

The River To Be Crossed Rather Than To Be Followed

BY DR. RICHMOND E. MYERS

A few years ago, a geology professor lecturing to a class in an eastern Pennsylvania college, referred to the Susquehanna as "the mile-wide, foot-deep river." In almost the same sentence he classified the Susquehanna as, "the river to be crossed rather than to be followed." In both cases the professor was partly right and partly wrong. True, there are some places where the Susquehanna is fully a mile wide, and there are a good many places in the river, where in periods of low flow, it is not more than a foot in depth. Some of these shallow spots are found at the river's widest points, but the description would hardly fit the Susquehanna as a whole. The same limitations may be placed on the second statement concerning the Susquehanna. Although portions of the river are more important to human movement from one bank to another, larger segments are significant for what geographers would call their corridor value. In another study the author has referred to this corridor value in detail.¹ It is not the purpose of this paper to go into that story. On the contrary, it is our purpose here to examine the matter of river crossings in some detail, and trace their geographical and historical significance.

First of all, a few factual generalizations about the Susquehanna are in order. This river differs in many ways from other rivers of the Atlantic seaboard. One of its most unusual features is the fact that its steepest slope is near its mouth. No other river on the Atlantic seaboard behaves in such a manner. All the

¹ Myers, R. E., Development of Transportation in the Susquehanna Valley, 1700-1900, unpublished thesis, Pa. State College, 1951.

great rivers of Africa, with the exception of the Nile, flow down relatively steep grades into the sea, across barrier rapids for many miles upstream from their mouths. This is just the same kind of a situation one finds today in the lower valley of the Susquehanna. The river's steep lower gradient has caused it to carve a deep gorge between Turkey Hill and its mouth, which prior to the construction of the dams was obstructed with rapids, known locally as riffles. These rocky barriers in the past prevented penetration up the river valley from the Chesapeake Bay by boat. This is also the case with the Susquehanna's African counterparts which are also effectively barricaded by rapids against shipping to or from the sea.

The lower river gorge is one of the most significant physiographic features in the Susquehanna Valley. It presents a region of rugged beauty and from its rims one may find vistas that may truly be described as breathtaking. The gorge begins at Turkey Hill, below the village of Washington Borough, and ends thirty-five miles downstream just above the point where the river flows into the Chesapeake Bay. In these miles the Susquehanna has carved its course through the hard crystalline rocks of the lower Piedmont to a depth of from 300 to 600 feet below the tops of its bordering hills. The sides of the valley are precipitous, and there are no valley flats along the river. The width of the gorge varies from half a mile to a mile across, crest to crest. Tributary streams flowing into the Susquehanna here, flow through tributary gorges, leading back from the river on both sides for several miles. It is a region more or less of isolation. Were it not for the present century development of the hydroelectric industry it is quite likely that this segment of the Susquehanna Valley would have remained essentially a sportsman's retreat. As it is, the gorge country is remote. No modern highways follow this part of the river, in fact, the absence of even dirt roads paralleling the river for any distance is indicative of the very nature of the countryside.

From the very first days of European penetration into the Susquehanna Valley, the problem of getting across the gorge had been present for the white man. This presented no problem to the Indian. His paths seldom crossed the river² at the gorge, they

² Wallace, P.A.W., Historic Indian Paths in Pennsylvania, Pa. Mag. of Hist. & Biog., Oct. 1952, See map.

more commonly followed it, for the Susquehanna Valley offered a splendid highway between the tidewater south and the Ontario-Mohawk country in the north. Such corridor value was of little significance to the early settlers who began to show an interest in the lower Susquehanna Valley in the early years of the eighteenth century. With the exception of some Marylanders who moved up the river from the Chesapeake, the majority of the first Europeans who came into the valley were far more interested in crossing the river than following it. Hence public facilities to aid this movement were developed at an early date.

During the first half of the eighteenth century ferries were established across the lower Susquehanna, in fact, the first was operating as early as 1695. This was the lower Susquehanna Ferry which crossed at the mouth of the river. By the time of the American Revolution ten crossings were in use on the lower river, and by 1936, when the last of the lower river ferries went out of business, a total of twenty-four ferries had operated at various times and under various names, over twelve crossings.

During the first half of the nineteenth century, highway bridges were built to supplement the ferries, and by 1860 eight bridges had been constructed, six had been destroyed, and two were still in service, one between Columbia and Wrightsville, the other at Conowingo.

Let us examine this picture in detail, and try to analyze man's urge to cross the Susquehanna.

If we look at a map of colonial America,³ it immediately becomes obvious that the Susquehanna River lay directly athwart any land movement between the northern and southern colonies. Two main lines of travel thus intersected the river; the first, the tidewater route, which crossed at the Susquehanna's mouth, and the second, the route of the Appalachian Valley, which crossed the river at Harris' Ferry leading through the Cumberland Valley to that of the Shenandoah. A third route was developing in the early decades of the eighteenth century, which crossed the river just north of the gorge, and followed the Lancaster-York Valley west from Wrightsville to Hanover, where it forked south via Maryland through Virginia to the Carolinas, and west over the

³ Evans, Louis, *Map of the British Colonies in America*, Phila., 1755.

