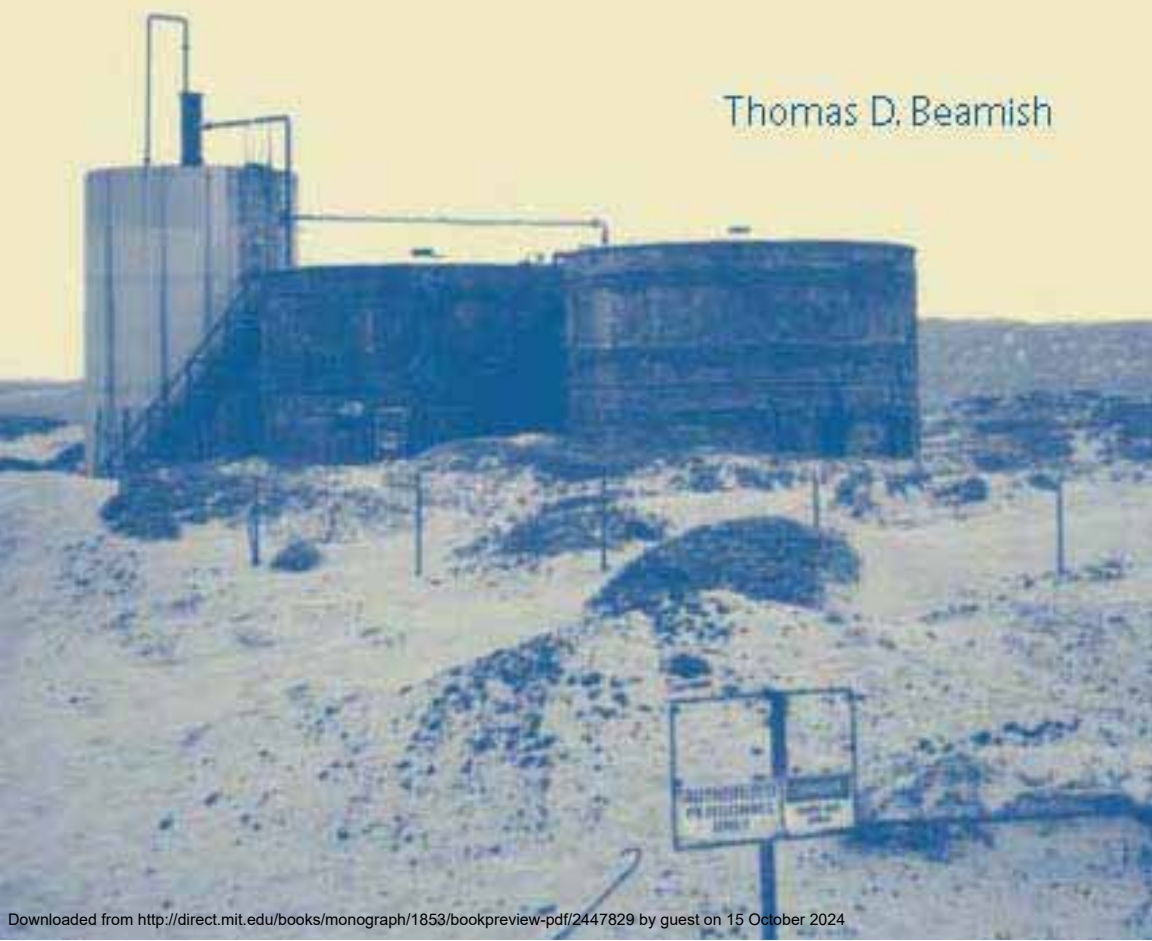


SILENT SPILL

THE ORGANIZATION OF AN INDUSTRIAL CRISIS

Thomas D. Beamish



Silent Spill

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Silent Spill

The Organization of an Industrial Crisis

Thomas D. Beamish

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For my Mother and Father, who gave me the courage to try, the support to persevere, and the tools to finish.

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Silent Spill

Introduction

There's a strange phenomenon that biologists refer to as "the boiled frog syndrome." Put a frog in a pot of water and increase the temperature of the water gradually from 20°C to 30°C to 40°C . . . to 90°C and the frog just sits there. But suddenly, at 100°C . . . , something happens: The water boils and the frog dies. . . . Like the simmering frog, we face a future without precedent, and our senses are not attuned to warnings of imminent danger. The threats we face as the crisis builds—global warming, acid rain, the ozone hole and increasing ultraviolet radiation, chemical toxins such as pesticides, dioxins, and polychlorinated biphenyls (PCBs) in our food and water—are undetected by the sensory system we have evolved.

