Texas A&M University Interlibrary Loan
RAPID:UUM

ILLiad TN: 2941044

Borrower: RAPID:UUM

Lending String:

Patron:

Journal Title: The SAGE handbook of risk communication

Volume: **Issue:**
Month/Year: 2015 **Pages:** 86-98

Article Author: Robin E. Jensen

Article Title: Rhetoric of Risk

Imprint: RAPID: -9558971

ILL Number: -9558971

8/17/2015 9:01 AM
(Please update within 24 hours)

Call #: **T10.68 .S34 2015**

Location: **stk**

Scan
Charge
Maxcost:

Shipping Address:
Marriott Library

Fax:
Ariel: 129.82.28.195
Email: 129.82.28.195
Odyssey:

Note:

CHAPTER 6

Rhetoric of Risk

Robin E. Jensen

Introduction

Rhetoric of risk scholars consider how risks emerge *through* discourse and are therefore discursive. Rather than assuming that risks exist exclusively in the material world, rhetorical explorations of risk are distinguished from other perspectives for their conceptualization of risk as something that comes into being (i.e., is constituted) at the moment of communication. This chapter aims to demonstrate how and to what ends scholarship in this area conceives of risk as a discursive construction. After a brief introduction, I identify the current major lines of research that have emerged from the study of rhetoric and risk—highlighting points of agreement and dissent—and provide an overview of the theoretical deliberations driving this mode of inquiry. Finally, I reflect, briefly, on an important theoretical consideration for future research in this area, and I delineate three promising research directions.

Scholars of rhetoric have long claimed that risk is both a topic and a topoi (i.e., a convention for building arguments) naturally positioned within the purview of their expertise (see, e.g., Danisch, 2011; Gross, 1994; Katz & Miller, 1996). In an overarching sense, rhetorical scholarship tends to focus on exploring what Aristotle described as "the available means of persuasion" in any given situation (Aristotle, trans. 1941, *Rhet.* 1.2, 1355b26f). Rhetorical scholars decipher what symbols might mean to specific audiences in particular contexts and how those symbols develop, circulate, transform, influence, and motivate. No matter the context, the persuasive/motivational process is one that emerges from a sense of uncertainty about past, present, and/or future happenings, as well as from corresponding questions about the most appropriate way to act in response to (or in anticipation of) those happenings. Danisch (2010, 2011) reasoned that the idea of risk—which is only ever probable and always necessarily uncertain—is a constant subject of and source for persuasive endeavors. In this respect, he argued that it makes sense that risk is repeatedly at the center of rhetorical inquiry into discursive interaction.

Indeed, over the past decade, scholars have gone from recognizing that rhetoricians regularly ground their work in topics related to risk framing and perception to delineating a subfield of study specifically dedicated to the rhetoric of risk. Ayotte, Bernard, and O'Hair (2009), for instance, have recently defined the rhetoric of risk as the study of discourses about risk and how

they function to shape perceptions of human history. More specifically, they position this area of study as one dedicated to exploring "how particular risks come to be persuasive *as* facts of the world rather than only why a particular rhetorical framing of pregiven facts does or does not move public audiences" (p. 616). Ultimately, this emphasis on understanding *how* risks are constituted via rhetoric over time is one that pervades scholarship in this area. For instance, scholars such as Grabill and Simmons (1998) emphasized the role that context and social factors play in discursive accounts of risk. Similarly, Sauer (2002) published a volume titled *The Rhetoric of Risk* and dedicated it to expanding traditional notions of risk (i.e., the conceptualization of risk as an elite truth delivered in strategic ways to the masses) to account for the role that lay individuals play—via writings, speeches, images, performances, events, and even gestures—in the communication of risk in specific situations and historical moments.

