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Politics of Health in a Toxic Culture*

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**Reclaiming the Environmental Debate**  
The Politics of Health in a Toxic Culture

edited by Richard Hofrichter

The MIT Press  
Cambridge, Massachusetts  
London, England

of Industry: Making the Transition to a Sustainable Economy," *Technology Review* (August/September 1991):65-72.] See also T. O'Riordan and J. Cameron (eds.), *Interpreting the Precautionary Principle* (London: Earthscan, 1994).

42. Devra Lee Davis, quoted in "Is There Cause for 'Environmental Optimism'?" *Environmental Science and Technology* 29 (1995):366-69.

43. This principle has been embraced by the International Joint Commission in their Eighth Biennial Report on Great Lakes Water Quality (Washington, D.C., and Ottawa, Ontario: International Joint Commission, 1996, pp. 15-17). See also discussions of proof in T. Colborn et al., *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival?—A Scientific Detective Story* (New York: Dutton, 1996); and G. K. Durnil, *The Making of a Conservative Environmentalist: With Reflection on Government, Industry, Scientists, the Media, Education, Economic Growth, and the Sunsetting of Toxic Chemicals* (Bloomington: Indiana Univ. Press, 1995).

44. My ideas on this topic are inspired in part by those of biologist Mary O'Brien. See M. H. O'Brien, "Alternatives to Risk Assessment: The Example of Dioxin," *New Solutions: A Journal of Environmental and Health Policy* 3 (Winter 1993):39-42; and K. Geiser, "Protecting Reproductive Health and the Environment: Toxics Use Reduction," *Environmental Health Perspectives* 101 (Suppl. 2) (1993):221-25.

### 3

## Deconstructing Standards, Reconstructing Worker Health

Charles Levenstein and John Wooding

An 18-year-old Vietnamese émigré to the United States, working for a cleaning and maintenance company, is crushed in a printing plant when a press that he has been cleaning malfunctions and he goes unwittingly to his death. A 35-year-old secretary—a white woman—is forced to undergo operations on both of her wrists because of repetitive strain injuries she has incurred at her computer workstation. A 60-year-old African American, a "retired" miner, sits in a rocker on his front porch carefully gasping for breath, hoping his heart holds out under the strain of oxygen deprivation.

Worker disease and injury flow directly out of the choices of technology made by employers. The use of labor; the intensity of the work; the machines, workstations, and chemicals that endanger worker health—the "working conditions"—are determined by managers, company planners, engineers, and sometimes corporate lawyers whose minds focus on one thing only—making profit.

Occupational disease and injury are "unintended consequences" of technological choices driven by financial imperatives: That is what we mean when we say that the social relations of production determine the health and well-being of workers. Identifying the problem, however, is easier than finding a solution to it. If workers had strong unions and exerted substantial political power in the country, they might be able to play a serious role in the evaluation of the technologies of production, and even prevent the use of dangerous processes and substances.

What, however, would they do? Demand better safety standards? Limit uncontrolled exposures to hazardous chemicals? Legislate reasonable hours of work? Perhaps worker organizations would assert control over

what technologies to use and search out ways that work could enhance life, develop worker talents, reach cooperation, and produce goods that were truly socially useful. Which would be better, to demand improved standards or to assert democratic control over technology?

On the other hand, suppose that workers have little power and their organizations are small and/or limited. Suppose that they are embattled and defensive, constantly on the alert for assaults by employers who want union-free environments. Suppose that the best they can imagine is a slightly higher wage and a little bit of job security. Suppose that they can fight over only the most life-threatening situations and have learned to accept chronic hazards; suppose too that they are thankful to have jobs at all, much less ones that are safe.

