

RISK: Health, Safety & Environment (1990-2002)

Volume 11 | Number 3

Article 12

June 2000

Review of: Sharon M. Friedman et al. eds., Communicating Uncertainty

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Daniel D. Howard, *Review of: Sharon M. Friedman et al. eds., Communicating Uncertainty*, 11 RISK 263 (2000).

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Review of: Sharon M. Friedman et al. eds., *Communicating Uncertainty*

Erratum

The citation for this review is *11 RISK 255 (2000)* in most commercial databases.

Communicating Uncertainty: Media Coverage of New and Controversial Science (Sharon M. Friedman, Sharon Dunwoody & Carol L. Rogers, eds.; Lawrence Erlbaum Associates 1999). Preface, introduction. ISBN 0-8058-2728-5 [261 pp. \$32.50. Paperback, 10 Industrial Avenue, Mahwah, NJ 07430-2262].

Traditionally, scientific inquiry has focused on the positive results of research with the ultimate goal of revealing proven or provable truth about our universe. *Communicating Uncertainty* provides a meaningful counterpoint to this traditional analysis by examining scientific pursuits from the perspective of the gaps remaining in our collective knowledge after a given scientific inquiry, and how we manage and convey that information. Through a collection of independently authored chapters, the book examines the manner in which these gaps in scientific knowledge define and explain the positive output of science.

Although the book is comprised of individual chapters penned by various authors, the chapters are more internally consistent than is frequently the case in collections of individual essays. The editors establish their themes in the introduction, including some useful definitions, and the chapters following tend to adhere closely to those themes. For example, the primary recurring theme in the book centers on the three essential classes of participants in the scientific discourse: scientists, journalists, and the public. This theme recurs throughout the subjects discussed within each chapter. Each of the three major sections of the book concludes with a panel discussion of the topics introduced by the previous chapters; here again the "three participant" theme resounds, as the members of the panels are the respective participants in the scientific discourse (scientists, journalists, the public).

Within this framework of competing interests, the various authors make some illuminating points about how the different classes use uncertainty to their respective advantages. Scientists use uncertainty to both legitimize their conclusions, by avoiding the appearance of overzealousness, and to suggest the need for continuing research, thus providing the scientists with job security.¹ Journalists tend to downplay

¹ See *Communicating Uncertainty: Media Coverage of New and Controversial Science* 12-13 (Sharon M. Friedman et al. eds. 1999).

uncertainty in their quest for supportable facts,² though they occasionally suggest more uncertainty than would the scientists.³ Thus, the public is left with the need to discern usable truth from the various claims stated, and must actively negotiate these conflicting claims so as to make sense of the uncertainly presented.⁴ The bulk of the book discusses the interrelationships among these groups.

The authors effectively use examples to illustrate their claims. In addition to examples based on “hard” scientific inquiry into mainstream topics such as dioxin and acid rain, the authors use simple examples of statistical analysis to illustrate the importance of accurate representations of error and uncertainty. One such example is a journalistic investigation into parents’ suspicions that their children are being disproportionately burdened (literally) by their school’s homework requirements, resulting in excessively heavy backpacks and the consequent danger of back injuries.⁵ Although the journalists’ results support the parents’ claims, the authors reveal errors in the “scientific” methods used: backpacks were not randomly sampled but were subjectively chosen by the reporters, leaving open the possibility of drastically skewed results. This simple example illustrates how data manipulation can alter the perceived uncertainty of the resulting conclusions.

Consistent with the overlying theme of three classes of participants in the scientific discourse, the panel discussions included at the end of each major section of the book include representatives of the scientific community, journalism, and the public. However, this representative participation is somewhat artificial because of the difficulty in defining “the public.” As a result, the “public” representatives tend to be scientists and journalists playing the role of public advocate. As long as the reader bears in mind that the views expressed as representing the public are to some extent artificially formulated, she will not be misled by those views. The reader, a member of “the public,” is always free to interpret the discussions from her personal perspective.

² See *id.* at 24-27.

³ See *id.* at 28-30.

⁴ See *id.* at 55.

⁵ See *id.* at 237-39.

The greatest shortcoming of *Communicating Uncertainty* is its lack of a unifying conclusion. The editors intended to provide a broad-reaching analysis of this narrowly focused aspect of scientific discourse, and they did so effectively by bringing in diverse voices to present various analyses. However, without a unifying conclusion, the reader must retrace her steps through the various chapters and the introductory material to draw her conclusions. Despite this shortcoming, the book provides an effective introduction to the less frequently examined aspects of scientific discourse to help shape our available knowledge.

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