
Innovation in the Coalfields: The Evolution of Vocational Education in Ellsworth, Pennsylvania, 1900-1922

by Raymond M. Hyser

IN the closing years of the nineteenth century Americans reacted in a variety of ways to industrialization. Traditional institutions, employment, and revered values seemed to wither as industry, which quickly dominated the nation's economy, created a host of new problems: urban disorder, conflict among the social classes, and increased immigration, all of which seemed to threaten the homogeneity and social structure of the country. Faced with the rapidly changing way of life, some Americans looked to education as the panacea. Schools could become moral agents, teaching children traditional values, the principles of hard work, self-reliance, habits of order and accuracy, as well as prepare future generations for occupations in an industrial society. Education would help bridge the new problems, improve society, and promote upward economic mobility by training schoolchildren for jobs in business. In the vanguard of this educational movement was manual training. It stressed the use of tools coupled with traditional classroom instruction to prepare students for new occupations. This methodology, however, proved inadequate, and early in the twentieth century manual training evolved into a systematic vocational education program that emphasized occupational training rather than simply an ability to work with tools.¹

Raymond M. Hyser received his Ph.D. from Florida State University and is currently teaching at James Madison University in Harrisonburg, Virginia. His article, "Discord in Utopia: The Ellsworth Strike of 1904," appeared in the July 1982 issue of the *Pennsylvania Magazine of History and Biography*.—Editor

- 1 There have been a number of works on the evolution of vocational education in the United States: Lawrence Cremin, *The Transformation of the School: Progressivism in American Education* (New York, 1961); Henry Perkinson, *The Imperfect Panacea: American Faith in Education, 1865-1965* (New York, 1968); Marvin Lazerson and W. Norton Grubb, *American Education and Vocationalism: A Documentary History, 1870-1970* (New York, 1974); Sol Cohen, "The Industrial Education Movement, 1906-1917," *American Quarterly* 20 (Spring 1968): 95-110; Melvin L. Barlow, *History of Industrial Education in the United States* (Peoria, Ill., 1967); and Charles A. Bennett, *History of Manual and Industrial Education, 1870 to 1917* (Peoria, Ill., 1937).

The Western Pennsylvania Historical Magazine, Vol. 68, No. 2 (April 1985)
Copyright © Historical Society of Western Pennsylvania

At the same time the manual training movement began, American businessmen sought an increase in productive efficiency to attain competitiveness in the marketplace. Some businessmen viewed the new educational methods as a means to acquire employees with practical skills and valuable experience. The business community encouraged and frequently promoted this emerging development. The union of business and education was clearly exhibited in Ellsworth and Cokeburg, two recently created coal mining communities in Western Pennsylvania's bituminous field.²

James W. Ellsworth created the twin coal mining towns of Ellsworth and Cokeburg, Pennsylvania. He was an eighth-generation descendant of a New England family, who was born and raised in northeastern Ohio. He moved to Chicago shortly after the Civil War and worked in a coal mercantile firm until 1878. In that year he opened his own business — Ellsworth and Company — and sold coal principally to the railroads that radiated from Chicago. He amassed a minor fortune and became a prominent coal distributor, earning the reputation of meeting the railroads' fuel demands promptly. In an effort to maximize profits and eliminate dependence on independent mining operations, which were frequently affected by strikes and worker mobility, Ellsworth expanded his enterprise vertically and opened his own mines. In 1898 he bought about thirteen thousand acres of coal rights and some surface land along Pigeon Creek in eastern Washington County, Pennsylvania, as the nucleus of the mining operation.³

2 Businessmen and their role in this movement have been examined in a number of works: Elizabeth Fones-Wolf, "The Politics of Vocationalism: Coalitions and Industrial Education in the Progressive Era," *The Historian* 46 (Nov. 1983): 39-55; Samuel Haber, *Efficiency and Uplift: Scientific Management in the Progressive Era, 1890-1920* (Chicago, 1964); Samuel P. Hays, *The Response to Industrialism, 1885-1914* (New York, 1957); and William Graebner, "Great Expectations: The Search for Order in Bituminous Coal, 1890-1917," *Business History Review* 48 (Spring 1974): 49-72, examine the move toward efficiency in the soft-coal industry. For more on the training and vocational education movement before national legislation, see: Barlow, *History of Industrial Education*, 30-91; Layton Hawkins, Charles Prosser, and John C. Wright, *Development of Vocational Education* (Chicago, 1951), 1-74; Bennett, *History of Manual and Industrial Education*.

3 James W. Ellsworth, *The Ellsworth Family*, vol. 1: *James W. Ellsworth: His Life and Ancestry* (New York, 1931), 3, 9, 13-14, 16; *Lakeside Annual Directory of the City of Chicago, 1878-79* (Chicago, 1879), 363; "1877 Business Card," James W. Ellsworth Papers, Box 1, Folder 1, Western Reserve Academy Library Archives, Hudson, Ohio (hereafter cited as JWE Papers, WRAL); "Bentleyville News," *Monongahela Valley Republican*, Feb. 16, 1899 (hereafter cited as MVR); "Bentleyville Boom," *Washington (Pa.) Reporter*, Jan. 11, 1899 (hereafter cited as WR); Washington County (Pa.) Deed Book, 226:1-65, John Simpson to James W. Ellsworth, July 6, 1899.

