

Collis P. Huntington in Perspective

Gene Huddleston

The capsule biography of Collis P. Huntington that follows reveals him as a capable and aggressive businessman and puts into the perspective of his whole career his years as president of the Chesapeake & Ohio. And the appended close examination of some of his business letters written while constructing the Elizabethtown, Lexington, and Big Sandy demonstrates his "hands on" approach as a chief executive officer and discloses some fascinating facts about construction of the C&O line through the hills of northwestern Kentucky.

Huntington was born at Harwinton, Connecticut October 22, 1821, son of William Huntington, farmer and small manufacturer, and Elizabeth Vincent. His schooling, limited to four months a year, ended when he was thirteen. His marriage in 1844 to Elizabeth T. Stoddard lasted until her death in 1883. Childless, the couple in 1862 adopted the daughter of Elizabeth's deceased sister. In 1884 Huntington married Mrs. Arabella Duval Yarrington Worsham and adopted her only son. Huntington died at Pine Knot Lodge, near Lake Raquette, New York on August 13, 1900.

Huntington's early experiences image stereotypes of the nineteenth century formula for success, as well as nineteenth century genre painting. At fourteen Huntington was apprenticed to a neighboring farmer. Saving all he made his first year, he later claimed, "At the end of that year I was as much a capitalist as I have ever been since." At sixteen,

by acquiring a stock of clocks and other easily transportable items, he became the far-ranging Yankee Peddler of Asher Brown Durand's painting "The Peddler Displaying His Wares" (1836). After seven years as partner in his brother's hardware store in Oneonta, New York, he became one of the original Gold Rush "49ers" and sailed for San Francisco by way of Panama. En route, while detained on the Isthmus for three months, he turned adversity into income by buying and selling merchandise and in the process walking across the Isthmus 24 times.

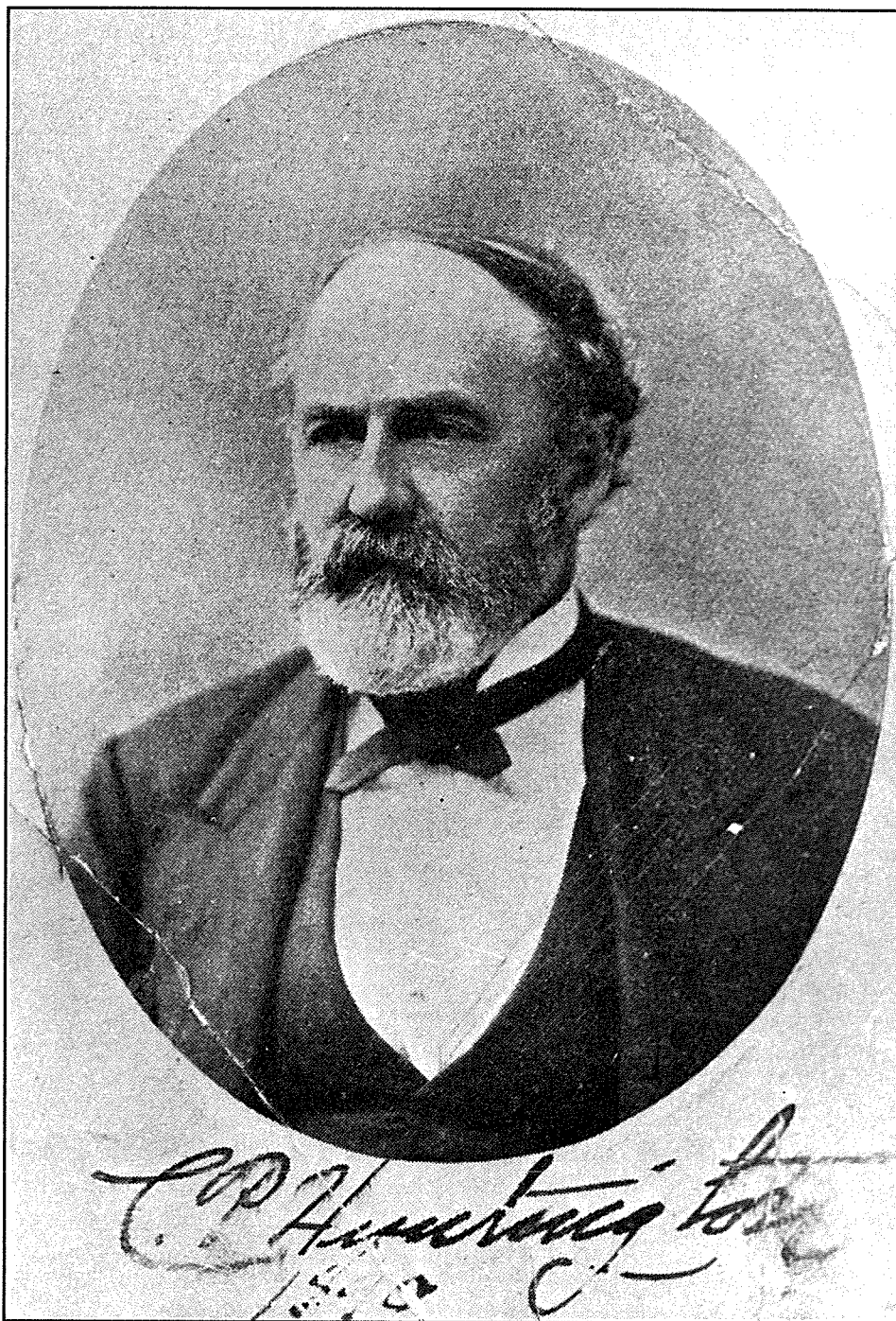
On his arrival in California Huntington faced difficulties. The trading posts he set up east of Sacramento proved unmanageable, and illness for the first time sapped his energy. By 1851 Huntington had brought his wife west and had settled in Sacramento as a hardware merchant. Rebuilding after a fire destroyed his new brick store, he became partner with another burned out merchant, Mark Hopkins.