Under such conditions, what are reasonable demands? How can workers engage in the struggle against toxic chemicals? Who are the allies that can help workers achieve some modicum of decency and safety? In a situation in which workplace democracy seems a distant dream, should workers fight for occupational health standards that are at least minimally protective? The solutions to workplace hazards in each of these polar situations are all quite different. The answers must be appropriate to the political setting, to the political possibilities. To speak of “worker control” in the United States or Malaysia, where the numbers of private sector unions are about the same, is quite different from discussing the limits of expert-dominated standard setting in Scandinavia, where the unions and their political allies are quite powerful.

This chapter focuses on the contradictory nature of occupational health standards in the United States—a country with a weak labor movement; a deep ideological commitment to science and progress; and a largely hidden problem with occupational injury, disease, and death. The struggle for environmental health begins, we believe, with the effort to control toxic exposure in the workplace. What is produced at the point of manufacture ultimately becomes the potential source of environmental hazard.

### The Debate over Standards

Because the approach to controlling occupational hazards in the United States consists of the enforcement by the state of standards, occupational health professionals spend a great deal of time developing objective mea-

sures of exposures and health effects. A serious debate has emerged, however, about the usefulness of such measures. Critics such as Eileen Sen Tarrau argue that the focus on precise environmental measurements misdirects attention from struggles in the work environment to highly technical arguments over standards derived from scientific assessments of contaminants.<sup>1</sup> Indeed, in most workplaces it is difficult to find a lack of compliance with these standards for chemicals. Similarly, in the environmental movement, the stress on restricting or banning chemicals creates a kind of chemical fetishism that fails to deal with the underlying imbalance of power among managers, workers, and citizens. That is, it fails to probe the underlying social relations involved.

Using Marx’s discussion of commodity fetishism as a starting point, this chapter argues that chemicals as “commodities” have very real power: the power to maim, destroy, and kill. The way labor is used is a product of the social relations of production; the use of potentially dangerous materials is a function of the economic priorities of a firm. Thus the production and use of chemicals are products of economic and social forces. To focus solely on chemicals (as many in the worker health and safety and environmental movements have) obscures the underlying power relations in the workplace. The struggle for environmental health is a struggle over political power.

Making chemicals a fetish in this way obscures the options available for exploring alternative forms of production. As Marx was aware, mature capitalist economies create things that are not themselves commodities, but which are perceived as such. The underlying human relations become reified.<sup>2</sup> Such, we argue, has been the fate of many chemical contaminants and standards. In this respect, the chemical “enemy” becomes the central concern, not the system that produces the chemical, or the social and political relations that enable it to be produced and used.

The narrow focus on chemicals has a tendency to play into the hands of the most powerful actors in the struggle over health and safety. As a consequence, very large corporate interests frequently respond to concerns about specific chemicals (or calls to ban them) by lobbying and making claims about generalized costs and benefits to society, about loss of jobs and the maintenance of standards of living. For instance, the American Petroleum Institute delayed adoption of a more

stringent benzene standard in the 1980s, insisting that the Occupational Health and Safety Administration (OSHA) demonstrate a significant improvement in health. According to one analyst, this delay caused a significant number of deaths while OSHA accumulated the additional evidence.<sup>3</sup>

Movements that challenge these claims confront enormous social and economic power, and typically do not win the fight. The focus on the chemical weakens the articulation of real resistance to environmental threats. On the other hand, organizers claim that it is far easier to mobilize workers and/or citizens around concerns about particular toxic substances rather than more abstract systemic critiques. This is not to deny that particular substances are usually of serious concern and that even small victories may save many lives.

Much the same story is true for the way we perceive the role that standard setting plays in the struggle for a healthier workplace. Despite knowledge about the biases in state and federal regulation, despite cynicism about the regulatory process, and despite the evidence for lack of enforcement, we still use the "standard" as a gospel. It, too, becomes reified. It too, becomes a Holy Grail, to be pursued. Why is this?