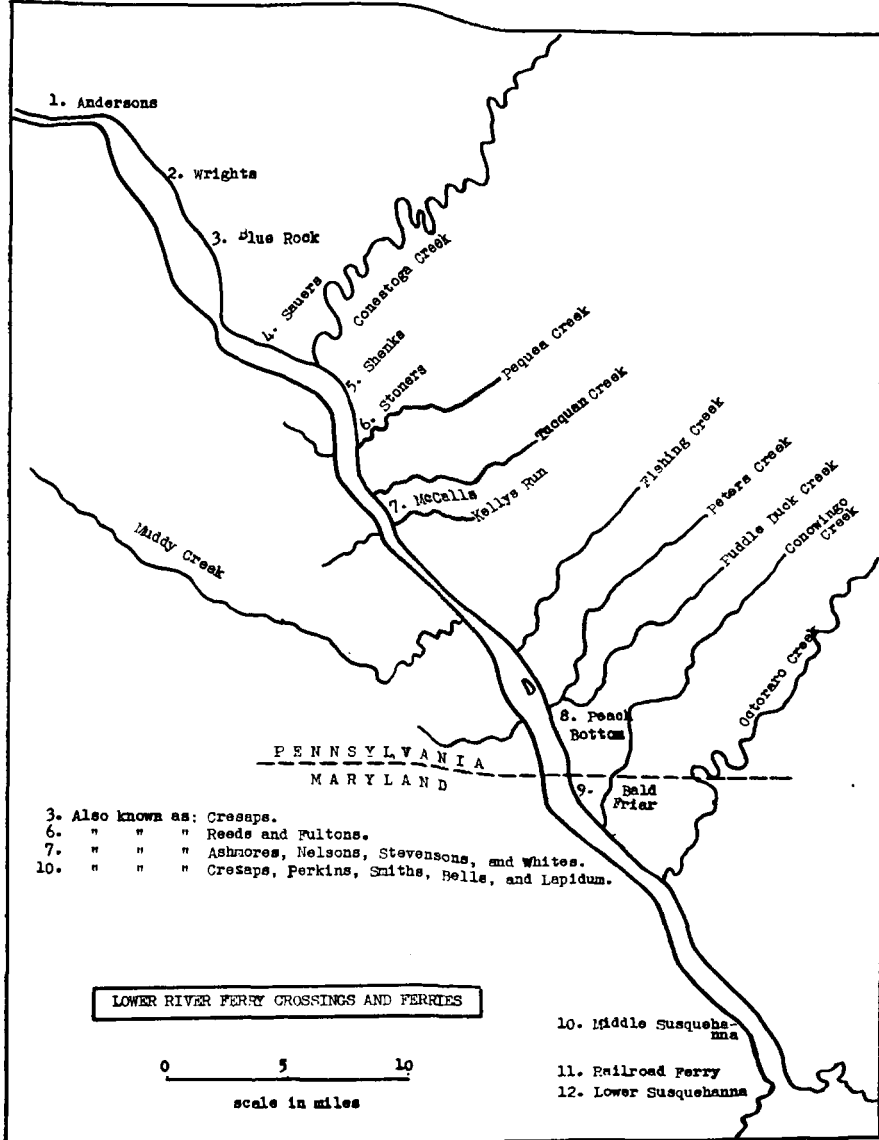
Blue Ridge and the Alleghenies to the Ohio Country. This was the Monocacy Path.

As the land east of the river was occupied, travel west became increasingly heavy. By the middle of the seventeen hundreds it amounted to a steady stream. The port of Philadelphia was receiving the bulk of the eighteenth century immigration which flowed westward from that city across the rapidly filling eastern counties, headed towards the unsettled lands west of the Susquehanna, and as these were taken, to the regions west of the Allegheny Mountains. Interrupted somewhat by the war decades the westward sweep of population was renewed with the coming of peace. The establishment of the national capital on the banks of the Potomac in the early nineteenth century, placed added demands on the facilities for crossing at the river's mouth.

The first large scale human movement across the Susquehanna River therefore was westward from Philadelphia,⁴ and formed the vanguard of that steady push to the west that became the most basic of all population movements in our nation's history. The question may well arise, "How about traffic moving east?" It can reasonably be assumed that with the possible exception of the Lower River Ferry, the bulk of the traffic was westbound. When the land west of the river, in the area which now includes York and Adams counties, became settled, the inhabitants turned south for their markets and commercial ties. The river, which many of the first settlers had crossed to reach their new homes, was a distinct barrier to movement east, and no such impediment existed between York County and the rapidly growing Chesapeake port of Baltimore. As a result, although politically the west river settlers were tied to Pennsylvania, economically they fell into Maryland's sphere of interest.⁵ By 1749, the lands on the west side of the river contained over 1400 taxables, who petitioned for the formation of a new county because of the difficulties involved in getting to the county seat of Lancaster. The result was the establishment of York County. This move was indicative of the significance of the river as a physical obstruction to movement east.

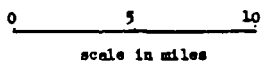
⁴ Lobeck, A. K., *Physiographic Influence upon the Distribution of Population in Maryland and Pennsylvania*, *Assoc. Am. Geog., Ann. V. 16*, 1926 pp. 94-101.

⁵ Turner, M. K., *Commercial Relations of the Susquehanna Valley*, unpublished thesis, Univ. of Penna., 1916.



- 3. Also known as: Cresaps.
- 6. " " " Reeds and Fultons.
- 7. " " " Ashnores, Nelsons, Stevensons, and Whites.
- 10. " " " Cresaps, Perkins, Smiths, Belle, and Lapidum.

LOWER RIVER FERRY CROSSINGS AND FERRIES



- 10. Middle Susquehanna
- 11. Railroad Ferry
- 12. Lower Susquehanna

Lower River Ferry Crossings and Ferries.

It was the gorge of the lower river that presented the chief barrier. Three ferry crossings were in use above Turkey Hill by 1730, within a distance of six miles. Two more were in service across the tidewater portion of the Susquehanna just above its mouth. At this time there were none in operation across the gorge.

