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Risk in the Making: Narrative, Problematic Integration, and the Social Construction of Risk

Laura D. Russell[1] & Austin S. Babrow[2]

1 Department of Communication, Denison University, Granville, OH 43023, USA
2 School of Communication Studies, Ohio University, Athens, OH 45701, USA

Narrative plays a prominent role in interpretations and explanations of social reality, particularly in our efforts to understand uncertainties in time, such as social constructions of risk. This article synthesizes narrative and problematic integration theory as a way to illuminate the construction of risk. We argue that the very existence of risks in our lives is constituted and signified through storied explanations, expectations, and evaluations of potentially significant but uncertain experiences through time. We illustrate these ideas with an analysis of news reporting on several contemporary risks and offer alternative understandings to complete the argument that, as social constructions, risks can be understood and lived in multiple ways.

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Public discourses in the first decade of the 21st century have been saturated with stories about a host of ongoing conflicts that threaten to spill over national and regional borders, environmental threats of global proportion, transnational economic meltdown on a scale unseen for 80 years, annually recurring specters of pandemics, talk of extreme and peak oil, and more. Collectively, these concerns bear strong testimony to Beck's (1992) assertion that we live in a "risk society," where the collective consciousness reflects human concern with the future and the mysteries that lie ahead. Public and private views of risk are dynamically shaped into understandings of experience. Conceptions of risk pervade social experience through discourses that construct our sense of both the temporal contingencies of life and the values at stake, or what Kenneth Gergen (2000, passim) referred to as "the real and the good."

Writings by anthropologists (Douglas & Wildavsky, 1982) and sociologists (e.g., Beck, 1992; Luhmann, 2002; Strydom, 2002) studying the social construction of risk have provided powerful and far-reaching insights into risks as communicative constructions. Nonetheless, given the pervasiveness and complexity of risk discourse—the many types of risk, the multiform media involved, the variety of voices and claims,

Corresponding author: Laura D. Russell; e-mail: lauradawnr@gmail.com

the deeply recursive relationships between discourse and material aspects of risk—it is clear that continuing analysis of the social construction of risk has much to teach us. In this article, we argue that narrative—as process and outcome—is vital to risk making. Specifically, risk takes shape through the forms of narrative we construct. To illustrate the significance of this argument, we will ask: How do narratives in elite U.S. newspapers conceptualize risk? How might these elite news depictions influence our sense of alternatives for understanding and responding to risk? What are some alternatives to the reality depicted in these traditional newspapers?

To develop this argument, we will first review the qualities of narrative that make it a vital means for creating meaning. This review will then be infused by ideas drawn from problematic integration (PI) theory, a perspective on communication in situations where meaning-making is inherently troublesome. We then discuss our conception of risk. Finally, we examine the layers of narrative and PI that interweave in the process of constructing risk in elite news coverage of risks using several examples. We offer ideas about how we might develop substantial alternative understandings to complete the argument that, as social constructions, risk can be understood and lived in multiple ways.

Narrative theory

Processes and products of narrative

Bruner (2002) contended that we not only enter into and rely on narratives to organize meanings for current experience, but we also are active agents in shaping collective meanings with others through narrative processes. In other words, narrative is both an ongoing process and product of making experience meaningful. We actively piece together concepts, characters, values and motives, and themes and plots to create coherent frames for interpreting and speaking about lived experience (Ricoeur, 1984). However, in doing so, we draw insight from our knowledge of available linguistic resources, such as the cultural stock of narrative frameworks (Giddens, 1991; Weick, 1979). Narrative thereby fosters coherent understandings even as it determines what is coherent and contributes to the cultural stock.

The ways we create and rely upon narrative communication constitute the very infrastructure of our lives as narratives guide both our interpretations and enactments of meaning in embodied experience (Becker, 1997; Kerby, 1991). The significance of narrative is exemplified in many ways, and particularly in how it enables us to grasp temporality. While we *live* in an absolute now, our conceptions of the *lived* past and its relationship to our *unlived* future evidence the separation between material experience and the sense we make of our living. The past, present, and future are not absolutely or transcendentally separate entities; rather, they become distinguishable in the ways we speak of or language temporality (Carr, 1986).

Narrative provides a way for us to grapple with the temporal movement of life. As in the concept of abductive reasoning (Peirce, 1955) we are continually experiencing and interpreting experience.[1] In the interpretive process, we draw on and develop

narrative conceptions of past, present, and future, but we do so based on our cultural stock of understandings of time. Whatever these conceptions are, we use them to project and enact narratives constructed to understand our situations. In so doing, we encounter new experiences and make sense of them iteratively by drawing upon our preconceived understandings of how to articulate temporal experience.

In this iterative, abductive cycle of interpretation and action, moments in time are organized into some coherent temporal structure. For instance, it is very common for people in U.S. culture to sequence movement in time progressively. In a progressive view of time, past events are understood as causes of current events, and future events are understood as determined by past and present action; time is conceived as linear in this progressive view. Moreover, human agency is seen as a vital element in this progressive conception of movement in time (Gergen, 2000). Agency arises out of interpretive mediation of experience; ongoing interpretations of the past, present, and future are cast as the basis for reasoning about and making meaningful choices in the moment. In addition, agency accumulates progressively with time; ongoing experience contributes to the stock of knowledge and thereby expands the reach of our ability to understand, explain, predict, and control causal relationships in the material and social world. But more importantly, the progressive understandings of time and agency are not simply inherent in narrative or in human experience; rather, they are social constructions we have overlearned and hence take to be somehow external to us, truly independent of our interpretive processes (Berger & Luckmann, 1965; Gergen, 2000). To see that this is social construction, consider briefly two alternatives.

