

The Risk Society Revisited: Social Theory and Governance

By Eugene A. Rosa, Ortwin Renn and Aaron McCright
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Introduction

The *Risk Society Revisited* (TRR) is a remarkable assessment of the grand theorists of risk: Ulrich Beck, Anthony Giddens and Niklas Luhmann. Using the ideas of Jürgen Habermas to synthesize across arguments that we live in a “Risk Society,” it advances in our conceptual understanding of how contemporary societies respond to risk. TRR is already gaining a reputation as a germinal sociological analysis of risk. It will be the starting point for future theoretical work in the social sciences. But why would those at the leading edge of risk regulation, those whose day to day concerns are the difficult problems of developing, implementing and evaluating policies to govern risk, be interested in a book that engages abstract social theory?

The goal of the TRR is straightforward. It tries to answer the question: “What are fair and effective procedures for making risk decisions in a democratic society?” (p. xxviii). The pioneering social psychologist Kurt Lewin said “Nothing is so practical as a good theory.” TRR is proof of his assertion. The authors integrate “the lofty whiteness of risk society theory with the sooty details of risk decision-making” (p. 5).

They not only synthesize theory but also make that synthesis yield practical insights.

TRR is able to accomplish this because of the special qualifications of the authors. All are eminent sociologists of environment and technology. But each brings a unique practical perspective to their analysis. Rosa was the leading sociologist of nuclear power.¹ One of his last professional efforts was to engage the U.S. Presidential Blue Ribbon Commission on America’s Nuclear Future with social science research on public acceptance of risky technologies.² Renn is a major theorist and practitioner of public participation who has engaged with technological controversies for decades. His analyses have had great influence on the work of the International Risk Governance Council.³ McCright is a leading scholar of environmental public opinion and has pioneered research on climate change denial. He has developed a persuasive model of why scientific consensus gains little traction in some policy debates.⁴ In their search for fair and effective procedures for risk decision making, they deploy theoretical breadth as well as a depth of practical experience with difficult risk governance problems.

I. An Heroic Starting Point

TRR begins with “Meta-Theoretical Foundations,” a discussion of ontology and epistemology. If I can convince a policy-oriented reader of the practical value of this chapter, then perhaps I can motivate a careful reading of TRR overall. Thus I will walk through this foundational argument in some detail in the hopes of showing how TRR effectively links careful theoretical thinking to practical problems. As a starting point, I note that the motivation for thinking about ontology and epistemology is driven by an issue that, in many ways, was at the origin of the modern discussion of risk regulation: what weight should be given to scientific expertise vs public views in risk decision making? In the U.S., public opposition to nuclear power led Chauncey Starr to urge that policy decisions be based on formal risk analysis and that the public be held at arm’s length.⁵ He based his argument on the growing evidence that most people were not well calibrated to judge risks, rather they tended to “socially construct” them. Much the same line of reasoning led William Ruckelshaus, then Administrator of the U.S. Environmental Protection

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1 He died on 21 February 2013, after the book was finished but before it was published.

2 See Eugene A. Rosa, et al., “Nuclear Waste: Knowledge Waste?”, 329 *Science* (2010), pp. 762 et sqq., Eugene A. Rosa, “Background Comments to the Blue Ribbon Commission on America’s Nuclear Future.” Presentation to the Blue Ribbon Commission America’s Nuclear Future, Washington, D.C., 1 February 2011.

3 See Ortwin Renn, *Risk Governance: Coping with Uncertainty in a Complex World* (London: Earthscan, 2008).

4 See Aaron M. McCright and Riley E. Dunlap, “Anti-Reflexivity: The American Conservative Movement’s Success in Undermining Climate Science and Policy,” 27 *Theory, Culture, and Society* (2010) pp. 100 et sqq.