Why did the first ferries operate only above and below the gorge? The answer lies in the avoidance of this segment of the river by all the early paths of travel. It is not our purpose here to describe these first roads west from the Delaware and Schuylkill valleys. This has been ably done by H. Frank Eshleman. However, the fact that such roads as the Minqua Path and the old Conestoga Road converged on the river above Turkey Hill was no accident. They followed the easiest courses, avoiding the difficulties of steep grades down to the river, and reached ferry points on the eastern shore that connected with roads leading further inland on the western bank.

Several factors were significant in the establishing of the various ferry crossings that developed along the Susquehanna River during the eighteenth century. One was smooth water, and this was usually found behind the riffles in the river, which although presenting effective barriers to movement of craft up or down stream, furnished pools that rendered the movement of boats from one bank to another an easy matter. Even in periods of low water—and the Susquehanna is notorious for its low flow in summer—it was usually possible to ferry behind the riffles. If not, with the use of extreme care, the river was often forded at many of these points. The ferry crossings above Turkey Hill all lay upstream from riffles. Those at the river's mouth had sufficient water from the tide.

By the middle decades of the eighteenth century ferries were operating across the river in the gorge. To analyze this situation we must bear in mind that access to the Susquehanna on its eastern shore, south of Turkey Hill, was confined to the steep lower valleys of the river's tributaries, such as the Conestoga, Pequea, Tucquan, Muddy (Run), Fishing, Peters (including Puddle Duck), and the Conowingo creeks.⁶ Unless there was an adjoining valley leading west from the river in York County, these routes to the Susque-

⁶ See the following quadrangles of the U. S. Geographical Survey: Mc-Calls Ferry, Quarryville, Havre de Grace.

hanna served only as dead ends as far as trans-river traffic was concerned. Such connecting west shore valleys were few in number. Only one was of any real significance as a route for through travel. This was the valley of Muddy Creek which pointed north-west from the river, furnishing a route which intersected with the Monocacy Path at the point where the city of York is now situated. Other smaller streams pointed towards the Muddy Creek Valley (such as Wiley's Creek behind Peach Bottom)⁷ or to the divide between Muddy Creek Valley and the Susquehanna, along which a road from Peach Bottom to York was built.

The first of the lower river ferries in Pennsylvania serviced this route. About 1738, Thomas Johnson, the father-in-law of the famous, or infamous, Thomas Cresap, began operating the Peach Bottom Ferry, near the high island in the river which now bears his name.⁸ The location of this ferry was determined by the convergence of Peter's Creek and Puddle Duck Creek on the Lancaster County shore, opposite the mouth of Wiley's Creek at Peach Bottom, and the presence of riffles down stream creating smooth water suitable for trans-river navigation. Here was a route that according to Wallace, served as an auxiliary to the Great Minqua Path. It swerved south from the forks of the Brandywine reaching the Susquehanna via Puddle Duck Creek. It might well have been used by the Swedes in their early contacts with the Susquehannock Indians. It certainly was used (in part) at a much later date by the tracks of Peach Bottom Railroad (The Lancaster, Oxford, & Southern R.R.), which led to the river from Oxford on the east, and down the Muddy Creek Valley from York on the west, but never crossed the Susquehanna. The railroad operated a steam sidewheel ferry across the river at this point for many years.⁹ Even with an established ferry service, however, this route never became a major highway for east-west traffic.

The same may be said for the second ferry established across the river in the gorge a few miles north of the Peach Bottom in 1740. Originally known as Nelson's Ferry, it was later called by a number of names reflecting various changes in ownership. This crossing is best known as McCalls Ferry. It was the last of the

⁷ See *McCalls Ferry and Bel Air Quadrangles*.

⁸ Gibson, John, *History of York County*, Chicago, 1888, pp. 764-765.

⁹ Shenk, Wm., personal communication.

lower river ferries to operate, surviving until 1936. This crossing serviced traffic approaching the river from the east over the Lancaster County continuation of Chester County's Street Road. This is State Highway 372 today. It dead-ends at the river's bank a mile above the Holtwood Dam, reaching the river through the valley of a small and relatively unimportant stream. On the York County shore, another small valley points to the ridge road between Peach Bottom and York.

A third ferry was established across the river in the Pennsylvania portion of the gorge during the seventeenth hundreds. This ran between Pequea and York Furnace, and connected the Pequea Valley in Lancaster County with the Otter Creek Valley in York County. It was also known by a number of names during a long period of service, but in the eighteenth century operated under the name of Stoner's Ferry and later Reed's Ferry.

One other ferry was in operation across the river in the lower gorge in the eighteenth century. This was known at that time as Burkhalter's, or Burgholder's, but after the turn of the century became Shenk's Ferry. It was located half way between Pequea and the mouth of the Conestoga, just above a series of riffles. It thus serviced two valleys on the Lancaster County side, and connected with a minor valley in York County that led to the ridge road.

In Maryland, in addition to the Lower Susquehanna Ferry already mentioned, two other ferry crossings were in use by the middle of the eighteenth century. A service was established between Port Deposit and the mouth of Rock Run near Lapidum on the west shore, as early as 1729, probably to supplement the crossing at the river's mouth. This was commonly called the Upper Susquehanna Ferry, but it too was known by various names at different times. In 1730 it was operated by Thomas Cresap, who is reputed to have started the Bald Friar Ferry a few miles up the river near the Pennsylvania line. This ferry crossed from the village of Bald Friar which was situated near the mouth of the Conowingo Creek, and just upstream from a series of bad riffles, to the mouth of Bald Creek in Harford County. Both of these Maryland ferries were in the direct line of travel between Philadelphia and the tidewater south, hence they enjoyed a superior position with respect to business potentialities. Their Pennsyl-

vania competitors were just a little too far north to benefit very much from north-south travel, and too difficult to reach to gain any of the westbound traffic out of the Delaware Valley.