First, from the standpoint theological fatalism (Rice, 2006), past, present, and future collapse; all are determined eternally, and so outside of finite time. Understood in this way, events in past, present, and future are as God has ''determined'' because God is infinite in time, space, knowledge, and agency. Any construction (interpretation or imposition) of temporal order, causation, or human agency is nothing more than a human—and therefore limited—interpretation of the boundless divine. Although progressive configuration of time is widespread, our point is that it is not the only way to configure time. Fatalism is a major alternative.

Given the apparent problems attendant on fatalistic constructions of time (e.g., questions related to agency and responsibility), they are often rejected in favor of the progressive view. But again, we wish to emphasize that these and all other views of time are narrative accomplishments. A second illustration of this point is available in postmodern critiques of modernity. More specifically, postmodern critics note how time is compressed into stories that are often taken as seamless depictions of reality (Currie, 1998). News media, for instance, make rapid decisions to provide timely and accessible stories for their audiences. To do so, the news produces stories of reality that are bound within a reduced temporal frame to focus exclusively on particular events. In this reductive process, diverse standpoints, opinions, and beliefs are narrowly presented if not completely ignored. Yet, according to Derrida (1978), not only news stories but our narrative practices—indeed, all histories—in general are developed through exclusionary processes for depicting reality. Lyotard

(1991) suggested that our goal should not be to overcome such exclusions (i.e., because all conceptions are necessarily partial), but rather to examine the unspoken fragmentations inherent in the realities we configure. In other words, narrative sense-making is not just about attending to what is told, but also about considering what lies in the fragments of the untold. However, the ways we quickly consume stories and take for granted the spoken word make us less likely to interrogate the commonly emplotted configurations of narrative, and thus, we often take them as seamless truths.

The significance of narrative extends well beyond structure or sequencing of moments in time and into the realm of values or ethics. In other words, narrative sequences both time and constructs what Ricoeur (1990) termed "configurational" meaning; narrative combines events together to illuminate key points, moral values, and general plots. We understand not only what led to what, moment to moment, but we divine broader explanations for how and why events transpired as they did. Characters, motives, actions, and outcomes are assigned relational significance to order and explain both the how and why of experience. In these temporal and configurational constructions, our narratives formulate interpretations of causality, responsibility, ethics, and morality (Ricoeur, 1992). But narratives do not necessarily settle understandings.

Narrative and problematic integration

PI theory emphasizes that narrative understandings are often difficult to formulate and sustain (see Babrow, Kline, & Rawlins, 2005). Our attempts to create order for events in our lives are often troubled by uncertainties of many forms (Babrow, 2007). For instance, it is often difficult to determine the causes and consequences of an act. Similarly, it is often a challenge to evaluate events, to judge their immediate and more distant meanings for our well-being. In part, this is so because of contemporary culture's complexity and diversity. Both globalization and differentiation of expertise make multiple, often contradictory narratives available to us (Giddens, 1991). More generally, the notion of problematic integration underlines the idea that efforts to develop a coherent sense of how the world is structured (our "probabilistic orientation") and what this configuration means for our well-being (our "evaluative orientation") are often disturbed not only by uncertainty (e.g., due to competing narratives) but also because of diverging expectations and desires, ambivalence, and impossibility. PI theory reminds us that stories are often fundamentally provisional, subject to revision, or open ended. In short, life experience regularly presents us with challenging meanings, when we must make sense of, reflect on, reaffirm, or perhaps reform narrative integrations of causal and moral order.

As noted above, in the process of narrating life in motion, we weave together experiential foreground and cultural background in ways that fabricate both the meaning of our individual lives and the living tradition of culture. Importantly, in these ways, particular cultures are unified by widely shared ideas about the genesis, course, and resolution of troubles (e.g., as manifestation of chance, fate, spirit, or the mechanical

or probabilistic laws of physics, mind, society) (Wong & King, 2008). For example, in Western culture, media constructions of contemporary problems are strongly inclined toward scientific–technological stories by widespread reliance on the testimony of material scientists, engineers, economists, epidemiologists, demographers, and forensic and military scientists (Best, 2008; Lupton, 1999). Complementing narrative notions of episodic and configurational meaning, PI theory reminds us that these scientific–technological narratives are constituted by beliefs and values.

Scientific stories hypothesize temporal–causal explanations, and these stories are permeated with both implicit and explicit values (Giddens, 1991; Lyotard, 1979/1984). Most basically, the scientific story is valued as knowledge in proportion to the likelihood of its truth. In addition, the story is evaluated as meaningful in terms of its implications for our well-being. For example, the possibility that human activity is contributing to global warming is valued not only as knowledge by those who believe in this hypothesis but also precisely because it suggests that we are putting the order of life on our planet at risk. So, in general, scientific–technological narratives are meaningful not only because of the underlying belief in the capacity of science and technology to provide explanations of experience, but also because the questions addressed by science have implications for human well-being and because scientific–technological forms of explanation promise an expanding human agency.

Although some troubles are readily understood according to widely available narrative frames, others permit and perhaps provoke multiple and often conflicting stories. For instance, PI theory suggests that widespread, intransigent problems evoke layer upon layer of communicative acts and artifacts (e.g., as narrators respond to other authors). As suggested above, such cultural artifacts are resources for responding to troublesome meanings as well as media for the interindividual/group and intergenerational meaning-making processes (see Babrow, 1995). But when troubles are widespread, complex, ambiguous, uncertain, and involve substantial values, there arises a potential for varied and conflicting narratives, including meta-narratives (attempts to make sense of the conflicting stories); unrestrained, narratives with conflicting sequential and configurational meanings then characterize discourse at every level of society. However, counternarratives are often suppressed, as when scientific expertise is used to delegitimize the voice of nonscientific experts (Deetz, 1992; Giddens, 1991). The more substantially they differ from the norm, the more likely counternarratives are to be characterized not merely as uninformed but as immature, irrational, insane, or profane (Babrow, 1992, 2001; Lyotard, 1979/1984).

