Pennsylvania's Grand Plan of Post-Revolutionary Internal Improvement

The origins of the system of canals and railroads built to open a western communication through Pennsylvania in the second quarter of the nineteenth century may ultimately be traced to packhorse paths and wagon trails of colonial times. Indian trade and warfare long furnished the only incentive to penetrate the unmapped wilderness which then comprised most of the state. Hardy spirits like Weiser and Croghan, soldiers like Braddock and Forbes, Bouquet and Colonel Armstrong passed east and west over routes later converted into well-traveled highways, some of them the identical line of the public works, between the commonwealth's distant extremities.

It is in the period from the close of the Revolution to the beginning of the canal movement of 1823, however, that one of the most noteworthy antecedents of state enterprise belongs. Shortly after the Revolution while settlement was still in a rudimentary stage, aspirations for a general improvement in conditions of transportation and especially for a route to the West were first voiced by a small but influential body of citizens in the metropolitan center of the state. Their effort culminated in the projection of a grand scheme of state-wide communication which it was mistakenly believed possible to realize by contemporary methods of internal improvement. Though the untimely and grandiose plan of 1791 came to naught, its supporters had their reward, for in the following thirty years their avowed objective, a western route for Pennsylvania, was taken up by the legislature and many times reiterated as an official policy in statutes affecting road construction, river navigation, and the earliest
artificial waterways. Private turnpike and canal companies, modeled after those of Great Britain, chartered by the state, and partly capitalized with public funds, were an outgrowth of this eventful plan, and as novel instrumentalities of internal improvement they were an evolutionary step toward subsequent public enterprise. The bond of historical continuity from the visionaries of 1791 to the canal advocates of 1823 is thus direct enough to warrant a brief study of so consequential a project.

By the end of the Revolution the population of Pennsylvania had greatly expanded from the nucleus originally confined to the Delaware Valley around Philadelphia and was spread out in an uneven axis running east and west across the southern portion of the state. Geographical factors served largely to bring about so far-flung and extended a distribution of population, if it may be called such. Pennsylvania occupied a central position in the Middle Atlantic states, and by reason of her primary physical features—a rolling eastern plain connected by a series of rising valleys with the Appalachian plateau and the headwaters of the Ohio Valley—invited emigration. Her large eastern rivers, the Schuylkill and Susquehanna, which gave access to broad valleys, facilitated the westward movement of peoples and irregularly widened out the line of settlement. Flowing to the southeast, they bisected routes of western emigration and diverted settlement north and south. The rivers whose sources lay on the western side of the Alleghenies served the same purpose, for at that time the southwestern counties were rapidly filling with settlers eager to reach embarkation points on the Monongahela and Allegheny rivers or build houses and lay out farms on fertile soil beside their banks. Westmoreland, Washington, and Fayette were growing counties, and Pittsburgh, little Washington, Uniontown, and Brownsville thriving settlements across the mountains.

All of rural Pennsylvania, the whole area west of the Schuylkill, was in varying degree conscious of the disadvantages imposed by remoteness from Philadelphia, the hinterland metropolis, seat of political power, and capital of the state. Depending most closely on the tidewater city were the people living on the eastern plain around Lancaster and in the Schuylkill Valley, a landscape dotted with the flourishing villages, farms, and schools of the Pennsylvania Germans. Still more adversely situated were the middle counties
where Scots-Irish habitations were scattered north and south along
the Susquehanna and population tended to be extremely thin, for an
elevated terrain, wooded, mountainous, and comparatively distant
from Philadelphia, held out less obvious inducement to clearing and
tilling. Sweeping westward from the Susquehanna, the Juniata
Valley was "in an infant state of cultivation." 1 On the upward slope
of its western extremity a straggling fringe of farmhouses came to
an end, and a waving expanse of uncleared timberland stretched
across the Allegheny plateau to the farming region of the southwest.
There the difficulty of overland communication made simple im-
provements a theme of habitual discussion.

