

Capriciousness and Complexity: The Insecurity of Anthracite Mine Workers

The capricious character of the workplace regime in the anthracite coal industry in the closing decades of the nineteenth century made it exceedingly difficult for mine workers to achieve either physical or psychological security. In and around an anthracite coal mine—or colliery, as the entire physical plant was called—few workers could be secure in the knowledge that their work was steady, however high a daily wage they might earn. That lack of steady employment gave workers little assurance that they could rely on earning enough to support their families. Just as important, they could have little confidence that they received an amount for their labor similar to those who did such work in nearby mines, or sometimes even in the same mine. Moreover, working as they did in one of the most dangerous industries in the world, they could by no means be confident of surviving to work another day. Capping the reign of caprice was a management style best characterized as a shallow paternalism that offered little to workers but demanded their loyalty in return.

So much of this capricious character stems from the workplace itself, which for most mine workers changed continuously, since the industry's very purpose was to extract that material which constituted the boundaries of the workplace. The miner had to deal with his product as he found it, and the process of production consisted of excavating and removing the workplace itself. Further complicating the process, veins of anthracite coal ranged from essentially level, as was common for bituminous coal, to practically perpendicular. The incline of veins might even change as miners moved through them, and sometimes seams of coal could break off suddenly or double over on top of themselves. Conditions such as these dictated variation and complexity in every area of the work experience, which might vary from vein to vein in a single mine, and far more extensively from one mine to another. The mere fact of such extensive variation militated against security for mine workers in the anthracite region, which stretches more than 100 miles in a sort of crescent from east central to northeastern Pennsylvania through such cities as Pottsville, Wilkes-Barre, Scranton, and Carbondale.¹

Still, variation in the workplace experience cannot be attributed solely, or even most importantly, to geology. That most capricious of human institutions, the market, made its own special imprint on the lives of anthracite mine workers. The anthracite industry's work force expanded significantly during the late nineteenth and early twentieth centuries, more than tripling from 35,600 workers in 1870 to 126,000 in 1890, and eventually moving to a peak of nearly 180,000 workers in 1914.² The opportunities for work, however arduous, that this growth provided brought thousands of immigrants from southern and eastern Europe, as did the growth of other American industries in the same period. While these immigrants made up only 5 percent of the anthracite work force in 1880, by 1890 they comprised, with their children, more than 20 percent, a figure which ten years later increased to approximately 40 percent.³ These workers entered an industry in which ethnic conflict had already flared repeatedly between the Irish and their Welsh and English bosses and coworkers, displayed most memorably in the pursuit, prosecution, and execution of the Molly Maguires in the 1870s.⁴ Thus, in the closing decades of the nineteenth century, ethnic fragmentation burgeoned for a work force already fragmented on the job by the many different tasks they performed and the wide variation in the amounts they earned.

EARNINGS, UNDEREMPLOYMENT, AND FRAGMENTATION

Perhaps the most capricious way in which the market shaped this industry is in the pervasive phenomenon of underemployment. Underemployment has long been endemic to the coal industry. When confronted by an economic downturn, coal operators seldom laid off employees for long periods of time, as did employers in other industries.⁵ In the latter half of the nineteenth century, especially in the anthracite industry, coal mines were becoming deeper, more extensive, and consequently more expensive to open. Such mines would be ruined very quickly without extensive daily maintenance. Facing high overhead costs, most mine operators continued to produce some coal to maintain cash flow, however low the price of coal might fall. Also, maintaining a low level of production, rather than none at all, served to dissuade mine workers from leaving the area altogether. With some work available, they could hold on, hoping for a relatively rapid return to steadier production. This was essential for the operators, because anthracite production traditionally picked up in the late summer and fall to meet the coming winter's demand for home-heating fuel, anthracite's primary use. Operators needed to insure that a sufficient number of mine workers would be ready so that the mines could move quickly into full production when the need arose.⁶ Profit to be made in meeting that peak demand encouraged a great deal of excess

capacity in the industry. However, mine workers and their families had to eat each day of the year, and they often found it difficult to do so during months in which the mines might operate two or three days per week, or less.⁷

During 1889, when anthracite mines overall averaged 194 full ten-hour days of operation, about one-quarter of them were in operation for fewer than 150 days.⁸ Some might lie idle for months to undergo extensive repairs and a number would be abandoned each year.⁹ From 1881 through 1889, the anthracite mines averaged 209.2 full ten-hour days of work per year. The 1890s were much more difficult, however, as the mines averaged only 183.3 full days of operation at the same time that the nation's manufacturing industries averaged 285 days annually—this in a decade in which the nation experienced depression from 1893 to 1897.¹⁰

