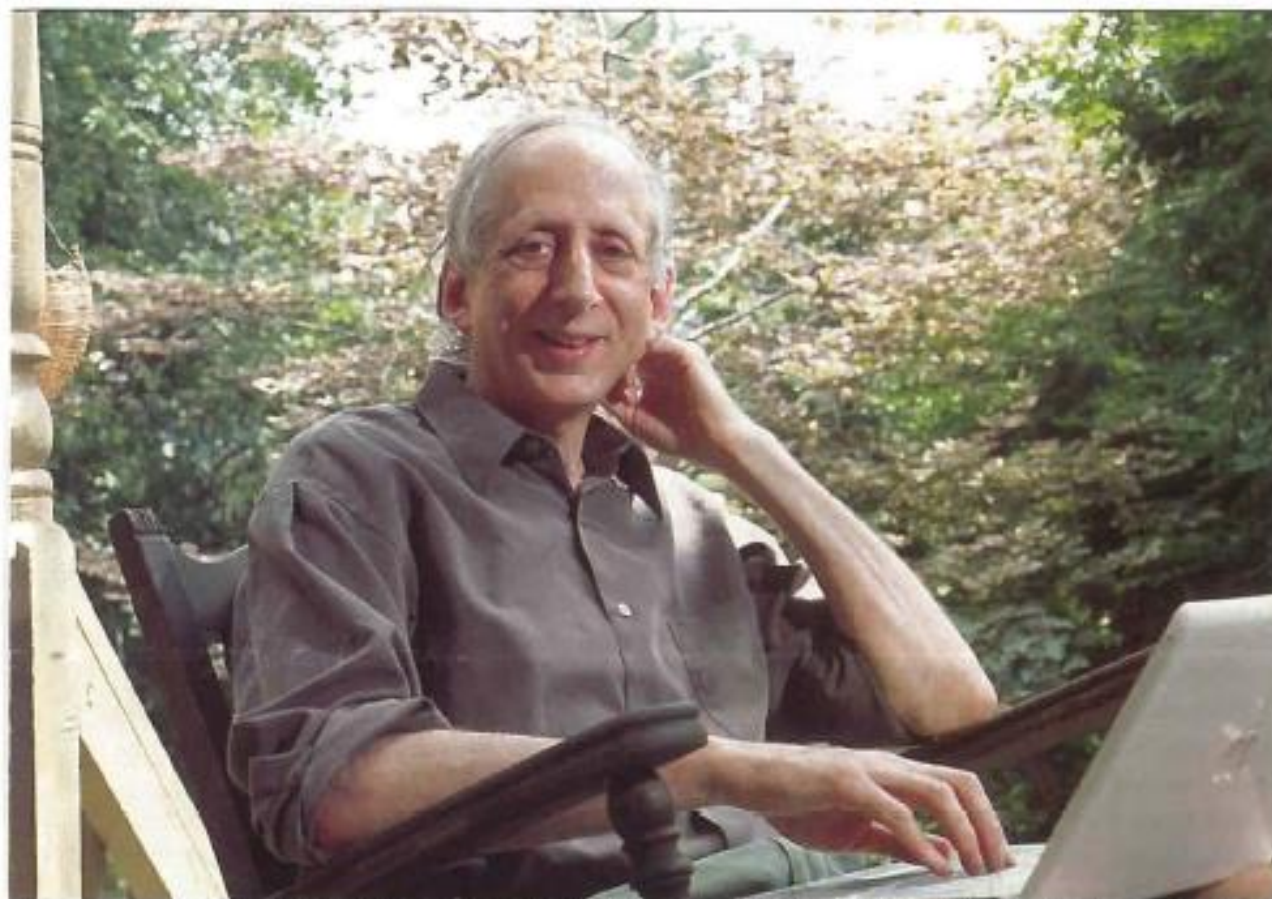
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KEY WORDS: health behavior, judgment, decision making

Curbing risk-taking, protecting the public

Psychologists and government agencies are pursuing a new tack in promoting public health and safety: Stop preaching and provide people with the knowledge they need to make informed decisions.



MIKE EVANS

Dr. Baruch Fischhoff examines how best to communicate with the public about risks ranging from terrorist threats to sexually transmitted infections. Factual information is key, he says.

BY SADIE F. DINGFELDER
Monitor staff

To avoid this problem, Fischhoff and others are exploring more informational approaches to risk communication and studying whether they lead to healthy choices.

"Our work focuses on seeing how far you can get with nonpersuasive communication," says Fischhoff. "The research shows that...people are capable of understanding risks and making decisions in their best interest."

Indeed, a number of threads of research in areas ranging from public health and safety to terrorism suggest more knowledge leads to better decisions. With this in mind, Fischhoff and other psychologists in risk communication have a battle plan: Assess the risks, determine what information the public lacks, then fill those critical gaps.

