FIGURATIVELY speaking, on the subject of the Columbia and Philadelphia Railroad one could go riding off—as did the Leacockian hero—in all directions. If one could adopt and adhere to one line of travel for it, the journey might not be, according to twentieth-century ideals of railway convenience and luxury, very comfortable. The state-built and state-owned railroad between William Penn's great city on the Delaware and the river town on the Susquehanna long known as Wright's Ferry emerged from a dilemma, and it was its eventual destiny to be implicated in a fiasco. The course of its history was as multifarious as was its inception. In nothing is the tale of it simple. To cover the many-sided story in one brief paper, then, is impossible. For the connections of the Columbia and Philadelphia Railroad with the policy of public improvements adopted by the Commonwealth of Pennsylvania in 1826 are not only connections with the canal fever of that era in the Keystone State. They are connections with both the Erie Canal in New York State and with a whole epoch of American transportation history.

Historians who trace the succession of events leading to the public system of transportation and travel which was owned by Pennsylvania between 1827 and 1857, usually tell much of William Penn, David Rittenhouse, Provost William Smith, financier and promoter Robert Morris, and Legislator William Lehman, as

*Paper read at the meeting of the Pennsylvania Historical Association at Dickinson College, Carlisle, October 21, 1949.

1 Hazard, *The Pennsylvania Register*, I, 400.

2 For comment on the connection of Rittenhouse and Smith with canal surveys along the Schuylkill see James Weston Livingood: *The Philadelphia-Baltimore Trade Rivalry*, p. 101.

3 For Morris' connections with canal projects see *ibid.*, pp. 9, 32n, 102, 103, 108.

4 Whip in the Pennsylvania Assembly for Public Improvements; active figure in the Canal Convention at Harrisburg in August, 1825; Chairman of the Legislative Committee on Inland Navigation.
precursors. They tell us too little of the engineers who discovered the secrets of their craft in England, or in New York State during the days when Governor De Witt Clinton was gathering fame to himself for the construction of a great canal the chief credit for which should have been going to James Geddes and Benjamin Wright and to the staffs of young surveyors and engineers whom those two trained. Too little have historians been aware of the fact that the Erie Canal was a school of engineering for the builders of the Union Canal in Pennsylvania, and that that diminutive waterway between Reading on the Schuylkill and Middletown on the Susquehanna, mostly remembered today as the beneficiary of lottery tickets, was the school of engineering, conducted by the New Yorker Canvass White, in which were disciplined the engineers who would build the Allegheny Portage Railroad, the Juniata and Susquehanna Divisions of the Pennsylvania Canal, and a fair number of Pennsylvania's corporately owned railroads and canals.

In brief, the Columbia and Philadelphia Railroad was devised in the course of time by a non-Pennsylvanian American, just as the Portage Railroad over the Alleghenies was first examined for by the New Yorker George T. Olmsted in 1826; was examined for second in 1828 by Nathan S. Roberts, New Jerseyman and former

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6 To James Geddes, born near Carlisle, Pennsylvania, in 1763, one of the four principal engineers for the building of the Erie Canal in New York, belongs also the distinction of having been, in 1809, the first engineer to make it clear to the New York Legislature that the Erie Canal could be built on the route which that canal in the course of time mainly followed.

6 Benjamin Wright, Senior Engineer of the Erie Canal was sometimes called the father of American Engineering, so many were the men trained under his superintendence.

7 In 1823, when he became the chief engineer for the Union Canal Company, Canvass White brought with him from the Erie Canal three assistants: Sylvester Welch, George T. Olmsted, and Simeon Guilford. Union Canal Company Annual Report, November 18, 1823, p. 4. Olmsted and Welch are referred to below. Guilford not only served on the Union Canal and produced hydraulic cements for use in construction and repair of it; he rendered service in examination for and construction of the Juniata and the Susquehanna Divisions of the Pennsylvania Canal, besides being exploratory engineer for the Conestoga Navigation.

Byrne and Provost, contractors, built locks and other canal features for the Union Canal, and subsequently for segments of the Pennsylvania Canal.

8 Roberts had previously, in 1826, determined plans for the route and construction of the Western Division of the Pennsylvania Canal. Subsequently he gave eminent service to the Chesapeake and Ohio Canal; was chief engineer to the Erie Canal in 1839, and the builder in 1841 of the famous Rochester aqueduct on that waterway.
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assistant to Benjamin Wright on the middle section of the Erie Canal; was examined for third in 1829 and designed by the Virginian Moncure Robinson; and was built later by the New Yorker Sylvester Welch, pupil to Benjamin Wright’s pupil, Canvass White. In origin and story the Columbia and Philadelphia was broadly American.

