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ACCIDENTS: CAUSATION AND RESPONSIBILITY IN LAW, A FOCUS ON COAL MINING

J. DAVITT MCATEER*

If the master be liable to the servant in this action, the principle of that liability will be found to carry us to an alarming extent. He who is responsible by his general duty, or by the terms of his contract, for all the consequences of negligence in a matter in which he is the principle, is responsible for the negligence of all his inferior agents. If the owner of the carriage is therefore responsible for the sufficiency of his carriage to his servant, he is responsible for the negligence of his coachmaker, or his harness maker, or his coachman. The footman, therefore, who rides behind the carriage, may have an action against the master for a defect in the carriage owing to the negligence of the coach-maker, or for a defect in the harness arising from the negligence of the harness-maker, or for drunkenness, neglect, or want of skill in the coachman; nor is there any reason why the principle should not, if applicable in this class of cases, extend to many others. The master, for example, would be liable to the servant for the negligence of the chambermaid, for putting him into a damp bed; for that of the upholsterer, for sending in a crazy bedstead, whereby he was made to fall down while asleep and injure himself; for the negligence of the cook, in not properly cleaning the copper vessels used in the kitchen; of the butcher, in supplying the family with meat of a quality injurious to the health; of the builder, for a defect in the foundation of the house, whereby it fell, and injured both the master and the servant by the ruins.¹

I. INTRODUCTION

It was in 1837 that a creative British jurist wrote these wondrous words as he struggled to rationalize the right of an em-

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¹ Priestley v. Fowler, 150 Eng. Rep. 1030, 1032 (1887).

ployer to insulate himself from responsibility for the health and safety of his employees. Today we find these words funny and faintly embarrassing. The thinking behind them, however, no matter how absurd, is still alive and prevalent in some quarters.

Since 1837, civilization has moved onward and, in many respects, upward. Today, we accept the proposition that society may write rules governing standards of occupational safety and health, and we accept, at least in principle, the proposition that employers must observe these rules. We are inclined, therefore, to look upon *Priestley*² as a quaint echo from the past. However, this zany defense of laissez faire capitalism still has its staunch supporters. You find them wherever coal operators are gathered together. They will object bitterly to this characterization, but the harsh fact is that many mine owners and managers still cling to the notion that accidents are caused primarily not by working conditions but by workers. Until this attitude changes, coal mining will continue to amass the worst health and safety record in American industry.

II. LEGAL HISTORY

From the day that the first shift of laborers left work in the home for work in the factory, there has been a succession of schemes for dealing with industrial accidents. The first of these schemes was built on common law rules of employer liability, enunciated during a period of intense industrialization when the dominant philosophy was a combination of laissez faire capitalism and utilitarianism.³

The employer's responsibility at common law was very limited, consisting of a brief list of duties set forth by the

² *Id.*

³ The extent of the employer's responsibility, although it was said to rest on the understanding of the parties, was undoubtedly fixed by the courts upon the basis of old industrial conditions, and a social philosophy and attitude toward labor, which are long since outmoded. The cornerstone of the common law edifice was the economic theory that there was complete mobility of labor, that the workman was an entirely free agent, under no compulsion to enter into the employment.

W. PROSSER, HANBOOK OF THE LAW OF TORTS, § 80 at 525 (4th ed. (1971) [hereinafter cited as PROSSER].

courts.⁴ These duties conceivably could have given afforded employees broad protection. Unfortunately, they were given a very narrow and formalistic interpretation reminiscent of common law forms of action. An employee who could not fit his complaint into one of five very specific recognized duties was left without a judicial remedy. With respect to these five duties, the standard of care was the same as that imposed by other tort law duties. Ordinary and reasonable care was all that was required of the employer. In determining whether the employer breached his duty of care, "common practice" figured significantly. If the employer's action which caused the employee's injury was commonly practiced by employers throughout the business, there was no breach of duty by the employer and consequently no recovery by the employee.⁵ Additionally, the employer was not responsible for ordinary risks and dangers associated with a particular type of work. Employees could not recover for injuries considered natural to their employment, but only for those injuries incurred as a direct result of the employer's negligence.⁶

The common law rule reflected the belief that the responsibility for accidents lies primarily with the individual employee and his co-workers.⁷ This belief is exposed at two stages of the

⁴ At common law, for the protection of his employees, the employer has the duty to provide: (1) a safe workplace, (2) safe appliances, tools, and equipment for the employee to do his work with, (3) warnings of dangers of which the employee might reasonably be expected to remain ignorant of, (4) a sufficient number of suitable fellow employees, and (5) the promulgation and enforcement of rules of conduct for employees which would make the work safe. *Id.* at 526.

⁵ The master is not bound to furnish for his workmen the safest and best machinery nor to provide the best methods for the work, in which he is engaged, to save himself from responsibility for injury to his servant. If the machinery or appliances, which he has, be of an *ordinary* character and such, as can with reasonable care be used without danger to the employee, it is all that can be required of the employer.

Barnes v. Gaston Coal Co., 27 W. Va. 285, 300 (1885) (emphasis added).

⁶ See *e.g.*, *Farwell v. Boston & Worcester R.R. Corp.*, 45 Mass. (1 Metcalf) 49 (1842) (Shaw, C.J.).