5 See Chauncey Starr, “Societal Benefit Versus Technological Risk,” 236 *Science* (1969), pp. 280 et sqq.

Agency, to call for risk analysis as a method for resolving public conflicts, thereby initiating an important shift in U.S. environmental policy analysis.⁶

Underpinning these calls for risk analysis is a realist ontology—risks reflect real states of the world in which things people value may be under threat. But, at least implicitly, the conventional approach to risk analysis as a policy tool assumes a realist epistemology as well—that science can ascertain and quantify those threats objectively, more or less free from the influence of personal biases and of powerful individuals and organizations. If that is the case, then risk analysis can begin and end in the scientific community, insulated from politics and the public. In contrast to this view, a literature emerged arguing that risk is largely a social construction, and that risk analysis is largely political power in another guise. To resolve these contradictory stances, *TRR* builds on an influential analysis by Rosa about the ontology and epistemology of risk.⁷ Contra Bruno Latour and other constructionists, *TRR* argues it is reasonable to adopt a realist ontology and not reasonable to adopt a strong constructionist view of reality. *TRR* further argues that most members of the public are ontological realists. Public rejection of information about risks does not come from an assumption that there is no underlying truth but rather from skepticism that what is being presented as objective fact warrants that status. But *TRR* is sympathetic to constructionists on a key point: we must be cautious in assessing epistemology. What we know about objective reality, as opposed to reality itself, may sometimes be substantially influenced by social forces. Reality may not be socially constructed, but in some circumstances our understanding of it is.

Two claims underpin the credibility of scientific assertions about the world: ostensibility and repeatability. We must be able to observe directly the phenomena of interest or at least have strong confidence in the chain of logic that runs from what is observed to what we believe we are observing. Further, credibility requires that an observation can be replicated. For some areas of science, these criteria are manifest. Consider Galileo's fabled experiment regarding the speed of falling objects, and in particular the version used in introductory physics laboratories—balls rolling down an inclined plane. The experimental results are readily observable with no special equipment. The experiment has been repeated in teaching labs many times.⁸ There is very little room for falli-

ble cognitive processes or the influence of power to socially construct our understanding here.

Some aspects of the science underpinning risk seem to have this character. The half-life of a radioisotope or the in vitro reaction of cells to a teratogen can be observed with high ostensibility and repeatability. But it is rare that such abstract knowledge by itself is sufficient for risk decision making. Regulations about handling of nuclear waste or use of a potentially toxic substance must consider half-lives and teratogenicity in vitro but also exposure pathways, differential vulnerabilities, failure modes of socio-technical systems and much more. Even when we have careful studies of a complex system we are often trying to apply that knowledge in a new context that has not been studied.

TRR calls for a Hierarchical Epistemology coupled with a Realist Ontology, the HERO model. The point of the Hierarchical Epistemology is to acknowledge that some scientific claims used in risk regulation can be taken more or less at face value because of high ostensibility and repeatability. But others, despite our best efforts, must be accepted as tentative and context dependent. In those situations, great care must be taken in how we deploy science. It is important to avoid hubris and to accord some respect to other forms of knowledge. Building on HERO, I have argued that while risk governance must be grounded in scientific expertise, in most cases, we must also find ways to integrate other forms of knowledge, including knowledge about local contexts and the perceptions and concerns of those who will be affected by decisions.⁹

Starting with HERO, and after examining with care the analyses of Beck, Giddens, Luhmann and Habermas, *TRR* makes a persuasive case that fair and effective risk governance requires a melding of scientific analysis and public deliberation. Neither

6 See William D. Ruckelshaus, Science, Risk and Public Policy (Speech to the National Academy of Sciences, 22 June 1983).

