

## Statistical Panic

*Probability and statistics crowd in upon us. . . . There are more explicit statements of probabilities presented on American prime time television than explicit acts of violence. . . . Our public fears are endlessly debated in terms of probabilities: chances of meltdowns, cancers, muggings, earthquakes, nuclear winters, AIDS,*

*global greenhouses, what next? There is nothing to fear (it may seem) but the probabilities themselves.  
(Hacking 4–5)*

*By the year 2000 cancer will be the leading killer of everyone.  
(Rainer 109)*

### I

**T**he dominant and unsettling characteristic of the global financial market of late capitalism, as Fredric Jameson points out in his essay “Culture and Finance Capitalism,” is that it is not linked to the object world and thus does not have any material—*real*—referent. Globally the generation of wealth is no longer connected to production in a local or even a national economy; it is literally deterritorialized. Money no longer changes hands; instead financial pluses and minuses flow in intangible digital streams around the world. And indeed, as it was reported in *Forbes* in August 1999, the figure for global trade currencies is \$1.5 trillion daily (Androshcik). With free-floating capital of such mind-boggling proportions, immateriality is virtually everywhere.

What in contemporary culture can be said to represent this articulation of capital at the end of the century and the turn of the millennium? What is the cultural logic of late capitalism? For Jameson the quintessential expression of postmodern culture, or what he has elsewhere called the geopolitical aesthetic, is the image fragment. The postmodern image fragment, he argues, differs radically from the image fragment of modernism: whereas the surrealist image fragment expresses the evacu-

ation of meaning, paradoxically the image fragment of postmodernism contains meaning, albeit the banality and reductiveness of contemporary culture. If Luis Buñuel's work epitomizes the former for Jameson, the work of the late filmmaker Derek Jarman embodies the latter.<sup>1</sup> What I find particularly suggestive is Jameson's point that in postmodern narratives each fragment "has now become capable of emitting a complete narrative message in its own right" (264). Full-length narrative is compacted into an image fragment.

It is from the history of experimental art, specifically film, that Jameson draws his examples. If we turn our attention to contemporary culture in general, to the culture we breathe in and out every day, we find everywhere deployed an altogether banal and reductive language, one that continuously offers itself up as a way of understanding our lives and the world and condenses itself into a single figure—that of the statistic. It is the language of our global capitalist public culture, one that we have all internalized. Like the image fragment, even more so, the statistic can also be understood as a preeminent expression of late capitalism.

Statistics are routinely used to make a certain kind of sense of an event or moment in time, in the process often creating the contours of history, whether it is the history of economics or the history of politics. Consider, for instance, the endless statistical reports of consumption figures (a high percentage of a market share may itself stimulate demand). Consider the announcements of the political ratings of presidents, prime ministers, candidates, and would-be candidates (a low rating in the polls may precipitate a politician's rating even further). Desires and preferences are quantified, reduced to arithmetical expression. Statistics have also become a form of entertainment and exhibition. They are invoked whimsically, as we see, for example, in the *Guinness Book of World Records*. Virtually any issue of a newspaper—ranging from *USA Today* to the *Wall Street Journal*—can be seen as a postmodern numerological analog to the sixteenth-century curiosity cabinet, which displayed all manner of peculiar and exotic objects. Consider a few statistics, ranging from the bizarre to the banal, in a January 1998 issue of the *Wall Street Journal Europe* concerned, of course, with global financial markets and the business of investment, production, and consumption. On the front page we learn that a famous Dutch bull has broken the record for the production of semen, producing over two million doses in the last eight years. We are informed that there are 22,000 McDonald's in 106 countries. And that compact disks outsell audio cassettes by four to one. *USA Today*

has a daily feature divided into four parts called "USA Snapshots." It is billed as: "A look at statistics that shape the nation/your finances/the sports world/our lives." On 21 July 1998 we learned that some thirty-six percent of U.S. adults have an allergy (this figure was further broken down into allergies to plants, molds, perfumes, et cetera); this was the statistic that falls into the category of shaping the nation. That some thirty-five percent of U.S. companies routinely monitor their employees (by reading their e-mail, taping their phone calls, et cetera). That four out of every ten people who own dogs make at least one visit annually to the veterinarian (we are then treated to a breakdown of how much people spend). Enough.

In this essay my focus will be on statistics as a discourse of *probability* rather than as one used to make sense of the past or of the present. It is especially in this guise that the discourse of statistics—the statistic as a figure, one that looms on the horizon—can be understood as the expression of late capitalism: for however a statistical probability may appear to be related to the material world, to the world of our bodies, as the product of a science of probability a statistic is in fact completely detached from it, much as today's global financial markets are detached from actual production in a local economy. My purpose is not to impugn the science of statistical probability but to consider the circulation, representation, and reception of statistics in contemporary culture.

In this sense, statistics are probabilities cast into possible and alternative futures that for the most part take on a dark dimension. These statistical probabilities seem to implicate us as individuals in scenarios of financial ruin and of disaster by disease and weather, abstractions expressed by the ultimate abstraction, one that is infinite—numbers. As with the image fragment that itself is a compressed narrative, a statistic often seems to contain a complete narrative in and of itself: I have an eighty percent chance . . . you have a ten percent risk. . . . Statistics: it is the science that, according to the definition given in the 1987 *Random House College Dictionary of the English Language*, "deals with the collection, classification, analysis, and interpretation of numerical facts or data, and that, by use of mathematical theories of probability, imposes order and regularity on aggregates of more or less disparate elements."

It is statistics, rather than economics, that should be known as the dismal science. For it is a science that is now circulated interminably in everyday life as a discourse of risk. We are at risk, it seems, of anything and everything. Of death by mad cow disease. Of high cholesterol. Of

unemployment. Of crossing the street. Of rape. Of toxic waste. Of hormone replacement therapy. Of earthquakes. Of crushing a finger with a hammer.<sup>2</sup> Even when the citation of statistics is meant to provide reassurance, it may more often than not produce its opposite: a sense of foreboding and insecurity. In late 1997 it was widely reported in the media that an older woman had died in air turbulence on a flight from Japan to Honolulu. The airline industry quickly released the following statistic, which was announced in turn by the media, in an effort to reassure us so that we would soon forget any newly engendered fear of flying: only two people, we were told, have died of air turbulence over the last fifteen years. My informal and highly unscientific survey of friends and colleagues revealed instead that many found themselves wondering about the circumstances of the death of that other person. How did he/she die? What happened? Where? When? They created the outlines of a narrative based on this single statistic and further, vaguely fantasized about their own possible future death from air turbulence, resolving to always keep their seat belts fastened to diminish their risk. In this case a statistic about the past is extrapolated into a scenario of possible mortality in the future. Ultimately, as the philosopher Ian Hacking has suggested, in the end what we may have come to fear is not a specific thing—any *thing*—but rather probability itself, the future. As the sociologist Ulrich Beck has persuasively argued, industrial society has been succeeded by the risk society. What we fear is risk itself.<sup>3</sup>

Thus if we live in a visual culture where society is distinguished by the spectacle, we also live in a society of the statistic. Rather than anchoring us to a stable life-world, statistics that forecast the future engender insecurity in the form of low-grade intensities that, like low-grade fevers, permit us to go about our everyday lives but in a state of statistical stress. Statistics are the very atmosphere we breathe, the strange weather in which we live, the continuous emission of postmodern media life. In the United States we adopt, for example, the stance of medical self-surveillance, monitoring our own vital statistics even as we listen to the nation's own medical statistics routinely announced by the Centers for Disease Control. We subject ourselves to financial self-scrutiny, worrying that we will have enough resources for college, medical bills, retirement.