Construction of the town began in the winter of 1899. Two mine shafts were dropped to the coal veins (two additional mines were added later, and there were plans eventually to operate nine shafts simultaneously), and the town, which James W. Ellsworth named for himself, slowly took shape as workers migrated into the previously tranquil valley. Cokeburg developed around two shafts located four miles from Ellsworth. As was often the case in the coalfields, most of the workers were recent European immigrants — Russians, Poles, Italians, and Slovaks — with little command of the English language or coal mining skills. A congressional commission investigating life in Western Pennsylvania's bituminous coalfields found that more than three-fourths of the miners were foreign born, less than half could speak English, and only a small percentage (3 percent) had worked in mines before their arrival in the United States.⁴

A similar situation existed in James W. Ellsworth's coal communities, although the operator originally hired only English-speaking and experienced miners. To circumvent the usual employment of illiterate and inexperienced foreigners, Ellsworth enticed a number of Welsh coal miners to his towns, but this ended in failure when he was accused of illegally importing contract labor. The Department of Justice investigated and found no evidence to convict Ellsworth since the Welshmen had either returned to Wales or found employment in other mines and were unwilling to testify against him. Following the dismissal of the court case, Ellsworth was obliged to hire recent European immigrants.⁵ Faced with a large body of foreign workers, the coal operator had to overcome educational deficiencies of work experience and language before the mines could be worked profitably.

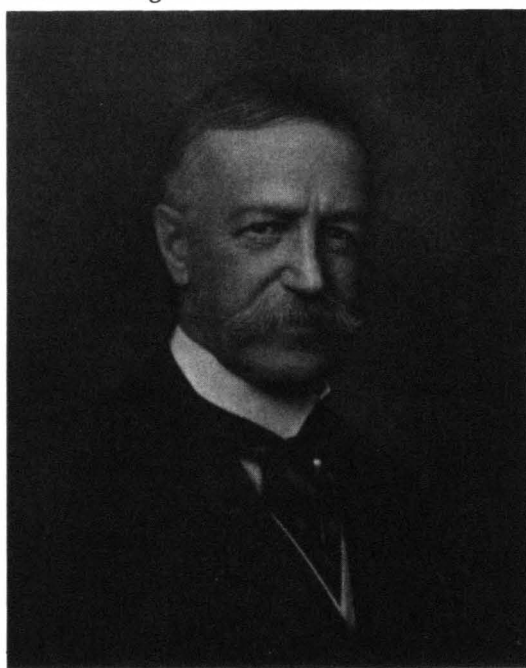
The rural and isolated nature of the new town required Ellsworth to become a community developer and to provide at least rudimentary facilities like housing and stores for the work force. Coal operators

4 "Ellsworth, Model Mining Settlement," *Washington (Pa.) Observer*, June 10, 1903 (hereafter cited as WO); "Conditions of Life in Bituminous Mines," *WR*, Aug. 8, 1910; U.S., *Reports of the Immigration Commission: Immigrants in Industries*, vol. 6, part 1, *Bituminous Coal Mining* (Washington, 1911), 266, 272, 465.

5 National Archives, Record Group 65, "Records of the Federal Bureau of Investigation," John A. W. Burch, Immigrant Inspector, to John J. S. Rodgers, Commissioner of Immigration, Philadelphia, Oct. 17, 1903; "Welshminers Cause Suits," WO, Dec. 4, 1903; "Importing Welsh Miners," *New York Sun*, Oct. 20, 1903; National Archives, Record Group 60, "General Records of the Department of Justice," John W. Dunkle, U.S. District Attorney, to William H. Moody, Attorney General, May 6, 1905; John W. Dunkle to James W. Ellsworth, Apr. 21, 1906.

took divergent views toward company towns. Some viewed the community as a necessary evil; company officials were unconcerned about the miners' living conditions so long as they worked. Other operators utilized company facilities to bolster profits. Ellsworth did not embrace either conventional view. Rather, he was part of a small group of coal operators who sought to improve the quality of life in their communities. The motives of these men varied from social consciousness to benevolence, and it is difficult to differentiate clearly between actions that benefited the workers and actions that benefited the company. These operators were, however, businessmen interested in profits and, should social and educational improvements increase efficiency and production, they would eagerly embrace social innovations. But if such actions failed to help the company, they were eventually phased out.⁶

Ellsworth proposed to build Utopian mining towns based partially on his good friend George Pullman's model industrial town of Pull-



Western Reserve Academy Archives

James W. Ellsworth

⁶ Robert F. Munn, "The Development of Model Towns in the Bituminous Coal Fields," *West Virginia History* 40 (Spring 1979): 243-53; Harry Caudill, *Theirs Be the Power* (Urbana, Ill., 1983) examines the failures of coal businessmen to develop adequate towns in Kentucky.

man, Illinois, and partially on his own experiences as a Chicago South Park commissioner and a director of the World's Columbian Exposition of 1893. Drawing heavily from these previous attempts to improve the urban environment and incorporating ideas from existing coal towns, Ellsworth personally planned virtually every aspect of the towns in meticulous detail. Houses were constructed of locally-produced brick and were uniformly designed to accommodate one family comfortably. In an effort to stabilize the work force and attract what the operator considered a "good element" of miners, rent payments could be applied toward the purchase price of the homes. Adequate space between all buildings and green lawns with trees gave the town a parklike atmosphere, while carefully plotted, winding paved streets enhanced the natural beauty of the community. A company store, hotel, and modern doctor's office provided services to mine employees at locally competitive prices. The use of these facilities was not mandatory.⁷

Elsewhere in the isolated Pennsylvania coal towns, a company often offset losses in areas of its mining community, such as housing construction, by requiring use of these services and demanding payment in company scrip. Ellsworth chose to avoid this type of coercive behavior and hoped his model town would attract a good work force. Once the town's construction began, Ellsworth told a group of businessmen the purpose of the planned community: "The intention is to provide every benefit with which an employee can be supplied. On the other hand, the cost of producing coal must be made as low as it can be made legitimately." Within this constraint, Ellsworth furnished the workers with everything he thought they needed to live happy and comfortable lives, but should these services decrease company profits, they would be eliminated. Ellsworth utilized paternalism to attract and keep a good work force and claimed this fatherly attitude and the availability of good services at a fair price made his mining community a Utopia for workers. From our perspective, it also provided a con-

