

## ANDREW CARNEGIE, RAILROADMAN

JOHN E. HIGGINS

**I**N December of 1852 the Pennsylvania Railroad completed its Western Division from the Stone Viaduct, east of Johnstown, to Pittsburgh. For the first time a continuous rail line, in conjunction with the Allegheny Portage Railroad over the mountains, ran from Philadelphia to the Ohio River. In the six years of its existence, the Pennsylvania had built rapidly to reach Pittsburgh in order both to forestall the Baltimore & Ohio and to tap the rich western trade. Under its brilliant new president, J. Edgar Thomson, the road was beginning an era of growth that would make it the greatest carrier in the world.<sup>1</sup>

To head the new Western Division and to mollify the citizens of Pittsburgh, angry at the exclusion of the B. & O., Thomson picked twenty-nine-year-old Thomas A. Scott. Tall, handsome, charming and bright, Scott had previously been the station agent at Duncansville, the transfer point where the rail lines on the eastern slope of the mountains connected with the Portage Railroad. In 1852 the Pennsylvania had few buildings in Pittsburgh and no private telegraph line. Consequently, Scott frequently used the public telegraph office and, by chance, became acquainted with a young telegrapher named Andrew Carnegie. Scott took a liking to the boy and offered him a job with the railroad. After some hesitation, Carnegie accepted a position as Scott's telegrapher and clerk. Before long he was known all over the road simply as "Mr. Scott's Andy."<sup>2</sup>

Carnegie later wrote of Scott, "He was my great man and all the hero worship that is inherent in youth I showered upon him."<sup>3</sup> Like

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Mr. Higgins is an Associate Professor at California State College at Long Beach, Long Beach, California, specializing in late nineteenth century American intellectual and social history.—Editor

1 George H. Burgess and Miles C. Kennedy, *Centennial History of the Pennsylvania Railroad Company* (Philadelphia, 1949), 20, 57. The writing of this essay was made possible by a summer grant from the Long Beach California State College Foundation.

2 Samuel Harden Church, *Dictionary of American Biography*, XVI, 500-501; *Autobiography of Andrew Carnegie* (Boston, 1920), 63-64, hereafter cited as *Autobiography*; letter from [John P.] Glass to Andrew Carnegie, 15 March 1858, Andrew Carnegie Papers, Library of Congress, Vol. 1, items 74-76.

3 *Autobiography*, 70.

Carnegie, Scott had risen on his own. His only formal education was attending a country school in the winter months until he was ten. For the next seventeen years, he worked as a handy man in a general store, a clerk in an office, and at various business ventures before becoming a station agent for the railroad in 1850. Scott was noted for his patience and democratic manner. Despite limited schooling, he read widely, and possessed charm and quick intelligence. He had a strong speculative streak and was the first to introduce Carnegie to the wonders of investment. Being a strong administrator, he was willing both to make decisions and to delegate authority to able assistants. For six years, Carnegie worked closely with Scott and learned from him. During four of these years, Scott was a lonely widower who relied heavily on his optimistic, effervescent young assistant for companionship.<sup>4</sup>

While Carnegie enjoyed Scott's company, he had led a rather sheltered life and was a bit distressed at first by the typical railroad worker. Being new and dangerous, railroading attracted a rough, coarse crew of ex-sailors, disappointed miners, drifters and the like. Carnegie's reaction was to develop a distaste for smoking and improper language which proved lifelong. However, these were rough, not depraved, men, and the young clerk soon learned to like and respect their good qualities. All treated him kindly.<sup>5</sup> In fact, but for the aid of a sympathetic engineer, Carnegie's railroad career might have been very short.