Records concerning traffic on these early ferries are few, yet those that are available indicate that this cross-river traffic was more concerned with moving people rather than goods. The bulk of the cargo carried was probably the personal belongings of the passengers. This was particularly true in the ferries north of Bald Friar, which essentially were rendering either local service or helping to move immigrants westward. Trade was determined by local conditions and regulated by physiographic considerations. The York-Adams County area shipped the bulk of its farm produce and natural resources such as slate, lime, etc., to Baltimore. This trade moved south, first over turnpikes, then the Susquehanna and Tidewater Canal, and later by rail, rather than east across the river. The Chesapeake port was the logical receiving point for the area west of the Susquehanna, and east of the mountains. Although Philadelphia diverted considerable quantities of upriver products at Middletown, the Quaker City never became an important market for the west river country. Even today York and Adams counties are considered as a part of Baltimore's hinterland rather than belonging to Philadelphia's economic sphere.¹⁰

At this point it might be well to consider the types of craft used in these early ferry operations. The first ferries were canoes and dugouts. When it was necessary to transport wagons over the river, it was done by fastening several dugouts together. However, this was cumbersome, and at an early date flatboats appeared in order to meet the demands that were being placed on ferry service. These boats were either poled across the river, or worked from ropes. South of the Bald Friar Ferry, sailing boats were commonly used rather than flatboats. One of our few sources of information concerning these eighteenth century ferries are the journals and diaries of travelers who had to cross the river. For example, Moravian missionaries¹¹ who frequently journeyed from Bethlehem or Lititz to Salem in North Carolina, commented on

¹⁰ Harrisburg Evening News, Aug. 11, 1953—see editorial "Susquehanna Trail".

¹¹ Travel Diary of First Company of Single Brethren going to North Carolina—entry of Oct. 13, 1753, and Travel Diary of Bishop and Mrs. Reichel and their company from Lititz to Salem—entry of May 22, 1780.

the infrequent service, high cost of passage, and the profanity of the ferrymen in periods of low-water navigation. Cazenove in his oft-quoted Journal, comments on how well John Harris' ferry was paying as an investment, claiming a profit of two hundred pounds a year. He also reports John Wright as charging nine shillings to ferry four people, a coach, and five horses from Wrightsville to the Lancaster County shore. It is significant to note that none of the early journalists seemed to have crossed the Susquehanna on the lower gorge ferries.

Possibly the most informative source of information concerning the lower Susquehanna River crossings in the eighteenth century, was a document prepared by the Board of War in compliance with the following order from the Continental Congress, then sitting in York. The order was dated, April 13, 1778, and read in part :

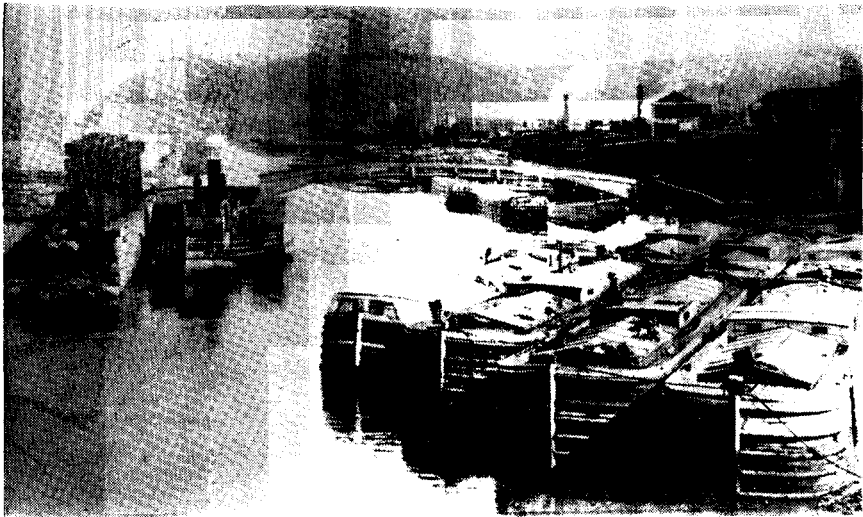
Resolved, that the Board of War be directed forthwith to employ proper persons accurately to examine the river Susquehanna and its several fords, from the mouth to Harris Ferry, and to report their opinion to the Board, which of the fords it would be most advisable to secure, and which wholly to obstruct, and at what places the river can best be secured; and the Board are directed to give the necessary orders and take the most effectual measures to secure the several passes and fords of the river, and to procure a survey of Octoraro, Pequea, and Conestoga Creeks.