In sum, lived experience is not presented to us in some preexisting or independently existing unity; rather, we continually strive to create coherent expectations and desires by relying upon both previous narratable forms and current situations that alter the stories we share (Carr, 1986). We thereby use narrative to construct reality—both beliefs and values—about the past, present, and future at the levels of individual and collective experience. In some contexts narrating creates and sustains relatively stable, coherent, comfortable, and widely shared probabilistic and evaluative understandings of temporal reality; in other contexts it constitutes an ongoing

struggle for meaning (Giddens, 1991). We believe that these ideas can be used to illuminate a great deal of contemporary human experience. To make this case, we turn next to a discussion of the social construction of risk, following which we offer a synthesis of narrative, PI theory, and risk to illuminate a far-reaching current in contemporary communicative constructions of reality.

The narrative construction of risk

To begin this segment of the discussion, we first offer a general definition and outline basic elements of risk. We will then try to illustrate how *narrative produces risk as a conceptual and experiential phenomenon*. Thus, this argument advances our thinking about narrative not simply as a theoretical frame for exploring risk, but more significantly, as the very process through which risk takes shape in human understanding and experience.

In conceptualizing risk, scholars have debated whether we ought to treat it as a measurable feature of material reality or an evolving social construction (Beck, 1992; Douglas & Wildavsky, 1982; Driedger, Eyles, Elliott, & Cole, 2002; Luhmann, 2002). Risk is commonly defined as a probability construct: the perceived likelihood that a particular event will lead to certain consequences. Increasingly, however, risk is understood to be much more complex, particularly because it is embodied in the flux of social discourse (Davis, 2008). Notably, Luhmann expressed frustration with the tendency for researchers to apply quantitative theories and methods to explain risk. Such quantifying processes lead to what Luhmann termed "scientization," a method through which humans mistakenly identify social constructions as naturally occurring phenomena. He argued that the more we conceptualize and quantify the constructs we posit as risk, the further we move from uncovering the essence of human experience. Unfortunately, we commonly focus on productions of social knowledge as if such knowledge is an unproblematic reflection of the world outside our construction (Berger & Luckmann, 1965; Gergen, 2000); traditional social science is disinterested (if not pleased) if the "object" of inquiry is decontextualized and far removed from everyday meanings of life.

Beck (1992) was particularly trenchant in arguing that such social constructions of risk, unrecognized as such and instead treated as objective statements of obdurate fact, have become integral to the processes of late-modern industrialization. Thus externalized and naturalized, these constructions rationalize and reinforce many societal, political, and economic structures. In this way, social constructions of risk become the explanations for actions that in turn produce risk. Understood in this way, we see that risks are recursive, double social constructions; we use language to fabricate risk analyses, which in turn shapes actions (e.g., in research, manufacturing, health care, political machinations) that form or produce risks (Beck, 1992; Giddens, 1990). But what are the qualities of risk? How are they fabricated in human action, and particularly in how we communicate about such phenomena? We answer these questions by examining risk as: (a) located in the flux among the past, present,

and future; (b) exemplified in the exigencies of human agency; (c) realized through processes of selection; and (d) conceived primarily through narrative constructions.

Risk is located in the flux among the past, present, and future

Risk is not a unified entity presented to us in object form; rather, risk is a temporal concept that relies on constructions of past and present as means for predicting and preventing undesirable future events. Our understandings of risk, therefore, are not found in any particular dimension of time, but rather are shaped by how we relate selected aspects of past, present, and future together. As previously noted, humans often make sense of the events in their lives by simultaneously reflecting on their previous experiences and projecting conceivable expectations for their futures (Good, 1994). Risk evolves between this flux of known and unknown experience—it exists in our conception of a possible future that is defined through knowledge drawn from past experience (Luhmann, 2002). Thus, risk is neither the past nor the future but rather a present conception that is constructed to bind the space between our known past and anticipated future.

Although the human mind has enormous reach, we lack the capacity to be fully cognizant of the complete span of our lives (Ricoeur, 1990). Moreover, our access to knowledge of the world is limited. To make risk "known" it must take shape through a frame of reference. Without a frame it would be difficult if not impossible to assemble the fragmented qualities of risk for conceptualization. Through a time-binding process (Luhmann, 2002), risk is punctuated with definable, linked points (i.e., a before and, because of which, an after) that give it shape and structure. This quality of framing not only makes notions of risk conceivable, but also makes them possible to communicate with others.

Commonly, risk is constructed in the expression of causal relations, wherein specific causes are identified and reasoned as necessary precedents to particular consequences. In other words, notions of cause and consequence linguistically frame risk within a structure of bounded time, of beginning and end points (Driedger et al., 2002). Of course, causes and effects do not exist as naturally connected entities but rather as concepts humans use to order what William James called the blooming, buzzing confusion of the world. Indeed, as Luhmann (2002) argues: "Every attempt to specify causalities engenders ever greater difficulties. What will happen never depends on a single event. It is always a concatenation of circumstances, so that uncertainty multiplies in proportion to the rigour of analysis" (p. 41).

Thus bound, our conceptions and constructions of time function as maps for navigating the fundamental uncertainty of our temporal lives. As Giddens (1991) suggested, the ways we communicate about time enable us to "colonize the future." While the absolute future remains conditionally untouched by lived experience, we rely on past knowledge to develop predictions and other means to anticipate what the future holds in store for us. In doing so, we project ourselves into the future by imagining who we are as characters in stories that foretell what is to come. What lies outside the future horizons depicted by our narrative understandings is quite literally inconceivable.

Therefore, while time-binding serves a valuable function in making risk conceivable, it is also an exclusionary process that can distort, mystify, and even annihilate possibilities for understanding human experience (Luhmann, 2002). But it is precisely for this exclusion of alternative possibilities that the time-binding process is motivated. By articulating risks, we construct understanding and agency in the liminal spaces between punctuated moments in time. Yet, while narrative enables us to develop meanings for and understandings of risk, it also trains incapacities (Burke, 1984), whereby we readily enact certain ways of seeing through the habitual neglect of others.