Not long after Carnegie was hired, Scott sent him to Altoona to get the monthly payrolls and checks. On the return trip, he tucked the bulky package under his vest and, being an enthusiastic railroader, climbed aboard the engine. After going over a bumpy section, he realized with horror that the package was gone. Convinced that it couldn't have happened too long before, he begged the engineer to back up slowly. Some minutes later, Carnegie spied the light-brown package on the banks of a large stream, just a few feet from the water. Only the engineer and the fireman knew of his carelessness, and neither revealed it. He shuddered at the thought of the effect such a blunder would have had on Scott's confidence in him.<sup>6</sup>

Carnegie soon learned the routines of the office and, with Scott's encouragement, gradually performed duties that went beyond his job as

<sup>4</sup> Church, *Dictionary of American Biography*, XVI, 500-501; letter from Andrew Carnegie to Mary Scott Burns, 22 March 1912, AC Papers, Vol. 204, item 38923; *Autobiography*, 84.

<sup>5</sup> *Autobiography*, 65-66.

<sup>6</sup> *Ibid.*, 66-68.

telegrapher and clerk. One particular episode speeded his advancement. Because the Pennsylvania then was, for the most part, still a single line, it was often necessary to telegraph orders to trains. Only a superintendent had the authority to issue such train orders. One morning Carnegie arrived at the office to find that a serious accident on the Eastern Division had delayed the passenger train heading west. The eastbound passenger train was proceeding slowly, with a flagman in advance at every curve. Freight trains in both directions had been standing still on sidings much of the night. Scott, who was often out all night at accidents or breakdowns, had not arrived. Under similar circumstances, Carnegie had frequently telegraphed Scott's orders. Finally, Carnegie could not resist and began issuing train orders under Scott's initials. He soon had all the trains on the division running smoothly. When Scott did arrive, Carnegie showed him what had been done. Scott silently checked and re-checked Carnegie's orders, then walked to his desk and said no more about it. That evening, however, he talked to his freight manager, G. C. Franciscus:

"Do you know what that little white-haired Scotch devil of mine did?"

"No."

"I'm blamed if he didn't run every train on the division in my name without the slightest authority."

"And did he do it all right?" asked Franciscus.

"Oh yes, all right."

When Carnegie heard of this conversation, he interpreted it to mean that Scott approved his boldness. From then on, he assumed more responsibility until it was seldom that Scott issued a train order.<sup>7</sup>

Some time after this episode Scott, who had to be away for a week or two, got permission to leave Carnegie in charge of the division. It was the sort of opportunity that the ambitious would-be executive jumped at. He worked extra-conscientiously. Everything went well with the exception of one accident caused by what he considered to be the inexcusable negligence of a ballast crew. Furious, Carnegie held an immediate investigation, fired the chief offender and suspended two others. When Scott returned, he found the matter settled. Although thinking Carnegie too severe on the men, Scott backed up his subordinate. Quick to anger and quick to forgive, Carnegie also came to believe that he had been too harsh. In later years, he did his best to make amends to the men who had been suspended.<sup>8</sup>

<sup>7</sup> *Ibid.*, 70-72.

<sup>8</sup> *Ibid.*, 73-74.

On January 1, 1858, Scott was appointed general superintendent of the entire Pennsylvania Railroad, with headquarters at Altoona. Carnegie, then twenty-two, moved his widowed mother and younger brother to Altoona and continued as Scott's right-hand man.<sup>9</sup>

Scott faced considerable labor unrest when he took over his new position. One night the trainmen deserted their trains and tied up all traffic. There were rumors that not only the trainmen but also the men in the repair and construction shops were rapidly organizing. As the tension mounted, Carnegie was followed home in the dark one evening by a workman whom he had aided in getting a job. He told Carnegie of a paper being signed by the shopmen, pledging them to strike on the following Monday. Carnegie alerted Scott who immediately had printed notices posted in the shops that all who had agreed to strike were dismissed. Since Scott in the meantime had gotten a list of the names of the signers, the workmen were thrown into confusion and the threatened strike was averted. While Carnegie could be kind to individuals, he showed no qualms about breaking attempts at unionizing.<sup>10</sup>

