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Suzanne Keller

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ECOLOGY AND COMMUNITY

*Suzanne Keller**

I. INTRODUCTION

What do the following dates have in common: August 4, 1978; March 28, 1979; December 3, 1984; and April 26, 1986? Each refers to a humanly caused environmental disaster that stunned the world. It would be easy to criticize, with retrospective wisdom, the obvious failures that each incident represents, but that is not my goal. My objective is to see what these calamities can teach us about individual and collective responses to environmental crises.

II. THE LESSONS OF EXPERIENCE

At first glance, Love Canal, Three Mile Island, Bhopal, and Chernobyl would seem to have little in common, differing as they do in region, culture, and history. As one examines the record, however, striking similarities stand out in regard to not only the traumas that occurred in these places, but also the impact of the incidents on local residents, the response of the authorities, and the views of the experts.

The post-accident reactions of government authorities are typically slow and evasive. In these four cases, deceit and denial were prevalent, as were false reassurances, patronizing attitudes, and frequent resort to scientific jargon that obscured rather than enlightened. The first official response in each case was to discount the magnitude of the accident and thereby minimize the human suffering that it engendered.

Another characteristic that these environmental disasters shared was the experts' overconfidence in technical infallibility: an attitude

* Professor of Sociology, Princeton University. Ph.D., 1955, Columbia University. Professor Keller is an expert in local community organization.

that blocked any immediate, human response to the panicked population. A 1975 report by General Electric articulated this attitude, stating flatly that the chances of a severe accident at a nuclear reactor "were one in a million years." (Gould 1990: 139) At Three Mile Island, both industry representatives and federal regulators previously had officially dismissed the likelihood of multiple system failure as preposterous. (Walsh 1988: 34) As a result, during the first day after the accident, "utility and [Nuclear Regulatory Commission (NRC)] officials played down its seriousness, insisting there was no threat of radiation releases into the atmosphere." (Walsh 1988: 35)

Because we do not anticipate such accidents, we cannot effectively prepare for them or respond to them. The assumption of technological infallibility, not surprising in a technocratic civilization, prevents not only the policymakers but also the actors at the scene from anticipating a breakdown. In a crisis, their first response is to decry the danger, if not cover it up altogether, and cite statistical probabilities that deny the events that have occurred. In this way, technological overconfidence can lull even responsible officials into a refusal to heed evidence. Confident in their formulas, the experts refuse to believe that these or the machinery they generated might fail. Thus, at Chernobyl, the engineers, many of whom would later die in agony, did not believe the readings of the very instruments they had created, the radiation monitors.

Yet technology did and often does fail. It fails because of designs that are "not forgiving of mistakes" (Marples 1988: 22), because of human error, or because of too vast a distance between centralized policymakers and on-site managers. In the aftermath of Chernobyl, for example, Moscow did not grasp the full impact of the disaster until it dispatched a team of experts to the site to see for themselves. Only after the experts' return did the Soviet government sound a general alarm.

What Chernobyl and other major environmental accidents clearly indicate is that self-managing technology does not yet exist. Even more important, it has become clear that technology never "acts" on its own, for human fallibility can overcome any design and human error undermine any safeguard. (Haynes & Bojum 1985: 203) To underscore this point, we should note that all the major accidents at civilian nuclear facilities to date have been the result of human error: a category that contains a wide range of Pandoran ills including outright negligence, irresponsibility, overwork, fatigue, insufficient training, carelessness, and managerial neglect. Take poor management. At Chernobyl, the plant's deputy director fled right after the

accident, and shockingly, the electrical engineer in charge of one experiment had had "no training in nuclear engineering." (Bethe 1991: A25)

In addition to institutional failings, there are moral delinquencies. Reports of deceit and bribery both of and by safety inspectors, equipment monitors, and government officials appear again and again in the dossiers. Still, no one seems to make any allowance for these in developing large-scale projects or implementing advanced technologies. Eventually all of these factors—the experts' overconfidence, human error, moral limitations, and official blind spots—prove extremely costly to both scientists and citizens.

III. The Devastation

A select, powerful few may formulate policy in the world's inner sanctums, but environmental disasters affect many thousands and tens of thousands of ordinary people in local communities. The Love Canals and Chernobyls have an overwhelming impact on the regions and populations that bear the brunt of miscalculation, mismanagement, and malfeasance by those in charge.

In addition to physical damage and danger, there is the pervasive disruption of life, habitat, and home that follows an environmental disaster. After the Three Mile Island accident, about 144,000 people within a fifteen-mile radius from the nuclear power plant abandoned their houses for several days, not because of a government order but because of the panic that rumor and speculation generated. In Pripyat, near Chernobyl, fifty thousand people—eventually to number about 135,000—were evacuated a few days after the explosion by 1100 buses to "nowhere".