Risk arises in uncertain relation to human agency

While much of the literature on risk, risk communication, and risk management makes nothing of the distinction, seminal writings on the social construction of risk assert the significant difference between "risk" and "danger." The distinction hinges crucially on the idea that risk arises in the context of human agency. For instance, Beck's (1992) analysis of contemporary risk society is premised on the observation that:

> If we were previously concerned with *externally* caused dangers (from gods or nature), the historically novel quality of today's risks derives from *internal decision*. They depend on a simultaneously *scientific and social construction*. Science is *one of the causes, the medium of definition and the source of solutions* to risks, and by virtue of that very fact it opens new markets of scientization for itself. (p. 155, emphasis in the original)

Similarly noting the significance of this distinction, Luhmann (2002) argued the difference between risk and danger presupposes that:

> uncertainty exists in the relation to future loss. There are then two possibilities. The potential loss is either regarded as a consequence of . . . decision, that is to say, it is attributed to the decision. We then speak of risk—to be more exact of the risk of decision. Or the possible loss is considered to have been caused externally, that is to say, it is attributed to the environment. In this case we speak of danger. (pp. 21–22)

In short, along with Beck and Luhmann, we contend that, when we conceptualize some potentiality as a risk, this very understanding implies that future events are somehow contingent on witting human action. To see risk, to understand the future in terms of risk, to be the agents of risk decisions, and to embody "risky" behavior, we must be able to foresee potentially adverse consequences of our actions, we must be able to choose freely among alternative actions, and we must in fact choose and enact those choices (including inaction). Whatever is inevitable and whatever cannot possibly be foreseen lie beyond the realm of risk; such eventualities are instead dangers of existence.

While the foregoing at first glance appears to be straightforward, a second look notices that agency is pervaded by uncertainty. For instance, it is often difficult

to foresee the consequences of our actions. Beck (1992), Strydom (2002), and others have argued that, by their very nature, the potential consequences of many decisions involving the use of scientific and technological innovation have been nearly impossible to anticipate. For example, as in global warming, environmental risks are often unforeseeable at the time that relevant decisions were made because the science and technology necessary to measure (that is to say, ''foresee'') the risks was not available until many years after the decisions were made. Moreover, many contemporary risks are the result of a confluence of multiple loosely linked or essentially uncoordinated decisions. Decisions may have been taken in the past, long before subsequent choices were made that together with the earlier decision result in grave threat. For example, massive development of coastlines around the globe has put life and property at inestimable peril, but only as a result of subsequent decisions that appear to have contributed to global warming and rising sea levels.

Another way to see the uncertainty of agency is to take note of common contemporary locutions, such as ''risk of genetic birth defects'' and ''risk of accidental injury or death.'' Such talk signifies that risk involves agency even in areas that had previously been thought to be ''external'' to the domain of human control. Obviously, as we gain greater insights into previously unknown domains, such as we have with the mapping of the human genome, new possibilities for prediction and control arise; new ''risks'' are created (hence the emergence of the ''risk epidemic'' and the ''worried well'' in health communication; see Miller, Acton, & Hedge, 1988; Skolbekken, 1995). Less obviously, as actuarial and epidemiological sciences have identified ever-greater numbers of correlates of accidental injury and death, we have come to talk in the paradoxical terms of ''accident prevention''; what was once beyond human foresight and control, what was once purely ''accidental,'' has come to be seen as subject to human foresight, agency, safety engineering, and enlightened (or sadly benighted) choice (Green, 1997, 1999).

In short, risk is a construction that connotes human agency, or freely chosen rational action. When we come to see some contingency as a risk as opposed to something beyond the reach of human control, we have engaged in an enormously significant act of social construction. But as we have seen in this brief discussion, agency is itself an evolving construction. It expands and contracts at the macrolevel with the movement of institutions such as science and industry and undoubtedly with the rise and fall of spiritual/religious sentiments (see Douglas & Wildavsky, 1982). Psychological concepts such as ''learned helplessness'' (Gillham, 2000) and a host of kindred notions alert us to malleability in our conceptions of agency at the microlevel (Babrow, Kasch, & Ford, 1988). But we believe that, most generally and powerfully, the meaning of some past or current action as risky, or the risk of some future eventuality, arises as a selective construction out of worlds of potentially infinite meanings.

Risk is a process of selection and evaluation

Risk is a process of selection, not just in ordering, but also in valuing experience. Indeed, the preceding strongly suggests that risk does not present itself to us all at

once as some complex of material relations that impress upon us their structural meaning independent of our sense-making activities. Rather, human beings selectively piece together particular punctuated moments of experience in formulating their understandings of risk. We select, out of all the blooming, buzzing confusion of experience, some antecedent factor or factors thought to be causally related to some subsequent outcome (Weick, 1979). For the current argument, there is no need to enter debates about whether these selected items are "out there," or whether they are causally related by mechanisms that exist beyond the reach of our constructions. Our point is well enough supported by simply noting that some choice must be made, attention must be focused, or we would conceive nothing but chaos (or, from a Buddhist perspective, we would see the interdependence of everything). This focus is inescapably selective and thereby constructive.

However, when we construct something as a risk, we construct not only the structure of relations that we take to be reality or the probabilistic orientations by which we understand the way the world is put together and operates (Babrow, 1992, 2007). As Luhmann (2002), Beck (1992), and others (Babrow, 1992; Babrow & Dutta-Bergman, 2003) contend, our constructions of risk also necessarily involve evaluative understandings; to judge something risky is to say that it is not merely possible, but also that some nontrivial (positive or negative) value is at stake. In other words, to see/say that something is a risk, we experience/express concern about *that something* among *all other possible somethings* that might concern us. To see a risk is to select it out of the welter of other possible cares.