Pittsburgh, still known as Fort Pitt, was a town of four hundred
persons and about a hundred poor-looking log houses sprawled out
irregularly between the foot of Major Grant's Hill and the river
banks. At the point where the Allegheny and Monongahela met
cannon were mounted on the ramparts of the fort (though they were
dismantling it), and across the Monongahela on the steep declivity
of "coal hill" outcropping veins of black bituminous coal were even
then being dug for fuel. A clue to the town's future might be dis-
cerned in the boats and rafts weighted down with bizarre cargoes
whose recognizable items were household goods and farm animals
seen daily passing down the Ohio to Kentucky and the West. Yet
some visitors, like the fastidious Arthur Lee who had lost touch with
frontier scenery in years of European travel on diplomatic missions,
could fail to perceive the implications of river traffic. "The place, I
believe, will never be very considerable," he noted in his journal
after a stopover on a western trip in 1784. 2

The business of Fort Pitt consisted of supplying the bare needs of
a frontier community of farmers, soldiers, and emigrants who
thronged the region and were either in process of settling or drifting
down the Ohio to points farther west. American, English, and occa-

1 Hazard's Register, II. 122.
2 Richard Henry Lee, Life of Arthur Lee (Boston, 1829). Extracts from the Journal
are reprinted in J. W. Harpster, Pen Pictures of Early Western Pennsylvania (Pitts-
burgh, 1928), 157. Note his comment: "Pittsburg is inhabited almost entirely by Scots
and Irish, who live in paltry log-houses, and are as dirty as in the north of Ireland, or
even Scotland." Lee, to give him his due, was a careful observer, but his European
residence, largely spent in the agreeable atmosphere of continental drawing rooms, left
him a dubious interpreter of the facts he set down.
tionally Spanish money were circulating media, but more often than not currency of any kind was scarce. Since the wants of the citizens had to be satisfied, essentials of daily living, wheat, flour, livestock, and whiskey from the Westmoreland hills, were traded on a barter basis. At very great expense a small quantity of manufactured goods was brought over the mountains by hucksters and waggoners hauling out of Philadelphia and Baltimore. Agricultural implements and ironware, which broke down many a wagon en route, were indispensable to farmers, householders, and the military, and the waggoning business from the East at that time formed a sizable part of the small trade that impressed a few observant travelers. 8

The frontier village on the Ohio was separated from Philadelphia by the intervening elevation of the Alleghenies, to say nothing of a formidable mileage over roads that were in a most elementary condition. A slow and tedious haul awaited the settler or teamster on the so-called Pennsylvania Road, one of two principal routes joining western Pennsylvania with the East. It passed through Lancaster, Carlisle, and Bedford, climbed the steep grades of the Laurel and Chestnut ridges in the Allegheny Mountains, and reached Pittsburgh. The other, and much the more important, was the Braddock Road from Baltimore up the Potomac Valley to Uniontown, Brownsville, and little Washington. Though both routes crossed the mountains at high altitudes, on the telling score of distance the Baltimore road was considerably shorter than the Pennsylvania highway to Philadelphia. The greater accessibility it afforded to the Monongahela Valley had made it the usual choice of emigrants from the East and South with the result that the center of population west of the mountains lay along its route through the southwestern counties.

The hardships of unrelieved isolation were the lot of the western communities, but conditions were somewhat more favorable in east-

8 Lee's Journal, above, p. 157. "There is a great deal of small trade carried on; the goods being brought at the vast expense of forty-five shillings per cwt., from Philadelphia and Baltimore." Johann David Schoepf, a visitor of the year before, came to the conclusion: "However little to be regarded the place is now, from its advantageous site it must be that Pittsburg will in the future become an important depot for the inland trade . . . " Pen Pictures, p. 136, reprinted from Travels in the Confederation, translated and edited by Alfred J. Morrison (Philadelphia, 1911).
ern and central localities of the state where limited navigation of rivers could be relied upon to move farm products and supplies. With the exception of road-building, the earliest measures of internal improvement had been those intended to better natural waterways, and from late colonial times eastern river navigation had received intermittent attention from the assembly. Beginning in 1761, commissioners had been appointed to clear the Schuylkill from the Blue Mountain to the Delaware at Philadelphia. Fifteen commissioners were named and authorized to make the river “navigable and passable for boats, flats, rafts, canoes and other small vessels.” To meet the cost of the work they were empowered to accept sums of money subscribed by individuals (a provision that seems very naïve indeed in an age accustomed to the paternalistic prodigality of government). So little was accomplished, however, that it was not long before the practice of appropriating public funds began with expenditure of small amounts to deepen river channels and clear away natural obstacles which impeded their courses. The first prerequisite to this departure from previous custom had been to establish the jurisdiction of the state by declaring them “public highways” and imposing penalties for their obstruction by private agencies.