If the modern Pennsylvania Railroad did not spring from it ab ovo, the Columbia and Philadelphia was among the chromosomes implicated in the conception and the career of that famous line. When the company-owned Pennsylvania had reached the Mississippi and had established continental connections with the Pacific Coast, it still remained true that two of its great presidents had performed their first railway services on the Columbia and Philadelphia. Indeed, the famous John Edgar Thomson began his record as an assistant to Major John Wilson, working in 1829 for three dollars a day. The latter was a South Carolinian who surveyed and devised the earliest completed state-owned railroad in Pennsylvania, and who died a year before its completion in 1834. His successor, Edward F. Gay, was another out-of-state man, who was trained until 1828 on the Erie Canal.

Moncure Robinson’s report of his survey for the Allegheny Portage Railroad, including recommendations for the construction of it, appears in Vol. 2, Pennsylvania Senate Journal, 1829-1830, pp. 239-275. Considerable revision of his design came after other engineers, Lt. Col. Stephen Harriman Long and Major John Wilson, had been engaged in 1830 by the Canal Commissioners to check his plans; but Robinson became the consultant engineer to the Portage while it was being built by Sylvester Welch.


Gay was also construction superintendent of the Conestoga Navigation Company, rendered notable service on the Juniata Division of the Pennsylvania Canal, built the corporately owned Susquehanna and Tidewater Canal in the late 1830’s, served the Columbia and Philadelphia Railroad subsequently in various capacities, and was in 1858 Engineer-in-Chief to the Pennsylvania Public Works. Later he was vice-president and general superintendent of the Sunbury and Erie Railroad.
strikingly close to playing a principal role in American transportation history.

It sprang from dilemma, emerged with dubiety, experienced skepticism for three decades, and went down in the financial collapse of a state-owned system of public works. This afternoon it is only a memory to be evoked in these notes, although several important chapters in an account of the development of American railways might be devoted to it—or a doctoral thesis or two might be written on the theme, disclosing the glories or the mirages of government ownership of utilities.

Were such treatises written, they might tell us much of the method of trial and error: in survey, in construction, in operation, and in final disposition. For the Columbia and Philadelphia Railroad did not come into being as the result of a simple, single, one-purposed dream. Everyone knows today that William Penn, with eye upon colonization westward had thoughts of a second city for his province on the Susquehanna. Yet, when settlement moved westward in Pennsylvania in the eighteenth century, it concentrated, in the first back county beyond Chester, upon a town twelve miles from that river. When the War for Independence had been fought, the most important frontier town in the new state, the town by which travel and trade, it seemed, must take their way west or by which they must take their way back east was Lancaster. Imperative it was that Philadelphia for the sake of its commerce and its markets have connections with that town. At the close of the century the "open, sesame" was the Lancaster Turnpike. No one knew anything about railroads; when canals were thought of first in the state they were considered as waterways which would follow the Schuylkill River from the Delaware; then follow the Tulpehocken Creek from the Schuylkill, and finally beyond the summit would reach Swatara Creek and descend to the Susquehanna. The way to reach Lancaster was by a great public highway; the way to reach the Susquehanna was by a canal. To get beyond Lancaster to York one could go by Wright's Ferry; to get beyond Lancaster to Carlisle and to Bedford, or to distant Pittsburgh, one could go by Middletown, and the start for those last points might be made some day by a canal to Middletown.

Time went on.

In 1811, Pennsylvania permitted the incorporation of a privately-owned canal which should mark out the new best route to the
Susquehanna by the Schuylkill, the Tulpehocken, and the Swatara. By 1826 the Commonwealth had decided upon a program of public canal works; it had foregone the opportunity for building a state-wide system. The Pennsylvania builders, aided very much by the efforts of the Philadelphia Improvement Society, by William Strickland’s experiences in England, and after 1823, by Canvass White’s progress with the Union Canal, believed that the state needed not only canals of its own but a canal to Lancaster—some thoroughfare that would get Philadelphia’s trade on to that town by easier modes than by the covered wagon on the turnpike. So it was that, even preliminarily to the adoption of its program, Pennsylvania had three commissioners: Jacob Holgate of Philadelphia, James Clarke of Westmoreland County, and Charles T. Treziulyny, Polish expatriate and cosmopolite, examining in 1824 every hilltop, every creek, and almost every rivulet and spring in Lancaster County to see if a line could be found for an artificial waterway south of the Union Canal, from the Schuylkill to the Susquehanna. Despite the thoroughness of the examination, no route was found. But, once the legislature had voted for the state’s great public works, that was no reason for not having Chester and Lancaster Counties examined again for a possible canal way between the Delaware and the Susquehanna, incidentally, not overlooking Lancaster town.

