Prologue

Theoretical and statistical analysis alone cannot convey the full meaning of the daily exchange of risk for livelihood. Here are two narratives chosen for their historical prominence. For most of us who know them only dimly or at a distance they are like myths – dramatic, exemplary, and larger than life. But they are also real.

The Triangle fire of 1911

The Triangle Shirtwaist Company had offices and production facilities in the top three floors of the ten-story Asch Building, still standing half a block from Washington Square in New York City. Its business was the cutting and sewing of women’s garments, a highly competitive field at the turn of the century, as it is today. Hundreds of workers, most of them young women, immigrants or the daughters of immigrants, put in long hours at low wages, suffering conditions that gave birth to the term “sweatshop.”

From a business standpoint these women were not even employees of Triangle. The company hired a small number of master garment workers, and these in turn contracted for workers to fill out their teams. The contractors negotiated piece rates with the company, paid their helpers according to informal wage agreements, and pocketed the difference. In return for granting a job offering a few cents more per hour, the master contractor expected obedience and gratitude from those beneath him. The company, moreover, had no dealings with most of their work force; they kept no payroll records other than their piece rate payments for finished output nor did they even know how many workers were on the premises at any given time.

Shirtwaist-making was dangerous. With rags lying in wicker bins scattered about the factory and cotton dust in the air, the prime risk was fire. Triangle had a particularly bad safety record: between 1902 and
2 Prologue

1910 there were no fewer than five fires for which insurance claims were filed. The industry as a whole was little better, however, and in the fall of 1910 a devastating fire at a garment factory in Newark, New Jersey killed 25 workers.

The women at Triangle were certainly aware of these risks. In 1909 they began a strike which rapidly spread to the rest of the shirtwaist industry in New York. Their demands included not only an end to the contracting system, but also drastic improvements in safety conditions. They wanted less crowding, open doors leading to the street, and adequate fire escapes. The strike succeeded elsewhere, but it was crushed at Triangle. Union organizers then filed a complaint with the State Labor Commission, claiming that the extreme crowding at Triangle constituted a safety hazard. The Commission ruled otherwise, noting that the company had provided the statutory minimum of 250 cubic feet of airspace per worker – although this was largely the result of high ceilings which in themselves exacerbated the risk of fire.

The catastrophic event occurred a few minutes before quitting time on March 25. A small fire broke out on the eighth floor and, feeding on the dry, combustible materials of the garment trade, spread quickly across the single large production room. Since it was the practice of the firm to have workers exit one at a time by a single door so that they could be inspected for possible pilferage, the other exit was locked. (This was in contravention of state labor law, which required that factory doors “not be locked, bolted or fastened during working hours” [Stein, 1962, p. 24].) Moreover, each door was so narrow that only a single worker could pass at once. A telephone connected the eighth floor with the tenth, where a connection could be manually set for the ninth, but it happened on that day that the regular operator was out; so when a distress call was made, it reached the executive offices on the tenth but not the crowded production room on the floor in between. The flames were not hindered, however: roaring through the open windows, they climbed from one floor to the next until all three were engulfed.

Many of the workers on the eighth floor were able to squeeze through the doorway and found refuge either on the street or, after that passageway had been cut off, on the roof. Others crowded into the two elevators which ferried dangerously heavy loads to safety. Those who climbed on to the fire escape, however, found that the narrow, flimsy structure was blocked by an open shutter locked into place. As more and more women piled on to it the structure buckled from the heat and collapsed, sending dozens of workers to their death eight stories below. Most of those on the tenth floor were able to escape either to the roof or by one of the elevators, which made its first stop for the executives. It
Prologue

was on the ninth floor, where workers had the least warning, that the fire was most deadly. Few were able to pass through the lone open door before the stairways were made impassable by flames. The fire escape was no longer an option, having already collapsed. The courageous operators of the elevator cars made repeated forays into the inferno, but one of the shafts twisted in the heat, while the other was stopped even more tragically: burning women broke down the doors to the shaft and threw themselves into it, so that the overburden of crushed bodies kept the second car stuck in the basement. For those remaining on the ninth floor there was no escape. Their bodies in flames, they leapt to the street below. They jumped by the dozens and crashed through the life nets assembled by the fire department. So many bodies were piled up on the sidewalk that one late jumper actually survived by landing on a heap of her coworkers. Other bodies were still burning even on the street and had to be hosed by the firefighters. In all, 146 workers died, all but a few in the first terrifying minutes of the fire.