⁷ Ellsworth served on Chicago's South Park Commission for nine years (1889-1898) and was president for several years. He was instrumental in helping improve and shape Chicago's park system. He was also one of the forty-five directors of the World's Columbian Exposition of 1893 and personally brought landscape artist Daniel Burnham to Chicago to help create the fairgrounds. *The National Cyclopedia of American Biography*, s.v. "James W. Ellsworth"; Ellsworth, *Life and Ancestry*, 37-40; "New Coal Field Opened," *Pittsburgh Times*, May 9, 1900; "Ellsworth, Model Mining Settlement," *WO*, June 10, 1903; "A New Coal Mining Town," *New York Times*, Sept. 16, 1899.

venient vehicle for extending social and economic control over the miners.⁸

Ellsworth's paternalism dominated every aspect of the new town, but it was particularly exemplified in the educational system. Virtually all coal operators subsidized schools to maintain social stability within their communities, but some also believed that an intelligent and "Americanized" work force would reduce accidents caused by ignorance, increase coal production, and create bigger profits. Although Ellsworth was under no obligation to provide an education for town residents, in December 1900 he hired H. L. Hetherington to create a school and make what Ellsworth called "rough unkempt-looking foreigners" more presentable. Hetherington taught such traditional courses as reading, writing, and mathematics but also placed a heavy emphasis on comprehending and speaking English because many of the school's initial fifty-six pupils had no functional knowledge of the language. The third-floor attic of the company office served as the school until 1911, when a large, two-story brick building modeled along the same architectural lines as the company office was constructed exclusively for education. Ellsworth planned to build "a fully equipped industrial school" for the town, but this never became a reality. Besides a traditional education for the students, a crude form of manual training was offered.⁹

Ellsworth's paternalistic manual training program prepared both boys and girls for what he believed would be their future roles in the coalfields. Boys learned how to use company-provided tools. In the early stages this involved essentially woodworking equipment (saws, hammers, measuring devices, and chisels) as well as instructions in simple, basic carpentry techniques. As the boys grew older they studied such elementary mining skills as the use of a pick and shovel, pit car loading, and the separation of coal from debris rock. This training, although crude and extremely fundamental, provided the boys with their first experience in mining coal and it adequately pre-

8 "Ellsworth to Be Model Town on Pigeon Run," *Pittsburgh Dispatch*, Sept. 15, 1899. This attitude would change as trouble in the mines pushed Ellsworth toward a more traditional coal operator viewpoint of social and economic control over the miners. For more on this development see: Raymond M. Hyser, "Discord in Utopia: The Ellsworth Strike of 1904," *Pennsylvania Magazine of History and Biography* 106 (July 1982): 393-409.

9 David Alan Corbin, *Life, Work and Rebellion in the Coal Fields: The Southern West Virginia Miners, 1880-1922* (Urbana, Ill., 1981), 127-30; "Lower Somerset," *WR*, Dec. 10, 1900; "New School Buildings," *WR*, Apr. 16, 1910; "Night School at Ellsworth," *WR*, Apr. 19, 1911.

pared them to follow their fathers into the mines and work almost immediately. This training developed skills necessary to mine coal — skills their fathers did not have when they began work in the mines — and it also increased earnings, because miners were paid by the amount of coal each man produced. Girls also learned skills for their future as coal miners' wives; cooking and sewing were stressed almost exclusively. Because the children's families were required to provide all the necessary materials for these classes, this training was often sporadic. When, as frequently happened, there was no food to cook or cloth to sew, these classes were canceled. As the town grew around the mines, Ellsworth's school system expanded to provide six hundred children the opportunity of a formal education as well as fundamental manual training. Despite a ten-fold increase in student enrollment in less than six years, the company did not curtail any classes.¹⁰

Ellsworth took great pride in his school's accomplishments, which he perceived as social enlightenment and uplift of his workers. "I found that after the foreign miners had been moved in a very short time," Ellsworth observed, "and the children of a proper age had been entered in school, they commenced to present a more favorable appearance." Education, he believed, provided the impetus for this transformation. "It was astonishing what a change took place," he noted in his memoirs, "for in nearly every case the association with neat children — they were all pretty much alike to begin with — would begin to tell in making them more presentable, and the children themselves, as well as their parents, would begin to show real ambition." These rapid changes served to promote Ellsworth's paternalistic desire: "The fact that they were willing to help themselves and were interested gave me every inducement to do for them," making "it a joy," he exulted, "which many times over repaid the expenditure and effort of mine required to accomplish all these things." He added that "the response manifested by even the dullest-brained was encouraging to my efforts. Surely it was profitable ground to cultivate. . . ." ¹¹

Ellsworth's desire to improve the people's lives centered around education, clean and attractive surroundings, and proper company guidance. It was his method of providing community stability and also helping foreign miners and their families make the difficult transition to mainstream American lifestyles. While he was a strict businessman

10 "Industrial Schools for Ellsworth," *MVR*, May 9, 1901; "Ellsworth, Model Mining Settlement," *WO*, June 10, 1903; Ellsworth, *Life and Ancestry*, 32.

11 Ellsworth, *Life and Ancestry*, 32.

who was keenly interested in profits (coal production rose from 121,987 tons in 1901 to 1,300,604 tons in 1906), it would seem that Ellsworth derived great pleasure from his paternalistic programs and their effect on the people. Although he was extremely proud of the educational system's success, Ellsworth made no significant modifications to meet changing needs in the coalfields; the schools remained oriented toward manual training, with the emphasis on the use of carpentry and mining tools for boys and cooking and sewing for girls. There was no occupational or vocational education for children and adults.¹²