From time to time subsequently the assembly had extended the principle of public authority to cover many other rivers. In 1771, for instance, it tried to improve the navigation of the Susquehanna, Juniata, and branches as far west as Bedford and Frankstown, which were believed to be the highest points of navigation on the eastern slope of the Alleghenies. Bedford on the Raystown had previously been a military outpost of considerable importance and was then a station on the Pennsylvania road and a newly-created county seat. Frankstown, on the branch of the same name, was a point at the head of the Juniata Valley on a little-used wagon trail, first opened by Indian traders and since traversed by a few emigrating home-seekers at seasons when passable. The intention of the assembly was


to improve existing roads or build new ones from these places to meet western streams at navigable points. Frankstown with a portage leading to the little Conemaugh was readily suited to a purpose which presented itself naturally to the Pennsylvania assemblymen, for mountain portages had been used from the earliest times. The primitive expedient of utilizing overland trails as variants to water travel, still fresh in the consciousness of the post-Revolutionary period, lingered in the popular mind to color the thinking of later times and influence the canal builders themselves.

Hindrances to local travel in the interior had thus, at an early date, turned attention to the utility of the numerous rivers so that by 1784 the watercourses classed as public highways included the great eastern rivers and many of their main tributaries regarded as suitable for opening up the central counties. But in that year a question of wider aspect than any dealing merely with local travel was emerging. The spread of settlement over the southern part of the state and up into the southwest had gone far enough to suggest a problem of regional communication that primarily concerned the East as the focal point of government and legislative power. How were the widely separated eastern and western sections to be drawn together in a unity common to the boundaries of the state? That question, of course, was to underlie the history of transportation in Pennsylvania for over sixty years thereafter. In its opening manifestation, with which we are concerned, a cry for better roads west of the mountains coincided with a premature movement in the East to accelerate communication by means of river and overland improvements.

In September, 1784, General Washington journeyed into the Pennsylvania southwest to visit his lands and investigate the feasibility of a river navigation from Pittsburgh to Alexandria, Virginia. In his widely published letter to Harrison, written after returning to Mount Vernon that fall, he sketched his dream of a great future inland empire linked to the seaboard by roads and waterways capable of bearing to market the dormant riches of a continent. If the oppor-

*But not until March 29, 1787, did the assembly provide for laying out a state highway from the Juniata's Frankstown branch across the mountains. This road terminated at the mouth of the Loyalhanna, a distance of 52 miles and was not opened for several years subsequently.
portunity were grasped, Maryland might take a leading part in opening the West by developing her Potomac River valley which terminated geographically at Pittsburgh. For, complementing the Potomac, the Monongahela rose in the western mountains of Virginia and flowed directly to the Ohio gateway. Pennsylvania was apparently oblivious to the value of her strategic position and the requirements of her own trans-Allegheny settlements.

The plight of those communities, Washington predicted, might have serious internal consequences, if not relieved. "There are in the State of Pennsylvania at least one hundred thousand souls west of the Laurel Hill, who are groaning under the inconveniences of a long land transportation," he wrote. They are wishing, indeed they are looking, for the improvement and extension of inland navigation; and if this cannot be made easy for them to Philadelphia (at any rate it must be long), they will seek a mart elsewhere." In that event Philadelphia as the seaport of the state stood to suffer a loss of trade and the commonwealth itself a loss of settlement. A political separation of the eastern and western sections might impend, he believed, should the state authorities oppose "an extension of water transportation." Washington found seeds of separatism already growing in the southwestern mountains, and the Whiskey Rebellion of 1794, which showed how divergent the economic interests of western Pennsylvania were from those of the older, more conservative, and more populous East, amply confirmed the essential accuracy of his observations. The sectional schism he foresaw arising from the transportation problem did not mature, however, partly because a coterie of prominent easterners put forward in the meantime a comprehensive program to mitigate the difficulties of their western brethren.