These psychologists hope to expand this strategy to the area of terrorist threats—though it won't be easy to keep the public well-informed without the government tipping its hand to potential attackers, says Wändi Bruine de Bruin, PhD, a CMU postdoctoral research asso-

ciate in risk communication. Moreover, even the officials themselves may not know the risks of events that have never hap-

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Giving Advice

Decision Theory Perspectives on Sexual Assault

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Adolescent vulnerability: A framework for behavioral interventions

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Abstract

A general framework is offered for characterizing behavioral risks in a way that might help coordinate behavioral interventions. It is demonstrated in terms of adolescents' vulnerability, arising from the life situations confronting teens, from teens' understanding of those situations, and from the beliefs of those entrusted with helping them (parents, educators, psychologists, etc.). The framework provides a rationale for identifying opportunities to reduce adolescent vulnerability, based on research regarding the genesis and control of risks. It provides a common language for characterizing alternative theoretical approaches to these issues and a systematic way to integrate their results. It is illustrated with results from research on the role of information in determining adolescent vulnerability.

Key words: Adolescence, Invulnerability, Risk analysis, Infectious disease, Behavioral decision making

The Real World: What Good Is It?

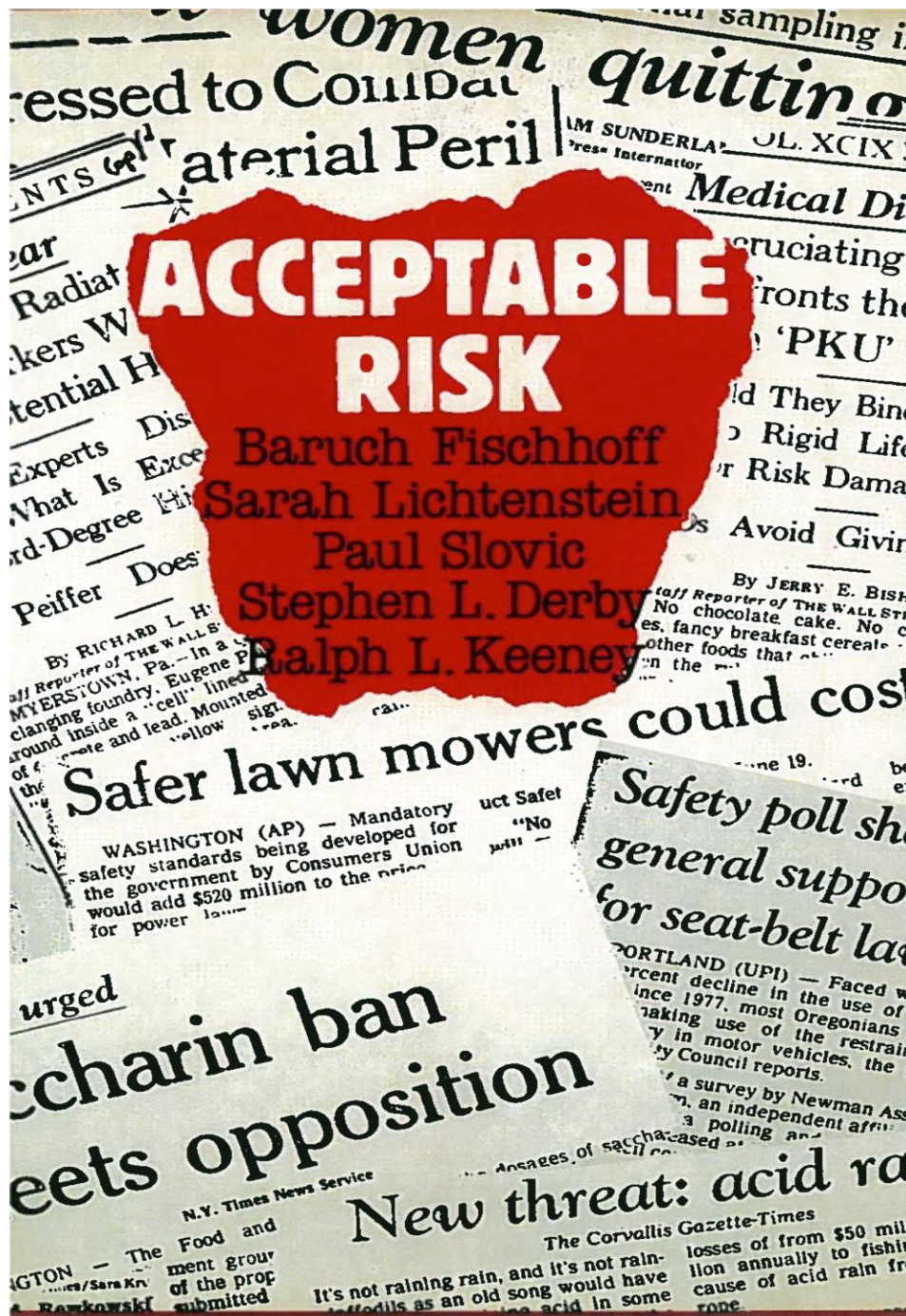
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ARTICLE NO. 0024



Acceptable Risk

is the risk

associated with an

acceptable decision!

1981



W
a
r



Jewish Cemetery

Warsaw







Thank You, Baruch!