⁷ The servant is not bound to risk his safety in the service of his master, and may, if he thinks fit, decline any service in which he reasonably apprehends injury to himself: and in most of the cases in which danger may be incurred, if not all, he is just as likely to be acquainted with the probability and extent of it as the master. . . . In fact, to allow this sort of action to prevail would be an encouragement to the

common law analysis: first, in the decision as to whether the employee has a cause of action, and second, in the defenses available to the employer. Unless the employee could phrase his complaint so as to fit within the narrow confines of one of the recognized duties, he was adjudged without a cause of action. Even if the complaint did allege a breach of a recognized duty, the court might still conclude that there was no cause of action on the principle of *volenti non fit injuria*.⁸

The very existence of an employer duty, therefore, was dependent upon the employer's knowledge of unsafe working conditions and the employee's ignorance of those conditions. Unless both elements were present simultaneously, the likely holding would be that there had been no breach of duty. The employer's duty "reaches its vanishing point in the case of those who are cognizant of the full extent of the danger and voluntarily run the risk."⁹

An employee who succeeded in the formidable task of establishing a cause of action was soon met by the "unholy trinity" of common law defenses: (1) contributory negligence, (2) assumption of the risk, and (3) the fellow servant rule.¹⁰ Even where the employer had admittedly violated a common law duty, these three defenses reflected the belief that the accident still was the employee's responsibility.

Under the defense of contributory negligence, the employee could not recover if any part of the accident was due to his own negligence. The doctrine "frequently meant that a momentary

servant to omit that diligence and caution which he is duty bound to exercise on behalf of his master, to protect him against the misconduct or negligence of others who serve him, and which diligence and caution, while they protect the master, are a much better security against any injury the servant may sustain by the negligence of others engaged under the same master, than any recourse against his master for damages could possibly afford.

Priestley v. Fowler, *supra* note 1, at 1032-33.

⁸ He who consents cannot receive an injury. See e.g., Poole v. Lutz and Schmidt, 273 Ky. 586, 589, 117 S.W. 575, 576 (1938).

⁹ Thomas v. Quartermaine, 18 Q.B.D. 685, 695 (1887) (A brewery employee was scalded when he fell into an unfenced vat did not have a cause of action against his employer, notwithstanding the court's admission that the employer had a duty to fence the vat.).

¹⁰ PROSSER, *supra* note 3, § 80 at 526-30.

lapse of caution on the part of the workman was penalized by casting the entire burden of injury upon him, in the face of [the] *continued and greater negligence of the employer.*"¹¹

The theory behind the doctrine of assumption of the risk is that the employee understands and consents to bear the *inherent risks* of his occupation. According to this rule, certain conditions are inevitable and unavoidable. By accepting the job, or continuing to work, the employee was deemed to have voluntarily accepted the threat of injury. Another version of the same defense applied when the danger, although not ordinarily associated with the type of work, was deemed to be patent and obvious.¹²

The fellow-servant rule, which absolves employers from liability for all employee injuries caused by the actions of other employees, was enunciated first in England in 1837,¹³ and was quickly adopted by American courts.¹⁴ Since almost all industrial work is done by the employer only indirectly, through the direct

¹¹ *Id.* at 527 (emphasis added).

¹² In one case a 19 year old plaintiff was employed to remove boards from a planing machine. With only three weeks experience on the machine, the plaintiff was ordered to make adjustments to the machine. However, the plaintiff was not given instructions on how to perform the adjustments. While working on the machine, the plaintiff cut his fingers. The court, in non-suiting the plaintiff, reasoned that the law imposes upon an employee the duty of self-protection and assumes that this deeply rooted instinct will put him on guard against all the risks incident to, or arising out of the course of, his employment which the employee knows of or has the means of discovering. "The servant, when he enters into the relation, assumes, not only all the risks incident to such employment, but all dangers which are obvious and apparent." *Crown v. Orr*, 140 N.Y. 450, 452, 35 N.E. 648 (1893) (O'Brien, J.).

¹³ *Priestley v. Fowler*, *supra* note 1. The *Priestley* court rested its precedent setting judgement on "general principle" and on a fear of the "parade of horrors" that would follow from a rule that would allow the servant to sue his master.

¹⁴ The general rule, resulting from considerations as well as justice as of policy, is, that he who engages in the employment of another for the performance of specified duties and services, for compensation, takes upon himself the natural and ordinary risks and perils incident to the performance of such services, and in legal presumption the compensation is adjusted accordingly. And we are not aware of any principle which should except the perils arising from the carelessness and negligence of those who are in the same employment. These are perils which the servant is as likely to know, and against which he can as effectually guard, as the master. They are perils incident to the service,

action of an employee, the rule had potentially devastating effects. Its application brought anomolous results: a non-employee injured by an employee could recover against the employer, while an employee injured by another employee could not.¹⁵

The rationales offered in support of these defenses are not unlike those put forth today in support of the contention that accidents are caused by workers, not by working conditions. One of the more absurd supporting arguments employed was that of voluntariness.¹⁶ The employee freely choose to submit himself to

and which can be as distinctly foreseen and provided for in the rate of compensation as any others.

* * * * *

We are of the opinion that these considerations apply strongly to the case in question. Where several persons are employed in the conduct of one common enterprise or undertaking, and the safety of each depends much on the care and skill with which each other shall perform his appropriate duty, each is an observer of the conduct of the others, can give notice of any misconduct, incapacity or neglect of duty, and leave the service, if the common employer will not take such precautions, and employ such agents as the safety of the whole party may require. By these means, the safety of each will be much more effectually secured, than could be done by a resort to the common employer for indemnity in case of loss by the negligence of each other. Regarding it in this light, it is the ordinary case of one sustaining an injury in the course of his own employment, in which he must bear the loss himself, or seek his remedy, if he have any, against the actual wrong-doer.