Moreover, long after the initial crisis has passed, its aftermath lingers. There is the gnawing anxiety over one's health, the health of one's family, and, given the typically regional impact of such disasters, the health of one's neighbors. Deeper and more insidious is the erosion of confidence in Science, Authority, and Expertise and, at times, in life itself. For example, after the scope of the crisis at Love Canal became evident, and officials closed the local schools, the area's residents became frantic. Their whole world threatened to collapse. The word "home" suddenly aroused fear rather than security. (Levine 1982: 184) Because they could neither sell their houses nor just leave, residents felt trapped and overcome by a sense of irreparable loss. Individuals felt abandoned, with nowhere to go to. They became desperate for information as they waited for

announcements that never came, and felt unable to protect their children or take care of their families. What is more, as is true for certain illnesses that make people shy away from contact with the afflicted, friends and neighbors now hesitated to visit. As suspicion grew, the flow of community and neighborhood life was permanently disrupted. (Barringer 1991: 28–39, 74)

Perhaps the most serious consequence of major environmental accidents, from a sociological viewpoint, is the ensuing decline in respect for authority in science and politics. Survivors of these accidents discredit the scientific elite for both its technical failures and its self-righteous arrogance. They resent the political authorities for their incompetence, deception, and disparagement of the public. Typically, there is outrage at the long delays by officials in responding to the emergency. Moreover, what the officials finally offer is generally too little and too late. Gorbachev made a terse official statement forty-three hours after the accident at Chernobyl and went on national television with a fuller statement a full sixteen days later. At Love Canal, the state government dismissed the newly formed citizens' groups with these words: "We deal with physical facts, not with social and political matters." (Walsh 1988: 34)

When the authorities fail to respond, it increases the collusion that citizens perceive exists between scientists and governments. The perception of collusion is bolstered by the secrecy that generally surrounds the nuclear power industry: a near-silence that engenders rumor, speculation, and profound distrust among members of the public. At Three Mile Island, for example, both the utility company and NRC officials tried to diminish down the seriousness of the accident and withheld important information from the public. (Walsh 1988: 34) These dynamics create feelings of abandonment, of having been forsaken. The ensuing tension stokes residents' already high stress levels, which the authorities, although apprehensive about the possibility of collective panic, do little to alleviate. Eventually, fear and despair mobilize the citizens for intense political action.

IV. Grassroots Political Action

Official mishandling of an environmental disaster and its aftermath has led to a political awakening in many a previously apathetic population. Three months after the crisis at Love Canal, about six hundred residents formed the Love Canal Homeowners Association. In their eyes, they were but "blameless victims of the disaster" who had to "stick together and take care of ourselves." (Levine 1982:

177) In this way, the residents recreated that "confidence that holds a society together." (Gould 1991: 137)

Local political activism takes two basic forms. On one hand, it may consist of a series of defensive maneuvers, expressed as a communal turning inward or a closing of ranks against outsiders. On the other hand, it may result in political outreach and the creation of networks and programs addressed to the wider society.

A. NIMBY: The Turning Inward

Environmental disasters tend to engender a special kind of "Not in My Back Yard" (NIMBY) response. NIMBY usually refers to a rejection of undesirable would-be neighbors. Postdisaster NIMBYs, however, refer to the rejection of perceived sources of danger such as landfills, hazardous waste disposal sites, microwave towers, nuclear power plants, and a wide range of other stigmatized facilities. (Edelstein 1988: 170) NIMBY represents an obverse of the "tragedy of the commons," in which private interests override and destroy the common good. The so-called "reverse commons effect" sees the common good served at the expense of those groups compelled to bear a disproportionate share of toxic risk. (Edelstein 1988: 185) In this context, a community's refusal to cooperate attests to the powerful role that psycho-social factors play in decisions with environmental implications. At stake is not just the community's physical integrity but its image and its reputation as safe or dangerous. (Edelstein 1988: 6)

Stigma thus plays a dual role, initially as a source of a sense of isolation and abandonment and subsequently as a source of community cohesion. Whatever the other bases of community—geographical, political, or social—"the discovery of a toxic threat provides a basis for a new and shared identity that effectively defines a community of interest among those residing within the boundaries of contaminations." (Edelstein 1988: 6)

In this regard, it is interesting to consider the difference between natural and humanly caused disasters. Both create victims, and both leave stress, loss, and disruption in their wake. In humanly caused disasters, however, it is the loss of control over a technology heretofore trusted that proves unnerving—whereas natural disasters are seen as unpredictable acts of God, unfathomable and beyond human control. (Edelstein 1988: 7) In the case of humanly caused disasters, then, people can fiercely blame the agents they consider responsible. Moreover, whereas religion may help people cope with natural di-

sasters by offering shared explanations and perceptions, technological failings lack a place in this common framework and thus allow conflicting perceptions to hold sway. This fragments not only the explanations of what has occurred, but individuals' means of coping with it. All of this plays a role in the possible mobilization of local public opinion.