Despite the diversity of their subject matter (e.g., terrorist threats, regulatory communication in the workplace, and educational outcomes), these authors all aim to question the notion of risk as something that can be discovered via mathematical equations or psychometric scales. Risk assessment equations and scales generally attempt to calculate the likelihood of a specific threat or potential hazard in light of the amount of effort or harm that might be incurred by attempts to allay the threat's occurrence. Frequently employed by professionals such as actuaries, governmental committee members, and organizational administrators, these equations are often the factors that decide issues including a person's eligibility for life or health insurance, an airport's security protocol, the grounding of new construction on a known Superfund site, the age at which a woman is encouraged by her doctor to get a mammogram, or the proliferation of a nation's supply of nuclear weapons. The underlying goal in drawing from these equations to make potentially life-altering decisions is on transforming the unknowable and ephemeral future into something that resembles a predictable fact (see Taylor, 2010). Yet as Schwartzman, Ross, and Berube (2011) have noted, objective risk assessment tools along these lines—as well as the risk assessment plans or "fantasy documents" for which they provide justification (Danisch, 2011; Keränen, 2008, p. 233)—often do not account adequately for human perceptions of and reactions to risk discourse, mostly because, as Grabill and Simmons (1998) have argued, lay perceptions of risk rarely align with risk assessors' perceptions of risk.

Scholarship on the rhetoric of risk, then, is designed to offer a counterpoint to (or at least an opportunity for refining) these more technocratic approaches by accounting for risk as the result of communication—and therefore as symbolic and contextual—rather than as definitive. The major argument uniting rhetoric of risk scholars is that all notions of risk are at least partly discursively constructed and that to communicate about risk is also to create risk. Thus, their work as a whole involves the study of discourse designed to communicate about risk, a task that generally includes close analysis of the symbols employed therein and the implications for framing risk in one way rather than another. Yet, as the following section lays out, there exists within rhetorical scholarship on risk a range of interpretations about the claim that risk is constitutive, as well as a number of different uses to which this claim has been enlisted.

Major Research Areas

Three major areas of research make up the bulk of current scholarship on the rhetoric of risk. These areas emphasize risk as discursively constructed, as the product of deliberation, and as the focus of rhetorical analysis. Although the scholarship within each individual category tends to cluster together under common concerns and assumptions, the categories themselves

are not mutually exclusive and so occasionally overlap in terms of findings and points of application.

Risk as Discursively Constructed

While some rhetoric of risk scholars use the constructed nature of risk as a point of departure for analyzing a range of diverse risk-related topics, others have focused more exclusively on theorizing about risk as discursively constructed. The latter tend to begin their theoretical analyses by deconstructing the idea that risk can be empirically identified in the world. In some cases, these authors point to specific analyses of risk communication that they believe are grounded in the idea that risk is primarily a material reality, and they argue why and how this theoretical foundation is faulty. For example, Ayotte et al. (2009) held that Farrell and Goodnight's (1981) research on the 1979 Three Mile Island nuclear plant disaster was grounded in the idea that effective discourse communicates risk as it actually exists in the world. From this perspective, communicative problems are primarily the result of a communicator's inaccurate, unclear, and/or misleading reports. Ayotte et al. (2009) argued that, although such work "can provide useful insights about the ways in which certain rhetorical styles can affect an audience's reception of message," the assumptions on which such work is grounded limit scholars' ability to trace the emergence of social understandings of risk because the possibility that risk is discursively created is negated (p. 615).