* * * * *

Besides, it appears to us, that the argument rests upon an assumed principle of responsibility which does not exist. The master. . . is not exempt from liability, because the servant has better means of providing for his safety, when he is employed in immediate connexion with those from whose negligence he might suffer; but because the *implied contract* of the master does not extend to indemnify the servant against the negligence of any one but himself; and he is not liable in tort, as for the negligence of his servant, because the person suffering does not stand towards him in the relation of a stranger, but is one whose rights are regulated by contract expressed or implied.

Farwell v. Boston & Worchester R.R. Corp., *supra* note 6, at 57-60 (Shaw, C.J.) (emphasis in original).

See also, Murray v. South Carolina Ry. Co., 26 S.C.L. (1 McMullan) 385 (1841).

¹⁵ Compare Farwell v. Boston & Worchester R.R. Corp., *supra* note 6, with Corrigan v. Union Sugar Refinery, 98 Mass. 577 (1868).

¹⁶ This principle is virtually indistinguishable from the defense of assumption of the risk. The reasoning behind both doctrines is essentially the same—the employee consented to the risk and consequently does not deserve relief. Courts

these dangers, from which he could withdraw at any time, and hence the responsibility for the injury was entirely his. The doctrines of contract, implied contract, and waiver were used as conduits for this argument.¹⁷ A related argument, applicable to dangers inherent in the type of employment, is that compensatory mechanisms take account of the risks involved in purely free and unrestricted transactions. It envisions that an employee working in a particularly dangerous situation would demand and receive compensation commensurate with the degree of danger. Both arguments obviously assume perfect mobility of labor and a frictionless flow of information concerning the dangers involved in industrial activities. However, both arguments neglect the inability of individual laborers to haggle with owners over the terms and conditions of employment.

The self-protection argument was another verbal buttress for the common law edifice.¹⁸ It held that the worker has more of an interest in preventing accidents than does the employer, and that the worker, therefore, is best suited to the responsibility. This argument ignores that workers also have an interest in eating, which might dissuade them from abandoning what may well be their only source of sustenance, however "freely chosen" in might be.

A related argument, especially applicable to the contributory negligence and fellow servant defenses, was that employ-

used this reasoning inter-changeably either to find no duty on the employer's part, or to support a denial of recovery even where a duty had existed and had been breached. The employee often encountered essentially the same conceptual hurdle at two different points.

¹⁷ Surely, it cannot be said that a workman does not impliedly contract to take the obvious risks from the conditions of the machinery when he agrees to work in the repair of it. Nor can it any more be said that he does not impliedly make a similar contract when he agrees to work in a business involving obvious dangers by reason of the inferior machinery with which he knows it is to be carried on. He is free to accept the service or not, as he chooses; and if harm comes to him by reason of his acceptance of it, he suffers voluntarily.

O'Malley v. South Boston Gaslight Co., 158 Mass. 135, 138, 32 N.E. 1119, 1121 (1893).

In *O'Malley*, the plaintiff who had been employed by the defendant for 15 weeks fell while wheeling a coal barrel on an unguarded run. The employer's failure to provide guardrails was a violation of a statutory duty.

¹⁸ *Supra* note 7.

ees would be deterred from careless conduct and would look out for other careless employees if they were unable to shift the burden of their injuries to the employer. The courts reasoned that a plaintiff who has learned of the law of contributory negligence by the hard experience of losing a verdict is likely to be more careful in the future.¹⁹ Proper training and safety education would achieve the same end, without such pain, but that alternative was not taken seriously by either courts or employers.

These rationalizations, largely unpersuasive, hide a more fundamental tenet which prompted the courts to evolve the common law rules of employer liability in the manner which they did. Throughout the development of these rules, the idea persisted that it would be unreasonable and unfair to hold the employer responsible for the employee's injuries where the danger was a "natural incident" to the type of work contracted for, or where the accident was caused by anything other than the direct personal action of the employer.²⁰ The general philosophical underpinning of this conception of fairness and reasonableness seems to have been a reverence for individualism in conjunction with a worship of industry.

From the language of their opinions,²¹ it is clear that the courts saw themselves as protecting "freedom of action", presumably including the freedom of individual workers to contract for dangerous employment as well as the freedom of individual

¹⁹ *Supra* note 15.

²⁰ The economic development of the times were accompanied by the growth of individualistic political and economic philosophies which regarded as a great social good freedom of action, in nearly all directions, particularly on the part of the entrepreneurial class. Naturally, this would decry placing serious burdens on the new and promising system and would deplore the tendency of juries to lose sight of broader philosophical objectives in their sympathies in the single case before them. It was in this climate of opinion that the liability of defendants became limited by the fault principle and that courts came to be regarded as the refuge of those who could not protect themselves—not for those who could (according to the individualistic notions of the times), but simply failed to do so.

F. HARPER & F. JAMES, *THE LAW OF TORTS* 1198-99 (1956).

See generally, R. HOFSTADTER, *SOCIAL DARWINISM IN AMERICAN THOUGHT* 1860-1915 (1945).

²¹ *See e.g.*, *Farwell v. Boston & Worcester R.R. Corp.*, *supra* note 6; *Barnes v. Gaston Coal Co.*, *supra* note 5.

employers to conduct their business as they wished. It is also clear, from their unwillingness to burden industry with the cost of injuries which could be explained as inevitable and inherent in particular types of employment, that the courts were endeavoring to coddle industry.