So it came to pass in 1827, that to Major John Wilson, of South Carolina, the new Board of Canal Commissioners of Pennsylvania gave instructions to “ascertain the practicability of a water communication between the city of Philadelphia and the . . . termination of the Pennsylvania Canal [that is, the canal which had then begun building from Clark’s Ferry downwards toward Middletown] near the mouth of the Swatara.” Secondly, the South Carolinian was to trace the continuation of the Pennsylvania Canal downstream from the mouth of the Swatara, as far as the season

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1 The Pennsylvania Society for the Promotion of Internal Improvements in the Commonwealth was organized in the autumn of 1824. In 1825 it sent William Strickland, architect and engineer of Philadelphia, to England. His reports on canals, railways, and roads were published in 1826. In that year John Sergeant, an active member in the Improvement Society, was appointed by Governor J. Andrew Shulze to the Canal Board on April 21, 1825, and his fellow members on this Commission made him their first president.

2 For the reports of these three see the Report of the Canal Commissioners of Pennsylvania for 1824-1825.

and his work on the other survey should admit. And so also it came to pass that, after John Wilson had conducted two most competent surveys across Lancaster and Chester Counties, had studied all divides, and had determined the amounts of water available for canal-feeding from the watersheds of those counties, he found that, if he chose any at all, he might get a canal, not to Philadelphia but to the Delaware some ten miles south of that city. The prospering inland town of Lancaster could not be reached from the metropolis on the Delaware by a canal. Yet, for some reason, the politicians of 1827 let the surveyor go on with the second of his assigned tasks. Wilson began his survey down along the Swatara, and then nature opposed him again. Malaria infested his staff and his map man, David Truman, died. Then the bluffs of Chickies Rock baffled him; he could submit at the end of the summer only an estimate of what it would cost Pennsylvania to build a canalway from the Swatara to that formidable barrier.

But the public improvements fever was on, and was not to be out-rivaled by a more malignant disease; John Wilson was an industrious man; the Canal Commissioners were not to be frustrated by one effort of trial and error. Suddenly, indeed, they went into another. In fact, the man who had found a Philadelphia-Lancaster-Middletown canal impracticable, was detailed by those gentlemen to a survey for a railroad. He was commissioned to see what could be done for a second best choice, if a first choice was out of the question. Let him make “an examination, survey, and estimate of a route for a railway from Philadelphia through Chester and Lancaster Counties so as to connect by the nearest and most eligible route with the Eastern Division of the Pennsylvania Canal.”

Unhappily the best route for a railway to the Susquehanna and to Middletown had already been chartered to a corporately owned canal; but a new state-owned railroad might at the least be connected with the state’s projected canal.

It is not possible in the brief time allowed for these notes to describe John Wilson’s work in the late autumn of 1827. Before he ceased activity, however, he had determined the route for what he would two years later be building as the Columbia and Philadelphia Railway. He had worked everything out in plan except the exact

15 Ibid., p. 190.
16 Ibid., pp. 190-196.
17 Ibid., p. 196.
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point at which to bring the railroad across the Schuylkill River into the city. He had ranged again from creek to creek, ridge to ridge, farm to farm, mill to mill, road to road, village to village, tavern to tavern, as he did while looking with his staff for a canal route; and he had become modestly the man of decision for a common-wealth. He made a thorough re-check in 1828, and held consultations with Moncure Robinson and Canvass White. At the end of that year, with modes of route and forms of operation determined for getting the prospective railroad into Philadelphia, Wilson submitted complete plans and an estimate. A railroad from Columbia via Lancaster to Philadelphia as far as Vine Street could be had for $1,418,767.22.\textsuperscript{18}

It is not the purpose of this paper to describe the railway, of which the South Carolinian became construction engineer in 1829 and on which he worked until his death in 1833. We cannot here describe the progress of the work, its features, its 82 miles of trackage, its bridges, its stations, its repair shops, its turnouts, its successive types of sleeper and rail, its changing forms of motive power, its state-owned locomotive engines, its privately owned cars and rolling stock, its toll collectors' houses, and the one inclined plane by which it descended from the crest of Millinger's Ravine to the Susquehanna at Columbia, or the second inclined plane by which it descended from Judge Richard Peters' Belmont Farm to the Schuylkill River above Philadelphia. One could describe the inaugural scenes of its first operation,\textsuperscript{19} and the chagrin of spectators, enthusiasts, and Governor George Wolf. One could picture in detail journeys upon it.