At the extreme end of research following in this tradition are scholars who have portrayed themselves as largely reluctant to conceive of risk in a material sense (see, e.g., Danisch, 2010, 2011). These researchers stand in contrast to more moderate risk constructivists who have explicitly recognized a material/physical component of risk. Preda (2005), for example, maintained that risk is real in the sense that some impending, projected dangers do come to pass, the consequences of which are often experienced on a physical, material level that can be seen, measured, and even predicted to some extent. Yet Preda qualified this claim by noting that risk's "order of reality is not constituted according to a clear-cut distinction between soft and hard worlds that never mingle" (p. 16). Risk, according to Preda, is discursive just as much as it is material, and he held that it is all but impossible to distinguish between the two because they are inherently intertwined. For example, in a discussion about risks associated with HIV/AIDS, Preda posited that the rhetorical nature of risk (e.g., how HIV/AIDS is communicated as threatening) is in constant communication with the material realities of risks realized (e.g., the raw physical pain that can accompany infection). Scientific research findings, mass media portrayals, and the lived experience of danger and crisis come together to constitute risk in the public sphere. In this respect, Preda's work demonstrates that scholars of the rhetoric of risk need not necessarily argue from the position that risk exists *only* because it is discussed. Instead, Preda's conclusions imply that scholars offer increasingly valid and applicable theories of risk when they conceptualize risk as something that is both the product of *and* the catalyst for discourse. In addition, his conceptualization allows for, and perhaps even invites, the development of intra- and interdisciplinary collaboration efforts—efforts that ultimately serve as academic currency for grants, fellowships, publications, and the like.

Current attempts at theorizing risk as a conglomeration of material and discursive conditions seek to explore not only overarching ideas of risk but also the constitution of specific risk categories and groups. The process of forecasting or assessing risk tends to involve the identification of certain behaviors, attributes, or characteristics as particularly perilous. Those who are discursively constructed via risk assessments as members of a high-risk group or as at-risk for experiencing a negative outcome often find themselves simultaneous Other-ed and thereby positioned as abnormal (Douglas, 1992; Lupton, 1999; see also Bell, 2006). Although, as Preda's (2005) work makes clear, there is often an empirical reason that

certain individuals are flagged as at-risk for experiencing specific hardships, rhetoric of risk scholars have chronicled the vast discursive repercussions that tend to follow the emergence of such designations. For instance, Treichler (1999) noted that early risk categories for HIV/AIDS not only designated as at-risk those individuals who were not empirically at higher risk for infection than were others (e.g., Haitians) but also failed to include or account for individuals who were empirically at risk for infection (e.g., woman and infants). These discursive choices had costly material implications in terms of unwarranted stigmatization, failed opportunities to encourage preventive behaviors and adherence to treatment, and an escalation in the spread of infection. Fassett and Warren (2005) offered a corresponding example in light of students deemed at-risk for educational failure. They posited that labeling a student at-risk because of variables related to individual demographics or interests was to fail to attend to the context of individuals' opportunities and experiences within the educational system, experiences that may include a lack of educational access or support, a school system driven by student tracking, and/or sociocultural expectations related to variables such as gender, race, religion, and class. Fassett and Warren's analysis of an at-risk student's discussion of her educational experiences and perceived prospects highlights the discursive double bind that the creation of risk categories calls into being. Their conclusion is not that the designation of at-risk groups is entirely negative or somehow avoidable. Instead, they called for scholars and educators to remain ever dedicated to the task of recognizing structural factors that play a role in positioning individuals in this way—factors that often seem to function prophetically when in combination with the discursive creation of risk categories.

Risk as the Product of Deliberation

Several key rhetoric of risk scholars have focused on extending the idea that risk is discursively constructed to encompass the broader value claim that risk is best delineated when it is the product of deliberative (i.e., interactive) decision making. This position is grounded in a critique of risk as defined via unilateral, top-down communication, or what Gross (1994) described as the "deficit model of public understanding" in which experts transfer technical knowledge to passive, uninformed lay publics. More recently, Grabill and Simmons (1998) further categorized top-down risk delineation as either technocratic (e.g., "a one-way flow of technical information from the 'experts' to the public"; p. 421; see also Rowan, 1991) or negotiated (e.g., an interactive collaboration in which anyone who is or might be affected by a risk may participate, regardless of rank, knowledge level, or background). They maintained that even the latter model, which draws theoretically from diverse perspectives via broad participation a la Habermas (1983), offers an essentially top-down explication of risk. Their critique lies in the negotiated model's overarching failure to account for participants' power differences and what Noelle-Neumann (1984) deemed the "spiral of silence" that often results from such differences. Although any individual may participate in deliberations about risk in this framework, many individuals realistically will not participate in light of social pressures to remain silent or to agree with those in power. Such silence, according to Grabill and Simmons, positions those who are neither experts nor leaders within a community without a true say in the process of negotiated knowledge production concerning risk, thereby facilitating the "'oppression' of (typically citizen) audiences" (p. 423).