We consider this problem by analyzing the ways in which some Left critics have tended to make fetishes of chemicals, focusing on the ways in which toxic substances harm workers rather than on the production systems that create these chemicals.<sup>4</sup> This fetishization, in turn, translates into a heavy reliance on regulatory standards to protect workers and the environment. The focus on a particular hazard draws the struggle for a healthier society away from the underlying social and economic inequities that are at the root of deteriorating workplace and environmental conditions. Often it results in a prolonged scientific and legal debate that exhausts the resources of workers and their unions, environmentalists, and community groups. This creates significant problems in the struggle for environmental, worker, and community health. It suggests that we should pay greater attention to the politics of production (who makes the decision to produce a certain product and in what way, who controls issues of safety and health, etc.) and strategies for reform, rather than to specific chemicals, if we

are to clean up the work environment and create momentum for long-run political change.

### What Is a Standard?

#### The Legal Terrain

In the United States, federal standards to protect worker health and safety were established with the passage of the Occupational Safety and Health Act in 1970. In order to give OSHA's compliance officers regulations to enforce, a round of consensus standards were adopted en masse: these were "voluntary" standards developed by the American National Standards Institute, the American Conference of Governmental Industrial Hygienists, and other private standard-setting groups. In addition, OSHA was given a procedure for establishing new standards. This procedure included public hearings, publication of proposed standards, promulgation of new standards, and judicial review. In the case of newly discovered but inadequately regulated hazards, OSHA had the authority to issue emergency temporary standards. Essentially, the federal enforcement of these standards was the nature of the intervention envisaged by the act.<sup>5</sup>

This is in contrast to the occupational health regulatory regimes of other countries, such as Italy and those in the United Kingdom. In countries such as these, labor organizations have a much larger role in the negotiation of standards and their enforcement; labor has the right to act to protect itself through regulations.<sup>6</sup> In the United States, labor had (and has) the right to complain to the government, but does not have the authority to enforce regulations on the shop floor. Indeed, in the early 1970s some (dissident) Americans referred to the Occupational Health and Safety Act as the "full employment act for industrial hygienists," reflecting the power of professionals, but not that of labor.

Many people think of standards as "permissible exposure limits"—a secret code of parts per million kept in large but obscure handbooks owned and controlled by industrial hygienists and OSHA inspectors. Some standards are like that. However, the more elaborate ones, developed over OSHA's 28-year history, may include requirements for medical surveillance and record maintenance, worker training and worker removal when appropriate, and "action" levels that kick in well in advance

of violation of permissible exposures. Specific standards are in force concerning medical records and communication about hazards. For hazardous waste workers and emergency responders, Congress mandated that OSHA write a special standard that includes medical surveillance and worker training.<sup>7</sup>

By and large these standards have been written according to basic principles of industrial hygiene. They reflect the preference for engineering controls rather than personal protective equipment and behavioral change. They are, of course, conditioned by the legislative requirements that the standards be "feasible" and the presidential (and Supreme Court)-imposed requirement that regulations meet a variety of cost-benefit criteria.

The most controversial standard proposed by OSHA has been the draft ergonomics standard, dealing with materials handling, the positioning and design of workstations, and in general the relationship between the worker and his or her physical environment in the workplace. While the chemical regulations have affected relatively small groups of businesses, virtually all firms view the ergonomics standard as a threat since ergonomic hazards are not rare, and injuries caused by poor work design in materials handling are frequent. A broad-based business coalition led by United Parcel Service and Liberty Mutual Insurance has effectively brought OSHA's ergonomics initiative to a halt.

Perhaps what is most intriguing about battles over standard setting is the presumption that the government is capable and desirous of enforcing them. From the earliest days of OSHA, it was plain that the agency would be underfunded and understaffed. The law provided for state assumption of enforcement activities with the understanding that state efforts would be at least as effective as federal ones. In particular, during the Reagan and Bush administrations, delegating enforcement activities to the states meant the undermining of standards enforcement.