Commonwealth officials in Philadelphia were familiar with the pleas of delegates who dressed in homespun and repeated the demands of backwoods constituents, and not until a politically influential party in the city took up the subject of western improvements could real attention be secured in the halls of the State House. Along the seaboard at that time interest in the West was becoming a favorite avocation of commercial circles, and the desirability of

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bettering communication with a potential market beyond the mountains was understood among those groups in the capital. Settlement of the Northwest Territory, organized by Congressional ordinance in 1787, prompted them to see in the progress of that section a boon for the state. But the attention aroused in Maryland and Virginia by Washington’s proposal to improve the Potomac was the immediate cause of awakening interest in Pennsylvania, since the western waters of the commonwealth interlocked with those of the two southern states, and Baltimore competed on equal terms with Philadelphia as the metropolis of the trans-Allegheny region. Consequently, in 1789 a number of leading citizens of Philadelphia formed a “Society for Promoting the Improvement of Roads and Inland Navigation.” Robert Morris, the Revolutionary War financier, then at the height of his career, accepted its presidency, and David Rittenhouse, the astronomer and mathematician, lent his talent to furthering its aims. Dr. William Smith and other men of like prominence were also enrolled.

This organization took upon itself the task of bringing home to the legislature the necessity of western improvements, and by holding frequent meetings during the sessions of that body recognition was soon secured. In a speech to the lawmakers the following year, Governor Thomas Mifflin, who was himself a member, commended the Society for its praiseworthy objective. “The commercial policy of insuring the transportation of our produce from the interior counties to the capital,” he said, “is dependent upon the ease and facility of the communications that are established throughout the state; and when we consider Pennsylvania not only as the route that actually connects the extreme members of the Union, but as a natural avenue from the shores of the Atlantic to the vast regions of the western territory, imagination can hardly paint the magnitude of the scene which demands our industry, nor hope exaggerate the richness of the reward which solicits our enjoyment.”

Meanwhile, river explorations were carried forward. David Rittenhouse had already begun this work. Prior to entering on the scientific pursuits that gave him a wide reputation, he had started life

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as a watchmaker, become an accomplished surveyor settling numerous disputed boundaries for the governing bodies of Virginia and Pennsylvania, and several years before the war with England had examined routes suitable for a water connection between the Schuylkill and Susquehanna rivers. Other men now supplemented the labors of his earlier years. In 1789 his brother Benjamin Rittenhouse, also an expert surveyor, made detailed observations on the Schuylkill. The next year the tide of interest mounted as a result of the Society's activity, and a board of state commissioners was authorized to explore the principal western rivers, estimate the cost of improving them, and report back to the legislature. Colonel Timothy Matlack, a veteran of the Revolution, Samuel Maclay, brother of Senator William Maclay, and John Adlum headed the extensive surveys of 1790. The commissioners easily performed their duties on the Susquehanna, but in traversing desolate stretches of the western region provisions and horses were sometimes difficult to obtain, and no little personal hardship and discomfort had to be undergone measuring distances and collecting essential data.  

The next move of the Improvement Society, and its most lasting achievement, came in February, 1791, when a memorial, signed by Morris and based on the commissioners' reports, was presented to the legislature. In this document the suggestion of linking the rivers of the commonwealth in a water communication from east to west, already heard, is elaborated for the first time. The memorial repays analysis because its advocacy of a western outlet, complete from justification to detailed charting of a route, anticipated almost exactly the later movement to project and build a Pennsylvania waterway, and it was on the basis of this paper that the earliest steps toward realization of that goal were taken. The Union Canal and its pioneering predecessor companies, the Schuylkill Navigation Works, and the numerous turnpike roads subsequently built were all in some degree stimulated by the memorial of 1791. On the other hand, the contemporary limitations to which it was subject—a belief

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9 Samuel Maclay's *Journal* (Williamsport, 1887) gives a graphic account of hardships encountered by the commissioners on the western rivers.

10 The memorial is reprinted in Hazard's *Register*, II. 119-122, issue of September 6, 1828.

that rivers might, at small cost, be made to open a lengthy navigation east and west of the Alleghenies and that the use of canals was merely incidental to such a plan—go far to explain the failure of the scheme to materialize.