In response to the failures of technocratic and negotiated risk models, several scholars have offered corrective philosophies of deliberated risk. Grabill and Simmons (1998), for instance, explicated a theory of critical rhetoric for risk communication with the goal of minimizing the widespread acceptance of elitist constructions of risk and maximizing the role that lay publics play in conceptualizing risks both specific and overarching. Their work is based on an ideal of participatory democracy in which risk is contextualized and

recognized as something that emerges in the process of deliberation among truly diverse parties. In this conceptualization, lay individuals are not just able or allowed to participate in deliberations, à la the negotiation model, but they are encouraged and even expected to participate because their unique voices and experiences work to legitimize the process and outcome of risk delineation. Although the authors are a bit vague about what this method might look like in practice (as well as what the implications might be of expected participation), their argument that individuals themselves are "the best judge of their own interests" paves the way for continued theorizing about how deliberations concerning risk might be configured to highlight and encourage the discursive contributions of individual stakeholders (p. 429).

Like Grabill and Simmons (1998), Sauer (2002) has also aimed to work from an idea of risk that emerges from the tenets of participatory democracy. In analyzing discourse about mine safety and risk assessment, she echoed Grabill and Simmons's claims about the important role that lay publics (i.e., mine employees) can play in even the very first stages of risk identification and decision making, particularly if risk-related policies are to be created that truly protect and benefit them as stakeholders (see also Simmons, 2007). Yet Sauer resisted attempts to designate an overarching framework for participatory risk delineation for fear that such a model would inadequately accommodate the contextual diversity at play in specific scenarios. Instead, through her own scholarship, she modeled a more flexible understanding of stakeholder contributions and argued that although lay participation in risk deliberations is generally appropriate and necessary, it can, in some cases, be counterproductive. For instance, one might conceive of an unprecedented viral plague spreading rapidly through a community, a plague that can be avoided only via strict adherence to unfamiliar preventative behaviors. Attempts to foster participatory risk identification and assessment in the midst of such a time sensitive, technical scenario would, no doubt, be both unpractical and irresponsible. Although participatory deliberative practices may be an ideal from which to begin theorizing about risk, scenarios like this one demonstrate that it is not always the best course of action. Ultimately, Sauer concluded that risk specialists (e.g., technical experts such as public health advocates, government officials, and regulatory agency administrators) must decide if a specific situation warrants a top-down delineation of risk in which they, as experts, "represent information that will achieve the desired outcome" (p. 14). In this respect, Sauer's conceptualization of participatory risk delineation accounts for the contingent nature of applied risk communication, while still emphasizing the value in open negotiations about risk. At the same time, however, it could be argued that her approach still positions those with technical (but not necessarily experiential) expertise as solely responsible for the conceptualization and circulation of risk. Despite her emphasis on broad participation and input, Sauer ultimately positioned elites as the ones to determine whether or not lay individuals should be allowed to participate in deliberations about risk delineation in any given case.