The city responded with grief and outrage. On April 5, after all the other bodies had been claimed, the final seven unidentifiable corpses were carried through the garment district on their way to burial; police estimated that 400,000 turned out for the procession in pouring rain. The co-owners of Triangle, Isaac Harris and Max Blanck, were indicted on charges of manslaughter amid a general clamor for justice. The prosecution focused on the locked doors, which clearly violated state statutes; this, they claimed, was responsible for so many unnecessary deaths. The defense argued that, since the doors were not always locked, the owners had no way of knowing that they were locked at that particular time and could therefore not be held accountable. Moreover, they claimed, the real reason for the loss of life was the excitability and lack of intelligence characteristic of the immigrant working class. This argument, so unsavory to modern ears, resonated with several businessmen on the jury and was ultimately sufficient for acquittal.

Of somewhat less interest for contemporaries but critical for us were the bizarre revelations that surfaced concerning Triangle’s insurance coverage. Triangle carried substantial fire insurance; why didn’t the insurers demand safer business practices? The answer can be found in the role of intermediaries in insurance underwriting. First, brokers, organized in the New York Fire Insurance Exchange, were paid by commission; they actively resisted safety-improving practices, such as the provision by insurers of sprinklers in return for reduced claims, since they preferred to pass along higher costs in higher premiums. Second, coverage for firms like Triangle was pooled through a syndicate; 37 insurers, for instance, shared the Triangle account. A few influential
Prologue

brokerage houses assembled these syndicates, and insurance companies had to avoid the appearance of interfering if they wanted to be included in future projects. But the problem was not simply the lack of insurers’ oversight. Triangle was starved for cash; at the time of the fire it was even in arrears in its insurance payments. Its access to credit was based on its insured value, but insurers participating in the syndicate never attempted to value its equipment or inventory. The result was that the coverage almost certainly exceeded the value of the firm, creating an economic incentive for a fire. After the smoke had cleared and the last bodies were tagged and carted away, Triangle submitted a claim for $199,750. Only one of the 37 insurance companies in the syndicate balked at immediate payment. They hired an accounting firm which, after inspecting Triangle’s records, set an upper limit of $134,075 on the true value of the lost assets. In the end, however, all claims were paid, and the company, which had no liability whatever for the workers who died (most of whom were not even their employees), profited handsomely.

Many public meetings were held in the following months to draw meaning from the disaster. Some exhorted workers to be more careful; Fire Chief Edward F. Croker, for example, in a statement read to a memorial rally at Cooper’s Union, said, “It would be my advice to the girls employed in lofts and factories to refuse to work when they find the doors locked” (p. 140). Others blamed the owners or the capitalist system in general. Perhaps the most eloquent statement was that of Rose Schneiderman, a leader of the Triangle strike two years earlier. Addressing a reform meeting uniting wealthy civic leaders and garment worker families, she concluded:

I would be a traitor to those poor burned bodies if I were to come here to talk good fellowship. We have tried you good people of the public – and we have found you wanting.

The old Inquisition had its rack and its thumbscrews and its instruments of torture with iron teeth. We know what these things are today: the iron teeth are our necessities, the thumbscrews are the high-powered and swift machinery close to which we must work, and the rack is here in the firetrap structures that will destroy us the minute they catch fire.

This is not the first time girls have been burned alive in this city. Every week I must learn of the untimely death of one of my sister workers. Every year thousands of us are maimed. The life of men and women is so cheap and property is so sacred! There are so many of us for one job, it matters little if 140-odd are burned to death.

We have tried you, citizens! We are trying you now and you have a couple of dollars for the sorrowing mothers and brothers and sisters by way of a charity gift. But every time the workers come out in the only way they know to protest
Prologue

against conditions which are unbearable, the strong hand of the law is allowed to press down heavily upon us.