—Gordon and Suzuki 1990

Underneath the Guadalupe Dunes—a windswept piece of wilderness¹ 170 miles north of Los Angeles and 250 miles south of San Francisco—sits the largest petroleum spill in US history. The spill emerged as a local issue in February 1990. Though not acknowledged, it was not unknown to oil workers at the field where it originated, to regulators that often visited the dunes, or to locals who frequented the beach. Until the mid 1980s, neither the oily sheen that often appeared on the beach, on the ocean, and the nearby Santa Maria River nor the strong petroleum odors that regularly emanated from the Unocal Corporation's oil-field operations raised much concern. Recognition, as in the frog parable, was slow to manifest. The result of leaks and spills that accumulated slowly and chronically over 38 years, the Guadalupe Dunes spill became troubling when local residents, government regulators, and a whistleblower who worked the field no longer viewed the periodic sight and smell of petroleum as normal.

The specific intent of this book is to relate how the change in perception took place, why it took nearly 40 years for the spill to become an agenda item (Crenson 1971), and why the response was controversial. The premise

of the book is that social and institutional preoccupation with the “acute” and the “traumatic” has left us passive and unresponsive to festering problems. I begin with a general description of what locals have dubbed “the silent spill” (Bondy 1994).

I first heard of the Guadalupe spill on local television news in August 1995. (My home was 65 miles from the spill site.) The scene included a sandy beach, enormous earth-moving machinery, a hard-hatted Unocal official, and a reporter, microphone in hand, asking the official how things were proceeding. The interplay of the news coverage and Unocal’s official response that caught my attention more than anything else. The representative asserted that Unocal had extracted 500,000 gallons of petroleum from a large excavated pit on the beach just in view of the camera. The newscaster ended the segment by saying (I paraphrase) “It’s nice that Unocal is taking responsibility to get things under control.” This offhand remark about responsibility set me to thinking about the long-term nature of the spill and about why it had not been stopped sooner, either by Unocal managers or by regulators.

A few months later, a colleague and I drove to the beach. My colleague, a geologist who was familiar with the area, had suggested that we visit the Guadalupe Dunes for their scenic beauty. We walked the beach and the dunes that border the oil field, alert for signs of the massive spill. The pit that Unocal had recently excavated had been filled in. The only hint of the project that remained was a small crew that was driving pilings into the sand to support a steel wall intended to stop hydrocarbon drift (movement of oil on top of groundwater) and the advancing Santa Maria River, which threatened to cut into an underground petroleum plume and send millions more gallons into the ocean.

Unocal security personnel followed along the beach, watching suspiciously as we took pictures. In fact, the spill was so difficult to perceive (only periodically does the beach smell of petroleum and the ocean have rainbow oil stains) that my impressions wavered. Was this really a calamitous event? The whole visit was imbued with the paradox of beauty and travesty.

Under my feet was the largest oil spill in California, and most likely the largest in US history. Table I.1 shows how large the Guadalupe spill is by comparing it with other notorious US spills. Yet the “total amount spilled” continue to be, as one local resident noted in an interview, a matter of “political science.” There is still controversy over just how big this spill

Table I.1
US oil spills of more than 1 million gallons.

	Barrels	Gallons	Date
Guadalupe Dunes spill (high and low estimates)	476,190 ^a 202,380 ^b	20,000,000 8,500,000	— ^c
<i>Exxon Valdez</i> , Prince William Sound, Alaska (high and low estimates)	259,253 ^a 259,524 ^b	10,900,000 10,100,000	March 24, 1989
<i>Burmah Agate</i> , Galveston	254,761	10,699,962	November 1, 1979
Storage tank, Sewaren, New Jersey	210,000	8,820,000	November 4, 1969
<i>Argo Merchant</i> , Nantucket	183,000	7,686,000	December 15, 1976
Platform A well blowout, Santa Barbara Channel	100,000	4,200,000	January 28, 1969

a. high estimate

b. low estimate

c. This spill occurred over a period of 38 years.

really is. The smaller of the two estimates listed in the table (8.5 million gallons) comes from Unocal's consultants. State and local regulatory agencies do not endorse it (Arthur D. Little et al. 1996). The estimates quoted most often by government personnel put the spill at 20 million gallons or more, which would make it the largest petroleum spill ever recorded in the United States.