The Philadelphia coffee-house lobbyists drew up a convincing case for adopting measures of western improvement. The major inducement lay in broad public benefits productive to the state at large. Few persons could doubt that if the western waters of the Susquehanna, the Ohio, and the Great Lakes were made accessible to the populous eastern region the whole commonwealth might share in "an almost unbounded prospect of future wealth." The logical way to assure this prosperity to Pennsylvania was to draw the western trade to Philadelphia, a consideration dictated ostensibly by geography rather than a motive of civic pride on the part of the memorialists. By utilizing her many rivers and the several overland routes already evolved the "internal economy" of the state might be made to converge naturally upon the city. "A perpetual commercial and political union" embracing the interest of every section and allaying discontent beyond the Alleghenies would thus be forged.\textsuperscript{12}

Western improvements were also calculated to bring about another result of hardly less consequence, namely, to speed up settlement. "Large emigrations from Europe," the memorial reminded its readers, "are now directing their course to this country, and will be encouraged by every improvement we make, by means of roads and water communications with the distant parts of the state. The constant influx of settlers from . . . eastern states is also a considerable object. Being stopped for the present, by . . . Indian disturbances from swarming into the western territory," it was certain that with imposition of peace easy communication might induce many to become permanent settlers.

Initiative and resourcefulness were essential, however, to derive the best advantage from topographical features and to preserve Pennsylvania's "natural avenue" to the West from encroachment by neighboring rivals. The exertions of Maryland, where a Potomac Company had been established in 1785 under joint sponsorship of

\textsuperscript{12} "By no other methods than by opening easy communications, . . . good roads, and safe water carriage, can the settlers in these vast western countries be made useful to the Atlantic states, and comfortable in their own situation." \textit{See "Memorial," loc. cit.}
Virginia, caused the Society enough concern to include a warning to their fellow citizens of Pennsylvania. "When once our trade hath forced its way, even thro’ a less advantageous channel, it is difficult to alter its course; and a little expense, judiciously and seasonably applied, may retain a stream in its channel, which with immense sums cannot be restored, if once diverted from it."

Three general routes, each supposedly capable of being turned into water communications with the Ohio Valley and Lake Erie, were reviewed and appraised in the memorial. The first depended on use of the Susquehanna, Sinnemahoning, and Allegheny rivers, and Conewango Creek and Lake Chadaghque (Chautauqua) in New York State. Another was by the West Branch of the Susquehanna and Toby’s Creek. Both of these routes, which were primarily connections with Presque Isle, were rejected as not corresponding strictly to the interests of Pennsylvania because the northern reaches of one lay in New York and the other was inconveniently distant from the Ohio. A third route better suited to her needs, entirely within her borders, and more directly adjacent to the Ohio Valley could be made to connect just as well with Presque Isle and carry "the immense trade of the Lakes." Furthermore, the state could push on its development promptly, unhindered by delays and disagreements possibly incident to co-operating with New York. This potential artery, formed by the Schuylkill, Susquehanna, Juniata, Conemaugh, Kiskeminetas, and Allegheny rivers, alone promised to secure "the great object of the present consideration," namely, connection of the Mississippi and Ohio rivers, as well as Lake Erie, with Philadelphia by way of Pittsburgh.

In the opinion of the memorialists, it was only by selecting a route between Philadelphia and Pittsburgh that Pennsylvania could profit most from her superior proximity to the West. "If we turn our view to the immediate territories connected with the Ohio and Mississippi waters, and bordering on the great lakes, it will appear from the tables of distances, that our communications with those vast countries (considering Fort Pitt as the port of entrance upon them) is as easy and may be rendered as cheap, as to any other port..." The fact of shorter distance to Pittsburgh was, economically, of first importance. Washington had discerned the practicability of moving goods from Pittsburgh on the Monongahela, Cheat, and Potomac rivers to
Alexandria, Virginia. Although they conceded that some settlements on the Ohio might "be accommodated by the Potomac navigation, and . . . Pennsylvania may have only a share in the trade of these waters," the memorialists boldly claimed that the Juniata route to Pittsburgh had little to fear in competition with a communication through the Potomac Valley. The mountain barrier on the southern line was thirty-seven miles wide, while on that between Philadelphia and Pittsburgh "the portage from Conemaugh to Juniata" was only eighteen miles and might "be considerably shortened by locks." The nearness of Lake Erie to the Pennsylvania route, with respect to distance and "ease of water carriage," was the decisive factor that would bar future competition, the members of the Society believed. The advantage was apparently so great as to be hardly subject to challenge from any quarter. "There can be no doubt," they confidently asserted, "but that the transportation of all kinds of goods and merchandise from Philadelphia to Pittsburgh may be at a much cheaper rate than from any other port on the Atlantic waters."  