Public officials have only words of warning for us – warning that we must be intensely orderly and must be intensely peaceable, and they have the workhouse just back of all their warnings. The strong hand of the law beats us back when we rise – back into the conditions that make life unbearable.

I can’t talk fellowship to you who are gathered here. Too much blood has been spilled. I know from experience it is up to the working people to save themselves. And the only way is through a strong working-class movement. (Stein, 1962, pp. 144–5)

Eventually the labor movement, spearheaded by the Garment Workers Union, the ILGWU, organized the bulk of the New York garment industry, and disasters like the Triangle fire became less frequent. Yet with the decline of this movement in recent decades, reports of sweatshop conditions – and human carnage in production – have once again become common. Meanwhile, in the south, where unionism largely failed to take hold, safety and health standards remained abysmal, and a tragic echo of the great fire of 1911 occurred 80 years later, when 25 workers lost their lives in another fire at Imperial Foods, a poultry plant in Hamlet, North Carolina. Many of the details were identical, as if to defy our illusions of progress: the victims were nearly all women with families to feed and few alternatives, the employer a recent transplant with no ties or commitments to the community, looking to make a quick profit. Regulation was nonexistent; even the state’s commissioner of labor admitted, “North Carolina has more people on the governor’s personal security force than protecting the health and safety of 4 million workers at 180,000 workplaces” (James Brooks, quoted in Tye, 1991). Burning vats of oil, like Triangle’s baskets of material, were an open fire hazard. And the doors: once again they were locked, to prevent workers receiving poverty-level wages from concealing a chicken in their purse at the shift’s end. When a nozzle spraying hot fat burst open, their contents ignited by broiler flames to send streams of fire through the plant, the workers never had a chance.

The black lung movement

Underground coal miners breathe coal dust and develop chronic, debilitating lung symptoms, including tissue destruction, shortness of breath, and the inability to supply enough oxygen to the bloodstream. This has been known for more than 150 years, but it was not until the end of the 1960s that coal miners in the United States were able to win recognition of black lung as an occupational disease. To do this they had
Prologue

to wage a bitter, protracted struggle against the government, the medical profession, and even their own union.

Low-grade deterioration of the lungs was ubiquitous among miners during the nineteenth and early twentieth centuries. Referred to as “miners’ asthma,” it was viewed as an ordinary condition not requiring treatment, and, since the craft techniques used in mining had not changed in generations, the health effects were regarded as unavoidable. All of this changed with the introduction of the mechanical loader in 1930. This machine, which automated the process of removing the blasted coal from the mine, greatly increased the concentration of coal dust. Miners were alarmed. Said one delegate to a United Mine Workers of America (UMWA) convention in 1934: “Those conveyors are man killers and I believe this convention should do its utmost to find some way whereby those conveyors will be abolished … the young men after they work in the mine six or eight hours daily become sick, either getting asthma or some other sickness due to the dust of the conveyors and they can no longer perform their duty” (Smith, 1987, p. 53). Soon additional aspects of the operation were mechanized, until the “continuous miner,” a set of equipment that integrated the entire process from the initial cut to final removal of the coal, was installed after World War II. Productivity soared, but working conditions—noise, the pace of work, and, above all, the thick clouds of dust—were nearly unbearable. Year after year, rank-and-file miners introduced resolutions at UMWA conventions calling for a reduction in the dust and compensation for its victims.

Relief did not come. The mine owners had made a quiet, high-level agreement with the leadership of the UMWA: acceptance of the union and major wage and benefit increases in return for automation of the mines and reduction in employment. The union hierarchy, led by the autocratic John L. Lewis, feared that any discord over the health and safety consequences of this deal would undermine their entire strategy; so, while they gave lip service to the problem of coal dust, they carefully avoided taking any action.

Yet miners protesting lung disease had an even more formidable opponent than their own industry: the medical profession itself. From the beginning of the controversy during the 1930s and 1940s to the present day, most of the health community refused to recognize the existence of black lung as a general health impairment, nor did they agree that occupational health problems were epidemic among underground miners. There are two general reasons for this. First, most health professionals specializing in the condition of coal miners were company doctors until the system was reformed after World War II. Indeed, a
Prologue

federal survey taken in 1946 found that 97 percent of all coal miners in southern West Virginia, eastern Kentucky, Virginia, Alabama, and Tennessee were covered by “prepaid” company doctors. “Company doctors typically were called upon to testify in the operators’ favor whenever miners filed workers’ compensation claims … Industrial accidents were attributed to individual ‘carelessness,’ and illness, to self-destructive personal habits like alcoholism” (Smith, 1987, p. 16).