The hardship underemployment could bring was poignantly conveyed in 1890 by the Grand Master Workman of the Knights of Labor, Terence V. Powderly. Although he never worked in the mines, Powderly lived most of his life in the largest city in the anthracite region, Scranton, where he served as mayor from 1878 to 1884. When the mine workers of Scranton and vicinity faced one of their many bouts of underemployment that winter, Powderly reported on the distress in a series of letters published in the *New York World*. Among the many cases of distress he reported was that of one Thomas Daley, who had come from Wales to work in the mines of the Delaware, Lackawanna, and Western Railroad (DL & W) some eighteen months earlier. His wife and five children joined him eight months after he had arrived but, at the very time that his financial responsibilities grew, he found he had less opportunity to earn money. After his family's arrival, Daley worked barely half time; and in December 1889, he worked only ten days. January 1890 was even worse—in that month he worked less than seven full days. His earnings for January totaled only \$13.10. Powderly told his readers: "Mr. Daley is not an intemperate man, he does not gamble, he is not addicted to any of the vices that reduce the incomes of other men, but he could not fatten his children on \$13.10 a month." To add to Daley's already crushing burdens, his wife had died recently, after she gave birth to the couple's sixth child. As Powderly put it: "The hopes which animated Thomas Daley's breast when he came to America but eighteen short months ago are dead ashes on his lonely, poverty-stricken hearth tonight."¹¹

Such a tale tells us only that disaster could befall anthracite mine workers and their families, as similar disasters befell many other industrial workers during these years. Unfortunately, the extensive fragmentation of the work force makes an investigation of the standard of living of anthracite mine workers in the 1880s and 1890s especially problematic. Not only did mine workers do a variety of jobs across a broad range of earning potential, but

the needs of these workers varied from those of boys living at home to men supporting young families largely on their own to elderly men working out their days in jobs generally held by children.

Mining may prompt visions of a relatively undifferentiated work force but, while this may have been generally accurate for the bituminous coal industry, it was far less so for anthracite. In 1889 nearly 80 percent of mine workers in bituminous were "miners" engaged in the actual extraction of coal from the coal face. However, by the latter part of the nineteenth century anthracite was used primarily as a home-heating fuel, which had to be as clean as possible. Consequently, a much larger proportion of the anthracite work force helped to clean the coal and a much smaller proportion mined it. In anthracite, only 30 percent of the workers were "miners," while approximately 15 percent were "miner's laborers," who loaded coal for the miner. Thus, less than 50 percent of the workers performed the basic tasks of mining and loading coal, and those two jobs were frequently performed separately. Furthermore, approximately a third of the workers were employed outside the mines on the surface. The work force was further fragmented by age, with 37 percent of all surface workers, 6 percent of all underground workers, and more than 17 percent of the total anthracite labor force in 1890 under sixteen years of age.¹²

Anthracite coal was extracted almost universally by the "room-and-pillar" method, in which miners cut rectangular rooms, also called "breasts" or chambers, into seams of coal at regular intervals off the major passageways of the mines, called "gangways." Practically all "miners" were "contract miners" paid according to their production. Usually this meant that miners earned a standard rate for each car or ton of coal mined in a particular vein and were expected to pay their expenses for blasting powder, oil, fuses, and, of course, labor. From time to time, a substantial proportion of miners would become involved in extending the coal workings, driving gangways or airways in what was known as "narrow work," since the passageways created were narrower than mining chambers. As a general rule such work, which required greater skill since it concerned the basic ventilation and transportation system of the mine, was more lucrative than the usual run of work in chambers.¹³ In addition, a much smaller number of truly independent contractors performed "development work," that is, major projects undertaken with their own crews of perhaps six to eight men. Such a project was described in the following advertisement in the *Wilkes-Barre Record* in 1886:

Tunnel to let. Proposals will be received at the office of the Division Superintendent of the Lehigh and Wilkes-Barre Coal Co., First National Bank Building, Wilkes-Barre, Pa. until Saturday, October 23, 1886, for driving a tunnel from the Red Ash to the Ross vein at Nottingham Colliery, Plymouth. Said tunnel is to be driven 12 feet wide and 7 feet clear of the rail, and will

FIGURE 1.1
Miner drilling, circa 1900 (Courtesy of Hugh Moore
Historical Park and Museums).



be about 700 feet in length. Specifications may be seen at the colliery or at the office of the company's engineer, Wilkes-Barre. Thomas H. Phillips, Division Superintendent.¹⁴

Assignment to such relatively lucrative work depended on what could be the most capricious factor of all, the judgment or whim of a supervisor.

Earnings and conditions could vary substantially, not only from one mine to another but from one vein to another or even from one chamber to another.¹⁵ Thus, the work of miners themselves was differentiated in a variety

of ways, from the geological conditions individuals faced to the work assignments they received and, of course, the skill they displayed. This differentiation reflected the freedom of the miner, especially when compared to the growing regimentation most other industrial workers, including bituminous miners, experienced in the latter part of the nineteenth century. While systematic and scientific management proceeded rapidly through American manufacturing at the turn of the century, it moved rather fitfully into bituminous mining and hardly at all into anthracite.¹⁶ Although anthracite workers undoubtedly appreciated the freedom from direct supervision that increasingly distinguished their work, the depth of their appreciation depended upon their prior experience with such regimentation. Their freedom stemmed more from the employer's inability to place production under tighter control than the workers' resistance to change. Those workers might have valued it less than the comparatively steady employment that often prevailed in more closely supervised industrial environments.