In early 1907 Ellsworth sold the entire mining operation to the Lackawanna Steel Company. He cited the instability of President Theodore Roosevelt's administration as his reason for selling out, but certainly a contributing factor was the recent passage of the Hepburn Act, which drastically restricted the use of private railroad cars in shipping coal. Ellsworth, who owned and operated nearly eight hundred coal cars to reduce reliance on railroad company cars (often scarce during peak production) and to augment company profits, believed this act economically restricted his vertically integrated coal operation. The formation of Ellsworth Collieries Company, a subsidiary of the Lackawanna Steel Company, was part of a bituminous coalfield trend toward consolidation as independent coal operators sold their mines to large businesses, usually steel firms or railroads. Although the Lackawanna Steel Company stated it would continue many of Ellsworth's paternalistic policies, the Panic of 1907 forced it to reduce significantly or abandon most of the town's services. Among the first programs curtailed was manual training. Not until 1911, four years after it bought the town, did the steel company revitalize this program; and the new system incorporated features of the emerging vocational education movement rather than antiquated notions of manual training.¹³

The change of corporate ownership represented a significant policy shift toward education. Ellsworth was an independent businessman who operated the mines on a modest budget and obtained small profits

12 Washington County (Pa.) Mortgage Book, vol. 88: 434, Ellsworth Coal Company to Union Trust Company, Nov. 15, 1904; "Annual Report of Inspector Louttit," WO, Feb. 16, 1907.

13 Ellsworth, *Life and Ancestry*, 32; James W. Ellsworth to F. A. Coleman, Sept. 16, 1916, JWE Papers, Box 2, Folder 10, WRAL; George E. Mowry, *The Era of Theodore Roosevelt* (New York, 1958), 205; John W. Boileau, *The Coal Fields of Southwestern Pennsylvania: Washington and Greene Counties* (n.p., 1907), 48; Munn, "Model Towns," 246; "Night School at Ellsworth," WR, Apr. 19, 1911.

in the highly competitive bituminous coal market. He lacked large financial resources to develop innovative educational programs and was, therefore, bound to continue manual training when this movement did not adequately meet the needs of the changing coal mining industry. While Ellsworth was certainly educationally progressive among Pennsylvania coal operators and viewed education as a positive aid to mining coal, the Lackawanna Steel Company established better programs and developed one of the finest school systems in the state.

A number of forces dovetailed to produce this new program. First, the large steel company had the monetary resources and the willingness to improve education in the two towns. Second, coal mining had become increasingly more sophisticated with the adoption of electricity and machines to mine coal and ventilate the shafts. The era of the miner working alone with pick and shovel drew to a close as machines eased the arduous work of coal extraction while also increasing productivity. The Ellsworth Collieries Company introduced new mining machinery in order to remain competitive with other coal firms. To operate the new, complex machinery, miners had to be educated in its use. Education also had to extend to general mine safety because the mechanization of mining made the industry a more expensive endeavor, and ignorance about mine gases, coal dust, and the causes of mining mishaps could prove costly to the company. An educated work force was essential to the survival of mechanized coal companies. Third, there was a nationwide drive to establish vocational education courses in the schools, rather than the outmoded manual training, to prepare students for occupations in industry. The steel company incorporated these forces and created a vocational education program designed to meet company as well as miner needs.¹⁴

In 1911 the steel company hired E. E. Bach as sociological superintendent and head of the schools. Bach would spearhead the vocational education program's development and, in his role as sociological superintendent, improve the quality of life among the miners and their families through social welfare. The two duties were essentially similar because the company viewed education as a means to better living conditions in the communities. *Coal Age* magazine, a widely-circu-

¹⁴ The *Journal of the Franklin Institute*, which monitored new technological developments, published a number of articles on improvements in coal mining machinery. *Coal Age*, the coal industry trade journal, stressed the necessity of education and mine safety in virtually every issue. James W. Ellsworth to F. A. Coleman, Sept. 16, 1916, JWE Papers, Box 2, Folder 10, WRAL; "Ellsworth Company May Use Electricity in Its Mines," *WO*, Feb. 3, 1906.

lated weekly trade journal devoted to coal mining and coke production, promoted social welfare and education in the industry through its "Sociological Department," a regular feature "devoted to the welfare of miners everywhere and especially designed for the betterment of living conditions in mining communities." The editors frequently stressed the need for education to help miners adjust to the increasingly complex mining industry and to promote efficiency in the work force. The cover story of *Coal Age's* second issue (October 21, 1911) focused on Ellsworth Collieries Company as an innovator among the coal companies of southwestern Pennsylvania. While the bulk of the article emphasized mining techniques, the "sociological work" was also reviewed. Ellsworth and Cokeburg received national attention before Bach developed the educational system.¹⁵

Bach and the Ellsworth Collieries Company implemented a vocational education program that not only trained children for future occupations in the coalfields but also "afforded employees an opportunity for self-improvement." In a paper presented before the American Institute of Mining, Metallurgical, and Petroleum Engineers, Bach described the philosophy behind the educational program: "it is quite impossible to work out any scheme of helpfulness on the part of the employer unless the employee himself sees the need of it and feels that he is really the projector of the plan. It is far better to plant the ideas of betterment in the minds of the employees and await development, although this may be a slow process." Rather than force this educational program on students and the work force, and perhaps foster resentment toward vocational training, the company (and Bach) believed the practical nature of the classes would attract eager pupils. This attitude reflected the company's willingness to improve the workers' lives through education and its enthusiasm in creating new educational courses to meet emerging demands. The Ellsworth-Cokeburg schools were the first system in Washington County to develop this innovative program. Soon other area schools emulated the new educational methodology.¹⁶

15 "Sociological Department," *Coal Age*, Oct. 14, 1911; "Collieries on the Ellsworth Branch," *ibid.*, Oct. 21, 1911.

16 E. E. Bach, "Social and Religious Organizations as Factors in the Labor Problem," *American Institute of Mining, Metallurgical and Petroleum Engineers Transactions* 59 (1918): 592. The Washington County School Board in 1912, after considerable debate, voted to include domestic science and manual training in their curriculum while also appropriating \$3,000 to purchase needed equipment. "Course to Include Domestic Science," *WR*, Aug. 2, 1911; "School Board Favors Manual Training," *WR*, June 14, 1912; "Board Votes for Manual Training in Local Schools," *WR*, July 12, 1912.

