

Law Commission of Canada, ed., *Law and Risk* (Vancouver: UBC Press, 2005). Pp. viii, 208.

Risk permeates virtually all human activity, including law. Whether in devising sentencing guidelines, influencing legal reasoning, or assigning the burden of proof, concerns about an individual, a group, or a society's exposure to risk are often at the fore. Demystifying the meaning of "risk" and how we measure it is a complicated and layered task. It requires not only a disaggregation of numerous analytic methodologies, but also an intermingling of the worlds of science, mathematics, and social values.

The six essays comprising the book *Law and Risk*, edited by the Law Commission of Canada, take specific aim at what is meant by risk, how we understand it, and how it is applied in a legal context. The common tenor of the essays is that risk analysis is a function more of social values than of the cold logic of precise calculations. The different authors engage this thesis from varied and provocative vantage points. Some of the essays analyze specific legislation (see Mariana Valverde, Ron Levi & Dawn Moore, "Legal Knowledge of Risk" 86, which discusses Megan's Law—a term used in the United States for statutes that mandate community advisement upon the release of a sex offender who has a moderate to high risk of recidivism). Some deconstruct the reasoning in Supreme Court cases (see Danielle Pinard, "Evidentiary Principles with Respect to Judicial Review of Constitutionality: A Risk Management Perspective" 121, which discusses *Gosselin v. Quebec (A.G.)*¹ and *R. v. Sharpe*,²) while others look at the role of values in creating risk assessments (see e.g. Duff R. Waring & Trudo Lemmens, "Integrating Values in Risk Analysis of Biomedical Research: The Case for Regulatory Law Reform" 156).

The book, in focusing on the nexus between social values and risk analysis, nearly completely neglects to consider risk from a quantitative basis. At one point, when mathematical calculations are mentioned, it is done for the purpose of undermining the very reliability of scientific data.³ The authors of the opening essay anecdotally discuss the likelihood of the guilt of a person selected from a population of 500 000 and whose DNA matches that found at a crime scene. While the error rate for the DNA analysis is one in a million, the authors explain that the probability that this person is the culprit is surprisingly only sixty-seven per cent—far below the standard of beyond a reasonable doubt (William Leiss & Steve E. Hrudehy, "On Proof and Probability: Introduction to 'Law and Risk'" 1 at 8).⁴ The example serves as

¹ [2002] 4 S.C.R. 429, 221 D.L.R. (4th) 257, 2002 SCC 84 [*Gosselin* cited to S.C.R.].

² [2001] 1 S.C.R. 45, 194 D.L.R. (4th) 1, 2001 SCC 2.

³ While there are parts of the book that are numerate, such analysis does not form a significant part of the discussion.

⁴ Although the result may seem counterintuitive, it is easily arrived at by a Bayesian formulation of conditional probabilities.

useful rhetoric in fostering wariness towards scientific absolutism (in this case, the persuasiveness of DNA test results).

The discussion and analysis in the book continually draws the reader's attention back to the value-laden underpinnings of the risk discourse. For instance, the authors of "Legal Knowledges of Risk" (86), in discussing Megan's Law, point to the significant discretion held by judges in weighing and balancing the private and public concerns inherent in risk assessment. It is described as a process of translation—the alchemical change that risk and its evaluation undergo when taken from the scientific to the legal field. They argue that, in applying Megan's Law, the courts have broad discretion to control or even reject expert testimony relating to actuarial or clinical data in favour of the knowledge gained by the prosecutor through his or her work experience (103-104).

Dayna Nadine Scott, in her essay about the precautionary principle, discusses the political and unscientific nature of choosing amongst statistical tests and standards that are relied upon to verify the existence of a given harm (i.e., environmental degradation) ("Shifting the Burden of Proof: The Precautionary Principle and Its Potential for the 'Democratization' of Risk" 50 at 63). Scott uses as an example the discussion of genetically engineered foods; the decision as to whether the statistical analysis should be organized around ruling out the possibility of false positives or ruling out false negatives is, as she says, a value-based judgment (62-63).⁵ Do we want to protect the interests of businesses or avoid all possible consumer exposure to genetically engineered foods? The answer to this question will influence, if not determine, how tests for such foods are carried out.