In spite of this potential criticism, several scholars have recently echoed and even extended Sauer's (2002) claim, arguing that the ideal of widespread participation in risk communication may sometimes facilitate manipulation or miscommunication on the part of technical experts. For instance, Heiss (2011) demonstrated that, particularly in the realm of marketing and promotion, companies and associations may foster the perception that their ideas about risk are the result of inclusive deliberation, even though the deliberations in question have been strategically orchestrated to communicate a specific risk-oriented outcome. Stratman, Boykin, Holmes, Laufer, and Breen (1995) offered a less egregious example of the potential for miscommunication in participatory deliberation about risk by focusing on the contradictions inherent in attempts to balance organizational expectations with public contributions to and understandings of risk communication. More specifically, they delineated

the U.S. Environmental Protection Agency's (EPA) failed attempts to convince Aspen, Colorado, residents of the extreme health risks associated with exposure to local mine waste. In this situation, the EPA's protocol for risk assessment and communication required that regulatory agency employees be the ones to interpret evidence and ultimately lay out steps for risk reduction via public communication efforts. The employees' call to regulate risk and reduce harm for lay citizens was ultimately viewed by many Aspen residents as at-odds with their own contributions to public deliberations about what constituted risk. Although the agency's records encouraged agents to conceive of the public as a partner in the risk-assessment process and to provide opportunities for public participation in risk delineation, the organization's broader goals and standards (which required that EPA employees define and set the terms of a given risk) did not allow for meaningful public input. The authors concluded that the EPA's answer to this impasse "seems to be to let people be heard, but in highly formalized, highly controlled ways that will *not interfere* with either EPA's control of protocol or EPA's ownership of risk determination expertise" (p. 13). Such attempts to create a facade of public participation ultimately do more harm than good, according to Stratman and colleagues, because organizational leaders are not positioned to make use of the information lay publics provide them. Therefore, regulatory agencies often do not understand public perspectives, even though by all accounts they should, and publics continue encountering risk messages that are not informed by their pro-offered perspectives or beliefs. In the end, publics' unique concerns are not addressed and preventative measures are rarely taken.

Stratman and colleagues' (1995) analysis certainly calls into question the practicality of deliberative risk delineation, particularly in the contexts of governmental or regulatory oversight; and other recent scholarship has taken this critique a step further by questioning the overall applicability and generalizability of such a model. Ding (2009), for instance, complicated basic understandings of risk identification as the product of participatory democracy by considering non-Western contexts and focusing specifically on scenarios in which official discourses of risk are censored and therefore limited or nonexistent. In these situations, the process of fostering public engagement is one that could very well endanger the safety of risk communication advocates themselves, as well as individual members of lay publics who decide to speak up. Ding argued that to participate or invite participation under these conditions "is not a straightforward decision" because information is not widely available, opportunities for participation must be covert to ensure the protection of contributors, and occasions for collaboration are few as governmental and/or regulatory organizations, alternative media outlets, and members of lay publics are generally positioned in adversarial relationships (p. 345). This research highlights not only the current lack of scholarship exploring discourses of risk in international contexts but also the continued need for theorizing about the value (and ethical implications) of public participation when access to official information about potential dangers is unavailable. Ding's work, as well as that of Sauer (2002) and Stratman and colleagues (1995), serves as a reminder that understandings of participatory risk delineation are only ever useful to scholars and practitioners as a context-specific process that resists standardization.

Risk as the Focus of Rhetorical Analysis

Beyond constitutive and participatory conversations about risk, the third major category of ongoing scholarship within the rhetoric of risk subfield involves the identification and delineation of rhetorical strategies for analyzing and managing risk rhetoric. Although some scholars such as Ayotte et al. (2009) have depicted this line of inquiry as limited in terms of what it can offer to broader conceptualizations of symbolic risk

construction over time, questions about which rhetorical strategies have been (or might be) used in specific situations and to what end remain relevant to understandings of risk as a discursive creation and persuasive endeavor. On the whole, research in this area generally focuses on rhetorical prescription and application and/or on rhetorical deconstruction, both of which tend to draw heavily from the tomes of classical rhetorical theory.