B. Political Outreach: The Mobilization of Local Residents

Environmental disasters make people aware and frustrated but usually are not sufficient to promote a widespread mobilization. (Walsh 1988: 58–60) Such organizing requires, in addition, a notable collective distrust and resentment of government authorities and technical experts, and support from leaders in business, religion, and the media. In the four cases that this paper examines, residents of the affected areas came to view the disastrous events not simply as unfortunate corporate or political mistakes but as "injustices" that had to be put right.

As is generally true for grassroots movements, the leaders in those cases came from unexpected places. At Love Canal, for example, it was a young mother, inexperienced and even disinterested in politics, who took the lead. She soon was joined by several hundred others who worked day and night for two and a half years to obtain justice. Perhaps because of their experience with community, women are often central actors in local environmental activism. Many come to display leadership skills they never knew they possessed. It is also interesting to note that evacuees are much more likely to become activists than those who remain in the polluted or endangered area. These new activists enlist their followers in town meetings, rallies, public debates, and political campaigns. In time, separate constituencies develop, each with its own special agenda: old versus young, renters versus owners. Overall, however, one unifying theme pits the people against the powers, the Davids against the Goliaths: the attainment of a safe and healthy environment.

Thus do local communities become critical forums for citizens' protests. One novel twist on the more traditional form of community activism is that environmental activism on the local level focuses not on deprived or marginal groups, but on advanced technologies and those scientists and political officials who in reality are responsible for making globally significant decisions. (Walsh 1988: 1) In addition, a split between citizens and scientists often polarizes many communities. The two operate with very different assumptions and defini-

tions of environmental risk—scientists tend to view risk in narrower, technical terms, whereas citizens usually emphasize its broader, moral dimensions. Citizens also anticipate possible failures of design, whereas scientists generally expect their designs to perform as planned. In this way, a sense of technological powerlessness may fuel a powerful ecological grassroots movement.

Inequitable access to technical information is another divisive force. This is true even in democracies, where citizens' limited access to the information they need to make intelligent judgments about, for example, the siting of a chemical plant in their community renders their formal options and choices something of a sham. (Walsh 1988: 62) The hierarchy that places the minority of experts over the citizen majority puts citizens at a distinct disadvantage, most visibly after a calamity. It is not by chance, then, that after the Bhopal disaster, Congress enacted the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11001 *et seq.*, despite intensive lobbying against it. The law's sponsors stated that its aim was to support citizens' "absolute, fundamental right to know what goes into the air their kids breathe, the water they drink, and the ground they play on." (Schneider 1991: 65)

Knowledge and access to essential information are central tenets of the social movements that ecological crises have spawned. Grassroots ferment has accelerated despite civil lawsuits to discourage citizen protest and rearguard actions by corporations unwilling to bear their share of environmental responsibility—responsibility mandated, for example, by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or "Superfund" law. (Bishop 1991: B9) Indeed, grassroots activism culminated in the most powerful political protest movement of the postwar era: the Greens.

The Greens' conspicuous success, first in Germany, has inspired citizens to compel local and national establishments to take notice in many countries. In essence the Greens and their offspring worldwide have sought to make economics subordinate to ecology. They aspire to a postmaterial ethos of decentralization, nonviolence, limits on growth, and ecological balance. (Graff 1983: 56) Most fervently, they proclaim the need for a new philosophy of life, one based on respect for long-term vitality rather than immediate comforts and profits. In this, the Greens clearly collide with traditional goals of capitalist development. They propose taking the "soft path" in energy use, including phasing out fossil fuels; reducing consumer demand, one of the mainstays of late capitalism; and banning ecologically destructive projects such as constructing and operating airports and su-

perhighways because of their heavy demands on natural resources. (Graff 1983: 59)

Accordingly, making tradeoffs has become a fundamental issue for local communities. Which is to have top priority: protection from the risk of contamination or unemployment, higher taxes or a lower standard of living? To those who say that contamination is the price we must pay for "the good life" twentieth-century style (Edelstein 1988: 193), the Greens reply that individuals in the developed world must examine the philosophy by which they live. They must acknowledge that theirs is a consumer society driven by materialism and a venality too reluctant to acknowledge the ecological price of technological advance. Even the victims of disaster continue to think not in terms of deeper values but in terms of technical "quick fixes" and of how to manipulate the system rather than rethink and restructure it. An ethic of self-interest, however, ultimately leads to an acceptance of pollution.

