

THE ENGINEER AS PROMOTER: RICHARD B. OSBORNE, THE CAMDEN AND ATLANTIC RAILROAD, AND THE CREATION OF ATLANTIC CITY

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ABSTRACT

Richard Boyse Osborne had a sterling reputation as an Engineer who had built railroads both in Ireland and the United States. In the 1850s this visionary became the dynamic force behind the effort to link Philadelphia and Camden to the New Jersey beaches and the ocean. His railroad became a modest success, and Atlantic City a big Success. Land values were another matter.

In retrospect it seems painfully obvious that the burgeoning population of Philadelphia in the 1850s could profit from a seaside resort only 60 miles due east, readily accessed by an inexpensive ferry and rail ticket. The sweltering citizenry could travel the distance in about two hours and discover sun, surf, sand, and salt air. The established resort town of Cape May, by contrast, was far more distant and perceived to be exclusive — the resort of presidents — one day serving such luminaries as Buchanan, Lincoln, and Grant.¹ Accordingly, a proposal to build a resort on health-enhancing Absecon Island (the closest shore point to the city) and a railroad connecting should have been a solid investment opportunity, at least in theory.

In reality, it took a visionary, Dr. Jonathan Pitney of Absecon Village and his lumber merchant colleague Enoch Doughty, to see the potential just described, and to hire Richard Boyse Osborne, an Irish-born civil engineer, who came to share their vision of a rail line through the Jersey Pine Barrens that would provide a link between a great city and a much-needed resort. Osborne eventually became responsible for not only surveying, laying out, engineering, and constructing a railroad and a town; but, more critically, he became the itinerant evangelist promising handsome profits to investors as rail passengers rushed to the shore and South Jersey land values allegedly soared.

Not surprisingly, Osborne's engineering reports on the viability of the Camden and Atlantic Railroad were a blend of cold hard facts, engineering data, and some speculation. Put in slightly different terms, the engineer as promoter could readily forecast healthy rail revenues from seasonal shore visitors, a number of factories, and some farmers along the line. The more difficult argument was the contention that economic development and higher land values would consistently follow the swath or right-of-way. Let the record show that, indeed, Absecon Island land values did soar, and the towns of Haddonfield, Hammonton and Egg Harbor did prosper, and yet 150 years later many portions of the Pine Barrens remain something other than prime real estate.

Richard Boyse Osborne

Richard B. Osborne was a well known and widely traveled figure in the Mid-Atlantic railroad world of the 1850s. Born in Ireland in 1815, he came to the United States in the late 1830s and gained experience in laying out rail lines and building bridges and tunnels under the mentorship of the venerable Moncure Robinson. For a time in the early 1840s Osborne took leave from his position as Chief Engineer for the Philadelphia and Reading Railroad and went home to Ireland to visit his mother, to promote the Howe truss (for use in bridges and domed buildings); and, fortuitously, was hired to build the Waterford and Limerick Railroad. He returned to Pennsylvania to continue work in the railroad boom in the anthracite region during the 1840s and 1850s. With his expertise and experience in demand, Osborne bragged that while working on the Camden and Atlantic project he was also under contract to the Dauphin and Susquehanna Railroad and three other lines as well, each with their own construction plans and projects.² If boasting rendered him a bit insufferable at times; it was, nevertheless, likely to be grounded in solid achievement.

Camden and Atlantic Railroad,
Engineer's Report, June 24, 1852

This document offers a lot of description, technical data, engineering principles, revenue and profit estimates, and a sea of optimism. Osborne began by noting that the most direct route might not be the wisest, but that Awithin due limits be varied, so as to accommodate the localities that promise the greatest revenue . . .³ The *initial* response by Philadelphia investors was quite positive, if we can believe the claim that on one day in June of 1852 some 10,000 shares were sold.⁴ Not surprisingly, many South Jersey manufacturers bought stock: Samuel and Thomas Richards manufacturing glass in the Hammonton area, Andrew Hay and William Coffin also in glass in Winslow, Stephen Colwell producing iron and pipe in Weymouth, Jesse Richards in glass and iron at Batsto, and Enoch Doughty in lumber. A good number of these men were also major land owners who potentially stood to gain from regional development.⁵