The harshness with which injured employees were treated under common law rules became an important topic for concerned observers.²² By 1907, magazine writers were writing article after article about industrial casualties and injuries.²³ Tremendous numbers of injuries and fatalities occurred during that year, especially in the coal mining industry. That same year marked the birth of the American safety movement.²⁴ With public interest aroused and focused on industry, some corporations took action to stave off further public criticism and prevent the imposition of stricter requirements. For example, in 1910 United States Steel instituted a private workmen's compensation scheme, the Voluntary Accident Relief Plan, under which workers who signed away the right to sue the company in court would be compensated (minimally) for their injuries.²⁵

²² At the end of the nineteenth century, the crisis at the workplace became critical. "[W]hen occupational injury and death rates were at new highs, seven-eighths of all persons who were injured at work were without legal relief." U.S. BUREAU OF MINES, DEP. OF LABOR, BULL. NO. 623, STATE COMPENSATORY PROVISIONS FOR OCCUPATIONAL DISEASES 2 (1967).

The early part of the twentieth century was marked by a series of coal mine disasters in the United States. Federal and State commissions which were established following these disasters, were critical of the existing system. *Id.*

²³ See e.g., EASTMAN, *A Year's Work Accidents and Their Costs*, XXI CHARITIES 1143 (1909); MARK, *Our Murderous Industrialism*, XI WORLD TODAY 97 (1907).

See also, C. EASTMAN, *WORK ACCIDENTS AND THE LAW, THE PITTSBURGH SURVEY* (1908).

²⁴ D. LESCHIER, *HISTORY OF LABOR IN THE UNITED STATES 1896—1932: WORKING CONDITIONS*, 366-70 (1935).

²⁵ United States Steel's "voluntary" action is understandable considering that:

[B]y 1910, when the movement for workmen's compensation legislation had gained full headway, almost every state had enacted laws which modified the common-law doctrines of employers' liability. This mass of legislation ranged from little more than affirmations of common-law doctrines to complete abrogation of certain of the employer's common-law defenses. The aim in most instances was to give the injured worker a little better prospect of success in the great gamble of a court suit for damages.

Critics of the common law scheme seldom seriously addressed the possibility that industrial accidents could be prevented. Their solutions almost invariably focused on compensation rather than prevention.

In 1909, Montana became the first state to enact workmen's compensation legislation.²⁶ By 1920, forty-two states had a workmen's compensation statute.²⁷ These statutes which were enacted by the several states were modeled on the German Act of 1884. The workmen's compensation scheme which evolved in this country, without common law litigation,²⁸ established schedules which pre-determined the benefits payable for specific injuries,²⁹ irrespective of fault.³⁰ The cost of industrial accidents were to be treated as any other cost of doing business and were to be passed on to the consumers. Lloyd George, the British statesman, cynically referring to the British workmen's compensation system said: "The cost of the product should bear the blood of the workman."³¹

It is worth mentioning that workmen's compensation legislation was supported by several, though by no means all, of the

The legislation on employer's liability enacted prior to the workmen's compensation period may be classified as follows:

1. Statutes denying the right to "contract out" of liability.
2. Statutes extending the right of suit in death cases.
3. Statutes abrogating or modifying the common-law defenses of co-service, assumption of risk, and contributory negligence.

E. BRANDEIS, HISTORY OF LABOR IN THE UNITED STATES 1896-1932: LABOR LEGISLATION, 567 (1935).

²⁶ MONT. REV. CODES ANN. title 92.

²⁷ West Virginia enacted its compensation statute in 1913. See, W. VA. CODE ANN. chapter 23.

²⁸ The right to workmen's compensation is wholly statutory and is not in any way based on the common law. The statutes are controlling and the rights, remedies and procedures provided by them are exclusive. See e.g., Bailes v. Workmen's Comp. Comm'r, 152 W. Va. 210, 161 S.E.2d 261 (1968).

²⁹ See e.g., W. VA. CODE ANN. § 23-4-6 (1980 Cum Supp.).

³⁰ The common law tort system with its defenses of contributory negligence, assumption of risk and the fellow servant rule was considered inimical to the public welfare and was replaced by a new and revolutionary system wherein "fault" became immaterial—essentially a no-fault system.

Mandolidis v. Elkins Industries, Inc., 246 S.E.2d 907, 910-11 (W. Va. 1978).

³¹ U.S. BUREAU OF MINES, DEPT. OF LABOR, BULL. NO. 623, STATE COMPENSATORY PROVISIONS FOR OCCUPATIONAL DISEASES 3 (1967).

business organizations that were formed. Industrialists perceived that workmen's compensation schemes, with their ever-present waiver of common law rights,³² were preferable to schemes under which industry might have to take action to prevent accidents, or offer more complete compensation. They were joined in their support for the compensation schemes by at least one sector of organized labor, the American Federation of Labor.³³

The philosophy behind workmen's compensation maintains that there is an acceptable trade-off when an injured worker who can expect some form of minimal income security surrenders the right to sue his negligent employer. Though still firmly imbued in American industry, this tenet is being eroded gradually by a growing awareness that compensation is less important than prevention.³⁴ Over many decades, and only after bitter struggle, employers have slowly been forced to accept the idea that they must meet certain minimum standards designed to create a more inherently safe and healthful work environment.

Behind this development is many complex theories about the relationship between economic gain and social accountability. There is in all of them, however, the appealingly simple notion that the work environment does in fact lend itself to systematic improvement. A noisy machine can be quieted. A hot warehouse can be cooled. A steep roadway can be graded, and a heavy vehicle can be equipped with rugged brakes. More recently, the idea has begun to take hold that the greater work environment can also be enhanced. A smokestack can be retrofitted to control its effluent. A city need not destroy the river that flows through its environs. This philosophy carries a price tag, and when it confronts economic pressures its momentum may be slowed, temporarily stalled, or even reversed. But there seems

³² See e.g., W. VA. CODE ANN. § 23-2-6 (1978 Replacement Vol.).

³³ E. BRANDEIS, HISTORY OF LABOR IN THE UNITED STATES 1896—1932: LABOR LEGISLATION, 575-76 (1935).