"No stop, no aye," declared the legislator-owner of the General Wayne Inn who wanted the railroad to bear by his tavern and was minded to furnish refreshment to passengers tumbling out of rough and stuffy cars for a change of air.\textsuperscript{20}

"Thank you," said one alert assistant surveyor, whom an irate farmer in 1827 told to go plumb straight to Hell, "we'll be stopping itn Paradise tonight,"\textsuperscript{2} and he did not diverge an iota from the

\textsuperscript{18} Senate Journal, 1828-1829, vol. 2, p. 175.
\textsuperscript{19} A good description of them occurs in William M. Sipes' Pennsylvania Railroad Company (1875), p. 8.
\textsuperscript{21} Wright, Samuel: "Paradise, O Paradise," Lancaster County Historical Society, vol. 18, p. 45.
A line was sighted by the steeple of the Lutheran Church in Lancaster, and so Dillersville to the west was put on the railway maps for a century. A white stone by which a sight was determined along a hill side suddenly changed into a goose, which moved away, but the first position of the goose received the line of the track. We need not extend into our own century the opprobrious name of "Billy Hull’s chicken-coops," which was given to coaches on the Columbia and Philadelphia.

The history of the railroad would relate the mechanical details of operation, the several steps by which sidings superseded turnouts, and by which locomotives succeeded horses; how superior types of locomotive succeeded earlier types, and how changes came with the solution of curvature and gradient problems. Then there were the measures taken after long years to dispose of the two inclined planes. Not until 1839 was the problem solved of getting into Columbia by easy gradients and without the use of the plane; not until 1851 was that consummation effected for Philadelphia, seventeen years after its first operation and just six years before the state-owned railway passed into the possession of the Pennsylvania Railroad Company. These are elements for the chapters of the transportation historian, or for the antiquarian and the romancer. To writers of such type belong the stories of railroad methods of trial and error in construction and operation; and they might tell a rich tale of many a mechanical point or device, a tale which perchance might well be fitted into something like a teleological evolution.

Since the Columbia and Philadelphia Railroad was born in what was for engineering an age of innocence, it is interesting to know how its promoters felt in the days when it was building. In 1831, three years before the completion of the Columbia and Philadelphia, the Canal Commissioners expressed themselves thus:

While the board avow themselves favorable to railroads where it is impracticable to construct canals, or under some peculiar circumstances, yet they cannot forbear expressing their opinion, that the advocates of railroads generally, have greatly over-rated their comparative value. To counteract the wild speculations of visionary

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22 Ibid., p. 9.
23 Ibid., p. 9.
men, and to allay the honest fears and prejudices of many of our citizens, who have been induced to believe that rail-roads are better than canals, and consequently that, for the last six years, the efforts of our state to achieve a mighty improvement have been misdirected, the canal commissioners deem it to be their duty to advert to a few facts which will exhibit the comparative value of the two modes of improvement for the purpose of carrying heavy articles cheaply to market, in a distinct point of view.

Flour is now carried by the canals to Philadelphia from Lewistown, 211 miles for 62½ cents, and from Harrisburg, 150 miles for 40 cents a barrel; and gypsum is taken back for three dollars a ton to Harrisburg and five dollars a ton to Lewistown, therefore the freight (exclusive of tolls) is downwards 14½ mills per ton per mile, and returning, 7 mills per ton per mile; or on an average both ways one cent and three-fourths of a mill per ton per mile for carriage.

On 9 miles of rail at Mauch Chunk, and on ten miles of rail road between Tuscarora and Port Carbon, the carriage of coal costs 4 cents, and the toll on the latter road is a cent and a half per ton per mile.

The comparison will then stand thus:

On ten miles of rail road between Tuscarora and Port Carbon:

- Freight per ton: 40 cents
- Toll on coal per ton: 15
- Total: 55 cents

On ten miles of the Pennsylvania canal:

- Freight per ton: 10-3/4
- Toll on coal at half a cent per ton per mile: 5
- Total: 15-3/4
- Reduced total: 39-1/4

Being 39¼ cents difference in favor of the state canal on each ton for every ten miles of transportation.

The following table will exhibit the relative useful effects of horse power when employed on common roads, on turnpike roads, on rail roads, and on canals.