Principles for Laying Out A Railroad

Osborne put forth non-negotiable principles for laying out a railroad, arguably derived from his mentor Moncure Robinson. First, adaptation of the Line . . . to the country, through which it is destined . . . and to the business which it will have to accommodate. Second, judicious selection of the Line, in order that the greatest benefit may be conferred upon . . . the public in general.⁶ (This alleged subordination of self interest to public interest is hard to take seriously.) Finally, unlike the English system, the absence of all outlay for ornamental and unnecessary work, until the earnings of the road

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justify same.⁷

The civil engineer accurately understood the line's potential market to be passengers and light freight. Our survey . . . contemplates quick transit; it proposes . . . no curvature between the *termini* of less radius than one mile The length of the road will be about 57 miles, of which . . . 40 miles will be straight, and 23 of these will be in a continuous line.⁸

The *Report* demanded that the Camden and Atlantic have control of a good and permanent ferry on the Delaware at which to locate its western terminus.⁹ The C & A purchased a ferry. The quality of ferry service was critical for the first thirty years until the Pennsylvania Railroad built a railroad bridge across the Delaware in the early 1880s. (No major all-purpose span served this crossing until bridge designer Ralph Modjeski's Delaware River Bridge was erected in 1926.)¹⁰

The Irish-born engineer was in an expansive mood the day he predicted land values along the C & A would increase . . . from 100 to 500 per cent.¹¹ In addition, the Line would be a commercial, social, and moral blessing to the whole community¹² The moral blessing claim remained unexplained. Apparently, no matter was too small to be cited. He promised swimmers, for example, that there is an absence of all undertow, which, too frequently, causes the loss of life on other portions of the coast.¹³ Essentially, the reader is left to conclude that Osborne might have made just about any claim on any subject. He concluded this portion of his *Report* by underscoring bathing, boating, and sailing opportunities on the bay and the ocean, and identified Absecon Bay as a harbor of refuge in the face of winter storms.¹⁴

In constructing the C & A Richard Osborne saw no need for heavy rails, the iron rails being provided by Buck, Reeves Iron in Phoenixville, Pennsylvania, a national leader and pioneer in rail production. He contended that 50 pound rail (per yard) placed on sleepers (semi-spherical cast iron supports) two feet apart would outwear 100 pound rail laid on sills (standard railway ties) three feet apart. Basically, heavy rails were a waste of money. Of course, he already knew that much of the traffic would be passengers and farm produce. (The iron industry was fading in the Pine Barrens, only the glass industry retained a major foothold.)¹⁵

In looking at the larger picture, Osborne seemed to grasp the full meaning of George Rogers Taylor's thesis in *The Transportation Revolution* roughly 100 years before Taylor gave it a name. It is certain that . . . produce and manufactures will be increased, that the whole internal trade of the country will be galvanized and extended, that civilization will spread, and comfort and economy be created¹⁶ All of this, as economic historians have long preached, resulted from the coming of the railroad.

Construction and Rolling Stock Cost

The estimate for graduation, bridging, and superstructure of 60 miles of single track was \$9,300 per mile or \$558,000 — plus \$20,000 for stations, \$90,000 for sidings, switches, and equipment, and another \$25,000 for engineering for a total of \$693,000.¹⁷ The outlay for seven locomotives at an average cost of \$7,500 was \$52,500.

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The grand total for locomotives and rolling stock was \$79,650. Accordingly, the total investment in construction, engineering, locomotives, and rolling stock came to \$772,650. This figure might be thought of as the engineering cost and does not include land damages or the cost of land needed to provide the right-of-way and railway stations that raised the final projected cost to \$1,274,030.¹⁹

Revenue and Profit Projections

Osborne assumed that during the eight warmest months of the year, when the C & A would do most of its business, some 32,000 passengers would ride part of the route and pay \$1.00 each for revenue of \$32,000. Perhaps 20,000 sun worshipers would pay \$1.50 to visit the beach and generate another \$30,000. A special category labeled Haddonfield Passengers and Freight produced another \$5,000. Thus total passenger revenue was estimated at roughly \$67,000 [19] Oysters and fresh fish would produce \$26,000, glass works freight another \$12,000, and lumber and charcoal another \$4,250. Hauling lime and marl (a fertilizer) would yield another \$7,000, groceries \$6,500, and the U.S. Mail \$2,000 for total freight income of \$57,750. By Osborne's calculus the C & A would take in \$124,750 the first year, pay out \$56,138 in management and working expenses, leaving a profit of \$68,612 which he described as about 10 per cent — actually 5.39 per cent.²⁰ The *Report* closed with a suggested completion date of July 1, 1853 or 53 weeks after the publication of the document.