The selectivity at the level of the individual agent is magnified or multiplied into far more obviously and more consequentially social constructive processes when risk is taken up in broader public discourses. Douglas and Wildavsky's (1982) pioneering work illuminates this selectivity quite well:

> There is no need to adopt any relativist standpoint about what is really out there to make our point. We are only concerned with selection and priority among real dangers. . . . Anyone who claims to know the right priority among dangers to be avoided and who also pretends that the priority has no basis in moral judgments is making two backward steps toward premoderninsm. The first is a claim to have a privileged, uncontested view of the nature of reality, which brooks no discussion, a claim which still flies counter to the work of science, as it did in the great historical disputes. . . . The second retrograde step is to claim discernment among moral issues with the confidence of a physical scientist in the laboratory or to deny that prioritizing means choosing between political and moral consequences. (p. 30)

In short, translating perceptive forms of life into expressible form involves a selective process that reduces a field of possible explanations to some specific rationale (Strydom, 2002). With this more focused perspective, we simultaneously narrow the possibilities for our perceived agency in relation to a particular risk. These constructions become meaningful within broader contexts of living. Thus, constructions of

risk are answerable to the ongoing process of meaning-making; all expressible forms of risk are born through the selection and expression of language.

Risk is narratively constructed

In the present discussion we have noted that risk is a temporal construction imbued with uncertainty that takes shape through selective processes. This conceptual focus positions us to argue that human understanding of risk begins and ends with communication and meaning construction. This should not be taken to mean that risk predictions, including specific quantitative probabilistic formulations, are somehow wrong or misguided. Rather, we can better understand these formulations as specific choices, involving their own complexes of meaning, and excluding other formulations. But these conceptions, no more or less than any other conceptions of risk, are narrative constructions (Beck, 1992; Strydom, 2002).

Past, present, and future are continually unfolding. Moments are continually redefined, if they are noticed at all, their links indefinite in their susceptibility to such redefinition. Humans grapple with the uncertainties that live in the space between perceived moments across time. The imaginative and creative functions of narratives allow individuals to explore expressible forms from which they can select and further shape meaningful renderings of life (Taylor, 1989). Without communication, the relational possibilities constituting the flux of experience would be inconceivable, and thus, meaningless (Strydom, 2002). Therefore, as meaning-makers who participate in a social world premised upon communication, human beings produce the very risks they live. This is not to say that people control—or do not control—experience, but rather that ways of seeing, understanding, and exerting control of experience are limited to the communicative productions of knowledge, value, and their synthesis or integration in thought, sentiment, action, and relationship (Babrow, 1992, 2007). In the realm of risk, these are narrative constructions rather than mere apprehension of concrete reality and translation of perception into the transparent containers of language.

A very important clarification of these ideas is available in the contrast between them and the social amplification of risk framework (Kasperson et al., 1988; Pidgeon, Kasperson, & Slovic, 2003). In the latter, risk is conceptualized as (a) expert estimates of the likelihood and value of some potential harm and (b) nonexpert public views of potential harm. Expert estimates are taken as benchmarks from which public views can deviate in risk amplifying or attenuating ways (i.e., ''perceptual'' rather than ''actual'' amplification or attenuation of risk). One aim of this view is to understand when and why public perceptions deviate from expert estimates. Another purpose of the framework is to provide guidance that will improve risk communication, thereby minimizing public distortion of expert understanding. Guidance will come in the form of reliable knowledge of cause–effect relationships that explain how various forces coalesce in ways that threaten the accurate transfer of expert knowledge to mass audiences.

But from our standpoint, the social amplification perspective is itself yet another risk narrative. It draws together a temporal ordering of narratively relevant

characteristics of risk; human judgment; social relations, including relationships among experts, media and other celebrities, and their publics; and social institutions. And just as any other narrative, the framework is shot through with values. Most importantly, it is itself a further scientization of risk. It brings into being a second-order risk narrative: the risk that publics will not grasp the reality as understood by experts. Without any irony intended on our part, we point to a powerful concrete illustration of this narrative construction in Fischhoff's (1995) *story* of 20 years of accumulating mistakes and knowledge in the realm of risk communication (also see Kasperson, Kasperson, Pidgeon, & Slovic, 2003).

The contrast between the social amplification perspective and our own view of risk illustrates the constructionist claim that there is nothing inherent in risk that requires it to be understood in any particular way (see Gergen, 2000); every way of narrating risk creates its own affordances for and constraints on further understanding and action. To further explain, illustrate, and convey a sense of the significance of these ideas, the following section examines one very important domain of risk discourse: traditional news reporting. We will examine its character and hence its affordances and constraints on our understandings and ways of living in an age that seems permeated with risk. We then conclude with an exploration of alternative narratives.

Narrative construction of risk in traditional news reporting

Traditional news reporting is a powerful context for illuminating the importance of the narrative construction of risk. News reporting is predicated on a progressive conception of time. "News" is knowledge of the cutting edge of cause–effect relationships in an unfolding present. (Old news is no longer "news." It is history.) This unfolding present is assumed to be understandable because of its dependence on ascertainable prior events; it is meaningful because of the causal and normative interdependence of past, present, and future. Moreover, the "Five Ws and H" of the news story (i.e., who, what, when, where, why, and how) illuminate not only what was and is happening but provide knowledge required for rational action in the future.

Even as it tells us "what's going on," a news story must be sensitive to what is not (yet) known about the unfolding events. In other words, good news stories provide confident accounts about what is known and at the same time reflect sensitivity and judgment in handling standard elements of the news story that are not (yet) known. The latter, the uncertainty constructed by the news, manifests one side of an important distinction in PI theory: between epistemological and ontological uncertainty (Babrow, 2001; Babrow & Dutta-Bergman, 2003; Gill & Babrow, 2007).