Carnegie's years in Altoona were marked by two important developments in his personal advancement. Altoona was the growing center of the railroad's maintenance and construction operations. Even as early as the late 1850's, Altoona shops were producing freight cars and iron bridges. In one of the company's works, Carnegie first saw a small bridge built of iron and realized that most of the troublesome wooden railroad bridges would soon be replaced by iron. The outcome was that in 1862 Carnegie with Scott, H. J. Linville, John L. Piper and Aaron Schiffler, organized the firm of Piper and Schiffler. Linville was the designer of the iron bridge built at Altoona; Piper and Schiffler were partners who had charge of the bridges on the Pennsylvania. Renamed the Keystone Bridge Company in 1865, the firm became a famed builder of staunch bridges all over the United States.<sup>11</sup>

Of more immediate impact on Carnegie's private affairs, however, was his meeting with T. T. Woodruff, the inventor of the sleeping car. Woodruff built his first seat and couch railway car in 1857 and successfully demonstrated it on the New York Central. He then saw J. Edgar Thomson and Scott, and arranged for the operation of four

<sup>9</sup> Church, *Dictionary of American Biography*, XVI, 500-501; *Autobiography*, 84.

<sup>10</sup> *Autobiography*, 84-85.

<sup>11</sup> Burgess and Kennedy, *Centennial History*, 85; *Autobiography*, 115-122.

of his sleeping cars on the Pennsylvania. One condition of this agreement, according to Woodruff, was that a specified interest in the sleeping cars should be held for another person by "Mr. Scott's Andy." Carnegie's recollection was that he had helped Woodruff in selling the Pennsylvania on the feasibility of the sleeping car, and that in gratitude, Woodruff had offered him an eighth interest in his venture.<sup>12</sup> In any case, Carnegie got a share in Woodruff's company, later called the Central Transportation Company, which proved extremely profitable and became the nucleus of the Carnegie millions.<sup>13</sup> To meet the first payment on his share, Carnegie went to a local banker, explained the situation and asked to borrow on his interest in the proposed business.

"Why, of course, Andie," he said, "you are all right. Go ahead. Here is the money."

It was a proud day for Carnegie. He had given his first note and gotten a banker to accept it.<sup>14</sup>

On December 1, 1859, Scott appointed Carnegie superintendent of the Western Division at a salary of fifteen hundred dollars a year. Although this meant separating from Scott, who would shortly go to Philadelphia as vice-president of the road, it also meant returning in triumph to friends in grimy, smoky Pittsburgh. At twenty-four, Carnegie held his idol's old job. Train orders would now bear the dreamed-of initials, "A. C." Carnegie's younger brother, Tom, who had learned telegraphy while at Altoona, became his secretary.<sup>15</sup>

Carnegie held this position for a little over five years. The superintendent's duties, while often routine, involved the supervision of many employees, heavy responsibility, and long hours. Until the extraordinary demands of the Civil War, there was neither a night force nor a night dispatcher.<sup>16</sup> As Carnegie said, "The superintendent of a division in those days was expected to run trains by telegraph at night, to go out and remove all wrecks, and indeed to do everything. At one time for eight days I was constantly upon the line, day and

12 Carl W. Mitman, "Theodore Tuttle Woodruff," *Dictionary of American Biography*, XX, 497-498; copy of letter from T. T. Woodruff to Andrew Carnegie, 12 June 1886, AC Papers, Vol. 9, items 1589-1591; *Autobiography*, 86-87.

13 Burton J. Hendrick, *The Life of Andrew Carnegie* (Garden City, N.Y., 1932), I, 95-96, 122-123.

14 Andrew Carnegie, *Triumphant Democracy* (New York, 1893), 388.

15 General Order No. 10 by T. A. Scott, General Superintendent, AC Papers, Vol. 1, item 79; *Autobiography*, 91-92.

16 Carnegie appointed the first night dispatcher on the Pennsylvania (*Autobiography*, 93).

night, at one wreck or obstruction after another.”<sup>17</sup> Since Carnegie could sleep at any time, occasional half-hour naps in dirty freight cars kept him going. Full of energy and the zeal of responsibility, he probably overworked his crews.