### The Political Economy of Standards

Under what conditions can we expect a standards approach to intervention to be effective in protecting worker health and safety? Weeks, for example, has demonstrated that the regulatory regime of the Mine Safety and Health Administration, before the deregulation and "reform" of the

1980s, was successful in improving the health of mineworkers. Inspectors were well-trained, unions were consulted, and standards were enforced.<sup>8</sup>

What would "good" standards-based regulation look like? First, the development of standards presumes and requires that the government will enforce them. Second, it assumes that management will comply with the standards and accept the regulation of the work environment. Finally, a strong, knowledgeable, and committed trade union completes the triangle.

On the other hand, an approach based on health standards cannot be successful with a government committed to deregulation, an industry faced with declining or highly competitive markets, unorganized workplaces, and weak unions. This is the major problem we face today. Creating standards based on the assessment of the health impact of a chemical or the dangers inherent in a process is a necessary but not sufficient condition for effective regulation.

By 1970, when the Occupational Health and Safety Act was enacted, the United States confronted a new and highly competitive world economy in which American goods and American companies no longer dominated. In addition, U.S. and European-based multinational corporations began to spread their activities across the globe, setting up production facilities in many developed and developing countries. These multinational corporations invested heavily abroad, seeking new markets and new places to produce with lower wages, less regulation, and less taxation. Aided by new communications systems and new opportunities for investment, industry and its accompanying investment capital have become increasingly mobile. This situation undercuts the ability of advanced industrial countries to regulate domestic industry for fear that their industries might flee regulation. At the same time, it spreads advanced technological and other hazards to countries that do not have the social or scientific infrastructures to protect their citizens and to others that are prevented from banning hazardous materials by trade agreements.<sup>9</sup>

These developments have had a negative impact on workers in the United States: real wages have fallen and housing, education, and medical costs have all increased. Despite more two-earner families, American workers are worse off now than they were in 1970.

Although the United States is in a period of relatively full employment, we continue to wrestle not only with a refractory unemployment problem but also with other difficult problems for workers created by changes in the structure of the economy. For example, the manufacturing industry in the United States, while remarkably productive, has been declining as a source of employment. Some workers, forced out of relatively high-paying unionized jobs in manufacturing, have had to take minimum wage employment in the service industry. Years of accumulated skills and experiences have evaporated and with them, the middle-class lifestyle that manufacturing employment supported.

The service industry includes a wide array of firms, from fast-food outlets to high-tech consulting companies.<sup>10</sup> Much of the service industry is unorganized, so the labor movement suffers as its manufacturing bulwark declines and workers move into small nonunion firms with low pay, few benefits, and few rights.

These profound changes in the economy have undercut the government's willingness to regulate firms for fear of damaging their competitiveness, and they have undercut our ability to demand effective workplace and environmental regulation. The large manufacturing firm has become a dinosaur. Voluntary compliance in manufacturing rested on professionally trained health and safety departments, but these are declining as firms decentralize or contract out their operations. Most workers are in small, non-union firms that do not employ work environment professionals. In this social context, standards-based regulatory approaches are unlikely to be effective.

### The Politics of Regulation

The politics of regulation is often considered in relation to the battles between labor and capital, unions and employers, environmentalists and corporate owners, and the lobbyists for both sides. The American model presumes that such regulatory politics flows from the negotiations of democratically elected representatives, using scientific knowledge to determine the most efficient, and occasionally the most health-protecting, regulatory standards. Sometimes it even works like this. However, the system depends on another kind of politics—a cultural politics that re-

flects the intersection of deeply held beliefs about science and the rule of law.

### The Hegemony of Science

For many Left critics, the notion that contemporary science is socially constructed is hardly new. In occupational health science what that means is that social factors are always of considerable importance in shaping the definition of disease and its amelioration.<sup>11</sup> There is a long tradition of progressive critique of scientific objectivity and neutrality.<sup>12</sup>

The French sociologist Pierre Bourdieu argues that the holders of intellectual capital have power over others.<sup>13</sup> Similarly, Aronowitz's discussion of science and power reveals that—at least for the United States—it is science and scientists who possess analogous power.<sup>14</sup> The broad acceptance of science enables and supports the legitimacy of the system of social relations as a whole.