³⁴ The workmen's compensation system completely supplanted the common law tort system only with respect to *negligently* caused industrial accidents, and employers and employees gained certain advantages and lost certain rights they had heretofore enjoyed. *Entrepreneurs were not given the right to carry on their enterprises without any regard to the life and limb of the participants in the endeavor and free from all common law liability.*

Mandolidis v. Elkins Industries, Inc., *supra* note 30, at 913 (emphasis added).

relatively little doubt that it is an increasingly accepted philosophy exerting great force on and within almost all industries.

Ironically, the American coal mining industry is the one notable exception. Historically, legislative improvements have come only very slowly and only after spectacular disasters have aroused public support. Dead miners have always been the most powerful force in securing passage of mining legislation.³⁵

III. COAL MINING IS DANGEROUS

As the number of accidents/deaths will confirm, a coal mine is a dangerous place to be in or work in. This simple fact has been recognized by some industry observers, although its recog-

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- ³⁵ 1907: Monongah, W. Va. explosion kills 358.
 1908: Jacobs Creek, Pa. explosion kills 239.
 1909: Marianna, Pa. explosion kills 154.
 1910: *First federal enacted Bureau of Mines created in U.S. Dept. of the Interior, but lack enforcement power.*
 1940: Bartley, W. Va. explosion kills 41.
 1940: Neff, Ohio explosion kills 72.
 1940: Portage, Pa. explosion kills 63.
 1941: *Bureau of Mines inspectors given power to accompany state inspectors in mines.*
 1947: Centralia, Ill. explosion kills 111.
 1951: West Frankfort, Ill. explosion kills 119.
 1952: *Bureau of Mines given limited power to issue notices of violation and withdrawal orders when imminent danger exists.*
 1963: *Federal Metal/Non Metal-Act (Public Law 87-300). A two page law authorizing a study of safety problems.*
 1965: Tennessee explosions kill 14.
 1966: *Bureau of Mines authorized to inspect small mines (15 or less miners) and Federal Metal and Non-Metal Safety Act gives Bureau inspection power—but can only issue "advisory" regulations to industry.*
 1968: Farmington, W. Va. explosion kills 78.
 1969: *Federal Coal Mine Safety and Health Act. First strong federal mining law on paper. Enforcement weak.*
 1970: Hurricane Creek, Ky. explosion kills 38.
 1972: Kellogg, Idaho Sunshine Mine fire kills 91.
 1976: Oven Fork, Ky. explosions kill 26.
 1977: *Federal Mine Safety and Health Act, Public Law 91-173. Coverage Extended to all miners. Mine Safety and Health Administration (MSHA) encouraged to enforce extensive regulations covering all aspects of health and safety and standards improved for metal/non-metal miners.*

J. MCATEER, THE MINER'S MANUAL, 346-47 (1981).

nition is not as widespread as one might expect. But in fact, mines are dangerous, extremely so. They are dangerous for a number of reasons not typically found in other industrial settings:

(1) Mining by definition involves movement. Miners are not normally stationary. In each 24 hour period, the work location changes entirely.

(2) Mining occurs in a hostile environment. The tunnelling nature of underground mining requires supporting the roof after extraction. After the coal is removed the earth attempts to adjust itself to the removal, causing roof falls and shifting.

(3) Miners must be supplied air during their work periods.

(4) Methane gas is frequently present in coal mines, adding the danger of violent explosion to an already confined environment.

(5) Most mining is carried out in poor light. Even with present illumination requirements,³⁶ mining takes place under less than ideal visibility.

(6) Present day mining is conducted with large, high speed machines, which dominate the work area and are difficult to control and maneuver.

(7) Mining is as much an art as it is a science. Extraction techniques give way to the reality of unique coal seams, each with its own characteristics and conditions.

(8) The training of miners is not now, nor has it ever been, of sufficient quality, consistence, thoroughness, or repetitiveness as is needed.³⁷

(9) Known, proven and available safety precautions are not being applied throughout the industry.

³⁶ 30 C.F.R. §§ 75.200 - 75.200-14 (1980).

³⁷ [I]t is the industry's responsibility to offer adequate training; it has not done so. And the government has failed for allowing miners to die and suffer injury because of inadequate training. On this point, we agree with the Senate Human Resources Committee when it said: "... the fact that regulations requiring said training [training on self preservation and safety practices] have not been promulgated is a serious failure in mine safety administration.

Oversight Hearings on the Coal Mine Health and Safety Act of 1969 (Excluding Title IV), Before the Sub-comm. on Labor Standards of the House Comm. on

(10) Maintenance is often neglected because of problems with repair logistics, scheduling, and the speed of mining.

IV. THE PHILOSOPHY OF ACCIDENTS

There are two principle schools of thought regarding the cause of accidents in the American coal industry, and any number of sub-divisions within each school. The two principal theories are; first, that accidents are caused by or are the result of the miner's mistakes or some greater force such as Mother Nature or God; second, that accidents are caused by or occur because of the working condition and environment of the mines. This philosophical distinction has far-reaching implications; men live and die based upon it.

A. *Theory Number One—The Miner, Mother Nature, God*

According to the first theory, mining deaths can and should be explained by a three tiered approach. Individual miners are at fault for their own death or injury because of their mistakes. In addition, an individual miner could be responsible for the death of several of his fellow workers. When the number of deaths is above one but below 15, however, it is normally attributed to Mother Nature. But what of the large disasters when tens of hundreds are killed? No miner's fault theory could explain the loss of 250 miners at one time, nor could the blame be laid plausibly on Mother Nature. The answer was found in the spiritual realm with the advent of the act of God theory of disasters.