Similar programs were created the previous year in some anthracite coal communities of eastern Pennsylvania: the hard-coal companies helped develop vocational education in the state; they were in the vanguard of teaching mine safety awareness. While the anthracite field developed mining vocational education and first aid training, the Ellsworth Collieries Company utilized these innovations as the foundation of their program and then significantly improved and expanded the hard-coal region's model system. Bach and the steel company became known as pioneers in coal mining vocational education. Washington County School Superintendent L. R. Crumrine noted in his annual report to the state superintendent of public instruction that Ellsworth and Cokeburg had "become the pioneers in providing a system of education well adapted to the industrial community in which they are located. The young people in these two districts are getting what they most need, training along lines of work best adapted to their vocations in later life." Crumrine concluded with the assertion that "Ellsworth is destined to become the Mecca for persons interested in the investigation of a school system well adapted to mining centers." In his annual report of 1912, Nathan C. Schaffer, the state superintendent of public instruction, enhanced this view when he praised Ellsworth and Cokeburg for the "industrial work in their schools suitable to the mining region. . . ." Schaffer provided an outline of the educational system in this report with the intent that other schools could use the information to develop similar programs.¹⁷

Vocational instruction in Ellsworth and Cokeburg began in the lower grades. Boys learned how to use simple tools in grades one through four. Starting in the fifth grade, boys took traditional course work, but they could also attend fundamental classes in first aid, elementary mining, business forms, and bookkeeping. The company said it offered these new courses "to better adapt the educational system to the needs of the community," which, from the perspective of the company, also meant training a future work force for occupations in the mines or company office. Because 95 percent of the schoolboys found jobs in the Ellsworth Collieries Company after the age of

17 "Anthracite First Aid Meets," *Coal Age*, Oct. 21, 1911; "First Aid Movement in the Hard Coal Region," *ibid.*, Oct. 28, 1911; "Sociological Developments in 1912," *ibid.*, Jan. 18, 1913; L. R. Crumrine, "Report of Washington County School Superintendent" in *Report of the Superintendent of Public Instruction of the Commonwealth of Pennsylvania, 1913* (Harrisburg, Pa., 1914), 158; Nathan C. Schaffer, *Report of the Superintendent of Public Instruction of the Commonwealth of Pennsylvania, 1912* (Harrisburg, Pa., 1912), 9.

fourteen, such a program was important to the future of the mining company.¹⁸

The course in first aid, however, was deemed essential because of the numerous accidents in the coal industry. The Ellsworth Collieries Company held the emerging belief that an intelligent work force trained in first aid would help minimize the loss of life in mine mishaps. First aid training courses were based on this principle. The anthracite region was the industry innovator of first aid education. Working in conjunction with the Red Cross and Y.M.C.A., coal companies offered courses in first aid techniques.¹⁹

To emphasize the importance of first aid training and to promote a sense of cooperation among the miners, the hard-coal companies staged competitive events, where individuals and teams of workers solved first aid problems associated with coal mining in a judged contest. The team and individual exhibiting the best first aid techniques received trophies and advanced to compete with winners from other area coal mines. The hard-coal competitive events ended in 1911 with the first state-level meet at Forbes Field in Pittsburgh. Forty thousand people, including President William Howard Taft, Pennsylvania Governor John K. Tener, and numerous state mining officials, watched the events. These anthracite company competitions fostered a contagious sweep of first aid instruction in the bituminous coalfield. First aid training in southwestern Pennsylvania started in Ellsworth and Cokeburg shortly after the hard-coal companies organized competitive meets. It was an immediate success.²⁰

In the Ellsworth and Cokeburg first aid classes, instructors surveyed different types of injuries, particularly those common in the mines, such as lacerations, broken bones, electrical burns, and smoke inhalation. The suitable forms of medical aid required in particular situations were also reviewed and emphasized. The level of instruction increased through the grades and it was thought that when a child left school, he or she would have an excellent foundation in first aid. Similar classes were available to miners and their wives. The company strongly urged participation. The women learned first aid to prepare them-

18 Schaffer, *Report*, 1912, 9.

19 "Anthracite First Aid Meets," *Coal Age*, Oct. 21, 1911; "First Aid Problems" and "First Aid Movement in Hard Coal Region," *ibid.*, Oct. 28, 1911.

20 *Ibid.*; "National Mine Safety Demonstration," *ibid.*, Dec. 4, 1911; "First Aid and Its Claims," *ibid.*, Dec. 9, 1911; "First Aid in the Coal Industry," *ibid.*, Jan. 13, 1912; "First Aid at Frick Plants," *ibid.*, Jan. 27, 1912; "First Annual Sociological Report," Ellsworth Collieries Company, 1912, 8, Ellsworth, Pennsylvania (hereafter cited as "First Report, 1912").

selves in case their assistance was required in a major mining accident.²¹

These initial first aid classes culminated in the annual "First Aid Meet and Mine Rescue Demonstration," when teams of men and boys (the women apparently did not participate) solved first aid problems in judged contests similar to those developed in the anthracite region. This all-day event, which was a work holiday, gave the company an opportunity to stress the necessity of safety and also helped reinforce company paternalism toward the workers. The second annual "First Aid Day" in Ellsworth received national publicity when *Coal Age* reported the events. The competition began when the 880 students of Ellsworth and Cokeburg schools paraded on the game field and received a rousing ovation from the 5,000 spectators. Besides the usual first aid competition, a structure resembling a mining tunnel was built to demonstrate new rescue techniques in a mock disaster. Black powder was ignited in the structure to produce thick smoke, then four "expert helmet men" using new Draeger breathing devices entered the fabricated mine and rescued an injured miner. *Coal Age* noted "the demonstration was intensely interesting and instructive . . . and to Mr. E. E. Bach . . . belongs the credit of training the teams and directing the successful exhibition."²² The company improved the usual competition by adding an element of realism — the constructed mine tunnel and smoke — to the safety demonstration.