Epistemological uncertainty is rooted in characteristics of our information about or knowledge of the world (e.g., information sufficiency, reliability or consistency, credibility, timeliness, relevance). Content dealing with epistemological uncertainty is a mainstay of traditional news reporting because it marks out not merely the substance but the quality of a news story. For example, "news" is expected to be timely, based

on sufficient information gathering (e.g., news marked as "breaking" conveys that its information is tentative), credible (sources and credentials are provided), to simply assert what are taken to be known facts, to evenhandedly construct inconsistent views of facts, and so on.

Uncertainty is ontological when it arises in conceptions of the very nature of the world (Babrow, 2001). Ontological uncertainty arises when the cause or consequence of some event cannot be known with certainty. From a more deterministic perspective, this *in*determinacy appears when an event is thought to be caused, "but the cause cannot be known because of, say, the presence of multiple causation or causal events too small to be recognized as such (chaos theory is of this sort)" (Anderson, 1996, p. 44). The mind reels in the face of causal complexity—multiple causation, multiple contingency—as, for example, when in traditional analysis of variance we try to comprehend five- and six-way interactions. If even more complex interactions are meaningful, their meaning is not easily taken in.[2] Uncertainty is also ontological when we understand experience as *under*determined, as in social interaction, where person B has a choice response to actions of A (Anderson, 1996). From a social constructionist perspective, ontological uncertainty is the very nature of reality; "the events and objects of the human world comprise particular configurations" of discourse, and these configurations are by their very nature "local, temporary, (and) contingent" (Pearce, 1994, p. 39).[3]

The distinction between epistemological and ontological uncertainty provides important insight into narrative constructions of risk in the context of news reporting. A news story about a risk identifies and explains the emerging threat so that the audience is equipped to make informed, reasoned, risk mitigating choices (when warranted). The very meaningfulness of these stories rests on the assumption that we can learn what we need to know in time to enact appropriate safeguards. Risk is thus understandable with a high degree of confidence; uncertainties are principally epistemological, such as questions about the sufficiency of what we know, its validity, reliability, relevance, and so on. The unknowable is not easily emplotted in the standard news story structure; the fewer of the five Ws and H that can be conceivably known, the greater the ontological uncertainty, and the less suited ideas are to the traditional news story.

Traditional news reporting appears to be well suited to acute risks with readily ascertainable dimensions of event structure (the five Ws and H), such as news of food and water contamination, crime sprees, and threat of imminent terrorist attack. But the more complex the constellation of events, the harder it is to: (a) construct meaningful risk narratives, (b) decide what specific stories to attend to (which stories are most important), and (c) formulate lines of response (narrate potential futures). For example, as we write this article, engineers have successfully placed a temporary cap on the Deepwater Horizon well that has been pouring oil into the Gulf of Mexico since an explosion on April 20, 2010. We do not know whether the cap will hold, whether relief wells being drilled will finally contain the flow, what exactly caused the blowout in the first place, what the risk of future blowouts might be, and much

more. Indeed, nearly every aspect of the disaster has been a point of considerable uncertainty for some time. For months, it has been impossible to say what was, is, or will be the most appropriate, useful, meaningful narrative for comprehending and responding to the unfolding events.

While the Deepwater Horizon story continues to be written and will become a storied historical phenomenon in months and years to come, the point we wish to make is that news reporting emphasizes epistemological uncertainties, such as the timeliness, credibility, consistency, and sufficiency of available information. What we do not see, except in fleeting glimpses, are story elements that do not fit the master narrative. These elements are quickly swept away in the overwhelming current of efforts to fill the news hole with stories more consistent with the assumption of a progressively understandable and controllable reality. For instance, consider a story that received much attention for a few days after it broke, only to be forgotten in the sweep of subsequent events. An Associated Press investigation reported on July 6, 2010 that the Gulf of Mexico alone has 50,000 oil wells, 27,000 of which are abandoned, 3,500 "temporarily abandoned," and moreover:

> Regulations for temporarily abandoned wells require oil companies to present plans to reuse or permanently plug such wells within a year, but the AP found that the rule is routinely circumvented, and that more than 1,000 wells have lingered in that unfinished condition for more than a decade. About three-quarters of temporarily abandoned wells have been left in that status for more than a year, and many since the 1950s and 1960s—even though sealing procedures for temporary abandonment are not as stringent as those for permanent closures. (Donn & Weiss, 2010)

And lest the reader infer that these other wells were originally abandoned and are now ignored because they access less oil than the Deepwater Horizon site, it is important to note that BP had been planning to plug and temporarily abandon the Deepwater well when the blowout occurred (Casselman & Gold, 2010). The meanings of these observations have not been well integrated into the evolving news coverage, which continues to focus on the drama associated with a single well. In other words, focus on the Deepwater Horizon story papers over the potential for hundreds, perhaps thousands of repetitions, in the Gulf and indeed around the world. In these (as yet) untold stories lies a master narrative much different than the one characteristic of traditional news reporting: the paradoxical possibility that our progressive assertion of control at one level (i.e., that deepwater drilling can be done safely, that risks can be mitigated, that catastrophe can be averted or survived) is eroding control at a more basic level (i.e., as we take ever greater risks under an illusion of control; see Klare, 2008). In this alternative narrative, efforts to overcome epistemological uncertainty actually constitute ontological uncertainty (Beck, 1992).