The partnership flourishing, the second floor of the Huntington and Hopkins Hardware became the center for meetings of disaffected Whigs and "Know Nothings" like Hopkins and fellow merchant Charles Crocker. From a meeting held at the store in 1856, the Republican Party in California was launched. As titular head of the new party, Leland Stanford, also of Sacramento, met frequently with the group. Thus the association of the "Big Four" to build the first transcontinental railroad arose primarily from political, not busi-

ness, alliances.

Railroads were a new technology that made possible transportation in speed, mass, and quantity never known before. Especially challenging to this new technology were construction and operation over mountainous terrain. Thus building a railroad over the Sierra Nevada range in eastern California required men ready to venture their capital on an enterprise with high risks. A brilliant engineer, Theodore Judah, wholly conversant with the new technology and unable to find backing in San Francisco, looked to Sacramento for funds to survey a route over the mountains. Huntington, the first to seriously listen to Judah, soon was able, through his political associates, to raise the money. In 1861, then, the Big Four incorporated the Central Pacific, not only because the survey had found a route through the mountains on a gradient of not more than 105 feet to the mile, but also because at the Comstock Lode in Nevada a mining boom was in progress. In addition, the possibility of government subsidies was strong because President Lincoln, wanting to keep California in the Union, knew its ties to the North needed strengthening.

Following efforts in Washington by Judah, Huntington, and Stanford (elected Governor of California in 1861), President Lincoln signed the Pacific Railway Act of 1862 which empowered the Central Pacific to build eastward from the Pacific coast and the Union Pacific westward from mid-continent. Both roads would receive land grants and



ABOVE and OPPOSITE: Two portraits of Huntington, perhaps just after the C&O era. The one above is dated 1890 and is copied from the March, 1924 C&O employee magazine. The opposite photo may be a bit older, judging by the face and a little less hair. CSPR 12233 YN.

loans for construction in the form of government bonds. In 1864 another federal act doubled the land grants and improved the loan provisions, and in 1866 Huntington achieved his long sought goal - permission to build eastward until the Central Pacific met the Union Pacific, regardless of mileage.

In the management of the

Central Pacific each of the Big Four contributed "teamwork" (Huntington's term) that made the enterprise successful. Huntington, as financier, planner, and policy maker, moved his office to New York, where he could raise capital and purchase equipment. From there he kept in close touch with Crocker, in charge of construction. Hopkins mastered the necessary

corporate accounting details, and smooth-talking Stanford could make the right political connections. These "associates" stayed united until their deaths, despite Stanford's gradual loss of interest in railroad affairs, a development irksome to Huntington.

Theodore Judah proved the tragic figure in this story of success otherwise. Huntington contributed to this tragedy by his and his associates' not making Judah a partner, despite Judah's initiating the project against all obstacles and later providing the technical know-how in Washington for writing the enabling legislation. Judah died of yellow fever contracted on a trip to Washington in 1863 to seek his own financial backing for the project. Even after his death Huntington detested Judah as much as he detested Grenville Dodge, chief engineer of arch-rival Union Pacific: "If you [E. B. Crocker, Jr.] should see Dodge, you would swear that it was Judah...[for Dodge had] the same low cunning...[and] a large amount of that kind of cheap dignity that Judah had." Needless to say, the Central Pacific found another competent chief engineer to replace Judah, and work eastward proceeded rapidly.