7 See Eugene A. Rosa, "Metatheoretical Foundations for Post-Normal Risk," 1 *Journal of Risk Research* (1998) pp. 15 *et seq.*, Terje Aven, et al., "On the ontological status of the concept of risk," 49 *Safety Science* (2011) p. 1074 *et seq.*

8 By my rough estimate about half a million times per year every year for decades.

9 See Thomas Dietz, "Epistemology, Ontology, and the Practice of Structural Human Ecology", in Thomas Dietz & Andrew K. Jorgenson (eds.) *Structural Human Ecology: Essays in Risk, Energy, and Sustainability* (Pullman, Washington: Washington State University Press, 2013), pp. 31 *et seq.*

alone will suffice. “A discourse without a systematic scientific basis is nothing but an empty vessel while, on the other hand, a discourse that disregards the moral aspects of available options will aid and abet amoral actions.” (p. 172).

II. Deliberate Deliberation

The call for melding scientific analysis with deliberation, what has come to be called “analytic deliberation”, goes back to at least John Dewey.¹⁰ Deliberative rationality has been thoroughly articulated by Habermas, has been applied by scholars to problems of environmental and risk policy, and has found its way into major policy documents on risk governance.¹¹ But the devil is in the details. Linking scientific analysis with public deliberation can be complicated, expensive and time consuming. There is good evidence that when done well, linked analysis and deliberation leads to better decisions, less conflict and improved decision making capacity.¹² But such processes can also go awry. So a major challenge is to find guidance as to how to do analytic deliberation effectively but also efficiently.

A second major contribution of TRR is to clearly delineate different contexts for linked analysis and deliberation, and suggest what kinds of processes are appropriate for each context. Working through the theories of Beck, Giddens, Luhmann and Habermas is difficult work, but TRR manages to mine them and refine an immensely practical distillation from the raw material. TRR argues that there are roughly four levels of challenge for risk decision making. These

are really points along a continuum from the simplest to the most difficult. For each, a set of policy analysis tools encapsulates the problem: statistical risk analysis, probabilistic risk modeling, risk balancing and risk tradeoff analysis. Each of these tools is intended to wrestle with particular kinds of conflict, so for each of them there is an appropriate way to engage parties to the conflict in discourse. This “escalator” of risk management, while driven by theory, provides pragmatic guidance about who should deliberate when.

Some years ago, I chaired a major review of what is known about public participation in environmental assessment and decision making.¹³ The almost universal request from the U.S. federal agencies sponsoring the study was “Tell us what we should do.” Our response, very much in the spirit of TRR, was a diagnostic checklist and set of best practices. We were able to offer practical advice to program managers. TRR is able to go beyond our efforts and offer advice to those who design programs and regulatory regimes. This is an important turning point in our thinking about risk regulation. Starr’s arguments about how to govern risk were based largely on ideas generated from the study of individual risk perceptions. TRR draws its inspiration for how society can govern risk, not from work at the individual level, but from a critical synthesis of the best work on how risk influences contemporary society. It advocates linked analysis and deliberation as a master tool but is quite deliberate about what kinds of deliberation are needed when.

III. Risk and Society: Next Steps

Beck, Giddens and Luhmann each argue, admittedly in very different ways, that risk has become a pervasive element in contemporary society. But it seems it is not so much risk, but rather how we handle risk, that is new. Admittedly, some aspects of risk in the 21st century are different from those in the pre-industrial society—new technologies and globalization underpin many of the risks we face. But while the origins of threats were different, risk was just as present in preindustrial societies. Indeed, one could argue from the evidence of shorter life expectancies that risk was even more pervasive than at present. The radical shift seems to be more in our efforts to govern risk than in risk per se. Earlier societies often

10 See John Dewey, *The Public and Its Problems* (New York: Henry Holt, 1923).

11 On early arguments for deliberative processes in environmental and risk policy, see Thomas Dietz, “Theory and Method in Social Impact Assessment,” 57 *Sociological Inquiry* (1987), pp. 54 et seq., Ortwin Renn et al., *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse* (Dordrecht: Kluwer Academic Publishers, 1995). For recent policy statements see: U.S. National Research Council, *Understanding Risk: Informing Decisions in a Democratic Society* (Paul C. Stern & Harvey Fineberg eds., Washington, D.C.: National Academy Press, 1996), U.S. National Research Council, *Public Participation in Environmental Assessment and Decision Making* (Thomas Dietz & Paul C. Stern eds., Washington, D.C.: National Academy Press, 2008), International Risk Governance Council, *Risk Governance: Towards An Integrative Approach* (Geneva, Switzerland: International Risk Governance Council, 2005).