In the final essay of the book, entitled "Integrating Values in Risk Analysis of Biomedical Research: The Case for Regulatory Law Reform" (156), Duff R. Waring and Trudo Lemmens candidly discuss the influential role of social values in the approval of medical trials by research ethics boards. The authors point out that risk assessments may have more to do with the values that inform the definitions of "harm" and "benefit" than they do with the quantitative methods being put forward (160).

The hegemony of social values in risk analysis is used throughout the book to underwrite various critiques of the adjudicative process. One such critique is how conclusions drawn from risk analysis steward the administration of justice. David MacAlister's essay ("Use of Risk Assessments by Canadian Judges in the Determination of Dangerous and Long-Term Offender Status, 1997-2002" 20), which compares the dangerous offender with the long-term offender designations in Canadian criminal law, is a good example. MacAlister identifies how, through the use of various risk measures, courts create the impression of bestowing well-supported, actuarial justice. The essay explains that one of the most popular scientific tests for

⁵ A false positive would show genetic modification where there is none; a false negative would not show genetic modification in every instance where it has occurred.

these designations is the Hare Psychopathy Checklist. A test taker who scores at least thirty on this test will be deemed to be a prototypical psychopath (28). The test result will then be used to assist in determining recidivism and, ultimately, will aid in determining the test taker's appropriate offender designation (i.e., long-term or dangerous).

MacAlister, in evaluating the utility of these actuarial results, is able to highlight the inherent problem of not being able to refute probability results (37). If someone is ruled to have only a five per cent chance of reoffending if released from jail, and so is released and then actually does reoffend, the analysis is not wrong per se. It did, after all, foresee a five per cent possibility. A court is in an obvious bind, because in deciding whether the person would be classified as a dangerous offender or a long-term offender, it does not know if it is dealing with someone who is in the five per cent or the ninety-five per cent range. MacAlister additionally warns of the danger of using results from group behaviour to make decisions about individuals (38).

In the essay "Legal Knowledges of Risk" (86), the authors argue, among other things, that risk analyses are used to revive needs-based solutions to drug-related crime. The authors explain that characterizing drug crimes within a "risk to society" construct has led to the development of special drug courts in Toronto, Vancouver, and elsewhere. These special courts operate in a unique fashion. They are designed to enable a dialogue between the drug offender and the judge, whereby a discussion of the former's drug violations are undertaken with suggestions by the respective lawyers of appropriate sentencing (e.g., community service, counselling, etc.). These courts also highlight how framing analysis in a risk context leads different actors to draw from different kinds of expertise. For instance, judges using pharmacological knowledge to try to convince drug offenders of the likelihood of further impeding their health, or lawyers using psychologically based argumentation to convince a judge of the benefit of giving a particular drug offender a second chance (111, 114). This fluidity of knowledge is termed "knowledge swapping" and is described as a dynamic and interactive development (116).

Another critique that emerges from these essays is the bias underlying the assignment of the burden of proof. As Danielle Pinard writes in her essay "Evidentiary Principles with Respect to Judicial Review of Constitutionality: A Risk Management Perspective" (121), the party with the burden of proof will bear the cost of scientific uncertainty. Who bears the evidentiary burden is a normative decision and a key determination with respect to risk management (127). Pinard is writing about claims based on the *Canadian Charter of Rights and Freedoms*,⁶ where the burden of proving a rights infringement rests with the claimant, and the burden of proving the reasonableness of such infringement rests with the Crown.

⁶ Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11.

Pinard dissects the reasoning in the 2001 Supreme Court of Canada decision of *Gosselin*,⁷ demonstrating how the uncertainty of the evidence and of the risks being claimed worked in favour of the Crown. Uncertainty ultimately contributed to the Crown's victory. The decision of who bears the burden of proof is not unlike Scott's discussion of how the choice of statistical methods influences the outcome.

The numerous authors—ten in all—who contributed to this book, discuss risk by conveying their ideas through advocacy, research, and rhetoric-based writing. The book nicely catalogues various instantiations of risk analysis, its relative usefulness, and its underlying arbitrariness. Though some of the writing verges on the polemical, and perhaps in some cases overstates the politicization of scientific testing, the cross-section and currency of legal topics covered provides a compelling case for the importance of risk in even the most generalized consideration of law.

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⁷ *Supra* note 1.