The route singled out for improvement was the most direct one consistent with maximum use of the many rivers between the Delaware metropolis and the western outpost on the Ohio. The communication proposed might be created by making use of the Schuylkill from Philadelphia up to Tulpehocken Creek, near Reading, continuing on the Tulpehocken as far as practicable, devising a junction with Quitaphahilla and Swatara creeks, the latter leading to the Susquehanna, and via that river to the mouth of the Juniata. From there the artery ran west along the Juniata and its branches to the mouth of Poplar Run, just west of Frankstown, in what was then Huntingdon County. A portage of not more than eighteen miles would be necessary from Poplar Run across the mountains to reach the Conemaugh, Kiskeminetas, and Allegheny rivers leading to Pittsburgh. The route thus outlined was nearly identical to that later taken by the main line of the public works. Lake Erie could be tapped at Presque Isle, "the great mart or place of embarkation," by utilizing the "easy" waters of the Allegheny River from the point of junc-

\textsuperscript{13} The memorialists, however, disclaimed a motive of rivalry. "This is not mentioned . . . to disparage the internal navigation of our sister states, . . . Maryland and Virginia. We admire their noble exertions . . . and desire to imitate and to emulate them. Every improvement . . . is a benefit to the whole union." \textit{See "Memorial," loc. cit.}
tion with the Kiskeminetas to the head with a short portage to reach French Creek.

Three modes of water and overland improvement, strung out in a series from the capital, were to comprise "the main communication." Navigation on large rivers was to be carried out by the usual methods of river improvement, the channels cleared and dams built where needed, and these sections were to be joined by short canals and by at least one long portage, consisting of an improved road, from Poplar Run at the head of the Juniata Valley on the east to the Conemaugh on the west. As set forth in the memorial and estimated by the state commissioners in their surveys of 1789 and 1790, the length of the intended communication was 426 miles to Pittsburgh or 561 from Philadelphia to Lake Erie, both impressive totals when we consider the unusual variety of natural and artificial expedients on which such a unified waterway would have had to rely.

Naively but plausibly, the memorialists urged improvement of the embryonic waterway nature had provided, varying their arguments from lofty altruistic considerations to a mundane regard for economical expenditure. "The navigation by this route we beg leave to recommend to the legislature, as one of the first and greatest works which they can undertake for the honor and advantage of their country. It is a work within their reach—a work in which not only the citizens of this state, but of the United States in general, are deeply interested. The expense, even including the canal, has been estimated, and doth not exceed the sum which would be required to complete a good road of fifty or sixty miles in some of the interior parts of the state, and which, after all, would be only a partial benefit, contributing but little to unite the remote parts of the same, in one easy central chain of communication, with the capital." The conviction was implicit that the waterway should be a state public work.

While the Society mapped the prospective route with commendable diligence and care, its efforts were of course immeasurably handicapped by a lack of knowledge of canals which at that time were unknown in America but upon which the surveys of the board of commissioners indicated the waterway would have to depend for a short distance in the eastern region and perhaps in the vicinity of the Allegheny Mountains. Descriptions of the two canal connections given in the memorial clearly reflect the prevailing inexperience.
One of them, "20 feet wide and 7 feet on an average," would be necessary between Tulpehocken and Quitapahilla creeks in order to provide an unbroken water link from the Schuylkill to the Susquehanna, but there was uncertainty about the immediate possibility of building it. Further inquiries must be made, it was stated in the memorial, to determine whether "a plan of lock navigation" might not be cheaper than a water-level channel. "It is supposed that the canal or lock navigation between the heads of Tulpehocken and Quitapahilla, is to be compleated; but if that work should be thought too great to begin with, it will be only the addition of four miles portage, by an excellent and level road." In point of fact, no estimate could be included for "the canal." 14