Carnegie was much amused by one episode of his early days as superintendent. He was directing the clearing of the tracks at a freight wreck near Manor Station. As he rushed about energetically giving instructions, he got in the way of some men who were carrying rails. A strapping Irishman caught him by the arm and pushed him aside, saying, “get out of my way you brat of a boy, you’re eternally in the way of the men.”<sup>18</sup>

But if Carnegie looked like a teenager, he thought like a hard-headed businessman. One revealing decision, of which records survive, involved a proposed new system in 1861 for moving tonnage in the three divisions. The superintendents of the other two divisions opposed the plan on the grounds of its ill effects on men and machines. Carnegie, on the other hand, wrote a clearly reasoned nine-page letter defending the new plan. He especially denied that it put unbearable demands on trainmen. He was impressed by the proposed plan’s efficiency, estimated savings of twenty thousand dollars a year between Pittsburgh and Altoona, and urged its permanent adoption. Compared to the other two superintendents, Carnegie was precise, rational and profit-conscious.<sup>19</sup> It must be remembered, though, that this discussion occurred during the Civil War which placed great burdens on the Pennsylvania.

When war broke out in April 1861, Secretary of War Simon Cameron called Scott to Washington as Assistant Secretary of War in charge of transportation and telegraph services. Scott, in turn, asked Carnegie to be his assistant. Although opposed to war on principle, Carnegie hated slavery and was an ardent supporter of Lincoln’s policies toward the seceding states. Carnegie’s first job was to collect a railroad crew and repair the railroad and telegraph lines, damaged by Southern sympathizers, between Annapolis and Annapolis Junction, where the railroad joined the main line to Washington. General Butler and several regiments of Massachusetts troops arrived a few days after Carnegie and his crew, and were soon on their way

<sup>17</sup> *Autobiography*, 93.

<sup>18</sup> Letter from George M. Alexander to Thomas W. Miller, 12 May 1903, AC Papers, Vol. 95, items 17980-17981.

<sup>19</sup> Letter from Andrew Carnegie to Enoch Lewis, 5 October 1861, AC Papers, Vol. 1, items 110-118; letter from Resident Engineer [W.W.?] Wilson to Enoch Lewis, 15 October 1861, AC Papers, Vol. 3, items 398-400.

to Washington over the repaired line. Carnegie rode the first engine which left for the capital. As the train moved along cautiously, he spotted some telegraph wires pinned to the ground by wooden stakes. He stopped the train and ran over to release them. When he did, the wires which had been pulled to one side before staking snapped up and struck him in the face, knocking him over. Since a gash on his cheek bled profusely, he later liked to say, half playfully but half proudly, that he was among the first to shed his blood for the North.<sup>20</sup>

Once in Washington, Carnegie's initial assignment was to establish a ferry from Washington to Alexandria, Virginia, and to extend the Baltimore & Ohio Railroad track from the old depot in Washington to and across the Potomac. To accomplish this, a crew under Carnegie and R. F. Morley rebuilt the Long Bridge over the Potomac in only seven days.<sup>21</sup> Carnegie's headquarters were in Alexandria when the disastrous first Battle of Bull Run was fought in July. As news of the defeat came back, Carnegie rushed every available engine and car to Burke's Station, near the battlefield. He himself supervised the loading of train after train with wounded volunteers. When Southern troops were reported closing in, Carnegie and the telegraph operator left on the last train to Alexandria. There, panic was evident on all sides; many were hurriedly crossing the Potomac. To Carnegie's pride, only a few trainmen and not a single telegrapher abandoned the city.<sup>22</sup> Carnegie took a farsighted view of the defeat. A few days later he wrote a friend,

Depend upon it the recent defeat is a blessing in disguise, we shall now begin in earnest, knowing our foes, the necessary means will be applied to ensure their overthrow — McClellan's appointment together with the universal acceptance of every regiment offering give token of a glorious day hereafter — What might have been half work a mere scotching of the snake, will now be thorough and complete[.]