At first glance, it seems strange that so many individuals and organizations missed the spillage² for so many years; 'passivity' seems to be the word that best characterizes the personal and institutional mechanisms of identification and amelioration. It is also clear that the Guadalupe spill is very different from the image of petroleum spills that dominates media and policy prescriptions and the public mind: the iconographic spill of crude oil, complete with oiled birds and dying sea creatures.

The Guadalupe Dunes spill is only the largest *discovered* spill. Representing an inestimable number of similar cases, it exemplifies a genre of environmental catastrophe that portends ecological collapse.

Describing his impression of the spill in a 1996 interview, a resident of Orcutt, California, explained why he remained unsurprised by frequent

diluent seeps: “When you grow up around it—the smell, the burning eyes while surfing, the slicks on the water—I didn’t realize it could be a risk. It was normal to us.” In a 1997 interview, a local fish and game warden—one of those initially responsible for the spill’s investigation—responded this way to the question “Why did it take so long for the spill to be noticed?”: “It is out of sight, it’s out of mind. I can’t see it from my backyard. It is down there in Guadalupe, I never go to Guadalupe. You know, I may have walked the beach one time, but I never saw anything. It smelled down there. What do you expect when there is an oil field? You know, you drive by an oil production site; you are bound to smell something. You are bound to.”

In the days and weeks after my initial visit to the dunes, I wondered why the spill had gained so little notoriety. Beginning my research in earnest, I visited important players, attended meetings, took official tours of the site, and followed the accounts in the media.

What makes the Guadalupe spill so relevant is that it represents a genre—indeed a pandemic—of environmental crises (Glantz 1999). Collectively, problems of this sort—both environmental and non-environmental—exemplify what I term *crecscive troubles*. According to the Oxford English Dictionary, ‘crecscive’ literally means “in the growing stage” and comes from the Latin root ‘crecscere’, meaning to “to grow.” ‘Crecscive’ is used in the applied sciences to denote phenomena that accumulate gradually, becoming well established over time. In cases of such incremental and cumulative phenomena (particularly contamination events), identifying the “cause” of injuries sustained is often difficult if not impossible because of their long duration and the high number of intervening factors.³ Applied to a more inclusive set of social problems, the idea of crecscive troubles also conveys the human tendency to avoid dealing with problems as they accumulate. We often overlook slow-onset, long-term problems until they manifest as acute traumas and/or accidents (Hewitt 1983; Turner 1978).

There are also important political dimensions to the conception of crecscive troubles. Molotch (1970), in his analysis of an earlier and more infamous oil spill on the central coast of California (the 1969 Santa Barbara spill), relates a set of points that resonate with my discussion. In that article, Molotch examines how the big oil companies and the Nixon administration “mobilized bias” to diffuse local opposition, disorient dissenters, and limit the political ramifications of the Santa Barbara spill. Two of his

ideas have special relevance: that of the *creeping event* and that of the *routinization of evil*. A creeping event is one “arraigned to occur at an inconspicuously gradual and piecemeal pace” that in so doing diffuses consequences that would otherwise “follow from the event if it were to be perceived all at once” (ibid., p. 139). Although Molotch is describing the manipulation of information for political purposes, his account of attention thresholds and of the consequences that the “dribbling out of an event” can have on popular mobilization resonates with both the “real” incident (i.e., the leaks themselves) and the “political” incident (the court case, the media coverage, etc.) that unfolded at the Guadalupe Dunes. Molotch’s idea of the routinization of evil pertains to naturalization processes whereby an issue takes on the quality of an expected event and in so doing loses urgency. (What is one more oil leak if oil leakage is the norm?)

Our preoccupation with immediate cause and effect works against recognizing and remedying problems in many ways. It is mirrored in the way society addresses the origin of a problem and in the way powerful institutional actors seek to nullify resistance and diffuse responsibility. The courts and the news media, for instance, often disregard the underlying circumstances that led to many current industrial and environmental predicaments, focusing instead on individual operators who have erred and pinning the blame for accidents on their negligence (Perrow 1984; Vaughan 1996; Calhoun and Hiller 1988). Yet this ignores the systemic reasons why such problems emerge. In short, most if not all of our society’s pressing social problems have long histories that predate their acknowledgment but are left to fester because they provide few of the signs that would predict response—for example, the drama associated with social disruption and immiseration.