Statistics are transmitted at every moment of the day and night—on the internet, in the newspaper and magazines, and on television and the radio. Statistics hail us in the Althusserian sense. The statistic and the anecdote—two fragments par excellence—are the pervasive

conventions of media culture. Statistics often open what is called a “story” in print, broadcast, or internet news, to be followed by an anecdote—or vice versa. Often statistics in and of themselves are the story and our imaginations supply a corresponding anecdote or scenario. In the United States, for instance, we learned in 1997 from our Secretary of Health and Human Services, Donna Shalala, that domestic violence accounts for twenty to thirty percent of the visits to emergency rooms by women.<sup>4</sup> Here statistics are themselves the deep structure and manifest content of the story, numerological protagonists that stalk their potential victims. Here a narrative has been compacted into the most minimal and impersonal of fragments—a statistic. Death and destruction is the story, with the round number of deaths and their location by nation constituting its critical elements. On 30 December 1997 CompuServe’s “Top News” proclaimed: “Homicide Rate Down in 1997.” This is a statistical variant on what Freud termed the declaration of desire by negation, although here it is not desire but the state of risk that is announced. That the number of murders has declined is supposed to be good news, but there is no doubt that fewer murders remains a forecast of violent death. Moreover, that the very subject of the sentence fragment is the homicide rate itself suggests that statistics possess a kind of agency, that they are an impersonal and implacable force. Being reduced to a statistic, as we say, is definitely not a fate to be desired.

## II

I have been implicitly associating the society of the statistic with a particular form of feeling—what I call statistical stress or, in its extreme form, statistical panic. Boredom, as I will suggest in this section, is the flip side of panic.<sup>5</sup> Identifying a particular and pervasive feeling, or a structured complex of feelings, as the cultural materialist Raymond Williams has argued, can help us recognize the emergence of a new social formation. For Williams, “a structure of feeling’ is a cultural hypothesis” (132), one that can serve as a kind of lever to disclose or uncover new social relationships in the making. Thus an attention to feeling can itself be a methodology, one that emerges from attempts to understand the social structure of the world in which we live. Such a methodology is perhaps best understood as a self-reflexive or critical phenomenology, a form of what Stephen Muecke has called the archeology of feeling, or what I would call a social phenomenology, one whose goal is to compre-

hend the ways in which the spheres of subjectivity—here feelings—and sociality mutually constitute each other.

In his important essay “Postmodernism, or The Cultural Logic of Late Capitalism,” Jameson himself sketches a cultural history of late capitalism in terms of the differences between the forms of feeling embodied in modern and postmodern art: for Jameson the modern is characterized by the emotions of psychological depth (alienation, for example), the postmodern by the evacuation of such emotions, which are replaced by mere intensities. Writing the history of social formations and cultural forms thus entails a history of the emotions. Moreover, historicizing the emotions, or forms of feeling, is itself as important a history as is the social and cultural history in which it is intertwined. Thus in this essay I also am interested, like Jameson, in a kind of schematic cultural history of the emotions as articulated at two different points in time—the turn of the twentieth century and the end of the twentieth century, the modern and the postmodern. I suggest that statistical stress, and statistical boredom, which is related to it, can be thought of as a particular structure of feeling, one that discloses the society of the statistic in which we live today, a mediatized, marketized, and medicalized culture in which the notion of being at risk has assumed dominant proportions. I offer this in the spirit of speculation, as a cultural hypothesis, and I do so by first referring briefly to the turn of the twentieth century, drawing on the history of the structure of feeling of modernism, in order to suggest a comparison with what I have been calling the postmodern society of the statistic and its concomitant structure of feeling.

Jameson introduces the subject of the postmodern compression of narrative into the image fragment by citing coming attractions at the movies. As he points out in “Culture and Finance Capitalism,” referring in particular to the action film, in today’s coming attractions fragments of the narrative of a feature-length film are recombined as a series of images strung together to produce “a perpetual present of thrills and explosions” (261). The ironic result is that, once having seen the coming attraction, we do not need to see the film itself. The long narrative from which it has been condensed is rendered obsolete; the coming attraction is itself a kind of image fragment. Jameson rightly concludes that the form of feeling associated with the coming attraction is not so much an emotion (in the sense of psychological emotions, such as hatred or jealousy, which imply a depth of feeling) as an intensity, one associated with the lure of a

surface; indeed one intensity after another is strung together as a relentless series of sensations, bodily and psychic.

Today's coming attractions—particularly those for action films—in fact recall an earlier cultural form, the “cinema of attraction” at the turn of the twentieth century, a form that resonates with today's micro-statistical narratives offered in the media (on television and radio they often come in the form of sound bites). The cinema of attraction, as Tom Gunning has termed it, was a relentlessly non-narrative cinema that flourished at the turn of the twentieth century, dominating the very idea of what the cinema was until 1906–07, when it took a narrative turn (“Cinema of Attraction”). In the cinema of attraction, space and time were envisioned as a forum in which to elaborate a series of shocks, in particular the shock of the new theorized by Walter Benjamin and associated with turn-of-the-century urban culture and the technology that was so characteristic of it. The aesthetic was preeminently one of assault. Lumière's famous 1895 film *Arrival of a Train at the Station* serves as the quintessential example. The title encapsulates the action of the film: a train arrives at the station, with the spectators positioned in front of it as it advances. The technological protagonist of the film is an invention that, as scholars of technology and culture have shown,<sup>6</sup> changed our very sense of time and space and thus the nature of perception itself, an alteration in perception that is indexed in certain affects, requiring what I call a phenomenology of technology expressed in terms of the emotions.

By all accounts the spectators reacted to Lumière's film of an onrushing train with terror and panic. The new invention represented what was unknown—that is to say, what was new—in addition to unimaginable speed and force. It represented the penetration of the urban in the countryside, or the machine in the garden, as Leo Marx so aptly phrased it, and thus represented a fundamental change in social structures. As a film, *Arrival of a Train at the Station* not only represented the shock of the new, it also elicited the response of the shock of the new that, as a structure of feeling, distinguished this period of technological change. But this experience was, of course, a simulation of an experience, one that took place in a space devoted to entertainment. Thus the bodily and psychic sensation of panic felt by the spectators was leavened by the sense of expectation and excitement, one that Gunning associates with a conscious enjoyment of visual shocks and thrills. “The onrushing train,” Gunning explains, “did not simply produce the negative experience of fear but the

particularly modern entertainment form of the *thrill*, embodied elsewhere in the recently appearing attractions of the amusement parks (such as the roller coaster), which combined sensations of acceleration and falling with a security guaranteed by modern industrial technology" (37).

I would add that the cinema of attraction functioned as a virtual space, a space of safety in which the spectator could become accommodated to the new technology—and thus to the new urban culture—in the guise of entertainment (one that has its analogues in today's video games). Accommodation—both in real space and time as well as in representational space—leads to adaptation, and adaptation can yield to boredom. It is therefore important to recognize that boredom was the inevitable counterpart of the shock of the new associated with the modern metropolis. As film theorist Patrice Petro has so persuasively argued, modernity had another affective side—that of boredom. Not a sensation but the lack of sensation, less an emotion than a mood, boredom set in, she writes, "when the 'shock of the new' ceased to be shocking, when change itself had become routinized, commodified, banalized, and when the extraordinary, the unusual, and the fantastic became inextricably linked to the boring, the prosaic, and the everyday" (265).