Surely some of our readers will demur. They will argue that our example is cherry-picked from the many counterexamples because it best fits our argument that news reporting constructs risks in ways that profoundly constrain our ways

of comprehending and responding. We can, however, report that a wide range of stories in today's papers fit our argument just as well. Consider stories featured on the front page of today's *New York Times* website (retrieved July 25, 2010 from http://www.nytimes.com/ or from hyperlinks from that page to noted stories):

1. Despite the recent troop build-up, the Afghan war continues as the insurgency grows "in skill, determination and its ability to menace" (Chivers, 2010). Moreover, "[s]ome 92,000 reports from 2004 through 2009, disclosed by Wikileaks.org, illustrate why, after 9 years of war, the Taliban are stronger than at any time since 2001."
2. The United States and South Korea prepare for maneuvers off the coast of North Korea after the latter allegedly sunk a South Korean warship; these events as well as the ongoing struggle over North Korea's continuing development of nuclear capabilities continue the story unfinished more than half a century since signing of the armistice.
3. The European Union staggers along in apparently unrelenting economic uncertainty. "Stress tests conducted by European regulators last week did not give investors all the information they wanted about the condition of the region's banks, but the exercise may have given them enough to begin to answer the question of which institutions are creditworthy and which are not" (Ewing, 2010).

In short, the very logic of the news assumes a progressive accumulation of knowledge that enables ever greater rational control over time, but many risk stories are open-ended, complexly evolving causal structures. These open-ended stories suggest that the simple event structures assumed by traditional news reporting are profoundly limiting in the ways they narrate risk.

To more fully understand this point, and to move beyond it by developing ideas about alternative narratives, consider the construction of one particular threat, the risk of terrorist attack, a bit further. Traditional news stories about terrorism construct uncertainties as manageable challenges to current knowledge (Babrow & Dutta-Bergman, 2003). Of course, this is not only the master narrative in news about terrorist threat, it is also the dominant narrative in U.S. society. For instance, following the terrorist attack on September 11, 2001, the threat of attack was considered to be estimable; daily threat estimates continue to be published (see http://www.dhs.gov/files/programs/Copy_of_press_release_0046.shtm).

The idea behind this sort of information and behind the traditional news story about terrorist activity and threat mitigation efforts is that, although the threat cannot be eliminated entirely, it is controllable by rational action. Indeed, this master narrative is so pervasive, not only in the news but throughout U.S. society, that we have created not only the Department of Homeland Security but an intelligence apparatus of awesome proportions. It is so large that it may obscure rather than clarify risks of terrorist attack. For example, in a series inaugurated with an article entitled, "A Hidden World, Growing Out of Control," reporters Priest and Arkin

(2010) stated that over 3,000 governmental and commercial agencies are at "work on programs related to counterterrorism, homeland security and intelligence in about 10,000 locations across the United States" alone (para. 4). These agencies have been creating a galaxy of information so complex that it not only defies but stymies comprehension. For example, after his review of only a portion of the galaxy (i.e., the "Defense Department's most sensitive programs"), retired Army Lt. Gen. John R. Vines concluded: "it's impossible to tell whether the country is safer because of all this spending and all these activities. 'Because it lacks a synchronizing process, it inevitably results in message dissonance, reduced effectiveness and waste,' Vines said. 'We consequently can't effectively assess whether it is making us more safe'" (para. 17).

Stories like this series are unusual because they hint at truths that do not fit within the traditional constructions of the risk of terrorist attack. Repeatedly, the series' authors and their sources fret over waste and duplication of effort, turf wars, prestige and monetary motivations, blurred lines of responsibility, challenges related to the complex range of security clearances involved in data integration, and more. In relation to the narrower problem of security clearances in the Department of Defense (DOD) alone, "'there's only one entity in the entire universe that has visibility on [the entire range of DOD data]—that's God,' said James R. Clapper, undersecretary of defense for intelligence and the Obama administration's nominee to be the next director of national intelligence" (Priest & Arkin). But in keeping with the traditional news narrative, the authors merely report the challenges without forwarding a conclusion about its broader meaning; if there is uncertainty, it is handled disinterestedly. Its meaning is just outside of the story's frame, perhaps in the reach of reader inference, perhaps in tomorrow's news. In either case, the news story is meaningful precisely because tomorrow is thought to be under the progressive control gained by this day's news.

Lest the reader think that these traditional news constructions of the risks of terrorism and counterterror measures are somehow required by the events and potentialities they portray, we would like to offer two counternarratives. One alternative to the simple tracing out of causes and effects that constitutes the traditional news story is to understand the nexus of events comprising "terrorism" from a systemic perspective.

From a systemic point of view, "terrorism" arises in complex interactions among actors. The interpretation of an act as terrorism itself depends on the interpreter's point of view (Jenkins, 2003). But disputes over the label "terrorism" are only the most superficial manifestation of more fundamental struggles over meaning. Uncertainties of terrorism also can be understood as ontological rather than epistemological (see Pearce, 1994). Agents of "terror" operate according to logics at odds with—when they are not thoroughly opaque to—their target's rationality. Acts intended to exert rational control over suspected agents of terror are likely to be seen by their targets as coercive, as acts of terror themselves, thus producing the tragedy of an escalating spiral of violence (cf. Bateson's 1972 concept, "schismogenesis").

Moreover, terrorism is often designed to problematize the taken-for-granted by using conventional materials for unconventional—inherently unpredictable—means and ends (Babrow & Dutta-Bergman, 2003).

While every new scientific-technological countermeasure creates barriers to some avenues of attack, it also inevitably creates new vulnerabilities. For example, the very act of news reporting on vulnerabilities and protective measures is thought to be helpful to agents of terror (e.g., since September 11, 2001, news reporting has been criticized periodically for providing vital information about security to would-be attackers). As other examples: every dollar spent on protecting the nation's computer infrastructure from attack is one dollar less for protecting the nation from biochemical assault, money spent protecting commercial airline travel is money diverted from protecting our national borders, every soldier sent to fight on one front is unavailable for the fight on another front, and so on. Or perhaps most pertinent in light of the recent *Washington Post* series, every dollar spent on monitoring communication media for chatter indicative of terrorist networks is one dollar less spent on information gathering in the field. In each and every instance, the very efforts to mitigate risk in one area not only deprive other areas of protection, they also make the neglected areas all the more attractive to agents seeking ways to inflict harm.