Practically all miners were paid according to their production, but that production was measured in very different ways. Most miners were paid for each car of coal they mined, with a variety of different rates and sizes of car in effect, sometimes even at the same mine or at different mines of the same company. Others were paid by weight, a so-called miner's ton, which was far heavier than a standard ton because it included a sizable allowance for impurities. This standard also differed from one mine to another, and whether paid by the car or the ton, miners could be penalized or "docked" if the coal they sent to the surface contained what the docking boss believed to be too much slate, dirt, or other waste. These two methods of payment prevailed in the northern or Wyoming field, where seams of coal were seldom inclined more than ten degrees. In the other method, which was far more common in the central or Lehigh and the southern or Schuylkill fields, workers were paid by the yard, i.e., the amount of distance they advanced in their chambers. Where seams pitched more than thirty degrees, the coal could not be loaded into cars as it was mined, but would be left in the chamber so the miner could stand on the coal he already had mined to enable him to reach the advancing coal face. Thus coal was left in the miner's chamber until he had mined as far as he could, then the company loaded it into cars from the gangway. The miner's rate of advance into the seam was measured as he progressed and he was paid accordingly. Where coal was mined in this way, miners worked in pairs as partners or "butties," because the company took responsibility for loading and the complexities of this method made it most useful to have another skilled man around.¹⁷ Regardless of how the coal was mined, a mine worker was assumed to have at least some basic skills and experience before he started as a miner. The state of Pennsylvania sought to institutionalize this and to limit the entry of immigrants into mining in 1889 by enacting a law

requiring new miners to pass an examination before a board of experienced miners in each district and prove they had worked as miner's laborers for at least two years.¹⁸

Although the miner was generally one of the better-paid mine workers, the complexity and variation found in the workplace resulted in considerable variation in earnings. During 1888, the Pennsylvania Bureau of Industrial Statistics performed an extensive study of miners' earnings. From forty-five anthracite collieries it compiled the net annual earnings of the ten miners at each mine who earned the most and the ten who earned the least of those who worked steadily throughout the year. As can be seen in table 1.1, the average earnings for all of the top ten earners equaled \$736.30 for the 243.1 days of work that they averaged. For their slightly shorter work year of 230.6 days, the bottom ten earners received an average of \$452.31. Both groups worked quite regularly, with those in the top ten and bottom ten working 98.8 percent and 93.7 percent of the days on which the collieries operated, respectively. The table displays the distribution of the average earnings of the top ten and the bottom ten for the forty-five collieries as well as the considerable differences between the two groups. Average annual earnings for the top ten at each colliery ranged from \$942.94 to \$440.89, and earnings for the bottom ten ranged from \$277.84 to \$654.29. However, since both groups worked steadily throughout the year at the same collieries, the number of days they worked differed only slightly. Consequently, the two groups' earnings per day varied considerably, and the distribution of daily earnings at the forty-five mines is presented in table 1.2. Average daily earnings ranged from \$4.08 to \$2.02 for the top ten and from \$2.74 to \$1.31 for the bottom ten. The overall average earnings per day for all of the top ten miners equaled \$3.03, and for all of the bottom ten overall average earnings per day equaled \$1.96.¹⁹

The leading miners earned an average of \$890.62 over 245 days, or \$3.65 a day. They worked 99.5 percent of the days that their collieries operated. Individual earnings in this group ranged from \$1,327.52 to \$537.01. Those anthracite miners who earned less than all other steadily employed miners at their collieries averaged only \$381.24, or \$1.72 per day for 221.1 days. They worked 89.2 percent of the time that their collieries operated. For this group, earnings ranged from \$565.00 to \$208.87.²⁰

In 1889, the Bureau of Industrial Statistics surveyed all miners at eighteen anthracite collieries regarding frequency of employment. Since there is no way to determine how representative these collieries were, data from them can be labeled as no more than suggestive. Variation from one mine to another was considerable. At five collieries, no workers at all were listed as working less than 100 days. Perhaps significant is the fact that none of these collieries employed more than 100 miners. At five other mines, the percentage of miners who worked less than 100 days ranged from 1.7 to 7.3. At the

TABLE 1.1
Average Annual Earnings For The Top Ten and Bottom Ten Miners at Forty-Five Anthracite Collieries, 1888

	NUMBER OF COLLIERIES WHERE EARNINGS AVERAGED:										Overall	Overall	
	\$900— 942.94	\$800— 899.99	\$700— 799.99	\$600— 699.99	\$500— 599.99	\$400— 499.99	\$300— 399.99	\$277.84— 299.99	Total	Average	Days	Overall	Days
Top Ten	3	12	17	6	6	1	0	0	45	\$736.30	243.1		
Bottom Ten	0	0	0	2	12	16	14	1	45	\$452.31	230.6		

TABLE 1.2
Average Earnings Per Day For The Top Ten and Bottom Ten Miners at Forty-Five Anthracite Collieries, 1888

		NUMBER OF COLLIERIES WHERE EARNINGS AVERAGED:											
		\$4.00– 4.08	\$3.50– 3.99	\$3.00– 3.49	\$2.50– 2.99	\$2.00– 2.49	\$1.50– 1.99	\$1.31– 1.49	Total	Overall Average Daily Earnings			
Top Ten	1	9	12	18	5	0	0	45			\$3.03		
Bottom Ten	0	0	0	7	14	17	7	45			\$1.96		

eight other mines, the percentage of miners working under 100 days ranged from 18.1 to 70.4. At three of the mines, more than half of the miners worked for less than 100 days, including at the largest mine surveyed, in which 55.8 percent, or 373 of the 668 miners, worked less than 100 days.²¹

Any effort to evaluate these data is complicated by the fact that some of the miners who worked only briefly at the collieries surveyed earned a very good daily average. Consider three miners at one of the collieries. One mined there for fifty-three days and earned \$225.04 (\$4.24 per day), another worked fifty-two days and earned \$204.07 (\$3.92 per day), and another worked forty days to earn \$172.73 (\$4.32 per day). Obviously, each of these miners would have found it difficult to survive if he earned no more money during the year. However, if each could work three other stints like the one cited above, he would have totaled from \$690 to \$816 in earnings while working from 160 to 208 days.