If the shock of the new was theorized by Walter Benjamin, boredom was for him also a critical affect for understanding modern subjectivity. The same is true for the urban sociologist Georg Simmel. In his well-known 1903 essay "The Metropolis and Mental Life," Simmel argued that the extreme stimulation experienced in the modern city was intertwined with the money economy that underwrote it, one that demanded a mind that was necessarily consumed with "weighing, calculating, enumerating and [with] the reduction of qualitative values to quantitative terms" (328).<sup>7</sup> For Simmel the counterpart of urban stimulation was what he called "the blasé attitude" (329). Together, then, shock and boredom, linked to technological innovation and urban culture, constitute what we could call the dominant structure of feeling of modernity.

With the affect of boredom twinned to that of shock I return to the subject of the postmodern society of the statistic. The train is exemplary of the technology of urban modernity, a technology characterized by its concreteness and materiality. In contrast, the all-pervasive discourse of statistics is exemplary of the postmodern; it is a social technology that is preeminently abstract.<sup>8</sup> Nonetheless it is altogether clear that we respond to the litany of statistics with which we are daily bombarded with boredom as surely as we do with panic. More so. Consider the all-pervasive



recitation and quotation of statistics that we encounter in enormous quantities every day—the number of housing starts in any given month, the percentage rise or fall of the closing of Dow and other stock exchanges, the amount of precipitation in a particular period, the numbers of wins and losses of a sporting team, the percentage of various groups that voted for a certain candidate. The list is endless. “Let’s do the numbers,” intones U.S. National Public Radio every night, the voice in an upbeat mood no matter what, trying to beat the boredom or head off the panic, maintaining an equable tone of entertainment. We live in a climate of numbers virtually vying for our attention. We talk statistics as much as we talk about the weather. We take note, we end by turning off, numbed, perhaps enervated, only to begin again the next day.

The matter is further complicated because we must also find ways to creatively use statistical language to effect change. We cannot “say no” to statistics any more than we could have said “no” to trains—nor should we want to do so in an unreflective way. In part the challenge for those who are activists is to convince others to understand the urgency implied in the tedious, quantitative language of the statistic. Boredom must be converted into concern, into a kind of panic. Much public policy depends upon mobilizing statistical panic, as, for instance, in gathering support for curtailing teenage smoking, for increasing research funds for AIDS, and for decreasing the rate of growth of the population in certain countries. One of our tools to argue for human goods in the moral sense—such as the alleviation of human suffering—is statistical language itself.

Catastrophic statistical discourse about large-scale concerns—population growth, to draw on the example above—is highly unstable; what at one moment may impress us as urgent may in the next seem simply boring. But when our own individual epidemiological, familial, and financial futures are at stake, statistical panic can strike with compelling and sustained force. Statistical panic: fatally, we feel that a certain statistic, which is in fact based on an aggregate and is only a measure of probability, actually represents our very future.<sup>9</sup> Such panic is usually fleeting. Based as it is on a number, it usually cannot be endured for long. Moreover, in virtually all cases it will surely be drowned out by another number. Yet a given statistic can also come to drastically color our very lives.

This is not an unusual occurrence. It is the stuff out of which prime time television is made, as a December 1997 episode of the medical drama *Chicago Hope* illustrates. In one of the narrative lines in this episode,

a middle-aged woman—she is a wife and mother of two children—insists to a young male surgeon that she wants a double mastectomy. He is not only reluctant to do the operation, he is horrified, because she does not in fact have breast cancer. But as she explains, she has an eighty-six percent chance of getting breast cancer (this statistic is based solely on family history—her mother died of breast cancer and her two sisters have also died of breast cancer). For her the statistic is like an oncoming train that she must avoid at all costs. Although the statistic is an abstraction and is not linked to a certain outcome, it has for her a galvanizing force. Here we so clearly see the difference between the scientific use of the language of risk and its experiential dimension: this fictional woman's experience of the feeling of being at risk—or what I am calling statistical panic—discloses a terrifying future: the certainty that her life will be cut short by disease.<sup>10</sup> The immaterial social technology of the statistical discourse of risk has as tangible an effect on her as did the modern technology of transportation, embodied by the train, on those who felt its effects of urbanization.

The doctor's initial reaction is that the woman is suffering from paranoia and hysteria, two emotions that are assuredly not associated with rational decision-making. But in the end he is persuaded by her unwavering determination and the gravity of her statistical prognosis to perform the operation (along the way he also gets a lesson from the woman with whom he is romantically involved, learning that a woman's sexual attractiveness should not be irrevocably linked with her breasts and that love should triumph over such dramatic bodily change). What to the surgeon at first seems an insane course of action is revealed in the course of the narrative as preeminently rational in an unequivocally calculating sense. If we generally regard statistics as a depersonalizing force, here we see that when we apply them to ourselves, creating our own emotional dramas out of them, they can have an overwhelming power, orienting us to the world in a particular way, focusing our attention on eliminating risk. In order to avoid being reduced to a statistic, which in this case would entail a death sentence, this fictional character from *Chicago Hope* uses her panic as energy to guide the surgeon's knife to her breasts and thus to obliterate altogether—she thinks—her risk of such cancer.<sup>11</sup>

The narrative is designed to persuade us, along with the surgeon, that her decision is "rational." Her clearly defined role as a wife and mother is represented as the maintenance of her health at all costs. The

all-powerful protagonist of the story is the figure of risk: you have an eighty-six percent chance. . . . That her panic carries with it a financial price as well as an emotional price is never mentioned. The surgeon is carefully represented as never lobbying in any way for the operation, for which he would receive a fee (probably a big one). Instead he is firmly opposed to it and must be convinced to do it. The mutual entailment of the society of risk (which requires the production of statistics) and of consumer culture is never suggested. The high figure of eighty-six percent represents, as it were, the high cost of maximizing her health. In our health care system this carries a price tag and results in cases such as these in what I call the pricing of panic. And indeed sustaining health has become a major preoccupation in contemporary consumer culture, one that relies upon statistical reports to increase demand for its products.<sup>12</sup> This episode from *Chicago Hope* is thus a clear instance of the medical melodrama, where public and private space intersect in the operating room, where fraught decisions are reduced to no-brainers, and where good motherhood is represented as taking a knife to the body and spending a lot of money in the process. In short the feminine, albeit in a new guise, and the work of consumption are yet again aligned in the representational space of television and indeed are intrinsic to it.<sup>13</sup>

In this unambiguous melodramatic world, the wife and mother is presented from the beginning as unambivalent, as having no questions or qualms about her decision. But the very experiential quality of statistical panic, or risk, is that it carries uncertainty with it, an uncertainty intrinsic to it. The narrative is cast in black and white terms, as a debate between two competing and supremely confident positions. What in fact panics us, however, is that we cannot be certain of our own future, however much, as in this case, epidemiologists have quantified it for us. What is peculiarly reductive about this television narrative is that the woman is never represented as hesitating over what she thinks she should do. This is what accounts for my uneasiness with the narrative, my sense that the story is truly bizarre. How could we possibly allow a number to have such decisive and unambiguous power over us?