1. The Miner As the Bad Guy

If the fault theory is extended to its logical end, it must be concluded that miners are the most accident prone workers in

Education and Labor, 95th Cong., 1st Sess. 561 (1977) (statement of L. Thomas Galloway and J. Davitt McAteer) [hereinafter cited as *1977 House Oversight Hearings*].

Because miners are people, and because people make mistakes and forget what they have learned, training must be extremely developed for every level of mining. Corporate presidents and bath house attendants alike must be trained and retrained, to reduce the frequency of short cuts and the number of preventable errors.

American industry. However, the miner by the very nature of his job does not control all of the factors which can increase or decrease the potential for mining accidents. He does not control the illumination, the size and bulk of the equipment, or the suitability of the roof. Thus, the miner's ability to effectively protect his own life or that of his fellow worker is severely limited.

Miners are not inherently suicidal as a group, nor are they candidates for safety sainthood. Miners are people like the rest of us. Some take short cuts. Some do not follow precautions all of the time. Some allow their minds to wonder at the wrong moment, just as we all do. And a few do violate basic safety and health principles all of the time. Anyone who has ever rolled through stop signs or cut corners on safety at home will understand these actions.

2. The Margin of Error

Miners suffer more accidents than most workers because the margin of error is narrower in a mine than in most other work places. Small mistakes in a supermarket normally will not subject a stock clerk to fatal risks. This is not the case in a mine. Knowing that mining conditions are especially dangerous, and knowing that human beings will make mistakes and take short cuts, industry must build a larger margin of safety into the mining machines and training programs. Special precautions must be made a matter of routine in the mines.

3. The Higher Duty

Even if we were to accept the idea that miners are somehow more like lemmings than the rest of us, and that somewhere deep in their souls they *want* to get hurt, there still would be a fallacy in this position which mine operators would have to confront sooner or later. We would have to look upon the employer/employee relationship as a matter of fiduciary responsibility, with all the requirements that such a relationship carries.

The analogy that suggests itself here is obvious. When you deposit your money in a bank, the banker accepts a responsibility to manage it in such a way that your risks are kept within clearly defined limits. Because the historical track records of bankers is

not as exemplary as we might wish, governmental agencies have been established both to monitor the banker and to provide an insurance system if the banker doggedly ignores his fiduciary responsibility.

To a degree, the same system can be, and has been, imposed on coal mining. Since the individual miner does not control the managerial decisions of the corporate entity, he is at risk when he deposits his body, hoping to earn a dividend in the form of a paycheck. Government can and does scrutinize miner managers to see that they make their decisions in conformity with generally accepted principles, but there is no fall-back system, as there is in banking, for the simple reason that a life once lost cannot be made whole, as an investment can. Therefore, the fiduciary responsibility of the mine manager is even greater than that of the banker. Accordingly, he should be willing to subject himself to even more stringent governmental scrutiny. As we know, however, this has not been the mining industry's position.

B. Theory Number Two—Working Conditions

The opposing theory of accident causation is that mining conditions are the cause of most accidents in the mines. The proponents of this theory further assert that the power to eliminate accidents lies in the power to improve present mining conditions.³⁹ Until recently, the importance of mining conditions has not been widely recognized. Conditions are by far the greatest cause of accidents; and if conditions cause accidents, conditions can be changed to minimize the probability and frequency of accidents.

V. SOLUTIONS

Consistent with the proposition that mining accidents are primarily caused by the miner's negligence, the coal industry maintains that the rate of fatal accidents will best be reduced by increasing efforts in miner training programs. There are, however, two major shortcomings with this solution. First, training is only temporarily effective. With time, both the contents and

³⁹ In its most extreme form, this theory also fails to square with reality. Extended to its logical conclusion, it would advocate the complete mechanization of the mines as the solution to mining accidents. Without men in the mines there would be no fatal accidents.

the intensity of the training are lost or diminished. Continued retraining is necessary to assure any chance of effectiveness. Secondly, training does not eliminate the problem. Only by changing conditions in the mines can permanent solutions be found to the problem.

These two divergent philosophies came into strong focus during the Congressional hearings which lead to the passage of the 1977 amendments³⁹ to the 1969 Federal Coal Mine Health and Safety Act.⁴⁰ The industry's view was expressed by Ralph Bailey, Chairman of the Board of Consolidation Coal Company, speaking on behalf of the Bituminous Coal Operators Association and the National Coal Association. Bailey, arguing that enforcement was misdirected, began his analysis by addressing the Act's significance, as he saw it:

The 1969 act was probably the most significance piece of legislation ever enacted by congress to regulate working conditions in an American industry. It has revolutionized coal mining operations and has impacted heavily on productivity and production costs.

Fatalities have been reduced but not eliminated. However, a disturbing statistic remains—in our opinion, there has not been enough improvement in the industry's lost time accident frequency rate. The coal industry is prepared to join with you in our common effort to improve mine safety and eliminate the avoidable threat of accidents from our mines.

To some critics, the lack of real progress in lost time accident reduction is the result of the industry's not complying with the spirit of the law, and they therefore would propose more laws, tougher penalties, higher fines, and more enforcement as a solution. We believe that such a course of action will perpetuate the problem rather than contribute to its solution.

Most physical elements of the working environment in a coal mine can be controlled through the use of safe mining practices—and Federal law requires that these practices be employed. However, it must be recognized that most elements related to worker safety are not controllable by legislation,

³⁹ Federal Mine Safety and Health Amendments Act of 1977, Pub. L. No. 95-164, 91 Stat. 1290 (1980).