The search for such highly remunerative mining at various collieries could by no means have been easy. Because of the seasonal character of demand for its product, the anthracite industry could consistently provide full employment for its workers for only several months during the summer and fall.²² Entire collieries or large parts of them would need to close from time to time for extensive repairs, and some might face abandonment. Since collieries often worked only two or three days a week outside of the peak season, a stint of sixty days of work might take half a year to complete. Although a highly skilled miner could earn a good income at almost any mine, operators gave the best work to their regular miners. A great many of those miners who moved from mine to mine may have begun their journeys out of frustration and ended them in desperation.

Miner's laborers worked for the miner and not for the company. Consequently, companies generally took no notice of them. However, the Lehigh and Wilkes-Barre Coal Company (L & W-B) did pay the laborers, subtracting their wages from the miner's earnings. An examination of that firm's payrolls, which survive for only a few scattered months in the 1890s, gives us some idea of what these workers earned. The payrolls do not indicate clearly the basis on which laborers were paid. In the industry some laborers, most notably many of those who worked for miners performing narrow work, received a set amount per day. But laborers who loaded coal for miners in chambers were generally paid according to the number of cars of coal they loaded. A certain number of cars had become established as an informal daily production standard for miners and laborers. This standard constituted a "shift," and while miners and laborers might occasionally exceed that level of production, more commonly they failed to attain it. At the Wanamie mine of the L & W-B, located near Nanticoke in the Wyoming field, the rate recorded for laborers was \$1.55 or \$1.65. Since for approximately one-half of the laborers

the rate is multiplied by a figure containing a fraction, usually fifths, it appears that a shift of five cars prevailed at this mine.²³ Some found the standard too taxing, but frequently the company prevented workers from meeting their quota by failing to supply enough cars to miners and laborers or closing down the breaker early in the day due to lack of demand.

Not surprisingly, miner's laborers tended to earn substantially less than miners. In addition, they necessarily would have a more difficult time than miners finding steady work, inasmuch as their work schedule depended upon the miner. In the month of April 1890 at Wanamie, some 118 miners averaged earnings of \$36.09, while 134 laborers averaged \$19.24. For February 1893, 168 miners at Wanamie averaged \$42.09 in earnings, while 167 laborers averaged \$22.53. In December 1896, a month in which there was an especially small amount of work available, 170 miners earned an average of only \$24.72, while 112 laborers averaged just \$14.61. Conceivably, with so little work for miners during that month, quite a few may have decided to load their own coal. Finally, in March 1899, 153 miners at Wanamie earned an average of \$42.43, while 93 miner's laborers averaged \$26.59. Many miners loaded their own coal in that month, too.²⁴

Data on employment from the Wanamie colliery indicates that miner's laborers were the most transient of all mine workers. Of those found on the payroll for April 1890, only 17 percent could be found again in February 1893. Of all those listed for that month, only 11 percent appeared on the payroll in December 1896. Finally, of the laborers listed for that month, only 23 percent could be found on the payroll in March 1899. These rates of persistence are the lowest for all the occupations at Wanamie and substantially lower than the figures for miners. Forty-three percent of the miners on the payroll in April 1890 were still on in February 1893. Forty-one percent of the miners on the payroll that month could still be found in December 1896. Finally, 55 percent of the miners listed for December 1896 were still on the payroll in March 1899.²⁵

The fragmentation of the work force is further reflected in the work and earnings of "company men," who earned a daily wage. This category covered a wide variety of jobs, and not surprisingly, little uniformity existed in the industry over the rates to be paid for similar kinds of work. In 1888, the Bureau of Industrial Statistics also surveyed some forty-six mines to determine daily wage rates for company men in forty-three different jobs underground and fifty-three surface jobs. Daily rates at the twenty-eight mines that reported rates for carpenters underground ranged from \$1.50 to \$2.50, and a total of eighteen different rates were listed. Forty-two collieries reported a total of nineteen different rates for blacksmith's helpers, ranging from \$.90 to \$1.87. Forty-three mines reported a total of nineteen different rates for barn bosses, ranging from \$1.20 to \$2.77 for managing the stables housing

the mules who did so much of the work both above and below the surface. Some forty-two mines reported eighteen different rates for prop-men, from \$1.00 to \$2.66 for performing vital work in cutting and placing roof supports, or props.²⁶