Some fifteen years ago Jacques Derrida commented on what he identified as the apocalyptic strain in postmodern thought, suggesting that the tone of apocalypse represents a continuity between modernism and postmodernism. I have been suggesting that there is a continuity between the shock of the new, or the modern, and the panic of the statistical postmodern, although their constituting technologies are different. The

tone of apocalypse is deployed in much statistical discourse. Eighty-six percent! Market slides 3.5 percent! The population is falling. . . ! The population is skyrocketing. . . ! But at the same time there is something altogether banal, if not altogether boring, about a future cast in numerical terms, one calculated in quantitative bundles.

To figure the modern, Walter Benjamin imagined a visionary “angel of history” who, although turned toward the future, faces in fact the past and the “wreckage” wrought by catastrophe (25). Today we face a future figured as statistical risk, with wreckage everywhere dispersed into the years that lie ahead. There is something both strangely unnerving and numbing in the phenomenon of statistical panic, a structure of feeling associated with the postmodern society of risk, one that produces risk as a commodity and then offers goods and services to assuage that same sense of panic. Although it bears similarities to the emerging structure of feeling at the turn of the twentieth century (we no longer experience the shock of the urban technological new in the same way, we are thoroughly habituated to it), this postmodern structure of feeling is decidedly different.

### III

How do we survive into the future in the postmodern society of risk? By eliminating, it would seem, as much risk as possible. By understanding every day as one in which our ability is tested to survive not only actual threats (a holdup at gunpoint in the city, for instance), but also the invisible atmosphere that everywhere radiates risk, projecting it far into the future. As the philosopher Zygmunt Bauman has so aptly suggested, the “postmodern strategy of survival” is to slice “time (all of it, exhaustively, without residue) into short-lived, evanescent episodes. It rehearses mortality, so to speak, by practicing it day by day” (29). Our daily work—our career, in the sociologist Erving Goffman’s sense—is to manage our futures in terms of avoiding risk.

More importantly, we survive by dissecting the deployment of statistical discourse and its effects upon us, by reflecting on our affective response to the language of risk. In what follows I consider statistical panic in two texts that serve as counterpoints to the breast cancer narrative from *Chicago Hope*—Yvonne Rainer’s 1996 feature-length film *MURDER and murder*, which explores the disturbing discrepancy between the scientific language of statistics and their experiential dimension in relation to breast cancer, and the historian Alice Wexler’s *Mapping Fate*, a memoir

published in 1995 that engages the experience of being at risk for Huntington's disease. In both *MURDER and murder* and *Mapping Fate*, statistical death is the underwriter of alternative futures. If *MURDER and murder* entertains the question of what statistical panic feels like, how it can get you in its grips, Wexler shows us how she finally resolved not to concede control to it.

Rainer's bold film *MURDER and murder* takes up the subjects of breast cancer, aging, and love between two older women. For Rainer murder with a capital M (*MURDER*), as opposed to murder in lower case (*murder*), is death from clearly-defined social causes that could be prevented—such as deaths caused by nuclear testing and DDT, from homophobia and other forms of stigma. In what Rainer has herself termed the most psychologically realistic of her films, *MURDER and murder* contains a running commentary on statistics—thematically, literally, figuratively, and perhaps most courageously, autobiographically. It also thematizes the possibility of seeing into the future by having the younger ghosts of the characters haunt the action that takes place in the present, commenting wistfully, wryly, and even statistically on possible futures. As the young ghost of one of the two main characters says dreamily, “Just think of it: if in one year only one girl from every graduating class in every high school in the country becomes a lesbian, that means 33,000 lesbians! In a decade that would add up to 330,000. And in thirty years it would be a million!” (101).

In the course of the narrative, the sixty-three-year-old Mildred is diagnosed with breast cancer and undergoes a mastectomy. While the credits roll at the end of the film, she says in voice-over, referring to statistics specifically about lesbians and breast cancer, “these statistics make me tired” (117). To which Doris, her younger partner replies, “So many ways to get messed up. Your numbers are even more terrifying than mine.” Mildred: “They're just numbers. Everyone has a different set of numbers. You can't live your life by numbers.” But as I have been suggesting, we are virtually required by the society of the statistic to do so. And often for what we would term good reasons—acting in a manner in accordance with avoiding mortal disease, maximizing our health. Doris takes this position. Doris: “But you can use the numbers as cautionary. Like, when did you last get a pap smear and mammogram?” If the tone is for a moment ironically light (fun is occasionally poked at statistics in the film), the implications of Mildred's answer are horrifying. “Oh don't start on me now. I don't know, two or three years ago.” Two or three years ago! If only

she had had a mammogram! (This is also complicated: having a mammo-gram provides no guarantee.) Then we remember: Mildred is a fictional character. But the final frame of the film returns us to the sobering light of the real world before it fades out. It reads:

IN MEMORIAM

NANCY GRAVES

SHIRLEY TRIEST.

Within the context of the film the deaths of these two real women seem to be statistical fatalities. Death by statistic. And by a horrible irony, the deaths of these women will in fact be reduced to statistics, data going into the aggregate to generate a new mix and new probabilities for the future of other women. Yet Rainer's film is dedicated to the memory of these women, to the meaning their lives held for other people, and is thus also a refusal to allow them to be reduced to statistics.

It has been said of some fictional narratives (of Thomas Hardy's late-nineteenth-century novels, for example) that the landscape assumes the status of a character. In *MURDER and murder* statistics are both the environment in which these women live and an uncompromising force that is mercurial in nature. Even if you follow all the rules (you eat the "right" food, you exercise, you don't live next to a toxic waste dump), you may be hit. Statistics, appearing as crawling titles, accompany much of the film. "There are 1.8 million women in the U.S. who've been diagnosed with breast cancer. One million others have the disease and do not yet know it" (88). "One out of four women who are diagnosed with breast cancer die within the first five years. Forty percent will be dead within ten years" (89). In one scene, fragments of a statistic are stenciled on the wall and in another we see a statistic being carefully inscribed on another wall, as if it were graffiti—"In 1992 thirty-seven and a half million people in the U.S. had no health insurance" (112). In one of the most important sequences in *MURDER and murder* statistics about breast cancer are stenciled on the canvas of a boxing ring, literally covering the floor on which the two women both fight and make love. Although statistics are omnipresent in contemporary culture, we have not sufficiently considered the profound effects they have upon us. One of the important achievements of *MURDER and murder* is to show how they constitute the very stage upon which we act out our lives. In *MURDER and murder* statistics are literally made visible.

Yvonne Rainer, a lesbian and in her early sixties when she made this film, appears as herself in *MURDER and murder*, interrupting the fictional narrative with her own autobiographical commentary. In the boxing ring scene she sits in the audience right in front of the ring. She is wearing a fighter's robe and at one point addresses the camera, slightly offside. She speaks in an even, almost toneless voice that verges on the deadpan (I excerpt from her words):

*All right, I've been putting this off. . . . Five biopsies in eight years following up on that first diagnosis of lobular carcinoma in situ. . . . "A marker of higher risk," that first breast surgeon kept repeating, and I in turn repeated it like a mantra. "Not breast cancer, but a marker of higher risk." He wanted to take 'em both off. No breasts, no breast cancer. I did my research, found a more conservative surgeon, and weighed the odds. Twenty to thirty percent higher risk than the general population. At that time one woman out of every ten or eleven got breast cancer. Now it's one out of eight or nine. "You're more likely to die in a car accident," Dr. Love had said. Since I didn't own a car, I didn't know quite what to make of that. (102-03)*

Rainer understands the deadly looniness of being lumped into a statistical aggregate that does not represent your own life but which you are told represents your statistical future. "You're more likely to die in a car accident,' Dr. Love had said. Since I didn't own a car, I didn't know quite what to make of that."