In the field of occupational health and safety, science provides the basis for a limited approach to regulating workplace hazards (what we have characterized as fetishization). Nevertheless, such science reveals real hazards and can provide some solutions that protect workers. What it cannot do, however, is provide a fundamental critique of the system of power relations and the resultant system of production.

Scientific evidence about the toxicity of a chemical, epidemiological evidence about its effect on humans, and clinical evidence about physiological processes conjoin to establish whether a contaminant is guilty of endangering health. Science does not acknowledge a problem if there is no scientific evidence of cause *even if workers get sick or complain of health problems*.

Despite these issues, science has become the foundation on which standards and regulations are built. Progressives and health activists marshal scientific evidence to demand that a chemical be restricted or banned; corporations present scientific evidence that the chemical is innocent, or maybe a little bit guilty. If exposure to a chemical may harm one worker in a hundred, then this may be acceptable given the benefits (investment, jobs, products, taxes, and profits). The question is, therefore, not whether science is "right" or "wrong" but rather, how does political and cultural power get resolved in the struggle over health?

### The Hegemony of Legalism and Democracy

As is the case with science, belief in the objectivity and neutrality of the political and judicial system is deeply embedded in American culture. This country was founded supposedly on a "government of laws, not men." However, today democracy founders in the face of corporate control of public policy, the role of big money in the electoral process, the weakness of labor unions as advocates for workers, and the political and social inequalities that engender these antidemocratic tendencies. Yet, belief in the pantheon of liberal rights, and liberal democracy, intersects with broad assumptions about the validity of science and scientific knowledge, and leads advocates to the judicial and political system as a means of protecting worker health and safety. The conjunction of these two deeply held belief systems yields occupational safety and health policy. Or as Noble characterizes it, *Liberalism at Work*.<sup>15</sup>

The standard-setting process is highly controversial and has led to innumerable lawsuits and appeals. Like the inspection system, OSHA standards have been (and are) at the nexus of a political battle about the role of the state in the American political system. The passage and implementation of the health and safety act has created unprecedented political conflicts about the role of government regulation of private enterprise. Clearly, however, the activities of OSHA were (and are) highly circumscribed by American resistance to state intervention in the economy, its vulnerability to political influence, and the overall balance of class forces in the country in the decades after World War II.

These features also explain the genesis of OSHA in the hundred or so years since Massachusetts enacted the first factory inspection law. A liberal-democratic ideology that is antithetical to government intervention (especially at the federal level), a weak and fragmented labor movement, and the absence of a tradition of a professional civil service have all contributed to the slow development of health and safety regulation and the overall weakness of the contemporary system.

These conditions have reduced the regulatory agency's role to a minimum, while at the same time making it lose credibility with both employers and employees. The agency no longer has the authority to command compliance, nor do workers trust it. The result is that OSHA itself has become ineffective. Nevertheless, the OSHA law was vital to labor as

the first organized effort to establish a framework with a mandate to meaningfully improve conditions in American workplaces.

### The Objectivity of Standards

Definitions of occupational disease, understanding of workplace hazards, indeed, the scientific processes of investigating the work environment itself are made into fetishes. At the microsocial level, we can observe hegemony operating through fetishization. A worker feels sick. He or she will ask, "Is my work making me sick?" They may then ask, "Can I get compensation for my illness, if I have to leave my work? How will I pay my medical expenses? Can I get hazard pay for the work?"

The employer most likely asks two questions: "Is this person really sick? If so, am I liable?" The scientist responds: "Perhaps I can measure a specific quantifiable exposure associated (at a 95 percent level of confidence) with a specific quantifiable health effect. And the lawyers muse: "Is this illness more likely than not the result of this workplace exposure?"