<table>
<thead>
<tr>
<th>Four horses will draw, in addition to the weight of the carriage or boats containing the load,</th>
<th>Weight of Freight trans'rd</th>
<th>Number of miles per day.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a common road, in a wagon,</td>
<td>1 TON</td>
<td>12 MILES.</td>
</tr>
<tr>
<td>On a turnpike road not exceeding five degrees of inclination, in a wagon,</td>
<td>1½</td>
<td>18</td>
</tr>
</tbody>
</table>
On a rail road having a rise and fall of 30 feet (or one third of a degree) to the mile, in eight cars, 16 " 27 "
On the Pennsylvania canal, in two boats, 100 " 24 "

The introduction of locomotive engines and Winans cars upon rail roads, where they can be used to advantage, will diminish the difference between canals and rail roads in the expense of transportation. But the board believe that, notwithstanding all the improvements which have been made in rail roads and locomotives, it will be found that canals are from two to two and one half times better than rail roads for the purposes required of them by Pennsylvania.

The board have been thus explicit, with a view to vindicate the sound policy of the commonwealth in the construction of her canals; yet they again repeat that their remarks flow from no hostility to rail roads, for next to canals, they are the best means that have been devised to cheapen transportation. They are valuable in many situations, and particularly along courses of great thoroughfare, which will bear the expenses of their construction. They can be made to carry the United States mails and passengers, and also light valuable goods, where time is of no more importance than cost of transportation. 25

The Columbia and Philadelphia Railroad became in 1857 a main segment in the Philadelphia Division of the Pennsylvania Railroad, that is, that part of the Columbia and Philadelphia which ran between Philadelphia and Lancaster. It is interesting to think of the good part of the bargain which the Pennsylvania Railroad acquired when it purchased the main line of the Pennsylvania Canal from Philadelphia to Pittsburgh.

In 1854, in compliance with a resolution of the House of Representatives on January 7, Messrs. Ephraim Banks and J. M. Bickel, respectively auditor general and state treasurer of Pennsylvania, made available for publication a table which exhibited the cost, the revenue, and the expenditures of the several lines of canals and railroads embraced within the Public Improvements of the Commonwealth. This showed that the Columbia and Philadelphia Railroad had originally cost $5,277,278.44. 26 Expenditures for the road's

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equipment, operation, and repairs had amounted to $5,860,291.11.27 Total outlay upon it from state funds had, in fact, by the close of 1853, amounted to $11,137,569.55. Against this amount, during something less than a quarter century, the Columbia and Philadelphia had drawn a revenue of $9,020,278.89 to the Commonwealth.23 In that interval of time expenditures had been heavy, and within the period obviously it had not paid for itself, as private investors might have wished it to do.

Yet other relevant points are as obvious. The $11,000,000 and more expended had led, if not to an actual profit to the state, at the least to an actual earning of more than $9,000,000. A comparison of the road’s earnings in the next year of business over the earnings of all the other segments of Pennsylvania’s canal system revealed for it a revenue of $821,524.77,29 as compared with one of $357,485.4030 for the Main Line of the Canal and the Portage Railroad.

In brief, the 82 miles of its two lines of trackage were earning in 1855 two-and-a-third times as much for the Commonwealth as other features of the Public Works which together had originally cost $11,195,355.81,31 and on which expenditures of $8,168,949.8332 had been made, and whose total length in miles was 313.33 Its services were paying as waterway services were not. The inference might well have been, although it was not subsequently so taken, that a state-owned railroad was bound to be a superior source of gain to the treasury of the Commonwealth; that, if the costliness of canals warranted their eventual abandonment from State enterprise, a railroad needed not also to be repudiated as being an unremunerative means. The baby needed not be thrown out with the wash.

27 Ibid.
28 Ibid.
29 Annual Report of Board of Canal Commissioners with Accompanying Documents, to November 30, 1854, p. 7.
30 Ibid. The canals of the Main Line yielded $279,459.63 and the Portage Railroad $78,025.77.
31 The cost of the entire Main Line had been $16,472,634.25; but of that amount $11,195,355.81 had gone into the construction of the Eastern Division, the Juniata Division, the Allegheny Portage Railway, and the Western Division of the Canal. See Cost, Revenue and Expenditures to Nov. 30, 1853, p. 14.
32 Ibid.
33 Reference here, it must be remembered, has been restricted to the components of the Main Line of the Pennsylvania Canal. The whole of the Public Works had, to be sure, cost $32,542,267.77 up to November 30, 1853.