The reason for such a survey was to determine the best possible line of defense along the west bank of the river against the British forces then occupying Philadelphia. The survey was completed, and consisted of note books and a map, but there seems to be no record as to who made the survey. It is not without reason to suspect that John Adlum, because of his extensive knowledge of the lower river valley, may have had a hand in preparing the report. At any rate, the existence of the survey seems to have been forgotten until Paul Wilstach ran across a manuscript in the Cornwallis Papers in the Public Records Office in London, bearing the title:

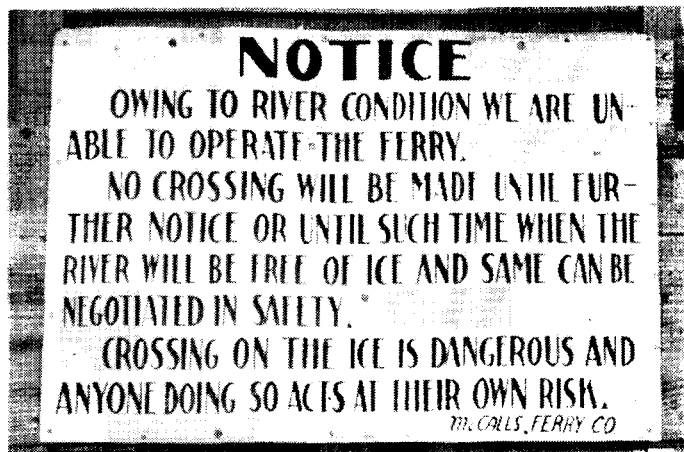
A Description of the Susquehanna River and the Country which it Borders, from Harris' Ferry to its Mouth, with a Map showing its Military Importance, prepared by order of the Board of War in May 1778.

The map, however, was missing. A typewritten copy of the manuscript may be seen in the York County Historical Society library at York, Pennsylvania.

It would be needless to repeat the detailed descriptions of each crossing as given in the survey. However, some of the con-



Head of Susquehanna and Tidewater Canal at Wrightsville, 1875. Steamboat on the picture was a ferry that ran between Wrightsville and Columbia.



Sign indicating that ferry crossings were subject to river and weather conditions.

clusions reached should prove of interest. To quote directly from the report:

It is easy to believe that if the enemy were to march on Baltimore be it to make a junction of troops who might have embarked there, he would prefer to cross the river in the neighborhood of its mouth without having to entangle himself in the mountainous lands which are found above.

It has been seen that on the different crossings of the Susquehanna River, that it will be very difficult for the enemy to attempt any ford from Harris Ferry to the mouth. Even if a passage succeeded, the army would be entangled with difficult country.

The fords are only practical at low water.

Passage of the river in small boats would be difficult.

The reasons given for the last statement are three in number. The first is the absence of sufficient boats. No ferry was listed having more than two flat boats. The second was the almost impassable condition of the roads out from Philadelphia, and the third the ease with which the west banks of the river could be defended. Repeated reference is made in the body of the report to the bad conditions of the roads leading to the ferries from the east, particularly in southern Lancaster County, and also the rugged nature of the terrain along the York County shore. The authors all agree that the best ferry site on the river between Harris Ferry and the bay was Wright's Ferry. They note that it was the most frequented on the river because good roads led to its landings. In general the authors of this survey bear out the contentions advanced in this paper concerning the local importance of the ferries crossing in the gorge.

While considering the survey made for the Board of War, it is not without interest to wonder how it came to be with the Cornwallis Papers. The most logical assumption would be that the British military intelligence was operating a very capable organization. That, at any rate, could explain why for many years the very existence of these papers was unknown, at least on this side of the Atlantic.

Another source of information concerning the first ferries over the Susquehanna River, as well as any others in Pennsylvania, is in the minutes of the Provincial Council, as found in the Colonial Records. Here one quickly senses how thoroughly the colonial government regulated every ferry operating in the colony through its power of license or patent. In the minutes under the date of February 21, 1736, we read the following:

The advance of three pence each of the rates for a man and horse on the ferries over the Susquehanna is recommended to the House.

Thus we note that the government regulated the fares charged on a public conveyance, even as in our own time. Actually the ferries operated only with the consent of, and under the regulation of the colonial government. No man could merely locate a likely ferry site and set up business with a flatboat or canoe. It was necessary first to secure a patent from the colonial authorities. This was not always just a matter of making application and in time receiving the required legal papers. Persons opposed to the granting of a patent could, if they presented a strong enough case, prevent the issuance of the license. For example, John Wright strongly objected to the granting of a patent for the establishment of Anderson's Ferry in 1737. The reason is obvious enough. He felt the proposed ferry between Marietta and Accomac was a threat to his business. However, because Anderson's Ferry was aimed at serving traffic moving out from New England and New York via Reading, while Wright's Ferry took care of travelers out of Philadelphia via Lancaster, the Assembly granted Anderson's patent feeling that there was enough business for both ferries. The future utilization of these crossings proved this assumption to have been correct. This is shown by the fact that when Continental Congress held its meetings in York, delegates from "down east" and New York crossed the river on Anderson's Ferry, while those coming or fleeing from Philadelphia crossed on Wright's.

From time to time contemporary newspapers shed light on early ferry operations. The *Pennsylvania Gazette* of October 3, 1772, advertised a ferry for sale, as follows:

Nelson's Ferry, later known as White's Ferry, now McCall's Ferry, together with boat landings on both sides of the river. There are, on the west side, a large square log dwelling house two stories high, a store house, and orchard, and twenty acres of ground. On the east side is a store house and twenty acres of land. Sale to be held at ferry house.

The *York Chronicle* in December of 1787, shows through the medium of its advertisements, that a price war was being staged between Jacob Strickler, who at that time was operating Anderson's Ferry, and Joseph Jefferies, who with John Wright, Jr., was operating Wright's Ferry. Each hurled uncomplimentary remarks at their rival, and cut prices accordingly. One may wonder whether the ferry landings were decorated with signs bearing

large numbers such at 24.9? The rivalry was intense, but each survived to carry passengers across the Susquehanna for many years.

In the *Marietta Pilot* of March 28, 1815, another advertisement gives the following ferry charges at Anderson's:

Rates of Ferriage	
For crossing the River Susquehanna	
at	
Marietta, known as Anderson's Ferry	
5 or 6 horses & wagon	\$1.00
4 horses & wagon	.87½
3 " "	.75
2 " "	.62½
1 " & gig	.50
1 " & rider	.25

Christian Keeseey

Which leads us into the nineteenth century.