Specific to pollution scenarios, in California 90 percent of marine oil pollution is attributable to unidentified, small, chronic petroleum releases that are neither investigated nor remedied. According to some experts, these smaller, less dramatic spills are “more severe than catastrophic [spills]” (Elliott 1999, p. 26). What is more, while legislation to stop dramatic tanker spills has halved the incidence of such spills off California, less dramatic spills on land continue unrestrained at 700 times the rate of tanker spills (Dinno 1999). Similarly, in 1980 the federal government officially listed 400,000 previously unacknowledged toxic waste sites across the United States; by 1988 the number had grown to more than 600,000. Of these, the

Environmental Protection Agency has designated 888 as highly hazardous and in need of immediate attention; 19,000 others are under review (Edelstein 1988; Hanson 1998; Brown and Mikkelsen 1990; Brown 1980). Recent estimates put the number of US sites with dangerously polluted soil and groundwater alone at more than 300,000 and the annual projected cleanup bill at \$9 billion (Gibbs 1999).

Another example may provide some clarity, conceptually connecting instances that at first glance may appear disparate and unrelated. More familiar, but just as crevice and troubling, is the increase in ultraviolet radiation due to deterioration of the ozone layer. This has been “collective knowledge” for some time. Many of us have altered our behavior. More important, however, we have expanded what is normal to us by accommodating this looming threat. Applying sunscreen or avoiding direct sunlight has become routine. This is not, however, a solution; it is a coping strategy.⁴ Would many people passively accept ozone depletion if cancer were to manifest in days rather than years?

The inability of our current remedial systems, policy prescriptions, and personal orientations to address a host of pressing long-term environmental threats is frightening. There are, however, numerous examples of disconnected events—seemingly unrelated individual crises recognized after the fact—that have received widespread public attention. Through national media coverage, images of ruptured and rusting barrels of hazardous waste bearing the skull and crossbones have become icons that fill many Americans with dread (Szasz 1994; Erikson 1990, 1994). But these are only the end results of ongoing trends that have been repeated across the country with less dramatic consequences. In view of the startling deterioration of the biosphere, much of which is due to slow and cumulative processes, more attention should be devoted to how such scenarios unfold. That is precisely what I intend to do in this book, in which I reconstruct how the parties involved in the Guadalupe Dunes case understood and responded to the chronic leaks.

Social scientists across the spectrum of interests agree that human action and interpretation can be made meaningful only by relating them to their social contexts. Like more conventional sociological topics, oil spills (Clarke 1990, 1999), toxic contamination (Mazur 1998; Brown and Mikkelsen 1990; Levine 1982; Brown 1980), and conflicts over industrial siting (Couch and Kroll-Smith 1994; Freudenburg and Gramling 1994; Edelstein

1993, 1988) are cases in which the objectives of industry, government, and the community structure the interpretation of the event, the range of solutions entertained, and ultimately the solutions chosen. In a similar vein, I focus on the Guadalupe spill's social causes and social ramifications and on the social responses to it.

My specific intent is to uncover how and why the Guadalupe spill went unrecognized and was not responded to even though it occurred under unexceptional circumstances. The industrial conditions were quite normal, and the regulatory oversight was typical. It would seem that there was nothing out of the ordinary, other than millions of gallons of spilled petroleum. This is, in part, why the spill is so instructive. It represents a perceptual lacuna—a blank spot in our organizational and personal attentions.

My approach stands in marked contrast to conventional environmental assessment, where analysis starts with the “accident” itself (i.e., post hoc) and moves forward in time and where the emphasis is on quantifying the direct impacts a hazard has had or is predicted to have on a localized environment.⁵ The Guadalupe spill was not an accident and was a long time in the making. Tracing knowledge of the leaks as they worsened but were overlooked, ignored, and then covered up sheds light on “how contemporary disasters depend upon the way ‘normal everyday life turns out to have become abnormal, in a way that affects us all’” (Hewitt 1983, p. 29). To this end, I trace the *career of knowledge* of the spill through its social contexts: the oil field (the origin of the spill), the regulatory institutions, and the local community. In each location, the search is for answers to the pattern of non-response. Why didn't local managers report the seepage, as the law requires? How did field personnel understand their role? How could pollution of such an enormous magnitude be left so long before receiving official recognition and action? Why did the surrounding community take so long to react?

It is important to underscore the exploratory and conceptual nature of my research. I use a particular case of contamination as an exemplar in an effort to better understand how human systems respond to critical and environmentally troubling scenarios. Slow-manifesting post-industrial accumulations of toxic substances present humanity with one of its greatest challenges. As Rachel Carson warned in *Silent Spring* (1962), they threaten the continued fecundity of the landscapes we inhabit and, by extension, our existence.