Camden and Atlantic Railroad, Engineer's Report, May 23, 1853

Richard Osborne's second *Report*, issued eleven months after the first, made it clear that the earlier completion target of July 1, 1853 had been too optimistic, but that the seven mile stretch between Camden and Haddonfield was nearing completion, and there was progress on the other three divisions as well. The new completion date was to be August 15, 1853. On another positive note, the engineer cited acquisition of the Mahanoy and Sea Gull locomotives from an old friend Gustavus A. Nicholls, an officer of the Philadelphia and Reading Railroad, early in 1853.²¹ The wharves on the Delaware were being extended, and regular ferry service was being instituted. Buck, Reeves Iron in Phoenixville had delivered 3,000 tons of rails to both the Camden and Absecon wharves.²² On the negative side, there was a shortage of labor and capital leading Osborne to launch a few more positive projections. The C & A was just about to promote more trade between New York and Philadelphia, a large hotel was being built at the shore (the United States Hotel opened in July of 1854), and the federal government was just about to approve a light house for Absecon. (Supported by \$35,000 from Congress, it was designed and built by George G. Meade in 1857, later of Civil War fame.)²³

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Spurring on Investment in the C & A

From an investment standpoint, it was easier to begin this project than complete it. Cost overruns, of course, did not help. The inability to continue to sell stock meant that the C & A had to issue first, second, and third mortgage bonds in 1853, 1854, and 1855, and thereby started out with \$1,076,000 of debt.²⁴ Some of the key investors owned considerable blocks of land along the eastern two-thirds of the Line. Many were cited earlier as manufacturers: Jesse Richards, Enoch Doughty, and Stephen Colwell. William Fleming who owned 60,000 acres at Atsion, however, was not engaged in manufacturing.²⁵

Costly delays, when rails did not arrive when needed, only made matters worse.²⁶ In August of 1853 Osborne complained that the C & A's finances were seriously hurt and accordingly company bonds had to be sold at lower rates.²⁷ In April of 1854 he cited other costly delays when a storm tide simply washed away some six miles of embankment, and two ensuing storms added to the damage.²⁸ On July 1, of 1854 the Irish-born engineer reported the road completed to the beach floating on a stratum of semi-fluid material to bear the weight of a locomotive, on rails supported by a platform of abundant area, formed by ties at two feet centre to centre . . .²⁹ The road opened on July 4th, the customary day for openings in the Nineteenth Century.

Cost overruns forced Osborne to go back to the directors and raise additional money, but this was not readily forthcoming and the process became disheartening.³⁰ He had to raise over \$92,000 from men who continued to grumble that the C & A would never be a paying proposition. However, with the aid of directors George W. Richards and John Tucker, the latter director being president of the Philadelphia and Reading Railroad and a valued financial advisor, the money was finally raised by November of 1855.³¹

Parenthetically, Osborne at 40 was stricken with typhoid between Nov. 28 - Dec. 14, 1855. A certain Dr. Meigs and his son John Forsyth Meigs of Philadelphia were credited with restoring his health. They advised him to spend six months in England recuperating, and so that was where he spent the first half of 1856.³²

A Rail Excursion that Turned into A Lethal Accident

In an effort to settle lingering disputes on the Board and build harmony among the Board and officers, C & A president John Brodhead planned a special rail outing for August 14, 1857. The track would be cleared from Camden to Atlantic City, and a special run at full throttle would impress everyone. The traveling cadre included Dr. Jonathan Pitney, Richard B. and his brother John H. Osborne, John Brodhead, George W. Richards, Robert Frazer and his son, and others. Richard Osborne, riding in a small compartment in the front of a baggage car, noted: We are going at a fearful speed. Shortly thereafter, the excursion train collided with the C & A locomotive *Mahanoy*,³³ an engine that was supposed to be parked on a siding.

In the collision, the tender was lifted off the ground and pushed back into the

baggage car which in turn buried several passengers under an avalanche of luggage. Dr. Pitney, assuming that Richard Osborne had been killed by the shifting luggage, told John Osborne that his brother was dead. At that point, loyal brother John plowed furiously through the debris and found Richard still breathing. John carried Richard to a nearby farm house, cleaned him up, and poured some manner of liquid into him. Richard was alive, but probably in a coma. He was transported back to his home at 16th and Summer Streets in Philadelphia where he remained in bed for almost three weeks, perhaps still in a concussion-induced coma part of the time, before recovering.³⁴ This was Osborne's second brush with death in roughly a year and a half. (A conductor on the excursion train and a fireman on the *Mahanoy* died in the mishap.)

