

# **A Thousand Flowers, A Thousand Weeds: New Challenges to the Rationality of Risk**

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Rationality—the idea that humans are reflexive, purposively motivated actors capable of optimal choice among preferences—is at least five centuries old. Seeded in the Italian Renaissance, cultivated in the scientific aspirations of the Enlightenment, and harvested throughout the age of modernity, rationality elevated human agency to a position of centrality in human thought and action. In this contemporary era of high modernity rationality enjoys a pervasive presence in the choices and actions of the entire range of social actors: individuals, organizations, institutions and the state. And rationality as a worldview provides the epistemological anchoring for a wide variety of practices and institutions: markets, legislative government, legal systems, health care, and many others.

In the contemporary era rationality entered the risk arena via engineering and economics. It continues to enjoy a pervasive presence in the modes of selecting and analyzing risk. Operationally, risk assessments and risk analyses are underpinned by rationality, especially quantitative versions of these framings. The logical structure of rationality, however, rests on key presuppositions. These presuppositions have attracted sustained criticisms from cognitive psychology, the psychometric paradigm in particular, over the past three decades. They are further challenged now by two germinal developments: advances in the neurosciences indicating that rationality is not housed entirely in the mind, and by the rapidly growing domains of risk, such as terrorism, global warming, genetic engineering, and nanotechnology. This paper delineates the emergent challenges to the presumed rationality of risk analysis and outlines alternatives to the dominant practices for understanding risk.