While Rainer delivers these words she opens the left side of her robe to reveal her mastectomy scar. At a chance moment her risk had climbed to one hundred per cent. As she reports later in the film, rehearsing the paradoxically improbable moment of diagnosis, "One day I didn't have cancer and the next day I did" (17). Her upper body literally shows the outcome of some of the statistics she continues to cite throughout the film. One out of every nine women will get breast cancer. But other statistics are still out there. The odds are increasing at a crazy-making rate. Eight. Seven. Six. In a situation such as this statistical panic can be never-ending—until it is fatal. "By the year 2000 cancer will be the leading killer of everyone" (109). Rainer's incisive irony exposes the crazy cultural logic of the risk society. It is the panic produced by the statistics themselves that has reached epidemic proportions.<sup>15</sup>

As Rainer says in a brilliant sequence of jump cuts, referring to the ever-present strange feeling of tightness in her skin and to death rates from cancer, condensing a phenomenology of the body and statistical affect:

*One out of nine women will develop breast cancer sometime in her life. That rate has more than doubled in the last thirty years. That taut feeling, however, never quite disappears. One out of three Americans will face some form of cancer. Of these, two out of three will die from the disease. That taut feeling . . . The death rate . . . however, never quite disappears . . . from cancer has not been reduced in more than fifty years . . . (108)*

It is as if this stutter-like sequence could go on forever, oscillating between the palpable feeling of her body where once her breast had been and the probable prospect of death, which is the ultimate implication of these disembodied statistics, figures that themselves constantly change at what seems to be a dizzying speed but one that is also boringly slow. In *MURDER and murder* statistics, both fully formed and fragmented, virtually metastasize in every direction, materializing everywhere. They appear on the walls. They are written on the floor. They are posted running across the bottom of the screen like the stock market figures on CNBC, the financial cable television channel.

If the fictional woman from *Chicago Hope* reacts to her familial history of statistics with determined certitude (in that reductive narrative, she has only one conclusive figure to deal with—eighty-six percent), Rainer shops for other statistics. She acts like a postmodern version of Simmel, calculating and enumerating, but she is shopping for the odds. She weighs her chances, worrying, worrying. Thus the affect of statistical panic is fundamentally related to the experience of uncertainty. Freud provides a distinction between anxiety and fear in *Inhibitions, Symptoms and Anxiety* that is useful here. Anxiety, he insists, “has an unmistakable relation to *expectation*”; unlike fear, which is attached to a specific object, anxiety “has a quality of *indefiniteness and lack of object*” (165). Statistical panic falls somewhere in between the two. Like anxiety, it is related to the expectation that something may happen in the future, but unlike anxiety, it is not so vague or indefinite. Yet, unlike fear—the fear, say, of being in the path of an oncoming train—statistical panic is not related to a known object that exists for us in the present. Rather it is related to a probability, to varying scenarios, to futures that are statistical in nature. When we are



angry, our anger is directed at a specific object, most often a person; our anger binds us to that person. In his book on the emotions Jean-Paul Sartre, for example, draws on anger as a model for the way emotions bind us to the world. As he puts it, "the affected subject and the affective object are bound in an indissoluble synthesis. Emotion is a certain way of apprehending the world" (52). But how can we be bound to something indefinite? To a statistic? To a figure that represents a possible future, and thus a narrative, but is at the same time a fragment of a series of possibilities? This ambiguity accounts in part for the peculiar quality of statistical panic, a structure of postmodern feeling that oscillates between urgency and boredom.

How do you live when you are at such risk? Alice Wexler provides an answer to this question in her remarkable *Mapping Fate: A Memoir of Family, Risk, and Genetic Research*. This sensitive account contains two narratives that are as intertwined as is the double helix: Wexler's personal story as the daughter of a mother who suffered from Huntington's disease, and the scientific story of the search for the gene that causes Huntington's (it was discovered in 1993). In particular, Wexler, as she writes in the introduction, is concerned to illuminate the "emotional meanings of being at risk" for a devastating and terminal disease such as Huntington's that has no known cure (xvii). Unlike Rainer's *MURDER and murder*, *Mapping Fate* does not deluge us with statistics. But one figure haunts the entire narrative: fifty-fifty. When Alice Wexler learned in 1968 (she was then in her mid-twenties) that her mother had been diagnosed with Huntington's, she simultaneously learned that she had a fifty percent chance of inheriting the disease. Although her father told her that her immediate response to the even odds was "That's not so bad" (43), in fact she was overpowered by this uncertain knowledge, which was transformed into denial and translated into uncertainty about her own talents for living. As her sister Nancy Wexler (a psychologist and activist for Huntington's) was later to write, "the ambiguous condition of 50 percent risk is extremely difficult to maintain in one's mind, if not impossible. In practice a 50-50 risk translates to a 100 percent certainty that one will or will not develop the disease" (223). People are routinely urged to weigh the odds as a way of deciding what course of action to take. But Wexler couldn't weigh the odds to determine which was heavier for they weighed exactly the same.

Wexler's anxiety—her statistical panic—is palpable throughout the pages of her book as she apprehensively inspects herself for the signs of the disease, witnesses her mother's long and harrowing descent into Huntington's, offers her help in the search for the dreaded gene, and tries to get pregnant (understanding all the while the tragic future that could be in store for her child and the all too predictable guilt she would suffer as a consequence). With a horrifying irony, the discovery of the gene and the development of a test for it, as she writes, "opened an abyss in all our lives, a vast space between prediction and prevention" (221).

Now her anxiety about whether or not she carries the gene for Huntington's is compounded by her anguish over what might be the emotional effects of the results of the test itself. As she discovered in talking with people at risk for Huntington's, virtually "everyone mentioned the need to escape the oppressive uncertainty" of genetic inheritance (236). They also reported that as they grew older their anxiety increased even though the odds of having the disease decrease with age. Ultimately Wexler, having lived so long with this statistical condition, makes a kind of peace with being at risk. She chooses to reject the test for which she had thought she longed (the test, it is important to remember, does not provide absolute prediction but rather narrows the probabilities). She makes a conscious decision to choose to live in risk, refusing the cognitive map of her body that is held out to her in the form of genetic testing and statistical probabilities. She elects to face a future that holds two possibilities rather than a virtual certainty, a future that she can now name a destiny, one that for her remains open. In Wexler's *Mapping Fate* we not only see a nuanced and strong portrayal of what it feels like to be caught in the tension between the scientific language of risk and its experiential dimension. We also see how her analysis of her statistical panic, understood as uncertainty about the future, allows her to put the paralyzing implications of the number fifty-fifty behind her and to live into a future that is not ruled by a statistical roll of the dice. In effect Wexler has redefined risk. Instead of risk ominously waiting for her in the future in the form of a statistical probability, Wexler chooses to risk fate. She takes a risk. She risks an untimely death, choosing to live, in the words of Gillian Rose, "before her time."<sup>16</sup>

## IV

I began this essay by referring to the work of Fredric Jameson and I conclude by invoking it here. As a materialist critic of culture, Jameson is interested in the relation between changes in the structures of capitalism over time and changes in literary and cinematic culture, particularly in terms of the aesthetics of realism, modernism, and postmodernism. In "Statistical Panic" I too have been interested in how contemporary cultural texts of different kinds—among them, prime-time television, experimental film, and the memoir—contribute to, dissect, confront, and question what has been called the risk society.<sup>17</sup>

The global language of statistics that characterizes the end of the twentieth century is a discourse in the Foucaultian sense that, like capitalism, also has a history of development. Importantly this history is in the process of being written, three moments of which might include the late sixteenth century, the nineteenth century, and the end of the twentieth century.