After 1800 one additional ferry made its appearance in the lower gorge of Pennsylvania. This crossed below Turkey Hill and near the mouth of the Conestoga Creek, and was known as Sauer's Ferry.¹² Inasmuch as it serviced no principal highway, it was probably of purely local significance. It carried only passengers, and consisted of a row boat that operated at infrequent intervals, and only upon demand.

During the eighteen hundreds most of the lower gorge ferries changed ownership, and hence their names, several times. This lends confusion to the picture, but the changes are noted on the accompanying map. Without spending hours in the courthouse searching for titles, it is next to impossible to furnish the dates of each ownership. At times dates appear on maps, or in local histories, but these are frequently conflicting, and certainly are not authoritative.

One interesting ferry appeared in Maryland on the lower river. In 1838 the Perryville-Havre de Grace Railroad Ferry began operating to transport passengers and freight from the trains between Wilmington and Baltimore that ran to the river's banks, there to disgorge their cargo, human and otherwise, for a boat ride across the Susquehanna. This crossing paralleled the Lower Susquehanna Ferry, running about a half mile upstream from the older

¹² Ohlweiler. John. personal communication.

ferry's course. In 1854 the railroad put the first true car-ferry into service,¹³ the S. S. *Maryland* which carried trains over the river and operated until the first railroad bridge was built in 1866. Ferry crossings, however, were unsatisfactory at their best. They were slow, limited in capacity, and dependent upon the vagrancies of the river and the weather. Mr. Wm. Shenk, the last ferryman at Peach Bottom, tells of having to cut grass from the river bottom in low flow periods before he could move his boat from one shore to another. Schedules were frequently interrupted, sometimes for long periods, and hostelries with their public rooms were common adjuncts to the ferry landings. Here the delayed traveler could spend hours or days if need be, waiting for the ferry. Not infrequently the ferryman was also the inn-keeper, or the two were closely related. One may wonder whether boats were ever deliberately delayed in order to collect a few extra shillings on shore.

It was only natural that as trans-river traffic increased, a demand for bridges over the Susquehanna River developed. This agitation was heard in the early years of the nineteenth century, but it was not until after the second war with Great Britain that anything came of it. The first bridge across the lower river authorized by the Pennsylvania Legislature was designed and constructed by the famous Yankee bridge architect, Theodore Burr. This was the bridge between Columbia and Wrightsville, erected in 1814. The following year Burr completed his second bridge over the lower river at McCall's Ferry, and in 1816 he again spanned the Susquehanna, this time at Harrisburg. In 1818 he completed a structure across the river at the Upper Susquehanna Ferry in Maryland. It is significant that all these bridges were built at ferry sites. However, the McCall's Ferry bridge was destroyed by ice in the winter of 1818. In 1823 the Maryland structure was burned. In 1832 ice destroyed the Columbia-Wrightsville bridge, leaving the lower river devoid of Burr's work. (His Harrisburg bridge stood until 1903).

The reason for the heavy toll of ice on these early bridges was due largely to their wooden construction. Not only these two of Burr's bridges, but also the Black and Huber bridge at York Furnace, went out in ice jams. Had it been possible to bridge the

¹³ Burgess, G. H. & Kennedy, M. C., Centennial History of the Pennsylvania Railroad. Phila. 1947. p. 393.

river with a single span, this trouble might have been avoided. We must remember that ice alone was not the only menace to wooden structures. Fire consumed the bridge at the Upper Susquehanna Ferry in 1823, and a bridge over the Susquehanna built by Louis Wernwag, above the mouth of the Conowingo, was broken down in 1854 by cattle.

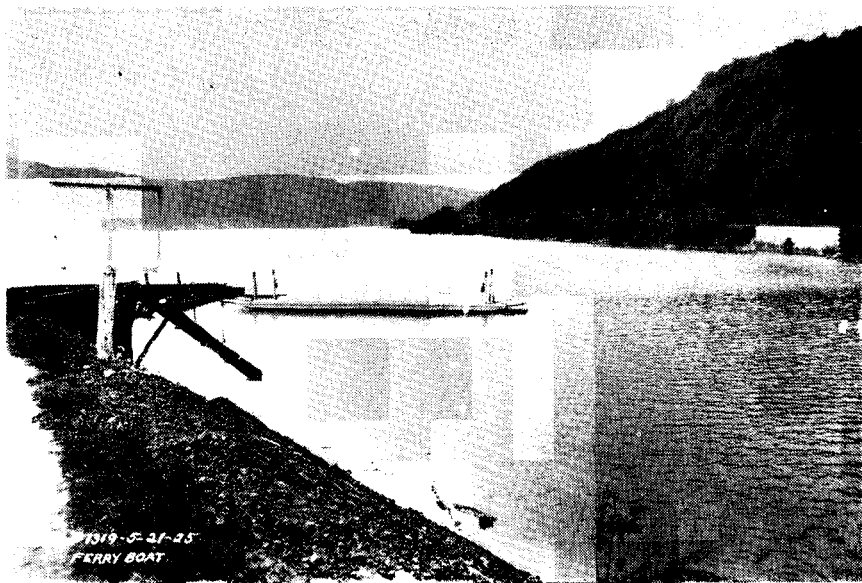
A few more thoughts about Theodore Burr might be in order here. Undoubtedly he was the most colorful figure associated with the early nineteenth century Susquehanna River crossings. He certainly was the foremost bridge architect of his day. Richard Allen¹⁴ called him "The father of American bridge building." His arch designs were revolutionary in his profession, and are still used in modern bridge construction. It was Burr who designed and constructed the first wooden suspension bridge, and he was the builder of the longest covered bridge in the world, which was the Columbia-Wrightsville structure. His McCall's Ferry bridge was the longest single-span timber arch bridge ever built in the United States, being 360 feet 4 inches in length. He was issued a patent for his arch bridge in 1817, although he had been using it since at least 1804. In 1818 he advertised that he had:

Devoted 18 years of his life to the theory and practice of bridge-building exclusively during which time he had built 45 bridges of various magnitudes, from 60 to 367 foot spans.