V. Conclusion

Just before coming to this conference, I attended a discussion on national environmental regulations and the petrochemical industry in Louisiana. One remark in particular has stayed in my mind. A local oil industry worker asserted that what happens at the national level with regard to environmental policies and regulations has virtually nothing to do with what happens out in the field. Why not? Because the oil industry fights environmental legislation tooth and nail, and because the workers see waste and pollution as less of a threat than unemployment and reduced profits. They do not deny the existence of pollution, but they accept the "engineering fallacy" that it simply needs to be cleaned up. This conventional wisdom—that pollution is fundamentally a technological problem—supports the collusion that sustains our wasteful society. (Edelstein 1988: 193) Focusing on cleanups, health testing, and economic compensation for victims avoids challenging the system's propensity to toxicity and thus avoids change. That, however, is what must happen. The real goal should not be NIMBY but NIABY—Not in *Anyone's* Back Yard. (Edelstein 1988: 196)

Therefore, in addition to various concrete proposals to help preserve the environment—tax rebates, incentive plans, and regulatory measures—we need to reconsider the philosophies by which we live. For the long run, nothing short of a new, collective ethic is needed. For the short run, some practical policies already are taking effect

to mitigate the worst environmental abuses and safeguard nature for the generations to come.

Silent Spring, the influential book by Rachel Carson, signalled the existence of the current emergency thirty years ago. A decade later the Club of Rome sounded another alarm world-wide. Such alarms have become commonplace, but remedies remain elusive, and Faustian dilemmas proliferate. For example, the New York Times recently carried the following offer: $4.2 million in benefits to any rural community in upstate New York, the benefits to include a new town park as well as funds for the library, the fire department, road improvements, and higher education. Add to this the approximately $1.5 million per year in new taxes and fees that would result, and the lure should prove irresistible. Ah, but there was a tradeoff—in return for accepting this offer, the town would have to agree to be home to a dump for low-level radioactive waste. Given the current financial crunch, authorities from several towns expressed interest. Their populations, however, were up in arms and polarized almost at once, with one group urging "yes to progress" to the other group's "just say no": pitting friend against friend and neighbor against neighbor.

Such dilemmas are likely to multiply in the future as environmental controls become unavoidable. For example, every state in the United States now is under a federal mandate to find room for storing its waste within its borders. Courts increasingly are assessing the respective liabilities of industry, municipalities, and citizens, with cities and towns arrayed against industrial firms and governmental agencies in the battle over who is to pay what for past transgressions. Progress, however, is slow. Only sixty-three of the thousands of waste sites across the United States have been cleaned up in the past eleven years, at a cost of about $11.2 billion.

We must view these facts too in a broader context. As long as we define the problems as the responsibility of others, to be avoided by the clever manipulation of available loopholes, there will be no comprehensive framework to guide this vast undertaking. Moving on to solutions and implementation rather than stopping at diagnosis, here are my modest suggestions. The next steps must occur at three levels: the legal-political, the technological innovation-related, and the psycho-cultural.

The legal-political dimension should draw on new legislation, regulatory measures, fines, and incentives not to abuse the environment. The technological dimension must look to the development of more advanced technologies that would be not only more efficient,

reliable, and "smarter" but also more ecologically sensitive and aware. The scientist Freeman Dyson would divide technology into "gray" and "green". "Gray technology" is the familiar one of motors, circuits, and mechanics, while "green technology" involves engineering to restore ecosystems, grow food, and create new environments. Dyson expects green technological predominance within fifty years. Such environmentally advanced technologies will be able to repair and renew the earth and put a halt to ozone depletion, the destruction of forests, the spread of deserts, and the erosion of the elemental bases for life and growth. Finally, the psycho-cultural aspect, although critical, is the most elusive, for it targets the most difficult changes of all: changes in values, belief systems, and perspectives on life and its perceived necessities.

To move from Not in *My* Back Yard to Not in *Anyone's* Back Yard is no mere play on words. It demands a new ethic, an ethic of concern for one's neighbor as one's self, and the recognition that there is no poisoning of just one well. As poet Andrei Voznosesky sensed in *Thoughts on Chernobyl*, "[w]hen the robot failed to switch off tragedy,/ a man stepped into that radiant block./ Because of that man, we both stayed alive,/ you and I . . . ."

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