## William Leiss.
## In The Chamber of Risks: Understanding Risk Controversies

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Based on a detailed analysis of case studies on a wide range of environmental and health risk issues, William Leiss (and his chapter collaborators) has provided some useful insights concerning the nature of modern risk controversies. In essence, this well-organized and well-written book could be characterized as an academically informed "lessons to be learned" treatise on risk management.

The title of the book, "In the Chamber of Risks" refers to how the modern practice of risk management is akin to a chamber with many rooms, with each room occupied by a mix of different actors, including: professional risk managers, politicians, representatives from industry, citizens and members of social movements. Under such conditions, it is argued that risk controversies frequently arise because of social factors, particularly those associated with ineffective communication between technically trained professional risk managers and the (untrained) general public. Such an analytical theme was introduced in an earlier work by the author (Powell and Leiss, 1997) in terms of what was referred to as the "risk information vacuum" — that is, the gap between the unfolding descriptions of risks based on technical risk assessment and the public understanding (and perception) of these same risks. The present work broadens the scope of this theme to include, among other topics, the common structure and stages that underlie risk controversies. For Leiss, "competent" risk management can only be achieved if the foundational structure of such controversies are better understood. It is argued that such understanding will facilitate the movement towards a more satisfactory and effective relationship between science and the public in the context of dealing with risk issues. In this light, the author contends that one of the major problems in dealing with risk stems from the failure of organizations and actors to distinguish between risk management and risk *issue* management. The case studies reviewed in the book are meant to highlight the importance of this distinction.

According to Leiss, risk management deals with the technical risk assessment process and the regulatory actions to be taken on that basis (although not explicitly referred to by the author, risk assessment is usually conceived in terms of the following steps: risk identification, exposure assessment, dose-response assessment and quantitative risk characterization). In contrast, risk issue management is not a narrow, technically driven process, but one that deals with phenomena occurring at the broader societal level, including those socio-political controversies arising from the results of the risk assessment. Thus, the goal of risk management is regulatory control of the hazards in question, while the goal of risk issue management is to respond to the public controversy and concerns that may arise concerning the inadequacy of the prescribed risk management measures and approaches. For example, risk issue management may involve such social phenomena as stakeholder confrontation and dispute concerning the existence or scope of a risk and how it should be managed (e.g. genetically modified food); the inability of public officials to change risk taking behaviour in the population (e.g. tobacco use); or expressions of public concern over risks that are poorly characterized due to the inherent technical uncertainties and limitations of formal risk assessment (e.g. cellular phone use, cloning, greenhouse gas emission and climate change).

For the sake of clarity in presentation, the case studies covered in the book are covered in two main sections, the first dealing with the role of industry in risk controversies, and the second pertaining to government involvement. It is evident however, that there is considerable overlap of both industry and state involvement in these risk-related matters. In particular, the author notes that, in general, although governments are usually engaged in risk management as well as risk issue management, they currently tend to develop a relatively good competence in the former, but not in the latter (at least in the Canadian context). Leiss contends that the primary reason for this neglect is because risk assessors often reject the legitimacy of risk controversies (presumably because of an emphasis in professional socialization and training that encourages autonomy in doing technical risk assessments – i.e. free from non-technical "interference").

The first section of the book discusses the risk controversies surrounding: genetically modified foods, cellular telephone use, and the regulation of the manganese-based fuel additive MMT (methylcyclopentaienyl manganese tricarbonyl), nuclear power and pulp mill effluent. In turn, the second section deals with government efforts directed towards the development of the Canadian Environmental Protection Act (CEPA), the use of voluntary instruments, and the control of tobacco use. As alluded to previously, much credit must go to the author for identifying and calling attention to the lessons that can be learned from analyzing the specific cases of risk management and risk issue management controversies, and I will briefly review some of these to help the reader understand some of the author's practical insights.

Leiss' analyses reveals that a recurring and contributing factor that lies at the heart of many risk controversies involves the role of scientific knowledge and expert evaluation – in general, the relationship between science and the public. For example, in the case of plant biotechology and genetically modified food, Leiss notes that much of the public outcry could be attributed to how industry and government engaged in a somewhat covert dialogue, leading to a Canadian government position that specifically targeted economic growth in this new area. Similarly, in the case of MMT, the lack of transparency in the decision-making process between government and representatives from the petroleum products and automotive industries led to tensions not only between these groups and the general public, but also between the provincial and federal governments (which brings to mind the current controversies surrounding the ratification of the Kyoto Protocol by Canada). In both cases, it was only after government commitment to a basic policy framework that the public was invited to participate in the policy process. By this time, however, it was too late, and the public felt somewhat "hoodwinked." The lesson therefore, was that the public should be given opportunities to become actively involved and educated on technical matters at the very beginning of the decision-making process. As such, efforts must be made to ensure a transparent, long-term process that is accountable to the general public.