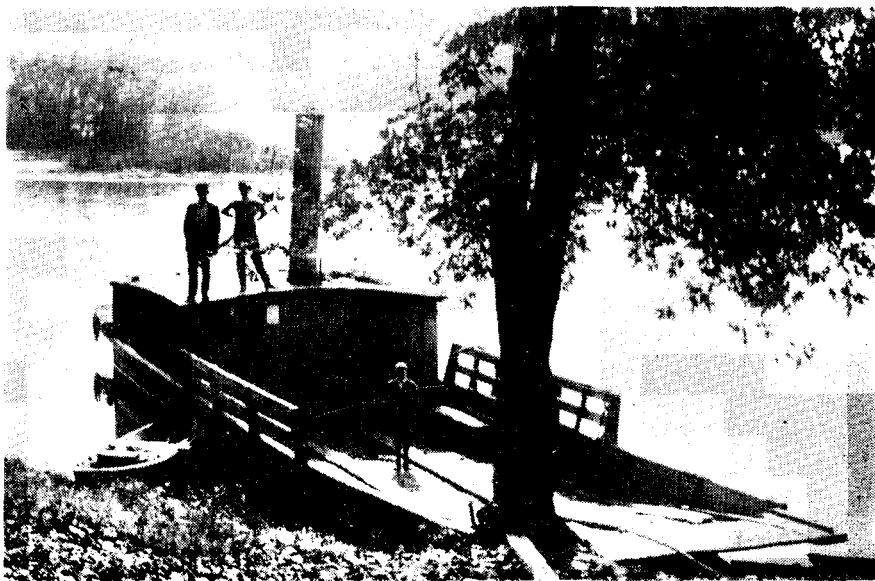
Burr was born at Torrington, Connecticut, in 1771. He came from a family of land owners and people accustomed to house-building, mill erecting, etc. His education was probably received in Torrington, where excellent schools were located at that time. In 1793 he moved to Oxford, N. Y., where, as one of the community's first settlers he entered the business of mill-erecting and bridge-building. Prior to his building the Columbia-Wrightsville span, he had, among others, erected the following bridges, all of which aided greatly in advancing his professional reputation.

YEAR	STREAM BRIDGED	LOCATION
1794	Chenango	Oxford, N. Y.
1802	Catskill Creek	Catskill N. Y.
1803	Mohawk	Canajoharie, N. Y.
1803	Hudson	Northumberland, N. Y.
1804	Hudson	Waterford, N. Y.
1806	Delaware	Trenton, N. J.

¹⁴ In unpublished MS. on Burr.



Last ferry barge used at McCall's Ferry. This barge was moved by gasoline-propelled tug. It went into service in 1925.



Last ferry to operate at Peach Bottom; propelled by coal-burning engine.

1810

Mohawk

Utica, N. Y.

1811

Schoharie

Esperance, N. Y.

Besides the four bridges over the Susquehanna already mentioned, Burr built one at Northumberland, and the bridge at Berwick, which was built according to his design, may have been erected under his supervision. The same may be said for the bridge across the Lehigh River at Bethlehem.

Around 1818 Burr took up his residence in Harrisburg. He died in November of 1822 while superintending the construction of a bridge across the Swatara Creek at Middletown.

The following paragraphs, taken from the *Columbia Daily News* of February 4, 1904, may give a little insight to the human side of the Susquehanna's first great bridge builder:

Only once has history recorded a forcing of ice through the Neck. That was in 1818. It then carried the bridge away. The structure consisted of two spans, one longer than the other, erected by a contractor named Burr. It was supposed to be the first and most substantial of its kind in the United States. The bridge was opened for travel on November 18, 1817, in the presence of an immense crowd of people, and Burr, who was a hard-hearted infidel and a natural blasphemer, made the opening address.

In the course of his remarks he created a sensation by stating that the bridge was of such strength and durability, and so founded, that he, who some people call God Almighty, couldn't take it away. A few months later a mad rush of water and ice swept the bridge out of existence. For years the people were of the belief that Burr's words had called forth the wrath of God in order to demonstrate that He and not man was all powerful.

Now we must return our attention to the Susquehanna bridges. In 1832 the bridge replacing Burr's Columbia-Wrightsville span was built. This was the structure that was destroyed to prevent the Confederate troops from crossing the river in 1863. It was replaced in 1869 with another combination railroad-highway bridge which was destroyed by a storm in 1896, to be followed by the present railroad bridge, which was also used as a highway crossing until 1930, when the present modern bridge was opened as a link in U.S. Route 30.

The last of the wooden bridges to be constructed across the Susquehanna between Harrisburg and the Maryland line was located at York Furnace. It was built by Black and Huber in 1856. During construction several spans between Bair Island and the Lancaster County shore blew down, but were promptly replaced.

Ill fortune tagged this bridge, for it was destroyed by an ice jam in 1857.