Because earth moving techniques were still mostly in the "pick and shovel" stage, completing the line over the granite-spined Sierra required over two thousand Chinese to dig the tunnels and "cuts" and to raise the "fills." Unforeseen expenses were the miles of permanent snow sheds necessary to keep the line open in winter. Huntington's role in the construction race was indispensable. Because of the difficulty of selling stock in this risky enterprise, Huntington often had to raise money by borrowing on his own personal credit. And he had to sell the bonds (which were in little demand), buy the material (subject to wartime inflation and government rationing), and find the ships to haul the freight around the Horn. Typical of

Huntington's logistical achievements was his bargaining (at a profit of \$450,000) for 23 ships to haul most of the consignment of 66,000 tons of scarce American rail which he had just bought.

The energy that Huntington devoted to financing and to purchasing supplies was matched by his schemes to extend the Central Pacific as far east as possible in its race with the Union Pacific. His unrealistic goal was the Weber Canyon east of Ogden. That the Central Pacific finally managed Ogden itself was due to Huntington's intricate dealings in Washington with government officials and to entreaties to Crocker such as to lay rail "as though..Hell was behind you." After weeks of conferences with Secretary of Interior Orville Browning to obtain \$1.4 million in government bonds for Central Pacific's construction into Ogden (never carried out), Huntington wrote Hopkins: "This was the biggest fight I ever had in Washington and it cost me a considerable sum." Waging his warfare required industrial espionage, such as paying an assistant doorkeeper in the Capitol to keep an eye on meetings between Union Pacific officers and Congressmen and depending on his "usual source" for intelligence on the intentions of the Union Pacific in Weber Canyon.

When construction crews of the Central Pacific and Union Pacific met west of Ogden in May, 1869, poet Walt Whitman echoed the nation's pride in his "Passage to India" (1871): "I see.. the Pacific railroad surmounting every barrier/...Tying the Eastern to the Western Sea..." Huntington took no part in the ceremony; the Central Pacific alone was not a true transcontinental, and he had failed to found the new city in Utah he had wanted. But that he knew the steel road's conquering the Sierras had been an extraordinary feat is evidenced by his traveling to the summit of the mountains with painter Albert Bierstadt and commissioning



from him in 1872 "Donner Lake from the Summit" (1873, New York Historical Society).

If Huntington wanted publicity for the achievement of his railroad--through the painting and through hiring a publicity agent--he obviously did not want to advertise himself, for in 1872 the Credit Mobilier scandal broke, and the construction of the Union Pacific would thereafter be associated with bribery and fraud. Central Pacific had, in the Construction and Finance Company, the makings of a similar scandal. In 1867 the Big Four arranged with the

Construction and Finance Company, which the Big Four established and which they owned, to complete construction of the Central Pacific, including its track, depots, roundhouses, rolling stock, etc. Government investigators (the Wilson commission) discovered that for the 552 miles constructed, Construction and Finance received something in the region of twice what the construction should have cost. No accurate statement of the real cost could be made, however, for the journals and ledgers containing actual cost data had been destroyed. Furthermore, two mem-

bers of the Commission accused Huntington, testifying under oath in 1873, of managing "to halt just short of actual perjury, relying...upon a poor memory...to obfuscate the issue."

Meanwhile, without Huntington actively seeking it, an opportunity arose to expand his rail construction ambitions to east of the Mississippi. In attempting to raise capital to complete the Chesapeake & Ohio as a trunk line between Chesapeake Bay and the Ohio River, its promoters looked to Fisk and Hatch, New York investment bankers, who recommended Huntington. After "roughing it" while inspecting firsthand the proposed mountainous route (construction of which the War Between the States had halted), Huntington was able to raise most of the capital the promoters had stipulated, and he became President in 1869. From his New York office Huntington kept close tabs on construction, which, though more expensive than anticipated, was completed in 1873, just at the time he was acquiring virtually every railroad in the state of California. With none of his associates in on this venture, Huntington could do what he had been frustrated in doing with the Central Pacific--found a new city. Hiring a city planner, Huntington himself selected the site on the banks of the Ohio and established the trunk line's main locomotive shops in this new terminus,