Hoffman and Ford's (2010) scholarship on organizational rhetoric offers a clear example of prescriptive research in this area as it outlines a number of inductively selected rhetorical strategies that may be used "to manage risk-related situations" (p. 174). Drawing from Bitzer's (1968) foundational work on the "rhetorical situation," Hoffman and Ford conceptualized risks as exigencies (i.e., "imperfection[s] marked by urgency") that rhetors (i.e., communicators) seek to alleviate via symbolic interaction (Bitzer, 1968, pp. 1, 6). Their prescription for diminishing specific risk-oriented exigencies through discourse is grounded heavily in Aristotelian theories of rhetorical invention, style, and delivery. Readers are encouraged, for instance, to attend to the ways that potential risk-oriented messages present their ethos or credibility, as well as the ways in which their messages establish arguments based in appropriate and consistent logos or evidence. Although the authors follow up their suggestions with compelling case studies and specific illustrations, the limitation of prescriptive scholarship along these lines is that inductive advice speaks to so broad an audience and so nebulous a context that direct application of these strategies generally proves to be impractical. To be fair, Hoffman and Ford's work as a whole spans a number of different trajectories, commenting not only on practical application and construction of risk messages but also on the deconstruction of rhetoric about risk and—harkening back to the conceptualization of risk as a product of deliberation—the value in "community participation in controversies over risk" (p. 177). Nevertheless, their conception of risk as a rhetorical exigency is representative of other prescriptive scholarship on rhetoric and risk (see Boyd, 2003; Heath, 2009), scholarship that highlights the need for continued theorizing about risk as an external or constructed exigency and follows existing critiques of the rhetorical situation as a whole (see, e.g., Biesecker, 1989; Edbauer, 2005; Vatz, 1973).

Deconstructive scholarship in this area is essentially the inverse of prescriptive research in that scholars work deductively from risk discourse itself to understand how risk has been constructed and to what symbolic ends. In her scholarship on occupational risk among miners, Sauer (2002) argued that her goal in analyzing risk-oriented documents and the texts of interviews with miners about risk was to "investigate the full range of genres and communication practices that arose in response to particular problems of work, risk, authority, uncertainty, and disaster" (p. 6). She sought to identify and assess the range of rhetorical strategies that mine workers used to negotiate risk in the workplace. Although there are moments in her work when she draws from her findings to justify the prescription of future discourse, her emphasis remains largely on understanding how rhetoric about risk functions and what that means in terms of occupational health and safety.

In his work on the "risky rhetoric" surrounding the surveillance and prevention of HIV/AIDS, Scott (2003) also employed a deconstructive approach to assess the symbolic function of discourse about HIV-testing practices. He focused extensively on exploring how such rhetoric may encourage individuals to identify themselves as at-risk or safe, and what those identifications might mean in terms of discursive and lived health experiences. Like Hoffman and Ford (2010), Scott justified several of his key analytical findings by drawing from Aristotelian constructs, often emphasizing—for example—the role that appeals to kairos (i.e., appropriate timing) play in advertisements and risk-assessment documents (see also Scott, 2006). His conclusions (which highlight how risk rhetoric can encourage those who are not empirically at-risk

to spend resources on risk prevention, while correspondingly overlooking those who are most in need of preventative information and services) iterate the value in using rhetorical analytic methods to deconstruct ongoing risk-related discourse.

Reflections for Theory and Research

Ultimately, the most important theoretical task for those studying risk from a rhetorical perspective in the years to come will involve not the creation of a standardized model outlining a single process of risk constitution but, rather, the outlining of multiple ways in which "risk" is, and has been, upheld. Continued and vigilant attention to the criteria used to establish what (and who) is categorized as risky will work to ensure that risk is understood—always—as a product of discursive choices, choices that can and should be changed if they no longer serve the ends to which they were intended.