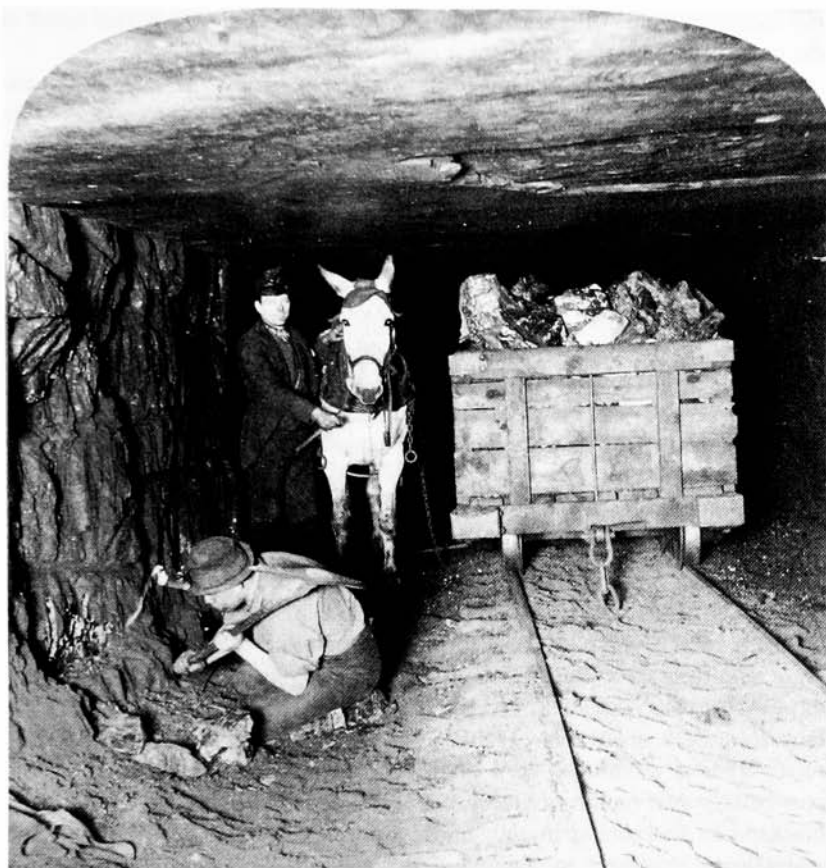
Part of the wide variation in wage rates for the same job can be explained by the possibility that a job with the same title might encompass very different kinds of work at different collieries. For example, a blacksmith's helper who earned \$.90 a day was most likely an actual apprentice learning the trade, while one who received \$1.87 a day may well have performed a significant part of the blacksmith's work. A carpenter earning \$1.50 a day probably could not match the skill displayed by one who earned \$2.50 a day at another colliery. Similarly, the responsibilities of the barn boss who received \$2.77 a day surely exceeded those of the one who earned \$1.20.

Furthermore, the wide differentials in rates certainly represented one means by which an operator could tailor his work force to the precise geological and economic requirements of his colliery. Indeed, for some positions, such as driver, slate picker, and laborer, most collieries had a scale of wages for different "classes" of workers in the position. Thus, the teenagers who dominated the job of mule driver could earn higher wages by driving more mules and thus transporting a bigger load of coal cars along the main roads of the mines. Similarly, slate pickers, usually younger than the drivers, earned more if they had the final responsibility for removing slate from coal as it slid down a chute past other, lesser-paid pickers above them in the massive industrial buildings—called "breakers"—where the coal was cleaned and broken into appropriate sizes for heating homes.²⁷

It is unlikely that such wide variation only reflected the demand of anthracite coal operators for workers with a broad range of skills. Indeed, if the supply of labor in the industry had been elastic, that is, if it had responded effectively to changes and differences in wage rates, those rates would have tended toward uniformity. Since they did not, factors other than the differentials in wage rates must have intervened to dissuade mine workers from moving to mines that paid higher rates, thereby influencing low-paying collieries to raise their rates. An oversupply of labor and the underemployment it bred are the likely causes of this inelasticity. With the outlook for finding steady work elsewhere uncertain at best, there would be little positive incentive for workers to move.

The company men who had the steadiest work were the relatively small proportion of workers involved in the basic maintenance of the colliery—those who fed and monitored the boilers, ran the pumps, and operated the elevators in which men and matériel were transported into the depths of mines. Such workers were practically assured of as many days of work per month as the total number of days in the month. They commonly worked

FIGURE 1.2
Miner, driver, and mule, circa 1900 (Courtesy of Hugh Moore Historical
Park and Museums).



each day except every other Sunday. Since many of these posts had to be manned continuously, the men who held these jobs usually worked a twenty-four hour day on alternate Sundays to provide a day off per fortnight for themselves and their fellow workers. Generally they would be on the job ten hours a day on the busier day shift or fourteen hours a day on the night shift.²⁸ Although they might earn only \$1.50 to \$1.80 per day, less than many miners, they could easily earn more than \$40 per month or approximately \$500 or even \$600 per year because of the burdensome steadiness of their tasks.²⁹

Because of the opportunity for steady work they provided, these jobs were in considerable demand. Still, such work may well have been too steady at times for these men, especially since their responsibilities were so great. If boilers were not working properly, fans might malfunction, keeping explosive gas from being exhausted from a mine. Any failure of pumps would result in the rapid flooding of portions of a mine.

The most awesome responsibility was in the hands, literally, of the engineers who controlled the carriages that went up and down the shafts. On October 30, 1886, that responsibility weighed heavily indeed upon a veteran engineer at the W. G. Payne Colliery in Luzerne Borough, William Moses. He moved the carriage before a worker named William Brace had finished removing a mine car from it. That Brace and the mine car both plummeted down the shaft was horrifying indeed, but the reaction by Moses may supply some sense of the pressures that beset colliery engineers.