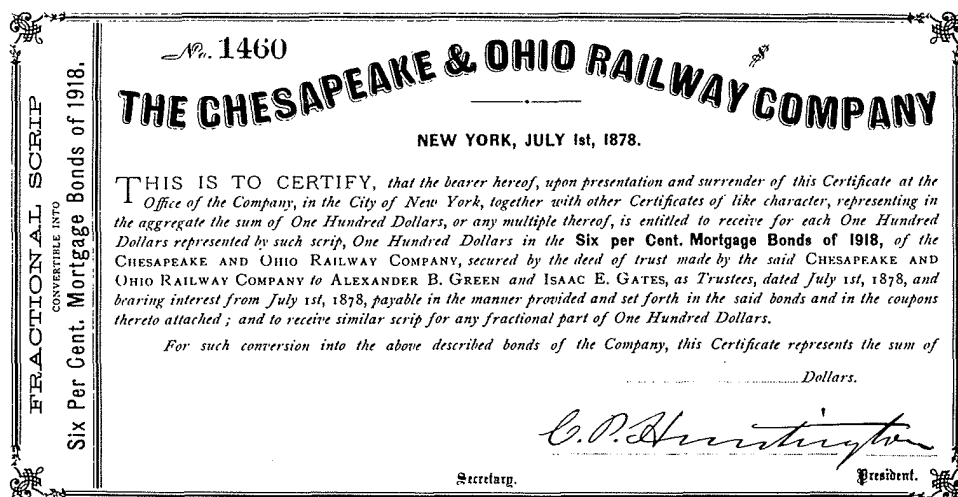
which he named Huntington, West Virginia.

Financial panics in 1873 and 1884 played havoc with paying off the debts acquired in building the road. Huntington, however, foresightedly extended his trunk line westward to Cincinnati (1886 to 1889), where he built a strategic bridge over the Ohio River; in 1882 he had extended it eastward from Richmond to Tidewater on Chesapeake Bay, thereby creating his second new city--Newport News, Virginia. Huntington did not stop with these vital extensions, however, for he was determined to achieve what no other railroad builder had achieved--a coast-to-coast transcontinental. Building or acquiring the necessary connections from the Southern Pacific at New Orleans through Memphis and Louisville to a connection with the C&O proved Huntington's undoing, for the holding company (established 1884), which united these connecting lines, went into receivership in 1888. But by a plan of reorganization Huntington's company escaped a foreclosure sale. For a time Huntington had been President of a true transcontinental; however, in the reorganization, even though the C&O itself emerged unscathed, the smaller connecting lines were sold to existing roads that could profitably assimilate them. Thus, by 1888 Huntington had sold out his interests

in C&O, retaining only the productive Newport News Shipbuilding and Drydock Company, which he established the same time he had founded Newport News.

Even before completing the Central Pacific and acquiring the Chesapeake & Ohio, Huntington had begun purchasing 23 separate railroads in California. The first step in consolidating these acquisitions was linking the short lines around San Francisco in order to have access to the city. The second was to extend one of the acquired lines, the Southern Pacific, to Los Angeles. Simply achieving a railroad monopoly in California would not suffice, however. For Thomas A. Scott, backed with land grants, was building from Texas to San Diego a southern transcontinental that would destroy the monopoly of the Central Pacific in California. This road, the Texas & Pacific, would cross the Colorado River at Yuma, Arizona. Huntington, at work in Washington, successfully lobbied to get a charter to build the Southern Pacific to Yuma to join the T&P. Then, through complex business and political stratagems, Huntington got the best of Scott, and the Texas & Pacific never extended beyond El Paso, Texas. But Huntington was able to extend the Southern Pacific beyond Yuma by obtaining state franchises so that construction could proceed without federal approval.

The completion of Southern Pacific's Sunset Route to New Orleans reveals better than any other of Huntington's initiatives his boldness. For besides the experienced Scott, Huntington had to fight Congress and his own associates to proceed. His boldest stratagem, in overcoming barriers to progress eastward, was presenting the federal government with a *fait accompli*: bridging the Colorado River at Yuma. While the Secretary of War hesitated over giving either the SP or the T&P rights to cross the Colorado at Yuma, Hun-



Newport News Report

[The following article appeared in the *Lexington (Virginia) Gazette* on August 23, 1903 and was recently discovered by Associate Editor/Features Ed Lyon. It shows the progress of Huntington's second new city.]

Thinking perhaps the readers of *The Gazette* will be interested in the wonderful progress that has been made in this city in the last four years, I send you a brief detailed account of the most important improvements made in that time.

The shipyard four years ago employed 3,500 men, while now the force has been increased to 6,500 and 1,500 more men are advertised for. At that date they had one small

dry dock, about one hundred and fifty feet. They have just completed a second dock, eight hundred feet, and large enough to dock the largest vessels. It was a pretty sight a few weeks ago to see one of our largest battleships and one of the largest of the German navy docked at the same time.