Ironically, the Guadalupe spill's crescent profile is revealed by the lack of a response to it. Because both organizations and individuals are preoccupied with spontaneously arising emergencies, they do not see problems of this sort until it is too late. Moreover, after such long gestation periods, and in view of the real constraints of feasibility and remedial impact, many of these contaminated sites present insoluble problems. Not only are they prohibitively expensive to "fix," but cleaning them up can be as destructive as leaving them as they are (Church and Nakamura 1993).

The organizations involved with the remediation of such environmental problems necessarily negotiate ecology, imposing human valuations on the environment in treating the impacts imposed through human (mis)use. Understanding this process of give and take (a sociological process, insofar as ecology is a non-hierarchical web of interconnected relationships) is crucial to developing a full view of societal intervention(s) (Shrader-Frechette and McCoy 1993). The official characterization processes (assessments of actual and potential damages),⁶ while wearing the objective cloak of science, are applied by regulatory organizations and hired consultants whose agendas and responsibilities cannot be assumed to agree and are typically expressed in technical terms that limit inter-organizational (and interdisciplinary) dialogue and interaction. Moreover, to reduce complexity and define causal relations, these analyses tend to "underdetermine" causal process in order to isolate aspects of the environment and determine cause and effect (Latour 1993). Hence, included in such reductionist formulations, but often left unarticulated, are the subjective underpinnings of environmental evaluations, which include assumptions concerning future use, idealized assessments of what is "natural," and determinations that differentially assess the importance of one medium relative to another (ocean vs. land, air vs. water, etc.).

Molotch (1970, p. 143) develops the notion of an *accident research methodology* in which the metaphorical accident is an occasion where the "breakdown in the customary order of things" lays bare just such previously hidden assumptions. Although in Molotch's example the disruption is quite sudden (an enormous spill of crude oil), the reasoning behind his use of this analytic strategy involves a great deal of crossover for a wide spectrum of social problems, including the Guadalupe spill. Molotch used the accident scenario to "learn about the lives of the powerful and the features of the social system which they deliberately and quasi-deliberately

create” (ibid.). In the case of my research on the Guadalupe spill, the metaphorical accident—the 1990 recognition of significant petroleum contamination at the beach bordering the dunes—was a point from which to look both backward and forward in time and, in so doing, to gain entrance to the workings of individual and organizational rationality. It is because of the Guadalupe spill’s position as a gray area between crisis and the customary order of things (Molotch 1970, p. 143) that the spill is so revealing a case.

Although sociological analysis of environmental phenomena is many times more widespread today than it once was, it continues to hold a peripheral position in mainstream environmental debates (MacNaghten and Urry 1995, p. 203). This is not to say that sociology or other social science work is unimportant. In fact, environmental concerns are a growing and increasingly important area within the social sciences. It is only to say that, in terms of “resources allocated, . . . the public visibility and acceptance of these works, and perhaps most of all . . . the attachment of this view to more powerful institutions of modern states” (Hewitt 1983, p. 4), the dominant paradigms concerning disaster, industrial crises, and environmentalism more generally lie in the physical sciences.

In a critique of the classical theories of sociology, Anthony Giddens (1990, p. 8) has gone so far as to assert that “ecological concerns do not brook large in the traditions of thought incorporated into sociology.”⁷ Historically, theorists of industrial societies, and before them theorists of agricultural societies, tacitly assumed the limitlessness of the environment and the limitlessness of human potential.⁸ For instance, Marx (at least in his early writings) defined the human condition—particularly psychic health—in terms of man’s ability to intentionally transform nature into the object of his desires (Marx 1974; McLellan 1977). Though Marx’s insights into the contradictions inherent in capitalist systems of production and consumption are unrivaled, his attention to the industrial juggernaut’s potential effects on the global ecological system was less than thorough or sustained. To Marx’s credit, his writings, when painstakingly examined, do contain rudiments of what may be called environmental warnings (Dickens 1996; Foster 1999). For example, he developed a basic notion of soil nutrient depletion that he posited in large-scale industrial agricultural practice. Yet Marx and Engels articulated contradictory themes. On the one hand, Marx revealed the inherent contradictions that he felt would

lead capitalism to destroy itself, of which agricultural soil depletion was just one manifestation. On the other hand, capitalism's inexorable global expansion meant that nothing in nature remained untouched. Nature, according to Marx, had become humanized. In view of current sentiments, this may seem to indicate that Marx and Engels were sincerely concerned with human domination of and penetration into everything "natural" (Merchant 1980). But that is not so. A strong component of Marx's writings was a theme that posits in the domination of "nature" the emancipation of human beings. Marx expressed the idea that a society that harnessed nature assured its members of freedom from the struggle to survive.