The falling car made a terrible noise which was plainly audible in the engine room. Moses did not know what had happened and did not stop to inquire. . . . Realizing at once that he had made a terrible mistake in hoisting up the carriage he barely waited to stop his engines, when he drew a pistol from his pocket and placing the muzzle to his head, fired. . . . His employer regarded him as one of their most valued and trusty employees. He was 49 years of age and leaves a wife and family of grown-up children.³⁰

Table 1.3 displays the variation in time worked among various jobs at the Wanamie colliery, while table 1.4 examines the average earnings of the company men, along with those for miners and miner's laborers, in four separate months in the 1890s. The high level of earnings and the high number of days worked for pumpmen, firemen, ashmen, and engineers and their assistants have been noted above. Notice how little their earnings vary from the relatively busy months of April 1890, February 1893, and March 1899 to the particularly dull month of December 1896. The "skilled men"—including blacksmiths sharpening mining tools, masons and carpenters building and maintaining structures to channel air throughout the distant reaches of the mine, and timbermen fashioning roof supports—did not work quite as much, but they did work quite steadily. As a result their earnings averaged more than \$35 for each month surveyed. The average for teamsters was nearly as high, but they worked more days at a substantially lower rate.

Essentially, other company men worked, like the miners and their laborers, according to the demand for coal. They tended to earn close to or less than \$35 per month but, in particular, their earnings dipped significantly in December 1896 when there was the least work at the mines, as measured by the amount of time operated by the breaker. Of course, quite a few of these workers tended to be young, especially in some of the larger categories, i.e.

TABLE 1.3
Average Days Worked by Company Men at Wanamie Colliery for Four Months in the 1890s

	APRIL 1890		FEBRUARY 1893		DECEMBER 1896		MARCH 1899		
	Average Days (Per Month)	No. of Workers	No. of Days	No. of Workers	No. of Days	No. of Workers	No. of Days	No. of Workers	No. of Days
Pumpmen	30.0	6	30.9	8	28.0	6	30.5	6	30.7
Firemen and Ashmen	28.1	10	25.1	10	26.5	8	30.3	9	30.7
Foremen and Bosses (in)	25.4	8	22.9	9	24.1	8	27.5	10	27.2
Foremen and Bosses (out)	24.9	7	24.3	8	22.5	8	26.6	8	26.1
Teamsters (out)	24.3	4	24.4	5	22.4	5	23.6	4	26.75
Engineers and Assistants	23.2	11	23.9	14	21.9	14	23.6	13	23.4
Skilled Men	20.7	14	19.4	18	22.8	21	18.1	15	22.5
Footmen, Planemen, and Headmen	18.0	5	18.6	4	24.15	10	11.4	10	17.9
Miscellaneous Laborers (in)	17.1	9	17.1	10	20.9	7	12.5	9	17.9
Miscellaneous Laborers (out)	16.6	26	17.15	33	18.7	39	11.9	32	18.5
Runners	16.2	8	17.9	13	20.1	9	10.7	9	16.2
Patchers, Oilers, Etc.	15.6	4	18.7	19	18.1	26	8.1	24	17.4
Drivers (in)	15.3	20	15.0	41	17.1	34	11.2	33	18.0
Topmen and Platform-men	14.4	15	16.9	19	16.7	21	8.7	14	15.3
Door Boys	14.1	16	15.7	12	16.4	3	8.2	2	16.05
Drivers (out)	13.4	4	14.4	4	16.2	5	6.9	6	16.2
Slate Pickers	11.2	106	13.6	102	14.2	103	6.25	107	10.6
Breaker	13.9	—	17.1	—	16.9	—	6.7	—	15.0
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TABLE 1.4
Earnings At Wanamie Colliery For Four Months in The 1890s