Second, there was an enormous difference between the symptoms of black lung disease experienced by miners and the narrow technical evidence acceptable to the medical profession. Miners knew that prolonged experience underground breathing coal dust resulted in shortness of breath, general debility, and chronic lung disease. For the professionals, however, this “subjective” evidence had no standing. Their education had trained them to look for actual tissue damage in the lungs, and the most persuasive evidence of this was provided by X-ray photography. Thus was born “coal workers’ pneumoconiosis” (CWP), a disease characterized by widespread lung damage as revealed by X-rays. After the watershed 1950 agreement between the Bituminous Coal Operators Association and the UMWA, the company doctor system was replaced by a union-operated network of clinics and hospitals. Doctors, adjusting to their new masters, began giving serious attention to the lung ailments of miners, but they did so according to their narrow interpretation of the problem. The result was a series of state and federal studies which revealed widespread, but by no means ubiquitous, health effects. Overall, between a fifth and a third of the mining population had either weak or strong evidence of pneumoconiosis, with higher percentages among retired miners and those with the most exposure to coal dust. But this did not lead to either compensation or prevention, because pneumoconiosis, defined as lung tissue damage revealed by X-rays, was only imperfectly correlated with actual disability. A worker could test positive and yet show no signs of an inability to perform the work, while workers who could hardly breathe or walk more than a few yards could come up negative. So medical evidence accumulated, but no action was taken.

What specialists did not know then, but what we know today, is that there is no single, uniform response of the human lung under the stress induced by coal dust. It appears that at least three major types of lung damage may be associated with black lung: the tissue destruction of pneumoconiosis, breathing difficulties related to bronchitis and similar diseases, and diminished oxygen supply to the bloodstream. A victim of black lung may have any combination of these. X-rays reveal only the first, but, except for the advanced stages of pneumoconiosis, the
symptoms miners are most likely to feel are the result of the other two. On the other hand, it is not always possible to get physical evidence to corroborate bronchial or pulmonary vascular disabilities. It is not surprising, then, that one study published in 1964 found “a direct relationship between impairment of a miner’s lung function and the number of years spent working underground, regardless of age, smoking habits, or X-ray category of CWP” (Smith, 1987, p. 28, emphasis added).

Workers’ compensation boards in the coal-mining states refused to accept the claims of most black lung victims. (The British system accepted these claims beginning in 1943.) Administrators would accept only X-ray evidence, and even then required proof of exposure to silicon dust under the assumption, now known to be false, that only silicon is sufficiently abrasive to do lung damage. In this way, with only a fraction of a minority of black lung claims accepted, the system was virtually useless. Worse, in response to a financial crisis in the union’s Welfare and Retirement Fund (the source of miners’ medical funding, depleted by corruption and incompetence), its trustees ruled that permanently disabled miners would lose their medical coverage after four years – and receive that only if they were eligible under workers’ compensation. Smith (1987) comments:

Until the late 1960s, most coal-producing states continued to award occupational lung disease compensation only for silicosis. Forty-year veterans of the mines who were so disabled that they could not walk up stairs or sleep in a prone position were denied compensation because their X-rays did not reveal the classic pathological changes associated with this specific disease. Even the disabled who showed evidence of silicosis rarely qualified for a lifetime award based on total and permanent disability. Many applied some time after they had retired from the mines, when their lung disease progressed to the point of causing severe debilitation; they were turned down because statutes of limitations typically restricted the time period between the last occupational dust exposure and the filing of a compensation claim. Most others received only a partial disability award – in West Virginia, $1,000 for first-stage silicosis, $2,000 for second-stage. Unable to live on such a sum, they continued to work in the mines until some became so incapacitated by black lung that they had no choice but to quit. In many states, workers in this situation were prohibited from reopening their claims for compensation; a lump sum for partial disability was all they ever received. (p. 106)