From this multiple of framings emerges a dominant one; thus is "knowledge" created and used as "information." "Aches and pains" are the names that some workers may give to their experience of occupational injury. Ergonomists and other occupational scientists begin to talk about "repetitive strain injuries." A fierce struggle ensues among scientists, workers' compensation insurers and agencies, and relevant counsel, concerning how broadly to construe RSI. And for many, "carpal tunnel syndrome"—a quite narrow construction of "aches and pains"—becomes the disease of choice, although this struggle is ongoing. By way of contrast, through political and economic struggle by their organization of disabled workers, including public demonstrations and trade union reform, U.S. coal miners have been able to establish a broad definition of black lung disease.<sup>16</sup>

At the level of experiencing occupational disease in the workplace, of understanding its nature, and of doing something about it, the politics of science and the politics of regulations merge. All are framed by the faith we have in science and professionalism, legalism and democracy. The system sometimes comes through: The worker is taken seriously, the effect of the contaminant is established, the legal-regulatory apparatus removes the danger. More often than not, however, science cannot

definitively establish the relationship between the health problem and the disease. The ill worker is not given credibility. The employer uses science to deny responsibility. The legal system protects the rights of the powerful. Every day this tragic story plays out in thousands of American workplaces.

### Alternatives: What Is to Be Done?

While much has been achieved in promoting workplace health and safety by collecting scientific evidence on the toxicity of chemicals, on the physiological hazards of such problems as repetitive-motion injuries, and on the physical dangers inherent in many work processes, we still have a long way to go. When we (1) focus on the scientific evidence for threats to human welfare, (2) believe that the control or removal of the threat will deal with "the problem," and (3) assume that a regulatory process is democratic or that a standard, once established, will protect workers, we fail to see the underlying power relations that determine our agenda.

These power relations, in particular the weakness of organized labor in the United States, are not only of consequence for the health and safety of workers in this country but also have a deep impact on workers abroad. In Europe and the developing world, American scientific evidence and American standards are frequently viewed as the safety benchmarks that set the regulatory agenda for other countries. The regulations are not understood as political phenomena that reflect the power relations in the United States.

We are not Luddites. Science is not the tool of a ruling class, and most scientists make every effort to be objective in what they do. Nevertheless, science and the standards that are derived from it are products of sociopolitical relations that can only, in the long run, benefit those who have power and control in society. Technological progress produces untold benefits to society, but it also creates serious technological hazards (and uncertainty about risk), and myriad social problems.

How, then, do we obtain effective regulation, certain knowledge, and meaningful standards? How could science be used to address the interests of those most affected by chemicals in the workplace, or by processes

that threaten health and well-being? In short, what would a democratic science look like?

The domination of science at the cultural and practical level requires both lack of knowledge and lack of power on the part of the dominated. Science provides knowledge, but of a particular kind, framed in a particular way. The illusion of power (that we live in a democracy, that government regulations and laws protect us from exploitation, that "we" can shape our choices and chose our rulers) also provides a particular frame for our assumptions about control.

A counterhegemonic approach to setting standards and regulating chemicals must involve, as Antonio Gramsci recognized, a constant "war of maneuver."<sup>17</sup> A crucial step is to constantly expose the bias in science and law, and seek ways to empower workers and communities. What would such activities look like? How can we avoid the endless pieties about worker empowerment and the empty language of "rights?" How can we take all that is good in science and make it appropriate and use it for the protection of worker health and safety and the environment?

First, since the central question is the power relations that exist in society as a whole and in the workplace in particular, it is critical to continue to build organizations that represent the interests of workers. The trade union movement, of course, has been the main vehicle for representing workers. However, in protecting their members from workplace injury and disease, trade unions have been only marginally successful. Certainly they have pressed for protections within collective bargaining agreements, for union health and safety committees, and for increased government regulation. In some cases, they have also developed their own industrial hygiene capacity, and they have also worked with the various coalitions and committees on occupational safety and health (COSSH). These grassroots groups of trade union occupational health activists and their supporters advocate and provide technical information, training, and resources to workers and worker organizations. The effectiveness of these activities is increasingly limited, however.