Richard Osborne vs Patrick O' Reilly

The C & A was not destroyed by the tragic accident, whatever the financial cost and legal liability might have been. By all accounts, however, the railroad did have more than its share of money problems, and the Panic of 1857 did not help. As the end of the decade approached, for example, neither Osborne (the chief engineer) nor O'Reilly (the chief contractor) had been paid. Common practice dictated that the railroad would pay the engineer who, in turn, would pay the contractor. Osborne had to go to court to wring payment out of the C & A, and grew resentful when O'Reilly refused to bear some of the \$5,000 in legal expenses. The relationship between the engineer and contractor, though they had a history of working together, rapidly spiraled downward. Before long, Osborne and O'Reilly were engaged in their own litigation, a legendary struggle that lasted for 26 years or roughly six months beyond the death of O'Reilly who died January 19, 1881.³⁵ When the smoke cleared, it appears that Osborne earned about \$40,000 for his work on the C & A, plus some stock.³⁶

Concurrently, the two men also fought over property in the new Atlantic City. In essence, Osborne sent O'Reilly to the shore on a clandestine mission to buy up a lot of land which they would later own in equal portions. In one instance O'Reilly was able to purchase 200 acres at \$17 per acre. Apparently, O'Reilly bought up a lot of property, but then refused to sell half of it to Osborne at the price O'Reilly had paid. This, too, went to litigation where Osborne's attorney, an elderly and declining Abraham Browning (C & A Board member), was not equal to the challenge. Thus, the promoter not only had to face the machinations of someone he had mentored and trusted, but also had to live with inept legal counsel as well. When Osborne reflected on the O'Reilly affair he lamented: The rascal had me in his power, he took advantage of it. The engineer estimated his losses@ at \$635,000.³⁷

Lands for Sale: Camden, Burlington, and Atlantic Counties

Building the C & A, carrying passengers to the shore, and publicizing Atlantic City was a huge part of Osborne's promotional plan. At the same time, if land along the eastern forty miles of the Line could be sold for farms, then land values would rise and

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there was even more money to be made. The 1857 pamphlet, hawking farmland and identifying Samuel B. Coughlin of 230 South Third Street in Philadelphia as agent, was in many ways comparable to Richard Osborne's *Engineering Reports*: it was *promotional*. This was no time for modesty or undue honesty.

The pamphlet advertised 45,000 acres where *turnpike* roads are in the course of construction, *traversing* it in every direction. It . . . supplies the *New York* and *Philadelphia* markets, and where farm land . . . brings from \$125 to \$200 per acre. What's more, The *soil* is a *fine rich loam* with a *clay bottom*. It is *free* of stones and *easily* worked. It abounds largely in the phosphates, and . . . the crops *produced* will be found not to be excelled anywhere . . .³⁸ Furthermore, the whole district abounds in *muck* and marl. Better yet, the soil is not subject to *droughts* . . .³⁹

The first district was comprised of 10,000 acres behind the town of Hammonton. Water is reached by wells within twenty feet and the price of land here is between \$12 and \$20 per acre, payable in four years with monthly payments of five to ten dollars for twenty acres—six percent interest.⁴⁰ A revealing two sentences proclaimed: Land can be procured *cleared* or *partly timbered*, also *under cultivation*. Houses are *already built* and for sale, which will answer the temporary wants of the settler.⁴¹ Did the author use the word *settler*? Did this area qualify as the *frontier* in 1857? Were there similarities to the Wild West? Were the local Native Americans friendly? *In fact, land speculators did promote Jersey lands as a safer and more convenient alternative to emigrating to the West.*

The pamphlet goes on to rave about the town and *Lake Hammonton*. Lots are available from *twenty-five* to *one hundred dollars*. Then, in a beautifully vague sentence the author announces: It is intended to expend a hundred thousand dollars with the improvement of the place, turnpike roads and the erection of buildings.⁴² It refers to whom? Town fathers, Philadelphia investors, the state of New Jersey? How wonderfully opaque! The clinching question posed is: Why go thousands of miles into a far off wilderness when wilderness awaits you in South Jersey?⁴³ Indeed, all the conveniences of refinement and civilization *are at hand*.⁴⁴ In fact, they were as close as the next train to Philadelphia. William Parry, the author, closes this section of the pamphlet with deft advice: The first thing to be done in going upon new land, is to clear off the timber. . . .⁴⁵ What more can anyone say?