And, he added,

I am delighted with my occupation here — hard work but how gratifying to lie down at night + think By George you are of some use in sustaining a great cause . . .<sup>23</sup>

Soon after Bull Run, Carnegie moved back to the War Department building in Washington. Since he was in charge of the telegraph

20 *Autobiography*, 99-100; David Homer Bates, "Lincoln in the Telegraph Office," *The Century Magazine*, LXXIV (May, 1907), 124-125.

21 *The Century Magazine*, LXXIV (May 1907), 125.

22 *Autobiography*, 100-101.

23 Letter from Andrew Carnegie to [?] Holmes, 26 July 1861, AC Papers, Vol. 1, items 87-89. Carnegie's letters were usually written in a rapid-fire style with little attention to conventional punctuation.

office, he met Lincoln, Edwin M. Stanton and other leading figures. By fall, however, it was apparent that the war would not end quickly. Because of the importance of the railroads to the war effort, Carnegie could serve more usefully as superintendent of the Western Division. So, with the preliminary organization of the government railway and telegraph services completed, Carnegie returned to Pittsburgh in November 1861.<sup>24</sup>

While on the railroad line in Virginia during the hot summer of 1861, Carnegie had suffered something like a sunstroke. Its effects passed away, but he found thereafter that he couldn't stand heat and had to stay out of the sun.<sup>25</sup> When he resumed his duties in Pittsburgh, he had his first serious illness and was forced to rest. He struggled through a winter of poor health, then asked for and received a three-month leave of absence, beginning July 1, 1862. With his mother and a friend, Carnegie returned like a conquering hero to Dunfermline, Scotland, which he had last seen as a tearful boy leaving with his impoverished family for America. While in Dunfermline he was again very ill and spent six weeks in bed. By the time of his return to Pittsburgh, however, he had been restored by rest and the ocean voyage. As his train entered the Western Division, the men gathered together and welcomed him with a cannon salvo. Carnegie had a genuine liking and concern for the men under him, and was deeply touched at this sign of their affection.<sup>26</sup>

For two-and-a-half more busy wartime years, Carnegie continued as superintendent of the Western Division.<sup>27</sup> He did a creditable job and in late 1864 or early 1865 was invited by President Thomson to become assistant general superintendent of the Pennsylvania. Although pleased at the offer, Carnegie had resolved to quit. His private investments had grown to the point where they required much of his time. Moreover, he was ambitious. He was not content to work for someone and be a highly-paid employee. He wished to work for himself and to make a fortune.<sup>28</sup>

Carnegie resigned from the railroad on March 28, 1865. In his farewell to the employees of the division, he expressed deep regret at parting and thanked them for their kindness and support. The men presented him with a gold watch and wrote, "In the long years that

24 *Autobiography*, 109; Bates, "Lincoln in the Telegraph Office," 126.

25 For the rest of his life, he retreated to the mountains of the United States or to the Highlands of Scotland on the approach of hot weather.

26 Letter from Andrew Carnegie to "Dod" [George Lauder, Jr.], 26 May 1862, AC Papers, Vol. 3, item 502; *Autobiography*, 109-114.

27 It became the Pittsburgh Division in 1863.

28 *Autobiography*, 140-141.



have passed, we cannot recollect a single incident where in you have acted inconsiderately or unfairly to any of our number." They felt that they had lost "a warm and sympathizing friend."<sup>29</sup>

Although the influence of Carnegie's railroad experience on his later career cannot be measured precisely, it was significant. He joined the Pennsylvania as a young telegrapher thrilled to be earning thirty-five dollars a month.<sup>30</sup> When he resigned, he was a wealthy young executive of twenty-nine with a salary of twenty-four hundred dollars a year and outside income from investments of about fifty thousand dollars a year. He would never again work for anyone but himself. Perhaps the most important things that Carnegie learned can be suggested under the headings of railroading, investment, and management.