Related arguments have been made to encourage those studying the so-called rhetorical cannon not only to reassess what sorts of texts and speakers should be included therein but also to reconsider and retheorize the underlying principles or discursive conditions upholding canonical membership in the first place (Biesecker, 1992). To include women's rhetoric, for instance, in a list of canonical texts without considering why women have largely been excluded up until that point does little to ensure that the future of the cannon will be less exclusionary or that the cannon's content will be substantively different. Similarly, adding or subtracting things to the list of recognized risks has few long-term implications if such moves are not preceded by an investigation into both the stated and unstated rules that go into identifying risk. For instance, attempts to adjust the age at which women are encouraged to get a yearly mammogram (and to thereby alter when they are said to be either at a substantial risk for breast cancer and/or at a point at which mammography offers more benefit than it does risk) likely has more to do with ongoing criteria for establishing medical risk—criteria related to issues such as the cost of false positives—than it has to do with the specific age selected. Scholarly work grounded in an ongoing theoretical dedication to exploring (and constantly reconsidering and readjusting) what factors go into defining risk will uphold a risk-communication process in which little is taken for granted and risk's status is upheld as provisional and oriented, above all else, toward the service of individual and community well-being.

Recommendations for Practice

Although this chapter has already been peppered with several suggestions about the need for specific types of research on the rhetoric of risk, I nevertheless dedicate this section to outlining three broader trajectories that offer compelling opportunities for future scholarly and practical inquiry. These trajectories concentrate on the study of risk and metaphorical communication, the role of the body in the construction of risk, and the conceptualization of risk through the lens of argument sphere theory.

Risk and Metaphorical Communication

The study of metaphorical discourse has a long history in the rhetorical tradition, offering definitions both extended (see, e.g., Rorty, 1989) and succinct (e.g., "giving the thing a name that belongs to something else"; Aristotle, trans. 1941), as well as treatises on usage, function, and pervasiveness (Booth, 1978; Ivie, 1987; Osborn & Ehninger, 1962; Richards, 1936). Despite this extensive body of work, recent scholarship has discussed the continued need for identification of different types of metaphors and their symbolic functions (Jensen, Doss, & Ivic, 2011). Correspondingly, the discursive construction of

Interviewing Jane. *Communication and Critical/Cultural Studies, 2,* 238–256.

Goodnight, G. T. (1982). The personal, technical, and public spheres of argument: A speculative inquiry into the art of public deliberation. *Journal of the American Forensic Association, 18,* 214–227.

Goodnight, G. T. (1997). Opening up the spaces of public dissension. *Communication Monographs, 64,* 270–276.

Grabill, J. T., & Simmons, W. M. (1998). Toward a critical rhetoric of risk communication: Producing citizens and the role of technical communicators. *Technical Communication Quarterly, 7,* 415–441. doi:10.1080/14791420500198597

Gross, A. G. (1994). The roles of rhetoric in the public understanding of science. *Public Understanding of Science, 3,* 3–23. doi:10.1088/0963–6625/3/1/001

Habermas, J. (1983). *Moral consciousness and communicative action* (C. Lenhardt & S. W. Nicholsen, Trans.). Cambridge: MIT Press.

Heath, R. L. (2009). The rhetorical tradition: Wrangle in the marketplace. In R. L. Heath, E. L. Toth, & D. Waymer (Eds.), *Rhetorical and critical approaches to public relations II* (pp. 17–47). New York, NY: Routledge.

Heiss, S. N. (2011). "Healthy" discussions about risk: The Corn Refiners Association's strategic negotiation of authority in the debate over high fructose corn syrup. *Public Understanding of Science, 22,* 219–235. doi:10.1177/0963662511402281

Hoffman, M. F., & Ford, D. J. (2010). *Organizational rhetoric: Situations and strategies.* Thousand Oaks, CA: Sage.

Ivie, R. L. (1987). Metaphor and the rhetorical invention of cold war "idealists". *Communications Monographs, 54*(2), 165–182.