In a rather startling claim taken from the *New Jersey Farmer* for May of 1857, a diligent and systematic farmer's return on capital is asserted to be from 15 to 18 per cent. These are rather gaudy estimates when compared to southern slave owners in the 1850s who earned six per cent on their capital and were held up as good examples of the profitability of slavery.⁴⁶

Leaving no stone unturned, a sample of swamp muck was sent to Charles T. Jackson, State Assayer of Massachusetts, for analysis. A report dated April 21, 1857 revealed that Pine Barren's swamp muck was made up of 75 per cent humus, @ 24 per cent insoluble silicious matter, and one per cent soluble matter, alumina, oxide of iron, and a little sulphate of lime.⁴⁷ Translated: Jersey swamp muck is excellent manure.

Laying Out Atlantic City and Naming the Streets :
Who Knew It Would Be the Basis for America's Most Popular Board Game?

A lithograph dated 1855 from the office of L. N. Rosenthal, 3rd and Dock Streets in Philadelphia, announced: Lots for Sale. Property of the Camden and Atlantic Land Company. Dominating this advertisement was a map showing Ocean, Atlantic, Arctic, and Baltic Avenues running parallel to the ocean and beach that were met at right angles by cross streets bearing the names Virginia, Pennsylvania, North Carolina, and South Carolina Avenues. Atlantic Avenue, the main drag, was designed to be an impressive 100' wide while the others would be a respectable 80' wide. Alleys were to be 20' wide. Lots were to be 50' by 160' — long and narrow. At the southern end of Atlantic Avenue was a passenger depot measuring 250' by 40' and a ticket office measuring 30' by 40'.⁴⁸

This lithograph, of course, was but a modest foreshadowing of what was to come. Richard Osborne, through the force of his personality, insisted the new town be called Atlantic City. It was incorporated on March 3, 1854. Osborne had some really solid experience in planning and laying out new communities, having done so earlier in the creation of Madison, Wisconsin and Chicago, Illinois. He did not hesitate to use the practical but later despised grid system for laying out streets. A grid system facilitated all design questions and was easily expanded. It rendered the carving up of lots remarkably simple and straightforward. It allowed even newcomers to readily find their way around. It just made a lot of sense to use this system, so extensively employed throughout the nation, after having been pioneered in Philadelphia. (Admittedly, urban historians and city planners once spent a lot of energy denouncing the grid system as boring, uncreative, and reeking of capitalist greed. Alas, this scholarship is now obsolete.) Atlantic City grew and prospered with gridiron planning.⁴⁹

Unlike the overwhelming Newport, Rhode Island or the cozy and exclusive Cape May, Atlantic City was arguably conceived as one of the early seaside resorts that would ultimately serve large numbers of people. As Asbury Park and Coney Island might one day be referred to as the lungs of New York, so Atlantic City could be thought of as the lungs of Philadelphia. Viewed just a bit differently, ocean resorts provided, at a distance, what Central Park and Fairmount Park offered in great proximity for many citizens: a pleasant alternative to city streets and some fresh air.⁵⁰

Osborne, lived long enough (dying in 1899) to see Atlantic City flourish as a seaside resort serving hundreds of thousands of people throughout the Mid-Atlantic region. (He also lived long enough to see William L. Elkins and the Pennsylvania Railroad grab controlling interest in the C & A in 1882, fire the board, and rename the line the West Jersey and Sea Shore Railroad.)⁵¹ Osborne, writing in his *Diary* in the 1880s, really appreciated a newspaper ad that seemed to summarize the success of the new city. Atlantic City, by the Sea is New Jersey's most healthy and pleasurable resort —60 miles from Philadelphia. Resident population—18,000, *Summer population*—200,000. Good water, Good drainage, Good Fire department. Spacious Boardwalk and unlimited sailing and fishing.⁵² The vision had been realized: the resort city had grown and the financially threadbare railroad had dodged bankruptcy prior to the Pennsy takeover.