Another might be required between Frankstown and Poplar Run where the mountain portage began. The notation in the estimates of expense attached to the memorial and relating to this section, one of the most elevated on the whole route, was very optimistic: from Frankstown, it reads, "canal or lock navigation to Poplar Run (if found necessary, which probably will not be the case)." We have seen how, in contrasting the route from Pittsburgh to Philadelphia with the Potomac to Baltimore, the memorialists counted on shortening the portage over the Allegheny Mountains by use of locks. Presumably the canal and locks, if decided on at all, were to be carried slightly west from Poplar Run to lessen the distance of the road to the Conemaugh. A number of details of this ambitious plan were unsettled and can only be conjectured now. What is certain, at any rate, is that the waterway then contemplated would have constituted a highly useful advance over the simple forms of water transportation then existing, for, as we have seen, the tentative dimensions given for the Tulpehocken canal pre-supposed a fairly capacious channel throughout the whole extent of the navigation.

A secondary purpose of the Society, as its name implied, was to secure improvement of roads, and a review of primary overland routes whose construction or repair were demanded by public interest was also made part of its petition. Here again, communication with western and northern parts of the state formed the leading

14 Footnote from the "Memorial": "N. B. The Society have left a blank for the estimate of the canal, as they mean to enquire further whether it cannot be done cheaper upon a plan of lock navigation."
criterion of selection. Attention was called to the state road through Lancaster, Carlisle, and Bedford to Pittsburgh, for years previously the recipient of small grants from the treasury, improvement of which, said the memorial, "may be undertaken without delay or injury to the plan of western navigation." The land portages on the proposed route of the waterway were of paramount need as well as certain auxiliary roads whose function should be to supplement the navigation by serving as feeders to convenient points on the line of improvements. The priority given inland navigation by these early advocates of internal improvements shows most clearly in their recommendations for roads.

One subsidiary road, for instance, ought to run from the forks of the Youghiogheny River, in Somerset County, to Dunning's Creek, near Bedford, and perhaps north to Poplar Run, the head of eastern navigation. "By this road, all the inhabitants of the upper parts of Washington and Fayette counties, and part of Bedford . . . , will have access to the great water communication by the Juniata, or to the great state road from Bedford to Philadelphia; avoiding the mountainous and circuitous course they are now obliged to pursue; and a great part of their trade, which would otherwise go to Potomac, would be thereby secured to Pennsylvania." The Youghiogheny road could be regarded as a long portage designed to extend the utility of the Juniata navigation into the mountainous southwestern district and limit the orbit of Baltimore. In other directions too the memorialists riveted their gaze on distant horizons. To attract the trade of the far north, additional routes might be improved up the Delaware and Susquehanna, which by alternating streams and portages eventually opened on Lake Ontario and near-by waters of western New York. 15 A series of roads from northeastern Pennsylvania to the west and north might be laid out to parallel these water routes. 16

15 One ran on the Delaware to Stockport, continued by a portage of 20 miles to Harmony at the Great Bend of the Susquehanna, and terminated on Lake Otsego. The other was via the Susquehanna and Tioga rivers to Lake Ontario. Swatara, Quitapihilla, Tulpehocken creeks, and the Schuylkill River, common to all water routes except that up the Delaware, would then serve the threefold purpose of carrying produce from the West, Lake Erie, and the North.

16 A road through Reading and Sunbury "to Presque Isle, or the lands on French creek," another from Bethlehem "to the northern boundary of the state, at some point
The enthusiasm and the broad intimation of state-financed works embodied in the memorial are not found in any similar legislative paper in Pennsylvania's subsequent history prior to the era of internal improvements. Yet the circumstances that produced the memorial of 1791 and those that gave rise to the later widespread vogue for water transportation have certain mutual affinities. The element of state rivalry played a dominant part in both, for the germ of that intense spirit of commercial competition which afterwards became the mainspring of every considerable work of internal improvement may be perceived in this document. As we have pointed out, the Philadelphia group was spurred on by the activity of Maryland and Virginia, and in New York itself it is worthy of note that the first river improvements were to be started only a year after the Pennsylvania Society drew up and presented its petition.\(^{17}\)

Other parallels that confirm the farsighted vision of Morris and his contemporaries are not lacking. The commercial needs of Pennsylvania, more particularly her transportation requirements, developed precisely along the lines and routes they forecast and by identical, if more perfected means. The memorialists' belief in "the ease and cheapness of water carriage, compared with every other," novel and forward-looking in the day of General Mifflin and James Wilson, was to become a commonplace axiom by the time of Mathew Carey and John Sergeant. The spectacle of the earlier men urging on the legislative body a plan of urban aggrandizement in the guise of enriching the entire commonwealth, alleging in support of the contention a wide public—even a national—interest, citing the "facts" of geography, and, above all, taking care to stress, sincerely enough according to their knowledge, the economy of expenditure needed to bring into being an "easy central chain of communication with the capital"; this spectacle is one that suggests obvious parallels. But it is suggestive only in the light of later events and not of conditions existing in 1791.