The feminist literary historian Mary Poovey has studied the emergence of techniques in the sixteenth century—double-entry book-keeping, among them—that helped codify commercial transactions in the early modern period.<sup>18</sup> What especially fascinates me in Poovey's account is that the category of risk initially contained all that could not be represented by numbers, with shipwrecks and instabilities in world demand being leading examples; it was only later, with the development of techniques such as bills of exchange, that risk was institutionalized to a certain extent. But the notion of the statistic is central to her history of the emergence of the modern fact.

In *The Taming of Chance*, the philosopher Ian Hacking shows how probability is, as he puts it, "the philosophical success story of the first half of the twentieth century," a development he traces to the consolidation of statistical thinking in the nineteenth century, one made possible by the systematic collection of data starting around 1820, the beginning of an "avalanche of printed numbers" that continues to deluge us today (18). In addition, Hacking explores the development of statistical fatalism in the 1830s, strains of which I see everywhere today.<sup>19</sup> By the late nineteenth century the statistical concept of the "normal" was, according to Hacking, "the premier statistical idea" (145), a concept that continues to have force today but has also taken a paradoxical turn. In the nineteenth century the normal was associated with the state of health. But if we are

today everywhere and always at risk, the normal seems sure to turn catastrophically into its opposite at any moment: to be normal is to be in a state of risk, a state that at some inevitable future time will be fulfilled as a state of disease or death. At the end of the twentieth century, statistical thinking and its concomitant, a sense of being at risk, have been internalized by virtually everyone in our consumer culture. Statistics are endlessly produced. They are broadcast day and night by the media. They are prime determinants in how we feel and what we do.

Today, as opposed to the sixteenth century, we think of risk as precisely that which can be represented by numbers, figures that represent the future. Today, as opposed to the nineteenth century when the keeping and deployment of statistics were predominately the province of the state, statistics circulate in every domain of culture on all levels—from the personal to the global, a discourse that inextricably intertwines the two. As Theodore Porter has pointed out in *The Rise of Statistical Thinking: 1820–1900*, it is difficult for us to imagine that before the 1820s societies in the West did not make decisions, or what today we would call public policy, based on unemployment figures or crime rates. With the rise of mass culture in the late nineteenth and early twentieth centuries and with the continuing invention and consolidation of mass media throughout the twentieth century, it is, I suggest, impossible to envision a world that is not saturated by statistics as a discourse of knowledge, ranging from the life-threatening to the trivial.<sup>20</sup> If in the nineteenth century statistics were used by the state—from city governments to national governments—as a management tool, today statistics of probability, delivered as a discourse of risk, are disseminated endlessly, internalized by individuals as a tool for living out their lives, a tool so forcefully exposed by Rainer and Wexler.<sup>21</sup> The structure of feeling I have been calling statistical panic (and its oscillating partner, boredom) is a response to the social technology of statistics that has both contributed to the creation of the omnipresent discourse of risk and has produced a calculus to avoid that very risk, a prime contradiction of capitalistic culture as we enter the third millennium. Like other emotions, then, panic has a history.

In this essay I have been concerned primarily to suggest two points in that history in relation to emerging technologies in the twentieth century—the shock of the new associated with urban technologies at the turn of the twentieth century and statistical panic associated with the convergence of the information revolution and the probabilistic revolution at the turn of the twenty-first century.<sup>22</sup> As a structure of feeling,

statistical panic, sutured to statistical boredom, is the opposite of a mathematical sublime. Statistics are not a discourse of awe or wonder but rather the stuff of everyday life. They are a routine currency in which we plot our lives in terms of risk and in which, when we are jolted into mortal attention, we find ourselves living on the razor edge of panic, beset by what Paul Monette, in his memoir of living through his lover's dying of AIDS, has called the "thundercloud" of statistics (48). Unless, like Rainer and Wexler, we find ways to address the sources of statistical panic itself in forms—in their case, fiction and memoir—that sanction different kinds of knowledge.

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## Notes

- 1 Of Jarman's *Last of England* (1987), Jameson writes:

One can certainly speak of the death of the subject here, if by that is meant the substitution for some agonizing personal subjectivity (as in Buñuel) or some organizing aesthetic direction (as in Brackage), a Flaubertian autonomous life of banal media entities floating through the empty public realm of a galactic Objective Spirit. But everything here is impersonal on the mode of the stereotype, including the rage itself. . . . Jarman's fragments are meaningful or intelligible, Buñuel's . . . are not. . . . The

situation of contingency or meaninglessness, of alienation, has been superseded by this cultural renarrativization of the broken pieces of the image world. (264)

- 2 I am alluding to a short piece in the *New York Times Sunday Magazine* for 8 August 1999. Under the title "Living Dangerously: The Odds," a list of nine different risks are taken from *Danger Ahead: The Risks You Really Face on Life's Highway*, by Larry Laudan. We learn that the odds that we will crush our finger with a hammer are one in three thousand, that our doctor is really not a doctor are one in fifty, that

our next meal will come from McDonald's is one in eight, and so on.

- 3 Within the domain of the market, predictability is itself a commodity; uncertainty itself has a price, one that is attached to what are called securities; more predictability means less risk. But within the domain of our own lives the calculus of risk can produce not security but panic. On the other hand, as Edith Wyschogrod so aptly pointed out in discussion at the symposium on "Postmodernism and the *Fin de Siècle*," there is also an erotics of risk, one that involves the desire to test oneself and to succeed against the odds, to beat the statistics, as in sports, for example, or in gambling. On the banal level of everyday life, there is the hope that we (meaning "I") will win the lottery. There is a romance with risk, as exemplified in the popular book entitled *The Romance of Risk*.
- 4 This figure has been disputed. In an op-ed piece in the *New York Times* on 11 September 1997, Sally L. Satel, a psychiatrist and lecturer at the Yale School of Medicine, insists that the number is much smaller. "Injuries from domestic assaults," she concludes, "still accounted for just half of 1 percent of female emergency cases in 1994."
- 5 Michael Power discusses what he has termed the "audit society" in terms of affect: "The audit society," he writes, "is the *anxious* society in which perceived regulatory failure must be continually overcome and the mission of regulation reaffirmed. In the context of this permanent dialectic, audit is a crucial political technology. The 'act of audit' reduces anxiety or, more positively, produces comfort. . . . And yet, paradoxically, the audit society is also one in which

visible failure of audit is the norm and in which there are extensive investments in audit activity irrespective of their demonstrated substantive effectiveness" (307). Interestingly, Power submits that "the 'audit explosion' has occurred at the threshold between the traditional structures of industrial society and an emerging 'risk society'" (307) and that the audit "is part of the new 'cosmetics of risks'" (313). I would suggest that while the audit is a social practice performed by various regulatory agencies, individuals have learned to audit themselves in terms of what I have been calling their financial and epidemiological futures; the auditing of our individual statistical futures has been internalized. See also Beck; Douglas and Wildavsky.