Position	APRIL 1890			FEBRUARY 1893			DECEMBER 1896			MARCH 1899			
	Col. A*	Col. B*	Col. C*	Col. A*	Col. B*	Col. C*	Col. A*	Col. B*	Col. C*	Col. A*	Col. B*	Col. C*	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Foremen and Bosses (in)	64.50	54.53	22.9	2.38	68.52	24.1	2.84	69.12	27.5	2.51	65.85	27.2	2.42
Pumpmen	54.96	56.30	30.9	1.82	51.82	28.0	1.85	55.62	30.5	1.82	56.11	30.7	1.83
Foremen and Bosses (out)	45.86	43.81	24.3	1.80	43.62	22.5	1.94	48.25	26.6	1.81	47.76	26.1	1.83
Firemen and Ashmen	43.26	36.96	25.1	1.47	40.31	26.5	1.52	47.63	30.3	1.57	48.12	30.7	1.57
Engineers and Assistants	41.96	41.51	23.9	1.74	39.71	21.9	1.81	43.25	23.6	1.83	43.38	23.4	1.86
Skilled Men	40.39	37.20	19.4	1.92	44.62	22.8	1.96	35.42	18.1	1.96	44.33	22.5	1.97
Teamsters (out)	36.36	36.21	24.4	1.49	33.60	22.4	1.50	35.50	23.6	1.50	40.12	26.75	1.50
Miners	36.33	36.09	17.3	2.09	42.09	19.2	2.19	24.72	12.1	2.04	42.43	20.0	2.12
Footmen, Planemen, and Headmen	32.09	33.25	18.6	1.79	44.60	24.15	1.85	19.51	11.4	1.71	31.01	17.9	1.73
Runners	29.56	32.62	17.9	1.82	35.94	20.1	1.79	19.22	10.7	1.80	30.48	16.2	1.88
Miscellaneous Laborers (in)	28.05	26.91	17.1	1.57	34.38	20.9	1.65	21.91	12.5	1.76	29.00	17.9	1.62
Drivers (in)	25.47	25.33	15.0	1.69	27.54	17.1	1.61	18.86	11.2	1.68	30.15	18.0	1.68
Miscellaneous Laborers (out)	24.63	26.15	17.15	1.52	26.25	18.7	1.41	18.08	11.9	1.52	28.06	18.5	1.51
Topmen and Platform-men	21.36	24.85	16.9	1.47	24.82	16.7	1.49	12.79	8.7	1.47	22.98	15.3	1.50
Miner's Laborers	20.74	19.24	10.8	1.78	22.53	12.7	1.78	14.61	8.3	1.76	26.59	15.5	1.71
Drivers (out)	15.92	18.35	14.4	1.28	19.17	16.2	1.18	7.98	6.9	1.15	18.20	16.2	1.13
Patchers, Oilers, Etc.	15.73	18.62	18.7	1.00	18.36	18.1	1.02	8.12	8.1	1.00	17.82	17.4	1.02
Door Boys	10.51	12.53	15.7	.80	11.78	16.4	.72	5.93	8.2	.72	11.79	16.05	.73
Slate Pickers	9.28	10.48	13.6	.77	12.20	14.2	.86	5.39	6.25	.86	9.07	10.6	.85

*Column A = Average Earnings

Column B = Average Days Worked

Column C = Average Earnings Per Day

drivers, runners, door boys, and the largest group of all, slate pickers and others who worked at the breaker, known collectively as “breaker boys.” Commonly young mine workers would begin as slate pickers at eight or nine years of age or even earlier. Often they would move to jobs beneath the surface as door boys, tending major ventilation doors, and eventually as mule drivers and car runners, supplying cars in which the production of the miners and their laborers could be brought to the surface.

Any attempt to evaluate the standard of living that such a varied picture of earnings may have enabled workers and their families to achieve must begin with a figure that represents the income a family needed to live. Robert Hunter, a journalist and socialist from New York City at the turn of the century, commented in 1904 in his book *Poverty* that after estimating “in the most conservative way possible,” approximately \$460 a year was needed to defray the basic expenses of a family of five in the industrial communities of the New England states, New York, Pennsylvania, Indiana, Ohio, and Illinois.³¹ Since the relative index of food prices in the North Atlantic region for 1890 equaled 88.2 percent of the index for 1904, Hunter’s estimate can be multiplied by .882 to yield \$405.72—his estimate deflated to reflect prices in 1890.³² A family of five with children of ages seven, five, and two could conceivably survive on less, according to standards from various contemporary budget studies, a contemporary study of the anthracite region, and basic standards proposed by historian Daniel Walkowitz.³³ Such standards posit a survival-level budget of approximately \$320 in 1890, a budget designed to meet no more than the standard set out by the pioneering British student of poverty, B. Seebohm Rowntree—“no allowance is made for any expenditure other than that required for the maintenance of merely physical efficiency.”³⁴

Of course, these budgets were for families, and throughout the late nineteenth and early twentieth centuries, large numbers of immigrants came to work in the anthracite mines as well as other industries without their families, at least at first. Their lives centered around living as cheaply as possible and saving as much money as possible, to send sums home to Europe either to support their families there or pay for family members to come to the United States. This facet of the experience of anthracite mine workers can be seen in the following excerpt from testimony taken by a committee of the U.S. House of Representatives in 1888. One of the members questioned Nichele Molinaro, a forty-nine-year-old Italian who had resided from 1882 to 1887 in Carbondale, Pennsylvania, near Scranton, where he had worked aboveground at a colliery. He had just returned from Italy where he had visited his wife and child.

- Q. What have you been at work at?
 A. In the Pennsylvania coal mines. . . .
 Q. How much do you get there per day?

- A. One dollar and twenty cents per day. . . .
- Q. You know you will get a place [a job] right away?
- A. I worked four years for the same man all the time.
- Q. He is going to take you right back?
- A. I suppose so. . . .
- Q. Who paid for your ticket to come over?
- A. It was my own money.
- Q. Money you earned in Italy?
- A. No, sir; in America.
- Q. How much did you have when you left for Italy?
- A. Whenever I used to have any money I used to send it home.
- Q. You sent all your earnings home?
- A. Yes, sir. . . .
- Q. How much could you save a week while you were at work at Carbondale?
- A. I could save nearly 100 francs a month—about \$20.
- Q. How much did it cost you a day to live at Carbondale?
- A. Twenty cents. . . .
- Q. How much did it cost you for lodging?
- A. About \$1 a month.
- Q. And 20 cents a day for meals?
- A. Yes, sir.
- Q. Is that what the others spent?
- A. Nearly the same.
- Q. Did you live pretty well?
- A. Yes, sir; very good.
- Q. Then you saved about 90 cents a day?
- A. 80 or 90 cents a day.³⁵

Contemporary American observers took a very different view of such a mine worker's life. During the same hearings, H. H. Calclazer, a reporter for the *Philadelphia Record*, offered the following description of boarding arrangements he had witnessed in the coal fields:

- A. I went up about a week ago . . . to Honey Brook, and this is merely an instance of the cases I have found there right along all through the coal regions and interviewed, through an interpreter, an Italian who could speak some English, and three or four men were standing around a shanty, such a place as an ordinary farmer would stow his tools during the winter, and a small farmer; not a large house, a very small house; there were no separate bunks in this house; but there was on either side, between the two extreme doors on either side of the house, rough planks upon which was scattered a little straw, and once in a while you would find a terribly filthy mattress filled with straw along both sides of the building, and in this building, these people told me, there lived in this little space forty of these Italians.
- Q. What size building was it? . . .