⁴⁰ Federal Coal Mine Health and Safety Act of 1969, Pub. L. No. 91-173, 83 Stat. 742 (1970).

regulation, or the unwarranted punitive action that management at all levels of America's mines so deeply resents.

Consolidation Coal Company has always had a strong commitment to safety, and we have been fortunate to have experienced an accident frequency well below the industry's average. *As previously reported to this committee, through a careful analysis of accidents at our mines, we have determined that over 85 percent of all of our accidents could be assigned to a lack of training and education, poor work habits, or a lack of motivation.*

In other words, even if the mine and equipment were in perfect condition and in full compliance with the law, a substantial majority of the accidents would still have occurred.⁴¹

Bailey went on to cite a 1976 Kentucky Deep Mining Safety Commission Report as supporting his contention.⁴² This Commission made up of a majority of coal mine operators, or former coal mine operators, cited Consolidation's own study in saying: "Also, Kentucky miners pay the price for careless and unsafe work habits. Some studies conclude that as high as two-thirds of all fatalities can be attributed to unsafe work habits."⁴³

Yet, the Kentucky Commission also found that:

The cause of accidents and fatalities and the rates in Kentucky do not differ significantly with other major coal producing States. As might be expected, fall of roof is the number one killer, accounting for roughly 40 percent of all fatalities. Inexperience, whether defined as inexperience in mining in general, or inexperience on a specific job or task, is a major contributor to many accidents and fatalities.⁴⁴

Roof and rib falls are the single largest cause of fatalities in America's deep coal mines.⁴⁵ Notwithstanding compliance with the roof control plan,⁴⁶ individuals are not in control of the roof when it collapses. The room and pillar mining system employed

⁴¹ 1977 House Oversight Hearings, *supra* note 37, at 316-17 (statement of Ralph E. Bailey) (emphasis added).

⁴² *Id.* at 317.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ The Mine Safety and Health Administration compiles accident reports on all fatal mining accidents.

⁴⁶ 30 C.F.R. §§ 75.1719 - 75.1719-4 (1980).

in 95 percent of all American mines, simply is inadequate to protect against roof or rib falls. Both rank and file miners and supervisory personnel are killed yearly because of either inadequate roof control, or the failure to follow known precautions. Industry is anxious to, and in fact does, attribute these accidents to human error.

In every other major coal producing country, however, fatalities from roof or rib falls have virtually been eliminated by utilization of the long wall mining technique. On longwalls, miners work under a full canopy which drastically reduces the number of times miners are exposed to risk. Roof fall fatalities were reduced in the United Kingdom not because British miners are more safety-conscious than their American counterparts, but rather because of a system modification. In other words, changing the working conditions decreased the potentiality for fatal roof falls.

Not all mechanical solutions would involve such drastic departures from the mining techniques which are currently used in domestic mines. Small modifications of equipment can result in the elimination of safety hazards. In the General Blumenthal mine, for example, hand and finger accidents on the man trip were eliminated by the placement of wire screens in the window slits where miners previously rested their hands, exposing them to danger.⁴⁷

The American mining industry, however, places itself four-square behind training, and against "over regulation", as the proper solution.⁴⁸ The industry maintains that the miners must be motivated to work with safety in mind.⁴⁹ Management, there-

⁴⁷ Interview with Safety Director Rainsow, June, 1979. Interview notes are on file with the author.

⁴⁸ 1977 House Oversight Hearings, *supra* note 37 at 318 (statement of Ralph E. Bailey).

⁴⁹ But, I must say, that training and education in themselves are no panacea for the industry's accident problem. What, in addition, must be done is to find a way to motivate people to think and work safely. All miners must want to observe safety laws, rules and regulations, and perform their daily task without endangering themselves and their fellow workers. Short-cutting the rules or regulations has resulted in numerous injuries that both MESA's records and the industry's records will reveal.

Id.

fore, would place the burden of avoiding accidents on the miners.

The basics, therefore, of the American mining industry's present position on accident reduction are: better motivation, additional training, and less regulation.⁵⁰ However, noticeably absent is the concept, accepted throughout Europe of designing out accidents. European industrialists utilize technology to eliminate carbon copy accidents. Failure to recognize their responsibility to take this approach traps American management into repeating past mistakes,⁵¹ with disastrous consequences befalling the miners.

There is no question as to the need for effective training and retraining. That the United States requires the least amount of training for miners or supervisors of any major coal producing country points to a failure on the part of government, industry, and union.⁵² The lack of sufficient training, however, is not as glaring as the total lack of a design-avoidance element in the American mine safety plan.

Yet, in both West Germany and Britain,⁵³ the designing out

⁵⁰ See, *Oversight Hearings on the Federal Mine Safety and Health Amendments Act of 1977 Part 3: Coal, Metal and Surface Mine Construction, Before the Sub-comm. on Health and Safety of the House Comm. on Education and Labor, 96th Cong., 2nd Sess. 609 (1980) (statement of Joseph P. Brennan).*

⁵¹ A review of MSHA's fatal accident reports, *supra* note 45, reveals multiple carbon copy accidents.

⁵² MCATEER & GAALOWAY, *A Comparative Study of Miners' Training and Supervisory Certification in the Coal Mines of Great Britain, the Federal Republic of Germany, Poland, Romania, France, Australia and the United States: The case for Federal Certification of Supervisors and Increased Training of Miners*, 82 W. VA. L. REV. 937 (1980).

⁵³ European safety efforts are built around management objectives in both safety and productivity.

There is of course the general vague objective of creating safe pits, but quantification is possible and desirable. There must be no confusion with objectives and targets or aims. The target must be zero fatalities, but this would never be accepted as an objective for accountability purposes. An objective has to be set that is capable, by effort, or achievement.