In short, from a systemic perspective, "terrorism" arises in webs of joint action (see Cronen, 2009; Pearce, 2009) rather than in simply defined cause and effect sequences that take shape independent of communication processes, and that are apprehended and transmitted immaculately by transparent news media to passive receivers. Time is less a matter of progressive movement from ignorance to knowledge to control than it is recursive cycles in which causes and effects interpenetrate. Also from this view, agency is limited less by a lack of information than it is by oversimplification and the illusion of control. Indeed, a systemic perspective suggests that efforts to exert control based on simplistic understandings of causes and effects are themselves sources of risk (Beck, 1992; Babrow & Dutta-Bergman, 2003). In sum, the risk of terrorism is not simply out there in the world, awaiting discovery, packaging, and conveyance to news audiences. Rather, the risk of terrorism is constructed in communicative interaction that can always be something other than what it seems to be at any given time, in any given context, and from any one perspective.

One other way to construct risk narratives, such as the story of terrorism, is also worthy of some attention. It draws on yet another development of the cyclical conception of time. The Daoist "law of reversion" teaches that, "when a thing reaches one extreme, it reverts from it" (Fung, 1997, p. 97). From this perspective, the attacks in the autumn of 2001 can be understood not as manifestations of temporary setback in the consolidation of U.S. global supremacy and autonomy but rather as harbingers of the inevitable reversion from a century-long consolidation of power in a single nation. Similarly, the law of reversion suggests that the unconventional uses of the mail and public transportation systems, along with the development and proliferation of conventional and unconventional weaponry, and corresponding

increases in the incidence and scope of genocide, are signs of the waxing of the several centuries-long industrialization of the tools of war that presage the inevitable waning of industrialized warfare.

Nothing lasts forever. The movement of the tides, the seasons of the year, the cycle of life and death, indeed all movement in the natural and symbolic world, mark out the cycling back and forth between the opposites that compose "reality." In this sense, only the most superficial aspects of experience are uncertain; deeper changes are as sure as the turning of the globe. No country can exert its will on the world forever; the most powerful nation on earth must inevitably take a more humble place in the human community. Still, there is room for limited agency; we can choose whether change occurs through violent, cataclysmic reversion or by peaceful renegotiation of world order. More generally, the power and reach of human capacity to anticipate and control risk must inevitably reach a limit. In this view, we not only reach that limit but hasten its arrival and perhaps compound its ill effects by assuming a limitless agency.

Conclusion

In narrative formulations of risk, we selectively construct our sense of the way that reality is structured in relation to our values, the forces that threaten our cherished values, and the way we will live in the world as we have come to understand it. Telling a story in a particular way by forming its temporal and configurational meanings constructs our sense of the real and the good (Gergen, 2000, passim), thereby setting the boundaries of our expectations, desires, and action (Babrow, 1992, 2007). Of course, as people enter into a world of preexisting narrative frames, they are steeped in the truths and values society assumes in relationship to particular risks. Some risk narratives are so integrated into social reality that the structural truths, values, and rationale for action within them are taken for granted (Beck, Harter, & Japp, 2005).

To paraphrase Pearce (2009), we have written this article not only to illuminate how news stories construct risks such as terrorism, or risk narratives more generally, nor are we only concerned with "deconstructing that which our culture might otherwise uncritically take as 'knowledge,' but we are also committed to the task of discovering in (this) situation what are the available means of constructing better social worlds" (p. 54). In this enterprise, we are painfully aware of two substantial challenges. One is the inevitable limits of any single construction of reality. As Bateson (1972) has said, the map is never the territory. The other challenge is suggested by an important but generally neglected PI theory claim: the most troublesome integrative dilemmas give rise to the most heavily defended and most fragile resolutions (Babrow, 1992).

Terrorism and many other contemporary risks challenge the progressive conception of time that is fundamental to U.S. culture. In other words, our culture is predicated largely on faith in the idea that acts of terror, and indeed pretty much the full range of risks that confront us, are manageable through the scrupulous

development and application of (military, forensic, biological, political, information) science. Traditional news reporting is one of many contributors to these deeply held cultural truths (e.g., its agenda-setting and framing effects cultivate our sense of what matters and how to think about these issues). From this standpoint, if we are uncertain, our uncertainties are matters of epistemological concern rather than irreducible features of the material and intelligible world. With time will come increasing knowledge and mastery. Challenges to these views are likely to be met with resistance. (Whether burgeoning alternative media such as blogs and wikis will foster the growth of alternative truths remains to be seen.) Indeed, faith in progressive time and in the power of scientific-technological rationality are so fundamental that counternarratives such as those suggested above are likely to be met with derision or despair. We believe that our argument can stand up to critique. In relation to the latter response, despair, we close by emphasizing that our most basic point is that catastrophe is *not* inevitable. In our view, catastrophe is only inevitable if we assume that reality is determined solely by material and social realities that are either bent to our will or surrendered to blind chance. Between these two extremes are many possible worlds yet to be constructed.

Notes

1 This process is also discussed by Paul Ricoeur (1991) in his explanation of the hermeneutic circle wherein retrospective and prospective sense-making function simultaneously.
2 Hence the difficulty of fully grasping the Buddhist doctrine of interdependent co-arising (Hanh, 1999). Enlightenment is apparently the full apprehension that all of reality arises as one unity, persists together, and ceases together.
3 We can understand these two different experiences more fully by noting that ontological and epistemological uncertainties are interrelated but distinguishable. For example:

> Even in areas thought to be relatively free of ontological uncertainty (i.e., relatively mechanistic systems), we might have too little or too much information; the information might be from an untrustworthy source; we might trust the source's motives but think, nonetheless, that the data are unreliable, invalid, of questionable relevance, and so on. (Babrow & Matthias, 2009, p. 17)

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