In recent years some trade unions have dismantled much of their internal capacity for dealing with occupational safety and health problems, and the AFL-CIO has reduced its own safety and health staff to a

minimum. On the other hand, some building trade unions have substantially increased their commitment to health and safety.

The trade unions have never given their wholehearted commitment to the COSH movement. Indeed, they do not provide them substantial financial support. The unions' other source of scientific and technical support has been the resources commanded by occupational safety and health professionals, scientists, and academicians who are friendly or committed to labor. Historically, these allies of labor have had an ambiguous relationship to much of the trade union movement. Unions tend to be wary of professionals, and the isolation of American trade unionism from genuine political power has left a legacy of suspicion of intellectuals and scientists. The recent emphasis on organizing is understandable given the decline in membership, but health and safety are of great concern to the rank and file and could be a tool for mobilization.

The trade union movement should recommit to occupational safety and health as a central organizing strategy. It should fund COSH groups. It should pursue and develop alliances with scientists, professionals, and intellectuals in academia, and defend regulatory institutions against attack.

Second, the ambivalence of the trade union movement toward intellectuals and scientists raises significant contradictions for those individuals who seek to be allies of labor but who are not themselves in the labor movement. Often caught between the several demands of professional identity, professional ethics, and dependence on corporate or institutional funding, scientists and professionals in the occupational safety and health movement find themselves the victims of numerous contradictory demands. Too often these demands force professionals to view occupational safety and health as a technical, not a political problem. As Lax notes: professionals clinging to traditional notions of scientific objectivity carried out by a restricted group of experts (professionals) are blind to the ways corporate norms have penetrated knowledge production at all levels. As a result, even professionals who see themselves as worker advocates further the ability of capital to make its influence invisible as corporate knowledge masquerades as universal truth.<sup>18</sup>

This is not to say that professionals are simply servants of an exploiting and distorting system. Professionals are workers. The demands made on

industrial hygienists, scientists, and researchers are similar to those made on traditional blue-collar workers. They need jobs to pay the rent and to eat; they need to be acquiescent to demands placed on them to achieve career advancement; they need to commit to the dominant norms of science to gain legitimacy and thus grant monies and career advancement and to be taken seriously when they do advocate for workers. In short, for professionals to become counterhegemonic they must confront all the contradictions that workers and unions do.

Clearly, professionals must view worker health and safety problems not only in technical terms, accessible to "scientific" solutions, but also as political issues stemming from inequalities in political power. Professionals must also take workers seriously: their demands, their health problems, and their identification of hazardous situations. In addition, professionals should democratize and demythologize science wherever possible, making it understandable and relevant to working people. A new occupational health science must shed the trappings of neutrality and objectivity and reassert its commitment to worker health.

One key to this process lies, not only in changing the attitudes and values of professionals and their associations (which remain largely dominated by corporate interests), but also in the training of those professionals. A counterhegemonic professional education largely depends on the encouragement and support of university and professional school faculty—another key reason why progressives, and trade unions in particular, should build alliances with and support allies within the academic world.

A third and final strategy for challenging the cultural dominance of scientific objectivity, professionalization, and deep dependence on a corrupted standard-setting procedure is to develop systems by which communities can set and enforce their own standards for controlling polluting industries. Building networks of community organizations and trade unions concerned about toxic chemicals, dangerous work, and environmentally threatened neighborhoods is an essential first step toward an alternative to the processes dominated by multinational corporations. In short, we need a democratic standards organization.

These suggestions provide the possibility for exposing the fallacy of scientific objectivity and the inviolable dependence on standards. They

are the first steps in a process that could lead to credible protection for workers, not only in the United States, but also in the many countries that use our health and safety standards as a model.

### Acknowledgments

The authors would like to thank Greg Delaurier, Richard Hofrichter, and David Kriebel for their very helpful comments on an earlier draft of this paper.

### Notes

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