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The Financial Performance of the Camden and Atlantic Railroad

Christopher Baer, William Coxe, and Paul Schopp in their history of the New Jersey Central, characterized the C & A as a weak company that was desperate for freight, a firm that lived with chronic financial problems, and a line that barely survived its first two decades.⁵³ This railroad that began operations in 1854 did not publish an annual report until 1870. As expected, the receipts of the C & A rose with the temperature. Thus, July and August were the best months, followed by June and September.⁵⁴ This same *Annual Report* reminded the reader: many of the lucrative excursion runs to Atlantic City returned to Camden *empty*. The absence of back haulage had a devastating impact on A revenue per mile.⁵⁵

Efforts in the 1860s to extend the C & A northward to connect with the Raritan and Delaware Bay Railroad were stymied twice by marshlands or swamps that were next to impossible to conquer—at any reasonable engineering cost.⁵⁶ These efforts led to costly litigation with the far stronger Camden and Amboy, between 1863 and 1868, a line determined not to let the Camden and Atlantic cut into their New York to Philadelphia traffic.⁵⁷

Over the life of the C & A there never seemed to be enough traffic and revenue, but two particular periods were worse than others. Between 1861 and 1863, the onset of the Civil War, receipts that had stood at \$113,534 in 1860 fell to \$52,593, \$99,690, and \$109,853 respectively, with roughly 69 per cent of this derived from passenger traffic.⁵⁸ The other downturn came in 1877 when renegade directors broke away from the C & A to build a competing narrow gauge line, the Philadelphia and Atlantic City, that triggered a rate war.⁵⁹ Thus, receipts that stood at \$332,869 in 1876 dropped to \$284,258 in 1877, \$253,816 in 1878, and \$311,538 in 1879.⁶⁰

Some sense of the profitability of the C & A resides in the *Annual Reports*, if they are to be trusted. There were additional sources of income beyond the Main Line. There was the Sea View Hotel and the Atlantic City Horse Car Company as well as ferry boats and the ferry house restaurant. They also built a spur to Mays Landing and their own repair shops. The C & A's own data, for example, suggest payment of \$85,088 in dividends in 1875 and a profit of \$34,968; \$97,244 in dividends in 1876 and a profit of \$71,970; \$24,311 in dividends in 1877 and a profit of \$60,350.⁶¹ The *Annual Report for 1877* boasted of carrying 8,000 passengers on a peak day, and 600,000 safely throughout the year.⁶² In sum, while the C & A seems insignificant in a rail world dominated by the Pennsy, Reading, and Jersey Central, they managed to survive and even enjoy some profitable years between 1854 and 1882.

Conclusion

Richard Boyse Osborne was a very forceful, hard-driving, and egotistical railroad engineer and promoter who left his mark all over the Mid-Atlantic region and portions of Ireland in the 19th century. He designed and built railroads, tunnels, domed terminal

buildings, and bridges—and occasionally laid out a new town. In the case of Madison, Wisconsin and Atlantic City he was present at the creation, and in the latter instance helped Dr. Pitney fulfill a dream of building a healthful resort community on Absecon Island.

The idea for the C & A linking a Brighton to Philadelphians seemed like a reasonably good idea in the 1850s, and yet some of the cautious or faint hearted Directors of the railroad who were slow to come up with the needed capital perhaps intuitively understood the difficulty of promoting land as desolate and forbidding as the pine barrens. In the final analysis, it can be said that Atlantic City was at least a qualified success, providing recreation and a sea side vacation for several hundred thousand each year, many, of course, being Philadelphians. The C & A was heroically threadbare, and often scorned and looked down upon by the major rail lines, but it did survive. Land values and land sales clearly soared on Absecon Island, but land sales in the barrens remained essentially that: barren.

Stated in more positive and human terms, by 1857 Osborne could take a vacation in Atlantic City, appreciate the accommodations of the United States Hotel, and enjoy climbing the 288 steps in the Absecon Light House for one of the best views of the Jersey coast. By 1870 he could stroll the mile long Boardwalk, and by 1883 he could chew on Atlantic City's now famous Salt Water Taffy while strolling! In the late 1890s, close to his demise, Osborne could watch the erection of the Steel Pier, designed by his friends from Phoenixville—the Reeves family that had been providing him with rails for so many years.⁶³

Notes

1. Charles E. Funnell, *By the Beautiful Sea: The Rise and High Times of that Great American Resort, Atlantic City* (New York: Alfred A. Knopf, 1975), 20.