The need for accountability is another important aspect of risk management and risk issue management, as Michael Mehta notes in a chapter on nuclear power regulation. Much of the controversy about the social acceptability of nuclear power can evidently be traced to the very high level of autonomy that the Atomic Energy Control Board (AECB) has in making decisions about nuclear power with little to no requirement for public input or participation in regulatory decision-making. Consequently, two competing paradigms clash and contribute to problems in risk issue management — a positivist conception of risk adopted by the AECB versus the general public's culturally embedded conception

of risk.

The issue of public accountability is also involved in issues related to voluntary initiatives (as described in the chapter by E. Darier and D. VanNijnatten). By relying on industry to establish their own regulatory standards, the question of enforcement arises as some firms may opt for a "free ride" by not establishing or adhering to standards. The authors therefore recommend an independent third party be established to monitor the performance claims of firms and ensure that there is adherence to the self-developed and self-imposed regulations. The suggestion of using independent third parties is another practical recommendation that Leiss feels can address other aspects of risk problems as well (a point I will discuss in more detail later).

It is evident from the case study analyses that the use and dissemination of technical knowledge in risk controversies is another important area that warrants attention. For example, in establishing regulations for pulp mill effluent emissions, industry and government had to deal with an ever changing state of scientific risk assessment information. As a result, already established regulations had to be continually revisited and revised on the basis of inconclusive information available at a given time, thus leading to the public perception that such regulations were changing at the whim of the government (and perhaps the industrial lobby).

The use of technical knowledge however does not fall under the exclusive purview of professional risk assessors in government and industry. This was well illustrated by a case study dealing with cellular telephones (co-authored with G. Paoli). In one of the more interesting chapters of the book, the authors describe how Vancouver activists opposed to the construction of a large cell phone communication antenna accessed the Internet to equip and educate themselves about the technical claims involved in this risk dispute. In the process, activists "networked" with like-minded individuals around the world; learned how to ask questions of experts and essentially become skilled interveners in risk conflicts. The authors observe that the basic framing of modern risk issues is now being influenced by the "imperceptible blending of scientific and anecdotal evidence," but the implications of the use of the Internet for risk controversies is only beginning to be studied.

To establish more effective risk communication and competent, accountable risk management practices, Leiss offers several courses of action. First, industry should change its mindset from one of denial or avoidance of risk controversies to one of accepting responsibility and working with other stakeholders in society. Part of this process is to openly address the uncertainties involved with the risk assessment process (particularly in regard to determining the scope and impact of the hazards). Second, officials must accept the idea that decisions about risk and regulation cannot be simply based on technical criteria or scientific judgements by experts. Rather, in order to manage the risk issue to the satisfaction of all, the criteria and suggestions from the public must be seriously considered and incorporated in policy formation (where possible). Leiss also notes that in those situations where impartial technical input is required, such advice can be provided by a panel of experts who may be recruited from national academies, such as the Royal Society of Canada or the U.S. National Academy of Sciences (details are given in the book's appendix in regard to the provision of independent expert advice to government and the public). Third, efforts must be made to communicate about risks in an appropriate manner. In moving towards this objective, Leiss recommends the recruitment of independent and credible third party groups who can be trusted to create a fair and impartial setting for risk dialogues (perhaps these can also come from the academies).

In evaluating this book for sociologists, I would begin by reiterating that the value, importance and significance of this work stems from the many practical recommendations that stem from the analyses. At the same time, therein lies perhaps the only serious shortcoming I have, namely, in focusing primarily on the meso-domain of risk management from a practical standpoint, the author tends to neglect the more explicitly sociological dimensions of the analysis. By this I mean that very little effort was made in the analysis to incorporate or use the current theoretical work in environmental sociology, new social movement theory, the sociology of risk and political sociology (except perhaps for the chapter on regulating nuclear power). For example, broader sociological insights could have been gained by engaging with the notion of the "relative autonomy of the state" in analyzing the government, industry, society relationships in risk management. This would at the very least ensure proper and critical attention to the power dynamics involved in the various cases. Similarly, many other perspectives such as the risk society thesis; research on political opportunity structures; resource mobilization theory; political economy and the social constructionist approach could have at least been acknowledged to greater extent than it was in such a comprehensive analytical treatment of issues related to risk. Such theoretical perspectives would perhaps not only enrich the treatment of the cases but help move them beyond the level of thoughtful description, commentary and policy evaluation. It should be acknowledged, however, that there is much that the book offers, at a practical level, to those studying or practicing in the field of public administration, environmental studies, the study of science and society and perhaps communications studies.

References

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