Durkheim touted an industrial age of interdependence and social fulfillment based on industrial expansion and division of labor. (See Durkheim 1984.) Moreover, Durkheim, with his early emphasis on explaining social phenomena exclusively by analyzing social facts by means of other social facts, actively eschewed the use of environmental factors to help explain human behavior. Until quite recently, sociology and social science more generally have, implicitly if not explicitly, advocated the idea that the human transformation of the environment was natural, unthreatening, even preferred. My point here is not to devalue the scholarship of Marx and Durkheim or to imply that rereading them and applying what one learns from doing so is fruitless; it is only to point out the intellectual "Balkanization of knowledge" and to emphasize the theoretical hole that is only recently beginning to be filled (Buttel 1987).

Mainstream sociology's historical neglect of environmental problems reveals a proclivity to sense only immediate and sudden threats to our well being (social or environmental). Especially in circumstances of slow and incremental change, threatening changes are normalized because actors (corporate and individual) accommodate themselves to gradually evolving signs of crises. This proclivity is not limited to environmental matters. For instance, Diane Vaughan's argument in *The Challenger Launch Decision* (1996) rests largely on the idea of normative drift—i.e., the idea that organizational actors, while working together, developed routines that blinded them to the consequences of their actions. Through their continual iteration, incremental expansion of normative boundaries took place, and unanticipated consequences resulted. This incremental expansion not only habituated social actors to what were in retrospect deviant events; over time it also increased their tolerance for greater levels of deviation. "Small

changes . . . gradually become the norm, providing a basis for accepting additional deviance.” (ibid., p. 409)

The response a potential threat receives depends largely on its social salience. However, contrary to intuition, salience is not always something obvious or easy to identify. For example, surreptitious forms of contamination such as radiation hold very little tangible and immediate effect; however, they can evoke a great deal of dread and awareness.⁹ They provoke as much fear as earthquakes, floods, fires, hurricanes, or tornadoes (Erikson 1994). The defining feature of a threat, then, is its social salience, which captures the perceptual impact of a hazard’s biophysical attributes and/or its social construction.

Thus, the salience of a crisis need not be derived only from extrinsic characteristics (e.g., a sudden onset, a dramatic and immediate impact). Salience also derives from less direct mediating social factors—factors in which a nexus of circumstances, both material and ideational, magnify perceived impacts—for instance, when a potential hazard affects many people (or, more important, when it affects politically endowed stakeholders) (Bullard 1990; Hofrichter 1993); when government responds swiftly and unequivocally (Cable and Walsh 1991); when daily routines are disrupted by an event (Flacks 1988); or, perhaps most significant, when the media define a hazard as newsworthy by providing for its widespread dissemination and problematization (Cable and Walsh 1991; Stallings 1990; Molotch and Lester 1975). These are all conditions that contribute to an event’s salience. A conjunction of some or all of these factors can give an event notoriety even if it lacks obvious and immediate impact.

Low in immediate and tangible impact but high in public awareness, the events that surrounded the malfunction of a reactor at the Three Mile Island nuclear power plant in Pennsylvania are instructive as an example of political and media construction of social salience in a case where biophysical attributes were almost completely absent. On the morning of March 28, 1979, one of the two reactors at the Three Mile Island facility partially melted down, releasing radioactive steam into the surrounding countryside (Erikson 1994; Cable and Walsh 1991). Urging residents to remain calm, the governor suggested that pregnant women and preschool children evacuate an area within 5 miles of the plant. He also advised pregnant women and preschool children within a 10-mile radius of the plant to stay inside their homes. Unexpectedly, 150,000 men, women, and children—45 times the number of people advised to do so—fled the area. Although the Three

Mile Island incident lacked sufficient physical characteristics to impress local residents that something was wrong, it was quickly and unequivocally translated for them by regulators and other government officials. Moreover, extensive coverage in the national press lent it durability and drama that it otherwise may have lacked.¹⁰

At the other extreme is the 1989 *Exxon Valdez* tanker incident, in which an ocean-going oil tanker ran aground, disgorging as much as 10.8 million gallons of crude oil into Alaska's Prince William Sound. Though that accident occurred in a remote locale, it was sudden, obvious, and pictorially dramatic (Birkland 1998; Slater 1994; Clarke 1990). Its "media fit"—that is, its fulfilling the conventions of contemporary journalism (Gamson and Modigliani 1989; Wilkins 1987; Gans 1980)—also made it an extremely visible event. Virtually every major and minor news service in the nation carried copy and pictures as the story unfolded. And by disrupting the local commercial fishing industry, a crucial means of livelihood for the region, the event mobilized a group whose collective voice was hard for politicians to ignore.¹¹