12 U.S. National Research Council *Public Participation*, *supra*

13 U.S. National Research Council *Public Participation*, *supra*

attributed risk to the agency of God or the gods. Uncertainty arose simply because the intent of powerful others was unknown. One might be at risk of crop failure, invasion or plague, but the uncertainty was not inherent. Bad and good outcomes were consequences of actions by the powerful, whether natural or supernatural, and could be managed by placating those with power.

Now we accept that risk is a reasonable way to characterize many of the hazards we face, and many of our governance institutions frame their actions as risk management and regulation. This is an important conceptual shift. We are moving the focus of our analysis to systems that generate risk, and away from the actions of others. Reducing the risk of a financial crisis is a different conceptualization than simply preventing illegal actions by brokers or bankers. Of course, part of a systems level risk management strategy may involve monitoring and sanctioning the behavior of actors in the system, but that is done to serve a larger management goal, rather than as an end in itself.

Could risk governance be a master metaphor to describe public and private policy overall? Are we living in a “risk society” in the sense that we can think of most or all governance in terms of risk? This is in part the claim made by Beck, Giddens and Luhmann. In one of his last publications, Rosa led a group of us in exploring what using risk as a master approach to governance might mean for risk analysis.¹⁴ For the most part, risk analysis and risk policy deals with one risk at a time. But suppose we began to compare risks, asking how society would be best advised in allocating resources and designing institutions. How would we proceed? To consider this question, we compared terrorism and climate change. Implicit in our argument is belief that the society we would choose if our over-riding concern was climate change would be quite different from the one we would choose if reducing risk of terrorism was central, and both of those different from a society that consciously tries to manage, or alternatively, to ignore, both risks.

TRR lays the groundwork for thinking about the institutions we would need if we take seriously the fact that contemporary societies face risk from climate change, terrorism, economic crises, epidemic disease, toxins in the environment, limits in natural resource supply relative to demand, and a myriad of other problems. We allocate resources across these problems, but often without explicit comparison of

them to determine how best to make such allocations. We design institutions to cope with each of these risks, but usually without explicit consideration of how we might learn from previous experience or how the institutions will interact with each other. But we could do better.

Current public discourse about climate change, vaccinations or a variety of other risks make it hard to be optimistic about the possibility of developing societal risk governance mechanisms that are competent in handling both facts and values.¹⁵ We seem to be caught between what TRR calls the “communication of fear” and the “communication of opportunity,” caught between Cassandra and Pollyanna. As TRR articulates, we need instead a “design discourse” where we intentionally shape technology and institutions to realize opportunities and avoid risks. The transition to a “Risk Society” is not so much a change in the risks we face as a view that we can design technologies and institutions in response to risk. TRR helps us to think logically and systematically about risk governance. It provides the language and logic for the design discourse we need to face the challenges of the 21st century.

Europe and the Governance of Global Finance

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*Iris H-Y Chiu**

This book is an exceptionally well-curated volume that seeks to explore the role and influence of the EU in the global governance of finance in the wake of the global financial crisis. In his introduction, Mügge presents an overview of the dominant US influence in international governance of the financial sector and the drivers for such influence. In light of the massive reforms that have taken place in the EU in terms of substantive regulation and regulatory architec-

14 See Eugene A. Rosa, et al., “Risk and Sustainability: A Look at two Global Threats,” 3 *Solutions* (2012), p. 59 *et seq.*

15 See Thomas Dietz, “Bringing Values and Deliberation to Science Communication,” 110 *Proceedings of the National Academy of Sciences* (2013), pp. 14081 *et seq.*

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