Jensen, R. E., Doss, E. F., & Ivic, R. (2011). Metaphorical invention in early photojournalism: New York Times coverage of the 1876 Brooklyn Theater Fire and the 1911 Shirtwaist Factory Fire. *Critical Studies in Media Communication, 28,* 334–352. doi:10.1080/15295036.2010.515233

Jensen, R. E., & King, A. S. (2012). The authoritative metaphor and social change: Surgeon General C. Everett Koop's direct mailer, "Understanding AIDS." *Health Communication, 28*(6), 592–602. doi:10.1080/10410236.2012.704545

Katz, S., & Miller, C. (1996). The low-level radioactive waste siting controversy in North Carolina: Toward a rhetorical model of risk communication. In C. Herndl & S. Brown (Eds.), *Green culture: Environmental rhetoric in contemporary America* (pp. 111–140). Madison: University of Wisconsin Press.

Keràanen, L. (2005). Mapping misconduct: Demarcating legitimate science from "fraud" in the B-06 lumpectomy controversy. *Argumentation and Advocacy, 42,* 94–113.

Keràanen, L. (2008). Bio(in)security: Rhetoric, science, and citizens in the age of bioterrorism—the case of TOPOFF 3. In D. Zarefsky & E. Benacka (Eds.), *Sizing up rhetoric* (pp. 227–249). Long Grove, IL: Waveland Press.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by.* Chicago, IL: University of Chicago Press.

Lupton, D. (1999). *Risk.* New York, NY: Routledge.

Noelle-Neumann, E. (1984). *The spiral of silence: Public opinion—our social skin.* Chicago, IL: University of Chicago Press.

Osborn, M. M., & Ehninger, D. (1962). The metaphor in public address. *Communication Monographs, 29,* 223–234. doi:10.1080/03637756209375346

Preda, A. (2005). *AIDS, rhetoric, and medical knowledge.* New York, NY: Cambridge University Press.

Richards, I. A. (1936). *The philosophy of rhetoric* (Vol. 3). New York, NY: Oxford University Press.

Rorty, R. (1989). *Contingency, irony, and solidarity.* New York, NY: Cambridge University Press.

Rowan, K. (1991). Goals, obstacles, and strategies in risk communication: A problem-solving approach to improving communication about risks. *Journal of Applied Communication Research, 19,* 300–329. doi:10.1080/00909889109365311

Sauer, B. A. (2002). *The rhetoric of risk: Technical documentation in hazardous environments.* New York, NY: Routledge.

Schwartzman, R., Ross, D. G., & Berube, D. M. (2011). Rhetoric and risk. *Poroi, 7,* 1–7.

Scott, J. B. (2003). *Risky rhetoric: AIDS and the cultural practices of HIV testing.* Carbondale: Southern Illinois University Press.

Scott, J. B. (2006). Kairos as indeterminate risk management: The pharmaceutical industry's response to bioterrorism. *Quarterly Journal of Speech, 92,* 115–143. doi:10.1080/00335630600816938

Shugart, H. A. (2011). Shifting the balance: The contemporary narrative of obesity. *Health Communication, 26,* 37–47. doi:10.1080/10410236.2011.527620

Simmons, M. (2007). *Participation and power: Civic discourse in environmental policy decisions.* Albany: State University of New York Press.

Stratman, J. E., Boykin, C., Holmes, M. C., Laufer, M. J., & Breen, M. (1995). Risk communication, metacommunication, and rhetorical stases in the Aspen-EPA superfund controversy. *Journal of Business and Technical Communication, 9,* 5–41. doi:10.1177/1050651995009001002

Taylor, B. C. (2010). "A hedge against the future": The Post-Cold War rhetoric of nuclear weapons modernization. *Quarterly Journal of Speech, 96,* 1–24. doi:10.1080/00335630903512721

Treichler, P. A. (1999). *How to have theory in an epidemic: Cultural chronicles of AIDS.* Durham, NC: Duke University Press.

Vatz, R. E. (1973). The myth of the rhetorical situation. *Philosophy & Rhetoric, 6,* 154–161.