Anger at the entire system – the coal operators, the union hierarchy, the coalfield doctors, and workers’ compensation – erupted in 1968 with the founding and explosive spread of the Black Lung Association. A shoestring operation stitched together by antipoverty volunteers, dissident doctors, and rank-and-file union activists, the BLA fomented a
Prologue

wildcat strike movement first across West Virginia and then the entire eastern bituminous region. Their first target was West Virginia’s workers’ compensation board, which was pressured to make black lung disease, liberally defined, compensable. Their agitation further resulted in the incorporation of a black lung benefits program in the 1969 federal Coal Mine Safety and Health Act. Officials anticipated a small, relatively inexpensive program to defuse tension in the coalfields; the Surgeon General, for instance, estimated in 1969 that perhaps 100,000 coal miners had valid claims. Nevertheless, by 1971 almost 350,000 miners and widows had filed and program costs were mounting. In response, administrators retreated to a narrow definition of the disease, demanding X-ray evidence of pneumoconiosis. They justified this by arguing that only pneumoconiosis could be attributed with certainty to occupational causes, since bronchial and other disorders could be the result of a miner’s “lifestyle”; moreover, the program required total disability, but this could not be granted if a worker was deemed capable of performing a desk job – not that there were many such jobs in Appalachia. A substantial majority of the claims were disallowed. “Miners who had spent thirty or forty years underground, whose breathing was a series of audible rasps, whose hacking coughs regularly produced inky black sputum, whose retirement did not include the hunting and fishing they had dreamed of, but, rather, short walks between the bedroom and the kitchen – all over the coalfields, such miners were denied compensation” (Smith, 1987, pp. 147–8).

The movement continued to agitate, using its proven ability to shut the mines down. In response, a Black Lung Benefits Act was passed in 1972 which liberalized the definition of the disease and permitted more forms of evidence. By the end of 1974 the total number of claims allowed exceeded 350,000, although more claims were still being rejected than accepted. Meanwhile, the budget for the program ballooned to a billion dollars per year, remaining at that level throughout the 1970s. A further round of liberalization was undertaken in 1977, along with a provision that would transfer financial responsibility from the taxpayer to the coal operator, provided the “responsible” operator could be found. With the dispersion of its leadership, the greater liberality of the benefit program, and emergence of other issues affecting the well-being of coal miners in the 1980s, the black lung movement lost its impetus.

The problems remain, albeit on a smaller scale. The benefit level was never more than modest, with average monthly payments under Part B of the program (pertaining to claims filed before the end of 1972) rising with inflation from $181.90 in 1970 to $376.40 in 1984. Simple expedients to reduce ambient dust in the mines, such as sprinkling the coal with...
water during extraction and loading, have improved conditions, although lung damage remains widespread. A National Institute for Occupational Safety and Health (NIOSH) survey taken at the end of the 1970s found that some form of bronchitis plagues 40.4 percent of all miners, 11.2 percent suffer from persistent breathlessness, and airway obstruction is “significant” in 24.2 percent. The effort to shift costs to coal operators has been generally unsuccessful; Barth (1987) estimates that only 4–6 percent of all compensation paid during the 1980s came from the operators or their insurers. And, most critically, the system of air quality monitoring within the mines, on which the compensation system, safety enforcement, and miners’ medical assessment depend, is unreliable. Coal operators, who do the actual sampling, have an incentive to misinform federal regulators and their own employees, and the evidence suggests they do this routinely. As long ago as 1975 the US General Accounting Office found that “current procedures [make it] virtually impossible to determine how many mine sections are in compliance with statutorily established dust standards” (US GAO, 1975, p. 15). As recently as April, 1991 hundreds of mines owned by five major companies – USX, Bethlehem Steel, Du Pont, General Dynamics, and CLI – were fined a total of $7 million for tampering with air samples, joining Peabody Coal, which had been assessed $500,000 three months earlier for the same infraction (Kilborn, 1991). Perhaps the most dismal conclusion to be drawn concerning the health of coal miners is that no one really knows.

Note
The account of the Triangle fire follows Stein (1962). The section on black lung draws primarily on Smith (1987) and Barth (1987).