- 6 The train has often been taken as the exemplar and embodiment of the emerging culture of urban modernity. See Marx and Shivelbush.
- 7 I am indebted to Patricia Mellencamp's *High Anxiety: Catastrophe, Scandal, Age, and Comedy* for calling attention to this passage in Simmel's essay "The Metropolis and Modern Life." See *High Anxiety* for a brilliant and often hilarious discussion of the ways in which television is a machine for producing anxiety. If the processes of calculating and quantifying are critical to the modern mind, as Simmel insists, we should not be surprised that a learning disorder, named decalcula, has been identified for those who have difficulty learning how to deal with numbers.
- 8 Similarly, Miller makes the point that accounting, a predominant means of quantification, is itself a technology.

9 The counterpart of this would be statistical hope. A couple having difficulty conceiving a child and, as is said, "given" a three percent chance of succeeding, may imaginatively count themselves among that lucky three percent. Similarly, many of us speak of winning the lottery, a statistical improbability of astronomical proportions (never mind an impossibility when one doesn't actually buy into the pool).

10 See Sandra Gifford's important essay "The Meaning of Lumps: A Case Study of the Ambiguities of Risk" in which she distinguishes "two distinct dimensions" of risk in a medical context: "a technical, objective or *scientific* dimension and a socially experienced or *lived* dimension" (215), with the clinical context bridging the two. She explains:

Although epidemiologists speak of risk as being a measured property of a group of people, clinicians speak of risk as a special property of an individual. Risk becomes something that the patient suffers; a sign of a future disease that the clinician can diagnose, treat and manage. For the patient, risk becomes a lived or experienced state of ill-health and a symptom of future illness. To the patient, risk is rarely an objective concept. It is internalized and experienced as a state of being. These different dimensions of risk as understood and experienced by epidemiologists, clinicians and lay women—further blur the already ambiguous relationship between health and ill-health. This ambiguity results in the creation of a new state of being healthy and ill; a state that is somewhere between health and disease and that results in the medicalization of a woman's life. (215)

In her essay Gifford considers

two case studies, both of which concern breast cancer. In this episode of *Chicago Hope* the kind of ambiguity that Gifford so discerningly identifies is not represented; the physician, for example, is at first sure that she should not have the operation—he does not interpret the risk the statistic implies for her but rather dismisses it. Gifford's distinction between these two different dimensions of risk corresponds to the medical anthropologist Arthur Kleinman's distinction between disease, represented in scientific discourse as organic dysfunction, and illness, the patient's experience of the condition.

11 In January 1999, the Mayo Clinic released a study that reported on the results, thus far, of what is called a bilateral prophylactic mastectomy in 639 women. It was concluded that the drastic operation reduced their chances of dying from breast cancer by ninety percent. Out of that figure eighteen women's lives were saved—but that means that 619 women had the operation performed needlessly! See Gorman.

12 Note that this wife and mother was in fact shopping for a surgeon. As Bunton, Nettleton, and Burrows argue: "At a cultural level 'healthism' has become a central plank of contemporary consumer culture as images of youthfulness, vitality, energy and so on have become key articulating principles of a range of contemporary popular discourses" (1).

Consider this example.

On 13 November 1997, it was reported in the *New York Times* that a recent study revealed "that cholesterol-lowering drugs could help even healthy middle-aged people with ordinary cholesterol levels reduce their risk of heart trouble by more than one-third"

- (“Cholesterol Drugs Shown to Cut Healthy Group’s Risk”). The drug, named Mavacor, costs about one hundred dollars per month. Who paid for the research? Merck and Company, the maker of the drug.
- 13 Melodrama is, as Lynne Joyrich shows in *Re-Viewing Reception: Television, Gender, and Postmodern Culture*, “a privileged forum for U.S. television, promising the certainty of clearly marked conflict and legible meaning even as it plays on the closeness associated with a feminine spectator-consumer” (64).
  - 14 Both Rainer and Wexler could be said to resist the discourse of statistics. I am fascinated by the fact that in medical circles resistance—in the sense of resistance to disease—is emerging as a paradigm that is opposed to considering disease in terms of risk. I am indebted to David Waters for this knowledge.
  - 15 Most women will never get breast cancer. As Jane Brody summarizes today’s statistics, “The ‘1-in-8 women’ statistic is accurate, but only if you live to 85. And as you get older and remain free of cancer, the 1-in-8 figure starts dropping because you have already lived out many of the at-risk years. If, for example, you are now 70 and still cancer-free, your chances have dropped to 1 in 20.”
  - 16 See Mary Russo’s powerful essay on risking anachronism and the untimeliness of death where she discusses Rose’s work, in particular *Love’s Work: A Reckoning with Life*, in the context of aging. Phyllis Rose, in *A Year of Reading Proust: A Memoir in Real Time*, comments autobiographically on the cultural injunction to avoid risk. Told by her doctor to have a breast biopsy done to test some small spots of calcification, she puts it off, thinking the odds of one in five are not overwhelming. Her friends are aghast and censorious. As Rose concludes:  
To cling to any personal preference, to value personal convenience in the face of a threat of cancer is to defy a cultural style so widely approved that it has the force of wisdom and responsible practice. . . . Committed to having the biopsy, nevertheless I talked about it with a studied levity which to me signaled equanimity and mastery of my fate, but which to many of my friends bespoke shallowness, until, one day, talking to a good friend, I was reduced to tears and bewildered questions. (131)
  - 17 See the section on “Statistical Persons” in Mark Selzer’s *Bodies and Machines*, where he understands the correlation between the visible and the calculables in terms of a model of realism and naturalism. Selzer’s emphasis, unlike mine, is not on statistics as a science of probability.
  - 18 In “Accommodating Merchants: Accounting, Civility, and the Natural Laws of Gender,” Poovey argues that women, whose writing was deemed unruly and excessive to the order required by a smoothly operating commercial system, were systematically excluded from participating in the work represented by double-entry bookkeeping. In this light it is no accident that in their different ways Rainer and Wexler both challenge the discourse of statistics that pervades their worlds. See Poovey’s *Figures of Arithmetic, Figures of Speech: A History of the Modern Fact from Double-Entry Bookkeeping to Statistics*.
  - 19 Importantly, Hacking distinguishes between the ways in



which the attitudes toward and uses of numerical data differed in eastern Europe (citing Prussia) and western Europe (citing France and Britain). Hacking traces the sea-change between the statistical fatalism of the 1830s to statistical indetermination in the 1930s, a shift due in great part to developments in quantum mechanics.

- 20 Doane has argued that statistics and the early cinema were responses to the contradictions of modernity at the end of the nineteenth century and the turn of the twentieth century; as she writes, "the technique which seems to acknowledge most definitively the dominance of

contingency while simultaneously attempting to master it is that of statistics" (13).

- 21 As Kaplan and Squier point out, risk-management discourse "is a new expert discipline that cordons off any real response to risk by authorizing as acceptable only those risks that lie within the parameters of scientific rationality. Disciplinary limits and expert systems with clear borders thus actually function to keep things running as they were before: the processes of modernization that gave us risk can continue unshaken" (5).
- 22 Porter refers to the probabilistic revolution in his conclusion (318).