Industrial crises comparable to the *Exxon Valdez* and Three Mile Island debacles have gained widespread attention for similar reasons. The toxic contamination of Love Canal (Fowlkes and Miller 1982; Gibbs 1982; Levine 1982), the poisoning of the drinking water in Woburn (Harr 1995; Brown and Mikkelsen 1990), the abandonment of a dioxin-contaminated office building in Binghamton (Clarke 1989), and beaches turned black with crude oil near Santa Barbara (Molotch and Lester 1975; Easton 1972) are conspicuous examples of health-related crises that have garnered sustained attention from regulators and the public.

But lurking potential problems that currently lack extreme attributes, a convenient location, and an obvious beginning, and which do not lend themselves easily to media coverage, grow insidiously, getting little attention and rarely evoking an outcry. Pollution resulting from sea-bed disturbance, leakage of toxins from dumps, and deterioration of industrial infrastructure often present silent, slow, and creeping effects that accumulate incrementally over months, years, and decades, sometimes surfacing as catastrophes only after a long history of inattention and sometimes left entirely for future generations. Erikson (1991, p. 27) admonishes us to become aware of such phenomena and to act before it is too late:

Incidents of the kind [toxic contamination] that have concerned us here are really no more than locations of unusual density, moments of unusual publicity, involv-

ing perils that are spread out more evenly over all the surface of the earth. An acute disaster offers us a distilled, concentrated look at something more chronic and widespread. . . . Sooner or later, then, the discussion will have to turn to broader concerns—the fact of radioactive wastes, with half-lives measured in thousands of years, will soon be implanted in the very body of the earth; that modern industry sprays toxic matter of the most extraordinary malignancy into the atmosphere; that poisons which cannot be destroyed or even diluted by the technologies responsible for them have become a permanent part of the natural world.

The reality that surrounds crevice circumstances is characterized by polluters who are unlikely to report the pollution they cause, authorities who are unlikely to recognize that there is a problem to be remedied, uninterested media, and researchers who take interest only if (or when) an event holds dramatic consequence.¹² In short, all those who are in positions to address crevice circumstances are disinclined to do so. Forms of degradation that lack direct and immediate impact on humans, dramatic images of dying wildlife, or other archetypal images of disaster tend to be downplayed, overlooked, and even ignored.

The national print media certainly mirrored the propensity to ignore the Guadalupe spill (Hart 1995). Over the period 1990–1996, the national press devoted 504 stories to the *Exxon Valdez* accident and only nine to the Guadalupe spill.¹³

In a 1996 interview, a reporter for the *Santa Barbara News Press* offered his opinion as to why the Guadalupe spill had received little public attention until 1993. His view resonates with three of the four social factors articulated above (social disruption, stakeholders, and media fit):

We didn't see black oily crude in the water and waves turning a churning brown. We didn't see dead fish and dead birds washing up. We didn't see boats in the harbor with disgusting black grimy hulls. This is largely an invisible spill. It took place underground. . . . Because it was not so visual, especially before Unocal began excavation for cleanup, I think that it just didn't capture the public. . . . But after Unocal began excavations, driving sheet pilings into the beach, scooping out massive quantities of sand, setting up bacteria eating machines, burning the sand. It began to dawn on people the magnitude of this thing, but again it wasn't in their back yards, Guadalupe is fairly remote. . . . And it's not a well-to-do city [the City of Guadalupe]—comparatively, anyway, with the rest of our area. . . . So I don't think it really sparked the public interest as much as it could have or would have if it was . . . a surface spill.

Most discussions that have taken place on the subjects of the social causes and ramifications of chronic and widespread environmental despoliation have focused on the social construction of ordinary citizens'

judgments. This is a consequential avenue for research to have taken, and it will also be pursued here. In addition to addressing community constructions, I will demonstrate why there are very good reasons to focus on the “risk perceptions” of “upstream” players, particularly in industry and in government.