2. Richard Boyse Osborne, *Diaries*, Volume 7, 9. These reflections, written in the 1880s, comprise seven volumes. The original volumes are in the National Library of Ireland in Dublin. A microfilm copy can be found in the Hagley Archives, Greenville, Delaware. For greater biographical detail see Osborne's obituary, ARichard Boyse Osborne, Civil Engineer in *Engineering News*, XLII, 1899, 394. It appears that Osborne's gentrified family had fallen on hard times. He was educated at Bannow and Waterford, Ireland and in Bath, England. He prepared for Trinity College, but never got there. Professionally, Osborne, who learned by doing, was very interested in promoting the use of the Howe truss, particularly in wood and iron bridges. He also created arch bridges in brick and stone. He held a few railway patents. Osborne's list of employers (mostly railroads) and construction projects is overwhelming. He was considered an expert in railway law. In 1842 Osborne married Eliza Graves, daughter of Major Bartholomew Graves, the one-time Prothonotary of Philadelphia. Osborne remained professionally active through the 1880s and died November 28, 1899 in Glenside, Pennsylvania.

3. Richard Boyse Osborne, *Camden and Atlantic Rail Road, Engineer's Report*, June 24th, 1852, 1. This document is located in the Hagley Library, Wilmington, Delaware.

4. Funnell, *By the Beautiful Sea*, 4.

5. *Ibid.* The Camden and Atlantic Directors were: John W. Mickle, Abraham Browning, Samuel Richards, Joseph Porter, Andrew K. Hay, John H. Coffin, John Stranger, Jesse Richards, Thomas H. Richards, Edmund Taylor, Joseph Thompson, Robert B. Risley, Enoch Doughty, and Dr. Jonathan Pitney. These men were essentially New Jersey land barons and industrialists. For additional background on some of the men cited above see Arthur Pierce, *Family Empire in Jersey Iron: The Richards Enterprise in the Pine Barrens*, (New

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Brunswick: Rutgers University Press, 1964.) See also, Lillian R. Rodberg, *AOrchids and Iron: Vanished Industries of the Pine Barrens, Canal History and Technology Proceedings*, Vol. XVI, 1997, 172 - 187 and Charles S. Boyer, *Early Forges and Furnaces in New Jersey* (Philadelphia: University of Pennsylvania Press, 1931.) For a more general overview see John McPhee, *The Pine Barrens* (New York: Farrar, Straus, Giroux, 1968.)

6. *Engineer's Report*, 1852, 3.
7. *Ibid.*
8. *Ibid.*, 3 and 4.
9. *Ibid.*, 4.
10. See E. Digby Baltzell, *The Protestant Establishment* (New York: Vintage, 1964.)
11. *Engineer's Report*, 1852, 5.
12. *Ibid.*
13. *Ibid.*
14. *Ibid.*, 6. Ocean bathing was a reasonably new concept in the 1850s and it raised a host of questions regarding appropriate swimwear, modesty, and water safety.
15. *Ibid.*, 7.
16. *Ibid.*, 8. It is interesting to note that in 1863 in a case before the Court of Chancery of the State of New Jersey (October Term), the Camden and Amboy Railroad challenged the right of the Camden and Atlantic Railroad to do business in portions of New Jersey where the Camden and Amboy believed their charter had granted them a monopoly. It should also be noted that in 1864 the Honorable Andrew J. Rogers introduced a bill in the New Jersey Legislature to authorize the Camden and Atlantic and the Raritan and Delaware Bay Railroad Companies to transport passengers and merchandise across the state from New York to Philadelphia. In the end, five years of litigation and legislative wrangling resolved very little. The Camden and Amboy legal monopoly expired January 1, 1869.
17. *Ibid.*
18. *Ibid.*, 8 and 9. See also, *Camden and Atlantic City Railroad, Annual Report, 1870, 9.*
19. *Ibid.*, 10 and 11.
20. *Ibid.*, 11.
21. Richard Boyse Osborne, *Camden and Atlantic Railroad, Engineer's Report*, May 23rd, 1853, 3. The Osborne-Nicholls relationship dated as far back as school days in Ireland. (Nicholls was the nephew of Osborne's father-in-law, Batholomew Graves.) Furthermore, Nicholls was responsible for Osborne's first job with the Philadelphia and Reading Railroad.
22. *Ibid.*, 4.
23. *Ibid.*, 5.
24. *C & A Annual Report, 1870, 7.*
25. Funnell, *By the Beautiful Sea*, 4.
26. Osborne, *Diaries*, Volume 7, 21.
27. *Ibid.*
28. *Ibid.*, 22.
29. *Ibid.*, 23.
30. *Ibid.*, 28.
31. *Ibid.*, 30. John Tucker, president of the Philadelphia and Reading Railroad from the early 1840s through the mid 1850s, was obviously a very powerful and influential figure. He and Osborne were personal friends, leading Tucker to serve in some ways as a mentor regarding both general and financial advice about running a railroad.
32. Osborne, *Diaries*, Volume 7, 30.
33. *Ibid.*, 31.
34. *Ibid.*, 33.
35. *Ibid.*, 34- 40.
36. *Ibid.*, 41.
37. *Ibid.*, 33-39.
38. William Parry, *Lands for Sale, Camden, Burlington, and Atlantic Counties, on the Camden and Atlantic Railroad, Commencing 23 Miles from Philadelphia, Being the Cheapest and Best Land in the Market for*