\(^{17}\) The Western Inland Lock Navigation Company of New York, chartered in March, 1792. It was in part a forerunner of the later Erie Canal, except that, like the Pennsylvania route planned by the memorialists, it was primarily a river system.
So extensive a program at that time was of course beyond the technical and financial resources of the state, and wide popular support of it was unquestionably lacking. Morris and his friends hoped, but hardly expected the state to embark at once on the entirety of so large a project, no matter how attractive its financial aspect might be made to appear. Interest in the West was, as has been said, an avocation of commercial circles, but the business fortunes of relatively few men then depended on western trade which was in its infancy. While Governor Mifflin expounded, in language of Johnsonian vigor, the merits of "the commercial policy," the commerce that policy was intended to implement was, for the most part, still to be created. A small number of public-spirited citizens were responsible for the work of the Society and formulation of its views. If influenced by a material motive, their plainly-stated wish to promote settlement was a more tangible incentive than profit from the small and comparatively restricted flow of cross-country wagon traffic. Robert Morris, we know, held an enormous acreage of land in Pennsylvania as well as in other states. The only well-defined overland business—confined, however, to the central area and the country adjacent to Philadelphia—was the Susquehanna grain trade for which Middletown served as the depot. Philadelphia merchants knew that by improving the transit of this commodity to the city they might benefit indirectly. The conclusion is nevertheless inescapable that an increase in land values was a more immediate motive than the prospective gains of miscellaneous trade.

But, motivation aside, the belief in the usefulness of a western waterway and recognition of it as the guiding concept on which internal improvement should proceed were remarkable in a day when...
local navigation was carried on with scows, rafts, and keel boats, and when roads were the most common need. Moreover, the practical difficulties of projecting a river navigation hundreds of miles through an isolated and sparsely settled country were, as we have tried to show, little understood. Though not a single canal lock then existed in Pennsylvania, the men who had explored the Poplar Run portage could lightly believe in the feasibility of reducing the eighteen-mile length of the mountain barrier west of the Juniata. Canal engineers with a wealth of experience to guide them did not succeed later in cutting down the Allegheny crossing to anything like that distance, much less shortening it further. The general significance of the memorial, however, is that it kindled such ambitions and directly inspired a series of earnest, but poorly integrated legislative measures.

Into the details of that legislation it is impossible to enter here. The methods adopted over the next thirty years—the period prior to the rise of the agitation that lead immediately to construction of the state public works—were threefold: navigation acts on the earlier pattern which amounted to very little and which, if anything, only brought to light the deceptive premise on which the memorialists too largely based their hopes, for river improvements could seldom be adapted advantageously to the water-courses of the state. Those of Josiah White and his associates on the Lehigh were an outstanding exception to usual experience. Turnpike roads were the second means by which partial effect was gradually given the memorial and with fruitful results in local spheres. The Philadelphia and Lancaster Turnpike Road Company of 1792 was the precursor of many that attained equal success and brought some measure of relief to the western communities. Corporate canals, fostered and subsidized like turnpike companies, were the third component of legislation after 1791, and they were a dismal failure, nothing material being accomplished in this field until about 1821. The advent of the state-aided joint stock company came immediately after the memorial was promulgated, and its eventual shortcomings as an improvement agency were one of several considerations that pointed the way to state enterprise.

The mixed results that followed in these years—and they witnessed the loss of early initiative in water transportation—do not,
however, lessen the importance and place that may rightly be assigned this first concerted step in the annals of internal improvements. The memorial of 1791 helped sow the seed from which grew Pennsylvania's habit of looking toward the west. When finally a great waterway to the north sprang into being under direction of DeWitt Clinton, the existence of ample historical precedent and a traditional legislative policy enabled a canal party in Pennsylvania to triumph over hesitant public opinion.

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