Insofar as the Guadalupe spill goes back 38 years, one is tempted to write off much of it as a vestige of a “pre-environmental” era in which corporations, the government, and individuals were not conscious that dumping and spilling were detrimental,¹⁴ and that similar events will no longer occur because we are now aware of the consequences. Two points of fact contradict such thinking. First, the Guadalupe spill was evident for at least 20 years in a time when popular consciousness concerning environmental issues was high and environmental laws were in place.¹⁵ Second, regulators were concerned with the conditions at the Guadalupe field as early as 1982, and perhaps earlier (Ritea 1994; Paddock 1994a; Greene 1993a; Freisen 1993), but did not respond. We should expect similar incremental and cumulative environmental problems to continue to occur, even if environmentalism is rife. To be sure, negligence and criminal misconduct figure in the Guadalupe narrative, especially in the latter years. However, at least as important to the generation of destructive events is the interplay of selective perceptions, limited organizational attentions, personal stakes, and a propensity to accommodate socially and psychically low-intensity and non-extreme events.

Analytically conjoining the Guadalupe spill’s attributes with the social contexts within which it occurred clarifies the reasons for 40 years of unintended leaks and spills. It becomes clear that simplistic explanations based entirely on operator error, corporate criminality, or governmental regulatory complicity all miss the mark. To address the context within which the meaning of the spillage evolved, I focused on social factors—for instance, where the pollutant originated, whether the pollution was the result of accident or negligence, where the pollutant ended up, who was affected by it, and whether, once discovered, it was remedied as quickly as it could have been.

Making sense of the Guadalupe spill entailed disentangling the discourses that constitute it as an issue. Analytically, this required tracking knowledge of the spill longitudinally through the social systems and the individuals that took part in the spill’s creation at the oil field; the organi-

zational reactions it received from federal, state, and local regulators; and the reception it received in the surrounding community once it became a public event.

The chapters of the book are ordered so as to parallel the movement of the spill, as an issue and as a real and growing problem, from one social and institutional setting to another. Thus, the book follows the career of knowledge about the spill, paying special attention to who knew of it first, what they did about it, and where the information went from there. The changing definitions of the leaks and the accumulating petroleum at the dunes—those that were in play before its discovery, those that were in play during the discovery, and those that were in play after the discovery—are traced through time. Methodologically, I explore these and the other social dimensions of the Guadalupe spill by means of an inductive approach to theory building that relies on multiple sources of data, not on any single source. I took this approach for two reasons. First, research in this area, and specifically on this topic, is so speculative that no metatheory exists against which to test observations. Second, my research interests made it necessary to cover the multiple settings, and hence the multiple sets of data, through which the discourse concerning the spill has proceeded.

Central to my research were field interviews with members of the local oil industry, government regulators, community members, and environmental activists. These interviews were tape recorded, transcribed, and systematically analyzed. In addition to the interviews, there were many spontaneous conversations—in hallways, in office waiting rooms, in the homes of those that were the intended interviewees—with individuals I had not originally contacted or planned to meet. Though not recorded, these conversations should not be seen as any less important than the others. I also pursued ethnographic context, recording scores of informal conversations concerning the spill. I accumulated and analyzed a substantial collection of archival materials, and I have followed media portrayals of the spill closely since 1989.

To understand the transformation in the meaning of the spill that occurred over 38 years, it is necessary to take notice of certain earlier developments inside and outside San Luis Obispo County. That is, the provenance of current conceptions that underlie impressions of the spill is simultaneously historically remote and politically proximate. The story of the spill thus includes the long-term presence of oil operations in the region,

the demographic shifts that have taken place since World War II, and changes in sentiments toward industry and the environment.

Chapter 1 attends to the discovery of oil in San Luis Obispo County in 1864 and the social history. Chapter 2 addresses how environmental problems have typically been approached, how risk has been conceived, and some more recent trends in social sciences that specifically concentrate on the organizational constituents of industrial crisis. Chapter 3 looks at how the Guadalupe spill's organizational setting (both formal and informal) and the individual motivations of field operators made it possible to keep the spill secret for nearly 40 years. Chapter 4 tracks the redefining of the spill. Chapter 5 delves into the community's interpretations of the event and into how those who have been actively involved with the spill but who hold no official institutional positions have responded to the it and to its handling by regulators. In chapter 6, I apply notions of social organization, social stability, and social inertia to what I have reported in the analytic chapters in order to address the genre of environmental degradation or industrial crisis represented by the spill. Adding my observations to those of others, I develop a model of social accommodation that helps to explain how (in Diane Vaughan's words) "good people do dirty work" and why human systems seem inclined to wait "as the temperature rises" and "do nothing . . . dazed and complacent with the increase in heat."

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