The next largest enterprise here is the Chesapeake & Ohio Co. In addition to rebuilding the pier that was burned in 1898, they have erected four other large ones--two for freight and two for loading coal and grain on vessels. They have also built a second grain elevator, which created a demand for more track. In consequence, a large section of country was leveled down and ten additional tracks laid.

The city now is threaded with 20 railroad tracks and double track street car lines running the whole length of three avenues and a single track on the fourth. The travel and traffic from one section of the city to the other are done over four fine steel bridges which were built at a cost of \$175,000.

Four years ago there were few good buildings, no paving or curbing. Now the business section is composed of fine buildings and the residential parts of the city are adorned with fine modern dwellings.

Several days ago I saw two ordinary looking mules draw to the highest point in the city on a wagon thirty barrels of flour put up in cotton bags. This speaks volumes for the fine condition of our streets.

tington, taking the law into his own hands, seized the necessary right-of-way across Fort Yuma and completed the bridge.

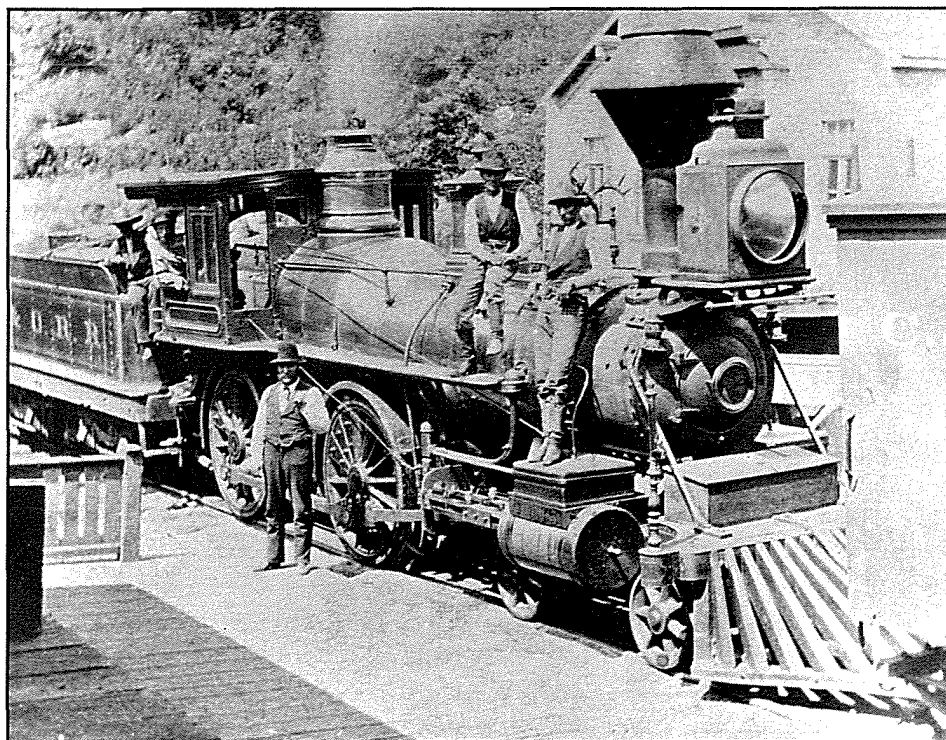
After constructing the Sunset Route to New Orleans and the Shasta Route to Oregon (1887) and absorbing the Central Pacific in 1885, the Southern Pacific became a strangling "octopus" to its critics. Three developments of the 1880s especially tarnished Huntington's reputation: publication of the Colton letters, the protracted refunding controversy, and hearings of the U. S. Pacific Railway Commission. The Colton letters, published in 1883, covered Huntington's legislative activities in Washington, 1874-1878, activities aimed at thwarting the advance of the Texas & Pacific and in gaining concessions for his own SP. Over this period Huntington closely corresponded with David P. Colton, whom the associates had hired as California-based "financial director." When upon learning at Colton's death in 1878 that he had defrauded them, the associates compelled Mrs. Colton to liquidate her husband's interests upon

terms which she considered unjust. In the litigation that followed, the letters read into the record reveal Huntington lobbying so doggedly for his companies' benefit that he would bribe Congressmen, pay off

newspapers, and otherwise, as the *San Francisco Chronicle* editorialized (December 23, 1883), exhibit "arrogance, corruption, and duplicity."

In 1887 President Cleveland empowered the United States Pacific

This C&O 4-4-0 was photographed at Kanawha Falls, West Virginia around 1878 and is representative of the motive power in use during Huntington's C&O years. COHS 718 YN.