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Agriculture, Pamphlet printed in Philadelphia by McLaughlin Brothers, 1857, 3. This document is located in the Hagley Library, Wilmington, Delaware.

39. *Ibid.*, 4.

40. *Ibid.*, 5.

41. *Ibid.*

42. *Ibid.*, 6.

43. *Ibid.*

44. *Ibid.*, 7.

45. *Ibid.*, 10.

46. *Ibid.*, 18. The more traditional work on the profitability of slavery was first generated by Ulrich B. Phillips in the 1930s and Kenneth Stampp in the 1960s. This debate was taken over by the Anew economic historians such as Conrad and Meyer or Fogel and Engerman in the 1970s. The current consensus holds that slavery was profitable to the slave owner, and generated an annual return of about six percent on investment — roughly the amount a southern investor might have garnered in southern railway stock.

47. *Ibid.*, 21.

48. L. N. Rosenthal, 1855 Lithograph depicting particular lots for sale, street by street, by the Camden and Atlantic Land Company in Atlantic City, New Jersey. Hagley Library, Greenville, Delaware.

49. See Thomas R. Winpenny, *The Nefarious Philadelphia Plan and Urban America: A Reconsideration*, *Pennsylvania Magazine of History and Biography*, Volume CI, Number 1, January 1977, 103-113. A grid or gridiron system is generally a uniform design in which east-west streets intersect with north-south avenues at right angles. Some might refer to this design as cross-hatching — a series of parallel arteries intersecting with another series of parallel arteries at right angles. In early Philadelphia and Savannah the grid was punctuated or highlighted with the insertion of green space. Philadelphia, south of Market Street, for example, had both Washington Square and Rittenhouse Square, beautiful parks that consumed one square city block.

50. Though up and running by the mid 1850s, the C & A and Atlantic City did not constitute the first or earliest opportunity for large numbers of people to get to a shore point to enjoy salt air, the beach, and the ocean. As early as 1835, for example, a 34 acre Methodist camp meeting known as Wesleyan Grove was established on Martha's Vineyard. As the faithful came by boat from Boston, Providence, and New York, the community grew. By 1851 the camp meeting boasted of 100 tents, 4,000 Sabbath participants, and 134 conversions. By 1879 they had built an iron tabernacle and laid out a small city. See Ellen Weiss, *City in the Woods: The Life and Design of an American Camp Meeting on Martha's Vineyard* (Boston: Northeastern University Press, 1987.) Early 19th century camp meetings also flourished on Cape Cod and Nantucket. Some Bostonians made good use of Cape Ann in the same era. See Stephen Hardy, *How Boston Played* (Boston: Northeastern University Press, 1982.) In the Mid-Atlantic region, of course, Cape May was considerably older than Atlantic City.

51. Osborne, *Diaries*, Volume 7, 43.

52. *Ibid.*, 44.

53. Christopher T. Baer, William J. Coxey, and Paul W. Schopp, *The Trail of the Blue Comet: New Jersey Central* (Palmyra, New Jersey: National Railway Historical Society, 1994), 31. The C & A fell into bankruptcy during the Panic of 1857, was reorganized, and found new sources of capital. See Pierce, *Family Empire in Jersey Iron*, 233.

54. *C & A Annual Report, 1870*, 14.

55. *Ibid.*, 19.

56. Baer, et al., 31.

57. *Ibid.*, 64.

58. *C & A Annual Report, 1870*.

59. Baer, et al., 122.

60. *C & A Annual Reports, 1876 - 1879*.

61. *Ibid.*, 1875 - 1877.

62. *Ibid.*, 1877.

63. See Thomas R. Winpenny, *Without Fitting, Filing, or Chipping: An Illustrated History of the Phoenix Bridge Company* (Easton: Canal Technology Press, 1966.)