One other bridge had been planned to cross the Susquehanna just north of the Maryland boundary. This was to have been a bridge to carry the tracks of the Peach Bottom Railroad across the river. Although the line carried its tracks down to each side of the river, utilizing the Peach Bottom Ferry, it never built the bridge.

All of these nineteenth century Pennsylvania bridges had several things in common. In the first place, all were toll bridges. They were built by private companies, chartered by the commonwealth, and financed through the sale of stock, largely by private subscription. Secondly, all were built of wood, and belonged to the rapidly vanishing bit of the American culturoscape known as "the covered bridge." This is no place to enter into the much debated question as to why bridges were covered, but it seems quite reasonable to assume that in the case of the Susquehanna bridges it was purely a practical method of protecting the structures from the elements. It is also interesting to note that the only Pennsylvania bridge crossing on the lower Susquehanna that has survived, is the Columbia-Wrightsville cross-over, which today, as in colonial times, straddles a main artery of travel.

Most of these generalizations concerning the bridges in Pennsylvania, also apply to the structures built across the Susquehanna in Maryland. Two wooden bridges spanned the river south of the Mason-Dixon line in 1818. The one, Burr's bridge above the Upper Susquehanna Ferry; the other, a bridge built at the mouth of the Conowingo by Louis Wernwag on Burr's pattern. Burr's bridge burned in 1823, and was replaced by Wernwag with a second wooden structure in 1830, which went out with the ice sixteen years later, and was never replaced. Wernwag's first bridge, which was broken by cattle in 1854, was supplanted by another wooden span in 1859. Later this span was rebuilt of iron, and served until it was demolished in 1927. Its place has been taken by the use of the Conowingo Dam to carry the highway (U.S. 1) across the Susquehanna River, just a mile or so below the site of the bridge.

The railroads began to build a series of bridges across the mouth of the river shortly after the conclusion of the Civil War.

This conflict undoubtedly focused attention to the inconvenience of ferry operations between Philadelphia and the nation's capital. In 1866 a wooden bridge was built by the Philadelphia, Wilmington & Baltimore Railroad, from Perryville to Havre de Grace. This ended the railroad ferry service which had been in operation since 1838. It was at this point that the famous "ice bridge" was used in 1852, when tracks were actually laid across the frozen Susquehanna, and during January and February 1378 cars were pulled by locomotives across the river. The success of this oddity may have been the impetus that started serious thinking about the advisability of the railroad bridge that came to fruition fourteen years later.

In 1875 the wooden railroad bridge was replaced with an iron structure, which in turn was supplanted by the present double track bridge in 1906. The old bridge was then given by the railroad to a private company, who operated it as a toll bridge until the state took it over in 1921 and converted it into a double deck structure. In 1940 the present highway bridge was opened a mile upstream, upon which U.S. 40 crosses the river, and shortly afterwards the double decker was demolished.

In the last few years there has been much agitation for one more bridge across the lower Susquehanna, somewhere in the vicinity of Holtwood. Spearheaded by the Lions Clubs of southern Lancaster and York counties, the demand for a bridge became so great that the state highway department in 1950 conducted a traffic survey on the basis of which the legislature passed a bill authorizing the building of a bridge (along with another bridge across the river between Millersburg and Liverpool), when funds are available. The bill, however, did not provide for funds, or a means of raising them.

During these days of bridge planning and building, what happened to the ferries? Although no ferry is operating across the Susquehanna today south of Millersburg, most of the lower river crossings were in use well down into the present century. This was particularly the case in the gorge, where no bridges were present to offer competition, and the traffic that needed river crossing was local. Shenk's Ferry ceased operating in 1921, Peach Bottom in 1925, and McCall's ran until 1936. By the end of the last century, the Peach Bottom Ferry had converted to steam, using

coal for fuel, but the other two operated with poles and oars until the development of internal combustion engines made it possible for them to convert to gasoline engines. All of these ferries used rear paddle wheels for propulsion.¹⁵

For the most part their cargoes consisted of cattle, milled flour, farm produce, lime, and in the case of the Peach Bottom Ferry, slate.¹⁶ Often such items, exclusive of course of the cattle were ferried across the river in wagons. In 1876, the opening of the Columbia and Port Deposit Railroad on the east side of the river, gave people living on the York County side an access to Philadelphia via Perryville, which they had not previously enjoyed. Ferry schedules were set up to connect with the four daily passenger trains, and although advantage was taken of this somewhat roundabout way of traveling to Philadelphia, nevertheless traffic remained entirely of local significance.

Gradually the business on the gorge ferries diminished to a trickle. When the railroad stopped running passenger trains, and the development of motor vehicles and hard-surfaced roads eliminated the farm wagon from the transportation picture, it simply did not pay the owners of the ferries to operate them.

South of the gorge, steam ferries had maintained a four-cornered service between Port Deposit, Lapidum, Perryville, and Havre de Grace, until 1905. At the Columbia-Wrightsville crossing, a side wheel steam ferry was in operation until after World War I, catering to people who either had a great amount of time and enjoyed the boat ride across the river, or did not care to wait until the highway bridge was clear of railroad trains which often prevented other traffic from crossing the bridge for what seemed hours to people who had to wait.

Today only one public ferry is still in service across the Susquehanna. It crosses the river quite a distance north of the area with which this paper is concerned. However, because it is a typical example of the craft which used to ply their trade at the turn of the century, "The Roaring Bull" is recommended to any who would like to turn back the clock and enjoy a leisurely quarter of an hour of delightful sailing on the river. It runs between Millersburg and Maple Grove Park, just below Liverpool.

¹⁵ Shenk, Wm., personal communication.

¹⁶ Ibid.