Railroad Commission to investigate every aspect of the Central Pacific's and Union Pacific's founding and organization. Huntington, whose testimony filled many pages, evaded direct responses by rambling on and by sarcasm, evasion, and forgetfulness, being almost guilty of perjury in his "almost denials." The Commission concluded that the Big Four had reaped enormous profits at the expense of the government and of minority stockholders (by withhold-

ing dividends).

Huntington was such an adroit lobbyist that he could hold up legislation unfavorable to him even while Congress was investigating him. For nearly a decade Huntington kept at bay refunding bills introduced in Congress to require repayment of the immense loans made to the Central Pacific in the form of government subsidy bonds. By the mid-1890s it became clear that Huntington could no longer

LEFT: Looking east at the west end of the big cut at Haldeman, Kentucky in December, 1982. The original alignment penetrated the darkened ravine to the right. As part of a general program to improve tunnel clearances on the Lexington Subdivision in the early 1930s, Soldier (or Triplett) Tunnel was bypassed in 1935-36 in favor of the cut. BELOW: Only a little of the top of the west portal of Soldier Tunnel is now visible. Over the years, the soft shale rock has eroded and caved in the walls of the cut and tunnel to the extent that it is unrecognizable as a railway right of way, if not for the tunnel. December 30, 1982. OPPOSITE, TOP: This is a brakeman's view of the Haldeman-Soldier cut when traveling west on manifest No. 391 in 1985. OPPOSITE, BOTTOM: the approach to Williams Creek Tunnel in 1958. All photos by Everett N. Young.

hold back legislation to force repayment. Testifying evasively once again in Washington in 1896, Huntington saw his own refunding bill defeated and in 1899 a settlement forced on him.

Journalists like Ambrose Bierce and novelist Frank Norris were insuring that Huntington, in his old age, would be remembered not as Western pioneer but as "Robber Baron." Although Norris' novel *The Octopus* was published a year after Huntington's death, the author--having earlier interviewed Huntington--created the character Shelgrim to represent Huntington in his fictional indictment of the greed and destructiveness of the Southern Pacific: "No one individual...was more hated, more dreaded, no one more compelling of unwilling tribute to his commanding genius, to the colossal intellect operating the width of an entire continent than the President and owner of the Pacific and Southwestern."

For Norris, Huntington symbolized "ungovernable forces" in the universe. Less mystically, one can understand Huntington through his combativeness. Muckraker Charles E. Russell wrote: "He was always on the scent, incapable of fatigue, delighting in his strength...and full of the love of combat." Metaphors throughout his correspondence substantiate his combativeness: To Crocker, on the race with the Union Pacific--"Buckle on

your armor for the fight, for the ground once lost is lost forever.” To Hopkins, paraphrasing Shakespeare--“Let the fight go on and damn the man who first cries ‘Enough!’” Boasting about his boyhood--“No boy in school ever licked me, or ever could! I could wipe up the floor with half the boys in school all together.”

In a milieu characterized by *laissez faire* capitalism and Social Darwinism, Huntington’s view of life as a battleground encouraged his full self-development. At his death he left a transportation system that unified West with East by shrinking the vast distances of the American continent, and he was instrumental in transforming the vision of the West from Great American Desert to Golden West.

The foregoing “macro” examination of Huntington’s career scarcely communicates the enormous vitality of the man nor his knowledge in detail of his far-flung operations. A “micro” examination does, however, reveal these qualities and gives valuable insights into the procedures of nineteenth-century railroad construction. Making possible a micro view are 115 reels of microfilm preserving the correspondence, files, and records retained in Huntington’s New York office.

Because this micro view is aimed at readers of the *C&O Historical Magazine* the focus will be on Huntington’s outgoing correspondence from the fall of 1880 to the summer of 1881 concerning his efforts to “bulldog” completion of that portion of the Elizabethtown, Lexington, and Big Sandy from Lexington to Ashland that was being held up, principally by the difficulties with two tunnels--the Triplett, near Soldier, Kentucky, and the Means, now known as Williams Creek, just east of Denton.

What follows are complete letters and portions of letters from Huntington, in New York, to those involved in the construction. Not all



concern the two tunnels. Some are chosen because they reveal insights not generally known into Huntington’s role in constructing what became the Lexington Division.

(1) Huntington to Gen. John Echols in Huntington, November 20, 1880, who was at that time handling construction of the C&O from Huntington to Ashland--“I would like to lay the track from Mean’s work to the Triplett Tunnel at the earliest day practicable. ...The steel for about

eighteen miles of track immediately west of Mean’s work [Denton, Kentucky] is now going forward.”

(2) Huntington to Chief Engineer M. L. Lum headquartered at Morehead, November 24, 1880--“The timber is now going forward for the [3] bridges over the Little Sandy and those between the Little Sandy and Mean’s work...”