Improvements in transportation, chiefly the railroad, were central to the rapid industrialization of post-Civil War America, and transportation advantages were a key to industrial success. Businessmen like Carnegie and Rockefeller became great in part because they understood this. From the location of the Edgar Thomson Steel Works on Braddock Field in 1873 to the building of plants at Conneaut Harbor on Lake Erie in the 1890's, Carnegie always stressed the importance of choosing locations with strategic transportation features. In later years, he frequently relied on his inside knowledge of railroading (and his personal acquaintance with railroad executives) to win battles in an intermittent warfare with the Pennsylvania over rates for Carnegie products. As one move to weaken the near-monopoly grip of the Pennsylvania on Pittsburgh, Carnegie in the 1890's built his own freight railroad, the Pittsburgh, Bessemer & Lake Erie, from Pittsburgh to Conneaut Harbor. To Carnegie's pride and delight, the road was so efficient and well constructed that it earned the nickname "Carnegie's model railroad." In 1900, just before retiring, Carnegie was considering the feasibility of building or acquiring a rail connection from Pittsburgh to the Atlantic seaboard. This unsettling possibility was one of the stimuli which resulted in J. P. Morgan's offer to buy out Carnegie and put together the United States Steel Corporation.<sup>31</sup>

Secondly, Carnegie learned the rudiments of investment and

<sup>29</sup> Printed letter, Andrew Carnegie to The Officers and Employees of the Pittsburgh Division, 20 March 1865, AC Papers, Vol. 3, item 533; letter from employees of the Pittsburgh Division to Andrew Carnegie, n.d., AC Papers, Vol. 3, items 534-535.

<sup>30</sup> Hendrick, *Life of Andrew Carnegie*, I, 120-124, 145-147, discusses in detail the sources of Carnegie's income in the 1860's.

<sup>31</sup> *Autobiography*, 189; Hendrick, *Life of Andrew Carnegie*, II, 24-34, 125-128.

finance while with the railroad. Under Scott's tutelage, Carnegie bought his first stock, made his first note, and formed his first company. Successful early ventures like the Keystone Bridge and Central Transportation Companies grew directly out of his railroad experience. Although Carnegie was willing to back his judgment with cash, he was not, even as a young man, a speculator. He invested in promising companies for solid business reasons and with long-term objectives. Out of these successful enterprises came the capital which provided the base for Carnegie's empire in iron and steel.

But perhaps the most important thing that Carnegie gained as a young railroad leader was management experience. Whether founding a small firm to build iron bridges or creating a gigantic steel empire, Carnegie's success resulted from business and managerial skills. His technological knowledge was always limited. He knew enough to ask the right questions, to prod and inspire his associates, and to sell his products. Beyond that, he cared little for technical details. He always attributed his success to the ability to select abler men to do the work for him. Although much of this leadership ability was doubtless innate, he developed skills and learned much about management in twelve years with the railroad. He could not have picked a better training ground, for as T. C. Cochran has pointed out, "the railroads became the first large American industry to develop companies with many centers of operation and complex managerial hierarchies; bureaucratic structures in which we can trace the origins of the policies and conventions of twentieth-century big business."<sup>32</sup>

In his sixty-seventh year, Carnegie summed up his feelings on his early railroad career in a few simple words:

It is a matter of great satisfaction and some pride to me that I began in the railroad service as telegraph operator and rose to the position of superintendent of the Pittsburgh Division of the Pennsylvania Railroad.<sup>33</sup>

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<sup>32</sup> Thomas C. Cochran, *Railroad Leaders 1845-1890* (Cambridge, Mass., 1953), 2.

<sup>33</sup> Andrew Carnegie, "Railroads Past and Present," *The Empire of Business* (New York, 1902), 291.