The Ellsworth Collieries Company expanded James W. Ellsworth's original homemaking training for girls and developed a domestic science program. Bach observed that many of "our girls are forced to leave school in order to assist their mothers in the homes," so a "Domestic Science" department was designed to provide "special training" and "better prepare them for their duties in the home at the present and in the future." The company bought kitchen "equipment that was plain but serviceable and such as the children will likely to use when they leave school." To learn and develop homemaking techniques, the girls' training included such practical tasks as cooking, baking, canning, washing, ironing, and, probably the most important, caring for the stove. On several occasions Bach created a class to teach boys domestic science, but students failed to attend because they "did not see the necessity." He hoped to persuade boys that the training was beneficial, but they remained steadfast in the belief that such

²¹ "First Report, 1912," 8; "First Aid Day at Ellsworth," *Coal Age*, July 20, 1912.

²² "First Aid Day at Ellsworth."

tasks were "woman's work" and refused to participate.²³ It is an indication that boys of foreign-born parents had specific male-oriented roles to fulfill in the coalfields.

Once the vocational education system was established, Bach added two programs in 1912, one for preschoolers and the other for employees. The company created a kindergarten class to familiarize "a great number of foreign children who could not speak a word of English" with the language. Superintendent Bach hoped that a process of "well-directed play and conversation" would improve the children's linguistic skills so they could enter school without "any hindering language handicaps." The other new company program was the introduction of a "night or continuation school." Night schools were not new to the mining industry. Hard-coal mining companies had developed night classes for the breaker boys (since they worked during the day separating coal from rock debris) before the twentieth century, and the same companies had created similar classes for adults. In creating the Ellsworth night school, Bach emulated the hard-coal companies' programs and then expanded class offerings to meet the Ellsworth Collieries Company needs. The steel firm said it created a night school to develop a desire for "self-improvement" among the miners, "covering what we believe to be their needs."²⁴

The original night school consisted essentially of two classes: one in mining and the other in English. The company hoped that the mining class would prepare miners to pass the Pennsylvania State Mining Examination and qualify them as mine foremen and fire bosses — positions that increased the miners' pay and also gave the company a more experienced, and it was hoped, a more stable work force. A local mining engineer taught the course two nights a week to the original ten-member class. In his annual report to the company, Bach noted that the "class is very enthusiastic" and that the members have a "spirit of even greater earnestness than when they attended school years ago." The state superintendent of public instruction optimistically observed, "It is entirely possible that the boys enrolling in the continuation class will be paid for their time by the colliery company."²⁵

²³ "First Report, 1912," 14.

²⁴ *Ibid.*, 22; Peter Roberts, *Anthracite Coal Communities . . .* (1904; reprint ed., Westport, Conn., 1970), 172; "The Nanticoke Movement," *Coal Age*, Oct. 25, 1913; "Second Annual Sociological Report, Ellsworth Collieries Company, 1913" (hereafter cited as "Second Report, 1913").

²⁵ "First Report, 1912," 22; "Second Report, 1913"; Schaffer, *Report*, 1912, 9.

Although workers were not paid to attend classes, the acknowledged consideration indicates the company's genuine desire to educate the miners. The English class gave the foreign miners, who constituted over 75 percent of the workers, a better understanding of the language. Bach observed that "the ambitious foreign speaking employees are beginning to realize that their advancement depends upon their ability to understand, to read, and to write English" and so the language class was offered in night school. These classes helped prepare those "who," the company said, "desire eventually to become naturalized citizens." In 1913, twenty-two men went to Pittsburgh to obtain naturalization papers, and this number rose to over sixty in 1915.²⁶ The program was apparently working, although its success rate in terms of those who achieved citizenship status is unknown.

Enrollment in these initial vocational education courses was low, but as the pragmatic importance of the courses became apparent, attendance grew rapidly. The night course to prepare miners for the state examination grew from ten pupils in 1912 to an average of twenty-five over the next three years. The class in English mushroomed from the five students to nearly forty in 1915. Enrollment in the student vocational education classes also grew rapidly. Bach reported that the courses were "becoming more popular each year," despite the fact that students took vocational education courses dur-

26 "Fourth Annual Sociological Report, Ellsworth Collieries Company, 1915" (hereafter cited as "Fourth Report, 1915").

Ellsworth, Pennsylvania, near shaft 2. From Coal Age, October 21, 1911.



ing recess or after school so as not to interfere with normal classes.²⁷ The sudden popularity of these vocational courses prompted the steel company to continue the educational program that they believed improved workers' lives and increased efficiency in coal production. As school superintendent, Bach sought to improve the quality of education in existing courses while also expanding course offerings.

The year after the vocational education program began, Bach created courses in occupational training. None of the initial classes was discontinued. Manual training for boys, which originally involved the use of woodworking tools and the development of carpentry skills, now encompassed simple furniture construction. The company provided tools and wood (mostly from old dynamite and equipment boxes) for the construction of such objects as stools, chests, writing desks, and toothbrush holders. Boys were also employed for the first time on the company farm to help raise chickens and dairy cows. Newly established school gardens enabled the boys to develop a knowledge of basic gardening. The company started gardens because it thought that the school could teach improved gardening methods to the children, who in turn would pass this information on to their parents, many of whom maintained gardens to supplement their food supply. Awards were given to those who had the most productive garden, the best organized garden, and the neatest yard. This was done to promote gardening and to give the mining communities an attractive, orderly appearance.²⁸

Bach also expanded girls' vocational training, particularly stressing the development of cooking skills. Girls in domestic science courses began to cook for large numbers of people. They prepared lunch for those who attended the annual Mine Safety and Rescue Demonstration (some five thousand people) as well as at other smaller community meetings. Following the meal for the mine safety competition, superintendent Bach stated that "the practicability of the Domestic Science Department was again demonstrated upon this occasion" with the production of "a most palatable luncheon." Washington County school superintendent Crumrine, who attended the competition and ate the student-prepared lunch, "testified" in his annual report "that the task was most successfully accomplished." As part of the program expansion, the girls prepared a particular dish with the

27 "Second Report, 1913"; "Third Annual Sociological Report, Ellsworth Collieries Company, 1914" (hereafter cited as "Third Report, 1914"); "Fourth Report, 1915."