## Works Cited

- Androshchik, Julie. "Craps Game." *Forbes*. 164.3 (9 Aug. 1999): 146.
- Bauman, Zygmunt. "Survival as a Social Construct." *Theory, Culture and Society* 9 (1992): 1-36.
- Beck, Ulrich. "From Industrial Society to the Risk Society: Questions of Survival, Social Structure, and Ecological Enlightenment." *Theory, Culture and Society* 9 (1992): 97-123.
- . *Risk Society: Toward a New Modernity*. Trans. Mark Ritter. London: Sage, 1992.
- Benjamin, Walter. "Theses on the Philosophy of History." *Illuminations*. Trans. Harry Zohn. New York: Schocken, 1969.
- Brody, Jane. "Coping with Fear: Keeping Breast Cancer in Perspective." *New York Times* 12 Oct. 1999.
- Bunton, Robin, Sarah Nettleton, and Roger Burrows. "Sociology and Health Promotion: Health, Risk and Consumption under Late Modernism." *The Sociology of Health Promotion: Critical Analyses of Consumption, Lifestyle and Risk*. Ed. Bunton, Nettleton, and Burrows. London: Routledge, 1995. 1-12.
- "Cholesterol Drugs Shown to Cut Healthy Group's Risk." *New York Times* 13 Nov. 1997, natl. ed.: A13.
- Derrida, Jacques. "Of an Apocalyptic Tone Recently Adopted in Philosophy." 1983. Trans. John P. Leavey. *Oxford Literary Review* 6.2 (1984): 3-37.
- Doane, Mary Ann. "The Representability of Time." Presented at Knowing Mass Culture, Mediating Knowledge Conference. Center for Twentieth Century Studies, Univ of Wisconsin-Milwaukee. 30 Apr. 1999.
- Douglas, Mary, and Aaron Wildavsky. *Risk and Culture: An Essay on the Selection of Technical and Environmental Dangers*. Berkeley: U of California P, 1982.

- Freud, Sigmund. *Inhibitions, Symptoms and Anxiety*. 1926. *The Standard Edition of the Complete Psychological Works of Sigmund Freud*. Trans. and ed. James Strachey. Vol. 20: 77-175. London: Hogarth and Inst. of Psycho-analysis, 1953-74.
- Gifford, Sandra M. "The Meaning of Lumps: A Case Study of the Ambiguities of Risk." *Anthropology and Epidemiology: Interdisciplinary Approaches to the Study of Health and Disease*. Ed. Craig B. Janes, Ron Stall, and Sandra M. Gifford. Boston: D. Reidel, 1986. 213-46.
- Gorman, Christine. "Radical Surgery." *Time* 25 Jan. 1999: 83.
- Gunning, Tom. "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator." *Art and Text* 34 (Spring 1989): 31-45.
- \_\_\_\_\_. "The Cinema of Attraction: Early Film, Its Spectator and the Avant-Garde." *Wide Angle* 8.3-4 (1986): 63-70.
- Hacking, Ian. *The Taming of Chance*. Cambridge: Cambridge UP, 1990.
- Hopwood, Anthony G., and Peter Miller, eds. *Accounting as Social and Institutional Practice*. Cambridge: Cambridge UP, 1994.
- Jameson, Fredric. "Culture and Finance Capitalism." *Critical Inquiry* 24 (Autumn 1997): 246-65.
- \_\_\_\_\_. *The Geopolitical Aesthetic: Cinema and Space in the World System*. Bloomington: Indiana UP, 1995.
- Joyrich, Lynne. *Re-Viewing Reception: Television, Gender, and Postmodern Culture*. Bloomington: Indiana UP, 1996.
- Kaplan, E. Ann, and Susan Squier, eds. Introduction. *Playing Dolly: Technocultural Formations, Fantasies, and Fictions of Assisted Reproduction*. New Brunswick: Rutgers UP, 1999. 1-13.
- Kleinman, Arthur. *Illness Narratives: Suffering, Healing, and the Human Condition*. New York: Basic Books, 1988.
- Last of England*. Dir. Derek Jarman. International Film Circuit, 1987.
- "Living Dangerously: The Odds." *New York Times Sunday Magazine* 8 Aug. 1999: 15.
- Marx, Leo. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. New York: Oxford UP, 1964.
- Mellencamp, Patricia. *High Anxiety: Catastrophe, Scandal, Age, and Comedy*. Bloomington: Indiana UP, 1992.
- Miller, Peter. "Accounting as Social and Institutional Practice: An Introduction." Hopwood and Miller, eds. 1-39.
- Monette, Paul. *Borrowed Time: An AIDS Memoir*. 1988. New York: Avon, 1990.
- "The Money Trail." *Wall Street Journal Europe* 31 Dec. 1997.
- Muecke, Stephen. "The Archaeology of Feeling." *The UTS Review* 5.1 (1999): 1-5.
- MURDER and murder*. Dir. Yvonne Rainer. Zeitgeist Films, 1996.

- Petro, Patrice. "After Shock/Between Boredom and History." *Fugitive Images*. Ed. Patrice Petro. Bloomington: Indiana UP, 1995. 265-84.
- Poovey, Mary. "Accommodating Merchants: Accounting, Civility, and the Natural Laws of Gender." *differences: A Journal of Feminist Cultural Studies* 8.5 (1997): 1-20.
- . *The History of the Modern Fact*. Chicago: U of Chicago P, 1998.
- Porter, Theodore. *The Rise of Statistical Thinking: 1820-1900*. Princeton: Princeton UP, 1986.
- Power, Michael. "The Audit Society." Hopwood and Miller, eds. 299-316.
- Rainer, Yvonne. *MURDER and murder*. Screenplay. *Performing Arts Journal* 55 (1997): 76-117.
- Rose, Gillian. *Love's Work: A Reckoning with Life*. New York: Schocken, 1997.
- Rose, Phyllis. *A Year of Reading Proust: A Memoir in Real Time*. New York: Scribner, 1997.
- Russo, Mary. "Aging and the Scandal of Anachronism." *Figuring Age: Women, Bodies, Generations*. Ed. Kathleen Woodward. Bloomington: Indiana UP, 1999. 20-33.
- Sartre, Jean-Paul. *The Emotions: Outline of a Theory*. Trans. Bernard Frechman. New York: The Philosophical Library, 1948.
- Satel, Sally L. "Feminist Number Games." Editorial. *New York Times* 11 Sep. 1997, natl. ed.
- Schivelbush, Wolfgang. *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century*. Berkeley: U of California P, 1986.
- Selzer, Mark. *Bodies and Machines*. New York: Routledge, 1992.
- Simmel, Georg. "The Metropolis and Modern Life." 1903. Trans. Edward A. Shils. *On Individuality and Social Forms*. Ed. Donald N. Levine. Chicago: U of Chicago P, 1971. 324-39.
- "2 People in 15 Years Killed by Turbulence." *International Herald Tribune* 30 Dec. 1997: 4.
- Waters, David. "Will Pet Dogs Be Biogerontology's New Workhorse?" Brookdale Foundation Millennium Retreat, Glen Cove, Long Island, 15 Dec. 1999.
- Wexler, Alice. *Mapping Fate: A Memoir of Family, Risk, and Genetic Research*. New York: Random House, 1995.
- Wexler, Nancy S. "Genetic 'Russian Roulette': The Experience of Being 'At Risk' for Huntington's Disease." *Genetic Counseling: Psychological Dimensions*. Ed. Seymour Kessler. New York: Academic P, 1979.
- Williams, Raymond. "Structures of Feeling." *Marxism and Literature*. Oxford: Oxford UP, 1977. 128-35.