(3) Huntington to contractor C. R. Mason at Clifton Forge, December 1, 1880--“If you have not

been recently, I would like to have you go and find a few days at Triplett Tunnel as that work is moving fearfully slow, if at all."

(4) Huntington to M. L. Lum at Morehead, February 2, 1881-- "Yours of the 26th ultimo rec'd. I notice what you say of Triplett Tunnel and other work under your charge. I know the weather has been very bad, and have no doubt you have done and will continue to do the very best that can be done with the material you have to work with. I will write to Mr. Mason [at Staunton, Virginia] and see if I cannot get him to go over and look after the work at Triplett Tunnel. How are they getting along on Mean's work? I will have steel rails with one locomotive and ten flat cars at Mr. Sterling the last of this month or early in March. How about small cars for track laying?"

(5) Huntington to M. L. Lum at Morehead, February 17, 1881-- "...If a temporary line could be run over Triplett at the cost given by you (\$20,000) and save three months time in operating the road, I should certainly think it wise to put the temporary track down. But if Means' Tunnel is not to be cut, I do not see as we would gain anything by it. We cannot expect to do much business [from Hitchings to the Ohio River] via Riverton, even if we could run through their tunnels [the tunnels of the Eastern Kentucky Railway]. I hope you will do everything that you can to get the tunnel out of the way at the earliest day possible..."

(6) Huntington to M. L. Lum at Grayson [on the Eastern Kentucky Railway], April 19, 1881-- "I telegraphed you on Saturday that you could use your own judgment about the depot at Morehead. The price mentioned is more than I supposed the building would cost. I shall use steel rails of the E. L. and B.S. Road three and three-fourths inches high, and the weight fifty pounds to the yard."

(7) Huntington to M. L. Lum at Grayson, April 24, 1881-- "...As to putting up stone piers at the Tigert [Tygarts Creek] bridge near [just east of] Olive Hill, if you think best to put up masonry as you suggest, you can do so, you being on the ground ought to know much better than I."

(8) Huntington to General John Echols, Mt. Sterling, May 1, 1881-- "...Mr. Tenney writes me from Mt. Sterling that a Mr. Fout of Mt. Sterling has a large mill near there which he wants a switch built to. I wish you would look into the matter, and see if it is a thing that the company wants to consider. Please say to Mr. Tenney that the matter has been referred to you."

(9) Huntington to John Means, Ashland, Kentucky, May 3, 1881-- "...I do hope that you will finish the work on your tunnel, as it will be a very great inconvenience to us not to have it completed by the 1st of January. I am satisfied it can be done by that time without working beyond the economical limit. I expect to have all the grading on the E. L. & B. S. completed by the 1st of January, and we should much regret to have the operation of the line stopped because of the noncompletion of your part of the work."

(10) Huntington to M. L. Lum, Grayson, May 12, 1881-- "After Gen. Echols has found out what can be done on Means' work, I will then answer as to the shaft at Triplett Tunnel [which Lum had advocated]."

(11) Huntington to M. L. Lum, Grayson, May 14 (?), 1881-- "I notice that in your voucher No. 29, Section 26, Eastern Division you allow C. R. Mason & Co. \$3.50 per yard for rock quarried. It seems a large price, stated as it is; very likely it is right but I would like an explanation. Gen. Echols is here today."

(12) Huntington to M. L. Lum, Morehead, June 11, 1881-- "I will order one of Seller's turntables and have it sent to Lexington..."

(13) Huntington to M. L.

Lum, Grayson, June 23, 1881-- "In reply to your inquiry as to the largest cars we want to send through the tunnels I will say that I telegraphed to California and got the dimensions of the officers car of the Central Pacific...Height from top of rail to top of ventilator, 14 ft. and 7 inches. Width 10 ft., 5 inches. The tunnel certainly should be large enough to take that car through, and if they are on a curve, of course there will have to be some calculation made for that."

(14) Huntington to M. L. Lum at Morehead, August 24, 1881-- "Mr. Smith, General Manager of the Chesapeake & Ohio, says he does not think the track should go through the freight depot at Lexington. He thinks it should run along the side with a roof broad enough to extend over the center of the cars so that the water would not drip onto the side of the depot when they are loading or unloading freight. I wish you would see Mr. Monroe and Gen. Echols about this. I will ask Mr. Smith to write giving you his views."

(15) Huntington to M. L. Lum at Morehead, September 3, 1881-- "Mr. Ingalls [M. E. Ingalls, President of Kentucky Central] says that your plans for passenger depot in Lexington are very plain, and that the people there will be much better satisfied if it was a little more ornamental. As you are aware, I do not believe in spending much money on depots, except from the net earnings of the road. But I would like to have you make this depot presentable [sic], even if it costs a few hundred dollars more. This should be attended to at once. [On September 19 Huntington wrote Lum that in "no case must the cost exceed \$5,000."]"