28 "Second Report, 1913," 37, 40; "Third Report, 1914," 16.

aid of a recipe book and were graded on its taste. Senior girls in the domestic science program prepared and served a meal to the local school board. As a new part of the education process, the company encouraged students to save their money in the town bank, hoping this activity would develop thrift among the children and this trait would spread to their parents. In 1913 there were 350 student accounts totaling over \$2,250.²⁹

The increasing sophistication of coal mining and the enthusiasm of miners to attend night school and improve themselves prompted the company to expand its mining-class curriculum. M. D. Cooper, an Ellsworth Collieries Company mining engineer who taught mining classes, stressed the role of education in improving the lot of miners in a letter to *Coal Age*. "The value of educating for the coal miner is strikingly illustrated," Cooper observed, "by the man who acquires an education and learns about the job ahead of him." That man, according to Cooper, was sure to assume the new position and an increase in pay. Cooper also noted the three branches of Ellsworth's innovative night school for miners: the elementary or traditional education; bituminous mining law; and advanced mining classes.³⁰

Several courses were added to increase practical and technical knowledge among the workers. Applied mathematics, stenography, and mechanical drawing prepared potential employees for work in the company office. A class in basic chemistry examined the formation of volatile gases found in the mines and methods to measure their accumulation in order to limit potential explosiveness. A course in "shop-work" trained men in the basic skills required to maintain and repair mining equipment. Cooper taught various technical aspects of mining — mine gases, ventilation, drainage, blasting, and haulage — and followed a rigid course outline to provide instruction in all the essential areas. New mining techniques were introduced to insure that each of the miners was familiar with the latest technological developments. The practical courses in mining and the traditional education were vital to comprehending the bituminous mining-law class. "Great emphasis is given to the study of the mining law," Cooper wrote, "both in the matter of helping each man to acquire a good working

29 "Lackawanna Steel Company's Contest," *Coal Age*, Nov. 8, 1913; L. R. Crumrine, "Report of Washington County School Superintendent" in *Report of Superintendent of Public Instruction of the Commonwealth of Pennsylvania, 1914* (Harrisburg, Pa., 1914), 164; "Fourth Report, 1915," 11-12.

30 "Education in Coal Mining," *Coal Age*, May 3, 1913.

knowledge of the law, for the purpose of promoting greater safety in the mines; and also, because a man must be familiar with the law before he can expect to make a good showing in any state examination." The company argued that its courses were extremely beneficial in preparing miners for the Pennsylvania state mining exam. In 1915, thirty-two area candidates took the mine foreman test, and the four men who passed the examination had attended the Ellsworth mining classes. Four of the nine area men who passed the fire boss test had enrolled in the classes.³¹

The company boasted that it spent approximately eighteen dollars per man to conduct these mining classes, a considerable expense in the coalfields. Bach emphasized in his annual report, however, that it was a worthwhile expenditure. The company obtained better educated and skilled miners, and those men who took the courses and passed the state examination received an average annual wage increase of \$266. The University of Kentucky offered similar mining classes in its summer school program and charged ten dollars per student plus room and board at three dollars per week. The Ellsworth Collieries Company classes were free to employees.³² The education program may have given the miners a sense of loyalty to the company and community and, with the pay increases, these skilled workers were more likely to remain in the town helping stabilize the work force. It was a shrewd company policy.

In addition to these curriculum changes, the company also expanded the night school for women. The town women received little formal education because of frequent absenteeism. Helping around the home and performing daily household chores usually took precedence over the school day. When the women requested vocational training, Bach and the company created a series of courses designed to make them better citizens and wives. In 1913, a class in English was held for the first time solely for Ellsworth and Cokeburg women; attendance, however, was sporadic because of household duties. The company established a night class in the domestic sciences for women because of a desire to learn what their husbands called "American cooking." Several courses in sewing were created where each woman worked on her family's clothes under the supervision of an instructor. The only negative aspect of these sewing courses, which at one point enrolled

31 "Second Report, 1913," 41-44; "Third Report, 1914," 16; "Fourth Report, 1915," 11-12.

32 "Fourth Report, 1915," 11-12; "Miner's Summer School," *Coal Age*, Apr. 12, 1913.

nearly three hundred women, was that "when the women finished their family sewing," company officials noted, "they usually do not come back to the class until such a time as that they may need more family sewing."³³ The inclusion of women in the vocational education process suggests the company's desire not only to improve the lives of the men, but those of the women as well.

First aid courses became standardized and instruction improved following the initial introduction of the classes in 1912. The first aid classes were essentially the same, but they were now Red Cross approved, and this standard permitted those who passed a particular unit of the instruction to receive Red Cross certification. School superintendent Bach was so delighted with the success of the Ellsworth first aid program that he discussed it with other Washington County teachers and even demonstrated some basic first aid procedures in the hopes that other schools might adopt the ideas. As state mining regulations required the company to obtain more sophisticated mine safety equipment, the level of first aid instruction also increased to familiarize students and workers with new techniques and equipment. The number of miners in these courses increased from the original 1912 class of 104 to well over 300 participants in 1915. Company officials continued to stress safety in their concern for miners (and the entire coal mine), but also because of the new state workman's compensation laws, which required medical and safety training for the workers. Emphasis on first aid training could also bring the steel company large discounts from insurance firms.³⁴

The Ellsworth Collieries Company increased its private vocational education course offerings and its enrollment grew until the commonwealth of Pennsylvania began to take control of the schools. In 1913 the state legislature approved the Showalter Act, which created a statewide vocational education system and appropriated money for its development. A significant portion of the allocated money went to established mining schools in the anthracite fields, in Nanticoke and Shamokin-Mount Carmel, where six large coal firms had operations. Ellsworth and Cokeburg received no funding. Starting in 1915, the recently created Vocational Department of the State Department of Public Instruction established organizational requirements to centralize vocational education in the state. This action modified the Ellsworth system. Vocational education programs had to meet State Board of

³³ "Third Report, 1914," 16, 13; "Fourth Report, 1915," 10-11.