The author has proposed objectives . . . in relation to fatalities:

1977	-	under 45
1980	-	under 20
early 1990s	-	less than 10

These are not guesses and depend on his view of the classes of ac-

of accidents is considered of equal importance as the training and retraining of miners. The British safety plan consists of four elements, ranked in order of their permanent effectiveness:

- (1) Design,
- (2) Devices,
- (3) Training,
- (4) Exhortation.⁵⁴

This list is but a small part of the type of program which can be mounted *now* in the confident expectation of reducing accidents. Such a program is the full extension of the type of thinking that permits quantified safety objectives to be set.⁵⁵ Not even the most successful of safety programs could set the risk at zero, but a truly successful program would considerably reduce the risks and appreciably curtail the number of mining accidents. Accidents can be reduced systematically, *with productivity in mind*, by designing mines and mining equipment which will allow and compensate for human fallibility.⁵⁶

accidents *now amendable to elimination by design and engineering effort.*

The point is that managing toward objectives means not just setting them and then merely hoping for success. It means the deliberate programming of effort, with resources, at removing hazards and then not *hoping* to achieve the objectives but *expecting* to do so.

COLLISON, *Managing Health and Safety in a Period of Change*, 1976 SYMPOSIUM ON HEALTH, SAFETY AND PROGRESS 3.1, 3.8 (emphasis added) [hereinafter cited as COLLINSON].

Between 1977—1980, there has been an average of 28 deaths a year in the British coal mines. There are approximately the same number of miners employed in deep mines in the United Kingdom as in the United States. Telephone interview, Office of Labor Attache, British Embassy, Washington, D.C. (March, 1981).

Such quantification of safety objectives and the method of obtaining them is rare in the American mining industry. In the United States, such analysis is less thorough, thoughtful or widely accepted. It is interesting to note, therefore, that Consolidation Coal Company which is the nation's largest employer of miners has as the slogan for its safety program "Zero Accidents."

⁵⁴ COLLINSON, *supra* note 53, at 3.9.

⁵⁵ *Supra* note 53.

⁵⁶

CLASS OF FATALITY	DEFENSE TO BE BUILT INTO THE PROGRAMME
Overturning surface mobile plant	ROPS (Roll-over Protection structures)
Haulage chain whip and breakage	Chainless haulage

The only American attempt at designing and operating our mines with our miners' health and safety in mind is the Federal Coal Mine Health and Safety Act of 1969,⁵⁷ as amended in 1977.⁵⁸ Industry's response to this effort was to vigorously object to the Act's passage and now to just as vigorously complain of "over regulation."

In 1977, in response to the industry's assertion that 85 percent of all accidents are caused by workers' habits, lack of motivation, or poor education and training,⁵⁹ L. Thomas Galloway and I testified before the Subcommittee on Labor Standards of the House Committee on Education and Labor.

. . . Our analysis of MESA's investigation reports presents a strikingly different picture of the cause of accidents than does the industry presentation. Our analysis based on MESA investigation reports indicates that in 76% of the cases in 1975, management negligence or failure to exercise due care in controlling the physical conditions of the mine was at least a contributing factor to the accidents.

In contrast to the 76% caused in part by management failure, poor work habits and/or insufficient training was one of a number of factors in only 58% of the cases according to MESA investigations. Moreover, violation of the mandatory safety standards was a contributing factor to the accident in 72% of the cases.⁶⁰

Trapped by shaft gates	Interlocked shaft gates
Collapsed roadheads	Power supported roadheads
Broken wood lockers	Steel lockers
Crane jib electrocution	Crane jib field detectors
Reversing locomotives	Elimination of reversal facility
Tension-end slewing	Built-in stelling facility
Mobile machinery slewing	Remote umbilical operation
Burst hydraulics and machinery movement	Built-in check valves

Objectives can be set not only for "fatals". But fatals are used as an example to illustrate that any success with fatals may be expected to have a similar and largely proportionate beneficial effect on other classes or injury and indeed on the non-injury accidents and thereby improve productivity.

COLLINSON, *supra* note 63, at 3.9.

⁵⁷ *Supra* note 40.

⁵⁸ *Supra* note 39.

⁵⁹ *Supra* note 41.

⁶⁰ 1977 House Oversight Hearings, *supra* note 37, at 559-60 (statement of L.

VI. CONCLUSION

American mining industry officials have historically, and are presently, attempting to place the blame for mining accidents on either the miner, or in some instances, lower management.⁶¹ This approach, which has been the cornerstone for industry during the last four years, has had the predictable result of greatly decreasing the emphasis on rectifying or changing the conditions which lead to accidents. Carbon copy accidents become the rule, rather than the exception. Permanent solutions are abandoned for a temporary patch work approach which is more economical in the short-term, but more costly in the long-term. Rather than spending their time and energy on discovering how miners' actions lead to accidents and fatalities, the American coal industry would be better off both financially and ethically to analyze accidents to determine how they can be eliminated. Yet, industry turns a deaf ear to any such notions. The needlessly lost lives are the responsibility of higher management which up to now has closed out the option of permanent solutions.

If the industry continues to place the burden on the miners or lower management and to spend their time analyzing accidents in an effort to determine the failure of the miners, little progress will be made. If, on the other hand, industry will recognize that accidents are due to a combination of factors and that they can be *permanently* eliminated by designing a safe work place, all of us will be better off.

Thomas Galloway and J. Davitt McAteer (Our testimony indicated that accidents were due primarily to management negligence or failure to exercise due care in controlling the physical conditions of the mines.)

⁶¹ Normally, higher management does not place responsibility or blame upon itself. Rarely do lower management officials get the opportunity to submit independent testimony.