(16) Huntington to M. L. Lum at Mt. Sterling, November 21, 1881-- "I wish you would see Mr. Hilton at Williams Creek Tunnel [called Means Tunnel during construction], and impress him with the importance of having the tunnel lined

with masonry. I think the arches should extend some little distance from each portal, and covered with material from the sides. If they are not, I think we will be troubled in years to come with slides."

From evidence in Huntington's correspondence, Triplett Tunnel was completed around October 1, 1881. The Means Tunnel, on the Ashland Coal and Iron between Ashland and Denton, was finally opened in late November, 1881. One wonders now what all the fuss was about. The Triplett Tunnel was replaced by an open cut, in 1934-35. One can still see the west portal of this tunnel if he looks hard enough through the brush lining the side of the cut. Williams Creek Tunnel (the tunnel constructed by John Means) is still there, but no tracks go through it, for the only portion of the Lexington Division still in service in the 1990s is from Ashland to Coalton. The line from Lexington to Ashland probably never should have been built. Because it was built, it should have been to higher standards, permitting longer trains and "higher and wider" loads than those allowed. Huntington showed great foresight

by constructing a line from Huntington to Cincinnati and bridging the river there. (Interspersed with the correspondence quoted above are long letters on acquiring the right-of-way for this extension and on how to deal with the Kentucky Great Eastern and the "Pound Gap people." Part of the Pound Gap Road, officially the Covington, Flemingsburg & Pound Gap, became the C&O from Newport to Foster, and the Kentucky and Great Eastern, according to Dr. Wendell H. McChord, "built much of what became C&O between Maysville and South Portsmouth.") However, Huntington did not realize, apparently, that in Appalachia a rail line must follow river or creek valleys if the cost of construction is to be controlled. For its length, the Lexington Division was practically unique in crossing five watersheds west of Ashland before it reached the level of the Bluegrass (or Lexington) Plateau near Mt. Sterling.

Huntington's achievement in letter writing cannot be underestimated. All letters cited above were copied in a record book in longhand, presumably by Huntington's amanuenses. And the ones cited are taken

from many others on the same subject. In addition, Huntington directed numerous epistles to people in Kentucky, West Virginia, and Ohio at this time. For example, he was writing to John Byrne at Burnett House, Cincinnati, about acquiring right-of-way from Maysville to Ashland; he was writing businessmen in Lexington about why the Kentucky Central would head south through Winchester rather than Lexington (cost of bridging the Kentucky River south of Lexington was prohibitive); and he was writing John Echols in Huntington about a right-of-way dispute blocking construction of a bridge over Twelve Pole Creek at Ceredo-Kenova in West Virginia. But nothing beats Huntington's letters to Chief Engineer Lum on keeping construction costs down on the line from Mt. Sterling, on the edge of the Bluegrass Plateau, to Ashland. Perhaps the quaintest of these letters concerns Huntington's suggestion to Lum that at Mt. Savage the cost of depot construction be kept down by combining the depot with a general store.

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slab) gave test results well above that figure. The finished work was covered with damp sand and loam for curing while the test cylinders were cured in damp sand until shipped to the laboratory where they were cured in a moist room until 48 hours before testing.

Preparation of the subgrade was accomplished by removing the track and shoveling off the ballast to the proper elevation. The subgrade was not consolidated.

Forms were built in sections at the Pere Marquette shops in Grand Rapids prior to commencing construction. Five sets of forms were

provided, and after reusing as required for the 20 slabs, forms for four and a half slabs were still in good condition.

The forms were supported from cross pieces spiked to two-inch by four-inch stakes driven into the subgrade at the sides of the roadbed. Since the accuracy of the groove in the rail girders would govern the surface and, to a certain extent, the alignment of the rails, considerable care was taken to get this groove accurate not only as to line and surface, but as to cant as well. It was also necessary to hold the anchors firmly in correct position while the concrete was being cast. These objectives were accomplished by using

a sized 4 3/4-inch by 5-inch timber set to line with its bottom forming the groove. This timber was set with transit and level and spiked to the cross pieces. Various schemes were employed to obtain a perfect groove bottom, but none was entirely successful in eliminating air bubbles.

The aggregate was stocked at the site, and water for the concrete mix and for curing was obtained from a locomotive tank on a temporary siding. The time required for the concrete work from the casting of the first slab to the completion of the last one was approximately three weeks. The crew was small and some delay was occasioned in setting the groove form piece.