³⁴ "Teachers Show Great Interest," *WR*, Aug. 23, 1912; "Fourth Report, 1915," 13.

Education approval in organization, equipment, courses of study, teacher qualifications, methods of instruction, and conditions of student admission. In an effort to promote vocational education and subsidize teacher income, the state now paid two-thirds of the night school instructors' salaries as well as those who taught classes "which have a direct bearing upon the occupation of the students."³⁵ The state held a dominant position in the development of vocational education.

This centralization effort came at a time when the Ellsworth and Cokeburg school system was receiving more national publicity. The United States Commissioner of Education, P. P. Claxton, prepared fifty-two slides on various aspects of the school system to present to the Panama-Pacific International Exposition in San Francisco. The slide show was part of the Bureau of Education's exhibit at the fair. The Ellsworth Collieries Company's well publicized and innovative private educational system, however, had come to an end. Thereafter, the state took a more active role in the school's operation, although the company remained influential in shaping the curriculum.³⁶

The vocational education program in Ellsworth and Cokeburg slowly stagnated in the years after the State Board of Education became directly involved. Several factors were involved. The state centralization policy helped curtail innovative vocational programs as local school boards now looked to the state for guidance and instruction at a time when the State Board of Education was ill equipped to act as leader in the movement. The advent of federal legislation in the Smith-Hughes Act (1917) further complicated matters, as two government agencies now worked to implement vocational education programs. The Ellsworth and Cokeburg school system fell under state control but did not receive federal funding. The real blow to the educational program came when E. E. Bach, the innovator and driving force behind the school's development, resigned as school superintendent in 1918 and Marion McDowell was elected as his replacement. While McDowell was a solid administrator and had good qualifications, the growth and expansion of the vocational education program during Bach's years suddenly stalled. Attendance remained constant and no new courses were added to the curriculum.³⁷

Part of this stagnation was due to depressed coal prices; following

35 Jim Pearson and Edgar Fuller, *Education in the United States: Historical Development and Outlook* (Washington, D.C., 1969), 1036; "State Help for Mine Schools," *Coal Age*, Sept. 6, 1913.

36 "Schools," Ellsworth School System Pamphlet, Ellsworth, Pa.

37 "Fourth Report, 1915," 12-13; "Schools," Ellsworth School System Pamphlet,

World War I the American coal industry entered a deep and lasting depression. With prices slashed and production restricted, coal companies were compelled to restrict programs, and the Ellsworth Collieries Company made cuts in education and other "sociological" areas. In the midst of this poor economic climate, the Lackawanna Steel Company sold the entire operation to the Bethlehem Steel Company in 1922. The new steel company created a subsidiary, the Bethlehem Mining Corporation, to operate the mines in Cokeburg and Ellsworth. The task of running the school now fell to new owners, who had to work with the state in educating students. The Bethlehem Mining Corporation continued the precedent of providing good education to its residents, but the halcyon days of Ellsworth's educational system were gone.³⁸

James W. Ellsworth had created the educational system of Ellsworth and Cokeburg to improve the quality of life among the foreign miners and to increase production in a highly competitive business. He was extremely satisfied with the results of his school, particularly the improvement of workers' appearance and lives. The Lackawanna Steel Company's purchase of the coal mines represented a significant shift in views toward education. While in basic agreement with Ellsworth's educational policy, the steel company embraced vocational education instruction to meet not only its needs but those of its workers. The success of this program can be measured in terms of expanded course offerings, increased enrollments, and the national publicity citing the Ellsworth system as a pioneer in coal mining education. Ellsworth and Cokeburg were part of the vanguard in mining education and occupational training in the soft-coalfields of Pennsylvania.

The Ellsworth Collieries Company increased coal production during these years, which was probably due to the adaptation of machines and the acquisition of additional markets. Vocational education, however, figured prominently in the mechanization of coal mining; an educated miner was required to operate increasingly sophisticated pieces of equipment. The innovative educational program, with its emphasis on safety, a functional knowledge of English, good citizenship, and practical mining techniques, helped both company and employees. In the joint venture consolidating education and business practices, the educational system started by James W. Ellsworth and continued by the Lackawanna Steel Company was a creative success. ■

Ellsworth, Pa.; "Ellsworth-Cokeburg Schools Annual Report, 1922-23," Ellsworth, Pa.

38 "Ellsworth-Cokeburg Schools Annual Report, 1922-23," Ellsworth, Pa.

IN COMMEMORATION

GIFTS

IN MEMORY OF

CHARLES MORSE STOTZ

FROM

Mrs. James A. Bell

Mr. and Mrs. Herbert M. Buchta

Mrs. Joan F. Crawford

Mr. and Mrs. John P. Davis, Jr.

Mrs. Alice Stotz Diehl

Mr. and Mrs. Sidney W. Dodge

Mr. and Mrs. William F. Gauss

Mrs. R. C. Grimstad

Griswold, Winters, Swain, and Mullin, Landscape Architects

Mr. and Mrs. Theodore W. Henning

James K. Hess

Mr. and Mrs. Frederick A. Hetzel

Mr. and Mrs. David S. Ketchum

Mr. and Mrs. Donald L. MacLachlan

Mrs. John W. Matz

Mr. and Mrs. J. Paul Scheetz

Mrs. Charles T. Siebert, Jr.

Mr. and Mrs. Richard W. Simon

Mr. and Mrs. C. V. Starrett

Mr. and Mrs. Adie A. Stevens II

Miss Frances H. Wilson

Mr. and Mrs. J. Vernon Wilson

Mr. and Mrs. Lawrence C. Woods, Jr.