A. . . . I should say it was 25 to 30 feet front; possibly 35 back, and not 15 feet high or deep in the gable.

Q. You say they lived there?

A. They lived there and cooked there and ate there and made it their home there. I have the exact dimensions of one other building there that I would like to quote. Here is one of the highest at Yorktown, and by actual measurement this house was 40 feet front, 12 feet deep, and 11 feet high. There are three rooms in each, and in some of these houses are domiciled from eighteen to twenty Hungarians.³⁶

Such a description attests to the possibility of surviving at a level that may well have been at or below that imagined in the most stringent budget. More important, it demonstrates that some people in the anthracite region were living at very basic levels indeed. Certainly workers like Nichele Molinaro could not have lived otherwise if they were to save the sums they needed to make their journeys to the New World worthwhile. The most effective way to characterize the earnings of adult anthracite mine workers is that, like most industrial workers in this period, only a minority, and often a small minority, could be confident that they could support families with their income alone.³⁷ Families could survive on the \$35 or so per month that most older workers who were employed steadily could receive, but generally they needed additional income to gain any sense of security, whether from taking in boarders or by sending children off to work. Male children, of course, had plenty of opportunity to work in and around the mines, and while females were legally prohibited from working there, an array of enterprises that needed their labor could be found throughout the anthracite region.³⁸

WORKPLACE INJURIES AND PATERNALISM

Perhaps the most precipitous threat to security was also the most capricious. At least the vagaries of the market struck the majority of anthracite mine workers with a rough equality and allowed workers some opportunity to adapt. Accidents however had a far more immediate, unexpected, and devastating impact, suddenly destroying all of an individual's or family's painstakingly constructed strategies for security. The complex process of mining anthracite, bringing it to the surface, and preparing it for shipment was sufficiently fraught with danger to make the industry one of the world's most hazardous.

The state of Pennsylvania passed safety legislation first for Schuylkill County in 1869 and then for the entire anthracite industry in the following year. The latter code was prompted by the mining disaster at the DL & W's Avondale Colliery near Plymouth in Luzerne County on September 6, 1869, when ventilation problems caused an explosion in the mine shaft, resulting in the death of more than 100 mine workers. Much of that law, which according

to one commentator was "the first significant mine safety law . . . in the United States," aimed at preventing another disaster like the one of Avondale. It mandated changes in ventilation procedures and a second exit for all mine workings, which might have enabled the workers at Avondale to escape. It also prohibited boys under the age of twelve from working underground. It outlined the responsibilities of supervisors concerning safety and set up a system of inspection by the state.³⁹ In addition, the law sought to discourage a broad range of risky activities by workers by making them crimes:

Sec. 19. that any miner, workman, or other person, who shall knowingly injure any safety lamp, water gauge, barometer, air course, brattice or obstruct or throw open airways, or carry lighted pipes or matches into places that are worked by safety lamps, or handle or disturb any part of the machinery of the hoisting engine, or open a door and not have the same closed whereby danger is caused in the mine, or enter any place in the mine against caution, . . . or shall ride upon a loaded car or carriage in any shaft or slope, . . . or do any other act whereby the lives or the health of persons or the security of the mines or machinery is endangered; or any miner having charge of a working place in any coal mine or colliery who shall neglect or refuse to keep the roof properly propped and timbered to prevent the falling of coal, slate, or rock, every such person shall be deemed guilty of a misdemeanor.⁴⁰

Such a law reflected the belief that a lack of attention to safety by mine workers was often the cause for accidents that befell them. This point of view, fervently maintained through the years by employers and mine inspectors, failed to take into account the nature of the work process.⁴¹ Efforts to enhance safety were merely superimposed upon a system in which production, not safety, stood as the paramount goal. Not surprisingly, workers who faced the arduous task of providing for their families day after day chose all too frequently to ignore the potential for catastrophe that, through no design of their own, pervaded the jobs they performed.

The state continued to show its interest in the industry after 1870. In 1879 it provided for the construction of a "State Hospital for Injured Persons of the Anthracite Coal Region" in Schuylkill County, to care without charge for those hurt in work-related accidents. In 1881, Pennsylvania enacted legislation requiring all mines at which twenty or more workers were employed to provide some means to take injured mine workers to their homes or to hospitals.⁴² In 1885, a revised, more extensive code was drafted by a committee of six mine operators, six miners, and six mine inspectors. This law strengthened the previously enacted standards on ventilation and mandated the responsibilities of a broad range of employees. The most detailed strictures were placed on foremen, who were required from that date to be certified by a district examining board. Furthermore, the law sought to regulate